## The United States miller. Volume 71879

Milwaukee, Wisconsin: [s.n.], 1879
https://digital.library.wisc.edu/1711.dl/LTQI2UYUL6BDI9E

Based on date of publication, this material is presumed to be in the public domain.

For information on re-use, see http://digital.library.wisc.edu/1711.dl/Copyright

The libraries provide public access to a wide range of material, including online exhibits, digitized collections, archival finding aids, our catalog, online articles, and a growing range of materials in many media.

When possible, we provide rights information in catalog records, finding aids, and other metadata that accompanies collections or items. However, it is always the user's obligation to evaluate copyright and rights issues in light of their own use.


Volime T.-Mo. I.
MILWAUKEE, MAY, 1879.
added to the good flour, so as to obtain the quantity and weight by these less valuable admixtures, and it is just the great importance of flour as the most indispensable nutriment which even in times of high prices the poor must procure, whatever may be its cost, which not only renders this unfortunately so extensive adulteration of flour doubly culpable, but
has also induced expert chemists and microcopists to detect the adulterations by certain processes and experiments. Although we have here in a more narrow sense chosen wheat flour as the object of our investigation, yet we must preface that the adulterations and examinations which follow may also apply to other kinds of flour, especially to rye flour; and in order to prevent repetition thereafter, we will
refer to the means of examination and meth ods applied to wheat flour. Flour is adulterated by organic and inorganic substances. Let us first consider the former. A very common admixture of wheat flour is potato starch especially since this substance changes neither the whiteness, the odor, nor taste of the flour Yet wheat flour which has been mixed with it has the quality of absorbing by far less water than pure flour, and thus when of equal weight with the pure flour, will produce less bread than the latter. According to Boland's ex periments, an admixture of but 25 per cent of potato starch renders the flour unfit for the preparation of bread, and it is not advisable to add more than from 8 to 10 per cent if it should be desirable to use it for the purpose of economy. Countless means and methods have been proposed to discover the presence of potato starch in wheat flour To name a few only proposed by noted men, we mention suggestions of Chevallier and
Henry, to scatter a pinch of the suspected flour on a piece of black paper, and ex amine either with the naked eye or with the microscope whether it shows bright spots. Chevallier and Bois de Loury recommend the blue coloring of the flour with iodine vapor, which will always have an immediatc and strong effect upon the potato starch Legrip has invented a peculiar instrumen which he called the "similametes," Morin experimented by the different effects produced by sulphuric acid and muriatic acid upon pure and adulterated flour. Dupin and Dubec inferred from the differences in the color produced by nitric acid and nitrate of mercury, as well as from the difference in the specific weight. Blodriguez distilled dry flour and observed whether it would then react on acids or not. Cavalie examined and compared the different colorings which he produced on a quantity of flour by alcoholic tincture of iodine which contained acetic acid, after he had dissolved the flour in a definite quantity of cali and alcohol of 34 deg., etc. But all of these experiments are not only cumbrous, even diffleult and presupposing much practice in chemical experiments, bu also inaccurate and insufficient. Let us, therefore, confine ourselves to such means of examination which will yield a definite result, and which we can recommend from experience The most decisive answer as to whether potato stareh is contained in flour or not is given in the fipst place by the microscope. The starch particles of the potato can easily be distinguished by the eye from those of wheat They are larger, of a peculiar pear-shape, and marked with scaly lines surrounding a center which generally lies in the narrower part. It the fllustration of pure wheat flour, given in fig. 11, is compared with the picture of potato starch given in fig. 14, magnified 240 times in length, the examining eye cannot long be in doubt. The mixture and adulteration of wheat flour with other less valuable grain and legume flours is most readily disclosed by the micro

## [ $T_{0}$ be continued.]

## GRAIN.

Peculiarities in Its Normal and Manu ractyred
the Andion Under the Microscopt-Showing Adulterations and Natural Evils

one of the leading chemists of europe.

-Barley Meal-Oat Meal-Indian rn-Rice Meal.

## 

[CONTINUED FROM APRIL NUMBER.] Robine has proposed another method avhich is based upon the quality of acetic acid, when diluted with water to dissolve the glaten and albuminate substances which are to be found in flour, without producing a change in the weight which the greater or the spen albumen in the diluted acetic acid acquires is the criterion by which the gluten and then through this the quality of the flour can be judged of. The specific weight will be the greater the more of gluten and albumen are iorsod, consequently the better the flour is. areometer, which he has called "Appreciateur des farines," or flour-tester. . The mode of its application is very simple and easy. The instrument is a scale, the graduated tube of which is so divided that each degree indicates the amount of gluten in good flour which weighing 2 kg . For this purpose the diluted acetic acid is at first prepared by pouring so much acetic acid in distilled water, so that when it is put into a glass cylinder of suitable height and the meal-tester is let down into it, the latter sinks down to 98 deg. If the acidulous liquid is heated to 15 deg . C., the flour is stirred in for every 31.25 kcm . of this diluted acetic acid 4 g . of flour. We will make this proportion plainer by a description of the experiment itself.
If the flour is supposed to be very good, 24 g . (of poorer flour 32 g .) must be taken. Suppose now that we have taken 24 g . of good wheat flour which we wish to examine; we have then 6 times 4 g ., and must accordingly take $6 \times 31.25 \mathrm{kcm}$., consequently 187.5 of the acetic acid diluted as betore prescribed. The flour is put into a mortar of porcelain and softly grated; the acid is added, and the mass is stirred for about 10 minutes, so that the gluten will dissolve; then the solution is poured into a glass that is placed in water heated to 15 deg . C. After the course of an hour, during which time it is left to settle, a sediment of starch and particles of bran has been formed; the milky liquid covering it is carefully poured off, and now the instrument is lowered into it. The degree to which it will sink shows the number of times 2 kg . of kg , are assumed) of good flour must yield. Usually the result deviates between 101-104 deg., or just as many loaves of bread of the assumed weight of 2 kg . If this liquid is saturated with the bicarbonate of natron, the acetic acid separates from the gluten; the latter appears floating on the surface, and it may
be gathered on a linen cloth, washed out with be gathered on a linen cloth, washed out with
cold water, and thus obtained pure. Wheat flour has also been discovered that betrayed small admixtures of metallic copper, even of lead, bismuth, etc., from the use of which painter's collic has resulted. Whether these metals have found their way into the flour in the grain warehouse, in mills, or on vessels
during transportation, has not been definitely ascertained. If there is reason to fear the
presence of an admixture of this kind, a por
tion of it may be burnt in a skillet of porce lain, brought in contact with nitric acid and then examined with reagents such as hav been before mentioned in other cases. (Am ment from lead, and a bluish one from cop per; potash produces similar coloring.) I the presence of any metal in flour is suspect ed, a test recommended by Duflos and Hirsch must be made. A portion of the flour is mixture, and poured into a glass funnel which is closed below with a cork; then the dish wherein the mixturegwas made is rinsed with water, and the thin mass is again stirred in the funnel with a glass tube. At the end of cork, a small portion of the sediment which has formed itself is allowed to run into a goblet which is half filled with good sulphur ated hydrogen water. If the mixture turns gray, brown, or even black, it may be definitely concluded that the flour contains either lea continued, especially to find out whether the metal is lead or bismuth, but it requires too


Fig. 14.-Potato Stareh, magnified 240 times.
much chemical skill to be of use to the public in general. When the presence of the metal has been ascertained by the above-named simple process, it will be sufficient to guard against the use of such flour. To ascertain whether wheat flour is good and unadulterated, Ure advised to take its specific weight as a criterion since the admixture of inferior kinds of starch which occurs but too frequently causes a difference in weight, as, for instance, flour will hold $\frac{3}{4} \mathrm{~kg}$. when filled with potato starch. This test is certainly of value, when by the weighing of vessels of equal size filled with different kinds of starch and flour an empirical scale is found of the specific weight of each kind, if at the same time the more or less damp or dry condition of the flour is crit ically examined and taken into consideration. Ure also recommends to try a chemical exper ment with flour. Nitric acid gives to pure unadulterated wheat flour a fine orange color, which is not the case with starch and potato meal. Muriatic acid changes the color of pure wheat flour into a deep purple, but dissolves potato starch to a light-colored slimy liquid, which may be decomposed by alkali. Potato starch also absorbs less water than good flour, since it itself contains much water. We will try to make more accurate and true modes of experiments feasible for the public in general. The fraudulent adulteration of wheat flour for the purpose of gain is so manifold and frequent, that it is well worth the while to submit the matter to an exhaustive examination; and we may here, be sides the experience of the French, English and German, use our original or comparative experiments as a basis to our judgment. Flour is either adulterated to conceal the poorer quality or in times of high grain prices, seem-
ingly similar substances of less value are

## MILLERS' NATIONAL ASSOCIATION.

## May 13, 1879.

RDER OF BUSINESS.

## 1st. Op

the Convention at
2 d . Report of the Committee on Creden-
tials.
Proceedings of last Convention
Enrollment of members.
5 th. Official report
6th. Call of Standing Committees and filling vacancies.
7th. Appointment of Committee on Nomination of Officers.
8th.-Reports of Standing Committees: 1st. -State Organization. 2d-Transportation. 3d.-Insurance. 4th.-Grading and Inspection. 5th.-Patents. 6th.-Milling and $\operatorname{Im}$. proved Methods. 7th.-Mill Machinery. 8th -Grain for Milling. 9th.-Brands and Trade Marks. 10th.-Miller's School or College.
9th. Reports from Special Committees.
10th. General business.
11th. Report of Committee on Nomina-
tions, and election of officers for the ensuing

## Standing committees

and, Organizaions.-C. A. Seybt, High Chairman ; F. B. Mills, Minneapolis Snouffer, Cedar Rapids, Iowa; H. H. Emery Indianapolis, Ind
2. Transportation,-Edwin Sanderson, Mil waukee, Wis., Chairman; H. S. Osborne Quincy, Ill.; C. A. Pillsbury, Minneapolis, Minn.; O. W. Baldwin, Ottawa, Kan.; J. A DeWar, Kansas City, Mo.

Hayden, Jackson, Mich., Chairman ; D. R. Sparks, Alton, Ill. F. L. Hubbard, Minneapolis, Minn. ; J. R Serrin, Ladora, Iowa; F. Schumacher, Akron Ohio.
4. Grading and Inspection.-L. M. Norton Chicago, Ill., Chairman ; E. Goddard, St, Mo.; R. L. Thompson, Terre Haute Ind. ; C. W. Seebach, $\longrightarrow, ~ M i n n . ; ~ P . ~$ H. McGill, Baltimore, Md.

Patents.-Alex. H. Smith, St. Louis Mo. Chairman ; S. H. Seamans, Milwaukee, Wis.; J. A. Christian, Minneapolis, Minn.; J. D Hays, Detroit, Mich. ; J. A. Hinds, Rochester

Milling and Improved Methods.-Joseph . Gent, Columbus, Ind., Chairman ; Crosley, , Minn.; E. F. Krieder, Jacksonville, Ill.; Homer Baldwin, Youngsown, Ohio ; J. B. A. Kern, Milwaukee, Wis.

Mill Machinery-David Gibson, Indianapolis, Ind., Chairman; Henry Stanley, St. Louis, Mo.; D. E. Roberts, Maysville, Ky. W. Underwood, Dixon, Ill.; Chas. Miner, Wilkesbarre, Pa .
8. Grain for Milling.-W. P. Brown, Red Wing., Minn., Chairman ; Jas. Gordon, Sparta, III. : Robert Colton, Bellefontaine, Ohio ; Geo Motley, Rochester, N. Y. ; A. Ames, Fort At kinson, Iowa.
9. Brands and Trade Marks.-Robert Ty son, Baltimore, Md.; Chairman; Philip Haxall, Richmond, Va.; J. G. Jenkins, Oswego, N. Y. ; Fredk. Woodard, Staunton, Ill. W. F. Cahill, Minneapolis, Minn.
10. Millers' School or College.-F. Chamberlain, Albany, N. Y., Chairman ; J. B. Ficklen, Fredricksburg, Va.; John Earl, Schoolcraft, Mich.; Geo. J. Plant, St. Louis, Mo.; O Manegold, Milwaukee, Wis.
11. General Reference,-Nicholas Elles, Evansville, Ind., Chairman; C. S. Baker, Red Wing, Minn. ; W. Hayden, Tecumseh, Mich. -Dow, Davenport, Iowa; August Guye, St. Genevieve, Mo:
12. Oredentials.-D. B. Merrill, Kalamazoo,

Mich. Chairman; Jno. Crangle,
Mo, H. L. Halliday, Cairo, III.; F. Schoeh, Selinggrove, Pa.; C. D. Smith, Lineolu, Neb.; Selinsgrove, Pa. ; C. D. Smith, Lincolu,
Frank Little, Sec'y, Kalamazoo, Mich.

The Merchants ${ }^{\prime}$ Exchange, of St. Louis, has 1,290 members.

United States Miller.
E. HARRISON CAWKER, Editor.
 Suberinktion Price
Yoreinn Sin
Preription.

 wieh nkreed uporn:

MILWAUKEE, MAY, 1879.
The Minneapolis millers have struck against 20 per cent reduction of wages
In our June number we shall present our readers with a technical article on "Under Runners," with illustrations.

THE term of subscription paid for by many of our subscribers expired with our Apri number. We hereby call their attention to it,
and hope they will soon remit for another year.
 We congratulate Bro. Emery of the Millstone,
wish him and his bride a long and happy life. grain-over
St. Louis 450,000 bushels - will be shipped from St. Loui May via the Wabash \& Toledo, Lake Shore \&
Michigan Southern and New York Central Michigan
$\qquad$
Ronney Mason, Esq., the Great Mogul of the Patent Ring, has again wrestled with the nited States Patent Office, and it has con quire Rodney says his hopes are revived, an The The Unfted States Miller has the argest circulation of any milling journal pub
ished in America, and was the first milling arnal started in America entirely independen

The Stoll reissue, which we mentioned in ur April number, does appear to amount $t$ of the National Millers' go the National Millers Association is so ughly investigated at that time, we defer all emarks thereon. $\qquad$
The Consolidated Middlings Purifier Com pany have brought suits against the Joseph Lacroix Middlings Purifier Co., of Indianapo
tis, Ind., and Messrs. Collins i\& Gathmann, Chicago, IIl., for infringement of their pat ats. It is suid that similar suits will be com menced against other purifier manufacturers. Middlings Purifier Company have sued his firm-Messrs. Collins \& Gathmann-for in-
fringement of their patents. He declares that his appetite has not been so good before for
ears. Now, this patent business is getting walking m $\qquad$
We hope all who receive sample copies of the United States Mhilis will favor us with
their early subscription. The price-one dol
lar per year-is a mere trifle, and ensures you of matter of direct interest to your trade. Do not delay, but send your order nove. Enter prising, go-ahead millers cannot afford to be witho
day.

IT has been rumored that Hon. George Bain, resident of the Millers' National Association and Frank Little, Secretary, will not be candiates for re-election. Secretary Seamans, of he Wisconsin Association, has been favorably poken of for the position. He is certainly as位e and efficient a worker in the interests of he milling fraternity as can be found, and in case his name should be brought before the Onvention as a candidate, he will undoubtedly meet with a handsome support. If there is to be a change, we should be pleased to see Wis consin carry off a portion of the honors.
R. G. Dus \& Co.'s Commercial Agency Re port for the quarter ending March 31st, show that during that time there were in the United states 2,524 failures, with liabilities amounting to $\$ 43,112,665$, against 3,355 failures and $\$ 82,078,826$ during same months in 1878 . In

Canada during the first quarter of the present year there were 634 failures with $\$ 11,648,697$ liabilities, against 555 failures with $\$ 9,100,929$ liabilities for the same period in 1878 . The report shows that the number of failures in the United States have decreased over 25 per cent while the amount of liabilities has fallen off much more in proportion.
not so flattering in Canada.

Lehman's Method for Truing Mill-Stones.-We call the attention of our readers to the advertisement of William Lehman in another column. By using his patented method he claims that there is no further use hor the various patented stafs, by millers all over the coun have been tried by millers all over the counin a great many mills, and cannot fail to give entire satisfaction, as it positively secures a perfectly true face, the great advantage of but not generally admitted, that it is almosi impossible to find a run of stones in perfectly true face. When you do find a run in perfect condition, or even approximating to it, the perior quality. It may be that the old style mill-stone will gradually pass out of use and be supplanted by rollers, but until that time commend our readers to correspond with Mr. Lehman on the

## THE OFFICIAL CALL.

The followsng is the official call for the meeting of the Millers' National As sociation:
 Vational Association will be held at the Grand Pacific Hotel, in the city of Chicago, May 18
1879 . All members of State Associations individual members of the Millers' National on exists are invited to be present. The rati of voting, as decided by the Executive Com-
mittee, will be based upon the number of runs of buhrs on which assessments have been full paid up to the 1st inst.
As recommended by the Executive Commit tee, a reorganization of the Association will members as possible will attend.
Frank Little, Secretary
The Executive Committee are requested to may 12.
J. A. Christian, Chairman.

## a bad year for patentees.

## Downton vs. Yaeger Milling Conapany.

The above entitled case came up for hearing in the United States Court, St. Louis, Mo. April 25 th, and after full consideration of all the testimony introduced, Downton's roller patent was declared invalid, as it had been anticipated. The Yaeger Milling Company and Messrs. E. P. Allis \& Co., of Milwaukee, feel jubilant over the result. As matters now tand, manufacturers of rollers can go ahead ers as they please without the fear of infringe ment before their eyes. The following letter from Henry C. Yaeger was received by Messrs. E. P. Allis \& Co., April 28th:
"Sr. Locts, April 26th, 1879.-Eduard P.
Allis \& © \& GENTLEMEX: Downton case de-
cided in our favor. Court grants them another cided in our favor. Court grants them another
hearing next fall. As their case cannot be made any stronger, we may consider the patfor patent suits.

## Henry

## ATTENTION, WISCONSIN MILLERS

 I am requested to call the attention the members of our Association to the An-
nual Meeting of the Miliers' National Asnual Meeting of the Millers' National As-
sociation, to be held at the Graid Pacific sociation, to be held at the Graid Pacific
Hotel, Chicago, Tuesday, May 13th, next. Every mill in the Association should be rep resented at the Ohicago meeting, as it will be the most important one, in many respects, ever holden by the National Association.
The "Patent" litigations-past, presen and prospective-will receive a large share of attention, and will require careful consideration.
It is proposed to adopt a strong legal con stitution, that will bind its members 'mor firmly together, and enable the Association o conduct its business in such a manner that the Executive Committee will labor under no uncerlainty as to the support they shall receive, financially or otherwise, as has heretofure been the case.
A State Constitution will also be devised
and recommended, which will conform to the equirements of the National Association, These are put a few of the important matter that will require your attention.
Heretofore, our Association has only been represented by a "corporal's guard." It is hoped, at this meeting a pegiment will be ound present from Wisconsin.
None but full paia members will be admitted the Convention. All those that are de inquent at the time of the meeting will be dropped from membership in the Association. If you are behind on any assessment, better pay up at once. You oannot afrord to be dropped at this time. Those not now members can become so by paying $\$ 10$ membership fee, and all assessments levied since the organiza tion of the Association.
To those who have not yet joined I would ay, the Association has fought a big battle or you, and defeated the enemy, and it is but our honest duty to join us, and pay your pro ortion of the expenses. You have reape he benefits. Why not pay? The Cochrane patsnts are dead beyond a resurrection. All
thrests of appeal to the Supreme Court are or "bull-dozing" purposes. Though hand somely beaten in this, the enemy are still ac ive. Another old patent has been resurthan the Cochrane patent
The Barter patent, too, is now coming the front. New suits are being commenced, and new parties are in the field. If to fight, nd fight successfully, it can only be done by inited forces. If to compromise, the As sociation will secure terms for its member that would be impossible for individuals to
obtain. In either case, the outsiders will be the merey of men whose greed is only governed by the size of the victim's bank ccount. Whatever compromise the As ociation may enter into, it will be in th of the wet," and don't fail to attend the

RECENT PATENTS.
The following patents of interest to the mill ing trade were granted by the United State Patent Offlce March 25th, 1879:
Grain door, G. C. Banta, Kansas City, Mo. elphia, Pa .
Separator for flour mills, Isaac Morgan, Au usta, Ga.
Grain elevator, F. Taggart, Brooklyn, N. Y.
Cockle separator, Andrew Wemple, Chicago, Machine for separating magnetic'substance from grain, Cyremus Wheeler, Auburn, N. Y
The following are the patents granted April st, 1879:
Ventilating mill-stones, George Helfert, New
Turbine water wheel, J. Lucas, Redfield, I Middlings grinding mill, Jonathan Mills, as signee to Milwaukee Middlings Mill-stone Co tilwaukee, Wis.
Apparatus for removing germ and fuzz from Grain, S. Potts and A. Parson, Somerset, Wis Mill-stone pick, R. J. Wheatley, Duquoin, Il April 8th the following patents were is pril 8th, the following patents were issued Mill-stone exhaust apparatus, J. Q. Adams, Mill pick, Jame
Magnetic grain separator, Henry E. Cook nd J: B. Thayer, River Falls, Wis.
Mill-stone driver, Wm. T. Duvall, George-

Wheat heater, P. B. Hunt, Avoca, Iowa. Grinding mill

## Diamond mill-

-stone dresser, Thos. McFeel Wind mill, J. H. Palmer, Lodi, Wis. Grain drier, P. Provost, Minneapolis, Min
Grinding mill, Ezra Rhodes, Erie Grinding mill, Ezra Rhodes, Erie, Pa. Midddlings separator, Augustus and A. Wolf, Allentown, P

Worshipping by Steam.-Recently a Methodist Church in Nevada expelled one of its
members. He thought it pastor's spite against him, and not to be out done in his devotions he conducts them in a rather original way. He owns a saw mill near the church. On Sunday he attaches his engine to an immense steam calliope with which he makes his instrumental music, and
with the "Sweet Bye and Bye" drowns the with the "Sweet Bye and Bye" drowns the
voice of the neighboring parson.-Louisville Courier-Journal.

## Special ßИusiness 2hotices.




## MILWAUKEE TRADE ITEMS.

Mattice \& O'Nejll, of this city, have ordered new improved Corliss engine from Messrs. E. P. Allis \& Co.
E. P. Allis \& Co. have sold a new $12 \times 36$ improved Corliss en
of New Ulm, Minn.
E. P. Allis \& Co. have orders for three complete mills from Oregon,-one of
run, and one of 2 run of stone.
E. P. Allis \& Co. have an order for ten more sets of porcelain rolls for parties in England, which are to be forwarded at once.
The Atchison, Topeka \& Santa Fe R. R. Co. Messrs. Allis \& Co froved Corliss engine from peka.
Allis \& Co. are building one of their improved 700-horse power compound condensing
Corliss engines for J. B. A. Kern's flour mill Corliss engi
in this city.
Mr. J. B. Alfree, of Washington, Pa., is building a mill in which he has adopted the
ystem of the Milwaukee Middlings Mill-stone Company.
The Milwaukee Middlin Mill-stone Company have orders from Messrs. Hibbard \&
Graff, of Grand Rapids, Mich., for their grinding mills.
Hildebrant \& Davis, of Lu Verne, Minn., have ordered an improved Corliss engine from
E. P. Allis \& Co. Also the machinery for a run flour mill
E. P. Allis \& Co. have taken the contract to build the 4-run mill for Hoyt \& Seager, of
Frontenac, Minn., including all the machinery Frontenac, Minn., including all the machinery
and millwright work. and mill right work.
E. P. Allis \& Co. have received an order
rom the Cedar City Mill Co. of Utah for the machinery for a complete 4-run mill, includ. machinery for a complete
ing a Victor turbine wheel.
Kirby, Mattern \& Pavey, of this city, have Aldered a new Corniss ongine from Aivs a Co. Also all the machinery for their
works to be erected in Milwaukee.
The Milwaukee Middlings Mill-stone Company have just started up Mr. Morris Johnon's wor cusom work entirely on their principle.
The Milwaukee Middlings Mill-stone Company have started up Messrs. Coleman, Jackhave been overhauling and remodeling.
Allis \& Co. have sold to Henry W. Barrett \& $18 \times 42$ Corliss engines, which is to take the $18 \times 42$ Corliss engines, which is to take the
place of a Harris-Corliss engine now in use. E. P. Allis \& Co. have received an order from improved Corliss engines, $22 \times 42$. This is the second engine sold to Mr. Dayton by Allis \& Co. within the past few weeks.
E. P. Allis \& Co. report that they have orars on their books for over sixty sets of iron and porcelain rolls, and are not only working
all the men possible in their own shops but are letting out work to try and keep up with or-
E. P. Allis \& Co. have taken the contract to furnish one of their improved $18 \times 42$ Corliss engines with $16 \times 66$ steel boilers, full condensing apparatus, and all connections,
Gardner, Vermillion Mills, at Hastings, Minn. All to be finished in 60 days.
E. P. Allis \& Co. have orders for 20 new Monteith threshing machines, including the and if the inventor's anticipations are realzed, from 200 to 400 will be begun at once and got ready for next year's trade.
Iotituresen Milil buckel Manafactoy


## B. F. GUMP,

## No. 53 South Canal Street,

## Chtonso, ulunote

GENERAL MILL FURNISHER, COMMISSION MERCHANT

BOLTING OLOTHS. HaNDEK NO ofark BRaND,
All numbers kept constantly in atock to supply
the largest order at a moment's notice. Grit.-Gauze the largest order at a moment's notice. Grit-Gauze
Clotha equal in Mesh to 000 to number 6 incluaive
Flour Mill Trimmings a Specialty.

marly

## MANUFAGTURE OF OATMEAL.

When the grain has been thoroughly dried, it is allowed to coel to blood heat before being shelled. The shelling stones should be of a soft but gritty nature; not too soft, however, because if they are they generally miss kutching the grain and wear into rings too soon. The English or Newcastle stone is
much used, although some millers consider it much used, although some millers consider it
rather soft. The Esopus stone of New York ought to make a very excellent shelier, while for grinding it ought to be far superior to the French burr. It makes a the burr, but does not, of course, hold the quarry situated somewhere in Susquehanna
County, Pa., whiah supplies the best County, Pa., whioh supplies the best stone for shelling. It was in the market for awhile
in 1871, but since then the quarry has been in 1871, but since then the quarry has been
closed, and no interest is taken in getting out the stone. The proprietor has several large farms in the neighborhood and has no desire to quarry. It is purely a sharp, coarse sandstone, and will not ring, get out of face, or ing purposes, and while superior in all re spects to the English or Canadian stones, can be sold much cheaper. This class
stone is always sold by the pound, the size, and us the specific gravity is much less than that of the others, besides costing
less for quarrying and transportation, it can be sold for nearly half the price of the other stones. The writer has seen common sandstone taken from the quarries to do as good
shelling as the best Newcastle stone, the only difference being that they should be dressed or "picked" oftener. The picking is done with a bill or sharp pointed pick and no furfeet in diameter, $4 \frac{1}{2}$ feet being, perhaps, the best size. The number of revolutions vary,
of course, with the size, being from 75 to 125 per minute.
When the oats go through the sheller they pass into a riddle, where the hull and dust or of No. 13 wire cloth. The end of the riddle where the shelled grain falls is generally covered with bagging or zinc, and it receives its motion from a crank at the end. It has a
fall of from an inch to an inch and a half to a foot, according to the length. All the husks or shells pass over the riddle, and the grain
drops through, where it is met with a strong current of air from the fan, and the dust is blown away into the dust rogm. All small grains fall at the end of the machine, and are put through argain with a lighter blast from the fan. Particular care and attention must often occasioned by allowing too strong a current, and the shelling is not properly grains or tailings are run through the second time, the stones will, of course, have to be lowered. The fans should be akout two feet in diameter, and run at the rate of 300 revo-
lutions per minute. When the grain is thoroughly separated from its shell and the dark brown dust has been blown away, it would be of considerable advantage to run the shelling lightly through a brush machine, he believes that it would clean it of quite a mass of dust, which must necessarily adhere to it, and the result would unquestionably be whiter and better meal. The shelling stone is "hung," not balanced. A three, and
sometimes four-toed rynd, is used. The rynd is keyed on the spindle, and the process of hanging is gone through by the miller.
Sometimes the "gains" are not cut properly, and small pieces of thick brown paper are placed between the arms of the rynd and the spindle, which, by the way, must be properly trammed before the stone is put down. Some millers give the runner a "bosom" of a quarter of an inch at the eye, running out to
nothing at the end of eight inches. In hangnothing at the end of eight inches. In hang-
ing the stone is turned round slowly until it is found to be perfectly level with the bed stone. A good plan in hanging the stones would be to have a patent eye by which the stone could be adjusted to the horns of the rynd by a thumb-screw. It would save much time, besides giving a more perfect adjustment. It is, of course, needless to inform the miller that in shelling the stones must be nearly the length can only be found after starting up. The stones being without furrows the grain is brought to the periphery in a whirling way by the centrifugal force of the runner, some-
what retarded by its own weight, the gruins ahead, those tumbling over from the rear and the still bed-stone, and the greater the feed
up to a certain point the better the shelling. There are always some grains not dried enough which escape and fall into the spout with the cleaned shelling. These should be guarded against, as they aid in bringing on fermentation in the meal if kept for any length of time. In order to avoid these, and also to aid in perfecting the thorough cleaning o the grain, the oats should be put through the sheller twice, care being taken to regulate the screen and draft on the fan to suit each shelling. The riddle should also be adjusted in such a way that its fall could be raised or lowered at pleasure. When careful attention
is given to the shelling, and the grain is thoroughly freed from chaff and dust, then the process of grinding commences.

grinding.

There are various opinions with regard to the proper kind of stone for grinding oatmeal.
Some assert that the French burr, with Some assert that the French burr, with
twenty-four furrows, is the best. Some say that it ought to have twenty-seven furrows ; some claim eight. and a majority insist on not having any. The writer's opinion is that
furrows can be advantageously dispensed with in French burr, while it might be well to pu in about twenty-four furrows in an Esopus soft stone. Say eight quarters, three furrows mean quarters of the stone, but a style of ress, it may be well to remark.) Some and others, the writer among them, no crack ing at all, but to have the stose faced with bill the same as the sheller.
The meal must be cut and not crushed, and therefore the style of dress which will granulate best is the one to use, and experience is teaching every day that the smooth face is be ground perfectly cool, as otherwise it will not be sweet and will not keep so long. The grinder is hung on a three or four horned
rynd, the same as the sheller. The bosom should be sunk a quarter of an inch, the same as the shelling-stone, but should run out to foot stones are large enough for grinding oats, and three-foot stones can be used to advantage. A great many use a soft stone
for the eye-piece where a French burr used, which is a good plan, as it wears just about right to keep the ey Esopus and a skirt of old stock French barr would make an excellent grinder, asing say sixteen furrows on the burr face and eight on the Esopus up to the eye. The meal passes from the stone to the

The sifter is generally about five or six feet long and three feet in width. It is made
of punched zinc, with the holes far enough of punched zlinc, with "seeds" to pass over. These holes are of various shapes-sometimes round and sometimes oblong, and are generally punched from the bottom side with a slight elevation on top.
sieves, placed three or four inches apart, one above the other, with the top one punched wider than the one below, and so on. The first one is for the large "seeds" to pass over, lings," which are reground, and the third separates the fine meal from other "putlings," which are also sent to the stones again.
The fan is abont twelve to fourteen inches in diameter, and revolves at the rate of 200 revolutions per minute. The "seeds," when
thorotighly cleaned, make good feed for animals, but when intended for domestio use to make "sowens," or "flummery" as some call it, it is not so finely cleaned. This sowens makes a very healthy and pleasant food, and is much used for children and in-
valids. Sowen is made in the following manner: The "seeds" is put to steep in an
earthen vessel by pouring hot (not boiling) water on it. It is stirred and left for fortyeight hours, when it begins to sour. It is
then strained through a oloth or sieve and boiled. When cooked it has somewhat the appearance of corn starch, but is much more palatable. Its taste is sour and pleasant, and
even before boiling the liquid makes a very even before boiling the liquid makes a very
agreeable drink of a warm day. The sifter is shaken by a crank in the same manner a the "soreen," but has only about half an inch
fall to the foot. The speed must not only be regular but also the proper number of revolutions must be looked after, as otherwise the
bolting will not be properly or evenly done bolting will not be properly or evenly done,
If too slow, it will allow the "seeds" to fall through, and if too fast, some of the fine
meal will be wasted. The top sieve is the longest, the lower about two feet shorter, and the midale one foot. In the manufacture o stowed on the grain from the time it is first put on the kiln until it leaves the mill in meal as otherwise, being the hardest of grains to
handle properly, it may stand a good chance
of being spoiled. Millers' of being spoiled.-Millers' Journal.

EVERYBODY READS THIS.

## NEWS OF THE WORLD.

tems gathered from correspondents, trleLouisville is to have a Board of Trade. mill.

Eifert's m
April 20th.
A new mill is to
Bird Island, Minn.
The Stacy Filler has been approved by the
Minnesota grain buyers.
March 1st, 1879, there were 49,007 post-
offices in the United States.
An attempt was made to assassinate the
Car of Russia, April 14th.
All indications so far in Ohio and Indiana
point to good crops for 1879. point to good crops for 187
There is only one miller in Congress. No
wonder the old thing grinds slow.
The damage to Luck \& Hathaway'
Oconomowoc, Wis., was only $\$ 200$.
W. M. Poole \& Co., millwrights, Minneapo-
s, Minn., were recently burned out. A pound of oat meal is said to possess as The water power at Suak Rapids, Minn., is
a sold soon under a decree of Court. Caleb M. Lynch's grist and saw-mill, Frankord, Delaware, burned. No insurance. Kansas has been blessed with copious spr
rains and a beautiful harvest is predicted.

## Property to the value of over $\$ 500,000$ destroyed in Philadelphia April 4 th, 79 .

Messrs. Luck \& Hathaway's mill at Ocono-
Nearly eleven million dollars worth of flour
were shipped to South America last year. A. B. McHardy succeeds A. H. McLeod running the flour mill in St.Johnsburg The Archibald mill at Dundas, Minn., is
packing flour in sacks for foreign shipment. The Globe mills at Bunker Hill, Ill. have been leased to A. W. Treat, of Neoga, Illinois. W. L. Kidder, of Geneseo, Tll., has bought
an interest in the Wabash mill, Terre Haute, Ind.

Shaw, of the firm of Shaw \& Willdead.
w flour mill is to be erected in Minneapolis, Minn., on the site of the old Morrison saw-mill.
Col. I. M. Sells, of Coldwater, Mich., has
sold his mill for $\$ 18,000$ and gone out of the business.
April 4th a great fire burned an entire busi-
ness block in St. Louis, and the losses were very heavy.
May \& Co.'s new flour mill at Dodge City,
Kansas, will be completed in time for this
E \& McGrath, millers, Hampton, N have suspen
Wood \& Kenyar, of Onawa, Iowa, are
building a four-run flour mill in complete building a
modern style

Messrs. Bailer \& Peacock succeed to the Osakee, Minn.
The Michigan Central R. R. Co. will Mich., this season.
Upper Egypt has suffered terribly from
It is reported that the worst of it, however, is past.
The first mill in Wayne county, Neb., is
eing built on Logan creek, by Messrs. McHenry \& Dennison.
The "Peerless Mills," H. T. Pendleton, proprietor, at Wentzvi
The California Consolidated Virginia mines which were valued four years ago
000 are now valued at $\$ 8,000,000$.
Roekford, Ill., turns out a ton of tacks per day.
o to sit down on such a business,
Mase \& Co.'s grist mill at Winneconne,
Wis., is to be removed to Oshkosh. It will Wis., is to be removed to Oshkosh. It will
be loaded entire on barges and transported

More grain is sown in Middle Georgia this eason than at any time since the war, and
less cotton will be planted than for twenty less cotton
The Piqua Flouring Mills, Piqua, Ohio, Partially insured. A large quantity of cribbed corn was burned.
Mr. S. T. Hayt, of Corning, N. Y., will at grist mill which was destroyed by fire on the 22 d of February last.
Memphis, Tern., is reported to be in a very yellow fever will break out there as soon as the weather gets very warm.
John Hawkins, a boy of 16 years of age,
had his arm caught in some gearing in the
mill at Spencer, Ind., and
bádly that he died soon after.
Another flouring mill is to be built at Redwood Falls, Redwood county, Minn., this already three mills using the power furnished by the falls.
A great demand for American flour will come from Turkey this year. It will have to
be furnished in string sacks suitable for be furnished in string sacks suitable for
transportation on the backs of camels and other animals.
Mr. H. Riedell, senior member of the millMr. H. Riedell, senior member of the mill-
ing firm of H. Riedell \& Co., of Owatonna,
Minn., died on Wednesday, the 9th inst., afMinn., died on Wednesday, the 9th inst., af-
ter a week's illness. Mr. Riedell was about 66 years of age.
Kimberly, Clark \& Co., of Neenah, Wis., have purchased the Conkey flouring mills, at Appleton, Wis., together with the water
power- 3,000 horse power-for the consideraThe Minneap
The Minneapolis Board of Trade meets
only once per month. The report for March only once per month. The report for March
shows a heavy increase in shipments. The
shipments for March, 1876, were 596 cars, and shipments for March, 1876,
in March, 1879, 1,336 cars.
The Minneapolis millers are satisfied with the use of magnets for removing wire and
other metals from the grain before being other metals irom the grain before being
ground. The idea is not patented, and any
mill-furnisher will supply them on demand.

The Green drive-well patentees have se-
cured another victory, this time in the U. S cured another victory, this time in the U. S.
Court at Indianapolis, Ind. This is the fifth Court at Indianapolis, Ind. This is the fifth
U. S. Court decision in their favor, but the
Minnesota farmers have concluded to fight Minnesota farmers hav
the patent still further.
The proposed great water wheel test to be
made at Holyoke, Mass., to secure the best water wheel to supply water for Minneapolis, Minn., has been abandoned, the Mayor of Minneapolis having refused to sign the con Messrs Woerner \& Miller, of Wright City, Mo., are makng extensive improvementsine,
their mill. A new sixty-horse power engine,
with a fly-wheel weighing 5,000 pounds, is being put in position, and when all the pro-
posed changes have been made the grinding pased changes have been made the grin be 80 barrels of flour a day.
Olmstead Co. (Minn.) farmers are discussing
the feasability of building a Grange flouring mill. Most of the flour mills built in the past few years in different parts of the West have proved failures and have passed into the
hands of private owners. Such is the natural tendency of such enterprises.
At a special meeting of the flour trade, at the Produce Exchange in New York, April
16, a committee was appointed to confer with the railroads coming to New York, relative to the time flour should be held by the roads after its arrival. The graip trade has es-
tablished a new grade of wheat, to be known "mixed winter."

April 7th the Milwaukee Chamber of Commerce held their annual election of officers,
which resulted in the election of Michae Bodden, President; O. E. Britt and D. M Brigham, Vice Presidents; und W. J. Langson the present incumbent, Secretary, and Treas for many years, and there is little likelihood of any change as long as he wishes the office. Abraham Funk, a Menonite, at Mountain
ake, Minn., has converted two prairie Lake, Minn., has converted two prairie diameter of an avarage milk-pan, and set up his mill in a little building about four feet and Mr. Funk can grind some twenty bushels of feed per day, when the wind is favorable.
ost of the whole concern exclusive of Mr . cost of the whole emncern exch
Funk's work, about fifty dollars.
A. J. Davis, of the milling firm of Davis and held to bailin in the sum of $\$ 5,000$ for attempting to poison his partner. Davis was
formerly a pastor of the Free Will Baptist formerly a pastor of the Free Will Baptist
church in Minneapolis, Minn., and has al-
ways borne an excellent reputation. It is waid he gave Fisher some raisins to eat con-
taining strychnine. Mr. Fisher was promptly treated by a physician and is out of danger.
Much excitement prevails in the little city of Much exc
Madelia.
S. M. Newton, of the flouring mill firm of S. M. Newton \& Co., of Chippewa Falls, First National Bank, made an assignment to will not in any manner affect the bank or the flouring mill. Mr. Newton's assignment arose
from a logging matter. Last fall he went into from a logging matter. Last fall he went into
some very extensive logging, the fact being some very extensive logging, the fact being
that the returns from the heavy outlays were not e
him.
Mr. Joseph Winslow has lately rebuilt his four mill in Eagle Lake, in this connty, and named Christina Mikkleson, who is employed by him, went into the mill to shat down the water-gate. In doing so her hair became entangled in the upright shaft that is close by,
and, before assistance could be rendered, her and, before assistance could be renderea, her her head. The heartrending sereams of the vere working near, but not in time to save her from the terrible disaster. Her sufferings are terribly severe, but it is hoped she may
recover.-Fergus Falls Advocate, Minn. Subscribe for the United States Miller. \&

United States Miller.



## MILWAUKEE, MAY, 1879 .

## millern' ansociation dirgetory.

 $\sqrt{2}=x^{2}+\sqrt{2}$
 $\gamma^{2}=$
$\%=$

## $\pm=5=$

 5 Minsksota-Secretary, F. B. Mills, Minneapolis.Nkw York-Secretary, J. A. Hines, Rochester, N. Y.
TexAB-President, John Kerr; Secretary, M. Gray, Dallas.
KANRAs-Prexident, Robert Atkinson, Ottawa; Secre-
tary, Frank H. Pope, Pottawa.
N Mas
 grove. Seceraident, J. J. Snouffer, Cedar Rapids; Vice-
Iow, - Presiden
President.J. Evans, Creston ; Secretary and Treasurer,
J. H. Reed, Boone.
 We send out monthly a large number of
wample copies of THE UNITED NTATES MILLER to millers who are not subscribers.
We wish them to consider the receipt of a
mample copy as a curdial invitation to them
to. become regular subscribers. We are
working our best for the miling interest
than fatr that our milling friends nhould
help the cause atong by liberal subscrip-
tions. Send us One Dollar in money or
wtamps, and we will send THE MILLER to

M'Lean's Millers' Text Book and the United now. Send money or postage stamps
Cyrenus Wheeler, jr., of Auburn, has taken out a patent for separating magneti substances from grain. The claims are rathe broad.

Mills dropped in on us a few minutes in the early part of the month. His newly
market.

Postage stamps taken in payment of subscription to the United States Miller and the Millers' Text Book. $\$ 1.25$ pays for both for one year.
We will send a copy of the Millers' Text Book, by J. M'Lean, of Glasgow, Scotland and the United States Miller, for one andress in the United States or Canada for $\$ 1.25$. Price of Text Book alone, 60 cents. Send cash or stamps.

## J. W. Owes, of Niagara Falls

has for 12 years successfully represented the house of Mesars. Howes, Babcock \& Co., of Silver Creek, N. Y., has retired from busines life in domestic peace and quietness.

Hoppin, of the N.W. Miller, has been talk ing about some of Jonathan Mills' poetry every once in a while for the past two or three years, but don't give us any of it.
Al., give us a few lines. We know it will be solid-unless the germ has been extracted.

The English Roller Patent case, entitled Wegmann v. Corcoran, Witt \& Co., in which judgment was sometime since rendered in favor of the defendants, has been appealed by the plaintiff. A final determination of the suit will probably be made during the presen year.

Look Here.-Every mill-owner, miller, millwright and apprentice should have a copy of
the Millers' Text Book, by J. M'Lean, of Glasgow, Scotland. Prioe 60 cents ; or the Unvted
STATEs Mller, for one year, and a copy of the Text Book for $\$ 1.25$. Postage stamp taken.
All articles intended for exhibition at the "World's Fair," to be held in Mexico, commencing Jan. 15, 1880, will be admitted free of duty, and no charge will be made for space or storage.
How to Make an Emery Wheel.-Take smoothly-turned wooden wheel, and cover the same with leather, devoid of grease, and coat the leather surface, a portion at a time with good glue ; immediately roll the glued surface in emery spread out on a board.
James H. Thorp, of New $\sim$ York, has taken out a patent for a grave. Truly, this patent subject is getting to be a grave business.
There is one consolation in this case, howThere is one consolation in this case, how-
ever, the infringer can stand long and loud knocking by the demander of royalty for th use of his patent.

## WORD TO PRACTICAL MILLERS

We received a letter not long since from nillwright in England in which he said: "Journeymen millers do not seem to study or try to improve their knowledge of milling. They are satisfied to work along in the same old worn rut, and a new idea seldom gets into their heads unless some traveling millwright from some of the great milling centres chances to come along and tell or show them something new."
This statement is too true, and it can also be applied to a good many millers in this country, but happily there are many journeymen millers as well as owners that are enterprising, inquiring and practical men, who will tudy and consequently improve their minds, mills, products and the contents of their pocket-books. A practical miller should use his brains as well as his hands. He should strive to keep himself posted by procuring all good books published on the above subject of milling, and above all should read carefully and attentively the milling journals of the day. The publishers of these journals pick up an idea here and there and put it into shape and publish it. It may be crude and undeveloped, but a studious, ingenious man may sieze upon it, develop it
and make some important discovery -Take the benefit of the experience o others. It is not necessary that you should have your own leg cut off to find that such an operation is painful. Make intelligent use of your brains and save manual labor. It is no disgraceful to work hard, but a man is foolish to work hard when there is no occasion for it.
The question of economical milling is a very mportant one-we must, can and will b able to raise grain, make it into flour and deliver it in foreign markets cheaper than they can raise it and manufacture it themselves. This can and will be done by means of the who will invent the machinery necessary who will invent the machinery necessary to of milling has made wonderfu. strides in the past decade, and we predict that still more wonderful changes will take place in the coming one. A country with your city mil lers on the merchant work because we havn' got the machinery, and if we had we couldn' get a miller capable of running it withou paying a very high salary." It is true in a great measure. There is a demand for thoroughly posted millers, and it is only once in a while that you find such out of employment. To the young men just beginning to learn the trade we would especially commend them to bear these foregoing remarks in mind. Study the science you are trying to earn. Learn all that has been learned an try to learn more. Experiment when neces
sary, but learn from the experiments of others when possible. Read some or all of th current milling literature of the day, and our word for it, the result will in the end be sat isfaction with yourself and, money in your pocket.

## HARRIS-CORLISS ENGINES.

Wm. A. Harris, of Providence, R. I., manufacturer of the well-known Harris-Corliss engines is now making his annual trip to the West to visit those who contemplate putting in new engines in their flour mills or other manufacturing establishments. The merits claimed for these engines are summed np as follows by Mr. Harris
Stock and material the best of their re spective kinds. Shafts and forgings of ham mered wrought iron (do not use cast shafts.) Cylinders of hard, strong and fine iron. Pis-
ton rods of homogenous steel. Valve stems and other bronze castings of pure ingot copper and tin. Large bearings and wearing surper and in. Large bearings and wearing surmotion occasioned by wear. Ample lubricating arrangements for the lubricating of all bearings and in the case of flour mills, stoping to oil crank, pin and crosshead wrist is
entirely avoided. Ample port openings, entirely avoided. Ample port openings,
thereby insuring full boiler pressure on the piston and a free exhaust without back pressure. Regularity of speed under varying
loads and steam pressure. No part of the regulating medium operates through stuffing boxes or in any manner is an actuating me-
dium of the valve motion, or enters the steam dium of the valve motion, or enters the steam chest and thereby be out of sight of the en-
gineer, and subjeet to the corrosive action of gineer, and subject to the corrosive action of
steam and oil. Stop-motion on regulator, which effectually stops the engine, preventing it from running away whenever the regulator
by any means fails to perform its office. An arrangement of drip-colleeting devices, enabling the engineer of neat habits to keep his


Fold their flour aill

## about steam bollers.

## [continued.]

A boiler 24 feet long, 42 inches in diameter, with two flues, exploded. It was stated at the investigation that only 50 lbs . of steam was being used. The original thickness of the iron was only $3-16$ inch. At the point of rupture the iron was corroded to the thinness of paper. No person was hurt, but the building was badly damaged. The diagram, figure 8 , represents the appearance of the boiler after the explosion.
It is reasonable to suppose that if the boiler had been thoroughly inspected, the defect would have been discovered, and the accident prevented. There are steam users who fail to appreciate the advantages of thorough inspection. A "certificate," if secured at a very low rate, is all that is wanted.
The following report of a boiler explosion from a special agent of the Hartford Steam Boiler Inspection and Insurance Co., of Hartford, Conn., who visited the scene, will be read with interest:
"The boiler was of the locomotive type-a variety used in the oil regions of Pennsylva-nia-having a narrow base to the fire-box and a tapering waist; base, 26 inches wide by 4
stay-bolts and braces, which were scattered in all directions. The barrel of the boiler end, nearly in a line of its axis when in position, a distance of about two hundred feet, the tubes left bare by the tearing off of the waist, plunging into the ground, whence it bounded some distance further near the place where the taper-sheets,that formed the waist had alighted.

"Most of the other parts were strewn in a curved line to the left, each piece going further until the most remote and largest landed about 1,500 feet to the left. The crown and sides of the furnace were composed of one sheet, which seems to have been flattened down upon the grate-bars, then turned once over upon the ash-heap, with its fire side up, and the fusible plug in perfect order in the middle of the sheet.

A part of the
 rought-iron bath half the was dropped upon the tool-box of the diggers. The front of the shell, with the front of the firebox attached, was thrown about 600 feet in a direction nearly opposite to that taken by the barrel.

Nothing remained to mark the spot where the boiler stood except the grate-bars, which were forced into the ground that formed
feet 4 inches long; fire-box, 20 inches wide by 3 feet 10 inches long; front, 4 feet high by 3 feet wide at axis; dome, 22 inches diameter, by 30 inches high, measured from crown of shell; length over all, about 12 feet; diameter of barrel, 30 inches, containing 28 tubes 3 inches diameter by about 8 feet long; thickness of shell, dome, and fire-box, $\frac{1}{4}$-inch iron; tube-sheets, 5-16. The boiler was located in an open field some distance from the works, and covered by a shed; it was used to furnish steam for a small pumping-engine in a large well which was in process of excavation.
The boiler as it originally appeared i
provided with a "stop-valve," that is, valves so situated that either boiler can be shut off when not in use. The danger here is that when the idle boiler is put into use the attendant will forget or neglect to open the stopvalve, and, there being no outlet to the one safety-valve, the pressure increases until the surrounding metal is unable to resist the internal pressure, and an explosion occurs. Boilors should never be set in this way unless each

Northwestern States-Illinois, Wisconsin Iowa and Minnesota, -at the present time is Iowa and Minnesota, -at the present time is
nearly three times as large as it was eighteen nearly three times as large as it was eighteen
years ago, the aggregate number in 1878 havyears ago, the aggregate number in 1878 having been 3,600 against 1,338 in 1860. Latterly a considerable portion of the flour exported has been in sacks, because, presumably, of its relatively smaller cost to the consumer Not many years ago most of the little oat meal then used in this country was imported from Great Britain and Canada, but mills for the production of this nutritious food have sprung up in various parts of the country, and their product has become an important item in the list of exports.
In this connection, it is of interest to note that a variety of collateral manufacturing industries have followed in the wake of the growth of the flouring mill interest in the West and Northwest, such as cotton, woolen, bagging, agricultural machinery, and other bagging, agricultural machinery, and other
factories, this class of products not long since factories, this class of products not long since
having been drawn almost wholly from the having been drawn almost wholly from the
older States. It is, indeed, difficult for the older States. It is, indeed, difficult for the
residents of the Eastern States, who have not residents of the Eastern States, who have not
had occular demonstrations of the fact to realize the wonderful industrial development of the upper Mississippi Valley that has taken place within twenty-five years, - a development, it is unnecessary to say, that is due
 many boilers through the country set in this way, and serious accidents have oc-
curred and will occur so long as this is followed. Portions of as this practice thrown from 300 to 700 feet. Figs. 12, 18, and 14 will show the manner in which the iron was torn. Fig. 12 represents the top of the steam drum. Fig. 18, rear end of left-hand boiler, which was thrown some 225 feet. Fig. 14, front end of left-hand boiler.
The dangers incident to the use of steam can in a great measure be removed if steam users will study the matter more carefully. It is always economical to surround boilers with intelligent care and management; to have them set on correct principles, with all attach ments and appliances properly located, so that especially every safety appliance shall perform its functions freely and unobstructed.

## WESTERN MILLING AND COGNATE INTERESTS.

The flour milling industry of the North west has made wonderful progress during the last twenty-five years, having proceeded parri-passu with the transfer of the wheat belt from the Gennessee, Ohio and Wabash Valleys to the upper Mississppi Valley. Twenty-five or thirty years ago the heart of the milling interests in this country may be said to have been in Northern New York, when Gennessee flour, made of the choice wheat grown in that section, with the old Haxall and Gallego brands of Virginia, was regarded by consumers as the ne plus ultra of bread material. But the Gennessee flour of to-day does not hold the supremacy that it did a quarter of a century ago. So far as the grain is concerned, our New York millers are, of course, on an equality with their Northwestern competitors, but the latter seem to have outstripped the former in devising new methods and improvements in the conversion of wheat into flour. What is called new process milling was, we believe, first adopted in the Northwest, and the manufacture of improved mill machinery has become one of the most important industries of that section. The millers of other sections, however, have not been slow in discovering the excellence of the product of the leading Northwestern mills, or of the methods of its Northwestern mills, or of the methods of its
production, and the consequence is a general production, and the consequence is a general
improvement in the grades of flour over those of former times. A quarter of a century ago, or more, the exports of breadstuffs consisted almost wholly of flour because of its relative cheapness, and the off-fall it yields for stol feeding purposes, the latter being a matter of no small consideration in a country like Great Britain, whose limited agricultural area does not admit of an adequate production of stock provender. Of late, however, the proportion of flour to wheat exports has increased, a fact believed to be due to the improvement in the grades of the former and the reduced cost of conversion of which we have spoken together with the system of through shipments by rail and steamship to Europe and elsewhere, at comparatively low transportation charges. From late statistics, it appear tion charges. From late statistics, it appear
more to our system of railways than to al other agencies combined. But great as has been thifs development, it promises to be even more marvelous in the future than in the past, judging from the movement of population from the East to West, which for 1878 is computed to have been not less than 600,000 . Of this number Nebraska received 100,000, Minnesota 50,000 , and Kansas over 100,000. Dull business in the old States is the cause of this hegira of population, as it was of all movements of the kind. People who are out of employment and have saved a little money, naturally begin to inquire about the West. If


## Fig. 13.

they can get a small farm, a degree of independence is assured, if they, do not make much money. The West has been settled by immigration within half a centnry. A fact of more than ordinary significance is the remarkably large sales of new land for actual settlement reaching last year $14,000,000$ acres, mostly to native born citizens. The Government sales were not quite $8,000,000$ acres; the ment sales were not quite $8,000,000$ acres ; the
remainder was made up of railroad sales, and large sales by some of the States of land ceded by the Federal Government. Of the whole number of immigrants to the United States last year, more than one-half went


South and West. This work of reclaiming the waste places of our broad domain, and making them to blossom as the rose, is one of the most hopeful indications of the time, the beneficient effects of which will make themselves more and more manifest as the years roll.on,-N, Y. Shipping List.

The failure of Albert H. Smith,

THE UNITED STATES MILLER.

## minnesuta millers.

A Large Meeting of the Fraternity Assembled in Minneapolis.

Agreement Entered Into.
Minneapolis Millers Spread a Banquet at the Nicollet, to which the Visitors are Invited.

A very important meeting of the State
Millers' Association was held in Minneapolis April 8th. The Covention assembled at 10:30 A. M., in the gentlemens' parlurs of were present, among the number the follow E
E. L. Baker, Red Wing; W. P. Brown, Red Wing ; T. C. McClure, St. Cloud; John
M. Cole, Rochester ; Geo. F. Strait, Shakopee ; H. Williams, LaCrosse ; W. H. Officer,
Austin ; S. C. White, Hokah ; N. P. Clarke Austin ; S. C. White, Hokah ; N. P. Clarke,
St. Cloud ; A. Seeback, Red Wing ; H. Hammond, LeGrand, Iowa; W. W. Engle, Austin; Harry Miller, Winona; A. L. Sackett, St.
Peter; Gordon E. Cole, Faribault; J, Snauffer, Cedar Rapids ; Frank Nicolin, Jordan ; S. W. Mears. Hastings ; S. D. Foss, Jordan ; J. A. Christian, Minneapolis ; C. A.
Pillsbury, Minneapolis ; W. D. Hale Minneapolis ; W. F. Cahill, Minneapolis ; S. S.
Brown, Minneapolis ; Loren Fletcher, Min-
 White, Minneapolis; U. T. Hobart, Minneap-
olis; F. B. Mills, Minneapolis ; W. H. olis ; F. B. Mills, Minneapolis ; W. H. Dun-
woody, Minneapolis ; F. S. Hinkle, Minneapolis; W. H. Hinkle, Minneapolis; Leonard Day, Minneapolis; H. E. Newton, Minneapo-
lis; John Crosby, Minneapolis ; D. M Syme, Minneapolis.
The Secretary, Mr. F. B. Mills, submitted


 bers assessments on treasury from old mem.
eighty-six on which the run, leaving eighty-six on which the first assessment of
$\$ 25$ was paid still delinquent on the last one
of $\$ 15$. In the meantime there have been new members received owning thirty-nine run, nal numbers thirty-five, on which the last assessment only has been páid, making our
present membership number 105 firms, operatpresent membership number 105 firms, operat-
ing 623 run of stone, not including any of mose who have not yet paid their last assess-
ment. This is undoubtedly the best showing hat can be made by any State represented in
the National Association, and our Minnesota millers are well worthy the commendations
they have received for the faithful manner in which they have stood by their executive
committee and paid their assessments. Still,
fully believe that in the number it millers represented and amount of real tion is still fap behind that what we ought to make it. We are now just on the eve of a
great victory that is well worth many times
he labor and money it has orst the which will be to save not only in this State
but every State in the Union thonsands of oilars. And too much praise cannot be given ront of the battle and steadily, amid many
discouragements, with a grevious lack of both naterial and moral support from those on $t$ times taking upon themselves heavy finannconveniensibe, steadily pushed forw personal
the present grand victory has crowned theil the present grand victory has crowned thei
labors. This, however, is but one of sev ral similar claims, only to be squarely met by tion. The purpose of defending ourselves one, and the one that has thus far almost en tirely engaged our attention as it seemed the most directly to appeal to the pocket, is far
from fulfilling the objects for which the association was organized, which were broadly bers, and in these respects we must frankly
ber confess that many of the State associations
are far in advance of our own. The first thing undoubtedly to be done that our assoof which it is capable, is to reorganize upon a thoroughly sound and legal basis-a matter
fully set forth in the official call for this meeting, and the accompanying address from the point I would say that I am in the receipt of
communications from some of our leading communications from some of our leading
country millers asking that some other basis
than simply the number of than simply the number of run of stone be with the improved machinery, rolls, ete., adopted by the leading mereliant mills, the
present tuethod gives the country and custom miller an undue proporion of the burthen. Some ask that both the rolls and stone be
counted, and others that the quantity of flo counted, and others that the quantity of flour
mazufactured be the basis. As the assess-
ments are lunt ments are but a mere moiety iu comparison me to be bardly worthy of controversy, only
that us far as possible all should be har
monious and satisfactory. When our re-ormonious and satisfactory. When our re-or-
ganization is effected there are several prominent points that should have our immediat wheat. It is well known first would be seed there has been a disposition umong our farm-
ers to use more or less soft varieties in hopes ers to use more or les
to increass their yield.
The result has been in many localities to seriously deteriorate the general product for
making the best grades of flour making the best grades of flour. Combined
with this, we have this seasnn another great
danger to danger to contend with. Our last year's crop
was seriously injured, resulting in a large quantity of blighted and imperfect wheat. A1 though this wheat may sprout, and, perhaps,
under favorable circumstances, bear a fairly healthy stock, yet it is universally conceded
by all seedmen that the more healthy and better the seed sown the more assured a
bountiful harvest. If the fullest development of a plant of any description is desired, the
best ripened and most perfect seed is selected best ripened and most perfect seed is selected,
and by following this course for a series of years the most remarkable results have been ing the ; while we well know that follow inevitable, and the finest fruit or flower be
come worthless. Again, the simple changing of the seed from one locality to another often
proves of the greatest advantage, and I fully miller in the State to use his utmost influence to have the farmers in his locality secure th them, securing good No. 1 wheat from the
Northern Pacific or elsewhere and exchangin Northern Pacific or elsewhere and exchanging
with them on reasonable terms, thereby in measure assuring himself a better product to
grind the coming season. The soft can only be rooted out by a discrimination in millers and dealers. Another matter that would seem worthy of attention is insurance, embracing means of protection against danger
from fire, dust explosions, etc. Several of from fire, dust explosions, etc. Several of
the State associations have already done something in this direction-enough to demonstrate its practicability as at least a great help
to carry this burden. pointed at our semi-annual meeting, May 8,
1878, but probably 1878, but probably owing to their whole at-
tention being engaged on patent cases then tention being engaged on patent cases then
pressing, they have failed to report. arresting all dust from the mill-stone, and the burn for arresting the dust from the purifiers or some similar devices, there is no good
reason why our mills should not be kept clean and free from dust and the measure of risk
largely reduced. The close communionism largely reduced. The close communionism
formerly exhibited among our millers is happily passing away and there can be no doubt ore free and open discussion of new ods of milling, etc., by our wide-awake and energetic millers will not only save much un-
necessary expenditure, but do much to hance the value of our product and place Min-
of the world

## tion, the information of our members, our

 by-laws originally provided for in sectionseven, in which it was made the duty of the Secretary, in connection with other offlcers obtainable in relation to crops; stocks of grain and millers' products, and other matters of of a private circular for distribution form members. I need not say this has been thus far almost a dead letter in our association, the
entire attention of its officers being absorbed in the defense of claims against its members hearty co-operation of all, our membership statistics might be obtained that would be of great advantage to all.
But I have alread
much beyond its original intent, and thank ing you for your forbearance, I would respect-
fully ask for these and kindred topics you areful consideration.
F. B. Mills, Sec'y.
committee of three consisting of Messrs
Pillsbury, E. L. Baker, and E. V. Whit was appointed to call the attention of the Department of Agriculture to sending seed wheat o this State.
Mr. Christian moved that the Stillwater mill of Isaan Staples be admitted to full mimber Mons payment of $\$ 25$ per run.
Messrs. Syme \& Co., Russell, Heinline \& the same terms.
Mr. Pillsbury moved that all millers who have paid $\$ 15$ only, shall be assessed $\$ 10$ per
run additional, and shall then be admitted into full membership with all the privileges thereto appertaining, including equal interest in all funds on hand.
the articles of agreement
The millers then proceeded with the consideration of the articles of agreement for a adopted the articles organization. As finally association is the first of the state associations to meet, they are of particular importand will probably be adopted in other States, to complete an organization of which the National shall be the central government
The undersigned, millers engaged in the
manufacture of flour and meal in the State
of Minnesota, hereby associate ourselves to
gether as the "Minnesota Millers' State As-
sociation," for the purpose of mutual benefit and protection in their said business. And they do, each by his.signature hereto affixed, of agreement

1. The officers of this association shall be President, two Vice Presidents, and a Secrebe held by the same person. There shall be mexecutive committee, composed of three tion being ex-officio a member of the associatee. All these officers nhall be elected at the annual meeting of the association for the
term of one year and shall serve until their successors are duly elected.
2. The annual meeting of the association
shail be held on the second Tuesday in April, and special meetings may be called at any ecutive committee also be members of the Millers' National Association, and the Secretary of this associa-
tion is hereby authorized to enroll the names of the undersigned as members of the said National Association.
3. It shall be the duty of the executive claim for infringeme ct of patents in milling processes or machinery, hereafter made, against any member in good standing of thi
assoeiation, to be duly investigated, and i assoeiation, to be duly investigated,
advised that such claim is invalid, th ended by the asscciation, and may be de such professional or other assistance as they may deem necessary. The executive com
mittee is also anthorized to arrange with th wners of meritorious and valid patented improvements for reasopable terins for the use
of the same by members of this association Provided, That all the action by the execu ence to patent claims shall be in harmony tive committee of the action of the execu sociation, and the assessment by the National any year within the limits hereinafter agreed to be paid, shall be first collected by the exthe members of this of this association from National Association before any assessment
is made for the benefit of this association alone for that year
pay on demand the amount hereby agrees ment made by the executive committee of this association, or by the National Millers Association for the promotion of mutual protection or for the common benefit in any
manner deemed advisable by said committees, or either of them, not exceeding in any one
year, for all purposes, including both the $\$ 15$ for each run of buhrs, or its sum of in capacity of other machinery as the executive committee may determine, which the undersigued may operate upon wheat or its prodacts. Provided, That no assessment shall
be made by the executive committee of this (State) associa iox, in any one year, for purposes of this association, until the amount of assessment made for that year by the National As-ociation shall have been paid.
made in amounts ants so authorized may be limits hereinbefore fixed, to be determined the
 and of the National Association in their disso received to any lawful puy apply funds protection or common benefit in its discretion and the members of the executive committee of this (State) association, as constituted at of an time, are hereby empowered, as trustees of an express trust, to sue for and recover in
their own names all assessments made upon the undersigned, whether for this or the nal Association
The defense of any patent suit by this above provided, shall be managed and directed by the executive committee of the asno settlement or compromise of such suit shall be made except upon terms accepted by such committee for the benefit of all members of such association who may use the devices
or processes in controversy. Any member so sued and defended, who shall settle or the expromise his case without the consent of charge, shall refund to having the same whose expense the defense shall have been made, all sums expended in that defense by
4. Any member failing to pay assessments, made as herein authorized, within ten days after demand, may, on vote of the executive from the list of

This agreement shall continue ton vear and in case any of the undersigned shall leave be released from his obligations under tha agreement on paying all assessments of this association and the National Association for
the year then pending, provided that any member, on leaving the milling business, may, of this assoociation, cause his succeser in the milling business to be substituted in his mem bership herein
10. No member shall be hereafter admitted the last preceding sectionept as provided in the full amount of all assessments thereto-
fore paid by the then existing members, inthe State Millers' Association members of organized.
Provide
unning only since the lst of January, 1879
may be admitted on application upon pay-
ment of $\$ 25$ per run, and mills which may
hereafter hereafter be built vided they make application for such admis sion within three months after they shall
have been put in operation, and no assess have been put in operation, and no assess
ment shall be made against them for the cur rent year of their admission to membership

OTHER MATTERS.
It was ordered that the Secretary send to agreember of the association the article agreed upon, together with the report of the meeting, with request that they sign the same or give him power to enroll them as members of the association.
The President was authorized to appoint a committee to draft by-laws for the govern ment of the association.
The names of the present officers were read, and Mr. Fletcher moved that the Secretary be authorized to cast the vote of the association for the present officers, to be the officers for another year
Mr. J. A. Christian desired to be relieved from the duties of chairman of the executive committee, but the members would not ac-
Mr. Cahill raised the point that the association could not elect officers because there articles of agreement were signed. The point was ruled not to be well taken and the officers were re-elected with the proexeentive committee be the members of the xecutive committee for the ensuing year The officers are as follows: President, W. P Brown, Red Wing; Vice President, C. A.
White, Hokah ; Secretary, F. B. Mills, MinA. Christian, Min eapolis. Executive committee-J A Chri tian, Minneapolis ; E. L. Baker, Red Wing W. H. Dunwoody, Minneapolis.

The President was made ex-officio a member the executive committee
The Secretary was allowed $\$ 300$ for his services during the past year, and the ex-
ecutive committee were authorized to fix his ecutive committee were auth
compensation in the future.
The President was authorized to appoint delegation of five to attend the National Con vention which convenes in Chicago on the 13th of May.
The association at 2 o'clock adjourned to take dinner in a body at the Nicollet upo the invitation of the Minneapolis millers.
or mind and bod lors where they were again called to order fo business.
The President on by-Laws
mittee to draft Fletcher, C. T. Hobart
delegates to the national convention. The President appointed as delegates to th National Convention, which meets at Chicago the 13th of May, the following gentlemen

Christian, E. L. Baker, L. Fletcher, T

## McClyre, D. Bronson

Mr. Fletcher, on behalf of the Millers' As sociation of Minnesota, offered the following hich was adopted by a rising vote
Whereas, This convention has learned with indingnation of the disgraceful action of cer during the hearing of the Cochrane suits at St. Louis ; therefore,
Resolved, That the conduct of those parties tory, and at a timing on the threshold of vicposed that such when they must have supprejudice the Court and jo their part would of their associates, deserves ceive the condemnation of the entire milling raternity throughout the country
Resoivud, That the hearty thanks of this association are due to Gov. C. C. Washburn
and J. A. Christian \& Co., for the firm, unand J. A. Christian \& Co., for the firm, un-
yielding and gallant fight which they have made, not only in our behalf, but that of the entire flour manufacturing industry of the
country. country.
Mr. Fletcher moved a vote of sincere thanks of the association to the attorneys for have conducted the suits manner in which they and for the Nation for this association and for the National association. The moMr. J. A. Ceri by ananimous rising vote, of the A. Christian spoke in commendation Hinds and S. H. Messrs. Alex. Smith, J. A. the executive committee, in the prosecution of the suit. Mr. Smith, he said, had done the hard work of the committee and of the association, and he thought it due to him that the association should pass a vote of special
thanks to him for his ability, energy and enthanks to him for his ability, energy and en-
thusiasm in the matter. He therefore husiasm in the matter. He therefore
Moved, That the Minnesota Ste
Moved, That the Minnesota State Millers' Association tender their thanks to Mr. Alex-
ander H. Smith for his services in the Coch- rane patent cases, and for his efforts to se-
cure a strong legal organization, State and ational.
Mr. D. Syme suggested that Mr. Seamans be included in the resolution, but other members', while admitting Mr. Seamans' ability,
said he had not had the opportunity to do the said he had not had the opportunity to do the
hard work which devolved upon Mr. Smith, hard work which devolved upon Mr. Smith,
and therefore the exclusive vote of thanks to the last named gentleman. While there was no intention to reflect on other members of the committee, it was deemed right and proper that a vote of thanks be given Mr.
for the extent and value of his services.

## or the extent and value of his THE MEMBERS

Before the adjournment, which was effected about fịe o'clock Tuesday evening, April 8th, the following firms had signed the articles of agreement published above:
Gardner \& Mairs, Hastings; Washburn, Crosby, \& Co., W. H. Hinkle \& Co., G. W. Goodrich \& Co., S. S. Brown \& Co., Hobart,
Shuler \& Co., Pratt \& Baird, Crocker, Fisk \& Shuler \& Co., Pratt \& Baird, Crocker, Fisk \&
Co., D. R. Barber \& Son, Minneapolis, Minn.; Walcótt Mill Company, Northfield; Mazeppa Mill Company, Mazeppa; Foss, Wells \& Co., Jordan; Townsend \& Proctor, Stillwater; Mills \& Houlton, Elk River; Kimball \& Beedy Forest City; LaGrange Mill Company, Red Wing ; Croswell \& Syme, Long Lake; Eagle
\& Co., Austin, Minn.; White Bros., Hokah; Miller \& Ellsworth, Minnesota City; Cannon River Manufacturing Company, Faribault:, Sackett \& Fay, St. Peter; Geo. F. Strait \& Co., Shakopee; B. D. Sprague, Rushford; White \& Beynon, Lanesboro; White, Nash \&
Co., Lanesboro; White, Beynon \& Co., Medford; Benjamin Taylor, Red Wing; Red Wing Mill Company, Red Wing; W. H. Officer, Austin.
A number of the millers had left for home by early trains before the articles were ready for signature. Therefore the meagre repre-
sentation thus far. The Secretary will send sentation thus far. The Secretary will send
the articles to all the millers in the State for signature, and the organization in all probability will start out with a full representation of the six hundred run in the State.

## THE FLOUR INDUSTRY IN BUDAPEST, HUNGARY

## Translated from the Pester-LLoyd Journal for the

In regard to the technicalities of milling we will mention first of all that in the course of the past year a safe and well established
method of constructing the frames of rollers has become established, tried and approved by practice an
The occurrence of smut and blast in this year's wheat more than ever required a radi-
cal improvement of the mechanism of macal improvement of the mechanism of ma-
chines for cleaning it. The great majority of the mills of Budapest and the provinces felt induced to reconstruct their apparatus for cleaning the grain. An unavoidable series cleaning the wheat was universally adopted. The grain-cleaning machines with ventilation, introduced by Adolph Fischer, met with the most satisfactory results. By this machine the dust when once loosened by powerful fric-
tion is, as may well be conceived, carried away directly by the current of air, until the wheat is clean and free from dust. The machines formerly used did indeed partially loosen the dust, but did not immediately remove it, and as a resuit of this it adhered to the wheat again to a great extent and soiled it anew, so that in running out of the machine only the dust that had accidentally remained loose could be separated from the wheat.
The points of sprouts and barb in wheat were apparently well removed with the old machines by means of tin graters, saw-
blades, stones, etc., but the husk of the kerblades, stones, etc., but the husk of the ker-
nel was scratched, damaged and soiled by the dust. The wheat cleaned by the older machines showed a dark color while wheat cleaned by means of the most modern machines, is marked by a bright color, and consequently furnishes pure and whiter
coarse meals. The use of rollers has been coarse meals. The use of rollers has been
more extensively introduced: Rough-grindis done to-day exclusively by furrowed (fluted) hard-cast rollers with differential velocity, provided according to the kind of work with finer or coarser furrows. The socalled cutting-machines are disappearing repairing of them and the interruption thereby occasioned, as well as the reduced value of the cut-up bran are driving them out of use. The grinding of the groats (coarse
middlings) are done partly by furrowed, but mostly still by the smooth, hard-cast rollers ; the grinding of the fine middlings by smooth,
hard-cast rollers with a slight differential velocity. The rollers for the latter operations have been essentially improved by
Mechwart, manager of Ganz' Mill Building Works, by means of a construction which enables considerable saving of power, and makes a pressure of the rollers practicable
of a degree heretofore inadmisible. Experience has taught that it is most advan tageous to let the groats pass through the rollers only once, the fine middlings twice, however, before being subjected to a bolting process. In bolting the groats that have
passed through the rollers, only a small quantity of inferior flour is separated, the fine middlings, however, will then furnish from 50 to 75 per cent of the very best flour.
The springs of these rollers for grinding (construction by Mechwart) which cause the pressure have stood the test perfectly in gard to durability as well as to efficiency. The grinding out of the finest dust and of in mills of this country also have been pro vided lately with ventilation, so as to prevent the hot-grinding and the injurious formation of paste in the cylinders, etc.
The centrifugal bolting gradually being introduced, but mostly in mills where the reels have to be put up in limited space, but also where on account of roller apparatus cannot be used. The_consumption of bolting cloth for the covering of bolting machines is pretty nearly equal that of reels of ordinary construction. The middlings purifying machines Charles Haggenmacher still maintain thei superiority and are in use in all establish ments of Budapest and of the province, and
the demand for them from foreign millers is greater than ever
We can thus state with satisfaction that the Hungarian process of milling has reached a degree of perfection heretofore unheard of and the impulse given by millers of this country has carried its influence over the whole con-
tinent and Great Britain; yes, that even in transatlantic countries the attention of mill ers has been called to the Hungarian process of milling and that they sent numerous representatives here to study it. Next to this of our machine building are already acknowledged in large circles in foreign counexport we owe to them qu
export of milling machinery
Germany, Switzerland, Russia and England have become important and regular buyers of Hungarian rollers of Ganz \& Co., and even of the last year.
It has become the conviction that in milling the introduction of the use of rollers es. pecially is no longer an experiment but has too much to ascribe the brilliant success of our mills in the last four years exclusively to this new method of grinding, but it is never theless a fact worthy of consideration that
the milling business in all countries where the innovation has not yet spread, or only to a very little extent, is constantly in a languid state, while it is just the introduction of the system of grinding with rollers that co-steam-mill establishment.

The annual grain-market in this city has this year been even less attended than in the preceding years, and the institution is still
in a languishing state without coming to an in a la
end. The millers' day connected therewith had no special subjeets for deliberation and the
management of the connection and commanagement of the connection and com-
munication between the several mills was left to its standing committees.
In the price of coal and insurance, and in the relation with laborers, no important regard to the latter subject we can point with satisfaction to the fact that contrary to Germany, no socialistic tendency or agitation has
shown itself among our laborers.
As a consequence of the brilliant results obtained in the last few years a decided change in the public opinion has taken place,
and to the pessimism of the period after the great commercial crisis a boundless optimism has followed, and in consequence enlarge ments of establishments as well as the erection of new mills are again planned. But and the experiences of the previous period of and the experiences of the previous period of stagnation and hard times should serve as a
lesson how fickle and changeable the opinion about the value of mill-shares is, and it should be considered especially that an ex-
tension of the milling business, as long as the means of keeping a large supply of
cereals in the place are not furnished us by entrepots (grain-warehouses), may bring dangerous, sudden increase in the price of
the grain not warranted by circumstances in the grain not warranted by circumstances in ments are really built, the fact should serv as a further stimulus for the realization of the so long and so fruitlessly agitated project

## entrepots" (grain-warehouses.)

The pension-fund for mill-employes which had long been talked of has at length been
sanctioned in principle, and after the per ection of mathematical details of the projec which are just now under consideration, it will of the mill-employes is just as well secure as the domestic industry of milling itself has Phoenix-like arisen from the general decline sequence of the last successful years so well rovided with reserves, that it as well as it and doubtless by occasionally re-occurrin eriods of stagnation with cutmness, the more so since to the safe financial siuation able management is joined by men tried in the school of misfortunes and influenced $\underline{\underline{"}}$

## OUR PENNSYLVANIA LETTER.

Phifadelipha, Pa., April 12, 1879.-The
opposition to the Cochrane patent claim, among the millers and flour operators bo the Western States, has spread to the flour milling fraternity of the East, and the expressions of
sympathy with and support to the opponents of the claim are decidedly great upon the part of the millers and various State associations. ecognized by all who use mill machinery, and this is the chief reason why there is so much originators.
The prominent flour manufacturers of Pennsylvania are particularly up in arms against
the patent claims, and, to assist in the battle against the would-be monopolists, the State Millers' Association, through the Secretary, A. Z. Sohoch, has subscribed $\$ 150$, and P. A. \& S. Small, of York, have added $\$ 500$ more,
push the war against the patent right monopo ists, and to secure membership in the Millers National Association. The milling fraternity is almost a unit for a vigorous fight against the movement inaugurated by the Cochrane peo ple, and the intelligence comes from all parts
of the East of organized and powerful oppoof the East of organized and powerful oppo-
sition to them and their claims, which are con sidered to be illegal in every respect.
The flour interest of Pennsylvania, New York, Now Jersey, and other Eastern States, The merchant millers are still vigorously competing in a friendly spirit for the export trade and several prominent flouring establishments ave sent large consignments to European an South American ports within the past few weeks. The Messrs. Small, the great repre-
sentative flour manufacturers of York, York county, this State, have been, for some time past, shipping vast quantities of their excel lent made flour to South America via lines of teamships and sailing vessels from Baltimore by the Messrs. Small stands A No. 1 in the South American markets
Philadelphia millers all report excellent transactions this season, so far, and now that
the season's trade has fairly opened, the frateraity look forward to a still greater activity in their business, although, of course, with cor esponding profits. The old-established firms Morgan \& Alley, Germantown road and econd street, and E. H. Graham \& Co. (Pro gress Steam Flour Mills), 2,136 Market street eport the trade to be in a reasonably fair con dition, and say that the situation must improv The season advances.
The exportation of unmanufactured breadstuffs from this port, while now being very large, is steadily on the increase. The ele vators of the Pennsylvania Railroad and Phil adelphia and Reading Railroad Companies are kept busily running day and night in loading the steamships destined to foreign places. The latter company have, within the past few days, been doing an extraordinary business in hipping grain, which fully illustrates to wha a remarkable extent the staple commodity o America is used in European countries.
Thinking that the grain shipping operations
patrons, the United States Millef corre pondent has visited Port Richmond, the cen re of the business of the Philadelphia and Reading Railroad Company, to obtain the fact relative to the grain movement. Midway of
the company's coal wharves, where 100,000 he company's coal wharves, where 100,000
ons of "black diamonds" are lying, are two piers, designated as No. 13 north and No. 13 south, entirely devoted to the shipments of grain. They have a capacity of 80,000 bushels a day, and at times they are employed to heir fullest capacity, working day and night Immense consignments of the variou creals are coming in from the Western States market in European countries. As an old Pennsylvania grain-grower very truthfully of this We Americans feed not only the natives people on the other side of the one is more willing to reiterate this statement han yours truly,

The Dusty Miller.

## IS POOR WHEAT GOOD FOR SEED

## The above is a question that comes from

wer the question by giving a few kinds an seed wheat and results, and you can draw your own conclusions. Seed wheat should be classed the same as wheat is graded-No. 1 and so
on. No. 1 seed is a variety of wheat that is pure, free from all foul seed, cut before it is shattered any, well cured, stacked or put under
cover without rain; threshed with a flail or cover without rain; threshed with a flail or
tramped out with horses on a threshing floor cleaned twice with a fanning mill, the last time with a coarse screen that will let through all the small and medium sized wheat ; the balance of the wheat will be strictly No. 1 seed wheat; will never deteriorate or run out as long ed; and in the hands of industrious farmers can be improved in quality of wheat and yield per acre. With such wheat, half the usual amount per acre will be sufficient
in this State since its first settlement, just as it came from the machine, with the exception once cleaning, and then sown in quantities per acre, in proportion to the quality of the of wheat with a magnifying glass, and invariably found the largest and best wheat broken, cracked or injured from threshing, and would not grow; and also a portion of the medium sized wheat, while the small wheat was seldom injured. This class of wheat can never profrom this class of seed, when ripe, will represent the kind of seed sown better than words can express. A small portion of the standing grain will be of good height, large heads, and well filled with large kernels, provided the grain will present every height, from six inches up to within a few inches from the tallest; sponding with the stock on which it grew. In wheat of this kind there is a loss of yield per grade when sold, and if not bought very low, a loss to the mill that grinds it.
No. 3 seed is wheat that has been killed with the rust. If secured without rain and well screened,
No. 4 seed is wheat badly bleached, repeatedly wet and dried, or threshed wet. Such
wheat will often grow, but is very weak and wheat will often grow
should not be sown
A large portiou of wheat grown in this and adjoining States last season, will not-grow; nevertheless there is in nearly every bushel from five quarts to a half bushel of No. 2 seed, and will make about as good seed as has usual y been sown; should be separated as much as possible from the poor wheat, as much of his will grow, but can never make wheat that will be worth cutting, and will only burden the ground to the detriment of the good wheat. I know there are many that will say it is all bosh to be so very particular about seed. They will tell you they have raised from 25 to 30 bushels per acre with poor seed. If good seed had been sown they would probably have got 35 or 40 bushels p
Minneapolis Tribune.

There are ten girls in a Pennsylvania millers family whose "Christian" names are these : Emma Angelina Adlet, Lovinia Serena Cornelia, Alice Ellen. Amanda, Torvilla Susanna Corilla, Francina Telara Cencillia, Perlinia, Sibylla Agues, Christiana Effibulia Eliza, Annie Olivia Virginia, Ida Cora Jorine, and Mary Ann Alecia.
the cochrane patent.
Highly Interesting Review of the True Inwardness of the Great Suit.
How the supreme Conrt Came to Allow the

## The Points of the Recent Decision and the Probable

Feature of the Case.

## the bottom facts, as related by "gat

You have probably not seen a clear account of the great upsetting just given by George Harding to the great milling monopoly, with its headquarters in Ohio and the District of
Columbia. This came off in the Circuit Court Columbia. This came off in the Circuit Court
of the United States west of the Mississippi river, and the decision was only given March 17th. The monopoly took the name of "The American Middlings Purifer Company," a had sued John A. Christian, of Minnesota, and the Atlantic Middling Company, of St. Louis, for alleged infringement of patent. The infringement essentially consisted in atmospheric bolting of flour middlings. I despair of making this plain to you, except in the way of
conversation. Let me put to the lawyer, therefore, some questions.

## What is a grain of whea

## A grain of wheat is a berry with a soft

 ings. The center gives fifty per cent of the superfine flour, and is divided into numerous cells, divided by gluten, starch and camenting matter. The problem of grinding consists in separating the interior mass from the coating it. The hull ought to be pulverized as little as possible, while the interior mass is well pulverized, because when you come to bolt the flour you want the bran to be in larger par-ticles and not to go through the cloth. Now ticles and not to go through the cloth. Now,
winter wheat, which has a rough wooden husk, is easily separated; but the spring w further north has a brittle hull, which pu izes almost like the flour itself. Consequent St. Louis grain ground much better and the flour brought a higher price. The present law-suit arose from the introduction of French
machines into Minnesota by which they. reground the middlings and produced even a
"How do you define middlings?"
"Our definition in that respect ca
Our definition in that respect came down from Oliver Evans, who ground flour on the
Brandywine fifty years ago, and wrote about it. After your flour has gone through the mill-stones, you want to sift it (or boll it),
which is done by a bolting cloth a reel ; the cloth has a progressively coarser mesh, and the meal or coarse-ground wheat lying on the cloth, sends the finest flour
through the top, and as the flour mass goes onward, it drops coarser ; the coarse part is
again taken up to the head of the cloth and sent onward a second time. Now, there is something left after this double bolting, and
it retains the name of meal. The finest of this meal is called 'middlings'; the next coarser quality is called 'shipstuff,' and the third quality is called 'shorts' and 'bran.
Now, you must see, that as machinery ad vanced and our wheat increased in quantity, it became desirable to hasten the old fashioned lieved that atmospheric pressure would do it. The Americans and the French both set to work at this.

## Which was the at steam-boliting.

## most attention

It was called the Cogsswell \& McKiernan patent, and was granted June 12, 1860. A surrounded by a zinc box perforated with sumall holes. The air escaping went up a crooked chimney, whose elbows formed
eddies and let the flour fall back into the eddies and let the flour fall back into the
reel-chest. This patent was sold to William F. Cochrane, and in the summer of 1861 he put up a mill on that patent near Springfield,
Ohio, for the Warder family. Some trouble Ohio, for the Warder family. Some trouble occurred, and after many improvements and somewhere about 1863 . It died right there and for ten years not a 'ghost of it lingered around. Yet that patent became the basis of the greatest milling business of our times.
"How was tuat?"

It was accomplis
"It was accomplished through the surrender and reissue of the patent, taking advantage of
the Patent Office at Washiugton. This was not done until the French machines had re-
volutionized wheat grinding in Minnesota. into Minnesota, and the crop increased rapidly, until it was nearly $3,000,000$ bushels in 1863 , and more than $33,000,000$ bushels in 1877. Yet the brittle hull of the Minnesota wheat would get into the flour and could not be bolted out by the old process. Consequently, though richer in gluten than the St.
Louis flour, it held an inferior place in the market, and was used by bakers only, not by families. In that condition of things a Frenchman named Le Croix, who knew about the system of grinding spring wheat in France, told his neighbors, the great miller
around Minneapolis, to try the French maaround Minneapolis, to try the French ma-
chines. Consequently, Mr. George H. Christian sent out to France and imported what is called the Cabanese machines, first patented
in April, 1856. After about ote year's exin April, 1856. After about ot e year's ex-
periments with these machines in his mill and constructing others like them, Mr. Christian fully established the character of Minne sota flour in 1871. It was done by what is brought fors in Eastern markets, and one dollar a barrel more than the St. Louis flour. The effect was immense, when it suddenly occurd sharp fellows that the old Cogswell \& Coch-
rane patent should be revived and a good thing made of it.

## setting UP A Patent job. were the persons interested in the

"Who wer
Mr. William Warder and Mr. Rodney Mason, in 1873 and 1874, entered into an understanding to obtain the greater part of the in terest in the old Cochrane patent, and then
reissue it so as to cover the new process. Middlings had never been ground into superfine flour here. Cochrane readily agreed to give
one-half his interest to Mason-which was onefourth of the entire patent-for obtaining the The thing was then so worthless that William
Ther Warder had got a fourth of it for nothing. These three men-Cochraue, Mason and War-der-slipped off to Washington city, and associated with them three lawyers-Peck, Phillips John O. Evans and J. Van Buskirk. These latter persons furnished $\$ 6,000$ to carry on the litigation. The patentees at once brought suit against a miller at Georgetown, D. C., un-
der their new patent. The miller, Welch, had been the first to tell them that purified middlings could be manufactured, and he is suspected of being in with them. Their suit wa ested parties resolved to carry it right up to the Supreme Court on printed briefs. They "How did they get a verd
By an e.x parte affi lavit of
By an e.c parte affilavit of the first inventor, Cogswell, he testifying that Cochrane was
the real inventor of the air-blast and ventilator. The Supreme Court thus misled, decided that the old Cogswell \& McKirnan patent They also seemed to establish the fact that thi Cochrane invention antedated this French patent. The fact 1s, that on both points the

## Well, what next

The owners of the reissued patent not only collected their royalties with impunity all over the country, but went baek for years and de-
manded payment for whatever flour had been manded payment for whatever flour had been
ground by the middlings purifying system. Now, the French invention was an entirely different thing. It was a vibrating sieve, in-
clined, and as it rose and fell at the sides produced a current of air which passed upward through the meshes of the sieve. The French had used this vibrating hand-sieve for a long time, but Cabanese put machinery to it. The St. Louis millers no sooner saw the Minnesota provements. They adopted the French system of putting their millstones further apart so as not to crush so much of the husk nor kill the
life of the flour. They also developed the glatinous properties of their own flour by a suceessive grinding, modifying the faces of the millstones and reducing their speed. Consebetter flour than they had ever had.
tinkering up a tumble.
Did the American patentees make any "Danges in their apparatus to meet the de "They tried to reconstruct it in the"
They tried to reconstruct it in the summer of 1877, and had some of the features of the French invention, but it was of no account. The additions they put on bore no reference to their reissued patent. Indeed, the Ameri-
can inventors and millers knew nothing what-

## ever abo middlings.

The connsel who argued this case intro duced before the Court working models not only of the Cabanese machines and the Coch rane machine, but also of the Gove Farina machine. He made the whole process clear as day to the Court, and so annoyed the opposing counsel that he referred to the fact that a set of banded robbers had grouped together to fight a poor inventor! Harding replied that the opposite counsel had availed himself of their working models, and that not a cent had grams and models."
tracing of a mechanical snake.
"Did he argue the point about the invalidity
Very ably; he showed that by the act 1870 the introduction of new matter is ex drawings annexed to an original patent is also expressly forbidden. Both these provisions were violated. Parts of the original patent by Cochrane were omitted. He first claimed that the bolting was only aided by a strong blast In the next patent he speaks of the process of purification as wholly independent of any blast operation. He adds the words : 'Re-
ducing the meal by subjection to the combined operations of screening and blowing, and af terward regrinding and bolting and purified middlings.' He never knew anything about middlings before. Mr. Harding also took up the confusion of terms as to middlings, meal, bran, etc., produced by the corresponding hauling of the dictionary. Old Oliver Evans reappearred from the grave to verify the advocate. He showed that such reissued patents, when amended, had been set aside
in such prominent cases as the Fiber Disintegrating Company, the Hat Body patent and Sat Liquor patent. In the case of the Giant Powder Company, the Supreme Court ruled that the abuse to be provided against was the temptation to amend a patent so as to cover mprovements which might have been in ented by others after its issue. The damage claimed from the millers were so immense that the conspirators proposed voluntarily
and cheekily to limit them by compromise or ven by special law.
Mr. Harding closed his argument with the ollowing words: "Can a man give such patent to the public as Cochrane did in patent 37,317 , and then reissue it in the new form in which it is reissued in 5,841 , and hold the it? If if your honors say so it will be right. But, may it please your honors, many, many will vance of civilization and progress of laws in this, this last quarter of the nineteenth entury.

How did the Supreme Court allow ase to slip through ?

It was very shrewdly worked. Such lawyers as Walter Cox, now a Judge of the Feder1 District Court, and the son of ex-Judge Peck, of the Court of Claims, and Rodney Mason, a patent lawyer, the son of General
Mason, of Springfield, were let into the patont, expecting that they would socially influence the Court. It is also believed that the case against the Georgetown millers was got bscure lawyer defended on purpose the Supreme Court now knows that this patent was reissued and test case made in order to get their instant favorable decision "
"What way had the Supreme Court of co recting such an error as that ?"

As soon as their attention was fully brought to the case by the public indignaion and by the lawyers, they granted a 'com nission,' which they seldom do, and never like to do, empowering any Circuit Judge to try another case of the same kind, and then let an appeal come up to them de novo, that , as if there had not been a previous trial." "The happy patentees then set to work to get money out of the big mill of Washburn \& Christian. They admit having obtained $\$ 60,000$ in all as compromised royalties from he millers, with which they conducted th itigation. They came from Minneapolis Mr. E. O. Stanard, formerly millers there. Mr. E. O. Stanard, formerly a member of
Congress, and a big miller, was weak enough to pay them, notwithstanding the general agreement of the St. Louis millers to resist. He was expelled from the millers' association. The case was then brought to trial on behalf of both the Minneapolis and St. Louis millers before Judge Dillon, sitting on the bench,
with associates Nelson and Treat, at St. Lonis; George Harding, who probably got an immense fee, went into Court, as I have said with his working models, exhibited large diagrams, baked bread in the presence of the grams, baked bread in the presence of the
Court, and made this matter as plain as day."

## future of the case.

"Is it to be tried again?"
"The Cochrane patentees say that they mean to carry it up to the Supreme Jourt; that their only weak point is about the reissue of the patent, and that they will have imagine how much the millers have saved when you conceive the enormous number of barrels of flour ground in this country and the infinite mass of middlings, hitherto refused and used for horse-feed, which, by the amended methods, become superfine flour."

What were the points of the decision?" "All the Judges concurred. Judge Dillon boiled his conclusions down in these words : ad in the mere proce of bolting, with the view of obtaining an in creased quantity of choice flour, and not for the production of purified middlings. The reissued patent having been expanded to embrace a claim for purifying middlings, when no such process was described, suggested or claimed in the original patent, is void.'
Judge Nelson expressed the same idea in these words: "The actual invention of Cochrane has been enlarged by the addition of new matter in the reissue, so that when the two patents are compared, the extension is apparent. This new patent is not for the same invention secured and embraced in the original letters patent.'
Judge Treat at length discussed the two methods and said of the case already decided against Welch by the Supreme Court, "If an appeal is taken that Court will have before it in this suit the large amount of new evidence introduced; in the light of which it can determine for itself whether it will review its former opinion or not."

## aUstrallan wheat stacks at caltowie.

Since the large extension of agricultural operations in South Australia, by the opening up of the Northern Areas, a new feature has appeared in those settlements-immense stacks of bags of wheat awaiting transport to a marret. Reference is made to such stacks in Harlarge one at Messrs. Duffield \& Co.'s mill large one at Messrs. Duffield \& Co.'s mill
at Gawler. A similar one has been built at Messrs. Siekmann \& Moule's Caltowie wheat store. This little township has, from the first settlement of the farmers in the surrounding districts, been one of the mostimpertant centres of the wheat trade. Messrs. Siekmann \& Moule opened a branch of their business in Caltowie at an early period in its history, about the year 1873, and have purchased immense quantities of grain from the farmers, to whom they offered great facilities for its conversion. The past season has been a very busy one in this township; the crops in the neighboring hundreds of Belalie, Mananarie, Black Rock, and Yongala having been rather above the average. Most of the produce found its way to Caltowie. All the principal firms in the wheat trade were there represented, but we are creditably informed that Messrs. Siekmann \& Moule did the lion's share of the business. This was, we believe, owing to the great popularity of the firm amongst the northern farmers, many of whom had been assisted and befriended by them. This firm, whose central establishment was at Saddleworth, had wheat agencies also established at Crystal Brook, Gladstone, Jamestown, Tarcowie, Yatina, Yarcowit, Farrel's Flat and Manoora, and probably a million bushels of wheat altogether passed through their hands in the season. Owing to the deficient means afforded by the railway for carrying away the produce, large quantities accumulated along the line, and Messrs. Siekmann \& Moule, after availing themselves of every inch of ground allotted to them at the railway station, were compelled to build several large stacks of bagged wheat on their own premises, about 200 yards from the line. Their celebrated atack of 35,000 bags attracted the attention of His Excellency, Sir W. Jerrois, when he visited Caltowie. The removal of another
large stack has been early completed, Messrs large stack has been yearly completed, Messrs. of having a line of rails laid for 23 chains from the railway station to the stack to facilitate its removal,-Adelaide News, Australia.
lihu Burritt, of New Britain, Conn., commonly

## |Translated from the Oenterreiohiseb-Ungarische

The annual meeting of the five mill-associa tions in Hungary was held last month, and from the reports submitted, we clip the lowing concerning the "Pest Millers' and Bakers' Associa thon." The board of directors say in their report: The mills were only 237 days in operation during which time 228,053.23 kilo grams* of wheat and $4,576.18 \mathrm{kgr}$. of corn, al together $232,629.41 \mathrm{kgr}$. of grain, were ground, producing $225,808.12 \mathrm{kgr}$. different mill products. The profit thereof amounted to $134,187.47$ florinst, and adding to this amount the net balance of the year 1877, 175,107 florins, it will make a total net income of $135,938.54$ florins. The board of directors moved to distribute of this amount 135,000 lue on June 1, 1879, could be redeemed on April 1 , for 45 florins, and the balance of 938.54 florins be credited to the profit account for the year 1879. The board of di-
rectors, taking in due consideration that the production is insufficient, although the mill was running without interruption and there being only one steam mill, stoppages are unavoidable-therefore recommend the ereeion of a second mill, according to the rules this mill, including all machinery and water upply for two boilers will be about 50,000 florins, and the board of directors recommend the issue of 2,000 shares of 900 florins each, of which number only $1 ; 500$ should be issued at present. The preference of the purchase of the new shares is reserved ones to such an extent that the proprietor of two old ones is only entitled to shares would only be sold if necessity should demand it, in which case the board of directors would like to be empowered to sell installments of 40 florins each, must be paid between April 1st and August 1st, and the right to preference expires on April 14th. In case the erection of the mill should require more capital as calculation is made on, the cash on hand. After discussing the report and reviewing the balance sheet, the meeting approved of the proposed dividend, and also voted for the erection of the new min ac board of directors.
II. The "Concordia Steam Mill Association of Budapest." A synopsis of the report of in 1877, in the following year, the fore part especially, the financial and political prospects were so uncertain that the greatest discretion and caution was necessary. As it was unavoidable to adopt the latest technical inventions in our line of business, compelled to remodel our mills to a great extent, and to rebuild almost entirely our work to our fullest extent during the latter part of the year, and the $513,632 \mathrm{mtzgr}$. (about 898,856 bushels) of wheat ground, resulted in $496,253 \mathrm{mtzgr}$. ( 864,442 bushels) of mill products.
We realized, as will be shown by the balance sheet, $303,821.39$ florins. We move to deduct therefrom 136,500 florins for wear and tear of the buildings, machinery, implements,
duplicate parts of them and outstanding acduplicate parts of them and outstanding achould be divided and expended as follows : Three per.cent or $5,019.63$ florins to the credit of the reserve fund; 10 per cent or $16,732.13$ and committee of inspection; 4 per cent or and $6925^{\circ}$ florins for salary of the general manager and other officers ; dividend for 2,300 shares at 60 florins per share, 138,000 florins ; total, $166,444.61$ florins. The surplus, 876.78 florins, and the balance of profit from the year 1877, $2,377.13$ florins, total $3,253.91$ florins, should be credited to the new profit and loss account. The dividend will be paid on and after April 1st.
III. The "Elizabeth Steam Mill Association at" Budapest." The board of directors say in their report: During last year 290,732 mtzgr. of wheat was ground, being 82,237 mtzgr. more than in the year 1877. The net profit, as shown by the balance sheet and ap proved of by the committee on inspection amounts to $138,943.28$ florins after deducting all expenses. The board of directors recommended that instead of the usual 5 per cent

the reserve fund, and 16 per cent or $22,230.88$ florins be paid for salary for the board of
directors and other officers ; adding to the balance of $95,870.92$ florins the surplus for he year 1877, or $2,597.43$ florins, the total mount of net profits is increased to $98,468.35$ florins. Of this sum 90,000 florins should be paid out as dividends, and the balance, $8,468.35$ florins should be credited to the profit and loss account. This will increase the reserve fund to $10 \%, 435.70$ florins, and the divi-
dend for each share, 30 florins, will be paid on and after April 1st.
IV. The "The Pesther Victoria Steam Mill Association at Budapest." The board of dicongratulations to the society for the success and enormons profits realized during the last year:- You are all well aware of the -hard our beginning was iot successfulin any way. Our business was declared a humbug, but how different is it to-day. The home steam mill industry has conquered all prejudices, her
product is recognized as the best in the world and every Hungarian speaks with pride of his home mills, which are considere $814,277 \mathrm{kgr}$ for every mill in the world. $37,814,2 \pi \mathrm{kgr}$
of wheat were ground and $36,678,851 \mathrm{kgr}$ of mill products obtained therefrom. According to the accompanying balance sheet, the net profit for the year 180.06 florins. This extraordinary gratifying result induces the board of directors to recommend that the reserve fund be so that our enterprise is secured against misfortunes unforseen, which may befall the commercial world.
The board of directors recommend therefore, that instead of the usual per cent, $50,797.31$ florins be added to
the reserve fund, so that it is raised, ac cording to \& 58 of the Statutes, to the maximal sum of 200,000 florins; also that 50,000 florins be allowed and set aside for the creation of a special reserv fund, and $38,955.61$ florins for salary of
the board of directors and other officers, so that after deducting this whole amount from the net profit and adding to the lat er the balance of the year $187 \%$ florins
$3,019.71$ florins, a dividend of 72 flo on each share of stock, or 16 florins to each preferred share, should be paid on and after April 1. The board of directors further fecommend that from the balance, $7,096.85$ florins, 1,000 florins be
given to the benevolent fund, and 300 florins to the Budapest Academy of Commerce, and the balance, $5,796.85$ florins, entered up as net profit for the year 1879 . The recommendations were accepted, and the purchase of a piece of land con-
taining 15,120 square feet, adjoining the mill ground was approved.

## The "First Open-Pest Steam Mill

Association." Assets : Buildings and real es tate, 635,831.78 ilorine, florins; horses and wagons, $11,938.80$ florins: bags, $58,457.17$ florins; wheat on hand, 288, bags, $68,457.17$ forins; wheat on
427.24 florins; flour, $435,836.40$ florins checks, 125 florins; notes, $70,014.64$ florins foreign exchanges, 322,556 florins; C. O. D account, $10,725.37$ florins; cash on hand, $10,764.03$ florins; barrels, 735 florins; bolting cloth, 647.75 florins; insurance, $2,467.38$ florins; 660 florins; office expenses 157 ; 50 ind, 157.50 florins; expense of teaming, 2,781.0 florins; stock on had, 14,101.78 repairs of furniture, 101 florins; insure the mill at Ofen, $33,119.86$ florins; cure expenses, 280.88 florins; expenses of the dif terent shops, 2,260.72 florins; stock on hand 3,193.56 florins; fuel account, 174 florins; sundry debtors (current accounts, 505,884.80 lorins, due from bankers $384,996.86$ florns) $890,851,16$ florins; total, $3,210,649.52$ ins), $890,851.10$ Capiltal, $1,000,000$ orins. Liabinil stock interest account, forins; preferred stock ills, loss account 58.13 florins ; outstanding bills, loss account, $52,003.19$ florins; reserve fund, 200,000 .in ins ; dividend account, 935 florins; working mens' benevolent account, 5,976.96 florin's; workingmens' bond account, 138.55 florins; endorsements, 794,823.60 florins; dividend reserve account, 198,780.56 florins; sundry creditors, $917,488.12$ florins ; profit and loss account (balance January, 1878, 9,668.84 florins, net profit in the year 1878, 809,226.57 florins), $811,895.41$ florins; total, $8,910,649.59$ florins.

Subscribe for the United States Miller. \$1.

## NOVEL INVENTION

Juty 18, 1876.
This apparatus has a drying capacity of from 500 to 5,000 bushels per day, at an expense of one-half cent per without damaging the germinating qualities of the same.
The construction of Schroll's improved grain dryer is consonant with natural principles. It is simple and
gives satisfaction in every respect.
The accompanying engraving shows an in ernal view, represented as if one side of the surrounding wall was suspended on hinges and thrown open. $B$ is the upper plate, and $F$ a funnel-shaped opening in the same, to the ottom of which is attached a peras a conical bottom end, which empties into the discharge pipe, $C$, and to the upper part of which is aranged an annular valve with openings for reg. ulating the discharge passage for the grain A second perforated iron cyllinder of reduced
diameter is placed internally and concentrically within the cylinder, $A$, the upper end which is connected to the smoke-stack, which carries off the gases and vapor. Tine sen both cylinders is continuously loaded with grain from above, which grain will be discharged from below proportionately to the openings by the adjustment of the annula


The rainfall in California during March has assured the wheat crop in that State, which though wot the largest in its history, gives
promise of being the best in respect to quali-

During the week ending March 21, two wheat laden ships sailed from ports of cal
the United Kingdom for Havre, France.
The spring sowing of wheat in the United Kingdom has been completed, and it is now estimated that the breadth of land under wheat, fall and spring sowing, will be found to be 500,000 acres less than was planted last

From the 13th to the 19th of March ther were 25 wheat laden ships passed the Daranelles : Comprising 2 for the United King dom, 14 for Marseilles, 2 for other ports of rance, 2 for Holland, 2 for Adriatic and the Mediterranean, 1 for Malta and 1 for Gib raltar.
The winter in the region round abont the Azov Sea has been unusually mild, and navigation has opened a month earlier than asual; most of the ports being opened in closed till after the middle of April. It is not expected that any large supply of wheat will be obtained from Azov during the remainder of the crop year.
The stock of wheat at Odessa the last of Sarch was about $1,200,000$ bus. vs. nearly $8,000,000$ on Jan 1, 1879.

## Wheat and flour on passage for the Con-

 tinent
## 

The imports of wheat into France during the week ended March 28, including arrivals at Marseilles, Havre, Bordeaux and Nantes, aggregate 87,000 qrs, vs. 79,450 qrs the pre vious week.
The imports of wheat into Marseilles for
the week ended March $22,{ }^{7} 79$, were 385,600 bus, and the stock in docks was $1,840,000$ bus. There was a fairly active demand for Switzerland, although the milling inquiry was light, but was expected soon to show an improvement.
28, '79, rep robabilit nothing doing in wheat, with a probabily that the wheat crop, so far as ure. The shipments from Calcutta for the United Kingdom from Jan. 1 to Feb. 26, 1879, had been 1,137 tons, vs. 7,708 tons for the corresponding period in 1878.
the exports of cereals from the North Russian Baltic ports of Riga for five years :

## 

pole, and the gases of an tultracto conl or perforations in the cylinders and through the heet of grain between both cylinders, whereby the moisture of the grain is evaporated.
For grain to be ground in the mill, the anular valve is adjusted for a slow discharge, when the grain for a longer period, and thereby made thor-
oughly dry, while grain to be used for planting is passed quicker through the apparatus. Air-holes, E G, are arranged in the wall, which can be closed, and by means of which the degree of heat in the apparatus
This apparatus can be connected with an elevator for drying the grain before it is stored in the bins, and therefore it offers great ad vantages to brewers, maltsters, and millers.
The cost of drying grain in this apparatus does not amount to quite one-half a cent per bushel, and the grain is not damaged therein for seeding. It is also well adapted for the manufacture of oat-meal, and for drying ship. ping corn.
A schroll dryer is erected in the mill of Messrs. Jiencke \& Co., southwest corner of Kinzee and Green streets, in Chicago, where can above-named gentemen win give any desired information regarding said apparatus, and will furnish samples of grain cured in the same to applicants from distant localities, by mail.
For further information apply to or address Carl schroll, care of C. schotte, 24 and 26 South Canal street, Chicago, Ill.

The residence of A. C. Pasfrey, miller, at Richlaud Centre,
by fire April 7 th.

Akherman is destitute of stocks and grain. (600,000 thas) From 100,000 tschetwerts Dneiper no supplies of importance are expected till the incoming of the new crop, but on the other hand, large quantities may come forward from Besserabia and Podelia, provided there shall be no obstacles thrown in
ve way of rail transportation. On the whole, the way of rail transportation. On the whole, the estimate of the receiptly the cereals is $1,800,000$ qrs, equal to $14,400,000$ bus.
The weather in Germany during the third week in March continued unfavorable for the growing winter wheat, caused by heavy snow and rain, followed by frost.
At Konigsberg, Germany, on the 18th ult., the weather was wintry, and the receipts of steamers loading with grain at Pillau, mostly for the Continent, and their loading being completed, there will be very little stock left of grain. The reports at Konigsberg from the interior of Russia indicate that there are still good stocks of grain gathered there, but how much will come to Konigsberg for shipment is undetermined for the moment. Something will depend upon the corn duties that are threatened to be imposed by the German Parliament. Should duties be imposed it is expected that shipments of Russian grain will be made through Russian Baltic porta instead of Konigsberg, as has been the case for several years.

Kendall's grain warehouse and contents burned in St. Charles, Minn., April 8th. Will be zebuilt.

## ROLLER MILLING *

This work, as the author tells ns in his preface, was originally intended as an article for Die Muehle. It is in fact, as far as the subject is concerned, a reproduction of a lecture degeneral assembly of the Society of Millers of Saxony, on the process of milling with rollers. When the author came to commit his lecture to paper, however, he found that he
had not treated the subject so thoroughly as its importance demanded, and in the process of elaboration, finding that the work had
grown upon his hands to an extent which grown upon his hands to an extent which
rendered it unsuited to the columns of a newspsper, he at length determined that it should take the form in which it now appears. It is a cleverly written pamphlet, consisting of about 90 octavo pages, and as the author is
himself a mill-owner and a practical miller, his opinions are entitled to some considera-

The employment of roller mills in the manufacture of flour is, he tells us, a subject of
the deepest interest to every miller. Little heeded some years since, it has now become being made in milling industry. It is not merely a question of the employment of rolling it for the further process of grinding with nill-stones; It is a question of employing them in the manufacture of flour instend of mill-
stones, of performing every milling process with rollers only (not chilled iron, but porce--
lain), and arranging our mills accordingly. The author evidently expects that an immense impulse will be given to milling by his innovation, inasmuch as the "machinery will be less costly, the power required will be much
smaller, the service simpler, the quantity of lour obtained larger and of infinitely better
quality, and generally the task of milling will be executed with much greater com-
pleteness." A power capable of thus revopleteness." A power capable of thus revo-
lutionizing a whole industry is therefore a thing not to be despised; on the contrary, it on which oppinions so confidently expressed are based.
Before we proceed to the consideration of the views enunciated by the author respecting
the comparative merits of mill-stones and porcelain rollers for the manufacture of flour, it will be necessary to state what his opinions
are in reference to the summa ratio of milling are in reference to the summa ratio of milling
generally. This done, we shall show how, according to him, mill-stones have failed, and must necessarily fail, to accomplish the object out his objection to chilled iron rollers ; and, lastly, we shall show how, in his opinion, the remedied. by the employment of porcelain rollers.
As regards its capacity for being separated, resistance to the forces employed for anequal ducing it. In general, the outer integument possesses greater firmness than the inward tearing on account of its toughness, difficult to break it because it is more pliable, and to
crush it because it is more extendable than the kernel, which in respect to these qualities only differs from it by its greater or less
brittleness. It follows, therefore, that by employing the same force for reducing both, the inner substance is easier and sooner ter, and everything connected therewith larger than the parts of the kernel, remain be separated accordingly. Herein lies the principle of all milling. With this separation greater or less resistance of which it is as regards nutritive value. On the other hand, in the separation of the inner substance as flour from the rind in which it is enveloped, and from the adhering germ as bran, there is
at the same time a separation of these part iff a direction which is decisive as regards requirements of the palate. This the way in which it flour obtained from it is more agreeable to the palate wheh unmixed with bran. The ducing flour perfectly free from bran, and on account of its value, to obtain as much of cure grain will yield former for the enjoyment of man, on account itway
of its flavor, and the latter as fodder for the
cattle employed in his service. This is the best use that can be made of any nourishment that may be contained in bran. In exchange for this our domestic animals render us valuable services; moreover, they provide us with meat, and a host of other things which are more savory and more digestible than the bran which, indigestible for us, but change.
This, then, is the goal which we are reminded every miller should strive to attain: the production of branless flour and The abs bieal
The above, as the reader will perceive, fully coincides with the views expressed by Herr
Pappenheim, in that section of his work wherein he treats of "The problem of the milling of the age
The reduction of grain is the disconnecting of the several elements of which it is composed, and imparting to each a separate existence, which can only be done by the ex the resistance offered by it. When this is sufficient the connection is destroyed. Press, ure can do this, but if more pressure be employed than is necessary, the connection in-
stead of being dissolved is more firmly cemented. Pressure, therefore, must have its limits. But the author tells us that someforce must be brought ine is needed. Another which draws the disconnected parts away impulsion (Verschiebung). To these two forces a third must be added, which will carry the several portions of the grain forward, in grain in continued succession. In these three forces we have all the conditions requisite functions may not come into collision, each movement must be entirely independent of the other Pressure must do more than destroy the con-
nection between the several parts ; impulsion must do more than is necessary to the dispersion of the several disconnected parts, and the forwarding movement must perform its
functions without exercising any influence on functions without exercising any influence on the principle of grinding generally. when one of these objects may take place regulated, and is, for instance, stronger than is nesessary, regard being had to the nature to be attained by

## ment.

From the co-operation and collision of which are of pressing and gliding surfaces arise which every miller should be careful to avoid-the generation of heat. He must guard against friction, because friction generates heat. Nevertheless, all friction does
not do this. So long as the friction is not not do this. So long as the friction is not
stronger, and the force employed is not greater than is necessary for the impulsion of the
several parts, no heat will be generated. This happens when there is a superfluity of motion and force, and increases in proportion as the friction is uninterrupted. Friction arises from duration of contact, and increases in By paying attention to these physical laws we are enabled to regulate friction and avoid heat. Friction is interrupted by doing away
with the contact. Two bodies are never contact when a third is between them. This third body is, for the working surfaces, the flour material itself, for the interruption of the contact between this and the surface, the
We have now to examine what form these principles take in the means of grinding furnished respectively by mill-stones annd rollers.
"In the employment of mill-stones," the author tells us, "in the arrangement of the
sets, there is no independent regulation of the forces necessary for the grinding of the grain, consequently the operation of the mill-stones is very irregular and unequal, and the liability to the effect of friction is very great." He attributes this to the circumstance that the revolution of the milltone supplies the same movement for more than one of the three forces above mentioned, and further, that the capacity of adhesion of Ime mill-stones (sharpness) does not last.
Impulsion is exercised by a centrifugal motion Thich is unequal, and which, by increasing
whiten owards the periphery, tends to overstep the bounds of the force requisite therefor. In addition to this, since the capacity of adhesion engendered by the sharpness alters
auring the grinding, whilst the revolving limits are continually being changed. They may and must end with periphery; nevertheless, with each degree of the increasing capacity of adhesion they endeavor to pass
beyond it. The right thing to do would be to lessen the speed of the stones in the same proportion; but this is impossible, because the supply of material for grinding depends upon the same motion; it would cease to enter, and the supply would be cut off. The miller, therefore, strives to make up for the want of capacity of adhesion by increased pressure. But that has its limits; for pressure, although it may assist adhesion, cannot
Mill-stones, we are told, are ill-adapted also or dealing tenderly with the husk, which along with everything else that offers more resistance than the floury kernel, they grind into bran. The preservation of the husk deso fast as to get torn by the diverging motion of impulsion. The latter happens all the more ruthlessly in case it sticks ; the quicker the motion, the more quickly and violently it must be torn away. If the capacity of ad-
hesion of the stones were regular and the mpulsion more uniform, there would be no difficulty in dealing gently with the husk, but in proportion as the motion of the surfaces of the mill-stones increased towards the periphery, the possibility of this happening is That friction and
That friction and consequent heat should arise from a superfluity of motion, and pressure, is not to be wondered at. Heat increases
in proportion to the pressure. The pressure can, of course, be regulated by stopping, which is a costly operation; but what about the contact? The grain and its several parts are laid hold of and separated not once, but continual succession; the contact, therefind lasts a long time, and friction and heat find every encouragement. It is sought to
interrupt the duration of the contact in mill. tones by the expedient of grooves, but the object is not attained. So long as it was a question of mere grinding, without regard to the separation of flour and bran, to the preseration of its nutritive properties, to capacity or baking and flavor, mill-stones were unquestionably the best means for grinding, and here nothing more is required, they are so till. They leave nothing to be desired in the way of simplicity of arrangement, they do large quantity of work in a comparatively short space of time, facilitate a ready sale intelli of the laborer; but from the mo a demand sets in for better and more nutritious bread, the miller who grinds with mill-stones has a position to maintain which is difficult in proportion to the demand that is made upon him for finer, whiter, and purer flour
To this effect is the indictment which the author in the work under consideration prefers against mill-stones, and against those evils, from which there is no escape, he sees no remedy except in their entire abandonment as implements for the manufacture of flour, and the general substitution of porcelain rollers in their stead; that is, if we attach any value to the possession of a fine, white, pure, and easily digestible article of food. We
cannot do better than reproduce what he urges on this subject in his own words:

If we would solve this problem by means must pressure which toll be ground must be capable of being regulated in proportion to its firmness, independent of very other consideration; there mast be sion, same time a regular movement of impulsion, equally independent of any other object and this impulsion must be continually sup. ported by an uniform capacity of adhesion in the surface of the roller. In order to be able to grind fine flour, the rollers must run so close to each other that nothing can pass be tween them'without being ground.
"These conditions are fulfilled neither by roller mills with chilled iron rollers, nor yo by the earlier poreelain roller mills, but they are amply provided for by the newest construction of Wegmann's porcelain roller mills with differential speed.
Every movement of this roller, which resembles the former one only in outward appearance, is executed by means of wheels. ing theels which drive the two rollers workthe speed of the outer rollet which, as is known, can be pressed by a lever, is less than that of the roller, which is fixed. The roll-
ers themselves are made of porcelain, but are no longer smooth and polished, but
ground. "In consequence of these arrangements, the driving of the rollers is independent of the pressure. The latter is used only for operat ing upon the flour, and for this purpose, by tightening or relaxing the springs, it can be regulated at pleasure, even to stopping altogether. The unequal speed of the rollers, caused by the different sizes of the wheels, causes not an irregular, but a regular movement of impulsion on the surface of the rollers, the effect of which is likewise inde pendent of pressure and of every other move ment. But above all, the requisite capacity of adhesion of the surface of the rollers, for
the impulsion, as also their close fit, is guaranted by, as also their cose working of the porcelain which Wegmann uses.
'When we abandon the principle of absolute pressure in rollers-as is actually the casedifferen admit the favorable operation of differential speed in the grinding of grain,
and accept the principle of impulsion, it is impossible to ignore the preliminary condition of adhesion, and in this case we must have regard to the material of which rollers are made. It is no longer sufficient that it be hard enough, that it is capable of sustaining an immoderate pressure; it must possess the property of being able to hold; it must no longer be smooth and polished. The grain must be laid hold of and held firmly, in order that it may actually follow both directions presented by differential speed. Smooth,
highly polished rollers with differential speed, act like smooth calendars ; they glide ove firmly pressed flour and stop up the pores. "The quality of adhesion is possessed by no material in the same degree as porcelain, the
most perfect of all ceramic products. most perfect of all ceramic products. Un
polished porcelain,
the cuit, presents a dull, velvety surface, ain for milling with rollers. In this state possesses the capacity of adhesion which en ables it to act upon the smallest particles of flour, and to separate them. It presents
continual inheritent sharpness, which continual inheritent sharpness, which no art
can give to any other material in equal finecan give to any other
ness and regularity."
"It cannot be mai
"that porcelain rollers do to the author says, chilled iron rollers. They have sork than ever they have been rightly employed in the process of milling, that they are capable of
doing at lesst as doing at lfast as much. The question whethe chilled iron rollers, tendency to oxidize, and especience of their exudapocially on accoun the flour has not been decided by rollers , bon with the flour ground by porcelain certainly inferior. It may be that the fixing of porcelain rollers on the iron axis hitherto been such as to be sufficiently depended upon. For this reason, as also cause the bushes are liable to get heated, core stretch to such an extent that the porce lain roller breaks in two, there have been frequent and loud complaints. With present advanced resources of mechanical science, it cannot be doubted that these defects will soon be overcome." And in a foot note he adds: "The coloring with cast-iron proceed from two causes. surface of the rollers may be covered with rust, or they may exude carbon. We with that cast-iron is never free from carbon: exudes as graphite through the pores and
gives a blue tinge to the flour. We are often deceived by this blue appearance in judging tinguished when of flour. It is easily dis process, when we compare so-called Pekar each other, wet. But the easiest method convincing ourselves wiping with a clean cloth rollers which have stood for some hours-it will be found to be graphite gray.
Herr Pappe
Herr Pappenheim, in his new work on milling, to which we have already referred,
serves: "Whilst we are writing this serves: "Whilst we are writing this, we is destined to displace a great many things. any rate it will do away with mill-stones for
grinding corn." This observation refer doubt, to the porcelain roller mills, in favor of which the author expresses such enthusiastic admiration. Time alone will determine whether the expectations of the one or the
vaticinations of the other are based sure and lasting foundation. We have lived long enough to see a great many illusions dispelled in our time, hopes frustrated, expectations disappointed, and prophecies falsias great as that now under consideration, which after having been pronounced inaprac-
ticable by men eminent in science, have never theless become realities. In matters where great events are involved, modest diffldence may be excused, uncompromising negation in presupposes no infringement of any
laws of nature is unpardonable folly. now, as we have often done before, await the resul
autho


## Situations Wanted, etc.

 Millers, Engineere,Mech hanica, ete., wanting situations, or mill-owners or manufacturers wan
ployes, can have their cards inserted under
for 50 cents per insertion, cash with order. STTUATION W ANTED-By a young man of ex-
perience as oiler in a flour mill or fantory. Best of referenee furnished. Address C.
store, 1505 Franklin ave., Chicago. sICTATION WANIEED-I have had two years

practical experience in in ood flour mill, and want a | $\begin{array}{c}\text { situation } \\ \text { furnish fi } \\ \text { mr3t }\end{array}$ |
| :--- |

##  some first-class firm. Twenty years' experiene in in steam and water mills. an after consideration. Adrinan and English. Salary <br> WANTED-A situation as mechanical draughtsman  <br>   <br> WANTEED-A first-class foreman to take charge of stone shop; must be perfecty competent to superin-  firemen need apply. A good ochane for the right nan. Address F. J.S...care United tates Miller. aptf wANTEN-Millers out of empioyment and proprie-   <br>  

 SITUITION WANTED-By a young man, who has had four years experience in the milling business.Being part owner of the Neely Mills, Columbia, Tenn.,
he has had the management of those mills, keeping the books, superintending the grinding, and doing some
traveling for the mills. The firmof which he is mem.
ber have just leased out the mill and property for a term ber years, and he wishes to engage with a medium-sized
mill in any capacity. Can take charge of, and success.
milly run



For Sale or Exchange.
$\begin{aligned} & \text { Advertisemen } \\ & \text { cash with orider. }\end{aligned}$
FORE NALE-A grain elevator in the best gruin
growing s otion of
Kansas. County
husiness. Address
 and on reasonad busines. Satisfactory reasons
is doing an gool
given for selling. Call on, or address
SMITH \& TUCK \&R,
 in a fine wheat country and at the junction of three rail
roads; satisfoctory reasong given for wishing to sel. Fo FOR Nalez-A flouring mill, saw mill and 265 aeres
of land 55 arees impoved at a price to suit the times
for one-half cesh; balance long time. The water powe for one-half cash; balance long time. The water powe
is unsurpased, ; too run of burrs with neeessary ma
chinery. Mill thoroughly repaired last season. Goo wheat country. Situated at Orange, Juneau Co, Wi
on the M. $\&$ St. P. R. R. Address
O. G. EVANs, WOR SALEE-A grist mill with two run of stone, on Two hoosese one a hotel- barns. sheds, bog pen, tenn lot
with fine fruit rees, in the vilage of Bird, Oceana Co
 FOR NANES-A good custom and merchant mill, urrs, good waer and all neeessary outer buildings, all overed with slate. The mill has all been rebuilt, with
middings purifer and all neeosary machinery, The
ill in now running day and night. (Good grain country mill is now running day andonight. Good grain country
This oroperty is s. splendid home. and busiess, and wil
be sold very cheap. For particulars all on on or address fab* Raubsville, Northampton Co., Pa. and in perfect order and do large lake. No ioe or flood
ower has 1 feee fant, fed by
o ontend with. The mill makes good flour and ther oo contend with, The mill makes good four and there
s spenty of grain in the vicinity. Thel mill lot contang
ix acres in the town with two dwelling. houses, large
 down , end banane in in store goods. or on five years time.
Addresf for full particulars
Mount Morris, Waushara Co., Wis.
Moblt

GRATIOT'S Improved What Haater


The ONLY Heater made THROUGHOUT; and tanding 1751 lbs . Hydraulic Pressure. The ONLI
Heater that EVENLY heats EACH and EVERY srain of wheat; and draws the moisture from the berry to the outside or bran;
thereby THOROUGHLY thereby THOROUGHLY
TOUGHENING THE TOUGHENIN G THE EST or DRIEST Spring or 1
GRATIOT BROS., Platteville, Wis

For Sale or Exchange. Advertisements under this head $\$ 2$ per insertion, ash with order
FOR ANA.E-Two-run stenm mill; best run of eus-
om in the county; two houses and barn. Pays 10 per tom in the county; two houses and barn. Pays
cent on 88,000 . Cheap for cash, or half cash.
JNO. F. ModuIRE.
Fore s GLE-A A flouring mill, saw mill, and 265 acres
Pf land on the M. \& S. Pail R. R. Plenty of wheat and
 Furt sALES-A seond hand Diamond dressints
machine made by
Griscom $\&$ Co, with McFeeley Furrowing Attaehment, Letter D. Has been in use
outa shor time and is as good as new. Will be sold
H, B. but a short time and is as good as new. Will be sold
$\begin{aligned} & \text { eheap for cash. Address } \\ & \text { miytf } \\ & \text { H. BHEARS, Wis. } \\ & \text { Oconomwor, Wis. }\end{aligned}$
 itered forl heater,
stillwell
is myre bargain. ng boiler and 3il-horse power engine, and lease of guilding of Eureka foed mill, 224 E. Lake St., all in
good running order, good locetion. trade already es-
kablished. Will be sold at a treat sacrifice. $\begin{array}{ll}\text { my* } & \text { T. H. FOS ER, astignee, } \\ \text { 158 Washingtoust., Chicago. }\end{array}$ FOR sALE-Flouring-Mill-Steam-power, four
run or stone; main building, frame, 30x60, 2 , stories,
with briek basement; briek enkine-room, $20 \times 30 ;$ buildwith brick basement; briek engine-room, $20 \times 30$, build-
ing and maehinery new; new proeess ; complete in all
res and ing and machinery new; new process; ; complete in all
respects; locented in a fouriching town in western IOwa,
at junction of three railoroads; fuel cheap, doting a good
 WANTED-To buy or rent a mill, by a practical
miller thoroughly versed in merchant and
Talks boist work. Talks both English and German, and can EIVE best
referenees. Address,
mr Fountain City, Buffilo Cor, Wis.

WANTED-A good steam flouring mill at Cawker
City, Kanses. The locetion in exceptionaly good. The
b3t of wheat and other grains produced in great abund-
 Parties desiring to secure a good location may addres:
for any further information
EDMUND O. GARRETT,

FOR SALE OR RENT一One of the best stean flouring mills in the State Your stories, brick and stone,
slate rof, four run of burrs.
Adapted to new process
Everything new. Best wheat region of the State. Fuei Elatery,
Everthing new. Best wheat region of the state. Fuel
cheap, water plentiful. Near depot and has side track cooper shap, wagon and stock yardy, Pleasand
2,000 inbabitants. Satisfactory reason


FOR SA ELE-Flour and Saw Mill-One-half interes
in a first-class three-run Stean Flour and Saw Mill


 well posted in store business who can command from
$\$ 6,00$ to $\$ 7,000$ and furnish good referencee. I will guar
ante
ant good margin to the trade. Address all communica$\underset{\substack{\text { antee goo } \\ \text { tionsto } \\ \text { feb } 2 t}}{\substack{\text { and }}}$

WOR SALE-Best Mill in Southern Pennsylvania-
This mill, situated in a small village within $f$ ur miles This mill, situated in a small village within fur miles
Broad Thp ooal fiolds, was reently rebuilt with al
Bodern im pove modern improvements and is in good repair. Mill is on
anever-faing stream, with 3 ofeet head and is propelled
by two turbine wheels. by two turbine wheels. Has three run of burrs and one
run of choppers Buiiding is frame 42 by 50 and four
stries high. Maehinery is suited for making eithe
 uable bark-timber land, three dwellings and a store-
room. The owner of the above property will anso zell
three separate tract of good bark nod fine timber land,
coutainug 400 , 280 and 72 acres. For further particulars

FOR SALE OR RENT-A Aive-run stean mill

 thorough and convenient plan six years ago. Good rea.
sons for wishing to sell or rent. Mill is runing to its
full capacity and is doing a good business. No competifull capacity and is doing a good business. No competi-
tion, no rial roads Alt of the offal sond at the mill, and
large trade established for the tlour. Will be sold to a large trade established for the flour. Will be sold to to
parties huving part cash; long time riven for remainder
at a reasonable rate of interest, or will rent on reasonable terms. Adalress or call on the probrietor,
JACOB SCHREINER,
Manchester,
FORE SALE-A four-run steam flouring mill, all in
 eleaner and a Eureka smutter, Garden City middlings
purifire, Excelsior bran duater, Eureka flour packer and
all other maehinery necessary to complete a first-olass


 Wheat district in the Arkansas raller. The parties own
ing the mill are not practican millers, and are ongaged in
other business. They will sell the property low and on
easy bill easy terms. Address
feb
FOR sAlLE-We offer for sale the steam merchant
flouring mill located at. Peterson, Fillmore county
 kiving the best of facilities for grinding wheat in transit.
This road is being rapidy extended westward into the
best wheat rowing secton in the Northwest, oo that the
facilities for obtaining ehoice milling wheat are growin





## WHITE LEAD WORKS



## J. स. Patton de Co.n

 WHITE LEAD, COLORS AND VARNISHES.
## All Patent Staffs Superceded!

## A GTEAT

## Milling Invention

success attained at last.






















wm. Lehmann,

## BOOEXS

Roper's Practical Hand-Books for Engineers and 0 wners of Steam Engines and Boilers.
Hand-Book of Land and Marine Engines................. 8350
 Use and Abuse of the Steam Boile
 Any of then will be sent by mail, free of potage, on rei-
ceipt of publication price. To any one ordering auil





SLATER'S IMPROVED Bolting Reel Warranted the best in the world. The only Reol that DLINNG Onenvs or any enp
DUFOUR \& CO.'S BOLTING OLOTH Suarior Whent Scouring and Brush Machines. Gen
eral hrial Furnishings.

Bennett's Patent Elevator Bucket


## SPECIALTIES

 The Rivet Bucket Co,

The Safety Iron Elevator Boot.


The Rivet (Corn) Bucket.


Patent Iron Conveyer. NYY




The Safety Ventilator. aids the mill of dust by the natural draught.

M. Hawkilis \& Co., Supply House, 294 Washington St., Chicago.


We take this method of recommending to the American milling public our PATENT ROLLER MILLS with chilled cast iron rollers, for crushing and grinding wheat, which have met with such eminent succeas in Europe. The mill-owners cf BUDA-PEsTH, as well as the prominent milers of Austro-Hungary, and a large nore perfect. producing more white flour, requiring leas power than the best mill-stone, and celebrated GANZ ROLLER MILLS, which are about to supplant entirely grinding on mill-stones, their working boing more perfect. prod cocitg nore whers, and from 1874 to January, 1879 , we have delivered in the wanting no repairs excepting to occasionally replace a hearing. Amave about 2,100 mills, and all work satisfactorily. Our crushing mills may now be regarded as absolulely necessary for every well-furnished modern mill, and this is proven by the numerous testimonials at hand. Our grinding mills are remarkable for their absolute discharge bearings, by means of the newly-devised Anti-Friction Pressule Rings. Theie Rings allow a very high preasure, and hence assure the performance of a great deal of work, avoiding all waste of power caused in other machinea by friction in the bearings.

## Out of numerous testimonials at hand we select the following

Bupa-Mgstr, March 28, 1878,-To Messr., Ganz, \& Co., Foundry and Engineering Co., Limited, Buda-Pesth:
Complying with your request to communicate to you my experience with your Roller material, I have pleasure in




 adapted for rinding as well as for drawing down the meal, a condition which they prexerve without change. It





 (signed) C. HAGGENMACHER, Director of the First Ofen-Pesth Steam Mills.

guppilie to us by youn We havy now had both smooth and Auted Rollers in use for the last wo yeurs, nand have not














Adrees all communications t

- A A.NZ \& CO.. Buda-Pesth, Hungary, Cable Address "GANZ, Kaiserbad." Or GANZ \& CO. Ratibor, Germany.


## The Geo. T. Smith MPPROVED MIDDLINGS PURFFIER.

SIMPLF, DURABLE, FCONOMICAL,
AND REQUIRES BUT LITTLE POWER.


Purifies Middlings or Returns from Hard Spring or Soft Winter Wheat, thoroughly and without waste.

The Traveling Brush, The Sectional Draft, The Pockets,
AND MANY OTHER IMPORTANT FEATURES

> A large number are in use in the successful New Process Mills of this country. We manufacture eight sizes, adduted to the smallest or largest mills. Our prices range from, $\$ 225$ to $\$ 600$, and cover a license under all of the patents owned by the Consolidated Middlings Purifier Company. Send for our New Circular and price list with references. Address the Manufacturers,

Geo. T. Smith Middlings Purifier Co.,
$\frac{\text { Jackson, michigan. }}{\text { JOIEIN C. FIIGGINS, }}$

JOIIN C. IIIGGIINE, NEEEIERECES 167 WEST KMZIE STREET, CHICAGO, ILL.
All work fullv guaranteed. Responable parties can have 30 to 60 days' trial on my new work, also on dreasing where the Steel is of good quality, and has not befn
destroyed by working ; and if not superior to any work produced in this country, destreyed be wo charge for ths same. A stronger warranty is unnecessary for any purpose.

Orders by Matl or Express Promptly Atteaded To. Send for circulat and reduced price-list. Whes shipping, always see that your
proper addreas is either on the box or inside.

## Fistablished

in 1856


THE
mut and Separating Machine.


THE"EUREKA"
Brusi Finishing Machine


THE"EUREKA"

We continue, an heretofore, to manufacture in the best possible manner, the Wheat Cleaning Machinery bere illustrated. On and after Jan. 1st, 1879 , we will discount from our former prices of all our wheat-cleaning machinery 15 per cent, with an additional cash discount of 10 per cent if cash is paid
in thirty days from date of shipment. We also keep full atocks of Genuine Dufour and Dutch Anchor Bolting Cloths. Send for Illustrated Pamphlet. Addres

## HOWES, BABCOCK \& CO.,

Silver Creek, Chąutauqua Co, N. Y.
HARrison ac CO., 17 Femchurch st., London, of Europe.

## THE LATEST IMIPROVED




> Eclipse Double Turbine.

State your re
for Catalogue.

ATtENTION: MILLERS! ATTENTION:


BUG AND MOTH PREVENTIVE.
 MANUFACTURERS OF
THE POOLE \& HUNT LEFFEL TURBINE
WAIIER MIEEIS. MICHIIE NOULD:D

MILL CEARING, SHAFIING, PUKLEYS AND HANGERS: STEAM ENGINES AND BOILERS, Mixers For Ferillizeis AND CHEMICAIS.

GET THE BEST.


MILLER'S PATENT COMPOSITION BURR RUBBER.
For Cleansing, Sharpening, and Facing Burrs, and Smoothing Furrows.

Warranted to produce a better grinding surface than the Piek or Diamond and save 50 per cent of labor in dressing Burrs and expense for tools. Face Rubber $10 \times 6 \times 3$ in., weight $12 \mathrm{lbs.}$, price 8. or both for 85.00 . Sent by express on receipt of price. Circulars free. Address all orders to the sole manufacturers, MILLER \& McCARTHY, turers,
deo

JOIEIN C. EIIGGIINS,


167 WENT KINZIE STREET, CHICAGO, HLA.
All work fullv guaranteed. Responsible parties can have 30 to 60 days' trial on my new work, also on dressing where the Steel is of good quality, and has not been there wili be no charge for thz same

Orders by Mail or Express Promptiy Attended To.
circular and reduced price-list. Wher shipping, alwayy see that your
feb roper address is either on the box or inside.
HULBERT \& PAIGE, MILL BUILDERS, CONTRACTORS, General Mill Furnishers, Founders, Machinists.


STEAM ENGINES,
Triumph Power Corn Sheller. Plans and specifications made by accomplished Mechanical Engineers and Millwrights.

Fif Send for Illustrited Catalogue
HULBERT \& PAIGE,

## McFeeley's Improved Dressing Machine

 Crack, Face, Furrow, and Take a Mill-Stone Out of Wind.

Refer to E. J. Archibald \& Co., Dundas, Minn.; Bennett. Knickerbocker \& Co., Jackson and Albion, Mich.; Igleheart Bros., Evansville, Ind. ; E. Sanderson \& Co., Milwaukee, Wis

Griscom de Co, POTTSVILLE. PENN

## The Becker Brush!

Is now Receiving More Attention than any other Machine known to Millers, for Brushing and Polishing Wheat.

The superiority of the Becker Brush over all other consists in the following points

Conical Shape Brush.
Combinatiol Jacket of Punched Iron and Steel Wire.

Raising and Lowering the Brush when in motion.
 It Scours, Polishes and Separates at same time, Takes the dust out of the crease of the berry. Takes the furze off the end of the wheat.
It does not disturb the bran. It greatly improves the color of the flour. Miller say it is a good Buckwheat Cleaner.
send for illustrated circular to
Eureka Manufacturing Co., Manufacturers, mily ROOK FALIS, ILI.

## PATENTS

BRAN DUSTER FOR SALE.

United Stane ron rive United States Miller!


Victor 13ishop \& Co.,
DIAMONDS and CARBON MILL-STONE DRESSERS,

DICKINNON'S Pioneer Mill-Stone Dressing Marchine.

black phamonds. of Carbomaterns.


Athens Water Wheel\& Machine Co.


CASELS NEW IMPROVED TURBINE. The Cheapest First-Class Wheel in the Market.

$\mathrm{feb} \quad$ ттйs,


Winve the Klaze in one hall the thme ind whin
Mce, Bs.so. Monatevime. Buchoci, Pa-
 Sold by Mill Furnishers throughout the

TETER \& ALLEN, Proprieters, DEALERS IN FLOUR MILL SUPPLIES,

## 

PRICES GREATLY REDUCED FOR 1879. $\square 15$

ROLLEER MILLS.



EDW. P, ALLIS CO, Reliance Woiks, Miliwaukee, Wis,

## LACROIX IMPROVED MIDDLINGS PURFIFERS

The First and Original Successful Middlings Machine in America.
No Brushes, No Wipers, No Friction to Wear Bolting Cloth.


This machine is buit in a thorongh scientige and substantial wamer, has greater capacity than several of any other make, as the sieve vibrates on a periect level. The vibration of sieve can be The travelling air blast or teciprocating air tubes impinge a thin current of air ulternately to all parts of rairing the lighter impurties from the cloth and enabling the suction fan above to readily remove the pawe. This is the original invention of the late E. N. Lacroix, and scientifically as well as practically is far superiur to any other known mode of treating hard as well soft midings. We invite attention to our
double machines, which have but one sieve, above which is a partition lengthwise, the stock passes over double machines, which have but one seve above whit and aeparated in the most perfect manner. These
one side then over the other, whereby one slde then over the other, whathested to mall and medum-rize milld. Our prices have been greatly reduced. We sell machines 12 to 14 feet long and 4 to 5 feet wide for $\$ 400,8425$ and $\$ 450$.

NOTBOHM BROS., Manufacturers,
MILWAUKEE, WIS.

Stout, Mills \& Temple, DAYTON,

○HIO,
 AMERICAN TURBINE WATER WHEEL Best Quality French Burr Millstones. du four \& CO 's Celebrated bolt'ng cloths.
Flour and Paper Mill Mehthery, Rest chtiled AND CENERAL MILL FURNISHINGS.

 Awarded SILVER MEDAL Paris Universal Exhibition, 1878.

## CARR'S PATENT

Disintegrating Flour Mill.
aLl Particulars as to this machine can be obtained BY ADDRESSING

## PHILIP TRIGGS,

39 BROAD STREET,
BRISTOL, ENGLAND.
Soie Concessionaire for France and Balgium, Mons. Toufflin, 25 Rue de Constantinople, Paris.

## harrison's newly improved Wheat and Corn Grinding Mills.



## SMITH BROTHERS,

Millwrights, and Manufacturers of the Improved


Milwaukee Middlings Purifier,
454 CANAL STREET, MILWAUKEE, WIS.
Mill Furnishers and Builders, Shafting, Gearing and Repairing, Overhauling and General Millwright Work.

## Under-Runner Mills.

## Editor United States Miller

Under-runner mills should, I think, be constructed on a somewhat different plan from those now ordinarily in use, and I would suggest an arrangement something as follows: Let the spindle be long enough to reach above the upper stone and have a bearing in a fixed bridge-tree. Then have a bearing below the hurst, immediately under the runner, which will guide the spindle and take away the spring from the belt or gear, said bearing to be movable and adjustable by set screws. This will give three bearings to the spindle (including the step at the lower end) all three outside of the stones. Make the driver with three wings inserted in the lower side of the
runner. This will give a substantial and rigid runner. This will give a substantial and rigid retain its position and uniform motion because it is never taken off from the spindle. The upper or fixed stone should be firmly set in a wooden box or iron frame casing, said frame having four bearings regulated by set screws so that it can be adjusted to make the face parallel with the face of the runner. In taking it up for dressing the bridgetree with the upper bearing is removed and the stone turned over on its hinges like a trap door.
The accompanying cut will illustrate my idea.
$A$ is the upper stone fastened in a frame; said frame swings over with the stone in position in $P$. The stone is secured to the frame by bolts, as shown in the drawing. $B$ is the under stone or runner; $A$ are the burr stones; $C$ is a flat stone of any kind that is solid, fitted and fastened in the iron hoop which surrounds the runner, in which is fitted a three-winged driver $C$, and fastened therein about the same way as the bail fastened in other mill-stones.
$D$ are two stout irons with bolts, bored out to fit the upperpart of the spindle, and fastened to the spindle after the runner rests on the spindle, and then the two ends get fastened in the burrs as the driver below.
$E$ is the mill-spindle where the driver is fitted on, as drawing shows it.
$F$ is the bridge-tree above the upper stone where the spindle is secured in a box
$G$ is another box, in or below the hurst frame, to secure the spindle against the spring originating from the driving belt or gear below, and so keeping the spindle steady and said box is regulated by set screws.
$H$ is a side view of the iron frame which incloses the curb, and has on each corner the bearings for the top stone frame, where said frame is fastened and regulated up or down by means of set screws. $D$ is a bolt in a slot hole through the iron frame; a nut is sunk in the upper stone frame to receive said bolt, and thereby preventing any unsteadiness of the bridge-tree above.
$K$ is a view of the front side of the iron trame.
$L$ is a top view of the upper stone frame, with the stone, the bridge-tree and the bearing for spindle.
$M$ is a top view of the iron frame with curb and stone in place.
$N$ shows how the iron frame is fastened together.
The runner must be balanced on the spindle before it is put in place. I use two iron flanges, each one fits the spindle, in which are three holes for bolts, which reach through the eye of the stone; set the stone upright put the spindle in the driver, take on each side the flange, fasten them with the bolts, and lay the spindle with the stone on two iron rails, one on each side of the stone, and close to the atone, high enough so that the stone turns free above the floor, and then dress off from the underside, till the stone is balanced.
This is my idea about the under rameer-mill. will furnish the patterns for castings, and
will answer any question relating to this sys. $\mid$ Schrot. After this product has passed through the sieves, the different sorts are graded according to their size, consequently all those branny partcles, which are of equal fineness with the flour mingle with the flour, and those of the same size as the so-called Dunst, with the Dunst, \&c. It is scarcely possible to separate from the flour the equally fine branny particles ; this is done, however, as far as the middlings and Dunst are concerned, by means of middlings purifiers.
The question now is, of which parts of the grain of wheat does the several products con sist ? The flour obtained from the first grinding (Schroten) will be better, in other words, will contain fewer branny particles than that

the purifying machine, in which they are gradually reduced. In many places they neither purify the middlings nor the Schrot. If during the perliminary grinding (Hochschroten) germs get loosened from the grain, they get knocked off especially during the first grinding, and arrive in proportion to their size, for the most part uninjured, among the coarse middlings, to which they impart, by their yellow color, a speckled, yellow appear ance. The product of the perliminary grinding is separated, and the middlings and ner middlings purified. The following synoposis will show the customory methad of manipulation. The products of the perliminary grinding are distributed as follows through the bolting cylinder:-

For the silk or flour oylin-
der and divider thto $\quad \begin{gathered}\text { For the middlings } \\ \text { eylinder. }\end{gathered}$
x.

For the purifying machine.


## Coarse parts. Clean coarser middlinks, or so-called Schrot. <br> For the coarser middlings purifier, thence back to stone for second coarse grinding.

 *It may be useful here to state thatein the Austrianflour mills they give to the finest flour No. On, and the the
coarsest No. 6 . In the middlings, on the contrary No Coarsest No. 6. In the middlings, on the contrary, No. ${ }^{5}$
is thefinest No. 0 the coarsest. In many mills No.
6 midd
6 mings is the same as what is culled Dunst.
It is exceedingly difficult, nay, even impossible, to give to non-practical men anything like a clear idea of the nature and appearance of the various milling products either by description or illustration. The only way in which he can become acquainted with them is by seeing them in a well conducted mill, where high milling is practiced.
The first rough grinding is followed by a second, the second by a third and the third by fourth, but the number of these is not in all mills alike. We must not imagine, however,
that in these successive divisions or breaking up of the grain, that in the perliminary grinding (Hochschroten) the grain is broken in two, and by the first grinding (Sclitoten) it is
broken into four pieces, \&c. ; on the contrary, broken into four pieces, dec. ; on the contrary, the division when the stones are rightly placed, is so managed that at each successive operotion the several parts gradually loose their polyhedrous or spherical shape, and assume a lamelliferous form. In the first, second and third rough grindings, the greater part of the grain is consequently reduced to flour and middlings, and the material which undergoes fourth grinding has become so far triturated that no coarse middlings can be got from it, but only dust mixed with numerous particles of outer husk. Along with these we obtain flour as well as coarse and fine husk. There are scaly particles consisting of gluten, and the cuticle of the germ and the grain, to which a perceptible number of starch sells adhere. In many mills these scaly particles are called stripes, in fact those remaining after the fourth and fifth grinding, white stripes; and after once more grinding black stripes. The fine and coarse roughs are in many mills ground together, in others separately. The former go also by the name of Haspan. By ground roughs and ground Haspan, we understand those scaly parts which, by their repeated passage through the stones, are freed from the particles of flour adhering to them, which serve as fodder for cattle and horses, and are distinguished by the general name of bran.

Morris \& Worrell, of Pekin, Ill., are putting in new buhrs, purifiers, cleaning machines and bolts, for New process work. Nordyke \& Marmon Co., of Indianapolis, Ind., furnish the machinery

The mill at Glenwood, Iowa, operated by Nic. Girard, is having two new run of buhr3, and necessary machinery for new process, furnished by Nordyke \& Marmon Co., of Indianapolis, Ind.

United States Miller. E. HARRISON CAWKER, Editor.
 $=-2$ MILWAUKEE, JUNE, 1879 .
We send out monthy ${ }^{\text {a }}$ hrge number of
ample coplen or THE UNITEB NTATES MLLER to milfery who are not subseribers. We winitopy as a curdinit invita ton to them
an become rewular subseribern. We are workink our beat for the millung tinterest
of thin country, and we think it now more
$\qquad$

## Now She Grinds

 "A bill has been filed by Edw. P. Allis onthe 31 st ult., in the United States Circuit Court for the Eastern District of Wisconsin, against Seamans it itevens-owners of the
Empire Flouring Mills at Milwaukee. S. H. Seamans, as a member of the Executive Committee, joined in a report to the Millers' Con-
vention at Chicago, to which attention is called in the columns of this paper, giving notice that members who did not purchase or use
rolls made or licensed under Downton's Patent, rolls made or licensed under Downton's Patent,
would not be defended by the Association. Mr. Allis, who holds an assignment of Downton's Patent, has now commenced a suit for
an injunction, and laying his damages at $\% 25$, ,000 , because Messrs. Seamans \& Stevens are using the Downton Process without having
first obtained license from him as assignee of R. L. Downton.

Bills, we understand, are now being prepared against other members of the Executive
Committee and Millers' National Convention who have purchased from Downton or others,
and Mr. Allis seems to be determined, in view of the action of the Executive Committee at the late Convention, to make it rather lively
for all who propose to ignore his rights as assignee."

The Milwaukee Middlings Millstone Co. are now preparing plans for a
South Side in Milwaukee
Chas. Hermas, Good Hope, Milwaukee Co. is going to rebuild his mill. Smith Bros. are getting out plans for same.
M'Lean's Millers' Text Book and the United States Miller, for one year, for $\$ 1.25$.
now. Send money or postage stamps.
N. Lumingtos \&Co., Escanaba, Mich., are putting in their sawmill a 66 -inch Leffel water
wheel. Smith Bros. millwrights, are doing the job.

## Messis. Schinsderbach \& Son, of Okau- chee, Wis., have purchased a 20 -inch middlings mills from the Milwaukee Middlinge Millstone C

## THE term of subscription paid for by many

 number. We hereby call their attention to it and hope they will soon remit for another yearMr. James M. Lyos, of Singapore, India, Middlings Millstone Co. in regard to furnish ag a mill, and will in all probability close coutract for a complete outfit.

We will send a copy of the Mulers' Text Book, by J. MLEAN, of Glasgow, Scotland, and the Usitred States Mllele, for one year, for $\$ 1.25$. Price of Text Book alone, 60 cents. Send cash or stamps.

The Untred States Mileer has the largest circulation of any milling journal pub.
lished in America, and was the first milling journal sturted in America entirely independent of connection of interest with some machine or mill furnishing establishment.
Tha: Milwaukee Middlings Millstone Co. are reeeiving a great number of inquiries from Europe, and especially from Germany, in regard to their system of milling, which seems to be attracting the attention of millers all over the world.

## WISCONSIN MILLERS.

Proceedings of the Sixth Semi-Annual Convention.

## Held at the Newhall House, Milwaukee,

 June 4th, 1879The Convention was called to order at $2: 30$ m., by President Sanderson, who remarked hat the small attendance was no doubt owing o the very recent session of the National As-
sociation at Chicago. But he thought those ociation at Chicago. But he thought hose them.
As the minutes of the previous meeting had een publishied they were dispensed with.
The Treasurer read his report, which showed that the receipts during the last six monthis
were $\$ 3,437.80$; the disbursements $\$ 2,724.90$; the balance on hand, 8717.84 ; the amount due from the National Association, 81,700 , and the total amount of assets, ${ }^{2} 2,417.84$. Upon motion of Mr. Schuette, of Manitowoc,
epted and adopted
The following report was then read by the
Mr. President: Since my report in December last, we have only added $16 \frac{1}{2}$ runs of stone
our membership. On our assessment, levied June 11, '78, there are fully paid up $403 \frac{1}{2}$ run of stone, but on the
been paid only upon $377 \frac{1}{2}$ run. Of these deinquent we can reasonably expect payment on 20 run more, the balance will probably drop
out for inability to pay. Our last assessment was only $\$ 5$ per run to meet an urgent demand of the Executive Commitee of the Na tional Association for money to finish off the great Cochrane suit at St. Louis. their assessments promptly. We are now in advance to the National Association $\$ 1,700$. Our assessments for the coming year will not exceed $\$ 10$ per run for all purposes, and after this year we can reasonably expect that $\$$ per run will be entirely sufficient. And it
hoped, and we have certainly good reasons to expect, that hereafter our expenses for litiga tion will be comparatively light. The great Cochrane fraud is buried beyond hope of ment the National Association has put it within the power of every one who infringes the claims of the Barter, Smith (mechanical and process and Stoll patents, to get rid of them at a sum only $1-10$ of what was originally claimed on any one of these claims, and the great inducement
for the committee to entertain a proposition looking to a settlement of all these claims in a lump was the fact that, if they could compromise them at a sum which they (the committee) were willing to offer, it would be for summate such a arangement, and by so doing would soon see the end of all litigation, and the law department of our Associatio might be abolished with all its evils and at tendant expenses. As a member of the Ex-
ecutive Committee of the National Association, I would say that the committee wer unanimous in the decision after a thorough and I may say tedious, investigation of the whole case. The committee were all " fight ing" men (if I may uge this term) and being, position do the recent success, in hot inclined to accept only such terms as, in their judgment, were just and equitable, and as a copy of these terms have been sent to
every member, he can best judge whether they are satisfactory to himself or not. I would add, however, that while the negotiations were pending, and before a vote was taken in the committee to make or accept any proposition looking to a compromise, your Secretary called a meting of Wisconsin members attending the convention, including the President, majority of your Executive Committee, and number of the members of the Association, when it was resolved to abide by such action as your Secretary deemed best to take, looking toward a settlement of the claims named, and upon the basis mentioned in the confidential circular sent you, and I feel assured that there is not one member of this Association but would decide, could he have gone through this investigation with the committee and had all the facts placed before him, that the commit tee had acted wisely.
There remains now the "Denchfield suction claims," to be contested, which we are sanguine will be beaten as signally as the Cochrane. When I state to you that the amount of
compromise asked by the owners of this claim (the patent for which has now expired) is more per run of stone than it has cost to fight and beat the Cochrane claims of $\$ 6,000$ per run, beat the Cochrane claims of $\$ 6,000$ per run,
and to fight and settle all the claims of G . T. Smith, Barter, Stoll and Downton combined, yet there are millers who say they gain nothing by joining an Association,-but their time is coming. Only members of the Association, or who may become such prior to July 15 th, can avail themselves of the benefits of the settlement made by the National Millers' Association. After that date they must settle upon such terms as the ring may dictate, and can give them good assurance that they may expect to help make up "that little sum," which the ring expected to get out of the As sociation and failed. At the same time I would urge upon the members of the Associa-
tion to meet the terms in the confidential circular before the time mentioned therein expires, for after that time they may be obliged to make another bargain that will not be neary as satisfactory. The Executive Committe also accepted a proposition from R. L. Down ton for his "process patent, has granted him the right, unjustly we think, to the use of rolls upon certain products of new process milling, known as tailings. This proposition does not affect any one until he has established his claim by a denow in litigation at St. Louis ; also in this city between Downton and E. P. Allis \& Co. regard to the validity of an assignment from Downton to Allis \& Co. So long as this was a contest between the parties in interest the millers could look on complacently, and see that the suit was fairly contested, and no
compromise effected, by which the rights of the millers might be jeopardised. But Allis \& Co., instead of waiting the decision of their suit now before the Court, have forfeited the sympathy of the milling fraternity by launch ing out and bringing suits against the millers on a claim yet to be established, and which is already being contested. As every case rought in this way has thus far failed,
There is another patent, recently re-issued, nown as the "Barker"-which is intended to cover the use of the graded sieve in combina tion with the sectional draught in a purifier As this is a matter of little importance to the successful working of a purifier, it is of little consequence except for bull-dozing purposes. Our action at the last meeting in regard to the unjust discrimination in the rate of freight on mill-feed, by reason of it being put in different classification and paying a highe ate, had the desired effect, and it was placed back in some class with wheat and like pro ducts, and pays the same rate of freight.
The most important business before you at this meeting is the adoption of a binding and legal constitution, which shall be uniform with that of other States, and in conformity to that adopted by the National Convention at its late session in Chicago. Respectfully submitted,
S. H. Seamans, Sec'y.

Some discussion followed in relation to the value of the roller patents and Downton's claims, during which Secretary Seamans read a communication from Messrs. E. P. Allis \& Co., in reference to the action of the Execuive Committee, at Chicago, on that point, and claiming that whatever value there might be o the Downton Patent it was vested in them. President Sanderson remarked that he did not believe the Downton Patent was worth a cent, any way, no matter who owned it, and, as far as he was concerned, he should never pay a cent of royalty or license to any one.
On motion of Mr. Schuette, the communicaof Messrs. E. P. Allis \& Co. was received and placed on file.
In answer to Mr. Kimberly, Secretary Seamans stated that the Geo. T. Smith Co. claims, settled for by the Executive Committee, only covered machines using the specified combination of wind blast (or suction), vibrating sieve and brush under the sieve. There were several machines that did not infringe this combination.
The convention then proceeded to consider the new constitution proposed for adoption This constitution which is identical with that adopted by the Minnesota Association was read by the Secretary, and upon motion of Mr. schuette was adopted by a unanimous vote
Mr. Sanderson moved that the formation of the State Associations had been the means of saving the millers of the country millions of dollars. If it had not been for the State and National Associations it would have cost an immense sum to settle the claims already made against them. He trusted the attention and interest heretofore shown in the State organization
would not flag, but increase. The Association should elect good officers in whom they had confidence, and then assist them by harmonious and united action. He urged the members present to talk the matter of Association up with their neighbors that all might enjoy the great benefits to be derived from it.
On motion of Mr. Sanderson, the thanks of the Association were tendered to the proprietors of the Newhall House for the use of their parlors.

The Secretary stated that Theodore Conkey, of Appleton, Vice-President of the Association had, upon retiring from the milling business, tendered his formal resignation.
The resignation was accepted, and Mr. S. R. Willey, of Appleton, was elected to fill the

## acancy

No further business coming before the convention, on motion the Association adjourned sine die.
The Milwaukee Middlings Millstone Co
Willis' Point, Texas, it h iving a new process mill in process of erection. The proprietors, Messrs. Cain \& Dickard, bought the machinery of Nord
apolis, Ind.

Hiram Watters, M. E., of Akron, O., is at Mankato, Minn., giving his personal attention to the completion of a twelve-run mill, which is being built by Hulbert \& Paige, of Painesville, O., for R. D. Hubbard \& Co.

Advertisers will comsult their own interests by patronizing the United States Miller, which milling class. It exclusively amongst the flour any milling paper published in America, and was the first independent milling journal started in the United States not being connected in interest with
house.

We hope all who receive sample copies of the United States Miller will favor us with their early subscription. The price-one dollar per year-is a mere trifle, and ensures you a first-class paper containing a great quantity of matter of direct interest to your trade. Do not delay, but send your order now. Enterprising, go-ahead millers cannot afford to be without the current milling literature of the day.
The following mill furnishing firms use Walker's belt tightener for operating millstone and machinery belts in mills which they fit up: John T. Noye \& Sons, Buffalo, N. Y.; Munson Bros., Utica, N. Y.; M. Deal \& Co., Bucyrus, Ohio; and C. B. Slater \& Co., Blanohester, Ohio. The well established reputation of these firms is a sufficient guarantee for the excellence of any machinery they may adopt, especially when, as in this case, they use the goods of other parties, though they have the choice of other kinds which they can manufacture themselves.

## IMPORTANT NOTICE.

to the party receiving this paper who is not already a paid subscriber.
We hereby extend to you a cordial invitation to become a subscriber to the United States Miller. We shall endeavor to make it of the greatest possible use and benefit to the milling fraternity, and no mill should be without it. The best talent that we can obtain in this and other countries will contribute to its columns, which will also be enriched by carefully translated articles on subjects of interest to the craft. Subscription price, $\$ 1$. Enclose money or stamps in an envelope, seal carefully, and send at our risk. By return mail you will re ceive a receipt therefor. Address

The United States Miller,

## Special ДBusiness D久otices.




## GENERAL NOTES.

The Milwaukee Midalings Millstone Co. have sent several mills to Grand Rapids, Mich., lately.

The Milwaukee Middlings Millstone Co. have a contract for a 10 -run mill at Leavenworth, Kansas.
The Milwaukee Middlings Millstone Co. are furnishing a complete outfit for a 6 -run mill as $\mathbf{W}$ ashington, Pa .
The Milwaukee Middlings Millstone Co. have shipped a number of mills to St. Louis during the past month.
The Schlitz Brewing Co., of Milwankee, have ordered a $22 \times 48 \mathrm{ft}$. Rey
gine, of Ewd. P. Allis \& Co.
Messrs. C. H. Brown \& Son, of Dakota city, have purchased a 16 -inch mill from the Milwaukee Middlings Millstone Co.
Mr. John Wilhams' mill at Logansville, Wis., furnished by the Milwankee Middlings Millstone Co., started up last week.
The Milwaukee Middlings Millstone Co. have contracted to build a 4 -run $m$

Mr. F. W. Stock's 12 -run mill at Hillsdale, Mich., furnished by the Milwaukee Middlings Millstone Co., will start up this week.

Ewd. P. Aluis \& Co. have the contract for the new mill at Frouteuar, Minn., being built by Messrs. Hoyt \& Seagar, of St. Paul.
Cawker City, Kansas, is going to have flour mill, and the Milwankee Middlings Millstone Co. have the contract to furnish it.
The Milwaukee Middlings Millstone Co have sold a 16 -inch middlings mill to the John F. Smith Iron Works, at Ironton, Wis.
Mess. MessRs. S. H. Bradlex \& Co., of Mendon,
IIl., have purchased a number of mills from the Milwaukee Middlings Millstone Co. during the past month.

The Milwankee Middlings Millstone Co. are so crowded with work that their shops are running day and night and the business con stantly increasing
The Milwankee Milling Co. are contemplating enlarging their mill to twice its present capacity. The Milwankee Middlings Millstone Co. will have the contract.
Ewd. P. Aluis \& Co., are receiving a great many orders for their wheat granulators, which, with their smooth porcelain rolls, are being put into nearly all the first mills of the Northwest.
Ewd. P. Aluis \& Co., of Milwaukee, shipped, on the 26 th of last month, 25 of their patent belt movement porcelain roller machines to London,

The flouring mill of C. Link's Sons, near Paris, Ill., was totally destroyed by an incendiary fire, May 16th. Loss, $\$ 14,000$, with no insurance. It is said that the firm intend to rebuild in Paris.
A serions break occurred recently in White \& Son's mill dam at Renville, Minn., a piece forty feet long by nine feet deep being washed out. The neighbors turned out and helped repair the damage.
The works of Ewd. P. Allis \& Co. are running day and night, employing over 400 men. They have orders for fifteen of their Corliss engines and over 100 roller machines, besides a large amount of mill work.
The following flour shipments were made from Duluth by vessels clearing last Sunday evening: The Asia, for Sarnia, 2,035 barrels; the Japan, for Buffalo, 4,100
Quebec, for Sarnia, 1,000 barrels.
Mr. M. T. Boult, Battle Oreek, Mich., has contracted with Messrs. Hulbert \& Paige, Painesville, $\mathbf{O}$., for a new process five-run will be located at Appleton, Wis., during the present season.
Messrs. Colton Bros., of Bellefontaine, O. (one of whom is Secretary of the Ohio Millers' Association), are building a fine four-run new process mill. Their mill furnisher and designer is the Nordyke \& Marmon Co., Indianapolis, Ind.
C. A. White \& Co., of La Crosse, Wis., have contracted with Edw. P. Allis \& Co., of tion manke, This., for mill will be very complete, tion mill. This mill will be very complete,
and embraces much of the Hungarian system. and embraces much of the Hungarian system.
Allis \& Co. made the plan and are to furnish the entire worls, including poreelain rolls, a Reynold's improved corliss engine and all the machinery and mill-wright work.

A New Flour, Grain, and Bolting Cloth Inspector.
The acompanying engraving represents a convenient little instrument, which the inventor, Mr. H. J. Deal, calls the Board of Trade flour, grain, and bolting cloth inspector. It consists of an ivory spatula, in the center of which is mounted a fine lens of sufficient power to detect anything irregular in the flour or grain. When not in use, the cloth glass, which is hinged to the handle of the spatula, is folded down, as shown in Fig. 1. When it is desired to use it, it is unfolded and brought over the oposite side of the handie, as represented in Fig. 2. The length of the link which supports the glass is equivalent to the focus of the
lens, so that no adjustment will be required. lens, so that no adjustment will be required.
The square aperture in the handle below the lens is equivalent to one-sixteenth of a square inch, or one-fourth of an inch on each side.
When the handle is placed over the bolting cloth the number of its meshes may be readily counted and its quality inspected.
In using the larger lens, the flour or other substance to be examined is first smoothed at a suitable distance. The instrument is

the Board of Trade, millers, and others who ave occasion to inspect grain, flour, or any similar substance
This invention was lately patented by Mr. Henry J. Deal, who may be addressed at 35 Union Square, New York, or at Bucyrus, O.
A flour mill at Baalzen, Saxony, has been destroyed by an explosion of flour dust.

The Miller and Baker's Journal is the name of a new paper just issued in Budapest, Hungary.
Messrs. Poole \& Hunt, of Baltimore, have just issued the neatest and handsomest catalogue we have seen this long while.

Fourteen wheat cargoes have arrived during the past week, and about twenty-fi
due to arrive during the coming week.

Ewd. P. Aluis \& Co. report large order from Cleveland, Baltimore, Richmond, and New York, for their porcelain rolls.

The demand for American flour abroad is rapidly increasing. This soon will have a decidedly perceptible effect on the business of English and French millers.
"OFF with the old love, and on with the new," says the jolly miller, as he buys a bundle of export flour sacks instead of his accustomed load of barrels, as heretofore.
Decision in the Toufflin Patent Case. The Secretary of the Interior has just given a final decision in the case of the application of Jean B. Toufflin for letters patent for improvement in apparatus for reducing grain, etc. (Toufflin's Disintegrator) filed October 15, 1878. In this application, the Examiner in the Patent Office found that a patent for fifteen years had been granted in France, December 17, 1877, numbered 121,659, and an English patent for fourteen years, Feb. 9, 1878, sealed July 30,1878 , to a person of the same name with applicant, and for the same invention. Thereupon the Examiner required the applicant to comply with Rule 91, which prescribes that an "Applicant whose invention has been patented abroad should state the fact that a foreign patent has actually been obtained, giving its date, and if there be more than one, giving its date, "" Though this rule seems the date of each. Though this rule seems be willing to comply with, the applicant refused to do so, denying the power of the Com-
missioner under the law to prescribe such a requirement. Acting-Commissioner Doolittle decided that the position taken by the Examiner was correct, and that the patent could not issue until Rule 91 had been complied with, inasmuch as that rule had been made for the express protection of the American public, in order to give them the free use of an invention patented here as soon as the monopoly of the same (previously obtained in a foreign country) had there expired. Upon receiving the decision of the Acting. Commis eceiving the delican foner, the applicant appealed of the Interior, who sustained the posiion taken by the Examiner and Acting Commissioner, and pointed out both the necessity and justice of Rule 91, in order to protect American citizens, showing that it discriminated in favor of no class of inventors as against another. These three concurrent

## American Miller.

This number of the United States Miller increased in size to 20 pages. Ten thousand opies will be mailed to all sections of the ountry. Those who receive sample copies will, we think, consult their own interests as
well as ours, by becoming regular subscribers.

Rules of the Milwaukee Chamber of Commerce for the Inspection of Grain.
WHEAT.
pring whent
No. 1 Spring Wheat-Must be sound, well cleand, weighing not less than fifty-ight pounds to the measured bushel.
Extra No. 1 Spring Wheat-Shall be composed of plump, sound, well cleaned spring wheat, bright in color, and weighing not less than sixty pounds to he measured bushel.
No. 1 Hard Spring Wheat-Shall be composed mostly of the hard varieties of spring wheat, which must be sound, well cleaned, and weigh not less han fifty-cight pounds to the measured bushel.
No. 2 Spring Wheat-Must be sound and reasonably clean, and weigh not less than fifty-six pounds o the measured bushel.
No. 3 Spring Wheat-Shall comprise all wheat fit for warehousing, weighing not less than fifty-four pounds to the measured bushel.
No. 4 Spring Wheat-To be fit for warehousing, therwise unfit for the higher grades, weighing not less than fiffy-one pounds to the measured bushel. Rejected-Shall comprise ail wheat fit for wareto pass as No. 4 .

Winter wheat. No. 1 W
reasonably
varieties.
y plump, and eres, varieties.
No 1 R Red Winter-To be sound, well cleaned, reaso

## clean, and composed of the red varieties.

No. 1 Winter-To be sound, well cleaned, reasonably plump, and composed of mixed white and red ably pl
winter.
No. 2 Winter-To be sound, reasonably clean,
and composed of white, or mixed white and red and co
winter.

No. $B$ Winter-Shall comprise all winter wheat fit for warehousing; weighing not less than fiftyfour pounds to the measured bushel; not sound enough

## grades. <br> Rejected Winter-Fit for warehousing, but other-

Mixed Winter and Spring Wheat-In the case of mixture of any considerable or material quantity of winter wheat with spring wheat, it shall be call ed mixed wheat, and graded according to the qual ty thereof, as provided for in the rule governing the inspection of spri
Rice Wheat-Will in no case be inspected higher than rejected. COARSE GRAINS.

No. 1 Corn-Must be plump, sound, dry and well cleaned.
No. 2 Corn-Must be sound, dry and reasonably lean.
Rejected-All corn fit for warehousing that from any cause falls below the standard of No.

No. 1 Oats-Shall be white, sound, ele
from other grain, and reasonably bright.
rom other grain, and reasonably bright.
No. 2 Oats-To be sound and reasonably clean.
No. 2 White Oats-Shall be sound, reasonably elean, reasonably free from other grain, and comclean, reasonably free from
posed mostly of white oats.
Rejected Oats-Damp, unsound, dirty, or from any cause unfit for No. 2

## No. 1 Rye-To be sound and well cleaned.

No. 2 Rye-To be sound and reasonably clean.
Rejected Rye--Unsound, but fit for warehousing.
No. 1 Barley-Shall be of a bright, natural color, plump, sound, well cleaned and free from other grain.

Barley-Shall be sound and reasonably plump, reasonably clean, and free from other grain -good malting barley, but may be slighty stained. No. 3. Barley-Shall include all shrunke, and fit for colored, but reaso
malting purposes.
Rejected Barley-Shall include all barley unRejected Barley-Shall include all barley un-
sound or for any cause unfit for No. 3, but fit for sound or for
warehousing.

INSPECTION FEES
The fees for inspecting grain under the foregoing rules, as established by the Chamber of Commerce, are fifteen cents per car-load, and for inspecting cargoes of grain out of the railroad elevators thirty cents per thousand bushels; and out of all other elevators and warehouses, forty cents per thousand bushels.

The following fin or The following rule of the Mirwat constitutes a car-load of grain:
Rule XVIII. Sec. 1. In all sales of grain by the car-load, it shall be the rule that twenty thousand pounds shall constitute a car-load of wheat, sixteen thousand pounds a car-load of oats, eighteen thousand pounds a car load of corn, eighteen thousand pounds a car-load of rye, and sixteen thousand pounds a car-load of barley, unless otherwise agreed upon by the parties.

Subsoribe for the U. S. Miluer. Only $\$ 1$

United States Miller.


MILWAUKEE, JUNE, 1879 .
THE UNITRD STATES MMLLER has now com.
meneed its seventh volume, and has become niversally

 adverising medium or introducing and veing gill kinds
of modern milling manhinery. It is our aim to meet the
Ind
 benefit of the latest important news on subjects pertain-
ing to the objects of this paper. Our circulation and
advertising patronage cover all sections of the country.
We do not deal in machinery ourselves, and consequently We do not deal in machinery ourselves, and consequenty
have no "axee to orind?" We cordially invite all those
who have already patronized us to continue their patronage, and thos
pend herowi

ADVERTISING RATES FOR 1879.

## 

## Size of page, $12 \times 18$. Length of column, 16 inches. Width of column, 24 inches $; 4$ columns to each page. Business editorial matter per line, 30 cents. If over 50

 Business editorial matter per line, 20 cents.lines, 2 cents.
Illustrations charged for in provortion to space oc-
eupied.
Advertising for Millers wishing situations, or millers
wanting to enkage employes, 50 cents. Wanting to enkage employes, 50 cents.
Muls por siLk advertisements, 82 ensh insertion.
We have recently published a List of Numes und Post-
Office Addreases of the Fhour-Mill Owners of the United
States and Canadas, which is of great value to those who
desire $+\theta$ communicate by circular with American millaccompany the order.
We have also Iately published a Sanc and Planing Mill
Directory of the United Satesand Canaddan. Price, 85.
Subscription price to the Unitro Statks MiII.KR, $\$ 1$ per year.
M'Lean's Millers' Text Book, which every miller
should have. Price by mail, 6 eents, post paid.
Ropp's Easy Calculator, which every business man
should have in his pocket or on his desk. Price by mail, post paid, si.
Our Job Pr
te


## Address all communications to the UNITED STATES MILLER

CoL. Kisi, of Minneapolis, estimates the
wheat crop of Minnesota for 1879 at 40,000 , 000 bushels.
Postage stamps taken in payment of subscription to the Untied Spates MllLer and
the Millers' Text Book. $\$ 1.25$ pays for both for one year.

Minneapolis, St. Louis and Chicago parties are experimenting yet on the bran packing
question. Some American inventor will solve the problem
CAWKER don't like the calling of a building
$40 \times 50$ feet, square. And now, then, Cawker, what would yousay in a case of that kind ?

- Abernathey's (irain Cleaner (May.)


## Comment is unnecessary. Hold

 body.On the first day of "ye merrie month of
May," our sanctur was cherished by a visit from J. S Karns, Esq., representing the wellknown house of John T. Noye \& Sons, Buffalo, N. Y. Mr. Karn reports business opening
out lively and predicts a generally prosperous

## year.

Messrs. Stilneld \& Bierce, of Dayton, Ohio, manufacturers of the well known "Eclipse" and "Victor". Turbine Water wheels, have just issued a new and handsome cata-
logue. This firm is meeting with especially great success in introducing the Victor wheel.

Stilwell \& Bierce Manufacturing Co., Dayton Ohio, inform us that they have greatly reduced the price of the Eclipse wheel and their Lime Intracting Heater and Filter for 1879, and have issued new catalogues which they will take pleasure irr mailing free to all parties who will apply for the same.

May 6th we were favored witha call by Mr. John Ernst, representative of the bolting cloth house of Heary Pestalozzi, No. 11 Dey street, New York, They deal in the original "HET A NKER" brands of bolting cloth, which is well known throughout this country for its eveness of mesh, great strength and durability.
Jonatilan Mills' new gradual reduction machines excited great interest among the
doubtedly do their share in the expected complete revolution during the next decade. Mr. Mills has been working hard now for a long time to perfect his mach
Mr. S. H. Seamans, of Milwaukee, was duly elected Secretary and Treasurer of the Millers' National Association, and all business in
their behalf should, hereafter, be addressed to their behalf should, hereafter, be addressed to
him. The Association has secured an able officer, and Milwaukee has reason to feel gratified at the compliment paid to one of her citiified at
zens.

Since the convention, Milwaukee has been visited by a great number of millers and manufacturers. The millers, most of them,
visited the new mill of the Milwaukee Mil ling Co., and were delighted to see the work ings of this novelty in milling, which has proved so wonderfully satisfactory. The Mil waukee Middlings Millstone Co. manufacture
the grinding mills used, and are crowded with the grind
orders.
The Missouri State Millers' Association met in Chicago during the convention and reorganized their constitution to agree with that adopted by the National Association. The
most important change made was that fixing the term of membership at ten years instead

## of making it terminable, as at present. Officer

## for the ensuing year were elected as President, E. Goddard, St. Louis ; First

 Vice-President, John Crangle.Tim: Cockle Separator Manufacturing Co. of Milwaukee, shipped on the 25 th an elegantly tion in London at the coming great milling machinery show. The woodwork was of black walnut and the castings were nickel plated. It is a foregone conclusion that it way a cockle separator has ever given half the satisfaction as those made by this company
Among the articles on exhibition at the late Millers' Convention which attracted unusual
attention was Lehman's Method of Truing Millstones and Lehman's patent Bosom Staff for Millstones. All who investigated it were surprised and pleased, and sales were numerous. any fault, but on the contrary express their warmest approbation. It deserves the atten-
tion of all millers. We advise all to investigate it.
Thes steamboat excursion given to the millers at the recent convention was, all in all, a most
pleasant affair. "True 'tis, and pity 'tis, 'tis true" that many a jolly miller was obliged to
surrender his two-dollar dinner very uncermoniously to the fishes in consequence of the terrible pitching of the boat. The music by the Chicago Quartette Club was excellent, also by the Quartette, was thoroughly amusing and drew the remark from an old dusty that he "heard that
the woodshed.

Like London, Milwaukee is to have a new building to accommodate its Chamber of Commerce. The plans havenot yet been thoroughly settled upon, but will undoubtedly be matured
at an early day. Meanwhile the busy dealers transact their business in a commodious building on Broadway, and some extensive deals have already been made in their new quarters Quite a number of visitors from different parts of the country may be seen daily "On
'Change" watching the transactions of our "bulls and bears.

ALL the Milling Journals in the United States were represented at the late Millers Convention, and most of them seemed to en-
joy the occasion hugely. The United States Milleer hereby returns thanks to the American Miller peoplefor the many curtesies extended. Mr. Chisholm, especially, seemed everywhere present and doing his best to make things pleasant. The proprietors of the Deutsche Americanische Mueller, and also of the Millers' National Magazine, were attentive to the wants of all. The milling press of Chicago canno be beaten as hospitable gentlemen.

The Milling Interests of Minneapolis. Minneapolis, Minn., now holds the second place of importance in the manufacture of flour in this country, and it is probable that it will soon hold the first. In May, 1878, there were 199 runs of stone in operation, 88 of which were destroyed by the great explosion. Since then the old mills have been rebuilt
(with one exception) and new ones built, so
that now the mills of Minneapolis have 377 runs of stone or their equivalent. Rond to a
have been extensively introduced, and certain extent have taken the place of mill stones. The total value of flour-mill property built during the past year is estimated by the Minneapolis Tribune to be worth $\$ 1,390$, 000. The Minneapolitans have every reason to feel pleased with their future prospects.

AT the entrance of a restaurant in Pesth where beautiful young ladies are employed " Gentlemen are requested to abstain from kissing the waiters on the stairs, as this is a fruitful source
service."-Ex.
That settles it. We are going to Pesth to study up Hungarian milling,-we are going o board at that restaurant-and, by jinks, we'll have those confounded stairs removed

## The Becker Brush.

We respectfully call the attention of our known Becker Brush. This brush has met with the hearty approval of hundreds of millrs in all sections of the country during the past two years, and the Eureka Mfg. Co., of Rock Falls, Ill., is kept busy with orders.
Write to them for prices, description, circular,

## Attention, Wisconsin Millers.

Wisconsin State Milders' Association,
Secretary's Office, Milwaukee, May 20th,
1879.-The semi-annual meeting of the above
association will be heldat the Newhall House, in this city, Wednesday, June 4, 1879, at 2 o'clock p. m., sharp. This will be a very
important meeting, and a full attendance is expected. The principal business will be the adoption of a constitution, the formation of the association upon a legal basis.
portunity will be offered those not members to join and reap the benefits of the settlements made by the Executive Committee of the National Association.

The Minneapolis Millers Beat the In surance Companies.
The case of ex-Gov. Washburn against the estern Insurance Company, was called for trial in the United States Court, in Cincinnati,
April 25th. After a trial of seven days the case went to the jury. They brought in a verdict in ten minutes in favor of the plaintiff for the full amount claimed. This was one of eight cases pending in the same Court involving the same questions of law and of fact. The plaintiff was represented by Sage
\& Hinkle, and the defendant by T. D. Lincoln, J. F. Follett and others. Lincoln and Follett spoke twelvè hours. This litigation grew out of the fire at Minneapolis, May 3d, 1878, which resulted in the mill explosion and loss of life at that point.

## The Compromise

No similar period in our history has been so alive and active with improvements relating to flour mills as the eight years just past. The terrible prejudice against so-called new-fangled inventions has been quite overcome and many valuable changes adopted. Middlings purifiers wrought the radical change, and their use necessitated additional new systems of machinery to carry out the new process work. They were built, as is well known, in various ways to accomplish the same result. Three hundred letters patent were issued on the different devices comprising them, but our predictions of several years since that the simple method so successful at first, viz., a machine having a sieve covered with bolting-cloth, with suction above and something to clean the cloth, would be the universal machine, have
been endorsed, and it is conceded that such is the best machine. Our knowledge and experience with purifiers began with their first introduction by the late E. N. Lacroix, who at that time had a mill near ours in the southern part of Minnesota, and as we bought the patents of Lacroix, their validity and the bearing of other patents was naturally of great importance to us. We therefore spent much time and careful attention with their investigation, going through the records and everything appertaining to them at Washing ton. Several years since, when we were were complle from the best authority we could get to concede that the patent to Geo. T. Smith covering the combination of a suction sieve and brush was valid, and immediately ceased to build them, adopting the traveling
air-blast instead of the brush. Our informa-
tion and opinion regarding Smith's patent was reely given and circulated without the solicition of Smith, but it brought forth venom and prejudice from many deceived and unreliably informed millers, in fact so great was the feeling against us that resolutions were passed by our State Association calling as in league with Smith in same manner as they considered John Webster, of Michigan, who, it will be remembered, was appointed on the committee to investigate Smith's right by the Michigan Association, and who took the same stand we did. Our business reputation was greatly injured by such resolutions and we trust that they will be rescinded. The compromise made at Chicago by the Association which recognized Smith's patent was there fore, as will readily be seen, of the utmost importance to us, and we congratulate the Association and the Smith's Purifier Co. for it, believing that our aid in that dierction will e appreciated from both. Respectfully,
otrhom Brothers
The Goodyear Rubber Co., of Milwaukee, is branch of the largest concern of the kind in the world, and all goods are sold in Milwaukee at same prices as at manufactory. Millers and dealers can rely on getting a good article in belts, hose, or any other goods in the line, at lowest rates.

## A Correction.

St. Louis, May, 1879.-Editor United States Miller-Dear Sir: The letter and editorial notiee in your paper this month, was more an injustice to the millers than to me, creating in their minds a security which is utterly false to the facts. So far as to the case being decided against me, legally, it is false, and I never was so certain of winning as I am to-day-in fact I believe as an expert that it is entirely impossible to beat the patent. The decision of 5 $= \pm=\mathrm{V}=\mathrm{Z}$ I trust to your spirit of fairness to insert his in your next issue. Yours truly,
R. L. Downton.

Mill Machinery manufacturers were presnt in full force at the last convention and the following list we think, comprises them all. If we have omitted any, we beg pardon
F. M. Riegel \& Co., Dayton, Ohio, Thompson's circular proof staff ; Jno. A. Hafner, Pittsburg, Pa., Hafner's model mill ; Reel \& Seyler, Cedarville, Ill., champion middlings purifier: Thos. McFeely, Union City, Ind., diamond stone dresser; Caldwell \& Watson St. Louis, Mo., Caldwell's patent conveyor ; Andrew Hunter, Chicago, Ill., Hunter's middlings purifier; Milwaukee Middlings Millstone Co, Milwaukee, II is., Jonathan Mills middlings mill; Geo. Oliver, Rochester, N. Y., United States bran duster: LaCroix Middlings Purifier Co., Indianapolis, Ind., LaCroix purifier; Eureka Manufacturing Co., Rock Falls, Ill., Becker brush; Collins \& Gathman, Chicago, Ill., Garden City middlings purifier; A. B. Bowman, St. Louis, Mo., wheat heater Downton's Middlings Purifier Co., St. Louis, Mo., Downton's rolls ; Arthur Cropley, Georgetown, D. C., millstone driver; Three River Manufacturing Co., Three Rivers, Mich., corundum millstone dresser ; Gratiot Bros., Platteville, Wis., wheat heater; Dr. Allen, New York City, grain weigher; Peninsula Stone Co., Akron, Ohio, samples of stone; Webster \& Co., Chicago, Ill., elevator buckets; Jno. Orff, Fort Wayne, Ind., diamond millstone dresser; Mr. Holt, Chicago, Ill., millstone driver ; Brower \& Bennett, Fox Lake, Wis., elevator buckets; Arndt \& Lawton, DePere, Wis., samples from bran machine; Western Wis., samples from bran machine; Western
Electric Co., Chicago, Ill., magnets and their action on wire and other metallic substances in wheat; J. Kelner, Milwaukee, Wis., millstone driver; Hide, Leather and Belting Co. Indianapolis, Ind., belting; Empire Middlings Purifier Co., Watertown, N. Y., Empire middlings purifier; Jas. H. Weaver \& Co., Chica go, Ill., flour sample envelope; Wm. Lehman Milwaukee, Wis., proof staff; Schultz \& Co., St. Louis, Mo., patent fuller leather belting ; H. J. Deal, Bucyrus, Ohio, wheat heater and steamer ; Danford Manufacturing Co., Geneva, III., champion bag holder; Barnard \& Leas Manufacturing Co., Moline, Ill., grain scourer ; M. Deal \& Co., Bucyrus, Ohio, California smutter; Cary Cooper, Oskaloosa, Iowa, currier middlings mill; H. \& L. Chase, St. Louis, Mo., sacks for export use; Munson Bros. Mo., sacks for export us
Utica N. Y., portable mill.

## NATIONAL MILLERS.

Sixth Annual Convention of the Millers' National Association.

Held at Chicago, Inl., May 13th, 14th, and 15th, 1879...Official Report.

## FIKST DAY-TUESDAY, MAY 12, 11 A. M

he Appellate Court room being crowded with mem bers of the Association and others interented in the
deliberations of that body. Mr. Thos. Heermans, Chairman of the Local Committee, introduced Hon Carter Harrison, Mayor of C
the Convention in the following

## Mr. President and Gentlemen of the Con

vention: It becomes my pleasing duty to wel-
come you to the City of Chicago. We feel a deep
interest in the miller and in the millers' produc-
tions. CCicago sits apreme in tions. Chicago sits supreme in the midst of the
greatest graing field of the world. Surrounding her are six great States, Indiana, Michigan, Illinoi
Wisconsin, Minnesota and Iowa. These six State produce one-half of all the wheat grown in the
whole land, more than half of all the corn, over one-thi
ley
Plac
Paaced thus 2.2 she is, with one hand on the
reaper, gathering in the grain, and the other upon
the tiller of the sip the tiller of the ship which is to carry it to distant
lands, she feels that she should receive the Millers Association with most cordial greeting. She
tenders you her heartfelt welcome, and I, as her
chief officer, offer you her free hospitalities. I can assure you that y
one of her citizens

We feel that the miller is entitled to our highest greatest promoters of civilization. In his earliest
days man gathered the wild-grown seeds and acorns, and ground them upen his own grinders. Then
came the hand stone. As the means for pulverizing came the hand stone. As the means for pulverizing
grain grew in perfection, civilization and progress grain grew in perfection, civilization and progress
grew. The plow may be called the firat civilizer,
but hard upon it followed the mill. It mueic was first heard by the gursing brook: We
motor, and man in increased in happinees.
Mill's mansicic is everywwere heard, and wealth has
 Plauee $\}$ We welcome you zs one of the great civit
 der hungy Casesis,"
You gentlemen have the high duty of driving off
hunger. And the faces now looking up into mine convince me that you will do well your part. You
will stretch out your hand to the field, and will aid it and America to perform its grand duty. Chicago offers you her aid in sending your handiwork to the
uttermost parts of the world. You and she will uttermost parts of the world. You and she will
thus do more to spread our glorious republican in-
stitutions than armed armies could possibly do, and will help to strike down all tyranny.. [Applause.]
Again, gentlemen, I welcome you to Cnicago, a Again, gentlemen, I welcome you to Cnicago, and
nvite you to partake of all she has that is good, and invite you to partake of alt deal. [Laughter.] As
I assure she has a great deas
her chief magistrate and the head of her police, I
will try to protect you should any of you fall into will try to protect you should any of you fall into
trouble. I know, coming from small suburban
trowns like Cincinnati and St. to be tempted into some places Wiich may be new
to 'you. [Laughter.] Large cities offer many to you. [Laughter.] Large cities offer many
temptation to such villagers. [Laughter.] I only
ask you to be just a little on your guard; should ask you to be just a little on your guard, should
any of you happen to get in the wrung side of the
bridewell, I do not think I will do wrong in promisbridewell, 1 io not pardon you out to-morrow morning. Again,
ing
gentlemen. Ohicago tenders you a hearty. welcome. Mr. Heermans then introduced Mr. Asa Dow,
President of the Chicago Board of Trade, who spoke as follows:

Prs Associ and Gentlene of the National Mill. ers' Association:
On behalf of the Board of Trade of the City of
Chicago, I desire to make you very welcome. We recogoize you as the representatives of one of the
great commercial interests of this conntry, and aleo
in all age, has fully kept pace. During your deliberations
here we wish you every success, and promise you every aid within our power. In conclasion, gentle our eity.
President Bain, in response, thanked the repre elt especially grateful to the Mayor who had shown very full appreciation of the milling character. no doubt but what they could take care of themselves, but there were rural viators among them to
whom the Mayor's kind offer was very grateful Mr. Bain then presented his annual address. President's AdDress

|  |
| :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

thank them, in a large measure, for our late auccess;
for had they not under many dificulties and discouragements persisted in forming a Millers' Asour troubles did come, to have organized in a way o make our victory in the Cochrane suits a sure one.
At our convention in Buffalo the exorbitant demand of the American Middlings Purifier Co., their reren
than 86,000 per run of bur rs would satisfy them for
in he flagrant manner it which we had been infring Whose genius in "hind-sight," as displayed in his
reisue completely eclipsed the "foresight", specifisaue, completely eclipsed the "foresight" speci-
fied in his art application for a patent, were looked
upon by most of us as a hugh joke. A few weeks upon by most or us as a hugh ojoke. A ew weeks
ater, however, when the United States Circuit
Court of Minnesota compelled our friend Christian to for from $\$ 50,000$ to $\$ 100,000$ each, and injunctions asked against six milling firms in St Louis, and,
ater on, the virtual upsetting (so far as precedent
was concerned) of the Deener, Cissel \& Welch ras concerned) of the Deener, Cissel a Werch
jadgment by the United States Supreme Court, let
und thing lene than a year ago in Indianapolis, we did
not feel as happy as we might have done ; if we did, most of no took a kood deal of pains to conceal
I doubt if there Was a single miller then present that were being made upon us; , yet, knowing that apeaking, ) and that mill machinery, and the
acience of milling, would be of necessity unknown to Courts and Judges, and diffi. ult of explanation to the
Coure well out of it, and many weak-kneed brethren clam-
ored for a compromise. Our Executive Committee, however, lacked neither nerve nor back-bone, and
the consequence is that our cauae prevailed, and those who were then the mon
he most jubilant. It is unnecessary for me to you of the work done by our attorneys, Messrs
Harding, Cole, Judson and Selden, or of the 1,500 printed pagen of testimony taken during the pen
dency of the suit; or of the dozens of models pre pared and operated before the Court; or of the
eight days of exhaustive arguments of the two firs named gentlemen; or of the valuable assistance
rendered by my friend Mr . Downton; or of the rendered
critical
and Treat, 2 better knowledge of the science of milling than half Which Judge Nelson disposed of the case, no praise the promptness with which the
milling papers got the information to you-the $S t$. ports and giving the decision to the trade in full the day following its utterance ; for the report of you
Execuive Committee will, without doubt, refer to will be told so much better by them. But of tha
committee I have a few words to say The Execu tive Committee appointed a sub-commilee, cons. H
ing of John A. Cbristian, of Minneapolis A A
Suith, of St. Louis ; S. H. Seamans, of Milwanke Suith, of St. Louis ; S. H. Seamans, of Milwaukee
and J. A. Hinds, of Rochester, to manage the de
fense of the milling suits, and well and faithfully fense of the milling suits, and well and raithonce
did they execute their trust. Acting with prudence
firmness and good judgment, sparing neither their time nor their money in furtherance of the duty imposed upon them, they have earned and deserve
our lasting gratitude, and I wish they would permi ciation we all feel for the zeal and ability they di
played in behalf of the Millers' National Asocia While many of you have come here to congratuuits, and as our New England brethren phrase i "to have a good tume generally,' you must not fo will necessarily be the matter of reorgnization.
During the trial of the suits at St. Louis, the During the trial of the suits at 8t. Louis, the sub-
committee already referred to, took this matter int consideration, and the results of their deliber
tions were embodied in a circular dated Februar 2d, a copy of Which was seut
member of the National Asociation unneeessary for me to dilate upon the necessity
our reorganizing this A Asociation on a strictly leg our reorganizing this A seociation on a surichy ter
basis. Heretofore it has been simply a matter expegations to the Association and its members, and few of you can bave any appreciation of the trouble
the Executive Committee have been compelled to endure from lack of promptness on the part of cer
tain States and members of their associations, in responding to assessments, and such trouble enhan-
ced by the knowledge of their inability to enforce compliance from such delinquents, who, on the
other hand, would have felt cerribly abused were
 a dual organization, those having purifiers contri
buting to what is termed a "Defense League," the others simply pay a nominal sum to enable thew
vetain membership in the State associations, and ye willing and ready to be defended against any suits
that might threaten them. This was all very well when members were only being sued on account of
purifiera, but now that we are threatened with suits on other patents for devicen in mili machinery, and
when it is proposed to incur expenses in other
ways, which I will refer to later on, it is right and proper that All should bear their proportionate
and just ehare of the burden. Otherwise we canThe third recommendation of the Executive
Committee, providing that no member be admitted Committee, providing that no member lo as assess-
unless on payment of a sum equal to all past anser
ments on the old members, is a little too severe in unents on the old members, is a little too severe in
my opinion, especially when the applicant has just
built a mill, or purchased an old one, the former built a mill, or purchased an old one, the former
owner of which was too stingy to join the Azsocia-
tion. When the applicant, however, has been a tion. When the applicant, howe
mill owner during all past trouble, and through fear
or other selfish motive desires memberehip, I would or other selfish motive desires membership, I would
not favor his admisaion unless his purse was made
to anfier in the eame ratio that ours had done. On to sufier in the same ratio that ours had done.
this subject, however, I do not believe it will be expedient to make any arbitrary rules, but rather to
invest the National Executive Committee with plen-ary powers to vary the initiation fees as in their
judgent will be just to the new and old members,
firgt reguiring that the applicant shall receive the first requiring that the applicant shall receive the
indorsement of the Executive Conmittee of the
State Association he desires to join, and submit a
 In this connection I would also sugges that a vote
by ballot should be necesearv to admit new mem-
bersto State Associations, or to the National Asso
ciation, (rom unorganized States, and that all appli-
ings, the applicant meantime paying his fees and
assessments, and enjoying the privileges of the Association till such vote was had, and if his applicaThere ought also to be some provision for the expul-
sion of members other than from their non-paymen of dues. Although millers as a class will compare
of
tavoral ufacturers, yet there are black oheerchants or mevery flock
and thero are some men engaged in milling that and thero are some men engaged int mither in
don't care about being associated with,
business, political or social way. While on the suber suggeation. In the primary stage of this organ-
ization its membership conaisted largely of manuization tis aud dealers in mill machinery, but when
facturers and
the constitution was adopted at the first St. Louis convention they were asked to take a back seat an
remain "without the pale." I was somewhat ac remain helping the millers then assembledto reach-
ive in hem now convinced that I
this conclusion, and I am now
made a mistake in doing so, and now favor their admade an mome baisis that will be satisfactory t
miseion on some
them and just to ourselves. Our suceess is neess
sarily theirs, and many of them during the "lat sarily theirs, and when some of our own members
unpleasantness," where backward in furnishing the funds neceseary to
defend the suit, not only unsolicited put their hands in their pockets, but furnished information to our ai-
torneys materially assisting us in gaining the viccory. There are black sheep even among the
though, but I am willing to trust the committee to
keep them out.
The fourth proposition, that all voting should be
based on the number of runs of burrs represented,
is an eminently fair one, and while we have had no is an lemin the past in voting, there might something
troube in which the minority in interest, by the force
arise by whe
of numbers, would be enabled to carry through the
C ice to the larger milliers.
The fifth prospsition, to provide a penalty for
non-payment of assesamente, if adopted and rigidly enforced, as it ought to be, will certainly prevent mittee have been afflicted with the past year.
In many instances, members of the committees and officers of the State association were compelled,
in order to keep the suits running, by paying for tc, to advance large amounta of money. This gets to be understood that your officers are to be re-
quired not only to give their time gratis, for the good of the whole body, but will also be required
ofurnish funds when necessary, you would find it difficult to get gentlemen to serve
some of our members may object to the sixt
recommendation, as I understand the Michigan millera, and many individual willers in other States, patents, but I must ask these gentlemen to bear in been so exorbitant in their demands as were the the Cochrane party, yet the principle was the same
in both cases; and if, from fear of a lawsuit and its
attendant costs and annoyances, we should comatenant costs ust claim, and thereby invite the
promise an unjust
thousand and one harpies who are watching the results of these initial proceedings to prey upon us, we
deserve to be bled to depletion, and compelled to resign the milling business to men of more nerve.
Our attorneys, after a very careful examination, have decided that the claims made under this
Denchfield patent are not valid, and with that information it is a duty we owe courso last resort.
public to fight it up to the court of
Even if we could compromise for ten per cent. Even if we could compromise for uen per cent. of
what it would cost to defend the suits, Ishould tavor
the latter course, because in the end it would be the cheaper one. If the owners of the fraudulent
patents, and still more fraudulent reissues, find that patents, and still more fraudulent reissues, find that
we cannot be frightened by threats of a lawsuit, wey will be chary of commencing one, and the sooner
we convince them that such is our determination the better it will be for our purses and our temper.
The juatice and utility of the seventh recommendation you will heartily indorse. Athe
first convention we stated that we were in favor
paying liberally for new invention, although every convention since we have reiterated the sta
ment then made, and although there is not a pie of patented machinery in our from two to five times its first cost for, and for asing which we have been sued, or are hreatened
with suits on, because somebody claims it infringes
some obsolete former patent ; yet your enemies, as ignees by purchaee of the fruits of some others brains, and those whose inventive geniss hes whos
in rissuing some dead device to cover some success ful appliance (a fitting example of which is found in
the Cochrane affair), have been trying to convince
俍 the public that while we are willing to avail our
selves of any thing that will improve the quality of our systematically opposed to paying for such improveScientific American, over the signature of a Wash-
ington patent lawyer some two years ago, and you ington patent lawyer some how undeserved it was.
all know how unjust and hos every month new, patents are taken out on mill
machinery, but it is years before any number of you have those possessing merit brought in in your em-
tion. Oftentimes, too, you or the men in tion. Oftentimes, too, you or the men in your em.
ploy alight upon something that, while valuable to
you, you either desire to keep the knowledge of to yourselves, or think not of value sufmcient oo patent,
only to find, after the lapse of four or five years,
that you have been infringing some patent issued a year or two previous, and the royalty you are then
compelled to pay is a thousand-fold what the origi nal machine would have cost, suppleniented with
which you have the uncomfortable reflection tha which you have the uncomfortable rele description
you, or your employe, must have seen a
of this ventor may be thinking that you all the time intend
ed to steal the fruits of his brainwork. The patentee also may not be in a position finan-
cially to bring his invention favorably and promptly to the attention of the milling fraternity, and the
consequence is that, although his profits are large o each machine, yet the expense of disposing of them
eats all these profits up, and by the time his inven tion commences to be appreciated his patent run Now, were this association to employ some one we
versed in milling and expert in patent law he could versed
not only watch our interests in regard to past patent
and reissues, advising us as to whom we owed royalties for valid patents, and. what invalid paten
to reisit, but he could also bring to our attentio
such patented machinery as be might such patented machinery an his judgment we oould
orious, or at least such as in hit
risk teating or experimentivg with. If tyen we
found something that was of value, he could arrange
the inventor, but would be insignificant to the indi-
vidual members of such a large organization as this. I dialike to repeat myself, but I made a a suggestion
at Buffalo and again at Indianapolis in reference to our Committee on Mill Machinery teating new incountry wheat, raised in the different sections of the dopted, the course suggested will be a feasible one. Utopian, thinking that it is to tour interest to keep
the knowledge of such machinery and processes as you have tested and found valuable as secret as pos-
sible ; but, gentlemen your are, in my opinion, haking a grave mistake, as I know many of us nly be open with one another, and exchange ideas
and results of experimenta, we will not be confined o the United States for a market, and the light
profitsthat competition on a limited market of nearger part of Europe and South America for our Already John Bull is growling over the cheapness
American flour, as compared with the raw maerial, and the mills of England and Scotland have hey have done for years before. France, too, is
getting alarmed at the cheapneas with which A mer can wheat and A American flour is being furniehed hem, and at a convention of agriculturists held at
Lille, March 25 th, it was acknowledged that the
cultivation of wheat at prices that have ruled the past year was unprofitable, and the convention re-
commended that it be discontinued in future, and that the cultivation of tobacco and the sugar beet
be subsututed for it. Immediately after our Buffalo kets, the organ of our British brethern, The Miller, made, and laughed at the idea suggested of Amer-
ican millers pulling together, and the United Statea frnishing the consuming world with the manufac our tields. It sings a different key now, as listen to "The observations made in these columns lately
as to the probable extension of mills in America and
profitably our own flour mills, has been transferred applies the conclusion to France, and intiuates, we probably quite as seriously affect the French milling rade as hat of England. As a mater of fact the ers, in recent years, to Vienna and other centers
where the finest European flour is manufactured, and means have been follower thath the best methods kuperfine qualities of flour, that shall
may turn out sum
compete with the beat known brands of Hungary, Germany and France. In England, at present, the
bulk of the flour is rather more of a household cooks demand for the wants of luxurious consum ers. A
American barrel flour also challenges the cheapest
sacks of our Eastern Counties millers, and when, as in the past week, the imports amount to a bulk
equal to 112,000 ascks of 280 lbs., the general importance of foreign competition can not be over-
rated. Several times lately wheat has been close
upon a solid advance in price, but all efforts of sellupon a solid advance in price, but all efforts of sell-
ers have been neutralized by the heaviness of flour At the aame time our English millers have resolved
not to be distanced by foreigners through the want improved methods of manufacture, home-made issue mer, like the Britieh tarmer, may say the under which wheat is produced abroad, rather than
trom want of technical skill and enterprise at I claim that this Association has contributed
largely to the export of flour, instead of wheat. It brought the millers of every section of the country
together. It got them to droping jealousy, not only country, and the information derived from such
contact has been of incalculable benefit in forward
ing the end for which this Association was organ-1zed-the success of American milling. As to the
export business, I will refer to that later on, If time
permits and your patience is not exhausted, In the eighth recommendation of the committee
there was no intention to blame or even criticise our presenneted with the A ssociation since it was
been connect
first organized, and both have contributed largely
 part of his time to those objects. It can not be exattend meetings of State associations, or to visit the principal millers of such an association. It will also
and take steps to form an
be necessasy under the proposed reorganization to seep in active communication with individual mew-
bera of the different assooiations throughout the
country, to advise them of the different negotiations, uit, etc., pending', to secure statistica and other
information in regard to growing crops, markets, housand and one other things that need not be
apecified, but for which you can all understand the The appointment of a patent attorney, as recom-
aended in the ninth clause, will save millers from many a la wauit and its attendant costs and annoyamount, breides the benefits to be darived, as I bave
Iready explained in speaking about section seven. He could also collate and file for future use, information furnished by members, from
garding patents as they are issued.
Although the recommendations of the Executive
Committee and the Constitution for the State and
National Associations were not drawn National Aseociations were not drawn up hurriedly
or unadvisedly, yet there may be some points
in them that can be improved upon, in which case in them that can be improved upon, in which case
truat that every gentleman will give the subject the serious atten
amend ments on

## as possible, It is intended that this shall hereafter be a close

 corporation, and what is done at this convention willdoubtless govern it for ten years to come. It hehooves us all to be careful that every neceesary
point in covered, and that sll that is done shall be
done for the benefit of the whole of our members.

## THE UNITED STATES MILLER.


possibly arose from the same cause and from want
of collective reaponsibilities, which the through bill of collective responsibilities, which the through bill
of lading is deficient in, this document being esigned by the agent of the transportation or railroad com-
panies and their connections, "severally and not jointly,"
opened to mittee considered that the onlv point opened to the Chamber is to draw the attention of
he New York and aowe of the internal Chamber of New York and mome of the internal Chamber
of Commerce of the United Statee, to the state of things now existing, and to recommend to their
consideration the desirability of annulling the clause which gives the carriers power to transfer goods
engaged by a particular line of ateamera to any
other interests of the owners of the goods.
They would also suggeat the desirability of two
forms of bills of lading, the one by regular lines of forms of bills of lading, the one by regular lines of
and the other an open bill of lading by teamer and the other an open bill of lading by pteamer or
steamers, etc., so that the shipper could make his
election ; and that the railroad and tranaportation compaties should be held arising in consequence of any deviation trom the
terms and conditions stated thereon, and for any anreasonable delay in forwarding goods.
[Signed] Jno. A. Marsh,
A. H. LEMONIUS.
WM. B. HALHED.
S. H. BROWN.

The Committee of General Referencer

## follows:

Your committee to whom was referred above communicaiion from the American Chymber of
Commerce Liverpool, and the report of a conmittee
of that body, on through bills of lading, beg leave of that body, on through bills of lading, beg leave
respectfully to report that they have carefully exrespectfully to report that they have carefully ex-
amined the matter therein complained of, and find here is mome cause tor the action taken by that
body. They find that foreign bills of lading 1ssued a inland points of the United States contain a clause to this effect: "With liberty to ship by any
other steamship or steauship company " This other steamship or steamship company" This we
find has worked detrimentally in a few cases lately as the large amount of goods being exported from this side has drawn here innumerable ateamers,
many of which are not classed as high at Lloyds as he steamers running in regular lines. The Merargest ispuers of such bills of lading, inform us, us,
hrough their foreign agent in New York, W. H. McIlhanney, Eeq., (to whom we are indebted for a put in the bills of lading, yet it is seldom thays is dvantage of it, and only in cases where the propery arrives immediately after the sailing of the eamer of the line by which it is intended to go,
and at tumes when the succeeding steamer, and
perhaps one or two more of the line have foll perraps one or two more of the line have full
cargoes then engaged, and instead of keeping it on
he wharves at tunity to ship by a vessel of the specified line, take dvantage of the steamer first offering, claiming that chereby they are benefitung the Western shipper by
giving his property prompt dispatch, and also claiming that were they to hold the property until
hey could ship by the line mentioned in the bill of
ading, it would work detrimentally of the Western shipper, and draw orders to the sea-board cities, instead of buying direct, as the
purchaser could then depend on receiving his property within a reasonable ume. The argument Liverpool committee, shipping by a boat inferior to
the one insured would vituate the insurance, unless the one insured would viuate the insurance, unless
proper notice was given the insurance couppany,
and even then would cost a higher rate of insurance; but it also entals upon the consignees the
necessity of watching the arrivals of all steamers at their ports in order to claim their property. Two is the insertion in the insurance certificates of the words, "Subject to all the liberties expressed in the compary would require to notify the shipper or the
insurance companies of the different shipmenta he hasanance companies of the different shipmenta he
has made; and second, that following the clause relerred to in bill of lading, ought to be inserted a clause something to this effect, "But such steamship
shall nol rate leas at Lloyd's than the steamships of the line herein named
of delivery. We have ascertained the irregularity the transportation companies put a full lot on each boat, but during the past winter, when the roads
were blocked with snow, and the property arrived in all sorts of shapes, there wholly belonging to the railroads, and as they will
find it to their interest not to split up lots, we may Weave that entirely in their own hands. Wesarily alarmed in regard to bills of lading being signed by the transportation companies' agent "sev-
 are not responsible collectively, which of course they
are, the phrase "peverally, and not jointly," refer by our Courts in innumerable instances that where several railroads constitute a "line" or traneporta-
tion company (as, for instance, the Merchants Dispatch Transportation Company), that any line
over which the property goes is responible for loss or damage the aame as ii carried on their own
line. If a shipasent of flour, for example, going by the companies mentioned, frou Chicago over the
Michigan Southern, Lake Shore and New York
Central railroads, reached New York in a dimared condition, the New York Central would, we are con-
fident, promptly settle the damage ; but if they did
not, they could be legally forced to do it After a not, they could be legally forced to do it At After a
thorough inquiry amongst all our members we do
not find a aingle case in which there had been the

## As to the suggestion in the President's letter

## bout the poasibility of securing some action by Congreas providing for the non-arrest of prop- rty in tranait, there is no necessity for any- hing of the kind. The laws, we find on consulta- Ther

## ion with attorneys versed in railroad matters, are very clear as to bills of lading in the hands of inno- cent parties holding the property spectifed therein.

cent partiea holding the property spectified therein.
We ehould respeetfully suggest that the President
and Secretary be authorized and ingtructed it set
on behalf of this Association alone, or in conjunction
to confer with cantile bodies throughout the country,
to
if posaible, suc
Great Britain.
Mr. Gibson, of Indianapolis, said that he thought of statement that there was no such thing as arrest
of property in transitu was a mistake. He had

Ind., to Europe, was atopped and caused much
trouble. He wanted the matter examined, so that no rash atatements shotild be made.
The Chair said that he was somewhat interested in this subject, since nine-tenths of the four which railroad lawyers. and their opinion fully coincided with that expreseed by the Committee.
purchasers could hold as against any one.
Mr . Gibson moved that the Chair appoint a committee of three to draft a reply to the Foreign
Board, and to prepare a bill for submisaion to Congress, if it should be found that one was necessary, to cover the points raised. The motion prevailed,
and the Chair appointed as such Committee Messra Gibson, of Indıana; Dunwoodie and Brown of MinGibson, of Indiana; Dunwoodie and Brow.
nesota; Smith and Crangle, of St. Louis.
Mr. Pollock, of Vincennes, Ind., said that he believed the railroads discriminated in favor of the raw material as against the manufactured product.
He had no motion to make, and simply called up the subject
Mr. Gibson said if there was any discrimination it was because wheat came in large blocks, and rail-
roads were glad to make contracts for 100 or 500 cars of wheat in order to keep their rolling stock in
use. Millers, on the other hand, could not contract for such large lots. The railroads also claimed that they allowed a diecrimination
the barrel in favor of flour.
Messrs. Willon and Chapman, of Illinois, agreed with Mr. Pollock, and said they knew of instances in which an actual discrimination existed in favor of Mr. Dewar, of Kansas City, said it could not be expected that railroads would carry flour any
cheaper than they would wheat. And it was reasonable also that railroads should grant more favortracted for, Millers could do the same. They er rate than they would five or fifteen barrels. He bags for wooden barrels. The wooden packages thought that the time had come when a great change hould be made in packagee, and that bags should be substituted for barrels, not only for shipment to Europe, but to consuming points in the East. The Chair fully agreed. Barrels were almost useless to the receiver, There was a saving on freight amounting to one shilling ( 25 cents
shipments to Europe in favor of bags.
The subject then dropped.
Thents to Europe in favor
and
The Chair called up the question of marks and brands. At the Buffalo Convention this subject had been discussed, but nothing had been done at that
time. He understood that a Cincinnati man was preparing a book of brands, and he thought each member of the Association should hand fac-similles
of his brands to this gentleman. Mr. Dewar moved the appointment of a committee of five to prepare a circular to domestic purchasers
of flour, asking them to formulate their views in regard to the use of bags instead of barrels. The motion prevailed, and the Chair appointed as such
Committee Messrs. Dewar of Kansas City, Atkinson of Kansaa, Burbridge of Illinois, Baker of Minnesota, and Pollock of Indiana.

## EVENING SESSION-TUESDAY

 8.45 the Convention was called to order. Mr Bain stepped to the front and said he the chair Mr Bain's father died at Yorkville, Ills., this afternoon, and the funeral comes off to-morrow, and hehad therefore to take leave of the Convention and would return to-morrow. Meanwhile Mr. L If you adjourn before I return I desire to thank you for the very kiod manner in which you have treated will be treated as you have treated me. I am very sorry that this should have occurred. Mr. Fletcher took the chair, and in his call for reports of committees, Mr. David
man of the Committee on Mill Machinery, requested that Mr. Stanley, of St. Lonis, read the report of as follows
Report of the Committee on Mill Machinery.
The Committee on Mill Machinery beg leave The Committee on
submit the following:

## The subject is so vast in its seope and details that it will be impracticable to give anything but

 it will be impracticable to give anything but themerest outlines in a report of this character. While
in the last eight or nine years there has been a in the last eight or nine years there has been a
complete revolution and a wonderful improvement
in the nanufacture of flour, I believe that as far as cleaning the wheat, grinding and bolting it is con-
cerned, there has been no material change in the general principles and construcion since the days of
ry for performing these operations
Oliver Evans; but many important changes and improve
them.
have spent a good deal of the country saems machinery, and the result is a large number mapanery, perfect maehinea for this part of the
apparenty peparating all kinds of impurities from the
work, as this goes the work appears to be perfect, and
nothing better needed than several machines now
accomplish. When it comes to scouring the wheat accomplish,
after has been separated from foreign matter, tha
appears to be a more difficult problem, and one ye appea
not so
are
chines that will completely divest the wheat berry
of the furze or fine hairy beards on the small end of the furze or fine hairy beards on the smalt end
of the grain, act so harshly on the bran as to chip
it and it and weaken it, and canse it to be ground up into such fine particles that it pases through with the
wheat flour with the firat bulting, and injures both the strength and color; but if we had machines as
perfect as to thoronghly scour the outside of the perfect as to thoronghly scour the outside or the
berry without breaking the bran, then we have the
crease or crease or depression lengthwise of the berry, what
always contains a large amount of dirty, dark mat
ler, very injurious to the four, ter, very injurious to the flour, part of which
removed by bruahing and the other operations of cleaning, but as far as we know there has perfectly
been made any cleaning machinery that meets this difficulty, and the solution will probably
come in some other method of treatment, say in come in some other method of treatment, say
what are called ending stones or breaking stones,
which at once remove the furze on the end of the berry, also the germ and a part of its covering, al
of which are deleterious to flour, or it may be thai
a new claps of machines will be produced for thi a new claps of machines will be produced for thin
work. In fact. I am informed that they are now bein manufactured and lested with good promise of
cess. If gradual reduction can be accomplished some rimple way it will check the present strong tend ency which now exiats to adopt the elaborat
complicated Anstro-Hungarian system, and the difficulty even better than ending-stonen.
this may be so. As to grinding or granu great changes in detail have been adopted,
in the general principles, as far as we kn seema to have been demonstrated that slower apeed
of burrb, lesa face, and more furrow, and much less The use of rolls for preparing parts of meal, where
good and inferior parts of grain are intimately mixed together, for separation, has proved a gre it has been done with burrs, or in any other way purposes in granulation that they are rapidly
coming into general use, and to eome extent super-
ceding the nee of burr ceding the use of burrr. The great revolution
which has taken place in our milling has been made
practicable by the introduction of middlings puri pracs. Without these very little progress could or
fould have been made. With their use it has become practicable to make clean, pure, perfect flour an inferior grade, or were pold for animal food.
The fact of being able to make much better flour Tut of middlings than from the firat grinding, set all
millers to work to find ways and mesns to turn as large a per cent. as possible of the wheat into mid-
dlings. This brought about high grinding, and in
bard hard spring wheat districts an approach to the grad-
ual reduetion practiced in Hungary, and to some ex tent in Germany and Ruspia, and in the winter
wheat districta a gradual approach is being made to something like the mouture economique, or economi
cal system of milling practiced now, and for many cal system or min France. Both these systems have
years past, in Feral realts in Europe, and have
produced wonderful rean
already done so here, and with the additions and already done so here, and with the additions and
modifications which we will give to perfectly adapt
them to our circumatances, the results will be much them
greate
Our
Our improved system of flour making, which has
added at least 10 per cent. to the value of every
buahel of wheat grown in our country, and enables bushel of wheat grown in our country, and enables
ns to compete succesefully with the French and
Hind Hungarians in the markets of the worl and with
the English and German millerg at their own doors has been brought about by the introduction of mid-
dlinga purifiers, and our continued progress in this direction will make it necessary that these important machines shall not be controled by a monopoly, but
that millers shall be able to buy of any and all honest inventors and manufacturers. But to
back to the main question of mill machinery ; not at all difficult to get good machinery for the
principal parts of a mill. The difficult part after all, is its arrangement and organization and the carry-
ing out of details. To do this requires the owner to
To have a general knowledge of the business and to
know what he wants. A mill constructor who know what he wants. A mill constructor who
knows a good deal more than mill owners generally
do, and last but not least a competent miller to run o, and last but not least a competent miller very plenty as to be picked up always when you
need them, and miatakes in building and running
flour mills some of us know are very expensive. neeur mills some of us know are very expensive.
This leads me to say that we need a new class of
akill in manufacturing flour, which I regard as a fine opening tor our young men and boy
tion of practical and scientific know
tion of practical and scientific knowledge of the art
of milling,- the only way I see to get this is for younire a thorough scientific knowledge of milling and mill building by a course of study in some of our
and schools of technology; or what may be better, at the
millers' college, when extablished. We have now many scientific mill constructors and very few scien-
tific millers, while latterly scientific milling has belific millers, while latterly scientific miling has be
come the most important of the two. Charrman.
The miller who has devoted his whole time The miller who has devoted his whole time to
the daily routine of the necesary details of his
own business which it requires, has been unable to own business which it requires, hat been unable to
follow the successive steps that have lo the gradual improvement that has taken place in the
beat arranged, and the most succeesffilly and profit-
ably conducted mills in the country, and although the gentlemen owning and operating those advanced mills very kindly throw open their doors for the
inspention and gratification of their brother millers (and even going as far as to explain the uses and
advantages of the various new machines and im advaced machinery in operation in their mills) who
prove desire to also improve their mills and their
may may desire to also improve their mills and their
products, yet it ij just a simple impossibility for any
of these inquirers afier the truth of milling to learn anything that will be of much value to them,
in making those changes they desire to make,
io improve the quality of their flour. They may think themselves put into practical operation, and they may determine to adopt it at once; immediately
some very much advertiied, and some very much
improved machines are ordered; some carpenters
intelligent miller, desiring to improve his mill, could
not take one of these papers and base his designs not take one of these papers and base his designs
upon any of them and improve his mill, and give
him more satinfaction than it did before. This mathim more satiafaction than it did before. This mati-
ter of old atyle, and new saly miling cannot be
compromised, by part one, part another; the change And radical ani horough.
And the only thing really for the miller to do, who model his mill from an old to a a new process mill, is
to put himself into communication with one to put himself into communication with one who
is a thorough practical mill wright, and draughte-
man, and, if poasible, who aleo combines a practical man, and, if poasible, who alao combines a practical
know ledge of milling, state his wishes to him, and
leave the matter in his hands, and he may then reat leave the matter in his hands, and he may then rest an it ahould be, and the result will be a New Pro-
cess Mill in every sense of the word, and the avoidance of mistakes, which the mere practical miller of forty yeare experience could not avoid. R. Roberts. In conclusion, as this subject is so important, this
Committtee would respectrully offer the following



## Resy oome under their obsectfully submitted, THE COMMTTEE

The report and reaolution were adopted.
Mr. J. C. Q. Burbridge, of Alton, Ill., introduced
In naming varietie
W. P. Brows
man. wheat, viz: Lancaster or Red Sea, Mediterranean,
amber, straw, \&e. Mr. James Gordon of Syaria,
IIl., sayner
whithe white varieties they do not want, as the flour from
the latter is soft, weak and yellow. He gives Lis preference to the Lancaster or Red Sea. Having
taken a good deal of pains to introduce new varieties of seed wheat into his hocality, he finds virieties
caster the best. He thinks the yield of flour is not quite so great, but the flour is stronger and whiter,
and better suited to the bakers' trade. Mr. Gordon reports it as his opinion that the soil and climate of
Southern Illinois is favorable to Southern etter flour when ground there than it does
makes a bet
procured from other States. Millers should keep experimenting with the different vatieties, thus as-
certaining which is best suited to his locality, and
when when the most
inducement to the farmer to raise that over any
other kind. Mr. Gordon is experimenting with
"hard Scotch fife," from Minnesota, as a winter wheat, and has his becond crop now growing; it looks
well and he thinks it will do well, also with a Can. well and he that to be midge proof, and we may hope to hear the results of his efforts at our next meeting.
In the spring varieties the fife wheat is the most
desirable, although "Canada club" and Lowland
俍 desirable, although "Canada club" and Lowland
Scotch have good reputations. Bearded and soft
varieties of gpring wheat have no reputation, and
and varieties of spring wheat have no reputation, and
millers of spring wheat do not want them. Much
more could be said on this subject, but it would be
only the opinion of two or three, and we earnestly flour. Eastern buyers dictated to Western produc ers what brand they should put upon their barrels, not buy the flour.
Mr . N. Elles, of Indiana, thought his friend from
Illinols got Illinols got ton much excited over this matter. The
Government made the whisky and tobacco men stamp their packages simply in order to trace $u_{p}$
the packages for the purpose of collecting the rev

This did not apply to flour, upon which there
no tax, and he thought there was no occasion to ask for the desired legislation.
Mr. Heermans, of Chicsen
the last speaker, and thonght it was entirely with province of Congress to force millers to brand their ton-spinners to mark their goods.
Mr. F. Schumacher, of Akron, O., thought the
gentleman was mistaken as to the effect of Judge Dyer's decision, and reminded him that the common law protected trade-marks as heretofore.
Mr . Homer Baldwin, of Youngstown, O it did not matter near so much what they put out side the barrel as what they put inside. Mr. Sparks, of Alton, Ill, said that he had a
brand, a simple letter, for which he would not take $\$ 5,000$
Mr. Burbridge briefly replied, claiming that the remarks of convinced him that they were offered at an opportune m
Association.

## Association. On motion

On motion of Mr. Heermana, the resolution was until 10 o'clock Wednesday morning.
SECOND DAY-WEDNESDAY, In accordance with Tuesday's arrangements Mr . Ed. Sanderson, of Milwaukee, was to preside over
the meeting. Therefore, at $10: 15 \mathrm{Mr}$. Fletcher introduced Mr. Sanderson, who said
"Gentlemen of the Convention, at the request of
Mr. Bains, your Presilent, I consented to call this meeting to order this morning and if possible to preside over the matters that might come before it,
but I find that I have some business that I cannot neglect this morning, and Mr. Fleteher has kindly consented to take my place.
Mr . Fletcher called the
The first order of business was the report of standing committees.
Mr. W. P. Brown, of Minnesota, Chairman of committee, read the following report on grain for

## milling.

Heport of Commitiee on Grain for Miling. spectfully report that we have carefully considered the subject and find that it embraces a wide field for
argument. So varied are the opinions expressed on argument. So varied are the opinions expressed on
the subject by millers in different parts of the
country that the report should be made of opinions country, that the report should be made of opinions
of millers from different localities or States, as what
is regarded favorable in one locality is not regarded is regarded favorable in one locality is not regarded
in others. For your committee to recommend any one variaty in preference to all
egotistical, and we can only
as among the beat or most

## 

, in benifititive
Mr. Nicholas Elles, of Indiana, said that in the of wheat had come up, they had taken a great deal of pains in introducing different kinds of wheat seed adapted to the manufacture of flour. He thought if every miller would go to a little trouble that in
three year's time they would have all Mediterranean wheat in their part of the country, as that was condeal of Fultz wheat, and they found that it makes large yields. He urges millers to make it a business they would not have any trouble in getting what they wanted.
Mr. Williams, of Minnesota, suggested that the
nillers should urge farmers to gradually
Mr. Sparks, of Illinois, said they had their up and downs in his vicinity. They had lately intro-
duced Fultz wheat. He said it was very deceptive very beautiful to look upon, and every farmer was
pleased with the yield hegot, but after a trial the millers had been consinced it was not the wheat the wanted. The middlings are too yellow and the approved of advising farmers to sow seed wheat of

Mr. Baker, of Minnesota, asked if they had ever garian flour is made. He was on a visit to the Old said wheat is superior to any produced in this
country. The quotations on Hungarian flour range in excess of our Patent Flour in the Liverpool markets It takes its name from the River Theiss. It of the value of winter wheat, not being a winter not to be early educated as a miller. [Laughter] He bronght some of this Hungarian wheat with him, and if it succeeds in stauding the climate fature tis future time to the milling fraternity. The climate Where it is grown in Hungary is very similar to
Mr. Gordon, of Illinois, looked upon the matter as very interesting. If the miller does not get good
wheat he cannot expect to make good flour. He thought the millers should encourage farmers to raise various kinds of wheat. The farmers in his part of the country were willing to try new wheat.
In 1875 he renewed the old Lancaster wheat. The Lancuster and Mediterranean, he said, were two year Mediterranean wheat from Delaware. They named it Red Sea wheat in his county on acconnt from Ohio, from his friend, Taylor, of Londonville, from Chilo, from his friend, It amber. It is a kind of wheat slmilur
to Lancaster and makes excellent flour. He wae
also experimenting in Scotch Fife wheat. It in consic. $\mathrm{Mr}_{\mathrm{c}}$. Colton, of Obio, said that in his viciuity they could not induce farmers to raise the kind of wheat they (the millera) wanted. They wantei
wheat they could make the most profit on. Mr. Atkinson, of Kansag, gaid the Fultz wheat had taken precedence of all wheat in his State fo wheat in the market sells higher at the present had been experimenting with Fultz wheat this year. He has sown nome this year. It is a very
good wheat. The May and Walker whent stands well with them. In their State they sow largely-
from one to a thousand acres. They have to sow
varieties that they can harvest one after the other varietied that they can harvest one after the other
They find the Walker, May and Fultz work well, Mr. Bradfield, of Michigan, wanted a wheat for
Michigan that could be a subutitute for the Clawson. He said Clawso
Michigan. Th
to 50 busbels to the acre, while Mediterranean and
other varieties would yield about half as much.
The millers want to throw Clawson wheat

## side in Michigan, suitable for milling

Mr. Edmund Norton, of Chicago, Chairman of
the Committee on Grading and Inspection, stated
and that therefore the following contained
views, only. He then read the following:

## The queation of the inspection and grading of wheat in our large markett is one which greatly af fects all of the country tributary to those markets either as shippers or purchasers, the inspection

either as shippers or purchasers, the inspection
standing betwen the producer and the consumer,
sad eatablishing a fair comparative value of the
grain so inspected. The present aystem of inspec-
tion is the basis upon which the whole production
to the immense crops that have each year to be han-
dled; and it is of the utmost importance that gradee
should be adopted so as to express as nearly as possible the quality of wheat oo graded. In this re-
spect the ingection of the Chicago and Milwaukee
markets doess not meet the requirements of millers
dependent upon these markets for supply. Each grade is made to embrace too great a lacitude in
quality and embraces wheat varying largely in in
trinaic vaiue, mo that the designating grade does not
enable the miller to judge either as to the quality or enable the tiller to judge etther as the present crop,
variety of the wheat purchased. The
varying largely in quality and price, has stimulated
a business very prejudicial to the interests of mill ers, and apparently of no benefit to any one except
to those engged in it. In reference to the practice
of mixing and scouring wheat: So general has this
practice become that very little wheat below the grade of No. 2 reaches this market that has not paid
tribute to the scalper, and, should the shipper by
chance send any wheat that has not been graded
down to the very lowent point that the grade for down to the very lowest point that the grade for
which in is designed will allow, there are plenty of
doctor-shops, both here and in Milwaukee, with plenty of screenings on hand to put it up in good
shape to go into store, to be delivered to the inno-
cent holder of the receipts, who might naturally ex
pect to get a fair average of the git has paid.
The patent leeches who prey unon the milling
industry are no worse than the scalpers who prey upon the quality of the wheat which ultimatel
comes to the miller to grind. They are worse than
the specalator, who, thongh frequently creating a
fictitioun value, do no injury to the wheat in which ingpection requiring only a weight test on the lower
grades, is enabled by mixing and scouring to obtain
this weight nd grade, although actually depreciating
the value of the wheat for milling purposes; for I
hardly need suggest to you that wheat hadly scoured fibre of the bran and puts a fictitions appearance on
the face of wheat that has not the real merit to
carry jt good lonks. There are seavons of the year when the crop is moving freely, that the scalper
have more wheat than they can handle, and a por
tion of it reaches our market undefiled by the acal er'A
wheat in it or original purity we What does not find a
ready anle hy sample goes into store to be mixed
later in the season with wheat which, although
called by the same grade, is very much inferior in
value value. A large portion of the wheat raised last
year in the Northwest, especially Southern Minne-
sota and Northern Iowa, was rejected beyond
redemption, the pame causes affecting all of
rit in about the pame degree, and no syatem of canal
better illustrate the extent to which this practice
obtains, or tis evile, than by reading the following
letter to Mr . John A. Christian: $\left.\begin{array}{r}\text { Office of H. Williams \& Co., Merchant Millers, } \\ \text { Houston, Minn, A pril } 28 \text {, }\end{array}\right\}$ Sir-Allow me to call your attention to a matter
which ts affectirg the intereasts of millers in this
part of the Sate almoat to the extent of shatting
their mills down. I refer to the process of scouring the wheat, so that, nubjected to a weight test only,
it is made o appear rrom one to two grades higher
than it really ps. It would hardly reem that a trick so transparent could go far unless
Boarder Bpeculation rather than legitmate buainesp, But the
faets seem to confliet with the probabilities, for although this business has been going on in this part
of the State eince early in January, and has for some time been general in Southern Minneeots,
Northern Iowa, and Wisconsin, I have not been
able to learn that any official notice bas been taken
 same rule of inspection. The Southern Minnesota
millers are asked six cents a bushel premium for unscoured wheat, as it is worth that to shim, showing
that, although the Milwaukee grades, as established that, although the Milwaukee grades, as established
at the beginning of the movement of the crop, were
based on unscoured wheat, the basis of ingpection it now scoured wheat. If this state of things has nos
reached New York yet, wheat-dealers evidently
expect that it will, for I learn that a firm recently
paid Milwaukee price for expect hat wit, price for 45,000 bushels on the
paid Milwuke petion to
river, expecting to make the freights to Lake Michiriver, expecting to make the freights to Lake Michi-
gan by doctoring in the Green Bay elevator.
It is reported that the Milwaukee elevatora now It is reported that the Milwaukee elevators now
have marhinery for doctoring, and that private
warehousea have been fitted up with such machine. warehouses have been fitted up with such machine
ry, and that wheat has been taken out of the city ry, and that wheat has been taken out of the city
fixed up, brought back, and reaold at a profit.
also learn that farmers have learned the aharp practuce, and have purchased scourers nnd are using
their threahing-machine horse powers to drive them with. So the matter seems to stand at present, and terms as applied to grades have but litile meaning
as no diatinction is made between scoured and un scoured wheat, althougb, other things being equal,
the difference in value would be from four to ten cents a bushel. I do not know if the ruasance has
reached you, but it will be a wonder if you do not
bave to buy wheat against competitors who make

No donbt it is much easier to point out the abuse
than to suggest a remedy. Still, I think if millers
can be thong can be thoroughlv posted, and buy their wheat with
a full underetanding of what has been done to it
and of the relative value of wheat in the two conditions, subject to the same test, that prices wil
time adjust themselvea to the new conditions. I fear, however, that millers may not get suffic
iently posted on this crop, unless the whole matter
shall be well aired at the National Convention,
where there will be representative millers from all parta of the country. The milliers hereabouts think
the National Convention can do much towards bring ing about a widespread discrimination againgt
scoured wheat. I will not weary you with a consideration of objections to scouring wheat before it is
to be milled, or to scouring it on wrong princtles,
or by wrong methods, matters of great importance to be considered in the proper place.
I should be pleased to hear from you with refer-
ence to this matter, and would be glad to learn that you will have it brought before the National Con
vention. Yours truly,
H. Wiluams. In regard to winter wheat, it seems proper that
wheat raised in points far remote from each other, and varying largely in value for specifie purpooes,
rhould have a different designating grade, and that
wheat from Mispouri, Kansas and Wisconsin meetgeneral grade of No. 1,2 , or 3 winter wheat, thue
discriminating against ihe better varietiies in favor
of the poorer. As expreasing the sbove views, I offer thenofilumining readultions:





Secretary Little read the following letter from Mr Frank Chamberlain, Chairman of the Committee

on Millers' School or College :
Albany, N. Y., April 26, 1879.
Frank Little, Epq., Secretary Millers' National
Frank Littue, Erq., Secretary Millers' National
Association, Kalamazoo, Mich-My Dear Sir:-I
am in receip of your communication of the 15th,
certifyinging to my appointment as Chairman of the certanding Committee No. 10, and notifying me that
the next annual convention of the N. M. A. will be
held in Chicago, May 13, 1879 held in Chicago, May 13, 1879,
I deaire to experes to you, and through you also
and eapecially to President Bain, my warmest thanks
 to, nor to make a report setting forth a well-matured
and defined plan, telling where, how and best can
be reailized ihe Millers' School or College. I have
thought, talked, and with parties abroad as well as in this country, corresponded to meet with very gen-
ject, and the project seemed to met
eral favor. It is my deep and earnest conviction
that eral favor. It is my deep and earnest conviction
that this institution rhould be established in the
West, in connection with some university or college, where its students may learn practical milling and
at its highest eatate at the time. I am assured that
and there are several institutions of learning with which
favorable arrangements can be made, provided a
certain number of students can be secured, and near certain number of students can be secured, and near
where are some of the best mills in this country. Untoward circumstances prevented me from
what perhap I otherwise would have done.
Respectfolly yours, FRANK CHAMBERL

Respectfully yours, Frank Chamberlain.
The Committee on Milling and Improved Method was called on by the Chairman to report, but by request, further time was granted.
Mr. Burbridge, of Illinois, asked that the resoluto be laid on the table the night previous, be again brought before the Convention. A vote was taken which decided that they should not take it up.
Mr. C. H. Seybt, of Illinots, Chairman of mittee, read the report of Committee on State Ormittee, read
Report of Commatitee stans. this country, one a careful of the milling industry of foribly-that is, the utter lack of seetional iorver-
ests. In the milling business there are no State boundariep-no Mason and Dixin's line to separate
hostile factions-no mountain ranges, water.cousses or climatic changes divide the milling fraternity into
warlike tribes, whoes self-ibterest and self-preserva.


#### Abstract

tion demand jealous warfare againat each other. The milling industry of this whole country presents perfectly homogerous elementa; our itereata are identical East or Weat of the Missiesippi tiver, perfectly homogerous elementa; our intereata are identical East or Weat of the Missiasippi river, in the winter or spring wheat country, whether in the winter or spring wheat country, whether our mills are driven by steam or water.power. The misfortune befalling one section of the country make the influence felt in other parts; the progreas and advancement of one region eventually rebound to the common good. Aside from the healthy and the different milling centers, there is no more dis the ditferent miling centers, here is no more dis- sention and discord than on board of some ocean steaseer, where there are thousands of bags of patent, patent spring wheat flour ranged alongside th rows of St. Louis fancy and Michigan white extras peacefully sailing along for European portp, on whose piers they will meet their kindred from Cali- fornia and Oregon. We even crosa ornia and Oregon. We even crosa the equator in perfect harmony. This world is large enough for We really have no conflicting interests; they are identical, and so are our adversities. Nature chas. tiees us with drought or flood, with bogs, worms, rust, smut, weeds, and all the numerous ailment which wheat is heir to; while railroad pools, freight discriminations, patent re-isenee, infringement suits, grain inspections, elevator iniquities and similar gragues, afflict tas on the Pacific shore, on the broad plagues, afflict us on the Pacific shore, on the broad Weatern prairies and on the Atlantic slope. thia country by judicious co-operation will accom- pllah in advancing their interests and in ridding their business of the drawbacks, vexations and impositions now heaped upon it? Your very presence here demonstrates that our Association, theugh we hardly as yet have become acquainted with each other, has already accompliehed much good, and that you are convinced much greater resulta may yet be obsed hat you are co yet be obtained We ackno We acknowledge, without a dissenting voice, tha a thorough organization $\mathrm{o}^{+}$all the millers all nve the country is not only desirable, it has become nec eapary, and is perfectly practicable. There may be differences of opinion in regard to the mode of or differences of opinion in regard to the mode of or- ganization and to the extent of it; however, as the sole object of the Aseociation can only be the common good, to the utter exclusion of all personal aggrandizement, this probable difference ehould readily be ganization extending to all mections of the country; it must be of uniform it must be of uniform character, tempered slightly only by the immaterial local influences; our State and Territorial forcee, no matter how scattered, must find a ready point of concentration in the Excutive Committee of the National Association.


 only be accomplished by a certain degree of disci-pline, by certain binding rules and regulations which should be exactly alike in all the differen
States and local organizations. Individual indepen
dence, dence, the personal free will, po dear to every one,
is thereby not endangered, the obligations which
this A Asociation demands of you are no more than what your sense of honor and fairness will dictate Some of the States? like Minnesota and Missouri,
have reorganized and remodeled their consitution in conformity to the demands of the present time.
Other States will soon follow, and we consider it of laws, at least on all matters bearing on the rela
ti na to the National Association. The main point are the length of time to which each member has
to bind himself and the conditions of the withdrawthe amount of damages a member will have to pay if he sees fit to compromise a suit for infringemen
of patent, which the association is defending for him, and the general power intrusted to the ex-
ecutive committee. After a thorough, painstaking consideration of the subject, we do heartily recom-
mend all the different States to adopt the constitution of Minnesota and Missouri verbatim et literatim,
and we do hope with the same spirit of enthusiam
and devotion these two States have so gloriously evinced in times which tried the millers' souls.
Nothing short of such a legal basis will endow the Nothing short of such a legal basis will endow the
association with the requisite cohesiveness. Noth-
ing less will convince thore birds of prey, who are ing less will convince those birds of prey, who are
now circling over our heads ready tor a swoop, tha
we are we are no booty for their talons, and that they must
content themselves with those silly birds who are
straying outalde of our inclosure. straying outadide of our inclosure.
In reorganizing your State a
your presiding officers and for your presiding ofticers and for members of the ex are untarnished, who will be best mee to themselves and
to you, whose lite experience has given them ripe to you, whose lite experience has given them ripe
judgment, and who have yet retained sufficient
physical force to fulfill the dutiea of thoir office pronuptly and thoroughly. Your Secretary mast be
a worker ; not a mechanical scribe, but a man who puts soul into his work-an enthusiast, if you are
minded to call him such. Your Secretary must
consider it his mission to advance the interests of his brother millers, and he must pursue his work with apostolic faith and zeal. If you elect kuch
man for that office, he will do more toward develop
ing the full ing the full strength of your aseociation than any
other agency ; he will infuee public spirit into the
most recluse and selfish ; he will harmonize local jealotasies ; he will disarm distrust ; he will brighten up the most dusty mililer. In one word, your suc-
cess as a local organization depeuds largely on the The National Association is the edifice, of which the State Aspociations form the component parts.
If your State Associations are healthy and strong, the National Association will be a fortress, impreg nable to all attacks; if your local organizations are
weak and sickly, the National Absociation will be
fonnded founded on sand, an easy prey to dry rot o
machinations of schemers "consolidated"
The Chairman asked if anybody wished to discus any of the points. There being no answer, the re port was put to the vote and carried unanimous'y.
Mr. Brown, of Minnesota, moved that the Con vention adjourn till 9 o'clock to-morrow morning Carried.

## Sniling o'er the Lake.

[At two o'clock the corridos of the Grand Paci ciation bent upon enjoying the excuraion, notwith standing the inclement weather. Mr. Edmund Nor ton, of the Reception Committee, mounted a chair carriages wand notified the expectant crowd that Goodrich dock. Nine of Parmelee's omnibuses con-
veyed all who desired to make the trip, to the dock where the steamer Alpena, of the Goodrich line was in readiness to receive them. There were
many grave doubts expresaed as to the state of the water outside, a rumor havigg gained credence that
the breakers were rolling pretty atrong. Notwith. he breakers were rolling pretty strong. Notwithcases of literal back-out, the excureionists had evi dently determined to go. After some delay, occasioned by incoming veseels, making it impossible for the steamer to get through the straight cut and out the music of Johnny Hand's band, the Alpena truck out boldly for deep water. There was quite sea on, and expectation was rife as to possible sad consequences of the rollling and pitching of the ves-
sel. No extreme cases were noticed until the crib was reached, when the few ladies in attendance Gere suddenly stricken with a desire to be on terra
Grma, or some equally convenient place where their arrows might not be witneesed by a heartless and anfeeling audience. The captain exhibited excelwas evident that not a few musty millers were at he point of imitating the action of the historical whale which swallowed Jonah. To Mesers. Ednund Norton and S. S. Chisholm, members of the he excursion. Both theso gentlemen were unremitting in their attentions to the wants and creature comforts of all on board. An excellent lunch was
provided, with its attendant features of wine and other drinkables. The Oriental Quartette, com-
posed of Charles Smith, C. C. Phillips, C. F. Noble and F. F. Booth, added much to the enjoyment of
he trip by their excellent and well-rendered selecions. It was the general opinion of the excursionan trip was an immense success, which he efforts of those under whose immediate charge had been placed the successful fulfillment of the programme. Upon the return of the steamer the jolly and satisfied millers were met by carriages

EVENiNG SESSION-WEDNESDAY.
President Bain having returned, an informal sestion.
President, Mr. Geoage Bain, it the chair
Mr. Alexander H. Smith, of St. Louis, read the proposed new constitution for the Association, as prepared by the Executive Committee.

## ition baker, of Minnesota,

Mr Green, of Wisconsin, said that as it was provided that the State should elect the Executive Committee, the Association would be without such leted until the State organizations were com titution meet this he proposed that, appoint five persons as an Executive Committee, to serve for the ensuing yea

Snouffer raised that point that copies of the constitution had been promised to each delegate, Moreover this was only a called meeting, it havin been understood at noon that an adjournment had been taking until 9 o'clock this (Thursday) morning. For this reason, many members were probably
bsent, and as this was the most importrnt business. before the Association, he moved that further action the constitution be postponed until the morning. urther action was deferred as proposed
Mr. A. H. Smith then suggested that the constiution be read and discussed informally
The Chair thought this a good idea. There were good many gentlemen present who were just a splendid opportunity to get off their gas. [Langh er.]
The Convention accordingly proceeded to discusu he details of the
At this point George Harding, Esq., the eminent patent lawyer, was introduced to the Convention and made a speech. It was a pleasure, he ssid, to meet pleasant after losing a case. [Laughter.] When he had undertaken the Cochrane case for his cliente e had atudied the milling business and continued its atudy for a year and and half The more he tudied the subject, the more he was impressed with he large amount of brain it required to run an merican mill It was a cause of congratulation that the three judges before whom the Cochrane ed should have heard the six days' ar解㲘 peaker houg he mering ancious, His last speech on the patent matter had taken six laye, and he we afrid if he began on this topio days, and he was arrald if he began on this lopio [Laughter.] He thanked the members for the kind manner in which he had been received.
At the close of the debate upon the constitution, resident Bain announced that the Convention will meet at 9 o'cloek, Thursday morning, und in al
probability conclude its labors that day,

THIHD DAY-THURSDAY MORNING.
President Bain announced the first order of busimess to be the consideration of the new constitution.
Constitution of the millers' National AssoThe millers of the United States en
seesments made by the Millers' National Associa-
tion, as heretofore organized for purpopese of mutual
defense, and who are members in good standing of the State Associations in their respective States, do hereby organize themselves for purpoases of mutial
protection and benefit as "The , Millers' National
Aseciatioles of A saociation:
ing artieles
Secrion 1 . The officers of this Association shall
consist of a President, $t w$ Vice-Presidents, a Secreconsist of a President, two Vice-Presidents, a Secreby the same person, who shall execute his official bond to the Association in such sum as the Sub-
executive Committee may approve. The Executive Committee shall consist of one member elected by each State having a tate organization and repre-
sented in the National Association. Such member
shall be elected at the annual meeting of each State shair be elected at the annual meeting of each state
Association. In case of failure to elect at such meeting, the President of such State Aqsociation
shall till the vacancy by appointment. This Exmitte of five from its own members-three of whon shall constitute a quorum ; the Preeident of the
Aspociation being exoofficio a member of this com-
mitteee. Said Sub-committee shall exercise the full power of the whole Executive Committee, and
shall be authorizst to act at any time in the interim between the meetings of the full Executuve Com-
mittee. They shall also elect the Secretary and
Treasurer of the Association, and who shall be subject to their control.
SFC. 2. The annual meetings of the Association
shall be held at such time and place as the Presi-
dent and majority of the Executive Committee dent and
shall direct SEC. 3. The Secretary shall make up the roll of
memberatip from the members of the several organ-
ized State Asociations who have paid in full the assessments beretofore made by the Millers' Natione
Association, as heretofore organized, and shall also Association, as heretofore organized, and shall also
include all millers in the States where no State
Associations are organized, who have paid in full the said aspessments, and no new members shall be
admitted without paying all assessments theretofore admitted without paying all assessments theretofore
paid by the original members, including the assession heretofore existing. Provided, that the Exec utive Committee shall have foll power to admit as
members any mills not benefited or protected by the expenditure up to equitable, and alos to reject any
they may deem
applicant for any cause which they may deem suimpitem
4. The Executive Commitee thall have charge
 manner deemed adviasble by them, maye asesess sthe
 in apapaity of other machinery (as may be ajusted
by the Exeeutive
Ommittee) operation oo wheat or its products. Which assessment shall be collect-
ed by the several State Associations and by the
Executive Committee direct from members in unorganized slates.
The Executive Committee shall cause all
claims made aganst any member of the Association claims made against any member of the Association
for alleged infringement of patents of milling pro-
cesses and machinery, and which shall be referred to them by any State Association, or any member
from an unorganized State, to be fully investigated; and if they are advised that such claims are in-
valid, they shall, on behalf of the Association, defend the same, and may employ legal and other assistance Provided, The Executive Committee
shall only assume defense, when satisfied the interest of the Associatiou requires it. This section
shall not be construed to relieve manufacturers
from the duty of protecting thes wher from the duty of protecting those who purchase
from them, nor to relieve millers of the duty of
purchasing new devices or processes with due care, and from responsible parties only. Said Commit-
tee also. in their discretion, may arrange for the
use of valid and meritorious patented improvements use of valid and meritorious patented improvements
for the members of the Association on equitabte
terms. terms
6. Any suit, so defended at the expense of the
Association, shall be managed and conducted in its defense by the Executive Committee; and no settle-
ment or compromise thereof shall be made except on terms accepted by the Executive Committee f
the common benefit of all the members who ma use the devices or processes in controversy; and
any member so sued and defended, who shallypettle or compromise his case withont the consent of the Ex-
ecutive Committee, shall refund to the Association
all sums expended in his defense by all sums expended in his defense by the Associa-
tion. 7. Each State shall be entitled in the Annual
Convention to the number of votes according to the number of burrs or their equivalent represented by is full-paid members, whether sult and all voting shall be by States, assessment made by the Executive Committee of
this Asseciation, as herein provided, the Treasurer of each State Association shall, with the amount
collected from the members of said Association, collected from the members of said Association,
send to the Secretary of the National Association
a list of the members of said Association who are in default on aaid assessment; and the Secretary of
the National Association shall, with the consent of
the Executive Committee ported to be removed from the list of members.
9. This constitution may be altered or amended
at any annual meeting of the Association, provided such alteration or amendment shall be submitted at
least one day before a vote is taken upon it, and
receive at least two-thirds of the votes present at such meeting
On motion of Mr. Green the Chair appointed as a Sub-Executive Committee, to serve until the new Committee can be elected by the State organizaSeamans, Wiohn A. Christian, Minnesota; S. H. Louis, Mo.; J. A. Hinds, New York; and C. H. Seybt, Illinois

ful millers. without personal experience on
our own part, but from the fact that unti within a few years the manufacture of flour in this country has been a kind of hap-hazard his own views and following them regardless of a practical result. Hence our experiences
have been varied, and by hearing the views and experience of others, new thoughts are
suggested to ns, and new theories are thus suggested to us, and new theories are t
brought up, and an inventive inspiration to speak, is set in motion, and new and va
uable means are invented and brought int ase, which, if not at once successful, lead
the adoption of something more capable and sult. But to improve or perfect any mechan manufacture, it is necessary at first to appl
the mind to develop the defects in the old, and to devise new mechanical appliances to
overcome the defective features ; second, the will and the patience to carry forward the ex-
perimental operation or trial, changing and adjusting until a satisfactory result is obtain-
ed, for it would be almost a miracle if any wow machine or device should perform sult at the first trial. And any machine con
structed npon correct and scientific principle by carefully watching the performance of the and apply suitable improvements to make the peration successful. This we, as millers, are
not apt to do, but denounce it at once, cast it
aside and purchase some other machine ouly If we should adopt to some such reasoning as
If the this, I am of the opinion that much less
money would be spent in trying to make new
machinery, perfectly adapted to an entirely new method, work as an attachment to an old
and entirely different plan, and condemning work it was never intended to perform, and which could not be done effectually
with any device. We might say then that what practice is to the development of
new and improved machines and mechanical devices, so is the exchange of devices to the
development of new theories. There is no branch of manufacture which has made more
rapid progress within the last four or five yoak back over the past to the mill of a few eight reels, to the same mill to-day with same number of barrs, and twenty reels, and the
necessary machines and machinery to complete a first-class mill, it is not at all surprismg that we have made many mistakes and at practical way of bringing about our results.
Nor is it at all surprising that these results were not in any degree satisfactory. But not-
withstanding all this we have made vast improvements but have not yet attained that
perfection which would seem possible in the way of granulating and separating the differinto a discussion of the chemical construction of the grain which had been so ably handled bysome of our leading milling journals, both in and handling the grain and its products during the pro
merits
The manner of cleaning our wheat, which is generally in use, seems to demand as much and, as far as my observation goes, nine mills
and properly. There seems to be a disposition very rapidly and carry the grain against the case by centrifugal force, and the grain is the berry against the soonring surface, thus scouring the very part of the grain whi
needs the least rubbing and leaving the e of the grain which demands attention u
touched only as it may come in contact wi other grains in passing through the machine, This means of scouring seems to be very defective, and I should, if such machines are to
be used, use nothing but the Brush, as they are most certainly superior to the Beaters.
But I am of the opinion that the day is not far distant when the Ending Stone will superthe wheat, to be followed by a brush and sucing to the ending stone, into two or more
grades, and each grade going to a separate stone ; this process, in my opinion, will
carried down to the exclusion of the germ. am aware that millers generally are not $p$ able to judge, this seems to be the only prac tical way of treating the grain to relieve it
what we want to get rid of in the operation what we want to get rid of in the operation of
scouring. It may be urged that this is going back to the oldest known methods. This may be true, but the principle seems to be a
reet one, no matter whether old or new.
As to the methods of grinding, I have here-
 spindle and runner, that I need say nothing further than that $I$ have found no cause to change my views on this subject, but to the
contrary, every principle in the whole system of reducing seems to point to that as the cor-
reet prineiple. As to the mode of grinding, 30 long as we reduce our grain at one opera-
tion there can be but at one point at which we can grind, and that is just as close as we
can grind without breaking the germs, and

causes; this we may readily determine and
apply the remedy. There is nothing, how-
ever, to be gained by grinding higher than ever, to be gained by grinding higher than
will leave the germ in perfect condition ; but a close granulation would be preferable if the germ was not considered. There are at pres-
ent some very thorough and scientific experiments being conducted for the purpose of
periorming the operations of removing the periorming the operations of removing the
germs and granulating the grain by other
means than the burr. This work is being means than the burr. This work is being
carried on by thoroughly practical men, and
if a success, we may look for a revolution in if a success, we may look for a revolution in
the manner of reducing the grain, so far as
the first operation is concerned at least. As the first operation is concerned at least. As
to the diameter of burrs, there is a great dif-
ference of opinion. But if the old spindle ference of opinion. But if the old spindle
and irons are to be used the 4 to $4 \frac{1}{2}$ stone seem to a certain limit the same result may be pro-
duced by an increase of motion and a proper distribution of face and furrow, and the re-
quired draft for the furrows, as it would seem quired draft for the furrows, as it would seem
that a draft suited to a stone running 200
revolutions ning 100 r evolutions.
No stone of large diameter can do good work running at the first named speed, as it
wou'd be impossible to so reduce the face as to prevent heating, which would at once injure
the result. But a much larger difference in the speed of a burr may be allowed than is
generally thought proper. The extreme may be placed at 160 revolutions for a 48 -inch burr,
but beyond this point it becomes impossible to so reduce the face surface to do the work properly, although in all cases where it is pos-
sible the slow motion is preferable, as the granulation is more thorough and complete,
and the granular parts more perfect and solid, and the granular parts more perfect and solid,
and the work of handling both in bolting and purifying can be more readily accomplished,
and with far more satisfactory results. It is not, however, clear that the burr is necessary
at all to produce the best results in making flour. One thing is sure, that if either the
burrs or rolls were to be discarded from mills asing both, the burrs would evidentiy
thrown out, as it would be an impossibility to produce a result satisfactory to the meillr
without the use of rolls. And I am inclined to think the iron rolls much superior to any
other, and that, too, without differential speed. I am opposed to the differential speed on the
roll, from the fact that it seems to give the roll, from the fact that it seems to give the
best result to do the crushing without tearing the particles to be reduced. To do this, is is disintergate with a brush or other suitable
means. And so far as my observation goes his is much the best means.
The bolting or dressing and separating the
products after being reduced by any means, is products after being reduced by any means, is
a matter which it would seem that but very few millers have been able to manage, judging from the virious samples thrown upon the
market, thers being only about fone-third it which has been properly bolted. This partly owing to an insufficient bolt surface,
and partly owing to the inability of the miller to arrange his cloths so as to give satisfactory
result; and in many cases had the miller the knowledge and the proper cloth he could not
control the products of his bolt in such a manner as to be master of the situation.
millers as to the difference in flour made by the old and new way of grinding. Some mill-
ers maintain that the old way makes just as ers maintain that the old way makes just as
good flour as the new, but in most cases we
find on their brands and sacks the words, New
Process flour.
it Improved New Process. The fact is, so far
as experience goes, they have made a failure
of "New Process,"" and make it up in adver-
tising. There is, however, a great difference
between a New Process mill and a mill where between a New Process mill and a mill where
gradual reduction is practiced with good re-
sults. Any mill may be ia New Process mill It is only necessary to change the working of
the mill in any way from that which has been the mode of grinding or bolting, and you
have a New Process mill. This is most generally done, in the average mill, by adding a
new dusting reel somewhere where it conno new dusting reel somewhere where it cannot to clean up tailings. Every miller who has patched up his mill to the New Process feels
the need of just one more dusting reel annually, together with the improved purifier for
tailings. I speak from experience when I say that in the end one hundred per cent. of the This kind of work will make a new process mill. But to fit this mill for gradual reduction
would be quite a different thing. First it would be necessary to tear out all these new
improvements and add such new machinery as would be necessary after rearranging the
old, and in most c ases the old machinery is old, and in most cises the old machinery is
not worth rehandling, as labor and expense
in refitting will make it cost more than to put in refitting will make it cost more than to put
in new and improved machinery, which will answer the purpose more satisfactorily.
The idea thet an old purifying mill
The idea thlt an old purifying mill can be
made to do perfect work by the addition of one or more purifiers, and compete with mills constructed for making flour by the most im-
proved methods is also a very great mistake. proved methods is also a very great mistake. system, and one purifier will not do the work
perfectly for any mill, no matter what the ca pecity of the machine may ber. In fact, puri-
fying does not differ from bolting, with the fying does not differ from bolting, with the suction, and the same arrangement of bolts
which will bolt perfectly, will, when applied to a series of purifiers, make the work of purifying perfect, and we should so arrange our
purifiers that we have the same control over
the product, while passing over the several the product, while passing over
machines, that we have over the Middlings may be cleaned by b
over two or three machines, but th
much better it we are able to ase more ma-
chines of less canncity and take from
 purified, and send the remainer to another mandine for further working, and by contin-
uing such a syatem no this, we may follow it uing such a gytem as this, we may follow it
down until we get from the whole a satidfactory reallt.
But, to
n
have middalinga a stifatactory result, we must There are some mannfacturers of middling purifers, inwever,, who clium that their ma- chines will purify flour. Ido not eare to accuse theso gentlemen with trying to practioe a
frand upon the millers, but, to suy the least of it, they evidently have more contidence in the
merits of their machines than any miler could

 flour in the dust-room, as the separation of
any product from another, carries away the lighter portion, leaving those
portions which are of grater specific gravity expreseded myself as in favoror of those machines
 suceess attending the ne of machines so
constructed, siice that time, has proven very Clearly the position then taken to prie correct. ioing betrer

## object, at this time, to attempt how to mill, but $I$ have been

 asked repeatedly what arrangement and whatmachinery I cossidered necessary to produce
 rangement of machinery if necessary, and if
you will use the stone, , will say: Put in, for an ordinary mill, nine orun of stone, two end-
ing-stones, ono wheat grader, one brush, nine sets of rolls, four machines for disintegrating purposes, twelve purifiers dwo machines tor
disisitegrating bran, and thirty reels, sixteen all properly arranged, will give a do dirise ithass
result
and
 and profitable. With this machinery in your
mill , you can then begin to learn improved mill youc can then begin to J. F. Gkst.
milling.
Messrs. Homer Paldwin and B. C. Kreider, follows
We, the underigned Commitee on Milling
nad Improved Methods, beg leave to submit and Improved Methods, beg leave to submit
the following report as additional to the one Believing, as we do that the rigid driver is
theoretically correct, but that practiolly the arijustable driver produces better reselts than than
the rigid driver, we respectfully fubmit that the tigio diviver, we respectiuly kubmit that mend the use of the most adjustable and sen-
sitive driver that can be procured, and in the treatment of midadings would recommend
thorough purification and that the middlings too fine to purify without too much waste be reduced by the use of porcelain rolls, and that
the large midd tings that are intermingled with

 milstone, and as a further purinication ot the
flour we recommend that it be rebolted until made as pure as can be done
All of which is respectully summitted.
Howrre Batpw

Bain from Jonathun Mills, inviting the Convention to visit at the elose of the session his
experimental rooms at Chisholm Bros 46 S Canal street, to inspect his special machines Yor the reduct
cleaning bran.

SACKS For barrels.
The following was introdueed, and after some discussion, Mr. Dewars, of Kansas City,
agreed to print 10,000 copies at his own expense for distribution:
Vineited Saters atess:
The Consumers of Fourr in the The Millers' National Association, in Con-
vention at CChicago, beg leave to submit to the rade generally the importance of substitut-




 Cases a greatt unisance.
Flour cun be pen
Filour cun be put ap in sacks in such quan-
tites ans may be most convenient for the trade
 from burrels into saoks, as is frequently a
neeessity in the trade. Begivi g your careful comsideration of this
subject, and inviting a trial of this method, we suggest that you submit such inquiries as you may desire to your mill correspondents.
Mr. Alex. H. Smith, of St. Louis, presonted and read the

Report of the Exeeutive Commitiee.
Gentlemen of the Convention: Your ExGentlemen of tha Convention: Your Executive Committee have the pleasure of for,
mally confirming the glad tidings flashed over
the wires from St. Lonis on the 17th of March
last, that the "Cochrane re-issue patent, hav-
ing been expanded to embrace a cliam for
purifying middings, when no such process ing been expanded to embrace a claim for
purisying maddings, when no such process
was deseribed, sngesested or claimed in the original patent, it is ovidl." Tnis sentence, ut,
tered by the learned judges, after three weeks', tered by the learned judges, after three weeks'
deliberation, following nearly three weeks eeliberation, following nearly three weeks,
careful hearing of the very abbe presentation,
preceded as that was by in year of laborious and extensive preparation, disposed of the
Cochrane claim. Till the very hour of the decision timid millers were frightened into com-
promising, regardless of repented and unvarypromising, regardless of repented and unvary-
ing assurances from your committee, which ing assurances from your committee, which
assurances, by the way, have been fully verified by results; and these results, we trust,
will sufficiently prove the value of our organ.
ization. While this committee have been, at times, troubled as to where the funds were to
come from to conduct the defense of the suit, come from to conduct the defense of the suit,
they were happily relieved at such seasons,
either by the liberal advances from some of ether State associations, by the kind indulgence
of the attorneys engaged in the case, or by
of the assistance and pledges of individual mem.
bers of the committee ; all of which assistance came so spontaneously as to lead us to believe
that our successors will hhve iltte trouble in
the future in seeing their way clear to defend the future in seeing their way clear to defend
any further litigation that may be made Since the decision of the Cochrane suit,
nearry all the delinquent States and individuanls
have responded to their assessmeuts, and on have responded to their assessmeuts, and on
the 17 th of February almost all of the individuals comprising the National Association
had fully paid up their dues, and were conse. Quenty satisfictory financial soatement of the
affairs of the Association. Referring to that statement, it is proper to explan, that, under
the plan adopted at Buftal., in June, 1877,
providing that each State Association should
defend its members, New York, Minesota Missouri and Wisconsin incurred large ex.
penses, which might have beon saved, had the
pooling under one management, adopted at
the Toledo meeting, in November, 187, been
agreed to at that time. As those expenses, horeever, were incurred in good faith by the
different State Asociations refer to, and
were intended equally for the protection of
all of the members of the National Associacommon justice required that the or national
Association thonld assume the liabititios so
incurred by the several States; and your comincurred by the several States; and your com-
mittee so deciding, these amounts were credit-
ed
States the assessments made against those sub-committee of this Executive
Committee ngreed with Mr Geo Hurding of Committee ngreed with Mr. Creo. Harding, of
Philadelphia, a celebrated patent lawer, or a
speecifice sum to defend the members of the
Association against the "Cochrance Process" suits; such sum to include not only the fight.
ing of the injunction suits brought against
our members at at. Louis. his services in our
application to reopen the Deener, Cissel \& also to prepare the case withe evidence, modeds,
traveling andental
necessary to the trial of the suits at St. Souses
St . Touis, and also in regard to the case against Vail \&
Shotwell, at NNew York. And we are pleased
to say that the sum agreed npon wasmuch less
then assistants to.
The result arrising from the re.hearing of
the Deener cass in the Supreme Court of the
United Stutes, you are all familiar with, but many of yon may not know that a large share
of our success in the final hearing of the St.
Louis cases was doue to our succoss the that
case; and few of you can be aware of the large
sum of moen case; and fer or you car be procure the mod-
sums of money neeessry to
els, evidenee nd information that crowned
the final effort int St. Lounis, enabbing us to de. feat one of the most insidious and well-con-
funced schemes that was ever concocted
against any class of manufacturers in this
country It is needless for us to say to you country. It is neediess for us to say to you,
gentlemen, how much, outside the pecuniary
benetits we have reeeived, we feel indebted to
Mr. Harding for the able manner in which he conducted our cases, spending almost his
whole valuable time to our services; traveling
in season and out of season; truing evidence
here, and a few days later foollowing other evidence, several hundred miles away, hether did
for us what few attorneys, no matter how well
they were paid, woulla have done; and,
and although our cuuse was a just one, we are free
to ackowowledget hat without his valuable as.
sistance we might not have been so successful
as we were. In this connection it will not out of place to say that Mr. Harding's efforts
were ably supplemented by Messrs. Cole, of
Minnesota, Judson, of Missouri, and Selden, of Nesota, Juston, of Missouri, and Selden,
on New York, the wo latter gentlemen naving
done a large part in prepariug the detail work
and evidenco for the final trial, ailthough and evidenco for the final trial, although
neither of them were called npon to partici-
pate in the argument before the Court. pate in the argument before the Court. Judge
Cole also asisted in working up evidenee, and
not not so constantly engaged as the two othe
gentlemen, made a very able argument in elucidation, of our side of the question. The
plaintiffs in the Cochrune suit have give notice of appeal, but after the very able and
extended deeision of the learned Judges, extended diecision of the learned Judges,
Messrs. Dillon, Treat and Nelson, we have no fear of the final result, and therefore this famous Oocirrane enuit, which gave us all so mueh.
trouble and anxiety, may now be dismissed finally frou our minds.
In regard to other litigation now in pro-
gress, it can be neither as expensive nor important as the past litigation has been, but in
our opinion funds ought to be provided in ad vance to meet all necessary expenses, and prevance to meet all necessary expenses, and pre-
vent the troubles and other serious. annoyances that your committee have been subjeet-
ed to during the pendency of the past suit.
The defense of Griffin of Buffalo, in th
suit against him by the Consolidated Mid
dlings Parifier Coo., which company inoludes dings Purifier Co., wbich company includes
the Smith, Barter, dead Uoehrane, and resurrected Stoll, and several other minor patents, is being conducted by Mr. Harding, under
the direction of our sab-committee ; and we the direction of our sub-committee ; and we
have reason to believe that the outcome of his suit will be as favorable as it was in the
preceding case. The "Consolidated Co." has
The iso entered suits against the manufacturers have sued, the La Croix Purifier Co., of In-
dianapolis, and Messrs. Collins \& Gathmann, of Chicago, are both responsible concerns, we anticipate no trouble to the users of the ma-
chines manufactured by those companies, in defending suits that may be brought against the purchasers of such machines hope that hereafter parties who may have
claims against the millers for infringements of patents, may take the same honorable course in insisting that the manufacturers or
such machines shanll bear the responsibility, and not the innocent users of them. nembers of the New York and Illinois Asso ciations, we have delegated to the Executive Committees of those States, assuming, how-
ever, the expense of such defense by the National Association.
The main embarrassment in these cases, as
in the defense of the Cochrane suit, was owing
to the fact that our attention was so absorbed in the greater siecessity of defending against
what we might now term the "Big Ring." The New York decrees, however, are not so
serious as was the Deener decision in the
other case, and we have no doubt of our abilother case, and we have no doubt of our abil-
ity to overcome them, when the suits come to The Bake
heard, issued re-issue of which you have all
time and re-issued a short mete ago, seems the be the oldest puritier
patent, excepting the Stoll, which latter is a re-issue of a re-1ssue upon an original grain
cleaner patent, issued in 18866, expanded fast mincluae ourer material, "and thence to a
middings purifer; but as "expansion," by
the late St. Louis decision, seems to be the death of re-issues, we thave no idea that Stoll
will give us any trouble. At the moment, these are the only patents
menacing our members, nid although, as we have already remarked, their defense or set-
tlement will cost us a nure nothiizg, yet pos-
sibly before the term In the coming year oiner cases may arise in
which the sum recommended by us as an posed constitution may be all that will be nec-
Heretofore we have been in the habit of assessing each ren of burrs operated by our
members. Hereafter we should recommend
then that no full assessments should be made on
any run of burrs except on 36 inches diameter rover; on burrs of less diameter two run of
burrs should be reckoned as one, and in case where rolls, whether of porcelain or iro
nused three sets should be assessed as
nto to one run of burrs; these assessments to be
male on burrs whether operated for custom
mo merchant work, or merchant work, and
wheat, middlings or bran. In urging the adoption of the constitation proposed to you by our sub-committee, you
must acknowledge that we have grave reasons
for for insisting that all our members shall be
bound in a legal way to their fellow members till the questions at issue are decided. Taking
the Cochrane case as an example, meeting as to become dishenrtened, for it was secretly
stimulated by weak members of our organizastimulated by weak membide millers who furnished to
tion, and by ont
it the "sinews of war," and enabled it to give us the protracted fight it did. Our wounds, gentlemen, came from members of our own
household. Is sod to confess that in this
Iay and generation men conld be found so short-sighted and false to their business in-
terests, and indeed to their manhood, as to surrender not only their money but their good
name, to such an unwarranted and impudent attuck. While knowing that it is scarcely
necessary to tender any advice to our mem-
hers, on such a subject, we do not appropriate here to suggest that our business poicy onght to be that, apart from considera-
tions of friendship or malice, we should refuse to have any business relation with the
corporation or individnal who have endeavored to obtain money from us as payment for
procesees or machinery to which they had no legal title. On the other hand, it ought to be our duty and pleasure to encourage those
who, with honest claims against us, are willing ests, on terms as expressed in our circular, "alike hon
In conclusion, we again call your attention and trust that millers who have heretofore remained outside of our Association will see not only that honor requires their joining us, but
that their self-interest will compel them to do so. It is also hoped that the time and funds of the Association will not in the future, as
in the past, be monopolized in the defense of in the past, be monopolized in the defense of
patent suits, but that other and more agree pate means for improving the art in which we are all interested
duced to practice.
The proposed annual assessment, as submitnow lay before you, is a very moderate insurance, indeed, for the mutual protection and
information that the Association intends and expects to afford to its membership, but all our needs the coming year.

Respeetfully submitted
John A. Chaistian, Chairman.

Statement of Account with the State Associations,
based on the Toledo Assessment, November 21, 1879.

## 




National Executive Commiltee, Dr.-
vith National Millers' Association.



$\qquad$

$\qquad$
April i.—By paid F. N. Judson, services and
${ }_{\text {May }}^{1 \text { 1.-By }}$-By paid Gordon E. Cole, eervices and





$\qquad$ me along and induced him to short time they took out a large handful of wire, little nails, and tacks of all descriptions. The tacks were not of the kind used in mills, samples shown were not exaggeration at all, for he could show equal quantities taken from his own mill. He believed it would pay any miller to put in magnets, especially as there cheap.

## cheap. The r <br> e resolution was then adopted.

Mr. Schumacher, of Ohio-A little matter Thore are others probably in the same che as we are. The Executive Committee
charges us $\$ 25.00$ per run on two hundred rum when we ought to have been assessed for one hundred and twenty. We are charged that and such further assessments as may be made hereafter, and I ask Mr. Smith to give an explanation as to there being $\$ 2,000$ due from our State.
Mr. Smith-I am very happy to have an opportunity to make an explantion becuuse it may explain matters generally. At Toledo in
November, 1877, there was a representative meeting of one or more gentlemen from each State, all authorized to act for each State As sociation. It was there determined that the defense should be consolidated and not conducted by the several States as heretofore. It was based on how many run of burrs each
State had. After canvassing the matter two days an assessment was settled upon of $\$ 15$ per run. Afterwards, at Indianapolis, a year ago the funds falling short, an aditional $\$ 10$ per run was made. For Illinois a basis of fon hundred and fifty run was agreed upon. Indiana was agreed upon on a basis of two hundred run. We had her down for three hundred run, but the representatives said it would be easier for them if it was put down on the same theory was arranged at two hundred run. Kansas was agreed upon on a basis of one hundred run. Maryland agreed on a basis of one hundred and fifty run. She had paid to us $\$ 4,250$, being $\$ 500$ more than she was entitled to pay. During the trial we were in a tight fix. We telegraphed to Maryland: "How much can we draw on you? the answer came back: "Draw $\$ 500$.
The President-We drew.
Mr. Smith-Michigan is the next State on the list. We put her down at 300 run. Min nesota's total assessment was $\$ 10,333.33$. She of her assessment being $\$ 0,543.96$ in excess Cochrane case; that is what it did-saved it from going against the millers. Wisconsin was agreed upon for 400 run. We have only oharged her on what she agreed to at Toledo She has paid us $\$ 11,700$, having overpaid us $\$ 1,700$. Missouri was assessed at 300 run , but we found she was onlyentitled to 250 . She has paid $\$ 6,824.44$, being $\$ 574.44$ in excess. Nebraska was agreed upon at 100 run . New York was assessec at 350 run , amounting to $\$ 8,750$. She has paid $\$ 8,977.64$, being $\$ 227.64$ more than she is entitled to. Now, we come to Ohio, which was assessed at 300 , but Brother Shumacher, on second thought, felt rather doubtful about it, so we cheerfully put it at 200 run; while on that 200 run she was it at 200 run; while on hat at $\$ 25$ per run, making $\$ 5,000$. She has paid $\$ 3,000$, leaving a balance of $\$ 2,060$. Mr. Shumacher-The amount agreed upon at Toledo was $\$ 3,000$; not anything was said
about so much per run. From Mr. Smith's
own statement it must be self-svident that the
assessment at Toledo was mere guess-work. The President-Mr. Shumacher at the Toledo meeting was one of the most enthuiastic members. Ohio was assessed at first on 300 run. Mr. Shumacher thought that would be a little too strong, so we made it would be a little too strong, so we made $\$ 3,000$. During the Cochrane issue one of the things that did me most good, was one morning on going down to my office. Our
names had got in the papers and telegraphed all over the country. But that morning when got to my office I found a telegram signed P. \& A. Small, York, Pa.-'draw on us for $\$ 500$ and make us members of your association.
Mr. Sparks-I do not know how Illinois is reported as behind. I have worked pretty hard to get up Illinois already. We agreed in Toledo for Illinois upon $\$ 6,750$, and we have paid that and considerably over.
sessment- $\$ 10$ per run-making in all $\$ 25$, sessment- $\$ 10$ per run-making in all $\$ 25$,
shows that we have more than paid. I have, and I guess all have.
Mr. Smith-I want to tell a little joke on Brother Seybt. In the committee the other day Mr. Seybt was feeling very jolly that he was 21 runs ahead on the claim. He got it in his head that 400 run was Illinois' share, and said they had 421 fully paid up. He said he would go back and correct Illinois. I happened to turn back to a scrap-book I had, and
in that scrap-book I had the account of the Toledo assessment, and I found that we will charge Illinois 450 run instead of 400 . (Laughter.) Mr. Smith was sure the money would be forthcoming shortly.
Mr. Sparks did not want the idea to prevail that they were behind. They would soon see that right.

The President-You are a daisy. (Laughter).
Mr.

Mr. Sanderson-Is it not true that Michigan, within a day or so, has paid in an additional $\$ 2,000$ ?

Mr. Smith-She has. That is, she has through her Treasurer telegraphed to Mr . Hayden, authorizing him to draw on Mr.
Merrill for $\$ 2,000$, and that $\$ 2,000$ is credited here to her.

Mr. Schumacher, of Ohio, thought that all the States should be re-assessed according to the actual number of members. The matter was left to the Executive Committee.
Mr. Serrin said that his State would have made a better showing had it not been for the fact that on Feb. 27th he was telegraphed that all members were to be full paid by March 1 .
Mr. Smith explained that the telegram read, "appear as full paid on March 1 ," for reasons of importance.
Mr. Gibson said that the telegram had had good effect in his State.
Mr. Elles gave assurance that Indiana would not be found wanting.
Mr. Gibson offered the following resolution: "That we hereby tender the thanks of this
ssociation to the members of the Executive Association to the members of the Executive
Committee, and particularly to the Sub-Committee, for the very able and efficient manner in which they conducted our affairs, and the vexatious and dangerous law suits which so
far have been so successfully carried forward. far have been so successfully carried forward.
That we appreciate the ability and immense That we appreciate the ability

## Mr. Elles though

hould be included.
The President-The President's name will be added. (Laughter.)
Mr. Atkinson offere
Mr. Atkinson offered the following resolution, which was received unanimously:
Resolved, That the thanks of this Conven-
tion is hereby tendered to the Chicago, St. tion is hereby tendered to the Chicago, St. Chicago, Milwaukee and St. Paul; and Chi-
cago and Southeastern Railway Companies, for the very liberal courtesiest extended to the members of the Convention, and the gentlemanly manner in which they were treated by the Conductors.

## nomination of officers.

The Committee for the nomination of offlcers for the ensuing year, reported through Mr. Halliday, as follows:
Chicago, May 15, 1879.- Your Committee for the nomination of omicers for ensuing year, would respectfully report as their unanimous choice: For President, George Bain, of St. Louis; Vice-Presidents, L. Fletcher, of Minneapolis and Robert The gentlemen recommended by the comed. President Bain called Vice-President Brown to the chair, and said:
Mr. Pressident : I made up my mind four months ago that I would not accept the posi-
tion of President of the National Millers' As tion of President of the National Millers' As-
sociation again. I thought that such honor sociation again. I thought that such honor
should be distributed among the members. It is certainly a great honor to be elected, and re-elected again and again, especially as I
have done so litte in comparison to the work done by the other officer
tlemen, for the unanim tlemen, for the unan
in the future than I have done in the past. I am not very good in making speeches on such
an occasion as this. I thank you for the generosity you have shown me. (Applause). At 12:20 the members had a recess until 1 o'clock. The President stepped to the platform at 2 o'clock and informed those present
that the Executive Committee were in session that the Executive Committee were in session
considering a settlement of a prospective suit. He would suggest that they continue the re8 till 2:30.
reasons, was not to be made public, was one tee were very largely interested. It is a great advantage to themselves, and I do not think there could be a better test than the fact tha the gentlemen believe it very advantageous to themselves. I was at the discussion, and

there was harder fighting and contention than I ever saw any individual client resort to. If any gentleman is dissatisfied with it in the Convention, it does not bind him in the least Yitle of manufacturers, that will be investi gated, and if those gentlemen have no title in that State you need not pay them a cent. hey put the screws on to the utmost extent to secure a favorable purchase in the future; an | option that will far exceed the expectations |
| :--- | any machine he does not choose to. It is an take. The agreement is not made by the Executive Committeo they machine of a manufacturer let him say: will defend you if you are sued by any one fo that machine." You say to him:

his machine and pay you your price for and a man should come along after I had bought it and say I was infringing on his patnt, I should expect you to come orwar this protect it." Should Mr. McCormick, of person come along and sue him for an infringement, he would spend thousands of dollars to defend that machine, for if he did not and judgement was rendered against him responsible manufucturer is bound to defend his machine. I would advise the committee whenever they can gerable terms to take it,

## and best thing to be done

This thing binds nobody. It is a mere repeated declaration of the Associa by which any vorable arrangemen can from any possible reliability an arrangement by which a great advan tage is secured to every member of this Association. Innocent people buying machines hereafter must look to the manufacerer gency and guarantee the machine he sells. It transfers the expense of defending the patents they put forward. They have the right to do it, and should be prepared to show the reght and defend that man, and if they defend him they defend a thousand, but if the Association is to defend every man who chooses to go to a cripple the Association. Or he may go to a man who has no capital. He sells a machine to the gentleman for $\$ 100$ and then says he to should charge you with using a machine infringing on their patent you ation defend it, and when they show establish my fringes on no patent, then they estabil go to right and build. You will find no case where the purchaser of a reaping machine, hay rake, a plow-no case where the question a right to make and sell it is put upon the purchaser, he ought to be ready to stand by and defend his purchaser at all times. Make the manu facturer defend the purchaser, then, gentle men, the legal department of this Association [Applause.]
Mr. Gibson-No individual member of this organization can afford the expense and take the responsibility of seeing whether a certain thing is valid or not, and dollars to do it. He thought the Association could well afford to thought the Associambers. The Association stand by all her members. noney to defeat an had spent a great deal of money to defeat an iniquity and then gives
validity of their patent,
Mr. Smith-That we have just spent a large sum of money is so; what we did defeat was the Cochrane reissue. We did defeat that. We simply made an arrangement. The Cochrane matter in St. Louis was a process patent which would have covered any middlings puriffers whatever
Mr. Gibsoy-Does this compromise settle the suits now pending in the courts at Buffalo? Mr . Smith-The question on the validity of brush has not been decided on. If the mill ers were defeated they could not collect enough on that brush to defeat anybody, but we do not establish the validity of the tive.
Mr. MeAtee-It seems to me my frigh Mr.
Gibson has misunderstood the mater. He
claims, or seems to claim, that the Executive Committee has decided upon the validity of a don't think they have done any such hing. have merely, for a very moderte sum, exempted those of our number who choose to accept it from any damages whic may arise by reason of their patent on the par Such being the case, I can readily understand and see it is an option. We are all, more or less, engaged in the grain trade, and we all know how we
Mr. Gibson said the option put the purifier and brush in the hands of the ring.

McAtee-I think I have the perfect ight to purchase any machine with brush atbocker \& Co. I am exempt from any responsibility.
Mr. Smith-If in future you buy a machine with brush under sieve with a blast up through the cloth, we understand that you buy that
machine from somebody who will guarantee

Mr. Sanderson-I have more confidence in he Executive Committee and the legal gentlemen than I have in the individual opinion of any member, consequently 1 now exists than to accept the future litigation that may arise; consequently I am in favor of accepting the Mr . Mr . Sparks did not wish to take any special
art in the discussion. He agreed with Mr. Sanderson. He thought the sooner they adopted the report the better.
Mr . Gent-I listened very attentively to Mr . Harding, and while the speech was good I can Harding, and while the speech was good I can was this: "He argued that we should see to it that every manufacturer or machines, when we went to buy, had the right to sell that ma-
chine." Why should we pay more attention o the Smith purifier than any other?
Mr. McAtee moved and it was seconded that they endorse the Executive Committee.
Mr. Baker-I wish to make a resolution endering our thanks to the local Committee the arcellent manner in which they have provided for us, and also to the citizens of Chicago for the kindly reception they gave
The motion was carried unanimously.
Mr. Sanderson-I would offer a resolution tendering thanks to Mr. Little and Mr. Merrill, for the able manner in which they have conducted affairs during their term of office.

Unanimous vote of thanks. that the Sixth Annual Convention of the Millers' National Association adjourn sine die. President declared the Convention adjourned.

Doing the
ock, Thursday
mediately after the final adjournoon, immembers were taken in hand by the reception committee and escorted in carriages through Lincoln Park, South Park, and Drexel Bouleard The trip was a source of great enjoyment to all who took part.]
bas Correspondents, upon matters pertaining please address the Secretary and Treasurer Mr. S. H. Seamans, at Milwaukee, Wis.

How to Get Rid of Flour Mill Dust.-A rench process designed to circumvent the perils traceable to dust in flouring mills, is thus described: The stones should be surrounded as completely as possible by
movable covering of wood or sheet-iros movable covering of wood or sheet-iron,
which should have no opening in front but what is absolutely necessary for the work.
In order to avoid the choking up of the ventilating pipes, it is necessary to provide
special discharge pipes for the water, ac cording as the stones are partly below or en-
tire ubove the floor. Again, the passages intended for carrying the dust should be placed underneath the stone, and beyond the point
where the work is applied, regarding the diwhere the work is applied, regarding the di
rection of motion ; it should have a breadth a little greater than that of the stone, and a
a pepth of 8 inches at most, for the larges stones, a sliding door serving to close it whenstones, a shast is not produced. The water
ever dry dust
discharge pipe should also have a valve, which may be closed when water is not used, and
when it is desired to carry off the dust pro duced when the stone is trued. If there are only four or five stones in the work, a single collecting pipe will suffice, and the blower
should be placed at the end; but if there are should be
lector, 16 inches by 12 , may be placed in the
niddle of the length of the first, and per-
peudion two long parallel rows, with eight or ten the second collector, or with a third, $16 \times 20$

## Grain Growing in Europe

The report of J. J. Woodman, of Pawpaw, Michigan, Assistant Commissioner to the Paris Exposition on Agriculture, embracing alimentary and other farm products, has been received. It contains a very interesting account of the exhibit of grain. The first part of the report is devoted to a description in detail of the cereal products of each European country, but the most interesting part of the
report is contained in an elaborate table which gives the average amount of the cereal productions of Europe and the countries also those which are obliged to import breadstuffs. This table shows that the average an nual production of cereals in Europe amounts
to $5,147,796,000$ bushels, of which Russia produces $1,653,021,000$ bushels, or nearly
one-third; the whole of Germany, 765,000 , 000 bushels ; France, $710,130,000$ bushels Hungary, $300,330,000$. On the basis of an average of $1558-100$ bushels of cereals for
each person for home consumption, Roumania, Denmark, Russia, Prussia, France,
Hungary, Bavaria and Sweden alone raise sufficient for home consumption, while the following countries in their order are ex-
porters: The German Duchies, Belgium, Spain, Austria, Wurtemberg, Ireland, Tur key, Finland, Great Britain, Saxony, Servia,
Holland, Norway, Greece, Italy, Portugal and switzerland.
The report shows that the whole of Europe, with a population of $297,000,000$ in or only about 17 bushels for every inhabitant while the United States, with $40,000,000$ in habitants, produce $1,629,027,000$ bushels, 0 bushels for every inhabitant.
The countries of Europe, the report says, which produce relatively the most wheat are
Spain, Italy and France ; the most most rye re Finland, Switzerland and Germany ; the nost barley are Sweden, Norway, Denmark Norway, Denmark, Hungary and North Germany ; and the most corn, Roumania, Servia and Portugal ; that but little buck-
wheat is raised, except in Holland and France

The report says that many of the countries of Europe, especially Great Britain and France are largely deficient in malt products, that they are now turning their attention to English and Irish stock raisers and feeders are greatly alarmed at the success which has dressed meat from the United States. In it raising in their countries, as they have experienced from the importation of our cereals to their wheat raising. It appears, however,
that a new idea has just entered the English mind, and the importation of American cattle
is to be made quite as beneficial and remunerative to the Eaglish feeders as it is to the American farmers. It has been shown by
experiment that American cattle can be imported and fed on English soil, as the English feeders, know how, at a pront, even in fed them them is of foreign producton. grain fed them them is of foreign producton.
All of this would be satisfactory to the A merican farmers who are seeking a market this system would be as remunerative to them; but certainly the idea is not flattering to our
skill in fedeing, and calls for more science, skill and economy in this branch of American "griculture.

Working Steam at Higher Pressure.-It is well known that great efficiency in steam and the use of expansion. To accomplish this, the point lies not so much with the engine as with the boiler, engineers finding no difficulty in working an engine with steam at 150 or 200 pounds per square inch; therefore Mr. Walt, an eminent Liverpool engineer,
thinks there is no practical limit to the working pressure. Some engineers will be inclined to differ with this opinion, as the management of steam used expansively in simple reciprocating engines at ranges of pressure much exceeding those named, is considered by many risky practice.

Cooling Hot Journals.-Von Heeren proposes a method of cooling hot journals by a fine metal dust formed when a journal runs hot, and which strongly acts upon both journal and bearing, forms a sulphide of sulphur. This compound, which grows soft and greasy, does not cause any appreciable amount of friction. It has been very successfully used by the steamers of the North German Lloyds.

## Our Eastern Letter.

The transportation question-mlling in penssylvania and new jersey-some jolLY MLLLERS MET ON THE ROAD B

ORRESPONDENT
Philadelphia, Pa., May 10, 1879.-The lour manufacturing and marketing trade ha or the past month, been in a comparatively fair and prosperous state. The only thing that appears to have marred the severity of
the flour interest in the East has been the the flour interest in the East has been the trouble between the shipping merchants and railroad companies. This difficulty,
has been maintained for several months past, New York and elsewhere. The most import ant of these indignation conferences was held in New York City, on Thursday May 8th. The meeting was largely attended by the who are extensively engaged in the handling and marketing of Western made flour, the bulk of the product coming from Wisconsin
and Minnesota. The recent orders of the railroads limiting the time in which flour could be stored on their wharves were discussed, and a compromise was accepted by panies for their approval. The special committee having the matter in charge was en larged, and renewed efforts will be made to obtain terms, and it is believed that when the
business resumes its usual activity, say about June, that the corporation will consent to the proposition as offered by the flour men, as the interest controlled by them is assuming railroad companies will seriously injure their own interests if they do not discriminate in the discussion at the meeting, Mr. Thomas leading flour man, stated that the bringing flour litherage free that was intended or home trade, and also to indefinite terms
for storage. The railroads, he said, had refused the first clause of the compromise, remain on the docks four days,) inasmuch as the Philadelphia merchants were demanding similar concessions which could not be granttion in foads say that the discriminfour merchants of New York and Philadelphia are planning for the organization of a combination to defeat the rather unscrupulous
chemes of the railroad monopolists, and if he project is accomplished, the plans of the
checkmated.
It seems that there is never to be an end to patented milling machinery suits. A flour mill supply firm of this city, Messrs. Tetes \& just entered suit in our County Court against George Tobbs, who has, it is averred, infring-
ed the patents of the complainants for an improvement in grist mills. Judge Butler ha granted a preliminary injunction in favor of Messrs. Tetes \& Allen
The United States Miller correspondent has made several extended tours through the flour manufacturing regions of Penhsylvania and New Jersey during the past month, and the industry at all points visited has shown
fine evidence of prosperity. While passing through the milling districts of New Jersey your correspondent visited the millstone re-
gion, in Middlesex and Somerset Counties, in the midst of one of the most beautiful and fertile sections of the agricultural portion of the State. On the Millstone river, upon which stone, valuable mill properties. Prominent among them are the Weston Mills, seven run of stone, of which A. S. Teneyck is proprietor; Bleachville Mill, four run of stone, John Oakey, pro prietor; Griggstone Mill, three run of stone,
Edgar \& Nichson proprietors ; Rocks Hill Mills, four run of stone, D. H. Mount, propri etor; Kingston Mills, four run of stone, Jos eph Robinson, proprietor; Opdyke's Mills, two run of stone, James Opdyke, proprietor.
The establishments of all these worthy millers are excellent ones, and have tained at fine reputation in the country where situ ated for the superiority of their manufactures During a long and pleasant conversation with Mr. A. Teneyck, of the Weston Mill (who, by
the way, has one of the oldest and finest flour the way, has one of the oldest and finest flour
and saw mills in the State of New Jersey) and saw mills in the State of New Jersey)
the United States Mhler correspondent learned that the flour-making industry of New Jersey is in a reasonably good and profitable state, all the millers experiencing easy and comfortable times. Mr. Teneyck-who is a brother-in-law of Congressman Alvah

Clark, of New Jersey,-is one of the wealthiest and most influential millers in the State. Your correspondent met Mr. Teneyck on the morning of May 1st, after a ten-mile walk from New Brunswick, searching for milling information for The MILLER, and the manner in which Mr. T. entertained your representa tive fully proved his appreciation of newspaper men and their labor in behalf of its interests. Success to Mr. Teneyck, the Wes on Mill, and all the millers and mills in the Millstone district. The United States MilLER correspondent also met another represen-郎 with him on the Delaware and Round Brook Railroad as far as Van Aken station. This genleman was John Oakey, of Blackwell's Mills. well. Oakey is an old, experienced and en-informed miller, and furnished your cor respondent with much important and interest and their operatians May Jersey mills and their operations. May the shadow of
Mr . O. never grow less, and may his mills Mr . O. never grow less, and may his mills
become a monument of prosperity and wealth to its genial, jovial and enterprising owner, is the wish of your traveling scribe.
Previous to the above-mentioned trip, the Millerer correspondent had made a flying trip through the interior of Pennsylvania, going as ar as the Wyoming coal regions, where the "Black Diamonds," are situated many xtensive and largely-producing flour mills. Among these may be mentioned the mill of Walter Gibbens, of West Nanticoke; the
Valley Mills, D. S. Drierbach, proprietor Beach Haven, Drierbach Brothers; Wilkesbarre and the Lily of the Valley Mills, near Kingston, The Weston Mill Company, limited, merchant millers, of Scranton, is a first-class concern. The corporation is very entensively engaged in the manufacture of a superior flour, and their product holds a high reputation and paying market wherever it is sent.

The grain shipments to this city this spring have been actually enormous, and the elevators corporations and individual various railroad axed to their greatest capacity. The immense increase of business at the grain elevators of the Pennsylvania Railroad Company at Washington street wharf, where the ocean steamships are loaded down with heavy freights of the golden products of the great
West, has necessitated a number of improve ments and alterations in the working capacity of the elevators, and also an enlargement of the machinery and other apparatus. One of
the largest conveying belts in the world, if not the largest, has been ordered by the Penn sylvania Railroad company from Mr. Dietrich, the well-known rubber manufacturer of this
city. It is now ready to be placed in position and has been manufactured in one continuous piece of smooth rubber and canvas. It is 1,145 feet in length and 36 inches in width, and weighs over 7,000 pounds. It is made of this great strong enough and long enough to convey
belt the grain along the different shutes from one end of the elevator to the other.

## Dusty Miller.

Another of Krupp's Monstens.-Hert Krupp, the famous German gun maker, has just eclipsed all his former efforts by con structing a new steel cannon, which is the largest piece of steel ordnance yet made.
It weighs 72 tons, is 32 feet long, and has a calibre of 21 inches, while that of the Euglish 80 -ton guns is only 18 inches. The charge for this monster gun is to be 385 pounds of prismatic powder, the projectile
being a chilled iron shell weighing 1660 being a chilled iron shell weighing 1660
pounds and having a bursting charge of 22 pounds of powder. The force of the shot on leaving the gun is estimated at 31,000 foet tons, and it is calculated that when placed at an angle of 43 degrees with the horizon the gun will throw its projectile a distance of 15 miles. The forthcoming trials will take place on a range 11 miles long, and targets will gun will have to at such a distance that the than the visibility of the object to be hit.

Canadian Millers' Association.-President, Jas. Goldie, of Guelph; Vice-President, W. H. Howland, Toronto ; Hon. Seeretary and Treasurer, H. N. Baird, Toronto; Secretary, Wm. Greey, Toronto. The Executive Commit tee is composed of the following gentlemen; S . D. Saunby, London ; Hon. T. N. Gibbs, Oshawa ; R. Blain, Gault, ; Wm. Lukes, Toronto Jas. Webster, Flamboro ; H. N. Baird, Toronto ; Wm. Spink, Thorold; H. Gooderham, Meadowvale ; A. MeNaughton, New Castle.

Subscribe for the U. S. Muluer; \$1 per year

## Recent Patents

The following patents were issued from the United States Patent Office, April 15th, 1879; Microscope for Examining Flour and Bolting Cloth.-Henry J. Deal, Bucyrus, Ohio. Charles.
Attrition Mill.-Henry J. Duc, Jr., Chen ton, S. C.
Attrition Mill.-John J. Hayes, Green Point, N. Y. Middlings $S e$
Nashyille, Tenn.

## City, Oregon.

Salem, Ind.

## 22d, 1879:

Flour-bin.-Edwin S. Bliss, Richburg, N. Y.
Middlings Saparator.-David Charlesworth Egmondville, Ontario, Canada. Mill-stone Driver.-Wm. F. Cochrane, Jack Wheel.-John Ebersole, Chambers. Dresser.-David L. Ellis, Homer burg, Pa.
Mill-stone
City, Pa . Edenburg, Va
Middlings Separator.-Silas S. Shever Men asha, Wis.
Bag-holde Bag
Ohio. Grain Toller.-David Waugh, Wellsburg,
Va. Cornsheller Separator.-Daniel P. Wist, Oak

Stones and Hursts.-A controversy having arisen regarding what, in millers' parlance, is the most proper phraseology in which to designate the number of stones belonging to a given mill, we have taken the trouble to consult good milling anthority upon the subject. Shonld the miller say eight run of stones, eight runs of stone, or eight runs of stones? Mr. William Fairbairn was for fifty years the greatest mill architect, millwright and mechanical engineer in England. Titles were heaped upon him, such as C. E., LL D., F. R. S., F. G. S., ete. He was corresponding member of the Institute of Franc and of the Royal Academy of Turin, and was Chevalier of the Legion of Honor. He also made his name famous as the author of various works upon subjects belonging to his profession. In these he invariably uses the phraseology, runs of stones, except when he substitutes the word pairs for runs. In
our future dictionary of milling terms we our fature dictionary of milling terms we minetly core the in or that, in speaking of the framing or hous that incloses the running gear of each pair of stones, the same anthority uses the word
hurst, and not husk or hust.-St. Louis Miller.

Why Glass is Broken by Hot Water. No person could be so foolish as to hazard th breaking of a glass by pouring hot water upon it, if he understood the simple means of acsunting for the breakage. If hot water is poured into a glass with a round bottom, the will euse the the while the side, which are not heated, retain their former dimensions, and, consequently, i the heat be sufficieutly intense, the bottom will be forced from the sides, and a crack or flaw will surround that part of the glass by which the sides are united to the bottom. If, however, the glass is wetted with a little warm water, so that thew hole is gradually heated and therby expanded, boiling water can then be poured in without damage. If a silver spoon is placed in a goblet or glass jar, boiling water can then be poured in without danger unless the article has been taken from a frosty closet and is very cold.

Wire Belits.-A German firm is manu facturing woven steel wire beiting of a peouliar make, as described below, which they claim to transmit power well, to operate with out lengthening, and to run smoothly be aause there is no overlapping at any place. The spirals of wire are woven across the elting, so that three, four or more spiral orm one link. The space between two link is besides, filled up with a cross-piece, so that ane closely woven netring of spiral wire form
band of great strength and flexibility. It is faced and lined with rubber or leather.

Epitaph on an Honest Muler,-A correspondent of a Hampshire paper says:Near the east end of Carisbrooke Chureh, Isle of Wight, stands an old head-stone which is little noticed, and its inscription, which is as follows, seldom read :-"In memory of
James Perry and Mary his wife, who died James Perry and Mary his wife, who died
December 21st, 1747, aged 70 ; she died January 9 th, 1750 , aged 65 years.

Hore lyes a man the farmers loved,
Who always faithful to them proved,
And doalt with freedom justly fair-
Who always faithful to them proved,
And dealt with freedom justly fair-

Card from E. P. Allis \& Co. to the mllers of america.
In January, 1876,--in the early days of the recent advances in milling-we purchased rom R. L. Downton the exclusive right to manufacture "Downton Purifiers" and "Downton Peerless Dusters, which two machines
were represented by him to be of great value to milleprs, and we expended many thousand dollars in vain experiments with them. We, at the same time, purchased from him a Process Patent, now known as "Downton Pro-
cess," and took from him the following assigncess," and took from him the following assignOffice at Washington:

For and in consideration of the sum of one undred and twenty-five dollars, to me in hand paid by Edward P. Allis \& Co., of Minwaukee, to said Allis \&CC.e their successors and as-
signs, the exclusive right to manufacture and signs, the exclusive right to manufacture and
sell rolls for crushing grain or middlings, or sether substances, which right or process is
oecured to me under United States Patent No. secured to me under United States Patent No.
162,157 , dated April $20 t h, 1875$, for the full
1ife life of such patent, and any re-issues, exten
sions or improvements thereon, except that shop-right to manufacture and sell the same
she
in the State of Minnesota, but not elsewhere, is granted to O. A. Pray, of Minneapolis, said Allis \& Co. having an
said State of Minnesota.
Dated at Milwauk
(Signed), wi
(signed),
eceived for and recorded in Lii
Transfer of Patents.
rd January 27 th, 1876
ber D 20, Page 140 of
Testrimony Whereof, I have
caused the seal of the Patent caused the seal of the Paten
Office to be hereunto affixed Signed) Eluls Spear,

There being no adequate demand for the Downton Purifer," its manufacture was of no great value, and the "Peerless Duster" be ing an utter fallure, its manufacture was
abandoned after great and serious loss, and the personal connection of Mr. Downton with us ceased, but no rights we had purchased or
quired were ever ab ndoned or invalidated.
Subsequently to the above, as we owned the Process Patent and were making iron Rolls, we made a contract with Mr. Oscar Oexle for mann's Porcelain Rolls in America, and entered upon their manufacture and sale. Mr Downton meantime, having found his "Pur
fier" unpopular and his "Duster" a failure fier" unpopular and his "Duster" a failure,
while the Process Patent that he had sold us bid fair to be of value if it could be declared valid, undertook the task of defrauding us out
of it and of substantiating its validity, and for this purpose began suit against millers using Rolls. Mr. Oexle maintained that the Downton Process Patent was invalid from Downton interfered with the sale of Porcelain rolls, he, at his oun expense, took up the defense of the millers in the use of Rolls, and this suit, which Downton is prosecuting and Mr . Oexle defending, on the validity of the patent, is still undecided, though a preliminary decision has been given against its validity. We were not parties to the suiu, were not repre. were selling Porcelain Rolls, relying upon their merits and also upon our perfect right to the "Process" under the Downton assignment, should the patent be decided valid. The question of our ownership of the patent has never
been legally before a court, and only recently have suits in that direction been instituted.
At this juncture came the late Millers' Convention in Chicago, and the millers of the
country have the following occurrence forced upon their consideration. Notwithstanding one of the main objects of the Millers' Association is to defend millers against fraudulent patent claims, and notwithstanding the expenditure by the Association of thousands of dollars to break up patent rings, and notwith standing the personal expenditure by Mr. Oexle
to relieve the millers from Downton's claims, and also notwithstanding the Downton Patent belonged of fecord to us and was legally ours, who were not threatening or suing millers for its use, even Mr. Downton acknowledging our ownership by recently beginning a suit to set it aside-notwithstanding all this, the Executive Committee of the Association, at the effect that they had made arrangements with Mr. Downton whereby all members of the Association using rolls not sold or licensed under the Downton Patent would not be defended by the Association on any suit brought under Downton's Patent. This notice is very ambiguous, and may be construed as advising pur.
chase of us, as we sell and license under Down.
ton's Patent, but it was evidently obtained by Mr. Downton for the purpose of inducing members to buy rolls of him and pay him a royalty. This strange action of the Executive Committee in trying to induce members to buy of Downton, if they did so try, the use o a patent he does not own, and that, too, when
the validity of the patent itself is in suit, with a preliminary decision against it, is unac countable, and cannot meet the approval of the Association, nor call for their own confirmation, when this true state of the case is presented.
We have now no recourse, but to give this public notice to all millers, that we ore the Doionton Process Patent," and shall protec that we, and we alone, are the persons that can give them a valid license to use the Process, and Chat none other will be respected. We assert, as
a principle of law, that until our recorded as signment is declared void by law, no suit for damages can ever be maintained against them for its use on rolls purchased of us, even
though the ownership should finally be cided againt us, which is hardly possible while on the other hand, every one using this process on rolls hought of Doumuton or any one If millers buy their rolls of us, they are safe in any issue of the suit, for we are the recorded
overs and they are legally innocent purchas. ers, and we beg them not to neglect their own interests nor ignore our rights, for we shal defend them and establish our claims.
We build the best machines in market, sell them at a reasonable price, and give a license We are now able to supply machineserturned. nd ask that patronage that is our just due. Edw. P. Alfis \& Co

Fast Wokk.-some time ago we referred to a wonderful piece of fast work in producing flour from standing wheat and putting it through all the usual manipulations, so that the guests of the experimentor were eating hot biscuit, made from the flous, in four gentleman who proposed and so successgentleman who proposed arried out this novel experiment, was Mr. James Lawton, proprietor of the Wild Moss Mills, in Carrolton, Mo. The wheat field was standing but a few rods from
the mill and the grain separator standing ready the mill and the grain separator standing ready in the field and running at full speed. The The mules hitched to the reaper were thoroughly encouraged by the liberal application of clubs, and as they passed over the field men grabbed the wheat and put for the separator, As soon as half a bushel came from the separator it was rushed off to the mill, through the cleaner and into the hopper, then bolted once and carried into the office, where a rousing fire was going and all the facilities for a hasty baking prepared by Mrs. Lawton and her as sistant. It was quickly baked and passed to the many guests. This is the best time ever made, and Mr. Lawton feels proud of it, naturally. He says he thinks this time might, under extremely favorable circumstances, be shortened seven seconds. Mr. Lawton's fancy brands of flour are well and favorably known.

Indian Corn in Europe.-The United States Consul at Havre has sent to the Department of State a copy of a correspondence between himself and Dr. Johnson, now in Paris, on the subject of maize. It has been charged in France that maize produces a fatal disease in men and colic in horses, when used by them as food. It is the object of the Consul and Dr. Johnson to refute the idea, and to show the healthfulness and economy of using Indian corn in the kernel as meal flour for food. The importation of corn from the United States into France in 1876 was 326,508 bushels ; in 1877 it was $1,785,490$ bushels. The importation of corn from Italy and Turkey in 1876 was nearly 4 ,000,000 bushels ; in 1877 it fell to $2,500,000$ bushels. It is mostly used in feeding horses in the livery, truck and tramway stables. It is given to cattle to a small extent, mixed with other food. It is also beginning to be used for distilling and for making starch. Damaged corn is bought for these purposes.
The steam mill at Bocklow, Mo., was destroyed by fire on the 8 d ult. Before the ruins were fairly cooled the proprietor, J. S. Wertz, had contracted with Nordyke \& Marmon Co., of Indianapolis, Ind., for a new
three-run new process mill.

Fisher \& Davis, millers, Madelva, Minn.,
disolved partnership. Jno. Y. Fisher continues the business.

## The Victor Turbine.

The past few years have been fruitful in im rovements in machinery and appliances for milling purposes. So many mills have a limited supply of water upon which to depend for power, that we question as to the efficiency use becomy of the water wheels they have in the recent improvements in turbines, those embodied in the Victor Turbine, herewith illustrated, are prominent and deserving of careful attention. The capacity of this wheel is quite phenomenal, being more than doubl that of other wheels of the same diameter, and
in percentage of useful effect it also steps to

the front, as will appear in the following table wheel at the Holyoke Testing Flume

|  | $\begin{array}{c}\text { Head in } \\ \text { feet. }\end{array}$ | Horse power |
| :---: | :---: | :---: | \(\begin{gathered}PerCentage <br>

useful effect.\end{gathered}\)
$\begin{array}{llll}15 \mathrm{in} \text {. Wheel } & 18.10 & 29.22 & .8808 \\ 25 \mathrm{in} \text {. Wheel } & 17.96 & 68.52 & .8584 \\ 30 \mathrm{in} \text {. Wheel } & 11.65 & 52.54 & .8676\end{array}$
We need not enlarge upon the above $r$
markable results. They are claimed to be u precedented among recorded reliable tests of Turbines, and we feel sure will command the attention of all who desire to obtain at the east cost the largest amount of power from a limited quantity of water.
The extraordinary power of this wheel comes with its numerous advantages, among which we may name economy of flume space, quick speed, light gearing, less loss in transmitting power, and particularly adapts it for shipment to distant points and over expensive freight rates.
The gate is an inside register, having a central bearing, and, with the pinion and segment for operating it, is entirely housed and relieved from pressure, rendering it of easy operation under high falls. The wheel proper, has a downward and outward discharge, and and is of a peculiar and novel construction, but its centre case and gate are substantially similar to those of the well known Eclipse eral years past.
Wo have received most flattering accounts of the performance of these wheels, and its manufacturers solicit an opportunity to confer with all parties whose supply of water is lim ited, and who are, therefore, in a situation that will enable them to appreciate high results. Illustrated catalogues and full information concerning this wheel can be had on application to the manufacturers, Stilwell \& Bierce Manufacturing Co., Dayton, Ohio.

American vs. English Tools.-Thomas Fletcher, in English Mechanic: I have at this moment at least three-fourths of my tools of American manufacture, many of which have been brought at a very fancy price. If it were not absolute necessity, I should be exceedingly foolish to buy American tools at a high price if English tools could be bought which would do the work equally well. From my own practical experience the difference between the two is this, that an English workman does not, in the first instance, learn what a tool is for, and adapt the tool to the requirements; an American will, as a rule, use his brains, and make what you want without spoiling the whole by ridiculous blunders. If I needed a thing, making which required judg. ment on the part of the workman, and I could not give my personalland;constant supervision, I should, as the simplest way to get the thing right, send the instructions to America.
H. C. Metcalf, of Anamoosa, Iowa, is erecting a four-run new process water mill with all the latest improvements. The entire work is being furnished by Nordyke \& Marmon O., of Indianapolis, Ind.

EVERYB0DY READS THIS.

## sews or The world

ems gathered from correspondents, tele-
The steam mill at Winnebago City, Minn., gain at work.
O. E. Bunnell, of Prairie du Sac, Wis., has oved to Nebraska.
Geo. W. Stanton, of Janesville, Ia., has old his flour mill.
A mill is being built at Fountaintown, Ind., or Macy \& Frauch.

Ruddiman's grist mill burned in Mus egon, Mich. Insured.
Jennison \& Co.'s saw and grist mill, JanegH. Wheeler is pushing work on his mill H. Wheeler is pushing work on his mill
at Flandreau, Dakota. A. Aldrich, of Metamora, Mich., has pur-
hased a two-run mill outfit. Colchester, Ill., will soon have a two-run The grist mill at Mendovi, Wis., has started p and is doing excellent work.
The millers at Hastings, Minn., are happy re the replenished water supply.
T. D. Vaughn, of Cedar Mills, Texas, is putting up a fine little custom mill. The mill at Mapleton, Iowa, owned by F. L. ay, is being remodeled and enlarged.
A mill at Baalzen, Saxony, was recently detroyed by an explosion of flour dust.
Jackson \& Hill, of Ladonia, Texas, are building a new two-run mill, run by an Atlas engine.
Messrs. Hartman \& Markward, of Warrensburg, are ere
merchant mill.

Schmuck \& Co., of Cannelton, Ind., are adopting the new process, and increasing the daily capacity
Shields \& Tomlinson, of New London, rowa, are putting in new buhrs, and adopting the new process.
Mr. Hannum's mill at Ames, Iowa, has been ral eus paired, and is now doing a gen
building, a two-run mill. Nordyke \& Marmon furnish the machinery.
The mill of Thornburg \& Small, at Martinsburg, Ind., is undergoing important altera tions in the new process.
The long discussed project of an annnal und for mill employes, is to be carried into effect at Budapest, Hungary
Ilulbert \& Paige, Painesville, Ohio, are building a two-run water mill at

## Minn., for Messrs, Frank \& Bentzin

The Gilmantown, Wis., mill has passed into the hands of Messrs. Ellis \& Davis, of Ean Claire, and is to be thoronghly repaired.

Sohl \& Evans, of Noblesville, Ind., are put ting in additional buhrs and fixtures to supply the increased demand for their choice flour.
Sprague's thirteen-run mill at Rushford Minn., is running day and night. A one thous.

Sparta, Ga., is having a custom mill. The proprietor, James Smith, purchased the machinery of Norkyke \& Marmon Co., of Indian apolis, Ind.
E. G. Beecher, of Wells, Minn., has sold his mill at that place to a stock company, for $\$ 8$,000 . The mill is to be put in repair and started up at once.
One of the finest four-run new process mills in Kentncky is being erected for R. C. Poage \& Son, at Ashland, Ky. It is driven by an Atlas engine.

Alexander \& News, of Greenfield, Indiana, are remodeling their mill to modern ideas, ander direction of Nordyke \& Marmon Co of Indianapolis, Ind.
F. Miller \& Co.'s brick flouring mill, Watertown, Wis., burned May 9th, containin 500 barrels of patent flour. Loss almost $\$ 4,500$. No insurance.
J. Corbet \& Son's flour mill at Chaddesly Corbet, near Kidderminister, England, was destroyed by fire on the 11th of A pril, the loss amounting to $£ 5,000$.
The mill of Smith \& Giddings, of Danville, Ill., is being enlarged with additional buhrs, bolts and parifiers. Nordyke \& Marmon Co., of Indianapolis, Ind., are doing the work.
The Triumph Power Corn Sheller, manu
factured by Hulbert \& Paige, Painesville, O . is reported as having a very large run th season-larger than for several years.


The Toad Market.-Among the curious sights to be seen in Paris mus be reckoned the toad market. Toads are there sold by the barrel. Think of it!-toads selling like potatoes! Who buys them? Vegetable gardeners. Why ? For the reason that toads dovour the insects that would otherwise devour the vegetables. Who devours the toads? Contrary to some ideas-not the French people. But toads are being sold now, not devoured, and it is with the selling we are interested. How do they vend them? The
man in blouse bares his arm, and thrusts his open hand into the slimy swim, and brings up two, three or four gymnastic toads, wriggling and writhing. He points out their merits, and delivers in a box by the dozen to the eager market gardener, who takes his choice and pays his price. The buying and seeling is done expeditiously and quietly, and the profit to the venders is great.

## BOOKKS.

Roper's Practical Hand-Books for Engineers and 0 wners of Steam Engines and Boilers. Hand-Book of Land and Marine Engines................. 8350






## GRATIOT'S

Improved Wheat Heater

 THROUGHOUT; and
tandine TTis me Hydranio Pressure. The ONLI
Heater that EVENLY heats EACH and EVERY grain of wheat; and draws the the outside or bran;
thereby THOROUGHLY TOUGHENINGTHE BRAN ON THE HARD-
EST or DRIEST Spring or Winter Wheat.
GRATIOT BROS., Platteville, Wis.

R. G. HANDLEY'S

## MILL PICK

WORKs,
38, 39 and 40 Lower Pershore St.,
birmingham, england.
I wish to call the attention of Millers, Millwrights, Mill Furnishers, Contractors and others, to the quality
of my Mill Picks made by me. I manufacture them of the very best

English Refined Silier Steen,
I warrant every Piek to eut the hardest Preneh Burr. and wholesale.

A Librbal Discount to the Trade.
Always in stock a large quantity of ver
P. S.- Prices sent free on applieation.

THe Milwankee Middlings Millstone Oo. are

furnishing a complete outfit for Hayfork, | furnis |
| :--- |
| Cal. |

Bennett's Patent Elevator Bucket.
 CHEAPEST STRONGEST

## bucket

Manufnotured.
Mnado of oither


SPECIALTIES The Rivet Bucket Co.


The Safety Iron Elevator Boot.


The Rivet (Corn) Bucket. 25,000 in Use


## THE CORRUGATE <br> Belt Bolt This anven 10 to 25 por

 Patent Iron Conveyer, N ceas


The Safety Ventilator. Bids themill of duat by the naturara dracght

M. HaWkilis \& CO., Supply House

294 Washington St., Chicago

IMPORTANT ANNOUNGEMENT.
THE GARDEN GITY PUFWFIER,
THE BEST IN THE WORLD,
AND THE ONLY PERFECT ONE.

## LICENSED

## IUIRR V VIIID PAINTIT.

 GEO. T. SMITH
## PATENTS

## Stoll Patent

Eaving guaranteed our customers, we
do not fail to protect them.
As we have settled with everybody who had any claim, or said they had any, for infringement, we are in shape to sell millers the best purifier, and fully licensed under all patents. COLLINS \& GATHMANN.

Why We Did It.
Having taken a license under the "Ring," as we have always designated the owners of the George T. Smith and Stoll patents, we think we owe our friends and patrons an explanation of the cause which induced us to take this course. We have always held and firmly believed that none of their patents (except possibly the brush patent) were valid, and that it would be an easy matter to upset them, When suit was brought against us we made immediate preparations for vigorous defense and were full of confidence in the result, and this confidence was not shaken until we learned that George Harding was advising the millers to settle. Even then our first impression was that Harding had betrayed us into the hands of the enemy. But careful and thorough investigation, both by ourselves and our attorneys, changed our opinion of the matter, and we were obliged to admit that Harding was right, and the Executive Committee of the Millers' Association pursued a wise course in making a compromise. We had now to choose be tween fighting against patents which we be lieved to be valid, or to purchase a license under them.
As we have never desired to use anything whtch rightfully belonged to another without paying for it, we did not hesitate to pursue the latter course. We thought it our duty to our two thousand customers, and to ourselves as honest men, to see that all who had relied upon us to protect them, were placed beyond question out of the reach of harm, and we have simply done that duty. It has cost us a large sum of money, but if it had been twice as much we should have paid it rather than desert the friends who trusted us. It was bitterly humiliating to us to ask the men whom we had so ardently opposed, and whom we still have abundant cause to dislike, for a license under patents which we had pronounced worthless. But justice required that they should be paid all they could rightfully claim, and we have paid them. We have not forgiven them for their course in the Cochrane matter, and we are afraid we never shall. The Cochrane reissued patents were worthless, and the Courts have so decided, and we cannot help thinking that these men knew they were worthless, and that they had no right to collect royalty under them, but that does not interfere with their right to royalties on good and valid patents.
Many of our friends, no doubt, will be disappointed in our giving up the fight, but we assure them that it was only on the repeated advice of one of our attorneys that we could not hope to win against them. As a he Garens,
City Purifier is now licensed under all patents, City Purifier is now licensed under all patents,
both valid and invalid, and as it is the only perfect purifer in the world, we ask ourfriends to see to it that not only their own mills, but those of their neighbors, contain no others. COLLINS \& GATHMANN,

 like a partner who eaile not paying will find it to their
Parties having mill
interest to correspond with me.
jet
je.

FOR RENT-I offer for rent my Grist and Saw Mill;
run of stone; House and Garden; Good Water Power; Water all year round for term of yearx, For particu
ars call in person or by letter. Effurt P. O., Jefferson, Co., Wis.

FOR sale
growing seation of grain elevator in the best grain-
Kansas. County seat.
Splendid FOB SALE--Steam power saw mill for sale cheap and on reasonable terms. Mill is in good loate one and
is doinga good busines, Satisfactory reasons will be
given for selling. Call on, or address
 power; three run of bulrs; the mill has a moor ruan of
coustom,and the foura good reputation, mill is situated
in a fine wheat country and at the junction of three railroads; satisfactory reasons given for wishing to sell. For
particulars address Box 106, Altamont, Eftingham coun-
aptf
ty, Ill.
HR NALE-A flouring mill, saw mill and 265 acre for one- -analf cash; balance long time. The water powe
is unsurpassed, two run of burs with necessary ma
chinery. Mill thoroughly repaired last geazon. Good


FOK NALAE-A grist mill with two run of stone, on
one of the best and clearest water powers in the country



Fers saliE-A 2 -run flour mill. Good burrs an
bolts in
power
to
to onte


FOR sale-The Flouring, Mills at Troy, Kansa

 out is all first-class. Undoubtedty the tebinery thanstruough
mill in the . West. The best opening for business. On
ncount


Fon sale-I offer for sale a first-olass moder
 reason for selling, belongst onan undivided estate
dress
dose
jo

For Sale or Exchange.

$$
\stackrel{c}{c_{n}^{2}}
$$

co

$\qquad$


|  |
| :---: |
|  |  |
|  |  |


 ing and machinery new; now process; complete in all
reespects; located in afourishing town in western Iowa,
atiunction of three railooads: tuel cheap, doing a good

WANTED-To buy or rent a mill, by a practical
niller thoroughls versed in merchant and grist work. Talks both English and German, and caM give best of
references. Address,
Fountain City, KAMERER, Buffo Co., Wis. WANTED-A good stoam flouring mill at Cawker
City, Kansas. The location is exceptionally good. The bast of whent and other grains produce in in kreat abund-
anee. The investment will surly make neryy returns.
The Atehison, Cawker City \& Deuver Railroad will be be


FOR SALE ©R RENC-One of the best steam
fouring mills in the State Four stories, brick and stone,
flouring
slate roof
Everythin
 2, know anything whatever about milling Terms easy.
Hine bargain. Address
C.H. HEARD

FOR sa LE-Flour and Saw Mill-One-half interess in a first-glass three-run steam Four and saw out-oft
The saw mill is a double rotary, with gang dger, unt
and bolt saws and siongle madine. It has been buil ant 18 months, and is in as good a wheat country as there
is in the state. My obect in selling is to have cash in
is the hand to put in a yood ountry store in connection with
mill. Would prefor to ben to miller or a man that is
well posted in $\mathbf{g}^{\prime}$ ore businese who can command from

 | $\begin{array}{l}\text { ane to } \\ \text { tionsto } \\ \text { feb2t }\end{array}$ |
| :--- |



 sturies high. Machinery is suited for making eithe
ineredant or custom work. Belonging to the mill are
good anaw mill, 180 aceres of farm land 100 aeres of val



## 







$\qquad$

BOTTIED BEER. VOECHTING, SHAPE \& C0,

Joseph Scolitt Brewing Company's Celebrated Milwankee Lager Beer MILWAUKEE

BOTTLERS' SUPPLIES CONSTANTLY ON HAND
Parties corresponding will please state where they saw this advertisement.

## WHITE LEAD WORKS.

## 

## J. ㅍ. Patton de OO-ッ

WHITE LEAD, COLORS AND VARNISHES.
Nos. 268 to 272 East Water St., MILWAUKEE.

```
Sample of colors sent yy mail on appication.
```

 Machinery here ing machinery 15 per cent, with an additional cash discount of 10 per cent if cash is paid in thirty days from date of shipment. We also keep full stocks of Genuine Dufour and Dutch Anchor Bolting Cloths. HOWES, BABCOCK \& CO. Silver Creek, Chautauqua co., N. r.

## Carden City Iliddlinge Puififer.

Adapted to both Large and Small Mills.


And at the Canadian Exposition, where it also triumphed over all competitors.
This machine will purify middlinge perfectly by once cleaning, without waste in blowing or offal, which no other machine will do. It is the simplest, and at the same time the Cheapest Machine in the market, when its capacity and the quality of its work are considered.

Send for circular in German or English.

## COLLINS \& GATHMANN, Prop's,

CMnton and Washington Streets, CHICAGO, ILL.

Attention，Millers！

#  

Of the Aor．

No Patent Staffs Wanted．

## NO HUMBUG！GENUINE！TRUE！

No Mill－Stone can Positively be TRUED by any of the Staffs now in use．

I have invented，and secured by letters patent，
No． 211,244 an Impioved Method for Truing No． 211,24, an Impoved Method for Truing
The Girinding Surfaces of Mill Stonem． The Grinding surfaces of in been practically engaged in milling $H^{\text {aving }}$ been practically ongaged in the mave
and mill－stone business for over 30 years I have learned the great value of having a perfectly true face on grinding stones，and during the past 10 years I have expended a great deal of time and money in making my invention and securing my patent．The very foundation
of suceessful milling is in the proper treatment and use of suceessful milling is in the proper treatment and use
of the mill－stone．A true face will make even，uniform flour and a large percentage of middlings，while an flour aneven stone will cause uneven grinding and poor flour， which no purifier or system of bolting will rectify．With a true face on the mill－stone the miller can set his irons right．can tram the spindle right，can get the level right， and not half the work
This is a matter of the

UTMOST IMPORTANCE TO MLLEERS， And I respectfully call your attention to it，and invite
correspondence． correspondence．
I have just sold rights for mills to the following well－ known mill owners，to any of whom I refer you
Nunnemacher \＆Co．Milwaukee，Wis．
Gerlach \＆Dittmarsch，Mitwaukee，Wis． Gerlach \＆Dittmarsch，Mitwaukee，Wis．
Huntingdon \＆Koch，Barton，Wis． Huntingdon $\&$ Koch，Barton，Wis．
Smith $\&$ Co．，Grafton，Wis． Simith \＆Co．，Gratton，Wis．
Volker \＆Jonas，Saukville，Wis．

## B．F．GUMP，

No． 53 South Canal Street， Chicago，illinois．
GENERAL MILL FURNISHER， COMMISSION MERCHANT，
and chicago agent yor
GENUINE DUFOUR \＆CO． BOLTING CLOTHS． IHANDLE NO OTHER BRAND．
All numbers kept constantly in stock to supply the largest order at a moment＇s notice．Grit．Gauze always on hand．
Flour Mill Trimmings a Specialty Such as Rubber，Ieather，and Solid Wove Cotton Belting，Elevator Buckets and Bolta，Bran Dusters， Wire Cloth，Plated Wire Cloth，Brass Wire Cloth， Water and Steam Gauges，Boiler Injectors，Pumps，
Packing，Smutters，Corn Shellers，Portable Mills， Packing，Smutters，Corn shey art，Portab for Mills at prices to suit the times． marly

## WALKER＇S

BELT TIGHTENER．



WARD\＆© © O．， Manufacturers of FRENCH BURR
Mill－Stones． Mndar Marsts Pat． WARD \＆CO．， CHICAOn，LLLL
Mill－stones，old an
 built on edge．Stones
specially prepared for
grinding Middin speoialiy prepared for
grinding Mid 1 ings，
made of stok selected
for that purpose also made of stock selected
for that purpose also
those buite on
Ward＇s new po pan w Ward＇s new plan as
shown in the annexed
woed cut． Mrs．Ward．John Hrengy．John Krzgax．

THE SILVER CREEK Smut and Separating Machine Milwaukee Milling Co．，Milwaukee，Wis． Orville Hathaway，Oconomowoc，Wis．
F．Miller \＆Co．（2 mills），Watertown Wis． Barnes \＆Hodson，Janesville，Wis． Coman \＆Morrison，Fox Lake，Wis． E．R．Hoyt \＆Son．Beaver Dam，Wi H．G．Mathews，Brandon，Wis．
Filer，Stowell \＆Co．，Milwaukee，Wis． Filer，Stowell \＆Co．，Milwaukee，Wis．
Schauble \＆Vallansch，Yredonia，Wis． Wm．Albrecht \＆Co．，Newburg，Wis． Wehausen \＆Co．，Cedarburg，Wis． Bodendoerfer \＆Zaun，Cedarburg，Wis．
Schroeder \＆Trottman，Cedarburk，Wi． Schroeder \＆Trottman，Cedarburg，Wis．
Chas，G．Deisner．Pewaukee，Wis， M．Held，Jr．，Sullivan Mills，Jeff G．Schnekenbuhl，Palmyra，Wis， Chas．Geisener，Pewaukee，Wis． Hotehkiss \＆Puhlman，Plymouth，Wis． Bickbauer \＆Klumb，Plymouth，Wis． J．Bauerkind $\&$ Co．，Gleubeulah，Wis． Maurer \＆Co．，Johnsville，Wis．
Valier \＆Spies，Marine，III． H．Rodee，Ogdensburg，N．Y Bennett Bros．\＆Coe，Geneva，III． I have placed my price for riguts for mills at an extremely low figure，eonsidering the value of my inven－
tion，so as to bring it within the reach of all．For tion，so as to bring it within the reach of all．
further information and correspondence address
FIM A IVIN，


With Adjustable Shaking Shoe and Changable Cockle－Screens，whereby all Cockle can be extracted from the Wheat．Will do thorough work， both as a Scourer and Separator．

Warranted not to cut or break wheat．

## Bolting Cloths

 a specialty．Send for deseriptive circular．Address
Nagle， $\mathrm{M}_{\mathrm{M}} \mathrm{Neal} \mathrm{\& Co}$. WIM．工母耳IMIANIN，

722 Fourth St．，Milwaukee，Wis．

## KURTH＇S PATENT COCKLE SEPARATOR．



The above illustrated machine separates perfectly cockle，wild peas，wild buck－wheat，and other similarly－shaped foreign seeds from wheat．Requires but little power to run it．We also manufacture an

## OAT SEPARATOR，

Which is fully equal to any manufactured．This is rade in two styles，and is in combination with Cockle Separator．One style has two suctions，one operating on grain as it enters the machiue and the other as it leaves it，each being independent of the other and easily regulated．The other style has one suction，which may be either
 Cokle Separator for the past three years，to our entire satisfaction．We commend them to all in want of a perfect
machine．Yours truly， Minskapolis，Minn．，Jan． 16, ，1879．－Cockle Separator Manufacturing Co．，Milwaukee－Gents：In answer to
Mand your favor，wouls seay that will separate the cockle from the wheat．The improved machines give us no trouble in that we have eet
any way．We shall want two more machines soon，to replace those burned in our Anchor Mill Yours，
CHAS．A．PILLSBURY \＆
Misysapots，Minn．Jan．9， $1879 .-$ Cookle Separator Manufacturing Co．，Milwaukee：We are using two of
Kurth＇s Patent Cockle Separators，and while they work somewhat to a disadvantage on the present crop，we know Kurth＇s Patent Coekle Separators，and while they work theme the best machine made．Yours BULUlL，\＆NEWTON．
of nothing that will do the work as well．We consider the Cockle Machines in operation，I have learned to appreciate their value，and trust that the fourth，ordered a day or
two ago，will be bhippod without delay，I want this in ind adition to the two maohinines $I$ have already running on
wheat，that $I$ may be able to do absolutely perfeet work，and cheorfully recommend the those who aim at perfet work．On the other hand， 1 was free to admit，the other day，that your sioparator is of no use to millers who
argue that coekle makes good white tlour，inereases its bulk，and that therefore it is wasteful to take tit outl． argue that co
respectfully，
Oswroo，N．Y．，Jan．29，1879．－Cookle Separator Manufacturing Co．，Milwaukee－Gents：We are pleased to
say that our use of your machines for the last two years，has been highly eatisfaotory，and espeeially do we like the
 the machines indispensable in good milling，particularly with spring wheal．Your PENEIELD，LYON \＆CO．

[^0]Send for Illustrated Catalogues，describing machine fully with diameter，capacity，etc．，to
COCKLE SEPARATOR MANUFACTURING CO．，

## THE IATEST IMPROVED HUGHES BRAN DUSTER.



Pat. Aug. 14. 1877. PERFECTION ATTAINED AT LAST
Will ship, io renponnible partiten on trial and ENTIRE SATISFACTION OR NO PAY,

## A CHALLENGE!

As all manufacturers of Bran Dusters claim their machines to be the best, we will agree to pay for any machine made in the world that will compete with ours, and be adjudged superior y competent judges, provided any other party
vill do the same with ns. vill do the same with us.

STEPHEN HUGHES \& CO.,
ATLAS-CORLISS ENGINE!
 IGTHCKVd GNIDNG YOX उIIYM \&

ATLAS ENGINE WORKS, INDIANAPOLIS, INDIANA.
FIngines and PBoilers.

We build The Best Farm Engines and Small Engines for Warehouses and Elevators. Janly

## The Geo. T. Smith IMPROVED MIDDLINGS PURFFIER,

SIMPLF, DURAELF, GCONOMICAI,
AND REQUIRES BUT LITTLE POWER.

and without waste.
The Traveling Brush, The Sectional Draft, The Pockets,
and many other important features.

A large number are in use in the successful New Process Mills of this country. We manufacture eight sizes, adapted to the smallest or largest mills. Our prices range from $\$ 222$ to 8600 , and cover a license under all of the patents owned by the Consolidated Send for our New Cireni
Addreds the Mew cirenlar and price list with references.
Geo. T. Smith Middlings Purifier Co.,
 SLATER'S IMPR0VED Bolting Reel Warranted the best in the world. The only Reel that
will dust Middlings porfecty. BoLTING CHESTS or any eapacity at pritees DUFOUR \& CO.'S BOLTING CLOTH.
 Charles b. SLATER $\begin{gathered}\text { Blanchester, OOb } \\ \text { CO }\end{gathered}$ b


VAN IEE WATER'S NEWLY IMPR0VED


$\qquad$
$\qquad$ henry van de water, Auburn, New York, U. S. A. REFERENCEG





## Noye's Patent Pick Holder



The Only Holder Worthy of the Name. The Piek can be adjusted at will to strike the Stone at any desired angle. Wehave constantly on
nand a large assortment of our celebrated Cast Steel Mill Ficle: at prices to suit the times. JOHN T. NOYE \& SONS, Buffalo, N. Y.

## TREIUMPH <br> POWER CORN SHELLER!



Shells and Cleans 2,000 Bushets Ears per day. The Chenpest, Best and most Simple Power Corn | HULBERT\& \&ALGE, |
| :---: |
| Painesville, ohic |

R. P. WARD,

THE IMPERYAL

## Corn Sheller



Adjustable WhileRunning Het Anker. (Brand) Bolting Cloths So as to shell corn of any size. WILL also CLEAN the SHELLED CORN. Send for deseriptive circular.
R. P. WARD, sluver creek, chautaugua co., m r.

Mill Pick Works

## HENRY HERZER,

## Mill Picks,

456 Canal Street,
MHWALKEE, - . WISConsin
 of the best ENGLLISH STELL, and warrant all work to
give satiffaction. I thall be bleased to receive your urders, , Is always
have supplyof New Picks on hamal, and kive particular
fels
attention to dressing Picks. GEO. R. GAIE,

HAYWARD MILL FURNISHING WORKS

henry bodmer's celebrated Het Anker (Brand) Bolting Cloths. THE BEST QUALITY OF FRENCH BURR MILL-STONES. Office, No. 66 River Street,

# CREAMI CITY IROIN WORIKS_ <br> <br> Milwaukee Middlings Mill-Stone Company, 

 <br> <br> Milwaukee Middlings Mill-Stone Company,} MILWAUKEE, WISCONSIN, MILL BUILDERS AND FURNISHERS, AND SOLE MANUFACTURERS OF


MOST PERFECT DEVICE verer INVENTED for REDUCING GRAIN to FLOUR.
REQUIRES LESS POWER, LESS ROOM, and LESS ATTENTION and can be set on any good mill floor without extra foundation.
Send for Circular and Price List to the MILWAUKEE MIDDLINGS MILL-STONE CO., Milwaukee. WIs. Plans and Estimates furnished on application fors WIs. Plans and Estimates furnished on application fors.
complete Flouring Mills on our system.

PARIS EXHIBITION, 1878, Awarded 2 Gold Medals and 1 Silver Medal.

## Jonathan Mills’

## Wheat and Middlings

 5 ) Mills.三立Than any other mill Manufactured,



We take this method of recommending to the American milling public our PATENT ROLLER MILLS with chilled cast iron rollers, for crushing and grinding wheat, which have met with such eminent success in Europe. The millowners of BUDA-PssTh, as well as the prominent millers of Austro-Hungary, and a large namber in southerncermany, Sis for requiring less power than the best mill-stone, and



Out of numerous testimoniale at hand we select the following:









 an ngreeable and dieht form while attaining an capacity y hitherto unknown. In handing you the above communi-
cations for use as you may deem desirable, 1 remin, ete.,
(signed) C. HAGGENMACHER, Director of the First Ofen-Pesth Steam Mills.

supplied to us by you. We hayo now had both smooth and futed Rollers in use for the last two years, and have not
found any appecinbio wear in the smooth Rollers. . With referenco to the work and capacity we can but report


 BudA-PgsTn, July 16, 1877. - Messrs. Ganz \& Co. Buda-Pesth-Gentlemen: The most gntiffactory results





BodA-Pesrry, July 11, 1878,-Messri, Ganz \& Coo, Enginoers, Buda-Pesth-Dear Sirss: Having had oceasion to





Addrese all communications t
GANZ \& CO., Buda-Pesth, Hungary,

## NEWS

## EVERYBODY READS THIS.

tTEMS GATHERED FROM CORRESPONDENTS, TELE-
John D. Lang, miller, of Vassalboro, Me., is dead.
Fisch's mills in Manitowoc Co., Wis., are being rebuilt.
Jno. S. Urie, of Carbondale, Kan., is building a two run mill.

A flouring mill was burned in Boston, Mass., June 24th.
The great Menasha water-power snit is now on trial at Oshkosh.
Ten thousand barrels of California flour were recently shipped to Ghina.
Nearly 12,000 barrels of flour were shipped from Minneapolis Juģe 21st.
Messner Bros., millers, Bridgeport, Mich., have dissolved partnership.
D. K. Landis, milker, of Derry Church, Pa., has made an assignment.
Wm. Hamilton \& Uo., of Edwardsville, Ala., are building a small custom mill.
Work on Washburn mill " $A$," in MinnearoHis,ist being mpilily puated tormaxd.
The mill of Samuel Stewart, situated at Huntsville, Ohio, is being remodeled.
Messrs. Haffner \& Schimer, millers, Lockport, N. Y., have made an assignment.
II. F. Brown \& Co., millers, Minneapolis, succeed to the firm of S. S. Brown \& Co.
John Carlisle, of Millersville, Ind., i placing new process machinery in his mill.
R. K. Stafford, miller, of the firm of R. K.
Stafford \& Son, Staffotdsville, Va., is dead. Stafford \& Son, Staffokdsville, Va., is dead. Bock \& Hess, of Argos, Ind., are adding an additional run of buhrs, iron hurst and elevators.
The milling firm of Rye \& Vincent, Edenburg, Va., has been succeeded by Vincent \& Boehm.

Bauman \& Snyder, millers, of Pataha City, W. T., have dissolved partnership. Bauman continues.
Thé Milwankee Middlings Millstone Co. have sold over one hundred mills during the past month.

John T. Noye \& Son's, Buffalo, N. Y., loss by fire was about $\$ 50,000$. They were insured for $\$ 46,000$.
The Milwankee Middlings Millstone Co. are more crowded than ever with orders and business still increasing.
The large mill of Long \& Co., at Russelville, Ky., is being overhauled and is having additional machinery.
Samuel Zimmerly, of Socoro, New Mexico, is adding a run of buhrs, elevators, bolt and other maehinery to his mill.
J. M. Welden, of Lewisburgh, Ky., is building an addition to his saw mill, in which he will place a custom mill outfit.

The Anchor Mill, Minneapolis, owned by Messrs. Pillsbury \& Co., has, been thoroughly reconstructed and has $\overline{\text { titarted up. }}$
The mill at Money Creek, Minn., formerly owned by S. Fox, has been purchased by John Leman, who has given it a general overhay
ing. ing.

Albert Curtis, an employe of the North western Mills, Milwaukée, had his leg broken, June 20th, by the careless backing of wagon.
The mill at Bluffton, Iowa, formerly owned
by Blackmer \& Meder, has been sold to Hall \& Rice. They intend to remodel the mill this

The firm of D. K. \& J. Sternberg, millers, of Boulder, Col., has been dissolved. The business will hereafter be conducted by J. Sternberg.
W. W. Vanghn, miller, of Lyons, Wis., is dead: He was also senior member of the firm of $\cdot W$. W. Vaughn \& Co., flour dealers, in
Racine, Wis.

Strowig Bros. have ordered a two-run water mill of the Nordyke \& Marmon Co., of Indianapolis, Ind., which is to be set up at Valley Falls, Kan.
Jonathan Greggson, of Austin, Minn., is taking the machinery out of his mill and will rebuild it and increase the capacity, making it a first-class mill.
Robt. Williams, proprietor of the Northwestern Flour Mills, Milwankee, has recoversd $\$ 302$ of the $\$ 332$ recently stolen from him by his servant girl.
The grist mill owned by James Forbes at Chickasaw, Iowa, is having an addition built on, and increased two run of stone, making it a five-run mill.
The Attica Milling Co., of Attica, Ind., have ordered two additional run of buhrs, bolting chests and elevators, to increase their mill to a five-run.
Nordyke \& Marmon Co., of Indianapolis, are building a large elevator for I. P. Evans \& Co., of Indianapolis, for handling grain used in ther mill.
Nordyke \& Marmon Co,, of Indianapolis
Ind., are building a two-run mill, to be driven Ind., are building a two-run mill, to be driven by an Atlas engine, fo
Wysor, Kline \& Co., of Mancie, Ind., are making extensive impruvements in their large mill, and adapting it to the latest principles in new process milling.
Four thousaid barrels of flour were recently shipped from New Orleans to Baranguilla, a town in New Grenada, on the Magdalena river, South America.
The Selma (Ala.) Compress Co, have or dered a three-run mill, which will be intended other products from corn.
Most of the mills on the Southern Minnesota Railroad in Minnesota are running full capacity, and at the present time farmers are not slow in bringing in their wheat.
The Milwankee Middlings Millstone have a number of contracts on hand to take out four-foot stones and replace with their sixteen-inch mills for grinding wheat.
Mr. F. W. Stock, of Hillsdale, Mich., takes four more sixteen-inch mills from the Milwankee Middlings Millstone Co., throwing o four-foot stones to make room for them.

The Milwankee Middlings Millstone Co. are furnishing 7 mills in Michigan, 4 in Wisconsin, 3 in Minnesota, 2 in Missouri, 5 in Illinois, and many others in various parts of the country.
The firm of Frasius \& Bennett, millers, Clyde, Kansas, has been dissolved by mutual consent, Mr. Bennett withdrawing. The new frasius \& Withaup.
C. C. Busby, of Fieldon, Ills., has engaged the Nordyke Marmon Co. to remodel his mill to the improved methods of new process milling. Two run of burrs, iron hursts, purifiers, rolls, etc., are being furnished and set in position.
The mill at LaUrosse, Wis., owned by A. A. Freeman and M. L. Freeman, now has fifteen run of stone and twenty-two sets of rollers,
make it as near fire-proof as possible. It is a cess under the management of Mr. Zis a suc
Millers who have the old style porcelain rollers run by gear wheels, that wish to stop that everlusting deafening noise, can do so by running the gear wheels in oil. Have a tin or circle said gear wheels fitting tight around the shafts ; hinges on one side, and fastenings on the other ; fill about half full of oil.

Within the past year John T. Noye \& Sons, have ordered Walker's Belt Tighteners for operating belts driving mill-stones and machinery in several of the mills for which they have furnished the fittings; among which may Penfield, Lyon \& Co., Oswego, N. Y., for Penfield, Lyon \& Co., Oswego, N. Y., for
whom they recently ordered several of these tighteners. This shows an appreciation of this invention in high quarters.
It is a settled fact that Cawker City is to have a first-class steam flouring mill. The necessary aid which has been asked of our people has been extended, and the building
will be immediately erected. The mill will be furnished by four run of burs mat the furnished by four run of burrs, and the en-
gine will be of sixty horse power. The entire mill, when completed, will cost from $\$ 10,000$ to $\$ 11,000$, and will be an institution that will go far toward builling up the business interests of our city. We wish the projectors of this enterprise the very best of prosperity.Eawker City (Kansas) Free Press. M. and J. A. Beach, formerly of Illinois, are the parties who are going to build the mill above mentioned.]
The following is a list of millers who have lately bought the Becker brush from the Eu rekn Manufacturing Company, of Rock Fulls, H. Burns, Woodville, Ohio ; Barney \& Kibby Sandusky, Ohio ; Coulton Bros., Bellefountain, O.; W. E. Woodyear \& Co., Baltimore, Md.; Q. M. Brandt, Mount Joy, Pa.; Richmond City Mill Works, Richmond, Ind.; Nor dyke \& Marmon Co., Indianapolis, Ind.; J. E.
Loughrey \& Co., Monticello, Ind.; D. H. CasLoughrey \& Co., Monticello, Ind.; D. H. Cas-
well \& Co., Nashville, Teni.; Cannon \& Son, Bell's Depot, Tenn.; Whitnure \& Binyon, London, England ; Oscar Oexle, Augsburg, Germany; Anton Gunther, Hamburg, Germany ; J. Grossman, Buda Pesth, Hungary -Ernst Billhuber, Holez, Spain ; A. Millot, Zurich, Switzerland
We respectfully request our readers when they write to persons or firms advertising in this
paper, to mention that their advertisement was seen in the Untted States Miller. You will thereby obl
vertisers.
In our August number we shall present our annual review of the milling industry in Milwaukee.
IT is highly probable that the electric light will soon be introduced into the leading flour mills of this country.

We call the attention of our readers to the advertisement of Wilhelm Braun, of Carlsbad, Bohemia. Parties writing to foreign advertisers should mention in their letter where they saw their advertisement. Letter postage to European parts is 5 cents for each half ounce. Newspapers, 2 cents each.

The Board of Trade flour trier and grain inspector, manufactured by H. J. Deal, of Bucyrus, O., is meeting with rapid sale. The celluloid flour triers are cheap and very hand ome. Mr. Deal presented us with one a short time since, and one of our miller friends captured it from us, but before he had enjoyed the possession of it 24 hours, a brother miller Just on his way to England, gobbled it from will We hope some of the British millers

IT BEATS THEM ALL.
Lehmann's Method of Truing the Faces of Mill Stones.
Ever since the announcement was made of he novel and important invention by Wm. Lehmann, of Milwaukee, of a simple method fecuring a perfectly true face on mill-stones, rert interest has been manifested by millers all over the country. His method is so perect that, after he has trued up the faces of the upper and lower stones, he can place a row of single thicknesses of paper all around on the lower stone, and then let down on it the upper one, and every piece of paper vill be held tightly between the slones. This he has done frequently. Every miller knows the value of a true face. No patent staff of any kind is required. Mr. Lehmann's method has met with the warmest approval wherever intro duced, as can readily be seen by reference to the letters which we append below. The first of which is from George G. Smith, the well known millwright, of the firm of Smith Bros. No. 454 Canal street, Milwaukee, a gentleman o whom the Millers' National Association are under no small obligations for efforts made in their behalf.
 our improvement in staffing and truing mill-stones. have sen the improvement used, and paid attention
to the improvement it made in the grinding, and found
to execed anything I
 and , ovel, and would eheerfully recommend it to all
hat have faith in a true face on a stone. Y Yours truly,
GEO. S. SMITH.

 We consider it the best thing that ever was for straight
ening the face of nith mill-stone, nnd worto the money
Yours truly,
BEN NETT, BROS, \& COE Puryourt, Wis, May $9,1879-\mathrm{Mr}$. Wm. Lehmann:
Heretofore eve have used the old-fashioned long staff a
 hers of mapy years' experience we wapposed we knew
how to mil entirely. Your method of stanfing is beyond any ques
tion the most perfect used so far, nd in our opinion ng
mill can afford to do without it. Respectully 4 $=5=2=$ $5=5=2=2$ , G.S. Campbell, head miller. Fox Lask, Dodge Co. Wis,, March 26, 1877.-Mr. Wm. the balance due you for your method of staffing stones.
We can rerommend it as being $a$ great improvement
over over nyything we have seen. Yours truly, miller.
COMAN \& Morhison. J. W. Ashley, hend mile
 $=5+5$ $=4=4=$ W5w w w $5 \mathrm{~F}==$ $=5=-5$

 Read Mr. Lehmann's advertisement on another page and send in your order. His
terms are reasonable, and his method is well terms are reasonable, and his method is well
worth the money asked for it. Address all communications to Wm. Lehmann, 722 Fourth street, Milwaukee, Wis. U. S. A

A party of natives from the "onld sod" visited a Westfield, Mass., clothing store the other day to buy a suit of grave clothes for a deceased friend. All varieties of gurments were examined and disenssed by the mourning friends, but none could be decided upon antil one of the party held up a light, thin snit, saying, "gorra, let's take this, by's, it's thin and cool, and poor Pat will finsit mighty comfortable." The suit was bought with grave faces, pone of the party evidently seeing any incongruity in the recommendation.

United States Miller.

## E. HARRISON CAWKER, Editor.

## 

 Subseription Price.Foreimn Sabeription , Matairaze

MILWAUKEE, JULY, 1879 .
milleme asnociation directoky. $\pm=1=\frac{x}{2}$ $5=4=2$ $=2 \times 4=5$ $5=7=4$ $5= \pm=4$ $=4=$ $v=\square=2=$ $\operatorname{TV}^{2} \mathrm{~T}^{2}=$ $4=2+5=5$ $x=2$ $\pm 2 \mathrm{avaz}=$ $25=2=2$ $=4=0=0$ $2 \times 5=$
 ...... We wish them to consider the recelpt of a
$\qquad$
$\qquad$

Postage stamps taken in payment of subscription to the United States Miller and
the Millers' Text Book. $\$ 1.25$ pays for both the Millers' T
for one year.

We call the attention of our readers to the advertisement of the Schroll Grain Drier. We
published a description of this machine in our May number. It is unquestionably the maChine of the day for grain drying purposes. 24 and 26 S . Canal st., Chicago, II.

## THE COMPromise has been endorsed by most

 of the State Associations. Some of the Minthink that on further reflection all will become satisfied that the terms secured by the Sub-exrate, millers are not compelled to avail themselves of those terms if they think they can do any better.
## Flour Mills Burned Recently. <br> Knowles, Bigelow \& Co., Raydolph, Wis.

 Loss, $\$ 5,000$.H. P. Beatt
H. P. Beattie, Davenport, Iowa

Borst Bros, Middleburg,
Bennett, Becker \& Co., Jackson, Mich. Loss, 125,000 ; insurance, $\$ 75,000$.
Burroughs \& Piersos, Flint, Mic
M. Geiselman, Marlbro, Va. Insured, \$4, 000.

The Northwestern Grocer: is a new weekly
trade paper, published in Milwaukee, b
Messrs. Trayser Bros. It is the neatest an Hessrs. Trayser Bros. It is the neatest and
most able commercial journal that has ever been published in this city. It circulates among dealers in the States of Wisconsin, Minnesota, Michigan, Iowa and Northern Illinois, and has already been of great value to

| Milwaukee merchants. We wish the Nortli- |
| :--- |
| western Grocer a long and successful career, | western Grocer a long and successful career.

Mr. Shape, of the well-known firm of Voechting, Shape \&iCo., bottlers of Schlitz's
lager beer, has been on a trip for a few weeks, lager beer, has been on a trip for a few weeks,
half business and half pleasure, to the Pacific half business and half pleasure, to the Pacific coast. In his letters home to his friends he speaks in highly favorable terms of the climate, fruitfulness, geniality and hospitality of our Pacific brethren. He is also gratified to learn that Californians are not so predjudiced in favor of their native wines and Kentucky drinking a glass of Milwaukee lager.
The Milwaukee Practical Miller's Association, in addition to the ordinary benefits of the Association, has taken the preliminary steps sick members, a relief fund for indigent and sick members, and forthose injured by acci-
dent; thus doing away with the unpleasant dent; thus doing away with the unpleasant,
uncertain means of relief which comes from passing 'round the hat, and putting in the place of charity, a good business fund for the relief of deserving members. It solicits corsuch may exist.

## Indiana Millers' State Association.

The annual session of the Indiana Millers Association was held at Indianapolis on June 19th. The attendance was fair in numbers,
and the result of much importance to the as sociation. The session lasted two days.
President Ellis opened the proceedings President Ellis opened the proceedings with
he following address: the following address
ganization of our State Millers' Association.
During this time there has much transpired which was and is of great importance to the was the victory over the Consolidated Ameri This decision in our favor was and is of Loui importance to the milling interest of this country than many suppose, for in this we
have actually shown our strength, and shown it in such perfection that any ring that may be
formed hereafter will not attack us before knowing that their claim is just and right, and
should their claim be a just one, prepared to compromise with them for
compensation for whatever patent
patent they may
The compromises just made by our National you have all been informed before this, have mutual interest of all millers a to protect the association, and should be complied with by all means, as they have not done this hastily,
nor without due deliberation, and have acted also upon the advice of the attorney of th
National Association, the Hon. George Hard ing, who has attended for the past two or thre years to the case just decided in our favor of so great an amount but that every miller
interested can pay, and this will at least put
aside all litigation against paid-up member aside all litigation again
that may arise ${ }^{\text {heteteater. }}$
This, now being
our troubles in this direction is not said that there may yet be other matters brought to light a source of great annoymed trifingly that may be I would beg of you not to lose interest in our
association or its workings, for you have now association or its working
plainly seen its benefit.
In this matter alone you
In this matter alone you have been more than doubly compensated for all the outlays $y$
have had, consequently there is nothing to r

Heretofore I must say that members have not taken such an active part in discussing the various topics that have been brought before
our conventions. This I regard as a lack of our conventions. This I regard as a lack of
duty, as it is to every one's interest to fully
understand every point that is understand every point that is discussed, and among us can and will make such suggestions call it, and enlighten us all on a subject that has long been dark to us.
The various committe
The various committees that I have appointed to report at this meeting, the Chair-
men of which I have addressed personally, meeting as will be of much intereat Another important matter to come before this meeting is the revision of our old constitution, or, in other words, to adopt a new con-
stitution. This I have submitted to our Exstitution. This I have submitted to our Ex-
ecutive Committee, and they will report it to It will also be your duty at this meeting to
elect a new set of officers for the elect a new set of offlicers for the coming year,
and in doing this, let us take such men from among us, and we have plenty of them, that have the interest of our Association at heart nd will give it their best attention.
After due discussion on report of Mr. Gibson, of the Executive Committee, the recommendations of his report were adopted, whereby the constitution was amended, to be in accordance with that of other Western Milling Associations, that of the Wisconsin Millers' Association being adopted.
Able reports from Committees on "Inspection" and "Grain for Milling" were read, and adopted, after discussion.
An interesting discussion occurred on the
second day of the session, on flour tests. As sessments were made, and the following officers elected for the ensuing year:
President-Jos, F. Gent, Columbus
First Vice President-B. Jenkins, La Fay-
Second
Second
Vincennes.
Secretary
dianapolis.
Executive Committee-David Gibson, Jlles, Member oi Exceutive Committee of Nation Association, R. L. Thompson, Terre Haute
It was also moved and carried that any mil owners in the State may become members of the Association upon full compliance with the provisions of the Constitution and the paymen of the full amount already paid by other members to date, and the annual membership fee of five dollars. The Secretary was instructed to notify millers of this action.

No further business being before the meet ing it was adjourned.

For the United States Mllaikr.]
To Millers of the State of New York
At the annual meeting of the Millers' National Association, held in Chicago, on the 13th, 14th and 15th of May last, the Executive Committee accepted the proposition made by the Consolidated Middlings Purifier Company of Jackson, Michigan, whereby full-paid memmay becors may become members prior to July 15th, 1879,
and who are infringing some or all of the and who are infringing some or all of the
Geo. T. Smith patents, more particularly the "combination in middlings purifier" of the under the seive" in any purifier they are no lease for the past, and a license for the future for the sum of twenty-five dollars for each purifier containing such combination. Thi ing to said company (excepting the Cochrane which the committee refused to entertain), in cluding the Stoll, Barter and Smith claims. Members desiring to put brush on purifier now in their mills, can do so at same rates. An equally favorable proposition, made by he Downton Purifier Manufacturing Company hich covers the process patent, No. 162,157 purified middlings for the purpose of $r$ moving the germ, but does not cover their use on wheat, bran, or purified middlings, was ac-
cepted by the committee. Members infringing can settle for past and future for a royalty o $\$ 25.00$ per set for the first three sets; $\$ 15.00$ per set on the second three sets; $\$ 10.00$ per number $\$ 0$. rolls at present set. This applies only to said royalty is to be paid when the validity of Court of the United States.
These terms will apply only to full pait members of the various associations. For details I will refer you to the inclosed circu

The National Executive Committee, after aided by examination of the various claims, aided by our counsel, Mr. Harding, believe
this arrangement to be exceedingly favorable to the millers. The policy of the National Association is to avoid all litigation so far as can honorably be done, and especially wher there are no good reasons for doubting the validity of the patents, and to compel pat entees and manufacturers of mill machinery
to protect and defend their licenses As evidence defend their licenses. the above proposition to millers, I have re liable information that the owners of the above patents charge a certain purifier manufacturer (and refuse to take less), $\$ 75.00$ royalty on a brush on the hereafter manufactures using Millers of this Starine these patents, who fail to become members of the Juw York State Millers'. Association before the 15, 1879, will be entirely at the morcy of the Consolidated Middlings Purifier Co., or
some similar organization. In addition to the advantages above mentioned, members will be protected against all future fraudulent or invalid patents which may be owned by unscrupulous men or combinations, whose sole aim is to bleed or levy blackmail on the miller. form will also have the benefit of all the inof the Now or hereafter in the possession discounts which will be obtained by the offlcers of the National Association for their members from patentees and manufacturers of mill machinery. The number of patents 'ismiddlings purifiers amount to several hundred. Some of the older ones, notably the Barker
and Stoll, have lately been reissued for the purpose of covering later and more improved machines. The propositions made by the owners of the Barker patent re-issued in No vember last, which claims to cover all suction machines, was declined by the committee, and is liable to be the subject of litigation in the nea uture. Millers desiring to become member can do so by remitting to the Secretary and Treasurer of the New York State Millers' As sociation $\$ 25$ per run of burrs, reckoned on the following basis: counting all stones in mill 36 inches diameter and over, used on wheat, middlings or bran, custom grinding tones included; all under that diameter two stones counted as one, and in all cases where iron or procelain rolls are used, three sets as one stone. Members and those desiring mem bership will please fill out the marginal inter rogatories of the enclosed circular, mailing and the other to S. H. Seamans, Secretary National Association, Milwaukee Wis., and new members infringing can avail themselves of the above arrangement, by re turning the enclosed certificate for the signature of the Secretary and Treasurer of the fur the proper amount. The business can be done through me, should you prefer.
To show the utter helpless
single miller when used by a patentee, of a single miller when used by a patentee, I will
say, that the cost to the National Association of defending the Cochrane suit, was $\$ 74,495$. Secy. and Treas. N. Y. S. Millers' Association Rochester, N. Y., June 11, 1879.

## Trade Items.

Edw. P. Allis \& Co. have just received a large shipment of the choicest violet burr blocks. They have large orders from Minmand there.
Edw. P P. Allis \& Co. have over 400 machin ists and moulders now on their pay roll, be sides their large crew of millwrights.
J. A. Cole, of Rochester, Minn., has con tracted with Edw. P. Allis \& Co., of Milwau-
kee, for his new mill. It will contain violet stone and porcelain rolls, used in combination.
Edw. P. Allis \& Co. are fitting out a new machine shop in addition to the present large one, to keep up with their orders for rolls and engines.
Gould \& Ostrander, of St. Louis, Mo., have ordered a Reynolds-Corliss engine of Edw. Seymo
Seymour, Sabin \& Co., of Stillwater, Minn. have ordered a $26 \times 48$ Reynolds-Corliss engine of Edw. P. Allis \& Co., Milwaukee,
The Reynolds-Corliss engine has, in care fully conducted export trials, developed an cozomy never before equaled
The Millers' Association, of Minnesota have called a special meleting at the Nicollet House, in Minneapolis, July 1st, to make move to protect themselves against the Coch rane and Downton rings. The heavy millowners of the Northwest are not satisfied with he action of the Natioual Association in these settlements, aud will do what they can to avoid paying on this basis.
E. P. Archibalds \& Co., of Dundas, Minn. are about to remodel their mill, will raise the roof of mill building 35 feet, put in more rolls and increase the capacity throughont besides adding steam power ; contract is not let yet. This mill manufactured the first Minnesota patent flour, it taking about three weeks to manufacture the first 100 barrels. At the present time Archibald \& Co's. patent flour is well known throughout the universe for its superior quality.

Jesse Ames Son's at Northfield, Minn, are increasing the capacity of their mill, building an addition to the building. They contemplate putting in steam power on account of soarcity of water. W. G. Gunn, of Minneapo

Special ఇßивiness ZVotices.



On the Reduction of Wheat and Middlings.

## by jonathan miles.

The reduction of wheat into a first-class flour without undue waste of the flour portion of the berry, and at the same time bringing
the cost of production down to the least pos$f_{0}$ fible trouble and expense, is a problem that this country. In competing in the markets of Europe, we have to contend with some very
fine hard wheats as well as with their old established brands of flour. Some of our mill tablishers have been inclined to attribute the superior quality of a few brands of Hungarian flour to their system of reduction by rollers. I am free to express my belief that if we had
the same wheat to handle in this country in some of our finely-built mills where stone-
dressing has been brought up to a science, we dressing has been brought up to a science, we
would do far better work and make a grade of would do far better work and by any system
flour that could not be equaled by and of rollers ever devised. Every miller and
millwright that $I$ have talked with that has visited the mills of Europe, informs me that they are far behind us as to the condition in balanced. If such is the fact it is easily explained why they give preference to reduction
by rolls. I am positively sure that the reduction of middlings down to flour by rolls, no matter how gradual the process may be, is
all wrong. I admit that the roller flour shows up well in hand as far as, color is taken into when first baked into bread; but right here is where it falls far behind flour made by mill stones-e dries out very quickly, and in about
eighteen hours it has no more moisture in it than a red cedar chip, and is abott as devoid by the rollers flattening out the gluten cells, as well as a great portion of the gluten itself which cannot boit its form, is compelled to
the very nature of part partnership with the starchy portions of cloth the gluten cells and a great portion of the gluten adhering to the cells are passed out, either through the coarser cloth so often used, unpulverized portion of the middlingsthrough, or else, where fine cloth is used the entire
lehgth of the reel, they pass out over the tail of the reel. Therefore, the very material that while flour made by mill-stones, perfectly fitted up, rounds up every particle of middlings, gluten cells and all, into a fine, granular flour We hear fault found with middlings sometimes being out of round, elongated, angular, and unfit to be perfectly purified. I have yet to hear the first miller attribute the same fault to flour, although the same fault exists in the
oval, elongated form of the flour when made by rollers. The consequence is, it must be rolled down to the very finest pessible degree in orfine cloth. Some man should invent a cloth with oval
vocates.

About two years ago I stated my belief that no system could be devised in the shape of rollers or crusher-stone for flour mapersede the mill supersede the mill-stone for flour making. fore. We have never had a perfectly constructed mill-stone, with its whole outfft so made as to hold it rigidly to its duty, there-mill-stones as they are capable of doing. But even as they are operated in every well-constructed mill where stone-dressing is done in good shape, they will make better flour than any kind of rolls.
I do not want it understood that I would exclude rolls entirely from the mill, as I believe they are a much-needed auxiliary to the more perfect reduction of the wheat by mill-stones,
in sizing down the coarse, germy middlings, and for flattening out the germ so as to separate it from the middlings. Further than their use as above stated, I think they are not required. They are a delusion and a snare for any other use in milling.
Thus far I have only been making comparisons between the use of rolls and mill-stones for the reduction of middlings. As to the re--
duction of the wheat berry from its natural form, I wish to treat first on its preparation for proper reduction. I have read the reports of the late Millers' Convention on milling, improved methods and machinery, by the various committees, all of which interested me very much, showing that at least they
were trying to arrive at a satisfactory solution
of the proper methods of milling. On the
subject of cleaning wheat, Mr. Gibson and Mr. subject of cleaning wheat, Mr. Gibson and Mr.
Gent both touched on the ending stone for Gent both touched on the ending stone for
cleaning wheat. Evidently both had been exchanging ideas, both being from the same section of Indiana. Mr. Gent says he is of
the opinion that the day is not far distant when the ending stone will supersede all other cleaning machinery for scouring the wheat berry. This process, in his opinion, will be carried down to the exclusion of the germ.
With all due respect for their opinions, I will have to differ widely from them on that mode of cleaning wheat. They evidently have no might, or they would have very soon arrived at the fact that to end wheat down to the exclu-
sion of the germ would reduce the weight of the Wheat, at the very least, fifteen per cent. No
miller could stand that kind of a reduction In ending wheat on ending stone (whicl mean a hard sandstone and nothing else) the bran is lobe of the kernel. The idea of Mr. Gent, to remedy the evil already done by the ending tone. The wheat flour cannot be kept up in bran is so badly abraded that the burrs in grinding it comminute a great portion of it so
much that it bolts through with the first flour and by no system of bolting can it be got out. The very gentlest maner in which we can the tender winter wheats. A far better pla is to pass the wheat through about 24 convey together, and have each conveyor box closed over tightly, and at least six inches clear spac tached so as to draw the impurities away the discharging end of each conveyor. end of the conveyor that could be regulate to give the proper amount of air necessary to carry of the dust and fluffy, downy beard that
is worn off by attrition through the constant action of the conveyors. As the wheat leaves gently-operating brush machine. This mode of cleaning does not wear off the hard, glazy
varnish of the berry, nor does it abrade the bran at the lobes of the berry, but it effectualy removes the fuzzy and loose volatile matter, and the hrushing removes the adhering volacrease of the berry as far as it is possible to do so without splitting the kernel. Mr. Gin--
son stated the facts of the results in splitting the kernel in his report on wheat cleaning, he says: "Then we have the crease or depression lengthwise of the berry, which always conla ins jurious to four." He is quite right as to the dirty, bluish matter in the crease of the berry kernel can be split longitudinally through the crease and the dirty, bluish, volatile matter removed almost entirely without the further ase of brushes. However, I believe the
gentle brushing after the berry is split open would still remove a portion adhering injurious matter, although I have not lest brushing. But I do know that the berry can
be successfully split, and by so splitting the germ is liberated in its natural form without being broken up, as is the case when it is stones. The ending stone means decortication, and nothing less, but hardly to so great or severe an extent as was done by the sand stone decorticators so extensively adopted in
many of our best mills a few years ago. At Grand Rapids, Mich., a good milling firm asked my opinion, in 1873 or ' 74 , in regard to a sandstone decorticator that they were then
putting in. I freely told them the results they might expect. The manufacturers of that de corticator got ruffled at what I had said, and wrote a severe letter to the Leffiel Water theel Co., whom I then represented, asking verse opinions. However, my positive con victions were not stifled, as I believed I knew niclien more able makers of that machine would ever learn. It was an-
another delusion and snare, that showed up like a pewter dollar in a mud hole. I have long since found out that I can more surely depend on the true state of the condition of a kernel of wheat or flour, or any of the wheat products, by examining it carefully through a strong microscope than to depend on the naked eye. A good one or two hundred dollar microscope in the possession of every first-class mill owner is the best auxiliary to the true knowledge of milling that he can possess, and it would be a better investment than he could
make any other way about his mill. heat, as I would prefer to have it prepare to obtain the best results from it in reducing it to flour and middlings. A great many millers are using heaters, which I think advantageous in certain conditions of the mill to have heaters, since they can be used or not, as the nature and condition of the wheat may require. Any good miller can soon learn hen the wheat is in condition to be benefitted with heaters a short time.
There are many mills where they use iron grinding. I am satisfied that in high grinding mills where they are working for a large perentage of midalings, the crushing of whe inding is not the thing to do, as it educes the quantity of middlings and makes too much first flour. It also shapes the wheat as to admit the burrs to comminute the
bran to too great an extent, makes the first lour "off color," and increases the quantity majority of mills. The quality of the first facts, viz: that the wheat is too severely thered that the burrs are in bad condtion present time exerting their best efforts toward the reduction of wheat, to a large percentage first flour. I claim the making of a larg percentage of middlings is desirable, when. they can be made, and the first flour hel in value. There are many mills to-day making a large per centage of patent flour and bring ing their wheat down so low that it barely
will pass for more than super. The difference in prices obtained for the patent and first flour grades were mixed together, they would brin a greater profit to the miller than to sacrific the first flour for the benefit of the patent The machine or system of machines that can wheat flour to a higher standard than is now done now (no matter whether the quantity of demands at the present time. Any good, first class mill can turn out a good patent flour flour ; and the millers are greatly interested to see whether this cannot be accomplished otherwise than by means of mill-stones. compelled to turn their attention to the more perfect construction of the mill-stone and its
attachments. While there is but very little room to advance on the present style of build-
ing mill-stones, there is vast room for improvement in their action on the grain
The purification of middlings and the bolting of the different grades of flour are all-
important in every mill. Many mills are deficient in the quality of cloth used for both; and this is a part of milling that is the hardelaborate showing the best plans for the many different qualities of wheats. While the same rules
grades and kinds of wheat, the same rules laid down for purifying and bolting spring wheat will not hold good in winter wheat. system that is perfect on Michigan or other soft wheats, in purifying and bolting, does not hot hold good in every particular on the fore, to properly treat this subject, each kind wheat must be considered and differen plans laid down for each, which would in-
volve much labor and careful statements of all the facts relating to each variety. This is subject that I hope to treat on in the near future.
In conclusion, I believe that mill owners would be greatly benefitted by sending their
head millers off on a tour of inspection about once a year. I know a few of the progressive millers that have been doing this for the past three or four years, and to my personal knowl-
edge, in several instances, it has resulted in edge, in several instances, it has resulted in
far better stone-dressing than had previously been the rule in the mill, and better milling throughout. It stimulates a pride and interest which is to the benefit of every mill owner who sends his miller around. Head millers of this country should form a brotherhood and hold annual conventions, in conjunction with a convention of flour mil machinery
men, independent of the Millers' National Asmen, independert of the Millers' National As-
sociation, where they could be brought in contact with the vast and varied collection of the different kinds of machines used in the manufacturing of flour. It would be well to admit the $m$
take take part i

## Room for Invention.

We frequently hear the remark that the
time will soon cone when the course of in vention will be run; when, like Alexander, inventive genius will weep, because there are no more worlds to conquer. The fact that iron
fingers have in so many branches of industry fingers have in so many branches of industry
been made to perform tasks once done by sinew ; that electric throbbings have out stripped the fleet messenger in business affairs, and the iron horse with food of burning coals carries the love-letter in the mail-sack, where once the oat-fed country steed galloped along
the hard-beaten road. These facts pressive and suggestive, but not convincing on the subject of an ultimate limit to inven of progress in rolling along has wrapped The ball of progress in rolling along has wrapped about
it many a layer of ideas formed into tangible racts; but the periphery grows, and th e capac
ity for enlargement grows with it ity for enlargement grows with it. As the circle of knowledge widens, the illimitable
space beyond still more increases, and there is both more to learn, and greater ability to learn If the needs of man were the sole guage
of his demands, there might well be a poin
at which inv ention, satisfied with at which inv ention, satisfied with granting all
needful things, would be compelled to reat But "to want" means both "to lack" and "to
desire;" the food and shelter and clothing absol utely requisite develop into luxuries pala te and æsthetic taste. The rude needle of cloak and made of it a definite garment, wa an invention that might have sufficed in it mand and supply are commensurately progres march of progress; and now we have that purring like a kitten, while basting, sewing hemming, gathering, tidily at high speed; this modern sewing machine being as legitimately the development of the bone needle, as the of the fige garment or to-day is the outgrow herson Ourwantse successive generations, luxuries develop int customary grants and eventually become ne cessities. Our condition is ameliorated, and hence our appreciation sharpened, while cer
tain faculties have become dulled and inven tion must supply their places or their de effect, it is for invention to extend and perfect it. Thus, in every walk of life it is for cunbinations or perfect the old, fearless of thwart or limit. In proof that with improvement
criticism becomes more keen, and demands more imperative, we have only to look about Wh for promising fields to engage the inventor. falls before the classic sickle, and the hay maker has ceased to be a picturesque inspiration for the poet-the root-crops still demand personal delving and grubbing, and the ripened fruits still call for human pickers to pluck
them one by one. For the inventors who them one by one. For the inventors who
would devise a mode removing half the blossoms from a peach tree, without injuring the buds which form the next year's bearing stems, there awaits a magnificent prize. Ramie and
other fibers still defy the textile art ; and the gorgeous aniline dyes fade with a summer' sun. Household fires, once synonyms of noxious monuments our heedlessness of ces that should minister to our comfort and well-being, poison us insidiously but surely.
Our vaunted gaslights blacken our paint and kill our window plants, while in the streets, the pipes which lead the gas destroy our shade
trees. Our sewers and our drains are con trees. Our sewers and our drains are con-
founded in name and in use, and both of them are poisonous. Our chimneys breathe forth
smoke which is unconsumed fuel, and hence wasteful. Our steam boilers, with partly con-
sumed fuel, supply our engines with wet steam, and the engines (whose cylinders have to be supplied with oil, through faulty design mainder
humanit humanity or tractive effect, draw wagons or
cars whis cars which rattle our teeth out, on roads or
rails which ratte the vehicle to pieces. The explosives long ago were constrained to throw hurtful missiles, have but in one instance-blasting-been employed in peaceful work; if
we may except the gun powder pile driver we may except the gun powder pile driver,
the precursor of a long line of explosive mo tors yet to come.
For these and hundreds of other eyils, in-
ventive genius must provide the remedy; and entive genius must provide the remedy; and
as new and artificial wants arise and develop into necessities, upon the inventor, even in the vanguard, devolves the duty of exploring
the land of the possible and providing for the the land of the possib
legions of the actual

## legions of the actual. It might be said th

ranks of knowledge, and art to the forces of man, the field of true invention would narrow, and that of improvement combination and application correspondingly
widen. And this distinction may not perhap widen. And this distinction may not perhaps be improper to draw or inappropriate to apply.
Certain it is, that as observation and experience lay down the facts, and reason deduces therefrom the theories and evolves from these again the laws which govern things and forces intangible, the plane of the inventor will rise higher and higher, and his usefulness will never diminish. It is to him that races un-
born, nations unformed, countries unexplored, born, nations unformed, countries unexplored
look to for their betterment and the achieve ment of their substantial welfare. him the antagonism between man and manthe foul distinctions of caste and class-will be swept away; gnd better men, under better

achieve the degny writen for them in the day
when the roefy ribs of this earth were formed.

THE UNITED STATES MILLER.

## United States Miller.

PUBLIS HED MONTHLY.
62 Grasd Opkra Housk, Milwaukr, Wis.


MILWAUKEE, JULY, 1879 . THE USITED STATES MILLER has now com. oknowlelgel to be one of the most valuable milling
utuds in Amorica, both for the purpose of transmitting umak in America, both for the purpose of transuitting
wledge on milling and mechanical subjects and as an
ivertiving medium for introducing and selling all kinds Ivertising medium for introducing and selling all kinds
if modern milling machinery. It is our aim to meet the of modera milling machinery. It is our aim to meet the
wants of our patrons, whether manufacturers or con-
simers. Our editorial course will be entirely independent, and we fhall do our best to give our readers the
henefit of the Litest important news on subjects pertain-
ink to the objeets of this paper. Our circulation and "avertising patronage cover nll sections of the country.
We do not deal in machinery ourselves, and consequentiy
have no "a ares to qriald." We cordially invite all those who have already patronized us to contioue their patron-
ase, and those who have not to try our columns. We ap-


not delay, but send your order now. Enterprising, go-ahead millers cannot afford to be without the current milling literature of the day.

## IMPORTANT NOTICE.

to the party receiving this paper who is not already a paid subscriber.
We hereby extend to you a cordial invitation to become a subscriber to the United States Milleir. We shall endeavor to make it of the greatest possible use and benefit to the milling fraternity, and no mill should be without it. The best talent that we can obtain in this and other countries will contribute to its columns, which will also be enriched by carefully translated articles on subjects of interest to the craft. Subscription price, \$1. Enclose money or stamps in an envelope, seal carefully, and send at our risk. By return mail you will re. ceive a receipt therefor. Address

The United States Miller,
Milwaukee, Wis

## Keeley Again

Keeley's wonderful motor has proved a failure, and his $\$ 6,000$ generator has been broken up and sold for old iron-but he was not dis-couraged-no, nor is he going to be as long as he can find men with money willing to invest in chimeras. He has it now-solid-pressure to the square inch of 20,000 pounds, and you only have to move a little lever 12 inches long so as to open and close a 4 -way valve placed so as to open and close a 4-way valve placed
within the "cross-bar" of the generator, a small quantity of water having been previously "squirted" into the generator by means of a small rubber bulb. The substance evolved, which produces this immense force, he calls "inter-molecular etheric substance," and the power used to drive, "a vibratory enginc." Look out, gentlemen-keep out
the way of the "inter-molecular substance."

## Ohio State Millers' Association.

Presments Office, Akron, O., June 13th, 1879.-The Third Annual Convention of the
Ohio State Millers' Association, will be held Ohio State Millers' Association, will be held
in the city of Akron, Ohio, commencing at ten in the city of Akron, Ohio, commencing at ten
o'clock a. m., on Tuesday, July 6th, 1879. A reorganization of the Association will probably take place, and a new constitution be adopted to harmonize with the constitution recently adopted by the National Association. Also a member of the National Executive Committed is to be elected. These, and other subjects of general interest to be considered, should secure the attendance of ALL mem bers. We also invite all millers who desire to join our Association, to be present.

Ferd. Schulacher, Pres.

## Robert Coltos,

The editor of a Texas paper gives the folwing figures from statistical memorandum of his life:


A Patent Office Circular.
The following circular explains itself and will be of interest to inventors
 No power of attorney executed after July 1, 1879, purporting to have been given to a firm or corpartmership,
favor of the firm or of any of its members, unless all its members shall be named in such power of attorney,
I. E. Paine, Commissioner.
Schubz, Sec'y of the

Approved: C. SCHUBZ, Sec'y of the Interior.
"What is the chief use of bread ?" asked an examiner at a recent school exhibition. "The chief use of bread," said the urohin, apparently astonished at the simplieity of the inquiry, "is to spread butter and molasses on."

What They Jall It.-The horny-handed workman calls it "pay," and the skilled me. chanic, "wages;" the city clerk, "salary;" the banker, "income;" a land owner, "revenue ;" a lawyer, "fees ;" a burglar, "swag;" but it all comes to the same thing at the end

## Small Advertisements.

Many an inventor of some really valuable thing has hesitated about advertising for lack of the pecuniary means of putting in a large advertisement in first-class papers, but it is not absolutely necessary to have a large adveftisement to increase your business, as we will presently illustrate. - Large advertisements will, as a matter of course, catch the attention of more readers than the small ones, but especially in the milling business at the present time, when every energetic miller is striving to improve, there are thousands who scan carefully every line published in a journal like the United States Miller, devoted to the interests of the trade. To succeed in selling an article it must, in the first place, be possessed of intrinsic value and positive merits. Having these qualifications a small ad vertisement will introduce it, and as the manufacturer gets able he can of course make a greater display and attract greater trade. To illustrate: Mr. George Walker, of Hamburg N. Y., is the owner and manufacturer of a val-
uable Belt Tightener. He has advertised in a modest way in this journal for about a year the merits of his Tightener have become widey and favorably known. He has just sent us, unsolicited, the following letter compliment ary to this journal
Hamburs, Erie Co., N. Y., June 23, 1879. Edit $n$ United Siates Miller-DEAR Sir: In justice I am prompted to say, that during the time
have advertised my "Walker's Belt Tightener" in your paper, formerly the U. S. MilLivg and Manufacturing Journal, and now the
U. S. Miller, I have by that means received orders from various parts of this country, East, West, North and South, and also from England. I'therefore regard it as an excell Respectfully yours, GEO. WALKER.

That Berry Story. - The papers are re hashing the old Berry story, and they don't conclude it in accordance with facts. This is the correct version: A celebrated comedian arranged with his green grocer, one Berry, to pay him quarterly; but Berry once sent in his acconnt long before the quarter was due.
Thereupon the comedian, in great wrath, called upon the grocer, and said to him: say, here's pretty mull, Berry ; you've sent in your bill, Berry, before it is due, Berry. Your such a ciose, Berry ; but yon needn't look so blue, Berry; for I don't care a straw, Berry and if you come here before June, Berry, I'll kick your rasp, Berry, uutil it is black, Berry."

The Minneapolis millers have a joint stock association for the purpose of buying up the best wheat raised in Minnesota, so that there may always be a stock on hand to keep the millers in material to run on. The Milwaukee millers might do well to follow their example. It is true that ordinarily the elevators of this city contain much more than sufficient for any demands our millers might make, but under such extraordinary circumstances as those which now control the wheat market, it seems for the once to be a question of either shutting down for a while or running low grade wheat An organization of the millers of Milwauke could certainly do no harm, and we believe would be beneficial.

The Becker brush, made by the Eureka Mfg Co., Rock Falls, Ill., has become such a necessity in merchant mills that the firm write us their trade has fully doubled from previous years. The demand is so great for them they have been compelled to double their force to keep up with orders so as to ship promptly. The great success of this machine advantage over all other brushes is that it has a solid cone-shaped brush, which has double the brush surface of any other machine, and its cone shape prevents the wheat from falling directly through as is the case to a large extent in straight cylinder or sectional brush. It can be run from top as well as below. Parties ordering should state where they wish to run it from. See their advertisement on front page.

Messrs. James Leffel \& Co., of Spring. field, Ohio, have favored us with their beauti ful catalogue for 1879, of water wheels and the Bookwalter engine. Their water wheels are world renowned and need no word of commendation from us or anybody else. Over 7,000 of them have been put into practical use. The Bookwalter engine, also manufactured by this firm; is meeting with marked success wherever it has been introduced. It is manufactured to meet the demand for light power. The engines and boilers are calculated to supply from 3 to $6 \frac{1}{2}$-horse power. They are
reasonable in price. Messrs. Leffel and Co. will be pleased to furnish parties desiring to purchase, with their new catalogue for 1879.

We lately received a copy of the Blanchester (Ohio) Press, and in it read a very neat notice of the well-known bolting reels manufactured, by Chas. B. Slater, of Blanchester, Ohio. Millers who have not yet done so, should write to him for one of his descriptive circulars.
The Geo. T. Smith Middlings Purifier Co., of Jackson, Mich., are erecting a new factory in place of the one recently burned, two stories high and 60 feet wide by 200 in length. They have a large force of men at work in temporary quarters building middlings purifiers, so as to fill all orders promptly.

There is but one country to which we do not export any of our hog products, and that is Turkey in Europe. Here are the total exports for the last nine months:
Bacon and hams...
Lard.................
Value.
Su0.96.9.98
$16,497,972$
Russis, Germany, Hungary and France are open fields for enterprising American elevator builders. The last number of Die Muehle, published at Leipzig, has an illustrated article on the subject. To the best of our knowledge Pesth, the great milling centre of Europe, has no elevator proper worth speaking off.
John F. Dillon, Judge of the U. S. Circuit Court for the Eighth Judical district, and well known to the milling fraternity by reason of his connection with recent patent cases, has sent in his resignation to take effect Sept. 1st, 1879. He will take a position in the faculty of the Columbia College, N. Y., which commands a higher salary with less arduous labor.

Messrs. John T. Noye \& Sons, the wellknown Buffalo mill furnishers, have about removed all traces of the fire which scorched hem somewhat last month. Their business has scarcely suffered any by the unwelcome visitation, and they are now prepared to fill all orders as fast as possible after receipt. Their valuable and extensive line of patterns were absolutely uninjured.

Cawker didn't think the Wisconsin millers' meeting worth attending. He preferred to get his report from the Nopthwestern me. And he didn't even dare venture on $-N . W$. Miller.
This too, after getting the proofs of the report from the office of the United States Miller. Never mind Al-just wait till we take that fishing excursion

We call the attention of our readers to the advertisement of the Peninsula Stone Co., of Akron, Ohio. The stones furnished by them re for the purpose of ending wheat or hulling oats. Our readers will do well to refer to Jos. F. Gent's report at the Millers' Convenion, published last month, and read what he says on this subject. Ferd. Schumacher, one of Ohio's leading millers, is President of the company.
rebellious Minnesota Millers.-The millers of Minneapolis met June 23d, and requested the President of the Minnesota Millers' Association to call a meeting of the millers of the State, for the purpose of repudiating the recommendations of the National Association in regard to the Smith and Downton patents, believing them to be utterly fraudulent. They are disposed to fight them to the bitter end.
OUR readers will do well to read the advertisement of C. Rakes, of Lockport, N. Y., manufacturer of Jewell's adjustable separator, Rake's improved upright and horizontal bran duster, improved adjustable brush and beater, smut machine, buckwheat hullers, etc. Mr. Rakes also deals in all kinds of flour mill machinery and supplies. Write to him for his latest circulars and price lists, mentioning that you"saw his advertisement in the United States Miller.

## German Millers' Association.

The twelth annual session of the German Millers' Association was held in Berlin, June 21 st-25th. One of the most important feat ares of their session is the complete exhibitions of flour-milling machinery, for which mple accomodations are provided, and inventors and manufacturers warmly encouraged to oxhibit their productions. The programe sent us is very full and complete, and shows that ample arrangements for social enjoyment were made. Herr Jos. J, Van Den Wyngaert, the President of the association, presided.

## GRAIN.

pecullarities in its Normal and Manufactured state.

## An Investigation Under the Microscope-Showin

Investigation Adulterations and Natural Evila
which It has been Subjected.
a complete invebtigation of the subject by ONE OF THE, LEADING CHEMISTS of europe.

## clour in General-Wheat Flour-Rye Flo

Corm-Rice Meal.


## [Continued from May number.]

As an illustration, we here give in fig. 15 a picture of wheat flour when mixed with rice meal, in fig. 16 with maize, and in fig. 17 with
eean flour. But there are also methods of discovering the said, adulteration by a chemical process. For those buyers and sellers who already possess some skill in examinations of this kind, or who take pleasure in arriving a a safe and fully exhaustive conclusion by a sientific method, we here mention first the method of Boland, which is based upon uality which Gay Lussac has made known, aamely, if a mixture of wheat flour and potato starch is carefully ground in a mortar, the much ground much sooner than the smaller and flat ound ones of the wheat, and when water is added to it , a liquid is produced which is rendered blue by iodine water, while, by exactly the same treatment, pure wheat flour will fur or will at least become of a color clearly distinguishable from the former. In consideration of this fact 25 g . of the flour which are to be examined are taken. The glutinous contents of it may previously have been tested o judge of its quality in general, this is done, a has already been mentioned, by separating the gluten over a hair-sieve of fine muslin cloth, while it is being washed, and constantly kneaded from the starch which runs through. Fig. 18.] Good flour must contain from 10 to 12 per cent of gluten, and from 65 to 2.2 per
cent of starch. The above mentioned 25g. of this flour are mixed in a cup, or porcelain dish, with $12,5 \mathrm{~g}$. of water, which is ade
slowly and in drops and is stirred with a glass tube, then this mass is kneaded in the hollow of the hand, and thereby the entire contents of starch in the mass are washed out over the land's method) in a glass or porcelain vessel, which is halt filled with water so that only the pure gluten will remain. If the flour is poor the gluten will appear granulous, and it is difficult to gather it in the hand. After it has been thoroughly washed out, the gluten which has been obtained now weighed, so as to
ascertain at the same time how much of it the flour contains. The 25 g , of flour, if it is pure and good, must accordingly contain from $2.5-10$ to 3 l g . of gluten. If less is obtained that alone will be sufficient to create suspicion about the quality of the flour. The water containing starch, which is in the bowl, is now stirred with a glass tube and poured into a champagne glass where it is left untouched for one hour; during this time a sediment
will form itself at the botton of the glass, which must not be moved or touched, while, by means of a siphon, the water which has accumulated over the sediment is very carefully removed; two hours later this operation is repeated, for the starch still retained a certain quantity of water from which, by this time, it has gradually been separated. The mass which has now tormed itself at the bottom of the glass, will, by a careful examination, be
found to consist of two different layers; the upper, which is of gray color, consists of separated gluten which had been washed out dur ing the process and had thereby lost its elas ticity, and of albumen; the lower layer, of a dull lead color, is starch. With the greatest care the upper gray layer is now removed with a tea-spoon, and if a little should remain just above the starch it is not necessary to remove every particle of it. Now the untouched layer of starch is left to dry so that it will become wholly compact, with the tip of a finger fully loosened, whin the ip of a finger or knife, from the inner wical shape which tha the layer (in the conical shape which it ha received from the glass) can be taken out by turning the glass over on'a glass plate. To dry the mass still more thoroughly this cone of starch is placed on a dry plate of gypsum.

If the fiour has been pure and unadulterated judged of merely by the eye. As has been this mass of starch will appear wholly homo- said before this examination requires some geneous, but if it contains potato starch which skill and practice, but if once obtained, which is much heavier than wheat starch, this will is not difficult, it enables to judge exactly of have sunk first, and consequently will lie at the bottom, that is, at the apex of the
cone of starch, while cone of starch, while
the wheat starch will form the wider base. If with a knife thin layers are now taken off one by one, every
one wetghing about one werghing about
one gram (which always corresponds
in weight to $1-25 \mathrm{~g}$. of the examined flour), every layer off is ground separately and suces. agate with a pestle
 at firstion the amount of the fraudulent admix bre. This method of Bolands, Lecanu has modified somewhat very finest admixstarch, and that is 1-100 of its weight This method we also practical and exact one. After a certain quantity of flour has been made into well-
kneaded dough (with 40 per cent of its
weight in water) the gluten in it is separated in the manner g. 18), the water which at first dry and subsequently with some cold $\mid$ already mentioned (ifg. concentrated tincture of iodine is added, it collected and stirred so that all particles it will change its color to blue if it contains potato starch; while will only acquire a yellow or light red-ish-violet hue. If the starch in the mor-
tar is grated too long, it will become too
fine to be sufficiently blue colored with iodine, and the exprong may lead to the mortar of agate has been chosen, so as not to have too which like glass or porcelain, let particles pass starch particles pass over them without pul- $\mid$ this sediment is dissolv been formed has so allowed to settle until the water, thi tion one is enabled approximately to estimate ticles which are distributed in the water have the relative quantity of the potato-flour added, by carefully taking off the upper
gray part of the cone of starch from the lower and white part,
and this gradually wei
single layer exam-
ined
ined with iodine in
the prescribed man-
ner. If the layers
lighter yellow or a reddish-violet color,
we have before us
 the base of the cone. Every layer of the con Every layer of the cone of starcb which turns | sediments contain large blue contains potato starch. If it is known $\quad$ starch and small particles of particles of whea
 amount of potato percentage of the prandulent admixture. traudulent admixture. In taking off the lay- more kali is added (about 1.75 parts to 100 ers the relative quantity of the potato starch parts of water), it will be transformed to a
on a glass plate in thin layers can easily be col ored with a watery solution of iodine, and when acidized with muriatic acid it occasions blue olored blisters which are from five to six times greater in diameter than the starch par icles. This method, however, is also some what circumstantial and less suitable for the use of bakers and dealers in flour. For this purpose e can recommend the following method for its greater practibility In a mortar a mixture of 16 parts in weight of the flowr and 16 parts f pulverized send tone tor five minutes, and in small quantities, so much water is added that a uniform dough is formed, which is wholly dissolved in the water that is gradually applied. (If for instance 16 g . of flour and just as much pulverized sand-stone are taken 1-16 liter of water will suffice to issolve the dough.) This solution is filtered, about 1-32 1. of it are taken to which just as much solution of iodine is added ( 8 g . of odine in 500 g . of distilled water). If this iquid is obtained from good, pure wheat flour, it will acquire a rose-colored hue from iodine; but if the liquid contains potato starch it will become blue and lose this color very slowly, while the rose color of a pure solution of wheat starch will disappear the more rapidly when the wheat is reaped in a wet season or the flour ground in moist weather.

## Grindstones.

What can disable a machine shop more effectually than to destroy the grindstone? Unless the loss were supplied by the modern substitute, the emery grinder, to destroy the grindstone would be to wreck the shop. A thorough study of the subject will develop more requirements than many think, and much ingenuity or skill in designing might be displayed in working out the problem. It should be strong, simpleand clean ; the trough expanded to catch as much as possible of the drip water and grit ; a movable shield securely hinged to keep the water frem splashing, and yet permit the stone to be used from either side ; rests provided upon which to rest tools and the rod for turning the stone, these rests being arranged to move toward the center as the stone wears smaller. The bearings should be generous in size, proper provisions being made for oiling without washing the grit into the bearings with the oil, and the ends of the bearings being protected by some device which effectually prevents the entrance of the grit. The stone should be secured to the shaft by nuts and washers, and the washers fixed so that they can not turn with the nuts as they are screwed up or unscrewed. In hanging the stone, great care should be taken to hang it true sidewise, not only for convenience in asing, but because a stone that is not true sidewise can never be kept true edgewise
Suppose a stone to run one-fourth of an inch out of true sidewise, and while in motion draw a line around it withịn three-eighths o an inch from the edge, on an average. From this line there would be but one-fourth of an inch of stone on one side and one-half on the other. If you had a stone only this in thick-ness-that is, a stone one-fourth of an inch thick on one side and one-half of an inch thick on the other-would not the one-fourth inch side wear away faster than the other ? That is exactly what it does on that side of the thick stone, only the thicker the stone and the less it is out of true the less it wears.

To Temper Mill Picks.-1. Take two gallons rain water, one ounce of ecrrosive sublimate, one of sal-ammoniac, one of saltpeter, one and one-half pints of rock salt. The picks should be heated to a cherry red and cooled in the bath. The salt gives hardness, and the other ingredients toughness to the steel ; and they will not break if they are left without drawing the temper., 2. After working the steel carefully, prepare a bath of laad heated to the boiling point, which will be in. dicated by a slight agitation of the surface. In it place the end of the pick to the depth of one and one-half inches until heated to the temperature required. The principal requisites in making mill picks are: First; get quisites in making min picks a First, get good stcel. Second, work it at a most blacksm Third, heat for tempering without direct exposure to the fire. The lead bath acts merely as a protection against the heat, which is almost always too great to temper well.

Bennett, Dewey \& Burt, of Rochester, Minn., propose to build a $\$ 50,000$ flour mill at Bismarek, D. T.

The Rockdale flouring mills near Dubuque, Ia., are being yebuilt.

## Iowa Millers Association.

pockedings at the june meeting. The Iowa millers have a sort of dual organ-ization-the Association proper being to consider matters generally for the good of the trade, and the Detense Association is for the express purpose of defending the members against the claims made by patentees for in-
fringement of patents. Both of these organifringement of patents. Both of these organi-
zations met at Marshalltown, June 4th and zth, in the Court House at that place. About 5th, in the Court House at that place. About
twenty-five members from various sections of twenty-five members from various sections of
the State were in attendance. The meeting was called to order by President J. J. Snouffer, of Cedar Rapids, who made a short address. He explained the great importance of the
meeting, and urged that prompt and decisive action be taken by the members present upon the question of adopting a constitution and completing a thorough and effective organiza.
tion. After the reading of the minutes of the January meeting at Des Moines, Secretary Reed stated that no new members had been
admitted since the last meeting, that there had been no applications. President Snouffer sociation and the Defense Association, and the National Association- Upon motion of Mr. Sharp, of Wilton, those present who were not members of the old Association were per-
mitted to join. Robt. Wight, of Iowa Falls, availed himself of the privilege and became a member. The Committee on Constitution asked further time in which to prepare their
report. An informal discussion was held concerning the action of the Sub-Executive Committee of the National Association at the
Chicago meeting. Many expressed their dissatisfaction in unmeasured terms, while others expressed themselves satisfied, and were in
favor of adopting a constitution similar to those adopted by the Minnesota and Missouri Associations. D. B. Knight, of Boone, finally moved that a committee of three be appointed to devise plans for future action. Carried.
D. B. Knight, G. F. Weist and C. H. Peters
were appointed, and the Convention adjourned were
until
At the above hour the Convention was called to order. The Committee reported in favor of
consolidating the regular State Association consolidating the regular State Association
with the Defense Association. Adopted. After a lengthy discussion concerning the advisa-
bility of being or not being a part of the bility of being or not being a part of the
National Association. A joint committee of six, three from the State and three from the
Defense Association, were appointed to prepare a new constitution. This Committee
consisted of Messrs. Wright, Ellerston, Hutchconsisted of Messrs. Wright, Ellerston, Hutch-
croft, Knight, Serrin and Weist. The Con-

## vention adjourned until

At this hour the State Association was called to order, and majority and minority reports
werepresented. Mr. Knight's majority report recommenion as an inderentent State Association, and presented a proper constitution for
such purpose. favored the consolidation, and advised the
adoption of a constitution such as had been adopted in Missouri and Minnesota, and that
they remain a part of the National Association. It was moved that the minority report bo
accepted, and that the constitution be read by

## ections.

## Mr. Sharp moved as an amendment that a

 ly, and the best from both adopted. Motionthen carried as amended.

## Mr. Sharp moved that a vote be taken to

ascertain
with the National Association. The motion was carried, and a majority voted in favor of remaining.
Cpon motion of Mr. Weist, the vote to read the constitution by sections was reconsid-
ered, and the Covention then adjourned until 8 o'clock to meet at the Boardman House.
The Convention was called to

## The Convention was called $8: 30$ o'coock.

Upon motion of Mr. Hammond, the Convention took up the constitution submitted by the minority of the joint committee and pro-
ceeded to read it by sections. Each section was read, discussed, and adopted, substantially as presented. After the reading by sections Mr. Hammond moved that the constitution be adopted as a
unanimously.

Upon motion of Mr. Serrin the Convention proceeded to the election of offlecers to serve until the next annual meeting. The following offlcers were elected:
President-J. J. Snouffer.
Vice-President.-H. Hammond.

Secretary and Treasurer-J. R. Serrin.
Executive Committee-J. R. Serrin, H. Hammond, G. F. Weist, F. J. Woodbury. Delegate to the National Association-J. R. Serrin.
Upon motion of Mr. Hammond the Convention adjourned until ${ }^{6}$
thursday.

## A. M. Mr. M.

Mr. Knight moved that the action of the Convention in adopting a constitution the previous evening be reconsidered. A long and lively discussion followed which showed that the advocates of an independent State Association, and the champions of the National Associntion were farther than ever from a compromise. The motion to reconsider them was carried. This effectually settled the question of consolidation in the negative. Mr. Knight now moved that a committee of three from the State Association be appointed to prepare a new constitution for that body; the motion was carried and the President apIreland as such committee Messrs. Hammond, adjourned until

The Committee on Constitution recommendea the adoption of the old constitution without amendment. The report was unanimously adopted, and the Millers' State Assoeiation then adjourned sine die.
The Defense Association was
The Defense Association was now called to order and lost no time in adopting a constitutlon similar to that adopted by the Minnesota
Association, and with the following sections added:
officers of this Associntion until the regular annual meeting in January, 1880:

President-J. J. Snouffer
Vice-President-H. Hammond.
Executive Committee-G. F. Weist, H.
Hammond, F. J. Woodbury, 3. R. Serrin.
Member National Executive Committee-
N. Serrin.
Sec. 12. This constitution may be altered or amended at any annual meeting by a twoMr. Weist moved that the Treasurer be re-
aired to give a bond of $\$ 2,000$; seconded and carried unanimously, Sharp the Secretary was authorized to send a copy of the new con-
stitution to all members of the old Defense stitution to all members of the old Defense
Association for signatures, and to notify all ther millers in the State by postal card.
Upon motion of Mr. Hammond, the C Upon motion of Mr. Hammona,
vention adjourned sine die.

A Clean Sweer.-It was a sad looking tramp, with a pained expression of face, that holding in his hand a small, battered red canister. "Look at this," he said sorrowfully. I went into a gun shop and begged for someof powder. He said $\mathrm{I}^{\prime}$ could go shooting-a starving man go shooting. Just think of it."
"Well, mizzle," retorted the barkeeper, who

## customer

"I pledge you my word," said the vagrant, holding the can within an inch of the stove,
-I'm so miserable, I've almost a mind to blow myself up.

## "Dare you to do it," said one of the by-

The wreeked party gave a sad, lingering look at the poured out liquor, as that he might The yell that the whole crowd gave as they started for the other side of the street was
heard on Telegraph hill. When they filed in about ten minutes after the empty can did not explode, there were four empty glasses on the counter, the lunch table was an empty mock-
ery, mad the till looked like a saviugs bank on the day after a really large deposit.
galvestos, Texas, feels proud over the completion of the "Texas Star Flour Mill," erected in that city by a stock company, of which Hon. John Rymershoffer is President, It is the largest steam mill Sonth of the Arkansas river, and it is fitted up throughout in modern style. It has both stones and rollers. chinery was put in place by Messrs. Jno. T. Noye \& Sons, Buffalo, N. Y. Having any quantity of excellent wheat in their immediate neighborhood, and a constant demand for flour
from Mexican, West Indian from Mexican, West Indian and South Ameri-
can ports, the milling company feel confident can ports, the milling company feel confident of an excellent trade.

## The New "Hundred Weight.

One of the most serious objections to an imperative adoption of the cental system has been that our foreign trade in grain has been carried on mainly with Great Britain, where the cental has never been in use. The British weights and measures pertaining to grain have always been more or less complex. Thus the English ton is 2,240 lts. The transactions in grain are mainly by "quarters." The commercial "quarter" is 480 tbs , but the quarter of wheat is 504 ths . The British quarter is a measure of capacity as much as is the bushel; it represents cubic space, and not weight. British wheat weighs from 63 to 64 tos to the bushel, and eight bushels are equal to a "quarter." The ton being $2,240 \mathrm{~ms}$, the British "hundred weight" (cwt) is 112 tbs . The "stone" is equal to one-eight of a hundred weight, and a "quarter" hundred is $28 \mathrm{t5s}$, or two stones weight. Another embarassment is in the Enghish mode of selling flour; the "barrel" of 196 tbs is unknown to British trade. Flour is sold by the "sack," 280 ths and the sack is computed to weigh 6 tbs , making the weight of a British "sack" 286 ths. American flour for exports is now put up in "sacks" instead of barrels; these are divided into parts divisions, there being as many as five sizes put up in this country for the export trade. So many sacks represent so many hundreds of pounds, and as railroad and ocean freights are now charged by the hundred, the computation
is an easy one. It has been found that sacks are more readily packed; they not occupying so much space in proportion to the weight of in that form is cheaper.
During 1878 the British Parliament adopted new act relating to weights and measures, which aet, among other things, provided that all grains and dry products should be sold by
pound only, the pound avordupois being the pound only, the pound avordupois being the
unit. To the Board of Trade was left the deunit. To the Board of Trade was left, the debe used in large transactions. The National Board of Trade recommended, and an Order in Council has adopted the "cental or new
hundred weight" as a new denomination or standard. This order went into force in February. Hereafter, in all transactions in grain and dry products; the British hundred weight
will be 100 ths , instead of 112 as heretofore, and a ton of barley or potatoes will be 2,000 ifs, instead of $2,400 \mathrm{ths}$.
There are those who can remember when in this country 112 Hts were the hundred weight, and when all the large scales in general use were supplied with weights of $7,14,28$ and
56 tts each. These divisions of the hundred weight are still in general use in England, but hereafter in grain and dry measure, the 100 ths will have decimal divisions; fifty pounds
will be half a hundred. The old system has not beemabolished; the new one one is no obligatory, but has been legalized; and the so far confined to Liverpool, will probably become gencral.

The British hundred weight of 112 ths being the sole standard in that country has heretoin this country of the cental; but now tha the hundred weight will have the same signifi-
cance in both countries, there is no longer any substantial reason why it should not be adopted in thls country, to the exclusion of the "bushel." All transactions of any magnitude should be rated by centals instead of by to the old measure. A bushel of wheat is now by law 60 ths , and a bushel of corn 56 ths . Six hundred centals of wheat are equal to
1,000 bushels, and 560 centals of corn are equal to 1,000 bushels of corn. It will require but a very brief term to become as familiar with
the measure by weight as with the measure of capacity, particularly as in all large transactions the grain is actually measured by weight and sold by weight. It will be as easy to retons.
Oatmeal Relish. -Fill a saucer nearly full foll weooked oatmeul. Now fill the oatmeal peaches, ripe peries (pressing them in), ripe a little sugar and cream. It is a rieh und delieate dish.
The Argentine Republic, South America, is good wheat-producing country. It is reported that 40 vessels are now on their way from the River Plata to European ports loaded with wheat. The emigration of Germans and Italians to the Argentine Republic is reported to be large.

The Production, Export and Domestic Consumption of Wheat.- The following table, compiled by Tallmadge \& Lindman, of Milwaukee, from
official sources, is of value to all shippers of wheat:


Curiosities of Currency Redemption.
Whenever anybody mutilates a national bank or possessider note, whenever anybody comes into dent anybody's money of this character becomes so far destroyed that it will not pass, he sends it to the Treasurer's office, and there judgment is passed on it. Of course every precaution is had against be sent in, and after the crucial test will turn out to be the relic of a counterfeit "bill Sometimes the affidavits accompanying a fragment of what was once a greenback are "manufactured." In such cases the replies that the sender gets to his request for redemption are more pointed than polite.
Among the curious cases which have come up,
says the Washington Star, was that of the poor old woman in Philadelphia. She was saving money in order to accumulate enough to secure her admission to some charitable institution, and had together $\$ 65$. Distrustful of savings banks, she put her money on a shelf well concealed, It put disappeared. She was certain that it had been stolen. Some of the neighbors persuaded her to tear up the floor. She did 80 , and after a close
search, the fragments of her $\$ 65$ were found in rat's nest, the proprietors of which had been ex ercising their nibbling propensities on the money She gathered up the fragments and sent them to the Treasury. Most of the money was in national bank notes, which were mutilated beyond the pos sibility of recognition. For them she could regain nothing. Of the legal tender notes but $\$ 8$ could be redeemed, so the old lady lost $\$ 57$ by the rats.
Another case in which there was a distrust of the banks was that of a farmer living in Illinois. He alwayskept his money in the house or about hi person. A short time ago he had $\$ 11,000$ in ready
cash and carried it in his coat pocket. He went to bed, leaving his coat on a chair. His wife complained of the coldness of the room, and he got up to stir the fire. He had been back in bed but a short time when the room filled with smoke and the well-known odor of "something burning." He jumped up to find his coat pocket burnt out and his enough distinguishable about the notes to secure him, upon his sworn and attested affidavits of the facts, a new set complete. He may patronize the banks hereafter.
Perhaps one of the most remarkable cases that has ever come before the redemption division ecdropped his pocket-book containing $\$ 100$ into the camp-fire. Before he could ling so acted upon it that the book had shrivelled up into a hard bunt ball He did notattritu it, but sent it on with a steterent of the facts open ball was cracked just as a hiekory nut would be in order to get at its contents. Inside was found, per orderty intact and undamaged, the $\$ 20$ and $\$ 10$ bills
fect that went
nessee man pot figures quite frequently. A Tennessee man put $\$ 135$ into a boot and secreted his
boot in his smoke-house. When he went it he lost his bearings and could not find it. Six months afterward he stumbled across the old boot exactly where he had left it. The mouey inside had furnished nourishment for cock-roaches and wood-lice. A handful of the small pieces was all that was left to tell the tale. Sending them on to the Treasury, they were examined, fixed together, and enough were identified to give the man $\$ 50$.

Served Him Right.-A gentleman in full dress store precipitately recently.
"Can you fix recently.
paration of castor-oil that can" he panted, "a pre "paration of castor-oil that can be taken without any it's medicine, and that will-you know, one that'll
"I
"I should say I could," said the druggist.
In five minutes the apothecary came out with "Monsieur," he said liquid in his hand. are waiting, permit ne to offer you a glass of lem onade."
"Certainly, but hurry, please."
The customer drank the beverage hastily. Several minutes passed; when he growled impatiently Come, come, where is that preparation ?"
"Monsieur," said the apothecary, "I am happy That preparation you have just taken, without the slightest suspicion of its eharacter-"
"Beast, villain! Ah-h! It wasn't for myel that I wanted it! $I^{\prime} m$ to be married in an hour, and it was for my prospective mother-in-law, who
has just been taken ill.?

## Longevity of Millers.

During the thirty-four years and eight months, from May 1, 1843, to Dec. 31, 1877, there died in the State of Massachusets 16p-
801 men over 20 years of age, whose occupation was specified in the registry of their decense. The average age at which they died
was about 51 years. The number was so was about 51 years. The number was so
great and the period covered is so long that by the study of the classification of the employment of those dead, we can get a very good idea of the comparative ages at which
men of different occupations and in an ordinarily healthy community are swept away by death. The deaths in only six different occupations were at an age on an average, above 60. They were, first the gentlemen, 68;
second, the farmers, 65 ; third, the Judges, second, the farmers, 65; third, the Judges,
64; fourth, the light-house keepers, nearly 63 ; fifth, the basket-makers, 61; and sixth, the pilots, over 60 . Clergymen lived a little over 59 years and professors over 57 years,
lawyers about 56 years and physioians 55 lawyers about 56 years and physioians 55
years. The active mechanics died on an averyears. the following ages: Millers, ropemakers and wheel-rights, 57 years; clothiers, pump and block makers and tallow chandiers, 56 years; potters, bears , calico printers and
blacksmiths, 53 years blacksmiths, 53 years; calico printers and
wood turners, 52 years. All other occupations fell below the above enumerated classes brakemen dying earliest of all at 26 years of
age. It will thus be seen that millers are age. It will thus be seen that millers are
among the longest lived men in the community, following after professional men and gentlemen of leisure, who are the longes lived men in every country. The millers lived six years longer than the average, and twenty years longer than the class denominated as factors laboring abroad, (baggage-masters,
brakemen, engineers, firemen, soldiers, etc., who died at an average age of about 37 years.

## The French Milling Trade.

In order to obtain a correct idea of the immense value of the milling industry in France
it will be found necessary to take the it will be found necessary to take the average
consumption of flour in ordinary years, and add thereto the excess of the exports over the imports. Now, if we suppose each of the thirty-six millions of inhabitants in France to consume on an average 20.60 ounces of bread, which would be nearly equivalent to one sumption of flour amounts to $35,275,000$ pounds daily, or $12,875,375,000$ pounds yearly. The average annua, imports of flour from 1872 te 1876 , were $29,207,000$. pounds, and the
average exports during the same period $275,-$ 790,000 pounds, and consequently the annual production of flour in France amouted to 13,--
$121,958,000$ pounds. Again, supposing every hundred pounds of wheat to yield on an average 74 pounds of flour, 22 ponnds of bran and offal, and 4 pounds of dust, we arrive at the conclusion that the French mills, daily grind about 825,000 bushels of grain into fiour.
There are upwards of 15,000 pairs of stones in the different mills in the country, requiring sixty thousand horse power to drive them. If
we further reckon the average price of wheat during the above-mentioned years to have been 54 s . per quarter, the value of the annual production of flour will be about $£ 92,000,000$, and of bran and offal about $£ 100,000$. In the early part of the present century the mills country, the motive power employed being principally wind and water; but at the present principally wind and water; but at che presen
moment there is no district where these small mills have not been replaced by larger ones, with at least six to ten pairs of stones, and driven by steam or hydraulic machinery, to
avoid any stoppage of work on account of low avoid any stoppage of work on account of low
water. Manual labor is employed as little as possible where the work can be performed by mechanical power. In a properly arranged mill one workman is sufficient for each two pairs of stones. In general the mills are fitted up for low grinding, and up to the present day only a few are engaged in medium grinding. The number employed in high grinding is also comparatively small. The milling trade of France, on the whole, is in a flourishing
condition, and from the moderate demands of condition, and from the moderate demands of
the consumers, with regard to the the consomers, with regard to the quality of the products, it is also very remunerative.
Marseilles is the great milling centre for the export trade, on account of its favorable posi-
tion for receiving grain, and it is there that the large mills are situated which are principally engaged in the import and export trade. - Austro. Hungariau Miller.

Subsoribe for the U. S. Muler. Only $\$ 1$ per year.

LUBRICANTS. - The exils attending the use of oils and fats as lubricants upon machinery are well known to engineers and mechanics, but the causes and nature of their injurious action are not so generally understood. We give, therefore, a brief but very lucid explanation of their action which we find credited to Dr. Marquardt, by our contemporary, the Boston least objectionable evil attending their use is the gradual oxidation (or gumming) which they undergo, and in consequence of which A more lubriating qualities rapidly diminish. A more objectionable property of these substances shows itself when they are applied to sucb parts of machinery as are more or less highly heated. In such circumstances, these substances are decomposed into their con-
stituents, glycerine and fatty acids. The latter combine with the iron work of machinery to form an iron soap, the metal surfaces being corroded thereby and fresh surfaces exposed corrosion. Marquardt recommends the substitution of the mineral oils (henvy petroleum mal oils and fats as the remedy,

## Foreign Flour Competition.

A correspondent "Nil Desperandum," supports the views we expressed in last issue
with regard to the mode in which the British miller should meet his foreign competitor, and he also gives a few crumbs of
comfort to the former which may enable him to bear his present ills with some equanimit of spirit. In the first place our correspondent, a gentleman who is thoroughly competent to pronounce an opinion on the subject, says he American manufacturer has yet to learn things uniformity in the quality of the flour they use. For some months after the supply of American flour set in with the severity that has characterized it $\cdot$ for some considerable
time past, several well-known brands sustained time past, several wèll-known brands sustained an excellent character. The quality of these,
however, has since been so much reduced that they are not worth what they were by 3s. per 280 pounds. This, as might be expected, has and, although great care in testing samples is used, the final and best test, that of actual bread-making, frequently discloses the fact that the flour which by bample test appeared
the best by 2 s . per 280 pounds, was 8 s . worse the best by 2 s. per 280 pounds, was 8 s . worse
than that which, by the same test, was placed in the second place as regards value, but which, by the actual baking test, was placed first. The London baker is more a man of lot of flour that has a decent appearance, he is tempted to take it for mixing purposes, and only finds out his mistake when he finds his castomers joining in a chorus of complaint with regard to degeneracy in the quality of his bread. We have heard of many complaints about the deterioration of the color of his bread made from home manufactured flour, mixed with the lower brands of American, which have recently so freely appeared upon our markets, while many bakers who sequence of the low figure at which they can be bought, declare that they are dear at any price. All this, of course, is in faver of the native miller. It indicates that the foreigner
cannot compete with him with the weanon of low grade flour, and the highest grade is too expensive a weapon to be profitably used. I must, however, be borne in mind that in
America milling is a progressive calling, and that there science is becoming more and more a factor in flour manufacture, by means of
which the American may, within a short time which the American may, within a short time,
turn in his own favor the balance of advantage turn in his own favor the balance of advantage the manufacturers of this country. The ultimate safety of the latter, in other words, the securing of a' position from which he cannot be Jriven, depends apon his readiness to press science into his service, for the parpose of raising the standard of quality in his flour as
regards strength, color, elasticity and durability, to such an altitude as will fairly satisfy the growing demand to this ecuntry for a superior class of household bread than thut to which we have been previously accustomed.The Miller, London.

Otrawa dispatches state that the Canadian Government has discovered that, in order to evade the duty on flour, American shippers hour The oustoms department t Helifo lour. The customo doparie at Halifaz toms certifieate for all flour said to be Canadian, imported via the United States, $-N . E$.
Grocer.

## Monopoly in Milling.

The histories of all manufacturing industries are replete with instances of efforts to establish monopolies. The flouring industry from its nature has been perlaps as free from these the present time as, but there appears to be at centrate the manufacture of flour in certain milling centres in large mills. It is claimed, and more than likely it is true, that a very and more than tikely great quantities of the best flour at less expense per barrel than smaller institutions, the owners of many of these latter not being financially able to avail themselves of the best modern milling machinery. Recently we heard a well-known miller state that it was only a question of time, and no very long time, either, when most of down for good and the milling of America would be almost entirely done by great mills in milling centres such as St. Louis, Milwaukee, and Minneapolis. Such a result is, we think, neither probable or desirable. The
thousands of water-powers throughout the counstry can be wtilized in no better manner
coler than to drive mills to make the grain into flour in the vicinity of the place where it is grown.
There should be established grades of flour as there is of wheat; and mills, whether great or small, in the city or in the country, should rind to come up' to these established grades Milwaukee is one of the most prominent from natural and artificial advantages, are and always will be great milling centres; but there in outside merchant mills, where power is cheap and transportation reasonable in price, should not be able to hold its place in the
markets against flour made in the "big mills," if it is equal in quality. Judging by the reports from the various mill-building establishments furnished from month to month, we small mills built during the year 1879 than in any previous year. Our population is aug menting, our wheat production is increasing, our flour export trade is rapidly growing, and
we believe there is room for all the flour mills we now have and thousands more.
Sone tricks in "Pailor Magic," printed in juvenile publications, are very amusing as well as very simple. "The Enchanted Pin," for instance. To perform this trick you take a common brass pin, such as a man sometimes ton flies off. To satisfy your audience that the pin doesn't contain a false bottom, let them have it in their hands to inspect. This will convince them that there is no deception about it. Now bend the pin in two places-
first, about one-third from the head, and, second, the same distance from the point, so that the business end will project upward. Again show your pin to the andience in order to satisfy them that it is the same pin, only on a hard-bottomed chair, and when a late visitor enters invite him to sit upon the chair. The effect will be magical. If the ceiling is not more than ten feet from the floor, the probabilities are that the man will arise so
spontaneously that his head will make a dent spontaneously that his head will make a dent
in it. This iurocent little trick never fails to amusan audience, and if such amusement
received more ensouragement in the domestic cirole there would be fow poems written ask-
ing "Where is ing "Wh

The shortest organized railroad in the world, says the Railway Age, is the Castle Rock \& Tucker Gulch railroad in Colorado, which boasts of a President and Gexeral Manager, and is just 700 feet long. A paragraph has been going the rounds of the newspapers that the Wood River railroad, in Rhode Island, is the shortest in the world, its
length being seven miles. The first sentence in this paragraph ought to settle the Wood River statement. In fact, there are several shorter railroads than the Wood River. For instance, the Horn Pond branch, Mass., two thirds of a mile; the Moshassuch Valley; Rhode Island, less than two miles; the Ferro Monte, N. J., $2 k$ miles ; the Mt. Hope $4 k$ and the Charlotteuarg \& Green Lake 4$\}$ miles, The last two are New Jersey roads.

A darkey was boasting to a grocer of the cheapness of ten pounds of sugar he had purchased at a rival store. "Let me weigh it," said the grocer. The darkey assented, oolored rentloma colored genilemanan lookes perplexed for a mo-
ment, and said, "Guess he didn't cheat dis chile much, cos while he was gettin' the sugar I stole two pair ob shoes,"

## Recent Patents.

The following patents for flour milling machinery were issued from the United States Patent Office, April 29th, 1879, to the parties named below:
Fanning-mill.-John Bennett, Belleville, On-
rio, Canada. tario, Canada. Mill-stone Dressing Machine. -
Diamond
Thomas P. Benton, La Crosse, Wis. Thomas P. Benton, La Crosse, Wis.
7 urbine Water Wheel.-John C. Cline, Philadelphia, Pa.
Mill-stone Dressing Machine.-John C. Cookson and S. L. Hart, Mrenash, Wis.
Grinding Mill.-John Fitzgerald,

## Turbine York, Pa.

## Grain Prussia,

## Midaling ra, Ind.

## The following milling patents w

 May 6th, 1879:
## Grain Dry Chicago, III. Machinery

Thaddeus Lor Clarlording Grain from Cors Middlings Groinding Mill.-James
Louisville, Ky,
Grain Separ
ville, Ind.
The following patents were issued May 13th, 879:
Wate
Water Wheel Curb.-Wm. R. Calkins, Great Barrington, Mass.
Fanning-mill.-
Broklyn, N. .
Broortyn, N. Y.
Grain
Sampler.-Wilfred C. Lyman, Chi-
Grain Sacking Scales.-Edwin A. Martin,
Thornsville, Ohio. Middlings Grizinding Mill,-Jonathan Mills, Grinding Misl.-Ambrose W. Straub, Phila-
Gelphia, Pa delphia, Pa.
The following patents were issued May 20th, 1879:

## Md. <br> Grinding Mill.-John T. Obenchain, Log- nsport, Ind.

Mill-stone Driv
tantine Mich
tantine, Mich.
Middlings Sen
The following patents were issued May arth
1879: ${ }^{\text {Bran Package.-J. and E. Belt, St. Paul, }}$ $\underset{\text { Pro }}{\text { Minn. }}$

Process and Apparatus for Mashing Grain.
John A. Ebenhardt, Cincinnati, Ohio. Bag.fastener:-Alexander Gleason, Green-
ville, Mich. Bille, Mich.
son, Wyoming, Iowa.
Grain Transfer.- Lactine Pittsain Than, Pa.

The following patents were issued June 3d,
Grain Separator:-James W. Morrison, Cinton, IIL.
Grain Scourer and Cleaner:-Morton ToulMif, Mobile, Ala.
Middlings, Purifer:-Henry White, GalvesThe following patents were issued June 10th, 1879.
Mry

## Marginetic Separntor--Henry E. Cook and J. B. TTayer, River Falls, Wis. Water Wheel--Albert B' Conch, Newman,

Ventilution for Mills,-Venendo P. Harris,
Greensburg, Ind.
Grain Cleaner
Míd dlings
Lima. Ohio.
The following patents were issued June 17th, 1879:
Porvelain Rolls for Grain Crushing Machines.
Wiilhelm Braum, Carlsbad, Austria, assignor to Weber, Uster, Switzerland.
Dressing Mill-stones.

## wego, N. Y. Poof for Shellering Grain.-John

 R. Davis, Sun Prairie, Wis.Feed Rool for Middlings flour.-Charles A
 Grain Door.-Thos. S.
and J. R. Petne, Buffalo,
Mill-stone
Driver.

## Cochrane, Jackson, Mich

Rice Hulliny Máchine.-Edsell Totman B tavia, III.
The following patents were issued June 4th, 1879.
Mill-stone Driver-Wm. J, Blackwell, Magnesborough, W. Va.
Grain Separator-Union Iron Works, Decatur, Ill.

## Blasl-req

H. Faling, Tonawanda, N. Y. Separator-Chas. Grain Disintegrator-Edward Fox, Brook-
lyn, N. Y. Turbine Water Wheed-Francis M. Kent,

Mathew Greggoon, of Ramsoy, Minn., had part of his milldam washed out by high water on the lst of Jung and, before repuiring thes dam, will buildytwo additions to the mill ind put in more machinery.
(Written for the Unitod Stateen Miller by
Does the Modern System of Milling Pay?

## piscession.

The connection between the proportions face and furrow surface and the production of more or less middlings, with their influence on the quality of the flour, originates a vasi
amount of quackery in millerdom (and it mus be admitted some of those quacks can make fortunes as well as the medical ones), and it certainly is amusing to see the precision with which they talk of the percentages of middlings with certain styles of stone dressing, and the amount of feed tocarry. One leading produce the greatest amount of evenly-granuhated middlings is the most proficient. This is the rock on which many New Process mill ers must founder. If experienced, practica grinding down at once, they would see that portion of evenly-granulated middlings without friction more or less according to the pulverized bran and a heavy proportion of flour rregular in size the middling
For example, a stone ut-up bran in spite of the miller, and except he can remedy this by an extra feed and con-
flour, which can only be avoided by extra sift ing or drossing
he is willing
sifting and
wheat is soft, the flour work Wut if the wheat is hard a double injury is in extra expense for dressing, and at the same

## hort, badly-raised bread.

## ver high or often the grindings are, and

he part of those who advocate a smaller feed
or high grinding, and shows that the preva-

## hereas if they had inquired as to the result

 paid.
## nd gives the miller a wonderful command

ang anl eng powen,
pulverized from the rotary motion of the
articles being more developed; and with hard

## sum

or cracking, even the smoothest grinding sur-
face with a moderate keen stone cannot pre
high the grinding if the crushing power is not

## uly exercised by putting on more feed ac- cording to the hardness of the wheat.

The smooth grinding sur speed, or roller grinding, are but appliances to
ttain the requisite crushing power so as to grinding, the more the particles will burst and expand without injury from compression,
therefore the more the crushing power can be xercised by an increased feed, and at the en with an equal expense for sifting, compared to duly exercised; and the more the crushing power is exercised and the less the face fric
ion, the more irregular in size the flour par ticles. And even-granulated middlings should
never be attempted with hard wheat until the final bran-cleaning grinding, when the stone are close enough to make the bran slide with he extra friction makes more even-sized mid dlings. As even granulation must always have increased face friction or cutting power, which is adding to the difficulty of separation by
sifting, as well as augmenting the quantity of flour dust ; and, to avoid this flour dust, fric ion should be exercised no more than what is requisite for clean bran without regard to the
evenness of granulation, as very hard wheat evenness of granulation, as very hard wheat splinters through from bran to bran, and a while the flour particles are still of a large size, the proportion of clean bran decreasing as the wheat gets softer or more compressible.

Subscribe for the U. S. Muler; $\$ 1$ per year.

A Fall River, Mass., mechanic recently said that during his lifetime he had been in twentytime by being connected with them.

## Farina.

The word "farina" is of Latin origin, and comes from far, meaning a kind of grain"spelt," known as German wheat, which wa formerly used by the Romans either roasted whole or ground into flour. Hence the name was originally applied to the matter: but a his matter was also ground flour likewise, and by darees, to the ground product cereals. "Farina" is at present the French name for flour, and we may quote the word "flour" as very similar in use to "farina." "Flour" means the matter, as when we speak of "flour" without any prefix or qualification, is understood to to mean wheat flour, bu flour also applies to the form, and is used in
secondary sense to mean anything ground iat secondary sense to mean anything ground iato powder. Dr. Ure defines "farina uch as the potato, etc." The chemical defiu tion of "farina" is "starch" "fecula." The wame "farima" is given in this country to the It is made by a process of high grinding, which secures granulation, the wheat from which it is made being previously cleaned $a=a$ coured. Spring wheat being the hardes but both are used in its manufacture. From farina is manufactured what are termed "new
process" flours. It is put up in bulk and in packages for domestic use

A Card From Geo. T. Smith. BloomingTon, Ill., June 14, 1879. Elitor
Shited Sintes Miller.--Dear Sir: In your isue for June there appeared "A Card" from Messrs. Notbohm Bros. Milwaukee
eful acknowl which merits at my hand a grateful acknowl-
edgement. The magnanimity of the writers is most marked, and all the more appreciated y me, because the article referred to was ing in these days of sharp competition and rivalry in all matters pertaining to business-es-
pecially improvements in machinery-to find such evidences of pure mamhood, and if other
manufacturers of purifiers had been as free to acknowledge the rights of patentees as the
above named firm, millers would have been saved much valuable time and annoyance and a large amount of uselessly expended money early introduction of my middling purifiers, which resulted in their temporary prejudice with their business sagacity, discovered their error, and had the honesty to so place them-
selves before your readers. These gentlemen have expressed themselves very satisfactorily
a your paper, and I am pleased to make an extract from their article. They say: "The corpromise made at Chicago by the Associa
ion which recognized Smith's patent, was therefore, as will readily be seen, of the utthe Association and the Smith's Purifier Co. or it, believing that our aid in that direction will be appreciated by both
I cannot help tendering my thank for the kind manner in which they express themselve
and feel that such competitors are worthy.

## ours, Respectfully,

George T. Smith.
The Appleton Post, in speaking of the new flour mill to be erected by M. T. Bolt, of Mich Igan, in Appleton, describes the new mill as ollows
The dimensions of the building are to 40x60 feet and four stories in height includ
ing foundation, The foundation is to be com ing foundation, The foundation is to be com
posed of solid stone masonary. The super structure is to be a heary frame, veneered
with brick. The whole to be covered with substantial ifon roof and thus the establish ment will be practically fire proof, so
exposure from the outside is concerned. exposure from the outside is concerned.
The power is to be furnished by two excel ent turbine water wheels, which are to placed in iron husks. The machinery will further consist of five run of stone, three puri-
fiers and one set of crushers, at present. Additional crushers will be added as occasion demands. The machinery is to be furnished
and placed by Hurlbert \& Paige, of Painesand placed by Hurbert \&t Paige, of Paines-
ville, Ohio. This mill will be completed aud ready for operation as soon as the growing crop is harvested.

Nordyke \& Marmon Co., of Indianapolis, Ind., are making almost a new mill from the remains of Henry Kleischer's old one, situated at Frankfort, Ind. Purifiers, middlings, burrs and other machinery is being added.

Important Address of the Millers Na
tional Association,
to the merchant millers of the untted states.
 Desh tined to be one of the leading organizations in the United States, both for the protection and advantages accruing to its membership and the upbuilding and improvement of this, the largest manufacturing interest in the nation Thus far its history has been largely that of defensive organization. Although its first con ception was purely for the information and improvement of its members, this seems to have been temporarily placed largely in the background when the millers of the United States found themselves face to face with de mands for royalty amounting to millions of dollars on' a reissued patent which they fully believed to be illegal and fraudulent. As an illustration of what the Association has al-
ready accomplished in the way of protecting its members we need but enumerate some of the more prominent claims that have been successfully met since its organization, among which are the Cochrane, which taken at its most modest demands before suits were commenced, © $\$ 2,000$ per run; the Geo. T. Smith, \$250; Booth Separator, \$25; Denchfield, still in the field and now being contested, $\$ 100$ making a total of $\$ 2,375$ per run, to sa nothing of the Barter, Stoll and Guilder pat ents, now happily disposed of as far as our
members are concerned by the settlement at Chicago. The first of these with its exorbitan demands has, we trust, been burried out of ight and past resurrection
The second of these, the Geo. T. Smith patents on the combination of air blast or sucby the Consolidated Mifidllings Purifier Comany, who also own the Stoll reissue, covering areciprocating sieve with sections of different
degrees of fineness; a fan for causing air curents to pass upward through the sieve and maerial on the sieve, openings for regulating air over the vibrate. The Barter intending to he Smith should fail, and the Guilder patents With this array of patents owned by men of undoubted energy and with abundant capital, he officers of the Association have with good expensive law-suits, perhaps extending over a number of years before the justice or fraudulency of these various claims could be settled case the members of the Association could be a all the trouble and expense, and outsiders who are either too niggardly or negligent to lend helping hand, enjoy equal benefits. Happily Executive Chrough the judicious, labors of our and those remaining outside the Association nust fight their battles for themselves. After most thorough and exhaustive examination of the whole subject, aided by the Associa-
tion's attorney, Judge Harding, of Philadelphia, a gentleman of eminent ability and ac knowledged authority on patent law, who has made middlings purification a special study, as illustrated in his signal defeat of the Cochrane ring, they have made an arrangement whereby the members of the Association, Axd all who may become such prior to july 15 th, 1879 , can obtain a complete release for all past infringement and a license for the future use of purifiers now owned by them by the payment of a mere nominal sum for those
machines only containing the full combination machines only containing the full combination
of blast (or suction) vibrating sieve and brush under the sieve. This payment by members purifers Association will cover all patents on the Stoll, Barter and Smith. Members desiring to put brush on purifiers now in their mill can do so at same rates; they also have special rates of discount on future purchases of machines from this company
The Denchfield suction claims for which a royalty is still asked (though the patent has already expired) exceeding the whole amount expended in defeating the Cochrane suits, and to be paid by members of this Association for a complete release under the Barter, Smith and Stoll patents, is now being contested by the them.
them.
The Executive Committee have also made an arrangement limiting the liability of members under the Downton roller patent providin it is sustained by the United Shates Courl.
By this action of the Execative Committee
the Association may expect if future to be
comparatively free from expensive litigation, reducing the cost after the expenses already incurred are met to a trifling amount annually, while freed from this source of annoyance it can return to the flrst and grand object of its organization, the information and advancement of its members, and the development of the milling industry until we shall be enabled to profitably grind the millions of bushels of wheat now annually exported, and ship the manufactured product to feed the hungry in all parts of the world
Considering what the Association has already accomplished and its capabilities for benefitting its members in future, we believe this a fitting time to call upon the millers of the United States to join with us. It is no longer an experiment, but a grand success, but to enjoy its full benefits you must come at

The advantages secured under the compromise made by the Executive Committee are limited to those who become members prior to July 15th, 1879. After that time you must Purif to meet the Consolidated Middlings pay $e r$ Company on their own ground and pay whatever they may demand, as you cannot expect to contest their claims single handed. As an illustration of that fact, I may say that it cost the National Association nearly $\$ 80$,000 to defend the Cochrane suits.
In addition to the advantages above mentioned, members will be protected against all future fraudulent or invalid patents which may be ownẹd by unscrupulous men or combinations, whose sole aim is to bleed or levy hackmail on the miller. They will have the benefit of all information now or hereafter in the possession of the National Association, and the large discounts which will be obtained by the officers of the National Association for
their members from patentees and manufacturers of mill machinery. The number of patents issued within the last seven or eight years on m
al hundred.
If you wish to join with us you will apply at once to the Secretary of your State Association, who, on payment of assessment already paid by the old members, will send you the full details of the Chicago compromise and a certificate of membership entitling you to all benefits accruing to members. It is very deSirable Sthat every merchant miller in the -"in unios there is strexgth." Where no State organization exists, you can apply directly to the Secretary of the National Aspapers. Let us hear from you at once, there is no time to be lost. Respectfully,
S. H. Seamans, Sec'y and Treas.

We respectfully request our readers when they wrile to persons or firms dadvertising in this paper, to mention that their advertisement was
seen in the Untred States Muler. You will thereby ob
vertisers.

## The Brewers' Bother.

It has been said that "misery loves' company," and if such is the case, the millers have the consolation that they are not alone in trouble over patent right suits. The brewers have been sued for iufringement of a patent owned by Mathew Gottfried and others ; suits having been brought in the U. S. Circuit Court for the District of Wisconsin, against the Ph. Best Brewing Company, Joseph Schlitz, Valentine Blatz and Jacob Obermann of Milwaukee, and Bartholomoe \& Roesing, Fortune Bros, and Perter Schoenhafen of Chicago. The suit is brought on the ground of an alleged infringement of a patent issued May 3ḍ, 1864, to Matthew Gottfried and John F. T. Holbeek, for an improved invention in pitching beer barrels. The patented invention consists in the application of a hot blast into the interior of the barrels for the purpose of heating the staves so that the pitch will stick to the wood and form a coating. Prior to the patent the process required the ramoval of the heads of the barrels. The invention is in use by the brewers throughout the country, and the present cases serve as tests for hundreds of others, some of which are now pending and others that will be instituted should the plaintiffs be successful. The invention is said to be the most important ever made in the brewing business, and upon the litigation dependef hundreds of thousands of dollars. The eases from Chicago were decided in favor of the patentees by Judqe Blodgett a year ago, but a rehearing was subsequently granted. No compromise was effected at the June convention of the brewers in St. Lonis. It is proposed to fight it out.

## Russian Cereals

[Translated from L'Eeho Agrieole" for tho London

In the grand international market of Europe, Russia figures as the country par ex. ellence for the production of cereals. According to the statistical accounts of late
years, Russia produces on an average 686,700,-years, Russia produces on an average 686,700,-
000 hectolitres $(1,888,425,000$ imp. bus.) of grain annually, 633,000 hectolitres ( $1,74,750$ imp. bus.) of which are procuaced by European Russia (comprising the kingdon of Poland, the produce of which amounts to $42,000,000$
hectolitres- $87,150,000$ imp. bus.) $; 8.400,000$ hectolitres- $87,150,000 \mathrm{imp}$. bus.) ; $8,400,000$
thectolitres ( $23,100,000 \mathrm{imp}$. bus.) are prohectolitres ( $23,100,000 \mathrm{imp}$. bus.- are pro--
duced by the Grand Duchy of Finland, $21,-$ 000,000 hectolitres ( $57,750,000 \mathrm{imp}$. bus.) by 000,000 hectolitres ( $55,750,000 \mathrm{imp}$. Dus.) hy the Caucasus, and lastly, $27,300,000$ hectoinres

$755,075,000$ imp. bus.) by Siberia and Turkestan. tan. the tòtal quantity of grain produced by
Of
Eropean Russia, 92.3 per cent, or 581,500 ,European Russia, 92.3 per cent, or 581,500, -
000 hectolitres $(87,150,000 \mathrm{imp}$. bus.) remain in the country and serve not only for home conthe country and serve not only for home con-
sumption, but for sowing; the reraaining 7.10 sumption, or $48,000,000$ hectolitres ${ }^{(132,000,-}$
per cent,
000 imp . bus.), are exported both by sea and land, and ga to st
Western Earope.
The predominant part played by Russia on
the international market of Europe as a cornproducing country, is proved by the comparative report of the quantities of cereals imorted and exported by the various countries f Europe during late years, of wh
Let 100 represent the total quantity of cer-
als, grain, flour, etc., figuring in the various markets of Europe, both for export and import, we find the part of each country in this international
lowing figures:

## 

## 



Eugland, the grain importing country par e.cellence, is also the principal buyer and con-
sumer of the cereals produced by Russia. The sumer of the cereals produced by Russia. The
greatest part of the cereals exported from Russia as well from the Baltic ports as by way of the Black Sea and the Sea of Azoff, and even by land, is intended for Great Britain. France and Ituly take the corn exported through the Southern ports, Germany provides herself from Russia, both by, land and
through the Baltic ports. However, part of the Russian grain sent to Germany only passes in transit through the Prussian railways, to be sent to England from Prussian ports. As regards the other countries above mentioned,
they only receive Russian cereals indirectly they only receive Russian cereals indirectly
and by accident; the commercial relations of these several countries with. Russia are al-
together insignificant, with exception of those together insignificant, with exception of those
of Holland and Greece, which sometimes take important quantities.
Besides exportation, comprising nearly three-sevenths of the corn circulating in the different Russian markets, there exists in Rus home movement, the object of sia a great home movement, the object of
which is to provision by means of the remaining four-sevenths, the other parts of European Russiu less favored with respect to production, aud unable to provide for themselves. As regards production compared with population, Russia must be divided into three large zonts, the central zone-produces less corn than suffices for local consumption; the second, that of the West, and part of the East, produces no more than sufficient to enable it to dispense with foreign aid; and lastly, the
third, the great zone of the ceiebrated black third, the great zone of the ceiebrated black
luad, or tchernozeme, the zone which embraces twenty-six Governments, as well in the centre as in the South, in the South-east as in the South-west (the kingdom of Poland, though also deprived of its black land, must also be comprised in this third region), and consumption, but also feeds the first of the above-mentioned regions, and by itself alone, furnishes to commerce and for exportation all that is not required for Russian home conwe have indicated above. It is then to this
part of Russia alone, exceptionally favored in respeet to soil and climate that we are indebted for the large mass of cereals ond and provide for exportation.
vide for exportation.
The total area of

## European

 Russi ing the Kingdom of Poland, is estimated at five million square kilohectares $(1,236,000$ acres $)$.
This vast extent of territory contained, in 1875, a population of $71,736,980$, which is not more than 14.3 per square kilometre. (A kilometre is 4 poles 38 inches.) Althoughe these fignes
are not to be regarded as absolutely correct, inasmuch as the density of population varies enormously in the different regions and provinces of Russia. In certain provinces of the centre and south-west, the population amounts to 45.50 inhabitants per kilometre, whilst in
the regions of the north and east there are less than $\overline{5} .1$ of inhabitants per kilometre Still, keeping in view the three principal zones mentioned above, we find in respect to the with $15,404,052$ inhabitants kilometre), there is in average production of $76,656,000$ hectulities ( $210,804,000 \mathrm{imp}$. bus.) which is equivalent to 4.97 hectolitres for every inhabitant.
As regards the northern and easten zone of the Russian Empire, which we have represented as being able almost to provide for themselves, in a compass of 791,718 kilome-
tres,* containing $10,807,382$ inhabitants ( 14 inhabitants per square kilo.), the Atoduction amounts to $85,050,000$ hectolitres, which is equivalent to 7.85 hectolitres of production and consumption for each inhabitant ; and lastly, the third, the great productive zone of Russia, where, in a compass of $2,200,9,49,546$
metres, and with a population of $45,429,5$ ( 20 per sq. kilo.), we find an average production of $468,300,000$ hectolitres,, or $10-30$ hec-
tolitres per inhaltant. In the first zone, then, there is a (fficit of nearly 3 hectolitres, and in the third, an excess of
inhabitant. For the whole of Russia the average production of grain amounts to 8-78 hectolitres ; the internal consumption, both in providing for the wants of the inhabitants hectolitres per inhabitant ; the remaining 67 litres (the excess of production over local re-
quirements) are reported.
Properly speaking, the agricultural portion of the territory of European Russia (comprising the Kingdom of Poland, but exclusive of the Grand Duchy of Finland) may be estimated at $163,800,000$ hectares,$\ddagger$ which corre sponds to 34.07 per cent of the total area of the land, which we shall estimate here, after deducting the area of the waters, at 780,800 ,
000 hectares. The 36.67 per cent of thi 000 hectares. The 36.67 per cent of this quantity, 12.39 per cent of the total area (or
$60,060,000$ hectares), represents the part of the prairies or meadow lands, the productive steppes and pastures ; 103,740,000 hectares21.58 per cent of the whole land, 63.33 per cent of the agricultural part-fall to the arable land. Let us say at once that the relation which the arable land bears to the prairies and pastures is subject to exceedingiy consid orable variations, in the same way as is the agricaltural part of the territory in relation to the land not under cultivaion and the woody parts. Thus, whereas in certain provinces of
the centre, at the northern part of the region the centre, at the northern part of the region mounts to more than half-hay, even to two thirds of the total area, reserving for the meadow lands only 10 per cent, and for the woods 9 per cent ; in the north and north-east of Russia this quantity is very small in comparison with the area of the woods and the undefined lands. It is the same in the south compared to the large extent of the steppes and fertile meadows, which are only employed for cultivation on a relatively small scale, an where agriculture makes no use of the manure which the mass of fodder obtained in this country could produce, if the breeding of cattle here did not possess an absolutely primitive character.
Considered under the point of view of cultivation, the arable lands in Russia should be divided into three categories-fallow land, land used for its production of cereals, and land producing oleaginous and leguminous plants, root plants, fodder, speeial prodncts, ete. Considering, the predominance in nearly every part of Russia, except the southern region, the kingdom of Poland, and the Baltio provinces, of the triennial rotation of crops, the extent of the fallow land is very considerable. The extent of the land devoted to agrioultural plants, other than cereals, con-
sidering that it cannot be fixed at more than
$4,368,000$ hectares, whieh corresponds to 421 per cent of the quantity of arable land, to express the extent of the land devoted to the cultivation of cereals (inclusive of peas, which statistical accounts do not admit of our separating from cereals), we have the statement 63.16 per cent of arable land, 40 per cent of agricultural area, and 13.62 per cent of the total soil of Russia:
Cereals in their turn being divided into vinter and summer cereals; we ought to make distinction between the quantity of land omployed in the cultivation of those different kinds, and we find $31,286,000$ hectares or 30.15 per cent of arable land annually devoted to 00 cultivation of winter cereals, for summer cereals. If to the quantity of and under cultivation of summer cereals $w$ ad the prester part are not cereals, and which for not less than 37.2 per
winter plants, we fiud ent of arable land employed in the cultiva tion of summer plants, consequently there i not only a larger area devoted
vation, but also of fallow land.
This absolute and relative predominance of summer cultivation is explained by the fact hat in the South of Russia, in the region sultivated, and the mode of cultivation prevalent there excludes even the fallow, the un cultivated steppes producing generanly, during the years when they are cultivated, only sum mer plants, such as whent, Hax, millet, eto and remaining during the rest of the time in the category of undeñned lands, pastures and meadows. Summer plants have the advantage over winter plants in Poland also. As a general rule it may be admitted that the prow tion as we advance from North-east to Southeast, giving place to summer plants in a dimal linarl mal hines, Amongst the cereals cultivated in Russia, rye
holds the first place, in consequence of the extent of the land it occupies. It occupies not less than 42.97 per cent of the land devoted to the cultivation of cereals; rye alone takes in nearly the whole of the area devoted to the cultivation of winter corn is relatively very restricted, the latter occupying no more than 4.78 per cent oi the land devoted to cereals, Amongst summer cereals, oats holds the firs place ; they occupy not less than 21.11 per
cent, wheat, 7 per cent, millet, maize, etc., which takes up the rest of the land, or 1.8 per cent.
Such is the relative importance of the culivation of the various kinds of cereals in voted to each of these plants. They may be lassed in a rather different order, if we take nte account the relative importance of the product of these various cultivations in the Russian home and foreign trade. From the latter point of view, it is no longer rye which
holds the first place, but wheat. For this holds the first place, but wheat. For this tion of the various cereals cultivated in Rus

## sia.

## wheat.

Notwithstanding the importance in the agricultural produce of Russia, wheat is a plant the cultivation of which is sar from being general there. Although the limit of wheat extends from North-east to North-west, to the 59th, 61st, and 62nd degrees, and an the
land even to the 63rd degree of latitude, the cultivation of this cereal is unimportant, except in the regions of the South, South-eust, and South-west, and partly in the centre of Russia. This forms the real wheat region, approaching to its northern part, which neary corresponds with the northern limit of the region of the black land, the grand region of the predominant cultivation of rye, a region which, with few exceptions, embraces all the northern purt, as well as the North-east, Northwest, and centre of Russia; destitute of black land.
According to the cultivation of summer wheat predominates over that of winter whent, the dominant region of the ta wo distinct and separate parts. The cultivation of winter wheat predominates in the northern part of wheat preaominas the this paris of this region, as also to tha Wos summer wheat in Poland. The cultivation of summer wheat is restricted to the Southern part and all the region of the South-east of Russia. In all the other parts of the empire which do not euter within the circumference of the whea zone, the cultivation of this plant possesses
sporadically, with exception of a few localities in the North-west, the Baltic provinces, etc. Summer wheat is cultivated by preference in
these localities. The cultivation of these localities. The cultivation of summer wheat predominating throughout the vast regions of the South, it is the latter variety of the two sorts of wheat which possesses the greatest importance in Russia, as much by the extent of territory devoted to it as by the mass of products which it furnishes for consumption. Thus, of the $11,575,000$ hectares nnually occupied in the cultivation of wheat in Puscio the part assigned to winter whent in of summer wheat occupies not less than 3,441,000 hectares.
We know that, in respect to its botanical路 generties, whent (triticum) is a species which generally divided into four principal classes, abished by Nilmorin, and at present occupied themselves with this question, amongst others by M. M. G. Henje and Haberlandt. These four classes are
ulgar, or ordinary wheat or corn cum sativum Lomm ss vulgare Willd.) Desf.)

## English wheat or corn (Triticum turgi-

 Polish wheat or corn (Triticum Poloni-To the wheat species belong also the different varieties of spelt, which are divided into two or three classes, which we mention here only for the purpose of placing them on record. These classess are: (Triticum spelta), starchy grain (Triticum dicoccum, shank,) and (Triticum monoccocum L) Compared with wheat, properly so called, these varieties possess only a secondary importance.
Along with the botanical classification, there is also another, based on the character and chemical composition of wheat. This classification, established by M. Million, is nearly as important as the first from a practical point of view, especially in relation to commerce,
and the utilization of wheat for grinding Acoording to this classification, the different Accories of whent may be referred to great clases, viz:

The kinds consisting of hard grain.
The species consisting of half-hard grain; and

The species consisting of soft grain.
The characteristic properties of these varipense us from any necessity of treating of them here. We shall merely remark that the chemical classification does not correspond with the botanical classification, and that varieties of wheat botanically different, often belong to one and the same category of hard roft wheat, and vice versa. On the other hand, the various kinds of wheat mentioned above are subject to infinite variations, lose tion, the influence of soil and climate, etc and the properties which characterize them both in a botanical and chemical point of view. The fluctuation of these properties and their frequent transformations, prevent any more ample classification of the various sinds of wheat cultivated in a country, esspecially when the country is so large as Rus-
sia, and presents so many conditions so diferènt in every respect.
We shall restrict ourselves, then, rather to the practical than the theoretical division of the various kinds of wheat cultivated in Russia, of winter and summer wheat. Although this division rests on no scientific basis, and it is incontrovertible that certain varieties of wheat may be cultivated, and are in reality cultivated, both as winter and summer wheat, nevertheless this division must be adopted in Russia more than elsewhere, for the very method of cultivation of both the winter and summer species country.

## 

The following parties are remodeling their mills to the new process, adding purifiers, middlings-burrs, bolting chests, elevators and other necessary appurtenances: $W \mathrm{~m}$. Harding Crooked Creek, Ind.; G. W. and J. E. Millspaugh, Fairfield, Iowa; G. W. Graham, Carbondale, Ills. ; W. H. Huntsman, La Porte, Iud.; C. D. Merritt, Morristown, Tenn.; Harris Campbelh, Potomac, Ills.; D. A. Richardon, Indianapolis, Ind; C. P. Chapman, Pittsfield, Ills.; Coopey \& Funk, Shelbyville, Ills.; Elijah Lewis, Ohariton, Iowa; R. M Simmons, Adairgrille, Ky.; and James Mack, Smithfield, Uty.

## THE UNITED STATES MILLER.

Steam Power For Flouring Mills, President Elles, of the association having introduced the speaker, Mr. Barr said:
I have been asked by several members of this association to give you an informal talk this evening on a subject which, next after milling itself, is of the greatest importance to the miller.
The milling interest in this State is not only large and important, but growing. The mill of to-day, as well as that of the future, must,
from the nature of things, be a steam mill. from the nature of things, be a steam mill.
Thus I can easily understand why you in convention in which your time is necessarily short, deem the subject of sufficient importance to devote an entire evening to the discussion of steam power
The steam engine is made to include in its widest application, everything relating to the motive power of the mill. It will answer our
present purpose if we divide the subject into three parts

## The engine pr The boilers. <br> The furnace

Most of you are familiar with the various competing engines now in the market, so I will leave that part of my talk until later in
the evening and will take up the subjects in the reverse order in which I have named them, beginning with the furnace.
In designing a furnace it is important to fuels at our immediate command are wood, bituminous and anthracite coals. I think it improbable that any mill in Indiana is regularly using anthracite coal as a fuel. A small per-
centage of mills use wood, but the larger number use bituminous coal. Fortunately we have not only an abundant supply but an excellent quality of bituminous coal in this State. The as its functions are partly mechanical and partly chemical. either or these would occupy too much time this evening, yet the importance of the sub-
ject will not allow it to be passed by without a word. The design of the steam engine as a whole is simply a train of mechanism by For the present, then, we shall leave the steam engine and devote a few minutes to coal The best varieties of Indiana coal contain about 55 per cent of carbon, and 35 per cent
of hydron carbon gas. The value of any fuel depends upon its capacity for giving off heat.
In this respect the Indiana coals are entitled take high rank when properly burned. Engineers usually estimate the value of coal by as good a way as that employed by chemists Who fix its value accordingly as it contains
greater or less number of heat units. By heat unit is meant that quantity of heat which Fahrenheit from 30 to 40 . This particular temperature is named because it is that at which water is at its greatest density. One
pound of pure carbon such as charcoal or good e yields about 14,500 such units when prop-
turned. One pound of hydrogen burned fo oxygen gas, gives off during its complete
combustion more than 60,000 heat units, or more than four times that of carbon. The much from a general average of about 14,000 heat units; as this is not far below the theo-
retical value of carbon, and as our coal contains only about 50 per cent of carbon, this
number of heat units is to be accounted for by the presence of the hydrogen in the coal. ustion of the carbon will pe cacts of comgas if perfectly burned; and carbonic oxide gas it perfectly burned; of the hoydrogen A great deal has been said and written on The subject of smoke and it has been made to
bear the burden of incompetency these long years. I admit that smoke is a great nuisance and should not be permitted to escape, especially in the larger cities and towns. Its pre vention is not difficult, and in England where legislation was invoked when a reconstruction of furnaces began, which soon solved the practicability of the problem. There is of course some loss attending a smoky furnace, at the loss by these sooty particles is not so great as is generally supposed. The great source of loss is by imperfect combustion that is, by burning coal to carbonic oxide gas,
inatead of carbonic acid gas. Let us see what this amounts to. One pound of carbon is equivalent, as I stated a few minutes ago, to about 14,500 heat units when burned to carbonic acid gas; if burned to carbonic oxide gas its heating power is reduced to about

4,500 heat units-so you see that it makes a difference of about 10,000 heat units for every pound of carbon burned whether it is burned to carbonic acid gas, or carbonic oxide gas. This enormous waste may be going on constantly without the knowledge of either the engineer or mill-owner for the reason that car bonic oxide gas is invisible. It would be a fortunate thing indeed if it were otherwise The formation of this gas may be explained in some such way as this: Suppose the furnace to be in active operation, the grates covered with a mass of coal in process of combustion the air entering the ash pit comes in contact with the body of highly heated carbon, the oxygen of the air unites with the carbon in the proportion of two atoms of oxygen to one atom of carbon to form carbonic acid gas. This is, so far, perfect combustion, but in passing through the body of the fuel it takes up another atom of carbon which changes the chemical nature of the carbonic acid gas and converts it into carbonic oxide gas, which con sists of one atom each of carbon and oxygen This product unlike the first is imperfect combustion. Now if we have a properly consucted furnace we may again convert this carbonic oxide gas into carbonic acid gas, fire. This air must be admited in limited quantity and at a high temperature. A very good way to get this is to build hollow walls around the furnace, and force the air past the highly heated fire-brick lining. This ought degrees.
Another source of loss is occasioned by the admission of too much air in the furnace.
The actual quantity required is about 150 cubic feet per pound of coal; it has been experimentally determined that about double this quantity is usually supplied. In addition to this about one-fourth of the total heat of the furnace passes up the chimney, serving no other purpose than making a drift through the
fire. Let me put this in another way: Those of you who are burning four tons of coal in twenty four hours are losing the useful effect one ton of coal, receiving nothing in return but draft or circulations through the furnace Thave made no calculations in regard to it nish power enough to run a dozen blowers larg enough to supply all the air needed to consume properly the same amount of fuel.
In regard to steam boilers, the practice in this country is almost entirely confined to horizontal cylinder, flue, or tubular boilers externally fired, afd set in brick work. The horizontal tubular boiler has a good record and is the one usually selected for flouring
mills. The question as to whether a boiler should be fired externally or internally can hardly be said to be definitely settled. There are weighty arguments on both sides, and so far as I have been able to gather any testimony son why we should give up our standard horizontal tubular boiler. One very importan thing in regard to the selection of a boiler is to see that proper provision has been made
for a good circulation of water around the shell and tubes, and, that suitable openings are provided for internal inspection and cleaning. Most of the well water in this State is ery hard. The scale formed by its evaporation is composed principally of carbonate of
lime and magnesia. Some provision must be made to get this out of the boiler. My own practice has been to put a man-head in the front of the boiler under the tubes, and one at he back end of the boiler and above the tubes. In all ordinary cases this allows ample
facility for cleaning and repairs. Defective circulation lowers the steam pro ducing power of the boiler by the over heating of the plates so that the water repelled from the iron, a thin film of vapor interposing beween the water and the iron. This condition of things is often referred to by writers as the spheriodal state of water. In explanation of this, you have all at some time or another observed the action of drops of water spilled on he top of a highly heated stove; the water loes not break out info steam, but assumes a globular or spheriodal shape giving off no steam. It is in contact with the iron but only at a single pofnt, it runs along the top of the stove and finally over, the edge to the floor When the water is in this state, and the fire at a very high temperature, there is danger of weakening the boiler by overheating the plates.
But, aside from all this, if the water at the bottom of the boiler cannot easily reach the surface after it has become heated, it is obvious that the construction of the boiler is deeating the very object for which it was de signed and built.

Every set of boilers should have a good steam pump. It may take a little more steam to operate the pump in this way than if a belt pump were used, but its advantages and conveniences will more than offset the other, Every steam boiler should have a good safety valve. The practice of connecting several boilers together and having but one safety valve for the lot, is altogether wrong. Every boiler should have a good steam guage, the very best that can be had; the difference in price between a good gauge and a poor one is so small that it ought never to be taken into account. It not unfrequently happens that the safety of the whole establishment depends apon the reliability of the steam gauge, and especially is this true where boilers are in use, which from long services and other causes are not safe above certain pressures.
The heating of the feed water is an import ant matter. This is usually accomplished by the exhaust steam being conducted into closed vessel in which there are coils of pipe hrough which the feed water passes. Advantage may also be taken of the heat in the exhaust steam to precipitate impurities in the water. The action of the "Stillwell" heater may be taken as an example
In regard to the engine proper the choice lies between tfle ordinary slide valve engine the automatic slide cut off, and engines with detachable valve gear automatically regulated the governor. The first is the commones form of a steam engine. It furnishes a compact, simple, and durable engine if properly designed ad built. The point of cutting of is fixed during its construction and is not var-
iable; in ordinary practice it ranges anywhere rom five-eighths to seven-eighths of the stroke from the beginning. The action of the gov ernor on this class of engine consists in reduc ing the pressure of steam in its flow from the boiler to the cylinder so that the average prestain number of revolutionsºunder a certain load. This is by no means the most economi cal form of engine. Yet, for small mills, it is often to be reccommended rather than a complicated automatic engine, notwithstanding the ncreased fuel consumption by taking into ac management by unskilled persons.
There are several automatic slide cut-off en gines in this market; perhaps the one best known to most of you is the "Buckeye" en ne. A very superior valve gear, though but ittle uesd in the West, is the "Rider." The "Allen" engine, as designed by Mr, Charles T. Torter, is in many respects a superior engine Taken all together this particular type of en gine is to be recommended mainly because of
its positive valve motion, and the high rate of revolution possible-two very desirable featares in a mill engine. The present tendency with millwrights is to connect the mill shaft directly to the engine shaft and require the en ine to run at such rate of revolution as the machinery of the mill requires. The tendency , therefore, to larger cylinders, shorter stroke and higher speed. The demands made upon the builders are for better designs, the best of materials, good workmanship and guaranteed performance.
Where mills are large and must of necessity e geared, then slow running engines are to be ised. Among the competing engines of this lass now in the market, and fitted with a va riable automatic cut-off gear, controlled by he governor, I have in mind the "Corliss," "Brown," "Wright," and one or two others of which I do not now recollect the builder's names. The "Corliss" is perhaps the best engine known, and most talked of, of any engine ver built. Its record is one of which the designer, and the country as well, may be proud. The best results with this class of engines are to be obtained by using steam at a high pressure and cutting off, say from one-fifth to oneourth from the beginning of the stroke and expanding down as near the atmospheric line s possible.
In regard to economical use of steam, the engines I have just named are about equal. These engines have what is known as a drop cut-off, that is, at the beginning of the stroke, he steam valve is moved by means of what is echnically known as a "clutch" or "toe," and ontinues its movement until it reaches a "stop," the position of which is regulated by the governor; this stop unhooks or detaches the valve and allows its being seated independontly of the rest of the moving mechanism. This is usually accomplished by means of a weight or spring. The exhaust valves are not affected by the closing of the steam valves. For engines making not more than, say sixtynive revolutions per minute, this type of valve
gear has few objections and has become very
popular, and on the whole has given excellent results.
This has been a rambling sort of a talk, and in conclusion I beg to say that it seems to me that the ideal engine of the ideal mill would be something like this: A high speed auto matic cut-off engine with a positive cut-off mo tion. Whether this shall be controlled by a governor or by some other mechanicism oper ated by the pressure of steam, I cannot say, though I think the governor will probably be retained. The coilers are to be capable of carrying a working pressure of steam from 100 to 150 pounds per square inch with perfect safety. The furnace to be built on an entirely different principle from that in which ordi nary boilers are now set. A force of draft to be used instead of natural draft. The pro ducts of combustion instead of being allowed o escape up the chimney, will probably be orced into a separate chamber alongside the boiler setting, and made to do duty in heating the air before entering the ash pit. The feed water may also be taken into this chamber and allowed to absorb as much heat from it as pos sible. A self-feeding mechanism of some sort or mechasical firing is also needed; this sould feed the fire from below, instead of sattering the fuel over the top of the fire.
I had intended saying something about sec tional boilers, but'the lateness of the hour and not having anything to show the peculiarities of construction, will prevent my introducing it to-night. These are proprietary designs, and are furnished only as the owners of the patents in their judgment think best adopted o particular cases.
I have omitted many things in this talk and would be glad to answer any questions that may suggest themselves to you.-By W. M. Barr, of Indiana, at the Indiana Convention.

Bread is now selling in London at twelve cents for the four-pound loaf, that is at three
eents a lb. The present price is unusually cents a lb . The present price is unusually , and it has not been so years. The average price for the last ten years has been just about 4 cents a lb.

Edw. P. Alls \& Co., of Milwaukee, have orders ahead for over 100 roller machines, in oluding porcelain, corrugated, chilled iron, and smooth chilled iron machines, and ar turning them out at the rate of three daily.

## Cut This Out. <br> "United States Miller" Sunscription Blank.

We hope the milling friends of the United States Milleer will be as liberal to it as it
has been in the past, and will be toward them ins the fuumre. Sulbscription price, one year $\$ 1$, We shall be pleased to have an early response to this. Fill out the blank below, evclose with money in an envelope, seal carefully and send at our risk. A receipt will be sent by return mail. Address all communications to the United States Mmher, Milwaukee, Wis.
Editer of the United States Miller, Milwaukse, Wis.-Sir: Send one copy of the
United States Miller for one year, for which And enclosed $\$ 1.00$.
Name.
Pest-Office
County
am
LORD'S TOLL CARDS


## The Millers' Text Book.



## Exphicic noict To MIELEEERES

The statement and circulars, issued by E. P. Allis \& Co. are worthless, and there is no truth in them. A license given by them, to use my Process Patent, No. 162, 157 , is not worth the paper it is written on. The right, if any was ever given, under their advertised record, was reconveyed by them back to me on the same day, and can be found on record in the Patent office.

Judge Dillon of the United States Courts on the 28 th of March decided that their paper was worthless on its face, independently of the other paper.

I will hold all millers responsible to me who purchase from E. P. Allis \& Co., or any other person but myself or authorized agents. will defend all who purchase from myself or authorized agents.

## R. L. DOWNTON,

 114 South Main St., ST. LOUIS, Mo.
## Carden City Middlinges Puifiefer

Adapted to both Large and Small Mills.


Situations Wanted, etc. Millers, Engineers, Mechanics, ett., wanting situa.
tions, or mill-owners or manufacturers vanting em. ployes, can have their cards inserted under this heod for 50 cents per insertion, cash with order.
sITUAVION WANTED-An experienced head
miller, having been employed for wany years in the
Austro-Hungrian seal
 $\frac{\text { Stein \&VOgler, Vien' } n, A \text { Austria. }}{\text { WANTEM-A young miller who is well posted to }}$
 stand diessing and keeping the stones in order. In
anwering this sate how long nad where you have
worked, and what wages youdece. Address
VARIETY WORKS, P. O. Box 29 , Union Springs, Al WANTED-A first-class foreman to take charge of atone shop; must be perfeetly competent to superin-
tend building and finishing buhr tone. Bext references
refuired, and none but experigcod
 WAATED-A situation as Oatmeal Miller by a thoroughy practical, eompetent man, sober and steady; un-
derstands all the diferent krades for homeo and foreign
inarkets ; the drying nnd handling of oats in al ite

SITUATION WANTEB.-A practical miller of ten


$\qquad$ NITUITION WANTED-By a young man wh Mas had four years' experience in the milling business.
Being part owner.of the Neeel M Mils, Columbia, Tenn.
be has had the manakement books, superintending the prindinge, mills, keeping the the some
traveling for the mills. The firm of which he is mam- memtraveling for the mills. The firm of which he is a mem- me
ber hare just lensed out the mill and property for term
of years and he wishes to enarge with a medium-sized
mill in any mill in any a apacity. Can, take charge of, and suceess-
fully run, a 2 or 3 run mill, attending to the stone dress.
ng, grinding, and ing, grinding, and anything else neceessary to do. Has
had a good business education. and can furnish the best
of references as to honesty, energy, and woinl standing of references as to honesty, energy, and zooial standing.
E. O. NEEL, Box 13,
$\begin{aligned} & \text { Columbia, Tenn. } \\ & \text { mytf }\end{aligned}$

For Sale or Exchange.
cash with order.
FOW NA LE-One-half of 3-run, water




$\qquad$ PARTVER WANTEDB-I have a good Grain
Elevator, large enough to run a flouring mill. Would like a partner who can furnish the neegssary machinery.
Parties having mills not paying will find it to their
in FOR RENT-I offer for rent my Grist and SawMill;
3 run of stone; House and Garden; Good Water Power ;
 For SALEE OR LEANF-For a term of years,
The Cedar Street Flouring Mill, St. Louis, Mo Now,
and in complete running order, having six rans of buhrs


FOR Na LEEI offer for sale a first-elass modern
flouring mill in this city, making 100 barrels a day Mouring mill in this city, making 100 barrels a day;
power-water and stenu; , have not stored h barel this
erop, selling as it arrives in New Yo $k$; this is a fine
opening for any one wanting a mill; propertr cost
\&ill,coo, but will be sold cheap and on reasonable terms: reason for selling, belongs to an undivided eetate. Ad-
$\begin{aligned} & \text { dreps. } \\ & \text { je }\end{aligned}$
$\begin{array}{ll}\text { e }\end{array}$
J. GREENE, Adminitrator FOR AAIEE. Wishing to concentrate my businese

 oountry. This is a good two-run mill, nearly now with
latest improvements and elovator attached for handling
grain Mill


FOR sALEE.-"Pearl Mills," at Columbia, Maury
Co., Tennessee, are being offored for sale at about Laif cost. They were recently rebuilt, and been since run net more than twelve months, and the building and ma-
chinery are new and in first-claps condition The ma chinery are new and in first-clasp condition. The ma-
chinery is the INtest in mored They are located in a
good wheat section, and between Thnd
 AAdress.
jy
FOR SALEE.-A bargain for someone with a litllo
enpital. Our steam grist mill with two run of burrs inch, and the necessary cleaning machinery, with plan-
ing inill attached will be sold to ing mill attached, will be sold to a good party for a song,
or nlinost givent him situation god
of the 0 . \& N. W. R. R. R., and the
 of cus. Railwar, nbout 1.500 feet fram depot, Good run
of custom. Reasons for solling, poor health and other
busion


FOR SALE-The Flouring, Mills at Troy, Kansa known as the "Banner Mills," in suceessful operation,
with well-established trade. Location
Rain with weil-established trade. Location unsurpassed.
Rairlrods in every direction. Fine wheat and sorn
country. The best county in Kansas. Thoy the coll seat. is a thriving town with good sconools, etc. Theont The
mills have four run of burs,
 account of the il health of the managing partner the
property will be sold at a great bargain. Ad
jeff TRACY \& PARKER, Troy, Kansas. FOR MAIE,-At La Grange, Mo., A four-run, brick,
steam mill, ititunted on the Misesigsipp River and on the
St. Louis and Northwestern Railroad Ti, feet square and forthw stories hailroad. This mill is 60
feet loog by 30 feet wide that has an L 60
stor she stories hit hat


 FOR SALE-A Texas'flour mill and land; a rare a depot 16 miler from Dallas, Texas, and on the Dallas \&
Witchite


 the bnlance is in timber and crops, frord and verpetual fuel for for
the mill and fine pasturage It is located on the El
ET Fork of Prinity River, and is exceedinaly fortile. I will
sell the whole to o CASH purchaser for $\$ 15$ per acre-
not more than the value of the lase whent raised in the county. Batisfactory reasons for selling.
aptf
Address inmodiately
DR. ROV B. SCOTT, Trinity Mills, Texas.

## PENINSELLA STONB CO.

Having assumed the control of this famosis quarry, the
undersigned 1 pe prepared, too furnish on short sort notice a
superior quality of sharp, fine grit sandstones for Ending Wheat and Hulling Oats. Send for price list.

FERD. SChUMACHER, Pree,

ROLLER MILLS.
the future mills of america.


EDW. P. ALLIS CO, Reliance Works,Miliwautee, Wis.

## TO THE MILLING PUBLIC.

## We have our attention called to the following

## FMPHATIC NOTICH TO MILLTRS,

The statements and circulars, issued by E. P. Allis \& Co. are worthless, and there is no truth in them. A license given by them, to use my Process Patent, No. 162,157, is not worth the paper it is written on. The right, if any was ever given, under their advertised record, was reconveyed by them back to me on the same day, and can be found on record in the Patent office.

Judge Dillon of the United States Courts on the 28th of March decided that their paper was worthless on its face, independently of the other paper.

I will hold all millers responsible to me who purchase from E. P. Allis \& Co., or any other person but myself or authorized agents. I will defend all who purchase from myself or authorized agents.
R. L. DOWNTON, No. 114 South Main St., St. Lonis, Mo.

## We will simply say in answer thereto :

First-We have never reassigned Process Patent No. 162,157 to any person, but own said patent now.

Second-If Mr. Downton has a reassignment of his Patent Process, No. 162,157 , from us to him, as he now claims, then he thereby admits that he did assign to us said Process Patent, No. 162, 157.

Third-If he has such a reassignment why does he not publish it to the world, and by so doing make his "emphatic notice to millers" more emphatic than his unsupported word that he has such a paper.

Fourth-If Mr. Downton already has a reassignment of said Process Patent, No. 162,157, why is he now suing us in the United States Courts to try and have said original assignment set aside? Comment is unnecessary. Send us your orders. We will fill them and give you a license that can never be overturned, Mr. Downton's assertions to the contrary notwithstanding.

## E. P. ALLIS \& CO., MILWAUIEEE, VIS.



## BOTTIED BEER.

VOECHTING, SHAPE \& CO,

## Josesph Sclilit Brewing Company's Celelinated Milwaikee Lager Beer

 Cor. Second and Calena Streets,MILWAUKEE
Bottlers' supplies constantly on hand


Or dealer that has been waitirg to buy the BECKER WHEAT BRUSH, can now do so without any fear as a certified copy of the final decree, as here published, will show a settlement of the surt UNITED STATES CIRCUIT COURT,
Preaent Hon. Thomas Drummond, Judge. THROOP GRAIN CLEANER CO.,
EUREKA MANUFACTTRING CO., $\}$ In Equity
and JOHN M. GALT
This cause having been heretofore heard on bill, ansiwer and proofs and referred to the Master, under accounting under settlement made ;
It is ordered, adjudged and decreed, that the decree entered otherwise remains in foll force and effect: and the injunction thretofore granted shall stand as to all machines, containing flanges, rings, or any
equivatent provision, for expanding or contracting the scouring jacket or case. equivatent provision, jor expanding or contracting the seouring jacket or case.
as its damages, and that the defendants pay the costs.
Northern District of Illinois.- $\$$ s.
I. William H. Bradley, Clerk of the Circuit Court of the United States, for asid Northern Disurict of Illinois, do hereby certify the above and foregoing to he a true and correet copy of the order entered of
Record in eaid Court, on the 21at day of June, A. D 1879 , in the cause wherein Throop Grain Cleaner Record in said Court, on the 21st day of June, A. D, 1879, in the cause wheren Throop Grain Cleaner
Co is the complanants, and Eureka Manufacturing Co is the jefendants, as the same appears from the original Record of said Court, now remaining in my custody and control. In testimony whereof I have herennto set my hand and affixed the Chicago, in said distriet this 21 set day of June, A. D. 1879.
je

## The United States

Volume 7.-No. 4.
MILWAUKEE, AUGUST, 1879.


Nagel and Kaemp's System of Roller Milling.
Mr. President and Gentlemen of the $N$
ciation of British and Irish Millers: I have been invited to read a paper before I have been invited to read a paper before
you to-day upon the subject of Roller Mills. This is a subject which, it is almost needless for me to say, is at the present time exciting a very great amount of interest amongst millers, and it is therefore with ind to bring under your notice some remarks upon this most imyour not subject, and which I hope may prove portant subject, and which
to be worthy of your consideration.
To many who are connected with the profession of milling there appear signs that the millstone, after a long life, has, at length, nearly run its course, and it is not altogether
without some regret that we foresee the possibility, perhaps at no very distant date, of having to bid adieu to so old and useful a friend. In the face of keen competition at home, howintroduction of foreign flour into this country, it becomes a question of the greatest moment to British and Irish millers by what means they may best hold their own. I have said equally true that we have another which is older still, and one, moreover, which has received but sc
to the grain.
It is, perhaps, needless, to remind you that up to a comparatively recent date vast quantities of valuable middlings, which might have wasted. The introduction of middlings purifiers throughout the country has caused a great saving in this direction, and the value of these is now almost universally acknowledged to be an established fact, for, whether we afterwards reduce the middlings by stones or ron-
ers, the result will show that a decided advantage has been gained by the previous process of purification.
The application of roller mills-both of porcelain and chilled iron-to the reduction of very valuable assistants to the miller.
Centrifugal dressing machines have also aided to no small extent in the general improvement which has taken place
in the manufacture of flour daring recent years, while to those I have mentioned may be added many more mprovements which have been gradually adopted, and have, in a greater or less degree, been the means of enabling millers to do greater justice to the grain by turning it to better account
than it had been possible to do before these improvements were adopted. It is, however, an undoubted fact, that elery alteration does not of necessity constitute an improvement, and, unfortunately, alterations have occasionally been made in flour mills which have demonstrated the truth of this in a very decided and unpleasant manner, and consequently engendering a natural hesitation on the part of the miller to whom any proposal is made, the carrying out of which would entail the sacrifice of at least a portion of his existing plant. When the question of success or failure of any proposed alteration, upon an extensive scale, is felt to be a matter of deep interest to the milling profession in general, it would appear scarcely fair that the total expense of making the trial should be borne by one individual or one firm, who can reap no benefit whatever in attending the trial the benefit will be immediately shared by the whole profession at large. I venture to anticipate wat your Couneil will, in their wisdom, at some future date take into their consideration the question as to whether some combined action on the part of the National Association of British and Irish Millers may not with advantage be resorted

## the profession individual loss.

Messrs. Nagel and Kaemp, of Hamburg, who have made milling engineering a special study, have perfected and patented a system of man facturing flour by means of roller mills and other machinery, and without the aid of the millstone. I was entrusted by these gentlemen with the introduction of their system into Great Britain and Ireland, but not until the system had been thoroughly tested and proved
satisfactory, under their own supervison, on the Continent.
Bearing in mind the fact that Nagel and Kaemp's system had not as yet been tested upon English wheats, I anticipated some diffculty in procuring an opportunity of erecting it; but I was fortunate enough ing thematter, had the courage to adopt the system, and was with great satisfaction that I ascertained that the system proved equally satisfactory when operating upon soft English wheat as it harder foreign grain.
It is Messrs. Nagel and Kaemp's system of roller milling which I am about to have the pleasure of describing to you, and I trust that, by sparing you such details as are not abso-
lutely essential to affording a general idea of the process, I may have the satisfaction feeling that $I$ have not abused your indulgence The thorough cleansing of the whent before the reduction of the grain is proceeded with is a necessary adjunct to every process of milling, and Nagel \& Kaemp's system forms no exception to this rule. The better the wheat is cleaned the more satisfactory wil be the
result, so long as the grain itself contains no result, so long as the grain itself
injury during the cleaning process.
Messrs. Nagel \& Kaemp's system consists

1. In the crushing of the corn, bran, and
middlings between rollers, the pressure of veniently regulated.
2. In the thorough loosening of the parts which have been crushed asunder in the roller mills by means of a machine termed a "diswhich may be adjusted to suit the material upon which it has to operate.
3. In separating as completely as possible, by means of centrifugal dressing machines leaving the dimembators, and in order to produce the pure finished flour, the pure middlings, and the finished bran
Nagel and Kaemp's roller mills, each of which contain but one pair of rolls, revolve a equal speeds or without differential motion The surface of the rolls is formed of the hardest chilled iron, and is perfectly smooth. The roller shafts are of cast steel, each shaft which are constructed in such a manner that in the event of the elastieity of the shaft when working under heavy pressure allows of the very slightest deviation in the direction of the centre line of the shaft where it passen will will immediately respond, by the direction of the shaft, presenting thereby the whole of the surface of the bearing to the shaft and obvi ating any tendency to excessive heating.
At either end of the shaft which carries
what is termed the "fast" roller, a pulley is fitted, motion being imparted by this means to the whole machine. The corresponding or "loose" roller is made to revolve by the pressure of its periphery against the periphery of the "fast" roller, differential motion and consequent friction being thereby entirely avoided. It is necessary to bear this fact in mind, for it Ih is triction is to the the throughout the process that the success of the system is to a great extent due.
The bearings of the "loose" roller are car-
or
mi
or lever, by which the regulation of the roller
rill is directly taining a strong steel spring is applied to the centre of the lever, whereby an elastic pressure may be imparted, as also the space beween the rollers altered at pleasure. These
wo distinct operations are performed by means of a single hand-wheel. Conspicious self-registering gauges are fitted upon the of the frame, and these enable the fore man miller to ascertain at a glance both the amount of pressure that has been applied, as one another. The man in charge of the ma chines may, by means of the hand-wheel al ready referred to, with one hand ascertain th state of the crushed material, and with the other regulate the machine to suit his pur pose, precisely in the same manner as he may The convenience with which the roller mill The converise win whil being used for crushing either wheat, bran or middlings; the plan is, however, not advisa ble in the case of a continuously working system, and where each of
ducts should have their proper roller mills assigned to them. The diameter of the rollers is considerably greater than that which has hitherto been generally thought sufficient for his class of machine ; the bearings, as well as the whole construction of the machine, has been arranged with a view to working at a casion requires (as, for instance, the operation of rolling the bran) under a heavy pressure. The large size of the roliers and a large quantity of material to be operated upon with good effect.
The Dismembrator. - The disembrators which receive the crushed corn, bran and mid whichs from the roller mills, are machines disintegrator, as they contain dises fitted with concentric rows of teeth. Nagel and Kaemp's disintegrator has one stationary disc and anaccording to the nature of the work which the machine is called upon to perform. Both discs (which are of steel) are fitted winc concencre rows of steel pins, the oprs onearly the whole
lapping those of the other by length of the pins.
The material to be operated upon enters at the centre of the stationary disc, and by centrifugal force is driven towards the periphery, passing on its course through the several concentric rows of teeth or pins, by which the maerial becomes tossed and knocked about until the parts which have already been crushed asun der by the rollers become thoroughly loosened from one another, and thereby prepared for the subsequent treatment by the centrifugal dressing machines.
would here, gentlemen, request you to bear in mind that it is not with a view to pulverization that these machines are applied. The speed at which the discs revoive imparts necessary in order to pulverize the material. This more gentle action is desirable upon several accounts, and especially in the case of the bran, which it is the object of the patontees to preserve as broatt which carries the revolving dise are arranged in a similar manner to those which I have already attempted to describe in the case of the rollers ; special care has, however, been taken in the case of the disintegrator, to enable the shafts to revolve at an exceedingly high speed, if necessary; and so satisfactory have been the result that although many machines have been, and are, running at a speed exceeding 3,000 revo lutions a minute, I am unaware of a single case where the bearings have become dangerously hot.
amount of friction in the bearings, I would
mention that within the cast-iron frame mention that within the cast-iron frame of the purpose of receiving the oil coming from the bearings, and, notwithstanding that the quantity al js andl whem drown off fom the tanks, the oil presents apparently as clear an tanks, the oil presents appareoured into the oil appearance as whegrar is driven by a small
cup. The disintegrator pulley which is placed upon the disc shaft, the belt driving this pulley being kept in a proper state of tension by means of a tightening attached to the machine; the position of the tightening pulley may be altered whilst the machine is in motion. A cast.iron hopper fitted with a feel roller is attached to the machine, and an arrangement is effected whereby the air is, so far as possible, prevented from entering the machine. The inlet being closed, and the air being forced from the centre of the discs by the action of the revolving discs and pins, a partiong parts to a great extent from the resistance of the atmosphere, and enabling the machine to be driven with a small amount of power. The partial vacuum created within the machine is increased by the action of an exhaust, between which and the disintegrator a filter is applied the main object of this being to draw off the moist air before the material enters the clevadressing matnes
eentrifugal dressing machines. We have now come to the third process, namely, the operation of dressing the various materials which have passed through the sev eral roller mills and dismembrators. You are doubtless all more or less acquainted with the principle of the centrifugal dressing machine and with regard to this it will be unnecessary to trouble you further than to remind you that consists in a slowly revolving cylinder, which is coated with either perforated zinc or ilk, and wither wolving at a higher speed, and which a screw with a very reat pitch. The cylinder may be placed in a horizontal position, the inside beaters catching up the material to be dressed whilst in a state of suspension, and throwing it with a gentle action against the entire surface of the coating of the cylinder; by this means the different particles are separated from one another and assorted according to their specific gravity and size. The advantage of this in the case of sizing middlings will at once be apparent, and it is of no less importance in the case of flour. Indeed, I may, perhaps, say that it is in one respect of greater importance in the latter case than in the former, for that light dust which, when mixed with the flour, has the effect of spoiling the color, may be separated from the middlings during the process of purification, but the desirable separation is accomplished by the centrifugal dressing machine through the beaters throwing the heavier particles forming the fine flour with greate force against the cylinder coating than the lighter particles of dust. The dust remaining inside of the cylinder is, together with the other parts of the reduced grain possessing less specific gravity or greater size than the particles of flour, gradually worked towards the tail end of the machine, where it finds its exit.
The remaining machines which are used in Nagel \& Kaemp's system are the middlings purifiers for purifying the various assortments of middlings after they leave the dressing machines.
Having given a general description of the construction of the machinery use now proceed to explain the process.
The cleaned wheat is first passed through one roller mill, and after being crushed enters one dismembrator, where the crushed parts of grain become thoroughly loosened from one

## [Concluded on page 58.]

## THE UNITED STATES MILLER.

## United States Miller

E. HARRISON CAWKER, Editor.

## OPFick, 62 Grand Opkra Housk, M Mwaukkr, Wien

 somerbin privio Ahitand fotion ko

## MILWAUKEE, AUGUST, 1879

Subchibers changing their location and writing to us to send the Mulise to their new their former address wa

We intended to have given our readers review of the milling interests of Milwaukee
in this number but as many extensive improve in this number but as many extensive improve
ments are being rapidly made, which will soo ments are being rapidly made, which will soon
be completed, we defer it to another month. We will send a copy of the Milekrs' Text
Book, by J. M'LeaN, of Glasgow, Scotland, and the Untted States Miller, for ootand, to any address in the United States or Canada, for 81.25. Price of Text Book alone, 60 cents. WV thank our milling friends throughout We are always pleased to receive these news. States Miller in mind when anything tranpires worth recording.

WE have in our possession a wonderful
specimen of penmanship, in which the Lord's
Prayer complete is Prayer complete is written four times inside work was executed by Prof. Lowell Lincoln, 1868.

New $W_{\text {inter }}$ Wheat. - The first arrival of the crop of $1879(101$ sacks $)$ was received at
St. Louis on the 12 th of June, and was sold at anction the following day at the fancy rate in New Madrid Co., Mo., and was purchased by the Atlantic Milling Co. from the consiguees, Senter \& Co. The first arrival of the crop of 1878 was on June 7, from Illinois, and
sold at $\$ 1.251$ - The Miller (London.)

## Death of Delos L. Flier--Saturday, Iuly $26 t h$, Delos L. Filer, of the firm of Filer,

 Stowell \& Co., of the Cream City Iron Works,Milwaukee, died at Ludington, Mich., ared but for many years has been largely interested in business here. He was one of the heaviest
dealers in and manufacturers of lumber in
Michigan, and Michigan, and at the time of his death was
President of the Pere Marquette Lumbering
Co. He had heen ailing for some ittended to business until ten days before his

## in the history of Cincinuati has there been

## eeks. The movement has been so large that

oliged to ang cars from the Northwest, but still the hippers have to wait for the demand, and omes mainly from Kentucky and Indiana mere the crop proves to be large beyond the it so early in the season draws marketing nati, which commot fail to to fluence upon the general trade of the city
during the autumn wheat there from July 1 to July 23 inceipts amount to $1,215,454$ bushels. For the corre sponding time last year the receipts were 800, 567 bushels, which up to that time was the
largest known. The increase this 414,877 bushels, or over 50 per cent, year is

## statistical

 1878 were $\$ 680,709,268$; in $1879, \$ 698,334$, lise for the fiscal exports of foreign merchan $1879, \$ 12,093,792$. Values $\$ 14,156,498$; in merchandise during the year ending June 30, $1878, \$ 437,051,632$; June $30,1879, \$ 445$, 92,141 . The total value of exports of mer chandise for the year ending June 30 , 1879 , xceeded the value of imports of merchandise $\$ 264,636,602$, as against excess of exports over imports the preceding year amounting to
## grai

\$257,814,234. Exports of coin and bullion the last fiscal year, $824,996,641$. Imports of coin and bullion, $\$ 20,293,000$. During the preceding fiscal year the exports exceeded the imports of coin and bullion $\$ 3,918,811$. The
Chief of the Bureau of Statistics furnishes Chief of the Bureau of Statistics furnishes
the following information derived from offlicial returns in regard to immigration into the port of New York. There arrived at the port of New York during June, 1879, 19,263 pass-
engers, 15,929 of whom were immigrants engers, 15,929 of whom were immigrants.
During the corresponding perio otal number of passengers arived at port was 12,521, of whom 9,506 were immigrants. The arrivals during the twelve months corresponding period of 1878 , were as follows :


## The Millers' Compromise

A good deal of murmuring and muttering under the bed quilt, so to speak, is heard country in regard to the recent compromise and, probably, not without a good deal of idity of Smith's claims was as well known the the Executive Committee of the National As sociation two or three years ago as it was at no such compromise could have been that two or three years ago, as was made during the session of the late Association, and so the committee decided to contest all claims until
favorable terms could be made. It reminds us favorable terms could be made. It reminds us
of the story of the Vermont politician whose opponent threw up to him the fact that his sister had given birth to an illegitimate child. In defense he said: "Yes, my friends and
feller citizens, Sister Sal did have it was such a little bit of a dried and shrivelled up thing that it don't 'mount to nuthin nohow," elected the strength of that expression was olected. So it was with the compromise. The so that it don't 'mount to nuthin nohow," up the great majority of millers are willing to acept the situation and wait calmly and serenc

## New Grade of Barley

The Directors of the Milwaukee Chamber a new grade of barley. The present grades are
defined as follows.
No. 1 Barley-Sh
plump, sound, well
No. 2 Barley-Shall be sound and reasonably
plump, reasonably clean, and free from other

- good malting
 colored, but reasonatyly include all shrunken, dis-
malting purposes Rejected Barley-shall include all barley un-
sound or for any cause unfit for No. 3, but fit for
warehousing warehousing.
The pring
The proposed new grade, which takes an inter-
mediate position mediate position between No. 2 and No. 3, is defined
as follows:
"Extra No 3 Barley-Shall comprise barley that for No. 2, but
of that grade,


## The old definition

## hed by stricking out the ,

 The proposed change or addition to the grades tical with those of Cerder the barley grades idenadopted the new grade proposed here one yearago Much barley was diverted from this market to Cho eago for the want of it, as the difference in price between No. 2 and No. 1, about 20 cents per bushel, involved a serious loss to shippers on the qualitiesdescribed in the new grade, and much trouble t the receivers in bagging it out, and selling it on its nerits. The intermediate grade, when established No. 2 and No. 3. The full list of grades will be The full list of grades will be
No. 3, No. 3, and rejected, des-

## ignated as above show

## $\rightarrow-$

How to Direct Letrers,-The importance by mail is out fully the destination of missives sent greatest degree of certainty, the superscription should embrace the name of the town, the county and the
State. Town names are dunlichte State. Town names are duplicated in nearly all
of the new States, or vary so little in of the new States, or vary so little in the spelling cept the name of the town is supplemented by the of the county. Through neglecting to designate the State, delays and losses innumerable are occurring daily. It may seem superfluous labor to a man in haste to direct his letter fully to Boston, Mass. New York, N. Y, Washington, D. C., or Millwankee, Wis., but the necessity of it will be apparent When it is known that in the full list of United Statee Postoffices, the familiar names ot well-known cities and towns are repeated as follows: Brooklyn, 18 times; Williamsburg, 10 ; Baltimore, $5 ;$ Bangen ${ }^{10 ;}$; Boston, 12; Buffalo, 16; Burlington, 17; CharlesStates: heat.
 Cleveland, 10; Louisville, $15 ;$ Nashville, $15 ; ~$
Philadelphia, 7 ; Richmond 22 ; Washer and Springfield, 25. There 22 ; Washington, 3 , etitions on the list, There are over 300 such repetitions on the list, and some thirty duplicates in
different counties of the different counties of the same State. To insure
certainty of delivery (2) to the county, (3) to the State or Territory.

Dispatches dated July 29th, say that the crops in Hungary are badly damaged by the recent sudden great heat followed by heavy rain.
Latest reports from Southern Russia show that the crops have been entirely ruined by the long drouth and innumerable swarms of locusts.

New Cure for Hydrophobia.-Recently a litle girl living in Paris was bitten on the hand by a mad dog. She soon exhibited signs of hydrophoLedeben, made the littlesicians, Drs. Schmidt and feet of oxygen. By-this means in an three cubic half all the symptoms dissappeared and the child remained calm. Two days afterwards the malady returned in all its distressing characteristics-difificolty in breathing and swallowing. A fresh inhal ation of oxygen was tried and at the end of fortyve minutes the attack subsided, never to return.

An Old Engine.-A venerable relic of past engineering skill has been presented by the Earl of Lonsdale to the Patent Office Museum, South Kensington. This is a specimen of Heslop's winding and pumping engine, a patent for which, numbered 1,760 , was taken out in the year 1790. Heslops's engine, one of the immediate predecessors of James Watts' in vention, was considered in the days of our great grandfathers to be an almost perfec machine, being superior to the atmospheri Smeaton. The pomen, even as improved by Smeaton. The present engine has been at work in the neighborhood of Whitehaven for 73 years, having been erected at Kell's pit for raising coal about 1795, afterwards removed to Castlerigg pit, and thence to Wreath pit in 1837. At the latter place it not only lifted ast sum the mine, but worked a pump till The engine now at was brought to London. last surviver of its South Kensington is the

Cheap Wheat in the South.-The wheat market, says the Chattanooga (Tenn.) Times, is becoming so thoroughly demoralized as to create some anxiety among buyers as well as growers. The trouble seems to be on account of the great supply furnished by Georgia. Our filling Southern orders for new wheat, but this season they are receiving no orders at from the South. The Southern mill owners write that they can buy all the wheat they can use
at much lower figures the buy it from the growers, which merchants can account of the stringency of the times and scarcity of money, the farmers are compelled dispose of it at any price. Our farmers ar not afford to take crops, but say they can merchants and our merchants can not afford
mer to pay them more. There is an immense afford quantity rules the prices more quality, but the ity. Georgia has grown an immense qual and prices will not advance, but, on the conantil this large orop is used up by the mills and the flour disposed of.

## Correspondence

A LETTER FROM WASHINGTOR TERRITOR
Fort Colville, W. T. Editor United Stutes riticles in paper in regard to thaluable and ever welcome paper in regard to the Cochrane case, I thought
perhaps the following perhaps the following facts (which can be amply testified to if necessary) would be of

In the winter of 1860-7 I entered upon the construction of a machine to make farina. 867 , and worked satited the last of January, purifled middlings from 20 to 26 making of our midaings from 20 to 26 pounds of ery per bus. ( 60 lbs .) of wheat flour of the duced in the world from itieve to any pro-

My.
,000 machine has a capacity for making from 8,000 to $10,000 \mathrm{lbs}$. of farina (as we call it per , or middlings as it is called in the East per day. I think there is a difference; th most of ours being mnch coarser. I send you some much coarser our No. 3 farina. We make some much coarser and some finer than the
sample. We can make it perfectly pure,
from specks, bran or anything else, so that it nakes flour entirely free from specks.
I have just completed another machine to make farina or clean middlings ; will have it in 30 to 35 pound soon, and expect to make from four No. fiour equal to the best.
If it meets my expectations I will, perhaps, communicate with you again. I inclose you a sample of No. 1 or farina flour also of No. 2 or shelling flour. Please send in return a sample of the best purified mid dlings ; also of the best No. 1 grade of patent our; also please inform me ss to the numbe pounds of patent flour made from sixty lbs L. W. Meyers,
Fort Colville, Stevens Co., W.

## Latest Rules on Table Etiquette.

Our able and influential contemporary, the hristian Weekly, gives some valuable hint pursule etiquette, but we think it has no pursued the subject far enough. We beg leave to offer a few additional rules, which those who would be considered au fait would well to bear in mind
Always, after scratching your head at the e, knock the dandruff from your coat with the napkin.
If the waiter has neglected to place a spoon at your plate, ask for one. The hostess had have you would ask for a dozen spoons than plate.
Do not speak with your mouth full. If you your mouth and hold it in your hand until you get through talking.
One's teeth are not to be picked at the table; but if it is impossible to avoid doing o, take them out and hold them under the able while you pick them
Soup should be taken from the side of the poon and not from the end, which latter is suggestive of swallowing both spoon and soup. At the conclusion of the meal the knife and with should be laid side by side on the plat whe handle pointing towards the right. poin sign of low origin to leave the handle pointing towards the left, and in Boston they give a person the cut direct who crosses the knife and fork
Of course, no genteel person will spit on ask ther, nor is it considered just the thing to spit in your napkin. in your napkin.
Do not pass the plate that is handed you to your neighbor. Keep it; you may not get an.

If you find a hair in your food be sure to call the hostess' attention to it, at the same ime making some gallant remark about its matchless beauty, and place it carefully in the

An Englishman.
days," was riding in the had seen better he new mining town in Colora to Leadville, please," said the Englishman, "open you window; I want to see the mountain that An Irishman who was snoozing in a corner, cooked up on hearing the remark, and served, "Bedad, yon'll see plinty of it a month from now when your coming back on fut."

Stuart \& Douglass are putting a 20x42 Rey olds Corliss engine in mill in Chicago. They purchased the engine of Ewd. P. Allis \& Co., Milwaukee, Wis.
Ewd. P. Allis \& Co. are making up about 2,000 yards of bolting eloth for three or four of the large Hungarian mills they are now building. They have also eight new order for 30,000 feet of leather belt for same jobs,
The old Kilbourn mill, Milwankee, is to be entirely rebuilt and remodeled according to the Hungarian style exclusively
Cunningham's starch factory at Vincennes, Ind., burned July 29th. Loss $\$ 150,000$. In-
surance $\$ 50,000$. surance $\$ 50,000$.

## Special 23 usiness 2 lotices.




## NEWS. <br> everybody reads this.

## items gathered from correspondents, tele

grams and exchanges.
It is said that the large flouring mill at Oconomowoc, Wis., has or is about to change owners.
Edward Rupling, miller, of Stillwater, N. J., is dead.

The storms throughout the Northwest during the early part of July did great damage to growing crops, and destroyed much valuable property.
The Park Mills at St. Louis, Mo., are' being overhauled.
A new steam mill is being erected at Warrensburg, Mo.
Scanlan \& Smith are building a new elevator at Hopkins, Mo.
Notwithstanding the lightness of the crops in the Canterbury district of New Zealand, the aggregate yield of wheat, oats and barley is said to be about one-fourth greater than last season. In the Otago district, the wheat crop has diminished by 370,000 bushels, but oats show an increase of $2,000,000$ bushels and barley a small gain. New Zealand, therefore, proposes to export a few millions of bushels of wheat.
H. D. Rush, Leavenworth, Kas., is overhauling and enlarging his mill. Two additional runs are being added, making it an eight-run mill and one of the best in the State
Chas. Lovelace \& Co. are enlarging and improving their mill at Wyandotte, Kas.
E. O. Stanard has added five run more burrs to his Eagle Mill at St. Louis, Mu.
The boiler in the steam flouring mill at Carlisle, Ky., owned by Rogers and Bastian, exploded on the morning of July 8th, throwing the engineer, Jas. Summers, a distance of 40 feet. He was fearfully mangled and died in two hours. Loss to the mill, about $\$ 3,000$.

A correspondent of the LaCrosse Chronicle writing about Galesville, Wis., says: "The largest and most successful business institution in the town is the flouring mill of $\mathbf{M r}$ Wilson Davis, a large four-story stone structure, that has made its owner many dollars in its time and still continues to grind them out for him. It has a magnificent water power, the entire Beaver Creek, and the pond formed by its dam, is a very fine sheet of water that extends a mile or more up the valley to the east of the village, making an exceedingly attractive feature in an already beautiful landscape.

John Getty \& Co. are building a new fourrun steam mill at Ellsworth, Kas.
W. T. Soden, Eınporia, Kas., is overhauling refitting, and greatly improving his mill.

Leonard \& Richardson are building a very fine grain elevator at Morris and Leonard, Mo.
The Semple \& Birge Manufacturing Company, of St. Louis, Mo., failed July 7th. It seems probable that matters may be so adjusted as to allow this old business house to go on again.
The old Eagle Mill, now nsed as a cooper
shop by J. B. A. Kern, was the second mill of the kind built in Milwaukee. The "City Mill," set in motion in the fall of 1844, was the first. Both were operated by John Anderson, who built the dam for the Rock River Canal Company. In 1847 he built the mill conducted by the late Col. Amos Sawyer.
During a thunder storm Mr. Christian, a miller of Marion, Minn., was struck by lightning and terribly disfigured.
The Red Wing Mill Co., Red Wing, Minn., are about to erect an elevator with a capacity of 100,000 bushels.
P. Fleming, miller, of Orland, Cal., has made an assignment.
An elevator is being built at Renville Station, Renville county, Minn., and the people are anxious to have a grist mill also.
Wheat has been brought as far as sixty miles to
Dakota.

The Ames mill at Northfield, Minn., has shut down for three months to put in new machinery.

Smyth \& Smyth's grist mill at Merriton, Canads, was receatty destroyed by fire. Loss, $\$ 2,000$; partially insured.
C. H. Jenison, of Two Rivers, Wis,, and

Minn. They expect to have it ready to begin work by the time the new crop comes in.
Charles T. Rogers, miller, Chelsea, Mich., has moved away.
A sad accident happened in Louis Apple's mill at Mooresville, Ind., on the 26th June. The six year old son of the proprietor while playing in the mill, fell between the wheel and the stone work and was instantly crushed to deatb.
Forestburg, Dakota, will soon have a flouring mill.
Silas Barkley, a well-known and prominent miller, has commenced the erection of a new flour and grist mill at Hulmeville, Bucks county, Pa. The mill will be of stone, 32x40 feet, four stories high, with a frame storehouse for grain, $32 \times 25$ feet, attached. The machinery will consist of four runs of stones, with all the modern attachments and five water wheels will be put in to do the work.
The Archibald Mill at Dundas, Minn., is to be made 35 feet higer by the addition of two stories and a balloon frame on top, and engine house built to accommodate a large engine. Machinery will be added to increase the capacity of the mill to 300 barrels per day. The contemplated improvements will cost about $\$ 30,000$.
Mr. C. E. Conley has built a new process three-run mill at Bloom Center, Logan county, Ohio. George C. Yager will be the miller.
R. M. Judy, of the Atlanta Mills, Ga., has just sold them to Philo A. Marsh, of Peoria, Ill. Mr. Marsh will take possession Oct. 1st.
The Empire, Reciprocity and Lake Ontario Flouring Mills, with elevators attached, at Oswego, burned July 24th. Loss, $\$ 150,000$; insured, $\$ 83,000$. The adjoining buildings were badly damaged by fire and water.
Careful estimates of the wheat crop of Michigan gives the yield per acre as 19.9 bushels, giving a total probable yield for the season of almost $31,300,000$ bushels. This is more than double the yield of 1873 , and $8,000,000$ bushels greater than the yield of 1877 .
The coopers of Milwankee have formed a Union, of which Albert Kaus is President and Louis Ries Secretary.
Messrs. King \& Moore's mill at Mormontown Corners, Taylor county, Iowa, was damaged to the extent of about $\$ 1,000$ by the recent heavy rains. The flume and flood gates were destroyed and the foundations badly damaged.
C. N. Wilcox, proprietor of the Oxford Mills near Cannon Falls, Minn., is building a stone engine house 32 feet long and 30 feet wide, to contain a 73 -horse power ergine which will be used when the water power fails or is insufficient.

Messrs. Kimball \& Beedy, of Forest City, Minn., have just put in a new 66 -inch turbine, made by Stout, Mills \& Temple. They have also moved their flume outside of the mill and run by belt, and have put in a new hurst frame for their seven run of stone.
The Mazeppa Mill Company, Mazeppa, Minn., are going to overhanl and repair their mill and increase its capacity to 300 barreis per day. Messrs. W. F. Gunn and R. G. Shuler, of Mineapolis, Minn., have the contract for the work, which will be done under the immediate supervision of Mr. J. Hull. The improvements will be completed in time for the new crop.
A new elevator has just been completed at Linden, Mich.
A large fluuring mill is soon to be built at

## Oikood, Dakota.

Hixon Bros, are putting in a three-run mill at Granite Falls, Minn.
Mr. H. A. Brintell is building a grist and saw mill at Judd's Corners, Mich.
Patterson \& Rice, of Clio, Mich., will soon have their flouring mill in operation.
Work has been commenced on the new dam for the Cascade mills at Osceola, Wis.
J. B. M. Kehlor \& Co., of St., Louis, Mo., are ${ }^{\circ}$ builling a flouring mill at Edwardsville, Ill.

The new flour mill at Bismarck, Dakota, has reached its fifth story and will soon be
roofed.

Messrs. Wulff, Walker \& Co.'s new grist mill at Neenah, Wis, is finished and ready for mill a

The crop reports from Russia partly contradict those previously made. According to an Odessa journal of the 24th of June, the condition of the crops in the South of Russia
followed, is now destroyed by the enormous quantities of grasshoppers and blackbeetles. The crops in the neighborhood of Odessa and in the Southern Russian provinces of Bessarabia, Ecaterinoslav, Cherson, Poltawa, and in the Caucasian provinces of Tiflis, Tersk, Bahu, Stawropel and Kutais, are, according to this statement, almost entirely destroyed.

At the Berlin Millers' Exhibition there were 50 different roller mills and 23 centrifugal dressing machines.

The Toufflin system is being introduced into Somaroff, South Russia, where a mill equal to 30 pairs of stones is being erected. The machinery is supplied by Rose Freres, Rue de Viarmes, Paris.
The Buda-Pesth milling trade has sustained a severe loss by the recent death of Mr. Josef Ullmann, the much respected and widely known director of the Pannonia steam mills at Pesth.

Chas. T. Rogers, of Ann Arbor, Mich., has sold his flouring mill to L. E. Sparks for $\$ 4,000$.

At the Berlin Exhibition of milling machinery, a gold medal for distinguished services rendered to the progress of milling was a warded to Mr. F. Wegmann, of Zurich, and a similar medal was given to Messrs. Nagel a similar medal was given to Messrs. Nagel
and Kaemp, of Hamburg. Messrs. Ganz \& Co., of Buda-Pesth, obtained a silver medal for progress in chilled iron roller mills, and Millot, of Zurich, a similar prize for services rendered to the progress of milling. The above prizes were given by the Minister of Commerce. The Millers' Association awarded a siiver medal to Mr. Oscar Oexle, for services to the progress of milling.
A. J. Stroup, of Elk Mills, Mo., is building flouring mill.
W. D. Deans \& Co., of Belknap, Ill., are having their mill remodeled.
Nordyke \& Marmon Co., of Indianapolis, Ind., are building a two-run steam mill for J A. Keller, of Tunnel Hill, Ky.

Hill \& Hill, of Sanborn, Ind., are enlarging heir mill to a four-run new process mill.
Foreman \& Carter, of Browning, Mo., are building a three-run merchant mill with Atlas enginge.

Sloan \& Parkinson, of Blanche, Texas, ordered new machinery for a three-run water mill.

A new two-run water mill is going up at Wichita, Kansas. The proprietors, the McMahan Bros., purchased their machinery of Norilyke \& Marmon Co., of Indianapolis, Ind.

Daily, Russell \& Williams, operating large mills at Crestline and Nevada, Ohio, are putting in middlings buhrs and machinery in both mills.
S. T. Cummings, of Oxford, Mich., is building a new flouring mill.

Jos. W. King, of Twin Grove, Ill., is enlarging his mill and adding two run of buhrs, bolts, elevators, purifiers and other machinery. Nordyke \& Marmon Co., of Indianapolis, Ind., have the contract.
A new brick flouring mill with three run of buhrs, is being built at Olmstead, Ky., by W. E. Boyd.

The old mill at Auburn, Ky., is giving way to a new patent process mill with latest imimprovements. The proprietors, Messrs. Gordon \& Griffith, get their machinery at Indianapolis, Ind., of Nordyke \& Marmon Co.

Sugg, Harmes \& Co., of Fayetteville, Tenn., are building a custom mill.
J. W. Ground, of Augusta, Kan., is putting in two run of buhrs, purifiers, elevators, etc., in his mill.
A three-run steam mill is being built at Wheatland, Minnesota.
J. Shideler's mill at Attica, Ind., is being overhauled by Nordyke \& Marmon Co., of Indianapolis, Ind.

Hixson Bros., of Granite Falls, Minn., are building a three-run water mill.
A four-run new process flouring mill, driven by a Corliss engine, is being built at Ellsworth, Kan., by Getty \& Co. Nordyke \& Marmon Co.'s machinery, manufactured at Indianapolis, Ind., will be used in this mill.
The 40,000 acre Grondin farm, near Fargo, D. T., Will be supplied with a steam mill, the machinery for the same being furnished by Nordyke \& Marmon Co., of Indianapolis, Ind.

Edw. P. Allis \& Co. have orders ahead for fifteen of the Reynolds-Corliss engines,

The millwrights have commenced work on
mills, one being built and furnished complete by Edw. P. Allis \& Co., of Milwaukee, Wis.

A large shipment of "violet" millstone blocks has just arrived consigned to Edward P. Allis \& Co., Milwaukee, right from the quarries.

Edward P. Allis \& Co. are now working on contracts which will require over 3,000 yards of bolting cloth and 30,000 feet of belting.
Edward P. Allis \& Co. have closed a contract with E. T. Archibald \& Co., of Dundas, Minn., to entirely rebuild their large mill on the Hungarian system.
Jere Ames \& Sons, of Northfield, Minn., are putting in a large lot of roller machines which they purchase from Edward P. Allis \& Co., of Milwaukee.
Edward P. Allis \& Co. have orders for over 200 roller machines.
The Milwaukee \& 'St. Paul R. R. Co. have purchased an $18 \times 48$ Reynolds-Corliss engine for their new shops from Edward P. Allis \& Co., Milwaukee.
The Milwaukee Middlings Millstone Company have sold five 16 -inch mills to Mr. C. L. Colman, of Winnebago, Minn.
The Milwaukee Middlings Millstone Company have lately received a number of orders from various parts of South America.
We learn that the Milwaukee Middlings Millstone Company have established an agency in Germany and also in England.
The Middlings Millstone Company have been running their shops 24 hours a day for the past three months without intermission.
The Milwankee Middlings Millstone Company are turning out four mills per day, or 125 every month.
The business of the Milwankee Middlings Millstone Company is increasing so fast that they are now making arrangements to increase the capacity of their works.
The Milwaukee Middlings Millstone Company have a number of contracts in Colorado and California.
The Milwaukee Middlings Millstone Company are now rebuilding Mr. R. P. Owens' mill at Anoka, Minn., which was recently burned down.

The Milwaukee Middlings Millstone Company are refurnishing Messrs. Pratt \& Co.'s mill at Champlin, Minn.
The Milwaukee Middlings Millstone Com. pany have commenced work on the big mill in Milwaukee, which, when completed, will contain 100 of their little mills, and will be the largest mill on this continent. At present the building is to be erected 60 by 80 feet, and arranged to accommodate 50 mills, and at the end of the first year after starting an addition will be added the same size as the first building and the balance of the mills putin.
During the month of July the Cockle Separator Mfg. Company sold 40 machines.
The Cockle Separator Mfg. Company of Milwaukee have recently opened a trade with South America with good prospects, as the wheat there is said to be badly mixed with cockle.
The cockle machine, combined with their latest improved oat separator and suction, has proved a great success, and is used in the best mills throughout the country. Millers buying the combined machine will save themselves the cost of a separate oat separator, which is an important item.
Smith Bros., of Milwaukee, are rebuilding and enlarging the Winnebago City Mills, Minn., making it of 200 -barrel capacity per day. C. L. Colman is proprietor.
Smith Bros., of Milwaukee, are making improvements in the Fredonia (Wis.) Mills, puting in bolt chests, etc.
Smith Bros., Milwankee, are making plans for rebuilding the Saukville Mills, which were burned down two years ago.
F. W. Stark's mill at Hillsdale, Mich., which

THE UNITED STATES MILLER.

## United States Miller.



MILWAUKEE, AUGUST, 1879 .

## 



 $\mathrm{V}=\mathrm{va}=$ $y^{2}=2=$







Now

## M'Lean's Millers' Text Book and the United

states Mlleer, for one year, for $\$ 1.25$. Order We chinly


 scription to the Unitrd States Muler and
the Millers' Text Book. $\$ 1.25$ pays for both the Millers' Text Book. $\$ 1.25$ pays for both
for one year.

## A strscrierer who evidently believes in Shakspeare's saying, "Brevity is the soul of wit," in remititig for his paper, says: En. tud $\$ 1$.

 fid $\$ 1$, U. S. M., 1 yr. Snd rept.That miller don't propose to anybody.
We respectfully request our readers when they
write to persons or firms advertising in this
paper, to mention that their advertisement was
seen in the Untred States Muler. You will thereby obli
rertisers.

Wheat Chor of South Australas.-The area of land under wheat is 142,205 acres in
excess of the previous year, and the total quantity available for export, is estimated at 176,350 tons, the average yield being estimated at seven bushels per acre.
The following is the semi-annual statement of the Millers' National Insurance Co., 143 La Salle street, Chicago, July 1, 1879. Assets:
United States bonds, $\$ 10,000$; treasury warrants, 82,750 ; cash in bank, and subject to draft, $824,620.89$; premiums in course of collection, $\$ 150$; deposit notes subject to assess-


The Ciscinsati Indesthal Exposition.
The seventh exhibition, commencing Sep The seventh exhibition, commencing September 10 and ending October 11, 1879, is announced, and all American inventors,
manufacturers are cordially iavited to avail themselves of the advantages offered. All persons desiring to exhibit, should address without delay,
cinnati, Ohio.

The Untied States Mller has the largest circulation of any milling journal published in America, and was the first miliing
journal started in America entirely independent of connection of interest with
mill-furnishing establishment.
Juty 10th the thermometer stood at $100^{\circ}$ in St. Louis. If the next issue of the St Louis Miller don't show the effect of ice water, we are mistaken. We know it is hard for the
St . Louis boys to come to it it canna bys to come to it, but in such cases up here in Milwaukee at $90^{\circ}$, some of the boys in the office have told us that ice-cold weis beer tastes remarkably fine.
We hope all who receive sample copies of the United States Mlller will favor us with their early subscription. The price-one dollar per year-is a mere trifle, and ensures you first-class paper containing a great quantity hot delay of direct interest to your trade. Do prising, go-ahead millers cannot afford to be without the current milling literature of the day.

Budppeat Mulang Indesthy.-The usual yearly meeting of the Pesth Roller Mill Company was held on the 7 th or June. The re port presented by the Directors showed that
the company had ground $1,600,000$ bushels of grain during the past year, being 250,000 bushels in excess of the previous year. The net profit realized was $170,639.23$ florins out of which sum it was proposed to pay a dividend of 15 per cent, the balance of $20,639.23$ florins bing placed to the reserve fund.
The German Millers' Association.-The above named Association met in Berlin, Ger-
many, June 21st, and continued in session until the evening of the 25 th. The attendance trade were' read. The exhibition of milling machinery of German, French, Hungarian, Austrian and American was large and attract ed great attention. The exhibition room was $265 \times 56$ feet in size and 40 feet in height, and the space was well occupied. These exhibi tions of machinery at millers' meetings are of
much interest to both manufacturer muchi
sumer.

## Mhwaukee Practical Millers' Assoch thoroughly established and have a regular

 lace of meeting for debates, experiments, The object is for the mutual improvement of its members and nothing else. Readings of questions and answers, essays and relationof varions experiments, with illustrations, will form the regular proceedings The benefit of this will soon manifest itself We wish this Association the most unbounded
prosperity. Mr. Charles Mueller is President and Mr. Levi Hicks, Secretary. Their meeting and reading room is at 913 Winnebago St.
Porcelan Millstones.-A German mill engineer in Potsdam has recently manufac tured millstones of porcelain, which have been fitted up in a steam mill in Potsdam and have given, it is said, very good results. The stones consist of a hard, regular, porous mass
of porcelain, and possess, we are informed, the qualities requisite in a good French burr These porcelain millstones are claimed to be superior to all others. In the experiment of porcelain of porcelain, the lower one being a French
burr. Specimens of porcelain millstones were exhibited at the Paris International Exhibition of last year, where they attracted some atten-

## The Silver Creek Flour Packer

Messrs. Howes, Babcock \& Co., of Silver Creek, N. Y., have recently added to their line of manufacture the Silver Creek Flour Packer. The reputation of this firm for handling only first-class machinery is a sufficient endorsement of the new packer. The trade of this well-known firm has been much heavier this season than last, and it includes
a heavy amount of sales of the genuine DUFOUR bolting eloth, which has now such a favorable opinion from millers all over the country. The sales of the Eureka, the Eureka brush and the Eureka separator are very large, and they never fail to give satisfaction. All mill-owners who have not done so should send for circulars.

Nagel and Kaemp's System of Roller Milling
[Continued from page 55.]
another; the material is now in a proper condition to enter the dressing machines. The produce of the dismembrator, after being elevated, is divided into two equal parts. Each portion enters a separate centrifugal dressing cylinder. The largest middlings and the heavy bran are by these cylinders separated from the rest of the meal, the latter passing into four cylinders situated below. The latter cylinders produce, besides several assortments of middlings, the first run flour. The percentage of flour so produced may be regulated wit exactness by the setting of the rollers.
The heavy bran dresser already mentioned passes directly from the dressing cylinder into a second roller mill, and after being crushed enters a second dismembrator, passing through which it is conveyed into a single cylinder centrifugal dressing machine, which now dresses out the bran in a thoroughly finished state. From this machine the flour and mid dlings pass together into two centrifugal cylinders below, and from these machines, besides several assortments of middlings, the so-called "bran flour" is produced.
The several assortments of middlings now remain to be operated upon, and these, after being divided into different quantities, according to size and specific gravity, and after purification, are conveyed into three separate ply of mides each roller mill receiving its sup ply of middlings in a more or less uniform size. After being separately rolled, the whole
pass together into one disemmbrator, which operates upon the crushed middlings in a similar manner to that already described in the two previous processes. The produce of this dismembrator, is now divided into two equal parts and conveyed to two centrifugal dressing machines, and from thence into four cylinders situated below. The cylinders produce, be sides several assortments, the first quality of
middlings flour. The middlings which have thus been dressed out of the middlings or semolina flour are in some respects equivalen to those which are usually termed "tailings," but inasmuch as they are "sharper than the ordi nary run of tailings, I take the liberty of re taining for them the more dignified title These middlings or tailings are now once more conveyed to the purifiers, and from thence to three separate roller mills, where they are
again crushed, passing afterwards together again crushed, passing afterwards together into one dismembrator. The product of this dismembrator is now conveyed to one centrifugal dresing machine, and from thence to two cylinders below. The tailings produced from these cylinders are, as a rule, not of sufficient value to be re-worked, but where the case is otherwise, the more valuable tailings may be re-purified and passed once more to the lastmentioned three roller mills, where a margin
of capacity will be found to perform this ocof capacity will be
casional extra work.
It may, perhaps, not be out of place here to mention that a peculiarity of this system is that even after an almost endless process of e-rolling under heavy pressure, the tailings never attain to that soft consistency which is ound in the case of tailings which have been dressed out of rolled middlings which have been produced by means of stones; this again is due to the absence of friction during the whole process of the reduction of the grain. This sharpness is caused by the particles of bran, and not from the fact of any valuable middlings remaining amongst the tailings. This, then, gentlemen, constitutes Messra Nagel \& Kaemp's patent system of roller milling, and I will, if you will bear with me a litcle longer, proceed to state some of the advantages which are claimed for it over the millstone.
By superseding the mill-stone we effect at once a considerable saving in the matter of working expenses by obviating the necessity of the costly operation of keeping the surfaces of the stones in good working condition. The mill-stone, by its imperfect action, absorbs an amount of power greatly in excess of that required by a more perfect instrument capable of performing the same amount of work and in a more satisfactory manner. The frictional action of the stones is avoided and superseded by the crushing and simple action of the rollers and dismembrators. The meal instead of leaving the stones in a warm or even hot state, passes from the dismembrator in a perfectly cool or even cold condition. The bran is not torn or cut, but presents the sharp edge which it received upon the bursting of the grain under pressure of the rollers. In place of mill-stones we adopt roller mills and
are light and the manipulation simple; more over they are machines which may be applie to low, half-high and high grinding, by a sim ple alteration of the setting, which may be ef fected in the space of a very few minutes, and which facilitates the discovery of the mos advantageous manner of treating eagch partic ular class of grain. The germ, which is re duced and mixed with the flour, to the detriment of its color and durability, by the action of the stones, is, by the operation of Nagel Kaemp's system, simply pressed into a flat cake, which, being of a tough nature, passes harmlessly through the dismembrator and into the dressing machines, where, owing to it large size, it is easily separated from the flour and dressed out with the offals.
The flour produced by this system shows distinct improvement, both as regards the quality as well as the quantity.
The improved quality shows itself in marked manner when it is applied to the test of baking. The cause of the larger percentage of flour becomes at once apparent when the state of the bran is considered, the forme being thoroughly separated from the latter without the bran being either cut or torn. The improved quality of the flour, and especially its capability of producing a larger quantity of bread from a given quantity of flour than from the flour produced by mill-stones, result from the absence of heating, and by the addi tion of flour produced from that part of the grain, so rich in gluten, which is found to be attached to the inside surface of the bran, and which has been parted from it by the pressure of the rollers without the bran itself being destroyed.
Besides the facility with which the machines may be applied to various classes of work, the wear and tear is very slight, and as every machine is manufactured to template, the removal of any part which in course of time may require repair may be effected without loss of time. The risk of fire is greatly lessened in consequence of the absence of the mill-stones The space required for the erection of the roller mills, dismembrators, and centrifugal ressing machines, with the necessary shafting, elevators and worms, is very small, the machinery occupying generally about one-half the room which has hitherto been considered requisite, and the absence of vibration enables the mill to be of lighter construction than that which is necessary where mill-stones are used The system may be partially applied where is considered undesirable to replace the ex isting machinery altogether, and a proportion ate advantage will by this means be gained for instance, where it would be considered an advantage to grind higher with the stones were it not for the difficulty experienced in cleaning the bran, a partial system may be erected to operate upon this thick bran, and although the result will not be so satisfactory as when the whole process is adopted, yet a material advantage will be gained.
The question of power is always a most important matter; and in regard to this I may mention that after taking the average of five different mills, all working upon this system it has been found that more than 40 pounds weight of wheat have been completely reduced to flour and offals per one effective horse power and per hour, inclusive ther absorbed by the cleaning machinery. It may perhaps interest some gentlemen present compare this result with the work performed at their own mills.
Within a period of somewhat more than twe years Nagel \& Kaemp's system has come into operation either partially or entirely, in thir teen different mills, and several are now in course of erection or construction. It ha been tried in England, France, Germany, and Hungary under widely different circumstances but with an unvaryingly satisfactory result.

## IMPORTANT NOTICE

To the party receiving this paper who NOT ALREADY A PAID SUBSCRIBER.
We hereby extend to you a cordial invitation to become a subscriber to the United States Miller. We shall endeavor to make it of the greatest possible use and benefit to the milling fraternity, and no mill should be without it The best talent that we can obtain in this and other countries will contribute to its columns, which will also be enriched by carefully translated articles on subjects of interest to the craft.' Subscription price, $\$ 1$. Enclose money or stamps in an envelope, seal carefully, and send at our risk. By return mail you will re ceive a receipt therefor. Address

The Untied Stat
rates Miller,
Milwankee, Wis.

## GRAIN.

Pecullarities in its Normal and Manufactured State.

Investigation Under the Microsecope-Showing
the Adulterations and Natural Evils to Aduherations and Natural
which It has been Subjected.

## omplete investigation of the sub one of the leading chemists

of EUROPE.
Goneral-Wheat Flonr-Rye
Barley Meal-Oat Meal-Indian
Corn-Riee Meal.


## [Continued from July number.]

For the purpose of completeness and to enable our readers to apply the comparative ex-
mination by means of several different methods, we mention a few more of them recommended by chemtsts, which have by experience also been shown to be practicable. A very accurate method of examination is car-
ried out by Donny, which is based upon the fact discovered by Payen, that a weak solufact discovered by Payen, that a weak solu-
tion of corrosive kali which has no perceptible chemical influence on the starch particles of wheat, but has such influence on the potato
starch as it increases perceptibly the volume of the particles. Keeping this fact in mind, some of the suspected flour is spread on a small glass (the object bearer of a microscope), its par-
ticles examined so as to become familiar with their form and size, with a microscope or strong magnifying glass, then dissolve in a
weak solution of corrosive kali (about 112 to 2 weak solution of corrosive kali (about 12 to 2
parts in 100 parts of distilled water), and the examination will now show that the particles while the particles of potato starch will expand into large, thin and translucent plates. striking by adding a drop of a solution of striking by adding a drop of a solution of
iodine to the flour while it is dissolving, whereby the particles become of a bluish
violet color. Potato starch by the action of corrosive kali is increased in volume from 12 to 15 times above that of wheat starch. Robine mixes 10 g . of wheat flour with 4 g . of bicarbonic natron (natron bi-carbonicum), and of water. When well mixed it is put into a glass, and in small portions diluted (wine) vinegar is added (2 to 3 spoonfuls of vinegar
and 1 spoonful of water). It will effervesce, and a foam will be produced which is formed by the glaten and a portion of the starch. He
now continues the adding of the diluted vinegar until it has entirely ceased to effervesce. Then he takes off the foam, puts it in a liquid which consists of $1-32 \mathrm{~L}$ of a watery solution of iodine and a small quantity of
alcohol. If the flour is good and pure the liquid will be rose-colored, as in the method of examination which we have before recommended as the simplest, and this rose color
will disappear in a short time; but if the flour has been adulterated with potato starch the sediment will divide itself into two parts, the lower part blue which will not lose its color again, and the upper lighter color which will
soon lose its reddish color. The lower sediment then is potato starch, the upper, wheat starch. Another method is that of the apothecary Carakin, in Toulon. A tin measure
which will hold 2 g . of water is filled entirely with the suspected flour, and is then levelled by passing a straight stick or piece of board over it so that the measure is exactly filled. Then the flour is put into a flask with a glass
stopper, but which must be rather wide at the neck, and hold about 50 g . of water. The flask has two marked lines, one showing the measure of 20 g , and the other that of 40 g . Before putting in the flour, the flask is filled to the lower mark $(20 \mathrm{~g}$. $)$ with a liquid which consists of 80 parts solution of kali (of $1{ }^{\circ}$ areometer) and 12 parts of alcohol (at a temstopper is put in and the flask shaken for two minutes, and then the mass is filtered through common filter paper into a cylindrical glass, which has marked lines for 1 g , and for 10 g . of water. If the filtrated mixture has now filled the glass to the lower graded mark ( $(\mathrm{g}$.$) ,$ water is added up to the second upper mark contents well. Then 5 drops of acidized soluof pure iodine dissolved in in to say 5 dg . of pure iodine dissolved in 50 g . of alcohol
and then combined with 50 g . of pure pyroligneous acid (of $7^{\circ}$ ). If a greenish yellow
color is produced by this addition of iodine
starch in the flour; if a dark green, there is an admixture of 5 per cent of it; if a bluish
green, 10 per cent; a grayish blue, 15 per green, 10 per cent; a grayish blue, 15 per
cent; a sky blue, 20 per cent; a dark blue, 25 per cent. Mayet has recommended a pro cess which is based upon the consistency
which a solution of corrosive kali imparts to the grain flour and potato starch. The con sistency of the latter is much greater. By this process, $1-20$ of potato starch in the flour can be detected. First the gluten is with drawn from the flour in the well-known way,
and for experiment 100 g . for example may be taken; the starch contained in the water left untouched for some minutes; if it con-
tains potato starch this will first settle on the bottom, and when the fluid is poured off, the sediment will consist almost entirely only slightly mixed with particles of grain starch. The sediment is collected on a filter, and when freed from its water parts 10 g . of then 10 g . of pure wheat starch are treated in the same manner and dissolved in 100 g . of
water. Each mixture is now put into a glass, water. Each mixture is now put into a glass,
both glasses being exactly alike, and each holding 125 g ., and then 10 g . of the solution of kali are added to each one. After six minutes the pure wheat starch will form poured out of the glass, while the potato starch has become a perfectly jelly-like dougl which cannot be poured out of the glass. Mar-
tens has proved that an admixture of 5 per cent of potato starch in flour may be discerned if it be grated finely in a very hard mortar (crystal). If water is added this will, after a few minutes, dissolve a little of the tlour. The
filtration will then yield a clear liquid, which will become blue from a solution of iodine, if there is potato starch in it, but will retain its clear color when the flour is pure, doubtless finer and, surrounded by their gluten husk, were not pulverized in the mortar, and because only the inner central part of them is There are still other methods of examinatiọn, but these may be left unconsidered here, sinc they are in reality based upon facts we hav
already mentioned. Wheat flour is also ver often adultered with other grain flours that are cheaper, especially with those of maize, scope principally will disclose, since the sarch particles of the flours named have dif ferent and characteristic forms. We refer to treating specially of each of the flours named. A particular adulteration of flour is practiced in England, where a certain mixture of flour
which goes by the name of "Cones Flour" which goes by the name of "Cones Flour" is erating other kinds of flour. This flour is common article, and in daily use with Petersburg also, and there it is pretended to be the product of a special kind of wheat which is called revet. This "Cones Flour," as has been disclosed by examinations with he microscope, is not always the same
often consists only of rice meal, mostly mixture of wheat, rye, barley, rice, bean and Indian corn meal; even salt and alum, carbonc lime and carbonic magnesia. When wheat flour is not missing entirely, it is found in only
small quantity in the mixture.
[To be continued.]
Advioe to Bathers.-With a view of diminishing the loss of life which annually occurs from drowning, the Royal Humane Society of England issues the following seasonable advice to bathers: "Avoid bathing within two hours after a meal, or when exhausted by
fatigue or any other cause, or when the body fatigue or any other cause, or when the body
is cooling after perspiration, and avoid bathing altogether in the open air if, after being a short time in the water, there is a sense of chilliness, with numbness of the hands and feet, but bathe when the body is warm, provided no time is lost in getting into the water. Avoid chilling the body by sitting or standing andressed on the banks or in boats, after having been in the water, or remaining too long in the water, but leave the water imnediately if there is the slightest feeling of chillness. The vigorous and strong may bathe early in the morning on an empty stomach, but the young and those who are weak had better bathe two or three hours after a meal; the best time for such is from two to three hours after breakfast. Those who are subject to attack of giddiness or faintness, and who
suffer from palpitation and other sense of dis-

National Association of British and Irish Milleprs.

The First Annual Meeting of this Association was held on Wednesday afternoon, June 1, in the hall of the Worshipful Company of Bakers, Harp Lane, London, E. C., under the Presidency of Mr. Alderman Hadley, for he transaction of general business, and for hearing papers upon matters of vital importnce, read by gentlemen connected with the ailling interest. There was a large attendance. The President, who was received with applause, said: Gentlemen, I find, upon refer-
ence to our proceedings in the past, that there are really no minutes to be presented to the neeting, because the last meeting was an inaugural meeting. This is really our first annual meeting. Hence there is no report of our previous meeting to be presented to you, done during the past year, which would be read by the Secretary. I find that we met for the purpose of forming this Association at the
Corn Exchange Hotel, Mark Lane, on the 11th of February, 1878. It was a most influential meeting of millers, and it was resolved that this Association should be formed. We met again at an inaugural meeting at the same place on the 29th of April, when the Association was really formed. I had the pleasure of presiding over the meetings on both those oc-
casions, and I am sure it will be within recollection of all of you how interesting were the proceedings when we succeeded in launching into life the National Association of British and Irish Millers. To-day we have met to commemorate our first annual meeting, and I cannot but think that this meeting will be a The Miller stated in a recent issue that the progranme we have to present to-day will be of an exceedingly modest character. Now I admit that is so, and I do not know that we
are to blame for exhibiting to you our modesty, as there is nothing detrimental in the charac ter of any person or association for aiming at modesty. But while we have given you modest programme, I relly submits to questions of the most vital importance, which must affect our trade, and which will ultimate y, I think, bring to bear a large and vast amount of influence upon our progress and prosperity. Although, therefore, while we confess to our modest position and proare somewhat of a higher and nobler charac ter. Now I may say that the successful formation of the Association might justly be re garded as its greatest achievement. At one impossible to unite mill ors toge it was impossible to unite millors together in one
body for the promotion of their common interests. But here, as in other matters, no sooner was there a real determination that the work should be done than what was deemed an impossibility became an accomplished fact. That, I repeat, is the greatest work we have yet achieved, because it is a creative work-the bringing something into being which had not in due time the aptitude and fitness for action, and when these had been brought into play all things became more or less possible Among the causes which more immediately conduced to the organization of the members of the trade into an Association, not the least important were the establishment, in 1875, of the organ of our trade, The Miller, quently The Corn Trade Journat. In these papers the theory and practice of milling were discussed and explained as, in this country,
they had never been before ; information relating to the modes of flour manufacture in other countries, aad the machines used in the work, was freely given, and for the first time British and Irish millers had an opportunity of exchanging opinions on all matters affecting their trade, thus deepening and extending their interest in it. The ordinary vehicles of public opinion supplied all they cared to know respecting the political, social, and commercial condition of other countries, but until the journals I have named were established, their information as to the system of milling practiced abroad was of the most defeetive, byb out We accom plished work of a most important nature, in the formation of differeut associations and organizations throughout the kingdom. We have established in London the Millers' As sociation, in Liverpool an association for
Liverpool and district, as well as well as asLiverpool and district, as well as well as as
sociations in Northampton, Colohester, Devon
the millers have been brought together, and are engaged in the work of mutually extending their interests. The Association took a ing their interests. The Association took a
most important part in securing the legalizamost important part in securing the legaiza-
tion of the cental under the new Weights and Measures Act. Mr. Redgrave gave us an exposition in this hall upon the new Factories' Act. That act, as you are aware, would very materially affect every mill in this kingdom, and the Association has done much to bring before the millers generally the principles of the act, so that they might conform o what was binding upon them.
The subject of fire insurance will be brought before you by Mr. Appleton, who is to read a paper to you on the subject, and you will have an opportunity of discussing the best means of improvement in that direction. A meeting was held last year at Bristol, during the agricultural show week, which was the largest nud most important meeting of millers ever held in a provincial town. We there formed Associations, and acquaintances, and mutual relations with one another which undoubtedly tended to promote, in that part of the country, a feeling which had not previously existed. That meeting would not have been held had it not been ior our Association. I trust similar result will be obtained this year in London at the Royal Agricultural Society's meeting, when I hope to see a large number of millers from every part of the United Kingdom, as well as from other parts of the world, co-operating with us in endeavoring to do what we can to assist our own particular branches of the trade. So far I have dealt
with our work of the past. I have now to bring before you some indication of what our work must be in the future. Although during the past year the work of establishing district Associations has qone on as well as could be expected, still, if the Association is to be in the highest sense beneficial to the trade, ganization oll ganization of all the great milling centers of
the kingdom during the present year. The question is, how is thi there are many ways in which this could be promoted. One undoubtedly would be for us as an Association to issue circulars to all the leading millers in the various districts, and to arge upon them to gather together to consult and combine, and thus to assist in removing ny evils which may exist in their special localities. Another way would be for our Secretary to go to the different localities and endeavor to organize meetings with the view of
bringing members of the trade together for the purpose of explaining to them the advantages of organization. From the Commercial, Practical and Technical Committees reports had been expected, but that from the Practical Committee would only be presented. It is not my intention to detain you long to-day, because we have a considerable amount of
work to get through, and I think you would prefer hearing some of the other gentlemen read their papers, which would be of greater interest to you than anything I can sny. Mr. Simon and Mr. Sanderson are to read papers upon the manufacture of flour. You know that at the present time the millers throughout this Kingdom are suffering very much indeed from competition, not so much individual competition amongst themselves as from oreign competition. This alone shows the necessity for an organization of millers to protect themselves from being inundated with flour from abroad. The two gentlemen to eyerred will read to you papers relaing to the production of flour, so that possibly it may assist millers in being able to introduce some new system or other that will enable them to make that manufacture in such way as to be able to meet this competition. To that end they should aim by getting all the light they possibly could on the best machinery and the most scientific, and, at the same time, most cconomical methods of converting wheat into flour. In connection with
this I venture to affirm that it would be the means of doing away with local and personal ealousies if the trade were to combine heartly and frankly for mutual protection from the portant foreign manufacturers. It is important to notice what the American millers
are proposing, as exemplified by the speech are proposing, as exemplified by the speech
made by Mr. Bain before the convention just held. In the course of his address Mr. Bain said:-"I see no reason why, with cheap fuel and large water power, cheap transportation, ate improvements in the processes of milling, and first-class machinery in nearly every large should leave this country except in the shape of flour. While our English friends justly ridicule the propogition of one of our Pen

## THE UNITED STATES MILLER.

a Roland for our Oliver in the person of a Lincolnshire miller, who just as seriously sug-
geats, as the only remedy for the decadence gests, as the only remedy for the decadenc
of the British milling interest, the taxation o American flour, while American wheat should come in duty free." Now that gives us a clue to what we are threatened with from Amerien, but it is not in protection nor in reciprocity to which we must look for relief. There in folly to expectany permanent benefit from the The dion of reciprocity
The Conservatives are now just as deeply
committed to free trade as the Liberals. Only recently, the ehief of the Conservative party, and leader of the present Government, utterly scouted the idea of adopting reciprocity, denounoing it as a phantom protection in disas a country have been engaged in taking off duties, and showing consistently with free trade principles, carry on
a commerce unrivalled by any other nation. Our American brethren are, in consequence of the very high tariff on machinery, suffering of the advantages of English inventionand manufacture. They are thus placed out of the market as competitors, as his friend Millers' Association, had stated. You may have noticed recently, that there had been a
large contract from America for English steel rails, which quite justified the observation I
have made in reference to the position America. I believe there is a duty of some-
thing like sixty per their protection in America they were able to come to the English market and buy a better In reference peculiarly situated. We are the England is the whole surplus produce of all the grain America, India, Australia, Russia, Germany, English miller is, therefore, peculiar, as the nature, and require different manipulation. He was thus ever changing, as one or other of
these countries was favored with an abundant harvest or visited by a scanty one. Some sea-
sons the English millers were innndated as present, by the American surplus of wheat, and this wheat required its own peculiar treatnot such a good harvest, English millers of Russian, Turkish, or Hungarian wheat. At
ther another time they might he using, to a very
large extent, the products of British India. They would also at another time be drawing a large supply from their Australian colonies, ment and manipulation must be adopted. In consequence of this state of things English millers enjoy advantages possessed by no other
flour-producing country-advantages which it is our duty to turn to the best account. There
is one country which I have omitted to mention, and it is a country which I think will soon exercise a vast influence upon the English market, and it happens to be one of our own western States of North America. From larger quantities than we are receiving from the United states.

## Milling in England might be saiusto be in

 its infancy, and the nature of the raw material finished product ought to be thoroughly unwheat every practical miller ical properties of or less familiar, but it is to be feared that a great many would come off very badlythey subject to a moderately rigid examin they subject to a moderately rigid examination
with regard to its chemical composition. That is a subject to which we should devote a special
study, beeause a due appreciation of the che ical composition of wheat is necessen them able us to discover the best methods of converting it into flour. Hitherto there has been no attempt in England, as was made long ago tablish standard samples of flour or rather an approximation to standard samples. Could
nothing be done in this direction? nothing be done in this direction? That was Council and of the Association. Regretabe though it may be for me to have to admit it our manufacturers have hitherto proceede more on the "rule of thumb" process, $\mathbf{A}$ sci-
entific insight would soon solve the problem as to the best method of treating the grain whether we are to bave "high grinding," "half-high grinding," the American new pro-

English "flat grinding" system. Whatever could be done by other millers, whatever
quality could be produced by others, coald b done and produced by England. We are not prepared to admit superiority in others. It is a question simply of the intelligent adaptation of means for the accomplishment of definitely proposed ends, and it would be a libel upon
our understanding and enterprise to suppose that, with the ample means at our disposal, we are so incompetent in their use as to be unable to produce flour which shall be equal in all that constitute excellence to any producer in any part of the world.

## New Zealand as a Field for Farming Emigrants.


Would I Advise Any One to Come Out
Here?-No; for two reasons. First, because
I made up my mind before leaving the United Kingdom that I would never be the means of inducing any one to emigrate, whether relative acquaintance, for fear of after-regrets. Second, as I intend returning myself, it would look rather out of place my advising others to do what I could not or would not do my
self. Notwithstanding this, I will give the re quired information in the most unbiassed manner, and your friend may depend on its truthfulness as completely as if he was on the spot, and had personally collected the inform ation, judging for himself accordingly.

Does Fabming Pay Well?-Evidently by what I can hear from the working and gen tlemen farmers about here, there is not much
money to be accumulated by any branch of farming; but an industrious man with capita may acquire property, both in land and stock, which will enable him to live in comfort and independence, and be a valuabls inheritance o his family years hence, when the populaso very long to do. The great point in New Zealand is, that every man possessed of health, perseverance and industrious habits can have a home of his own, where he needs call no
man master, and where he can have all the comforts of life, untrammelled by restrictions as to the working of his land, game laws, or ny of the burdens or grievances of the old comfortable living to some extent retards the development of the country, as great numbers of people, when they find themselves in modorate comfort and independence, make no furfrors to improve their position.
Modes of Farming.-Small farmers posdairy, say, from 50 to 150 acres, mostly keep which can be had in succession Indian corn, round, and does admirably instead of turnips mangels, not only during the winter months, but during dry weather in summer
when the pastures are burned up, a time when such a supply is actually of more importance than in winter. The produce is mostly made into cheese, for which an average of 7 d per for which during the spring and summer from 9 d to 1 s per pound is obtained, and in autumn and winter from 1s 4 d to 1 s 9 d per th. Such men have a field or two of wheat and a few
acres of potatoes, the land being laid down again with clover and grasses, without matimes they the course, and somewheat in succession from the same field. Over 200 acres, some of them have all sheep, keeping every acre in grass, and growing nothing
that will involve labor, not even a field of meadow-hay. This is a bad system, and engenders lazy, idle habits; and the land being
overcrowded with stock for the sake clip of wool, soon becomes poisoned, and the young sheep are hard to bring through the rainy season, many dying, which are just left oo rot where they fall-months after the deaths being quite able to be counted by the little
heaps of bones scattered over the fields, showing very powerfully how labor is avoided in She countries where it is scarce and dear. Sheep-farming has paid badly this year, wool being so low-from 10d to 1 d for washed, 7 d to $8 d$ for wool in the grease, and 6 d per th. for hambs' wool. Splendid lambs have been sold -running-in fact, the very piek of the flock ferior. Larger farmers combine cattle and sheep furming, providing nothing for the winter but a field or two of hay to throw on the grass during the spring, or they may grow a field of oats and cut it green for hay, which makes splendid fodder. It is astonishing how
these almost continuaily on horseback, dashing about like the wind. They are splendi horsemen, quite as good as Mexicans, and with their long stockwhips, which they crack like a pistol, they almost take a bit out of the hide of a refractory bullock. A neighbor of ours, Mr. William Taylor, owns 12,000 acre in fee; what you would call his home farm be ing here, and consisting of 1,000 acres, carry ing 2,500 sheep and a lot of cattle and horses and the remainder in the valley of the Waik ato, about sixty miles from Auckland. All this property is managed by himself and sons the latter boing splendid horsemen, and fashiouable gentlemen as well. Mr. Taylor, al though a very wealthy man, and a director the Bank of New Zealand (you can see his name in the Times any day), says this vast property makes very little money, but will become exceedingly valuable by extension of the railway system. He feeds splendid bullocks -three-quarter bred short-horns and pure Herefords-and these animals, weighing 8 cwt . He sold great nu about $£ 12$ on the average He sold great numbers of sheep this summer after clipping, to the boiling down establishment, at 2 s each, and many of them were very good animals; but for cast ewes, no matter ed down.

Getting $\triangle$ Farm. - There is no difficulty in getting a farm almost anywhere, but really good land is not often in the market, and must waited for and watched, as 50 acrea good volcanic land is better than 500 middling scoria, or indifferent clay. The farmer whom
I have already mentioned as having had on a pet eld 55 bushels of wheat per acre, would not part with his farm, which is his own property, at $£ 50$ per statute acre, and he has 63 acres or thereabouts. Six pounds an acre is about the lowest price for which land worth having oan be obtained, and it will not be all cleared at offices, and a few fenced fields 'about the olfces, and a few fenced fields about the
house. Ten pounds an acre will buy fair feeding land, and by chance all might be cleared and fenced at that price, but not often, although the whole money down, to a needy man, sometimes secures a bargain. A farm Scotchman I was bought the other day by sidered worth the money, and ular bargain, one-fourth in cash, and the re mainder on mortgage at 7 per cent, which is easier than bank terms, but is still a consider able burden. I have clipped out the advertisement of this farm, which will show you how such things are described. I may mention that this very Scotchman incautiously went too far into the country last year, the Maories, after ploughing and laying down to grass and clover 80 acres. He got about 600 acres very cheap, and had paid an installment, but the man who sold could not give a Marric, and hence the interference of the estly ennom whom it had been bought honsigned, a common defect with the Aborigines, and as they almost always regret parting with heir land, if there is a flaw they are sure to
take advantage of it.

Best Papt
of Auckland alone contains 17 - The provacres, and, possessing a magnificent liman is decidedly the favorite with those who can afford to choose a particular looality. The whole island is very well described by comWhangon thus: North Auckland, say from
Whange and the Bay of Islands to Cape Mangarcie and the Bay of Islands to Cape
Make $_{2}$ Spain; South Auckland, comprising the Waikate, Piak, Tamanga, and Povorty Bay, France; south of the North Island, and north of the South Island, England; and Otago and Westland very fairly represents the climate of Scotland, as it has frost and snow nough to please any $\mathbf{A}$ berdonian. In any part of either island farms can be had in bundance of all sizes, and if a man wants a larger place than he has money to pay for, he
can always borrow on mortgage, by one-half, three-fourths, or a fourth in cash, In stocking but little money is required, as will be seen by the prices quoted; but even in this, money or stook will be gladly adanced by salesmen and commission agents, who have the banks at their back, and are only
too glad to be asked; but for all that, happy is the man who keeps out of debt, although at the same time, it is perfeetly consistent with sood management to borrow a reasonablesum, Land is got on lease occasionally; but the practice of hiring land is as yet the exception, and not the rule, some of the best farmers I know being men paying a large rent, however,
and their practice, in having wheat and potatoee in large quantity, and wing bone duot,
6. Chimate.-In the North Jsland simpl delicious, particularly north of Lake Zaupe but all exceedingly healthy for Europeans, an attle can live out throughout the winter an do well

## Gafety of Life and Property.-No

 more so in the world, and there being little or no real poverty, and a living easily made there is little temptation to plunder, and the population is as yet too small scattered to conain or hide disreputable characters, and the aw is also well administered, by a splendic body of police and resident magistrate in each district. With regard to the natives, they are very quiet people about Auckland, working for the farmers, fishing, and selling fruit, fowls, fish and mushrooms about the town, in the quietest and most unobtrusive manner possible. I speak from experience in this as well s in everything I have already said, as we live splendid block of land adjoining the Pacific, which they could never be got to part with, nd are hemmed in by the whites. These people live mostly on pork, potatoes, sharks (which they cateh in great numbers), and a sind of shell-fish called "pi-pis," which they collect in immense quantity, wash the shells clean of sand, then cook until the shells open, take out the contents, and string them on threads of the native flax, hang them on the ences to dry, when they keep good for months. There is a pi-pi bank just under our house, where a party of men and women often come, and remain a week or ten day, working most industriously between the tides, and sleeping round the oven, which is a deep hole in the ground, heaped up with pebbles which are made red hot by a fire at the bottom, covered with bags, and sand heaped over all, so that no heat is dissipated or lost. This is an admirable oven, and fish, pork, potatoes, and herbs, such as tender thistles and fernmanner, the fle by it in the most delicious being thoroughly incorporated by the confined steam. The ground all round is well warmed by such a huge fire continually going for the preparation of the pi-pis, and the whole company of men, women and children, when night comes, just roll themselves up in a blanket, and in a circle, with their feet to the fire, sleep the sleep of the just, until the re turning tide calls them again to their labors The only inconvenience their presence creates with us is their borrowing habits, the wome wing tea, sugar, bread and wearing ap parel, and the men a boat mostly, these thing being a grear temptation to them. When it fused a couple of timeser, and they are reand altogether they conduct themselves in the most good-humored manner. In the interior they are sterner, and possess more of the nature of the savage than those who are living surrounded by white men; and no stranger to he country shoula ever think of settling amongst them, or of buying land direct, as heis sure to be the loser, as I have already given is sure to be the loser, as I have already given
you an instance. There is no doing se, as Government negotiates the purchase of native lands in immense blocks, taking plenty of time (even years) to get all the tribal signatures, and then selling in suitable ections to the settlers, giving a Government fitle, which can never be gainsaid or annulled so that any man trying to purchase a farm
from the natives direct is a fool for his pains, and pays dearly for his greed or silliness, They are anxious enough for the money, but when that's received do not like to part with he land, and after a few months bring forward a few families of the same tribe, who, they as sert, had an equal claim, and either require more money or instant resignation of all claim; and, being the strongest party up there,
they are not slow to enforce their demand, dhey are not slow to enforce their demand,
driving off all stoek on the instant as a liminary to what is to follow; and 40 or 50 tattooed men, with no dress on save a shawl or half blanket strapped round their loins, coming across a man's fields with hostile intentions, are no bad inducement to cut and run. To sum up this query, the native element in New Zealand is no hindrance to the safety or prosperity of the white man, and
need deter no man from coming a fact of need deter no man from coming, a fact of which one finds the truth almost the instant he steps on shore, as the first thing that catches his eye is groups of tattooed men and women sitting on the wharfs, steps of hotels and publio buildings, or on the pavement, smoking, laughing, chatting in Maori, eating pumpkins and melons, or offering such things
for sale, and he sees instinetively that the day for sale, and he sees instinctively that the day
of danger from these people is past; accepting of danger from these people is past; accepting
carpenter, draper, or grocer, and $£ 2,000$, can do well; but to enter on any trade in New Zealand, or embark in any unknown business, means bankruptcy sure and certain. Rents are terbly high, a country hotel even, 12 any stanangeek; and a hotel in Auckland the other day, the United Service, was let at $£ 12$ week for 21 years, $£ 3,700$ in cash, and the tenant to build a large wing at his own expense, which he has now got nearly finished. If a farmer, a farm is the only opening which sffords him security for his capital, and he must, wages being so high and worth a man's while saving, lend a hand at all operations himself, and make his family do the same, or he will scarcely succeed; and it really pays well to do so, and in a new country it is no
lowering of caste to do it, and is much pleasanter than most people suppose, and when a man and his family, by doing their own work, can save the price of two or three men and
women servants, perhaps amounting to $£ 5$ a week, the fatigue of labor is forgotten. At per cent, the interest given by the banks, a man's money is fructifying while he is looking about; and, above all things, he should be in no hurry settling till he knows the country,
and can, to a great extent, judge for himself. Concluston.-New Zealand is a country people soon get fond of, on account of
its splendid elimate, the abundance and cheapness of the necessaries of life, and the feeling of sesurity, comfort, and inair, and becomes part and parcel of a man's spirit almost at once-at least, as soon look about him. Few people care about returning to the old country for good after having established themselves comfortably here,
and most of those who do so return again, finding life insupportable in the old country, friends probably being dispersed, and their very modes of thinking changed. Most peoor a yearer, are very fond of taking a trip finding pleasure, I dare say, as much as any thing, in showing their children the old andamiliar scenes, and introducing them to relatives and old friends, and the young people
themselves are mad to see the land they have heard so much of, and nearly every ship and mail carries away a number of passengers of this kind, many of them substantial and well-o-do now, and who a very few years ago left peope ind suen ever think of going back to a country where poverty and want cannot be kept out of sight humble man is simple impertinence, and where a living has actually to be struggled for; to say nothing of the severity of the winter, a thing unknown up here, frost being seldom ever seen, snow never, unless on the tops of
very high mountains. They say if I do go I am almost certain to return amongst them again, but they also say that if I remain two years or so longer, I will laugh at my folly in ever thynking of leaving such a beautiful
country, where life, aided by the bounteous gift of nature, both by salubrious elimate and fertile soil, is thoroughly enjoyable.

## To Rid -the Mul of Dust.-The stones

 should be surrounded as completely as possiiron, which should have no opening in front but what is absolutely necessary for the work. In order to avoid the choking up of the ventilating pipes, it is necessary to provide special discharge pipes for the water, according as the stones are partly below or entire above the carrying the dust should be placed underneath the stone, and beyond the point where the work is applied, regarding the direction ofmotion; it should have a breadth a little greater than that of the stone, and a depth of eight inches at most, for the largest stones, a
sliding door serving to close it whenever dry dust is not produced. The water discharge pipe should also have a valve, which may be closed when water is not used, and when it is desired to carry off the dust pzoduced when the stone is trued. If there are only four or
five stones in the work, a single collecting pipe will suffice, and the blower should be placed at the end; but if there are eight or ten stones in one line, a second collector, six-
teen inches by twelve, may be placed in the middle of the length of the first, and perpendicular to its direetion. If, too, there are two long parallel rows, with eight or ten stones in each, they should be connected with the

## Minnesota Millers

In answer to the special call recently made, the Minnesota Millers, in fair numbers, me at the Nicollet House, Minneapolis, July 1st, W. P. Brown, President, and E. S. Hinkle
acted as Secretary. $\quad$ C. C. Washburn in his acted as Secretary. C. C. Washburn in his
remarks said he had no doubt but that the remarks said he had no doubt but that the
sub-Executive Committee of the National Association had acted in good faith. J. A Christian explained the proceedings committee in effecting the compromise. He reviewed the interviews with the representatives of the Barker, Downton and Denchfield patents. The Barker patent, represented by Judge Hill, was decided to be worthless and so was the Denchfield patent, and the com mittee determined to fight them. The agree ment, as Mr. Christian understood it, with the Downton folks was that the millers should pay a scale of royalties when Mr. Downton ob States Supreme Court, but he noticed that $i$ had been changed and published that the roy alties were to be paid when a decision was ob Court. The Smith brush patents were considered by the committee as the only ones which were indefensible, and acting on the advice of an attorney, Hon. George Harding they settled with the Consolidated Company and thereby evaded a large amount of litigaMr.
Mr. Washburn asked whether Mr. Harding was retained by Downton. Mr. Christian answered that he believed some such arrange the Consolidated Company, and that Harding had promised the latter, in case the settlement with the millers was made, to help strengthe their title to the brush.
Mr. Cahill called attention to the circuiars sent out by the Executive Committee, which he thought were calculated and intended to intimidate the millers,
Mr. Williams wanted a little information bout whether the association were still going to contest the Cochrane patents in the Su preme Court.
Mr. Cahill
Mr. Cahill said that the last circular issued by Secretary Seamans was merely an advertisement for the Smith machines. It looks as though the committee had gone
Gov. Washburn said he did not like the looks of the thing. He didn't impugn the motives of the Executive Committee or charge collusion of Mr. Harding, but he would have preferred that he had not accepted a retainer from one party and suggested acceptance from
another. In speaking of the brush, Mr. Wash. burn saic that the firss automatic brush was put on by George T. Smith in his B mill. He thought there was
La Croix.
He did not believe, first that Geo. T. Smith invented the brush, or second, that if he did
invent it, it was a patentable thing. If the invent it, it was a patentable thing. If the
Smith patents were valid, then there was no use fighting them, and the sooner the millers settled with them the better it would be. He did not believe the Smith claim to the brush was good. It was a fraud and was in the hands of the very ring of scoundrels they had been fighting all along, and he did not feel like surrendering to a gang of raseals who had
been defeated at St. Louis and then came to been defeated at St. Louis and then came to
Chicago under another guise and effected a compromise. He had 50 machines and he did not propose to pay a cent of royalty until he was forced to do so by the Courts. As to the Downton patent, according to Mr. Christian, there had been an imposition practiced upon the committee in the substitution of the Cirsuit Court for Supreme Court. He thought that if the association did not fight it, Mr. Downton would on an ex parte hearing get decision in his favor and then the outsider would not be liable to any more damages than the royalties to be paid by the members of the association. He didn't believe he had the slightest right for that process. It has been knows that in the use of rolls, the effect is to get out the germ. Under these circumstances his claim that he has a process for getting out the germ is perfectly absurd. He said Mr. E. P. Allis had a perfect assignment from Down-

President Brown then said he had just reoeived two communications from Mr. Allis, which, if Mr. Washburn would give place for a moment, the Secretary would read. The Secretary then read the explanation of the Downton-Yaeger suit at St. Louis, concerning
whioh there has been so muoh dispute; as fur-

States Miller. A rambling description was then entered into which proceeded to considerable length about different patents. Gordon E. Cole, attorney of the Minnesota Association, being called upon, made some remarks in which he advised the payment of
To test the of Smith's brush.
oved that the Minnesota Milling Mr. Cahill moved that the Minnesota Millers Association
defend any member of this association against defend any member of this association against
any suit brought by the Geo. T. Smith, or Consolidated Purifier Company, against them for use of brush, or any other device claimed by that company. Mr. Fletcher wanted to faith to aid the fight and at the same time pay the $\$ 25$ for each purifier
Mr. Baker submitted the following as a subtitute for Mr. Cahill's motion
Rasolved, That this State Executive Committee are hereby instructed to contest all suits brought against members of this association
for infringements on purifier patents, except for infro T. Smith patents on the combination of air blasts
and brush.
Mr. Pettit thought that it would be impolitic oo instruct the Executive Committee to defend 11 suits, as there might some suits arise which one would want defended.
Mr. Baker changed his substitute by adding the words "if in their opinion such patents and lost.

## Mr. Fletcher moved as an amendmen

Resolved, That any member of the State Association may have the privilege of settling
with the Consolidated Middlings Purifier Comwith the Consoinated Midalings Purifier Company on the basis as recommended by the tion at Chicago, and not be considered as acting in bad faith, provided said parties pay ${ }^{100}$
Tho motion to amend was lost.
The question
Mr. Cahill.
ressed so much foith that altor ing ex
of the Executive Committe good intentions
mitted great matters to their judgment, it did not look well and was not just to them to repudiate their action the first time their judgment was contrary to the feelings of the association. He thought that the State Association, having become part of the National A ssociation, ought to abide by the action of the National Association. It would be both unjust and unreasonable and unwise to do otherwise
Mr. Brown thought that after the members of various other State Associations had endorsed the action of the Executive Committee at Chicago, it would throw the greatest firebrand into the camp of the National Association and please the Cochrane folks better than anything e
Mr Cohil
dife resolution
Resolved, That the State Millers' Associa tion defend any member of said associacion
against any suit brought by the Conolidated against any suit brought by the Consolidated
Middlings Purifier Company against them Misdings Purifier Company against them for
the use of the brush on middlings machines.
Mr. Washburn moved the reconsideration

## adopted.

Mr. Cahill's resolution was then submitted and voted upon.
Upon demand by Mr. Christian the ayes and noes were ordered.
Mr. McClure said that he proposed to stand by the State Association, but he thought the time had passed when the State Association could afford to stand in opposition to the Na tional Association, and that it would be a mistake on the part of the State Association to
have a side fight.
The call of ayes and noes being made, sulted as follows
Ayes-Messrs. Dunwoody, Cahill, Croswell, Hinkle, Syme, Officer, Loring, Washburn and Fletcher-9.
Noes-Messrs. Hobart, Pettit, Rollins, Day Hineline, Espenscheid, Kimball, Taylor, See bach, Barber, Goodrich, Holmes, Jrocker, J A. Christian, Baker, Gregg, Bronson, Sprague, Ortman, Walcott Mill Co., White, Williams, Green, McClure and Brown-25.
Mr. Cahill's motion was thus lost, it being the evident determination of the great majority of the members to stand by the action of their
vention.
Upoi motion by Mr. Baker the convention
then adjourned sine die. And thus ended the rebollion.

Subscribe for the U. S. Mmuer; only \$1 per

Milling and Baking in Pompeii.
the excavations made at Pompeii,-tha emarkable city covered by the great eruption ing discoveries were made of the modes milling and baking employed by the people of that city and of that day. A large bakery occupying an entire house was unearthed in the streets of the Herculaneum. The inner court was occupied by four mills. These crude mills consisted simply in huge stones, set one upon another, in appearance much like a larg whr-glass The lower stone remained firm while the upper was revolved by means of an key.
Slaves were often sent to the mill, some limes having their eyes put out as a punishment for misbehavior. Occasionally persons formed position, hired out to millers and perthe gratification of their dissipated habits.
The primitive Romans made their bread in heir own houses. Rome was already nearly five hundred years old when the first bakers
established mills, to which the proprietors sent their grain, as they still do in the Neapolitan provinces; in return they got loaves of bread, that is to say, their material ground kneaded and baked. The Pompeian establish ment which we discribed was one of these troughs that served for the manipulation the the bread, and the oven, the arch of whick is intact, with the cavity that retained the ashes, the vase for water to besprinkle the flued and make it shiny, and finally, the tripleexcellent that carried off the smoke-an cavations system revealed by the Pompeian ex The bake-oven successfnlly imitated since. y apertures. The loaves went in at one of these in dough, and came out of the other baked. The whole thing is in such a perfec
state of preservation that one might be tempted to employ these old brieks that have no been used for eighteen centuries for the same purpose-the very loaves have survived. In he bakery of which we speak, several wer found with the stamp upon them, "Siligo flour), a wise precaution against the bad faith of dealers.
Still more recently, in the latest excavations, came across an oven so hermetically sealed and there were eighty-one lonves, a little sad to be sure, but whole, hard and black, found in the order in which they had been placed at the time of the destruction of the city. En climbed into the ovarall, Fiorelli himse us relics with his own hands. Most of the loaves weighed about a pound, the heaviest little more. They were round, depressed in
the center, raised on the edges, and divided into eight lobes. Loaves are still made in Sicily exactly like them.
An electric Stone Dresber.-Mr. J. G. Cranston, engineer, Newcastle, England, with rock drills, air compressors, and coal cutters, has just invented a machine which is worked by a dynamo-electric machine, and
which he claims will dress mill-stones or other stone, and drill rock economically, with rap idity, precision and dispatch. The invention, which we have seen at work is an ingenious one, and, judging from the trials of it that siderable success. The chisel fastened to a spring arm, which protrudes from a case containing magnets and arma tures. This spring arm when the magnets are
connected with the dynamo-electric machine, moves up and down with extreme rapidity causing the chisel to strike a blow at each de scent. The inventor states that it can be made
to strike from one to two thousand blows per
minute. Wires bin minute. Wires being used instead of steam pipes, enables the apparatus to be moved read-
ier to any angle, or worked at any reasonable
distance without ler any angle, or worked at any reasonable
distance without much loss of power; while
not the least meritorious portion of the whole invention is the horizontal frame or base to which the electric apparatus is fixed. This can be so adjusted as to cause the chisel to strike any portion of a circle with either a
swift or slow motion, the number and inten sity of the blows being regulated according to the softness or hardness of the stone. By the
use of this machine, Mr. Cranston claims that use of this machine, Mr. Cranston claims that
he can cover a mill-stone in a very short space of time with the necessary groove and furrows
having the straightness, regularity, and par-
rallelism so
rallelism
dressing
paratus

Pennsylvania Millers semp-andual meetingat altoona, nly sth. The State Millers Association of Pennsylvania met in semi-annual convention in the
parlors of the Logan House Altoona, Jaly 8th. About half-past 2 o'lock Secretary $A$
Z. Schoch, of Selinggrove, Pa., called the Z. Schoch, of Selinsgrove, Pa., called the
meeting to order in the absence of Mr. Miner the President, and Mr. W. P. Duncan, of Bellefonte, of the firm of Duncan, Hale $\&$ Co. was elected President pro tem. After a few
appropriate remarks by Mr. Duncan, the min appropriate remarks by Mr. Duncan, the min-
utes of the previous meeting were read-the reports of committees contained in them being
omitted-and they were adopted as read. Reading of the reports of officers was the
next business in order. The President pro tem stated that as he had not expected to be
called to the Chair there would be no report from the President as he had none prepared. by that officer as follows:
Mr. Presilent amd Somtlemen: Daring the
interval of six months itttle of general interest
has occurred within our organization to com.
municate to you. We have ndded since our municate to you. We have added since our
last report thirty-one names to our roll, mak-
ing our membership eighty-seven to date.
This membership should, however, not be ac. cepted as an indication of the success or use-
fulness of our organization, as we believe e it is
generally odmituted that a d decided interest has
been awakened to improve the industry in which we are engaged, besides cultivating the
anenities of the trade. Millers generally are
beoming educated to the fact that many old
ideas and methools, tood in their be abandoned and the improved modern ap.
pliances and principles substituted. The most
serious obstacles in the way of the speedy im.
provement of which we have to contend, are the numerou
patent claims which have been made upon a
kinds of mill machinery, so contlicting an
complicated that the just and fraudulent one
cannot be distinguished, preventing the pur
 communicated to the Executive Committee of
the National Asociation, who, upon con-
sideration, declined to aceet our proposition,
assigning as their reason for the refusal,
"That as members

## so all should equally bear the burdens of the organization," thus fixing the terms of the membership at twas per run, the sum previous- ly assessed and paid by old members. Upon these conditions thiry-four scribed by members of this Association pre vious to March 1, which number, together with fourteen run not members of this Sssociution make

 date only fortylyepright run. We We hope this num.ber will be largely increased before the 15 th for the reasons assigned in the thate circular
on the subject issued by the National Associa-
tion, which youlaue promptly.
In conclusion permit me to congratulate you
upon the pleasing outlook for upon the pleasing outlook for a successful
business year for the miller. While the gen.
eral business depression has severely affected others, been seriousty embe not, like many
with the general revival of all brand and now hand together with the bounteous crops all
over our land betoken us employed-a good demand for our product should be our constant aim, to do our work

The calling of the roll followed, showing ent. Then came the enrollment of new mem. bers, and sixteen persons advanced to the Secship fee of $\% 3$.
Reports of committees were next in order, nittee Prept read was that of the ComYour Patents
Your committee bave the satisfaction of reporting the termination, since our last meet-
ing, of the great St. Louis middlings purifier faterest. It was decided in favor of the muc
ers. Individual members of this society lent
their aid to brenk up this ring, but the society their aid to break up this ring, but the society
proper made no contribution. The patent proper made no contribution. The patent
claimed on air blast for purifying middlings has fallen on to the ground. Your committee
has forink this decision as important an event in the history of milling as was the introduction of the purifier into practical milling.
The patent on the "traveling
The patent on the "traveling brush" to
clean the sieves of the purifier is now claimed by a number of parties. Millers should be of the patent can be guaranteed to them by
ond responsible parties. The contract with the
George T. Smith party, made by the National Association at Chicago, is the best evidence we can get of the opinion of that body an to
the ownership of the patent. Your committee
are no are of the opinion that an "automatic travel-
ing" brush will soon be attached to all puri-
fiers, and that a purifier is incopplet with fiers, and that a apurifier is incomplete without
it, or some other device, to keep the cloth free
and and unclogged.
Your committee could enumerate other pat.
ents in suit which are of less importance.
They again caution millers against buying They again caution millers against buying
patent machinery from irresponsible parties.
New milline devices New milling devices are daily patented, and
what a miller can buy with safety is as im portant a question as what will pay him to
W.
WTTIERER SNALL,

## George M. Cressiw

The report was discussed at some length and was followed by the report of the Insur
ance Committee, read by President Duncan: To the President and Members of the Pennsyl-
rania Millers' Association:
Gextlemex: Since the meeting of our As-
sociation at Reading, one year ago, at which sociation at Reading, one year ago, at which
time your Committee submitted a report, we
have nothing of special importance to report excepting to reiterate what was said at that
time. No doubt many of our members will remember phat we urged the importance of
taking steps for the formation of a Millers
Mutual Insurance Company for the State of Pennsylvania. The milling interests of of the
State being large and important and the amount of capital invested in mill property
being very large, we think an insurance com pany organized on the mutual lan would save
the millers a very large sum of money every
year. Of course mutual companies, like all
others, if not properly managed wes profitable, but your Committee has no doubt
a company could be organized and conducted
on strictly business principles, that would make very large returns to the insured in the
saving of premiums. The experience of your Committee has been that mill property is not
specially hazardous, as claimed by most comIf any member of this Association will make
a calculation of the mill property destroyed by
durther discussion by Messrs. Hayes, to ascertainsworth, a motion to put a question would take in a new company was carried.
Mr. Hawbecker's was the first name called and that gentleman rose and said he did not wish to enter this agreement blindly. He would join a Mutual Company, but as he carried $\$ 5,500$ of insurance he did not wish to be limited to $\$ 3,000$, according to the terms of the new Association. He wished to know, therefore, if millers would be prevented from effecting insurances with other companies.
President Duncan in reply said that millers insured in the mutual societ would not be debarred from going into other companies if the insurance they carried were higher than the Mutual Company wished to take.
Some further debate ensued and then Mr. Mutugl showed that the company could commence with $\$ 88,000$ of insurance, although the test was on account of the absence willing to join in the enterprise
pany could be organized with less than $\$ 100$ 000 assured.
Mr. Hayes moved that the Insurance Committee be authorized to take steps to organize neeting.
delegate insisted that $\$ 100,000$ must be ubscribed and guaranteed before a charter of During the culd be obtained.
was mene contination of the discussion hat effect that a temporary a suggestion to not be effected at this time, because all the berg thought that the matter should proceed the election of a President, Board of Direc tors, etc., merely as a matter of form to get
the company started. Other members agreed With Mr. Isenberg's suggestion, but as no headway seemed to be made it was intimated Chat it would be well to postpone considerathat it might be put in shape at meeting, or

Mr. Ellsworth insisted that the question eferred to the Insurance Committee, they to have everything in readiness to effect an or-
ganization in a very short time at the next semi-annual meeting.
The motion of Mr. Hayes that the Insurance the next meeting, was then passed.
The report of the Committee on Transpor ation being called for, Mr. E. H. Hanscock, of he had no written report prepared, as little or he had no written report prepared, as little or
nothing had been done since the last meeting to further the interests of the Association looking to low freights, as the railroad companies' rates had fluctuated so greatly, and had been put at a ruinously low figure by the ompanies themselves.
Mr. Isett, of Spruce Creek, thought the question of freights had not been done justice,
and said that the Pennsylvania Railroad Company had been unjust to the millers in their rates of freight to certain points that he Mr. El
Mr. Ellsworth also complained of unfairnes in the freight charges, and until some other nd better arrangements were made the millre Pennsylvania would be unable to compete with those of the East and West.
Another delegate believed that it would be useless to consume time in this discussion. Unless the millers could cammand capital enough to build a line of railway from Philadelphia to Pittsburgh in opposition to the Pennsylvania road, or to go into the Legislature and compel that body to devise measures hat would give them relief and justice, fur-

## her discussion was of no consequence

A member remarked that there was no hope hers of that body were all the Pennsylvania or Reading railroads. However, if the millers chose to combine for the purpose they would be strong enough in their united power to compel some satisfactory terms. He thought the combination against them could be broken if the millers would but put their shoulders to the wheel and push with all their might.

After some further remarks were made it was decided to defer discussions until the evening session.

The following report on mill machinery and processes was then read by the Chairman of the Committee, Thomas Wright, of Kingston,

To the President and Gentlemen of the Millers
State Association: It was believed
Association would be the interests of this erchange of ideas and better served by an innembers than by a written report. As a gen leman of large experience recently expressed, experience has included some of the and my in the United States; I have endeavored by study'to acquire all' the knowledge possible yet what I do not know about milling would yil a large volume." This doubtless would be rue of this Committee. A large amount of the present knowledge of milling is experimental, and as these experiments have all cost the experimenter something, it is not more pense. This, in this Association, it is to hoped he will receive in a measure is to be experienee of others. It has been suggested that the National Association build an experimental mill in which experiments which prome good results might be tried at the common praction The publication in the Euglish way. thoroughly practical work would contain so far as possible milling that history of the various processes now in use and also a history of the most interesting of the experiments that have led to these results would doubtiess be a source of profit to the of all progressive rileive the hearty support ofts of this State mivers. The milling interter and composed mostly of a local charac the owners of these small mills should be but couraged by the fact that as fine a grade of flour has been produced in small mills as in the larger ones, and in many instances at relaIn the good a profit.
In the first step of cleaning the grain there stone ; but the majority are of the ending that the best results cleaning and polishing of the berry reroug the fuzz by giving as much end scouring with as little side scouring as possible. Why with chines will best accomplish this (leaving the bran in tact) will be left the miller, as it would not be within the prov rube of this report; but it is thought that the final brushing will accomplish the desired result.
In
In the process of grinding it will probably substitute any other device for mill-stones, wil much has and much more will be done to bring fitted perfection. Stones now in use can be fitted with adjustable drivers, of which a num the better the result. measure be prevented by enlarging can in a that the material be quickly disposed of. The stiff spindle is giving excellent results when applied to small mills, but there seems to be
certain mechanical difficulties in the way of certain mechanical difficulties in the way of
its application to large mills. In regard to ollers, their use promises to become as genmills we think will perifier, but in the most of the germ and fine brany pache removal tening them. The gradu
easons will be practiced in this State obvious ew. The nature of the wheat mostly ground well, we think, give the most generally satisactory result of grinding high enough not to injure the germ, then remove the germ by these middlings on mill-stones, purify and reduce pose the stiff runner is perhaps pref this purpose the stiff runner is perhaps preferable. chines which seem to promise better results than stones, as they remove most of the ad hering particles in the form of miadlings. In regard to bolting and purifying, the committee We the thar
We would suggest that the possession of good microscope, a set of small sieves, and a delicate scale, weighing say one pound by
decimal division to one thousandth, would be of incalculable service to the miller. The scales can be procured of Brown \& Sharp, Providence, R. I., and the sieves and micro Armed with these simple appliances the mille can intelligently determine what proportions he is making in his products and the nature of cannot help but result in spirit of inquiry that The
The above report was received without discussion, and the committee on grain for mil ling asked leave to submit the following, which was read by Mr. Levan, of Lancaster the Chairman:
The proper kind of grain for milling is of the greatest importance to the miller. Imremedy to some extent the course of the inferior wheats, but where the qaries does not contain any good properties, all the machinery and methods obtainable cannot produce the desired result. In this State the
Fultz variety is the miller's variety is the principal "thorn in the miller's side," and is partly the cause of the wheat is also grown to some extent, Clawson not be recognized by millers as fit for flouring We consider it of the utmost importance to millers to make it a special object to supply the farmers in their respective localities with the best seed wheat and at as low a price as
possible. This can be done by united effort. riety is raised can make the proper kind or vaothers in localities where it is wanted. The

## THE UNITED STATES MILLER.

cause of much trouble to the millers. Dampening or heating no doubt improves it, and there are some our last meeting. We think vocated it at our last meeting. We think,
however, that the resolution passed at that meeting covers the ground completely.
S. L. Levan.
J. F. Newman.
H. M. Garber.

There was an animated discussion upon the reading of the above as to the kind of wheat millers should endeavor to have farmers supplied with in order that better brands of flour may be manufactured by millers, a am as the grades of wheat could be improved. how the grades of wheat could be improved.
Mr. Pyle, of Bryn Mawr, was of the opinion hat if one miller could make good flour from a certain kind of wheat there was no reason why another miller should not have the same success with the same kind. He believed this end could be attained if there were some uniforn system of milling adopted. Mr. Pyle argued strongly in favor of the superiority of of the Fultz wheat, and when he sat down his
argument was supported by many others, who said that, in view of the fact that there was a serious opposition to the Fultz, it would not be policy to condemn that grain at this time. A number of other delegates would not be persuaded, however, and denied that the Fultz worth anything at all.
The discussion was continued pro and con for a while, and at its close the report of the
Committee on Inspection and Grading of Grain was read by Mr. Hawbecker, the Chairman of the Committee.
Mr. President and Gentlemen of the Millers
We, the committee appointed to report upon the inspection and grading of grain, submit the following: First, that as the grading and inspection of grain is simply practiced in the
city of Philadelphia, and there it is simply city of Philadelphia, and there it is simply
controlled by a municipal law. So far as the knowledge of your Committee reaches, we are not governed by any State or municipal law in this commonwealth outside of the city of
Philadelphia. We, therefore, can only say to the association on this subject that every mil ler engaged in the business of manufacturing flour is governed and controlled by one com-
mon law, and that is common sense. Every mon law, and that is common sense. Every
miller should know that it is prudent for him, ing flour a financial success that he should thoroughly educate himself in the matter of grading and inspecting wheat. The experience of every miller is that in purchasing an inferior quality of wheat he can only produce an inferior quality of flour, which will always
prove fatal to his flour trade. We therefore prove fatal to his flour trade. We therefore repeat that the law of common sense is the
only one governing and controlling the gradState, and, if thoroughly practiced by the fraternity, it will certainly be to their benefit. $\begin{array}{ll}\text { Respectfully yours, } & \text { S. Z. HAWBECKER }\end{array}$ . Heebner.
L. W. Pyle.
A motion to adjourn until 7:30 p.m. was put and carried.
The milling mating sur
and specimens of flour, middlings, etc., that were on exhibition in the sample room of the Logan House and on the east portico attracted the attention of the millers during the greater part of the time between the afternoon ad-
journment and the hour for assembling in the evening, and it was past 8 o'clock when the Convention was called to order.
Although it was supposed that the passage of Mr. Hayes' resolution relative to the insurance company matter had disposed of that question, it sprang up in the Convention again, and its discussion was permitted to be contin ued.
A motion was made to take steps for the
reliminary organization of the mutual company.

President Duncan, in answer to inquiries, said that it was desired to ascertain if the $\$ 100,000$ necessary before a charter could be obtained could be guaranteed, and for the purpose of learning this the Insurance Committee was expected to communicate with absent members of the Association, and to r
what had been done to the next meeting.
Mr. Isenberg proposed that an election officers be had, consisting of President, Adjuster, Board of Directors, etc., for the sake organization, and then give notice of application for a charter as soon as $\$ 100,000$ are guar-
anteed. In six officers could be elected.
The discussion was continued at some length, touching upon various phases of the situation, among others arising the suspicion of organizing in conflict with the State laws,
which was quickly set at rest, and it was which was quickly set at rest, and it was
eventually moved that the President pro tem, Mr. Duncan, be elothed with power to appoint thirteen Directors (including five members of the Insurance Committee) for the insurance
porary officers. The motion was carried, and the matter was thus disposed of.
Secretary Schoch said that as due notice had been given of an intention to revise the constitution, two-thirds of the members could now proceed to do so if they deemed it advisable. The revision consisted of an amendment changing the reading of the article in regard to meetings from "semi-annual" to "annual." It seemed to be the opinion, from what he knew of the sentiments of the millers, that the annual meetings were sufficient. A motion to strike out " semi-annual" from the constitution and insert "annual" was amended by Mr. Small so as to read "on the first Tuesday of September" (annually). An amendment to the amendment by Mr. Hawbecker, changing "first Tuesday of September" to "first Tuesday of October" was ac cepted by Mr. Small.
The proposed change in the constitution was objected to by a Philadelphia delegate, who argued in favor of semi-annual meetings; in order that those who may not be able to atend one meeting may succeed in attending another meeting the same year. Arguments were also made in favor of the social features these occasions, and it was stated that
much more benefit was to be derived from meeting twice a year than by assembling annually.
Mr. Hayes suggested that the whole question be postponed for six months. He fully elieved, from the present outlook of affairs, that something would transpire in six months ors, and they would desire another meeting by ers, and th
that time.
Mr. Hayes' suggestion, in the form of an amendment, after a lively oratorical tilt was put and carried by a large majority.
The discussion of the report on mill machinery, which had been postponed from the afternoon session, then came up. It proved of much interest to the millers, the subjects of millstones, rolls and purifiers receiving
thorough treatment at the hands of Messrs. horough treatment at the hands of Messrs.
Hawbecker, Hayes, Brown, agent for the Garden City Purifier, and Forney, representing the Hunter Purifier. There was a great deal of instruction and information obtained rom the views expressed, and the
The selection of a place at which to hold he next semi-annual meeting on the second Tuesday of January, 1880 , then came before
the Convention for disposal. Chambersburg, the Convention for disposal. Chambersburg,
Wilkesbarre, Easton, Harrisburg and Philadelphia were named, and all were subsequently withdrawn with the exception of Chambersburg and Harrisburg, upon which a vote was taken, resulting in the selection of Harrisburg. At the January meeting officers of the Association are to be elected.
Mr. Pyle, of Bryn Mawr, asked for the pass age of a resolution rescinding the resolution he growing by fermers of the Fultz variety of wheat. Mr. Pyle's propositlon was almos unanimously voted down.
The Convention then adjourned.
a new Car for transporting Grain.Chicago exchanges describe at length a novel
invention called Prosser's Twin Cylinder Cars, invention called Prosser's $w i n$ cyinder Cars, consist of large cylinders made of boiler iron, about $6 \frac{1}{2}$ feet in diameter, to which are with a flange in the shape of the ordinary car wheel, with this difference-that they are very much larger. These tires are so placed as to fit the ordinary railway track, and really are the cylinders passes a hollow steel tube, with perforations which admit air to the grain within, the air afterward finding egress through numerous small apertures in the body of the cylinders. By this means perfect ven tilation is maintained, and, at the same time the corn or wheat is thoroughly dried while in transit, preventing its molding, a not unfrequent occurrence by the ordinary methods of transportation. The hollow tubes or axles project far enough through the cylinders to allow the journals to revolve in a box, which in turn supports a frame-work and covering, enabling brakemen to pass over and operate
brakes that are attached to these as to ordinary cars. When completed and ready for use, the cylinders, are filled with grain, and in that condition the load is rolled on the track to its point of destination.

The Philip Best Brewing Company, of Mil waukee, are about to build an elevator 60 feet

Notes on the Uses of Wire Rope.
Two kinds of wire rope are manufactured. The most pliable variety contains 19 wires in the strand, and is generally used for hoisting and running rope. The ropes with 12 wires and 7 wires in the strand are stiffer and are better adapted for standing ropes, guys and rigging. Orders should state the use of the rope, and advice will be given. Ropes are made up to three inches in diameter, both of iron and steel, upon spectal application.
For safe working load, allow one-fifth one-seventh of the ultimate strength, according to speed, so as to get good wear from the rope. When substituting wire rope for hemp rope it is good economy to allow for the for mer the same weight per foot which experience has approved for the latter
Wire rope is as pliable as new hemp rope of the same strength; the former will, therefore, run over the same sized pulleys as the latter. But the greater the diameter of the sheaves, pulleys or drums, the longer the wire rope will last. In the construction of machinery for wire rope it will be found good economy to make the drums and sheaves as large as pos-
sible.
Experience has demonstrated that the wear increases with the speed. It is, therefare, better to increase the load than the speed.
Wire rope is manufactured either with a wire or hemp centre. The latter is more pliable than the former, and will wear better where there is short bending. Order
specify what kind of centre is wanted.
Wire rope must not be coiled or uncoiled like hemp rope. When mounted on a reel, the latter should be mounted on a spindle or flat turn table to pay off the rope. When forwarded in a small coil without reel, roll it over that way, All untwisting or kinking must be voided.
To preserve wire rope, apply raw linseed on mix the oil with equal parts of Spanish brown or lamp-black.
To preserve wire rope under water or under round, take mineral or vegetable tar, and barrel of tar, which will neutralize the acid. Boil it well, and saturate the rope with the hot tar. To
sawdust.
In no case should galvanized rope be used the coating of zinc, and rusting proceeds with twice the rapidity.
The grooves of cast iron pulleys and sheaves should be filled with well seasoned blocks of hard wood set on end, to be renewed when worn out. This end wood will save wear and
increase adhesion. The smaller pulleys or rollers which support the ropes on inclined planes, should be constructed on the same plan. When large sheaves run with great velocity the grooves should be lined with leather, set on end, or with India rubber.
This is done in the case of all sheaves used in the transmission of power between distant points by means of rope, which frequently run at the rate of 4,000 feet per minute
Steel ropes are, to a certain extent, taking the place of iron ropes, where it is a special object to combine lightness with strength.
But in substituting a steel rope for an iron running rope, the object in view should be to gain increased wea.
to reduce the size.

## Head-Gates

The head-gate is also an important feature of the arrangement necessary for utilizing the power afforded by a dam. Those of our readware that an urgent need exists for a better plan of construction for head-gates than the old lift-gate, which has a troublesome "peculiarity of being almost invariably out of order just when it is most needed. The majority of head-gates are hoisted and exposed to the warping influence of the sun and weather, so
that in a short time it requires much effort to that in a short time it requires much effort to
shut one of them down; and in some instan ces they can not be got down at all.
A gate arranged similar to a butterfly valve, and entirely under water, turning horizontally by means of an upright stem, could be constructed to good advantage. The stem or upright would serve as a pivot or hinge just above and below the gate, upon which it can turn or swing. It must not be in the precise center, which will admit of a little more pressure on one end than on the other, thus keeping it and somewhat similar method would be to let
other, it may turn down toward the inflowing flat position. The stem or staff which is fastened to it instead of turning around, forming an axis as in the first case, swings down in the direction of the gate and lies in the water also. In either case, a fore-bay should be built of a greater length than width, planked up tightly on the sides and top, with trap doors in the op; the front and lower ends also closed by planking down to as much as six inches below ow-water mark. The gate may then be set about the middle of this flume or fore-bay, in a strong partition, which is really the separation between the dam and race.
When the trap doors are kept closed, there is no danger of the water freezing, even in the coldest weather, in being entirely protected from exposure. As the gates are generally open, and therefore, of course, under water,
they are not exposed to warping by the influence of the air and sun, but when needed are sure to fit and to be easily handled and effective. Many instances might be given in which defective head-gates have been the cause of the washing out and entire destruction of val uable mill property. Cases have also frequent $y$ occurred in which the head-gates, owing to their being either frozen up or warped to such an extent as to be unmanageable, could not be closed in time, and, as a consequence, a smal wash or break in the head-race became the source of extensive damage, requiring a heavy outlay of money for its repair. It is easily seen, in such cases, after the catastrophe has occured, that true economy would have been consulted by providing in the first place head-gate which could have been easily reach-
ed and promptly closed, thus preventing any material injury. The teachings of such an experience are of course useful in guiding the subsequent operations of the owner; but in this, as in many other matters, "an ounce of Wheel Book:
South Australia's Yield of Wheat.
The Adelaide Observer, in accordance with its custom, anticipates the official statistics by furnishing an approximate return of the wheat yield of South Australia, derived from the harvest just completed: "Coming to the details of the harvest as furnished by our cor-
respondent," says our contemporary, "we find that the total area reaped for wheat this season has been some $1,286,355$ acres, or 122,709 acres in excess of 1877-8, which in its turn showed an excess of 80,697 acres over 1876-7.
The total yield we estimate at $9,007,624$ bushels, making 7 bushels and a fraction per acre. The fraction does not amount to 2 oz . per acre, year the general average was 7 bushels 46 lbs . per acre, and the year preceding that, 5 bushels 24 lbs . Notwithstanding the fact that we have 122,709 acres more under cultivation, the gross yield of the current season does not reach, according to our calculation, that of last season by 27,068 bushels, the total then being $9,034,692$ bushels. Out of the 9,007,624 bushels wich gross product of the harvest now gathered,
there will be required for seed some $1,410,000$ bushels. This at the rate of one bushel per acre. Formerly $1 \frac{1}{2}$ and $1 \frac{1}{2}$ bushels per acre has been allowed by statisticans; but as this sowing is now more generally adopted, it is believed that an allowance of one bushel per acre will be ample. We do not apprehend that the increase in the area cultivated in 1879-80 will much exceed that of last season, so that the gross requirements for the purpose of seed
will, as we have said, be about $1,410,000$ bushels. We set down 5 bushels per head as sufficient for food, and estimating the population at 260,000 , this will absorb another $1,300,000^{\prime}$ bushels. When the necessities have been provided for, there will be left available for export, $6,297,624$ bushels, representing in round numbers from 150,000 to 170,000 tons of wheat."-Sydney Mail.

A large Flour Shipment to Ireland.The Old Globe Mills of Mr. Wm. Hayden, Tecumseh, Mich., had been running, previously to the 5th of June, several days and nights to fill an order from Messrs. J. \& E. J. Tighe, Sligo, Ireland, for 32 car loads of flour. This order had to be all sent at one time. This shipment considerably exceeded the one sent across the Atlantic by Mr. Hayden a few weeks previously. It amounted to 4,572 barrels, and is the largest shipment of flour in Hayden had also received from the same Irish firm an had for siymed from the same Irion

## Remarks on Grinding.

In the British town mill, grinding requires
especial care and good judgment. Stone dress. especial care and good judgment. Stone dress-
ing, often the highest paid department, being mere slight of hand work compared to the skill and judgment required in a good grinder with the stoneman, it is far otherwise with the grinder; negligence or bad judgment occa-
sionally causing a serious loss, or altering the character of the flour completely, the master too often not having the skill to know what is
wrong. There is little divergence in the practice of stone dressing, so that a little experi-
ence enables the master to know the good from the bad one. Grinders diverge widely
in practice, not only individuals but whole countries, so that sometimes it is better to able guidance, than trusting wholly to one
with a life-long experience.
The principal qualifications in a good grind-
er is to have the sense of feeling well devel-
oped; some individuals are remarkable for the
extreme sensitiveness of their feeling, with
others it is so dull that that they are in per-
petual doubt as to whether they are right or
wrong, others again have it better in one hand
than the other; my own experience showing
me this being always in anxious doubt for
some years, when young feeling with the right hand as is customary (and grinders well know
that whenever they begin to doubt and get
anxious they make the sense of feeling still sense more perfect, I rarely used the right o
afterwards. It is well known how cold, di
or handling tools such as the pick handle fects the feeling, and they have to exercise it
for some time after before they can trust it
Spouts are often badly arranged also for catch a piece of zinc can often remedy it a good gentle stream, aiding the feeling greatly, and
giving a guess as to the speed.
The general practice in feeling the flour is
to let the hand fill more or less, then press down the thumb through it and along the
points of the fingers, that is, on the top of the
pressed down stuff. Some press down the
thumb, shutting the hand a full handful. Inexperienced individuals
sometimes imagine that rubbing small quan-
tities between the points of the fingers and humb is always sufficient, but practice teaches being so perfect as to detect the sharpness or
ize of the particles in very close grinding, more or less thickness between the thumb and ngers; pressure seeming to aid the sensation
ithout their contact. Thus, in close grinding, pressing the thumb repeatedly on the de
cending stuff on the points of the fingers, nd then rubbing it along, enables one to feel
sharpness; when, by rubbing unpressed stuff, no sharpness or particles can be detected.
With the most of wheats, however, it is safer the points of the fingers, judging their size
better thereby, and the pressing of the thumb down through a handful giving an idea as to

## what amount of felled stuff. This is a term

polished by the rotary motion being destroyed,
and expresses the real injury, as it takes some
daptability for fermentation, but it never
The experienced grinder readily detects rom its oily smoothness, and if the propor of the stone, it being unable to grip a portion
of it at all. It thus cause increased pressure heat, and moisture, and spreading over like paste, stops all air motion, and, if not check-
ed, finally lifts the stone and rolls out in teaming worms. Even with a slight pasting it takes a long time time of wasteful and in jurious grinding to partially recover, and never
recovers its full keenness till lifted. In choosing a medium betwixt over crushing and over sharpness, conjoined with their effects on the wheats standing a considerable amount of each without injury, while with others no freedom can be used either way
being the right approximation wheat grinding and cutting process applied, I will endeavor to explain the different styles of grinding, and the effects of each.
Wheat for grinding purposes may be divided into four qualities namely, weak-soft and
weak-hard, and strong-soft and strong-hard.

The first, or weak-soft, is easy ground in
comparison to the moisture it contains, and comparison to the moisture it contains, and
can go over a great amount of face without can go over a great amount of face without
injury to the bran, or over polishing of the injury to the bran, or over polishing of the
flour, from the light pressure required to disintegrate it, and hence have broad, clean bran
can be free and easily dressed, and is not so apt to be injured as the others. With the second, or weak-hard, practice
differs more widely, and it is more often in differs more widely, and it is more often in-
jured. Grinders may be divided into two main classes. There are those who rule the much, being determined, whatever the quality much, being determined, whatever the quality
of the wheat, neither to have the stone what they consider too low, nor yet pressed with
what they imagine too much feed, so as to what they imagine too much feed, so as to
avoid, in their opinion, overheating. These do well enough in country mills, where Brit-
ish wheat is always the ruling quantity in ish wheat is always the ruling quantity in
a grist, or town or country mills, where they keep the grist of an average softness; but
where hard wheats are put often on by them-
selves they are total tailures. The other class selves they are total tailures. The other class
are those who know there is a certain freeness


avoid letting the stones smell or char from friction on each other. Although some scien- tific men say this is the cause of the heat, the

wishes by varying the feed. Where there is

## feet per second-losing centrifugal force, when

safest to grind the strong-hardsimilar. It it the opinion of many that the sharper the flour the

$\qquad$
$\qquad$ is what amount of water without injury; its
same
want of elasticity won't let the large particles
stretch sufficiently to make thin cells, and in this state it makes an inferior, troublesome
loaf. It follows, therefore, it requires a heavy crushing power, provided there is not
an undue amount of heat. It is the case also,
the drier the wheat the less injurious the heat, the drier the wheat the less injurious the heat,
and the less liability to be felled; splintering
taking place till it is reduced to a very small degree, and the heavy feed saves the bran
from being cut up badly, as the sharp parti-
cles rolling out have a most destructive effect in pulverizing the bran. To so great an exhard wheats, that, if the stone has a bad face
or the slightest irregular escape, it will issue
sharp, though the stone is charred in the at tempt to soften it, which is often checked by
putting on such a heavy crushing power, or arge feed, that part of the flour is felled, hinders the too rapid escape of the sharp part-
cles, the diminished air inlet allowing extra crushing at the rim to equalize them more.
It is a very common opinion also that b weats require a large amount of face; but thi is most injurious to both flour and bran. The
former is acted on similar to the pease meal in the pease-stone, and issues in a polished state
or over free, or so short that, if weak wheat,
the baker has the utmost difficulty in getting it to adhere at all; and though feeling sharp,
the grinding is in reality very low, and the bran is subjected to a long destructive pulveri-
zation amidst the sharp rolling particles, and zation amidst the sharp rolling particles, and What is needed for hard wheat is as small and
rue a face as possible, with not the least cape, however, for irregular grinding; rolls rapidly outwards, and irregularities scape or face tell seriously by unequal grinding from traveling over so little face.
As an instance of extreme
As an instance of extreme heavy pressure
grinding, I will mention Californian and Aus ralian practice. In both those countries, the najority grind low, and with a heat unknown
in most British mills. The Australians have the British stonespeed and furrows, the Cal ifornians the American. In the drier parts of Australia, ten bushels an hour is not uncom-
mon; in California, with the mon; in California, with the greater stone-
speed, they are often forced to put through speed, they are often forced to put through
double that. In both, the stones are kept so low that there is often a ©portion of felled stuff. Then what occasions this low of felled and heavy pressure with the strong Australian wheat? It is to save the bran, and make the flour handier wrought and whiter; as espec-
ially clear or flinty wheats ane ially clear or flinty wheats are like glass, the
more they are ground down the whiter they
get. To show that even high ground strong
flour is not always the bakers, some of as disagreeable bread as ever saw was in a district famous for its fine strong wheat-namely, Adelaide, in South
Australia. The only reason I could imagine for it was that it was baked from the cheap coarse ground products of some of the country mills, with deficient power and coarse-clad wire machines, some of them at that time not going over 74 with their finest wire. The
flour had any amount of strength, but some of the bakers, appearingly had not the judgment or industry to take full advantage of it by giving it sufficient time and water; and in so that the low-ground, heavily-pressed stuff with its attendant heat and better flour pronoce, obtained a superior price ; on the whole,
not that I approve of heat or violent pressure if can be avoided, but with large stones and wrought flour, the miller can't obtain hand Without doubt, the great heat has often
deleterious effect; as while in Australia, and
as at that time it sometimes could not supply
itself, they occasionally got Californian whea and flour to make up the deficiency-noticing of the wheat to the flour imported, and land ing on the Californian coast afterwards.
be four feet, flying about 200 revolutions
putting my hand into the descending stream
from one of them the heat was so intense that
the thought occurred to me at the time, this could not do otherwise ; the stone size and
possible; they were furrowed in the usual
possible; they were furrowed in the usual
the stones to do their utmost, is still the best
for heavy pressure grinding (if the friction grinding (if the friction
giving the bran less face
equalizing the pressure Though the pressure
The

## over 140 degrees without injury, it is quit different to the heat produced by violen

crushing, which raises it to a high heat in a
moment. And though dry wheat can stand
moment. And though dry wheat can stand
much higher heat than soft wheat, still all ex
much higher heat than soft wheat, still all ex
perience goes to show the milder crushing is
stances, such as bran cutting and sharpness,
do not counterbalance the advantage; and
Thave invariably found when the stone
speed could be reduced to eighty or ninety
revolutions on hard wheats, the baker
much better pleased with the flour. Heavy
pressure grinding with hard wheats has an-
other advantage besides saving the bran-that ing the sharps. I have four without regrind moderate stone speed to go over forty-seven
pounds fine flour per bushel, with the silk highest number at 150 , without returning any the sharps to help dressing at all. To obtain
then for hard wheats a mildcru shing pressure, of only alternatives are the Hungarian method or a slow stone speed and small amount of with wheat as with all other substances ; the harder and less tough it is the more it is
adapted for disintegration by crushing, and requires the more slow and less violent friction surface to avoid heat; likewise as little travel-
ling surface as possible, to save chipping being less required as the hardnes increases.
Strong
with, and is is a most difficult wheat to deal fermenting purposes; and as be injured for four and bran approach each other in tough-
ness, the more difficult will be their ness, the more
tion; the liability to compression, which tells the toughness, the cutting principle has with brought more into play to get clean bran
and free flour, and it should be kept free of felled stuff if possible. Many British millers err greatly in trying to get broad bran the purpose of obtaining free flour up for stones running under 120 revolutions, and much of the grinding done near the eye, some tough foreign wheats defy them altogether to feed as three bushels an hour-the distance between the stones has to be so great-to
avoid felling, or destroy the rotary motion of the flour, that the bran in spite of its long speed is not able to chip the tough fibrous particles enough, and the dressing is slow and difficult, and all this though it was ground al most without appreciable heat
means at the miller's disposal for increasin the cutting power, is by increasing the heart fresh cracking, or increased stone speed. The
latter, though it would be the mos convenient, is very rarely available. On some of those wheats, so easy is the pressure required that the stones can make over 200 revolutions minute without an injurious heat or much ing power, the tough particles are rapidly chipped into shape, keeping up the rotary the bran better, and though it is much cut up in appearance, there is little of that de structive minute pulverization to which the bran of hard wheats is subjected to, amidst the hard rolling particles of flour between close friction surfaces. With the soft wheats he pressure has to be light, with a considerthe rotary motion, and the soft flour particles enable the bran to travel over a great extent of surface without affecting easy separation
afterwards; when ground free with little press-
used immedialely, of all flours, and can be cording to the extent of the crushing
Strong hard wheat requires often almost similar treatment to the weak hard, the cutting power, of course, needing to be brought
more into play with equal moisture, althongh there is the important difference that it can be ground as sharp as wished, if properly treated by the baker afterwards. For special purposes, such as pastry bakers often require it or, light pressure grinding, which, to save the bran, can only be done by the Hungarian tells greatly in its favor speed possible, then freer of dust (or Ivery small particles which abound in proportion to the violence of the shivering) in which state, with the superior time and labor bestowed upon it by the baker, it seems to attain the greatest amount of strength, but the miller, at the same time, is put to more expense from the regrindings resulting from the slow-stone speed.

## Correspondence.

yne's Depot, Ky., July 29th, 1879.-Dear
The fall meeting of the Kentucky Millers' Association takes place at Lexington, September 2d, immediately following the great entral Kentucky Fair, which closes August 0th, thus giving visitors to attend the Fair and Bainention if they desire. President Geo Nationd Nice-President D. E. Roberts, of the W. N. Potts, are booked for addresident, nthusiastic session is anticipated

Respectfully
E. D. Hix.

A flour mill at La Crosse, Wis., was burned July 28th.
Evarts \& Co., millers, Dexter, Mich.
ported assigned.

## \& Bro., millers, Frederick

 Mo., have failed.Thompson, of the milling and bank-
ing firm of S. C. Thompson \& Co., Bomville N. Y., is dead. $\qquad$
Messrs. Burroughs \& Pierson, Flint, Mich. are rebuilding their flouring mill which was recently destroyed by fire.
Mr. Macomber's mill dam, at Elroy, Wis. went out in the late freshet. He has a large force at work repairing damages
Thos. Schuetz, proprietor of the "Unnah Mils, St. Augusta, Minn., is changing his mill from a custom to a merchant mill.

Six thousand one hundred barrels of flour 1,800 sacks of export flour and 11,000 bushels 23d inst.

The flour mills of M. Moak, of Lawrence Kas., P. W. Connelly, of Bayonne, N. J. been destroyed by fire.
The Cincinnati Enquirer's special says that Hyart's flouring mills, together with 4,000 bushels of wheat, at Washington, Ind., were burned July 24th. Loss, $\$ 16,000$; insured in the Niagara and Franklin for $\$ 9,000$
Brandt's steam flour mill, at Mount Joy Lancaster County, Pa., is being improved and having new machinery placed in the different departments. It will be one of the largest mills in the country when completed.
August Zentner, while oiling the machinery in the mill of Fliegler, Wahle \& Haupt, at Manitowoc, July 25 th, was drawn into the machinery and terribly bruised and mangled. His injuries are very serious, possibly fatal.
J. B. A. Kerns' Eagle Mills, Milwaukee, are closed down to the 10 th of the month, to admit of modern improvements, the importance of which the proprictor is always willing to and acknowledge their merit thereof
A great flour mill enterprise is in progress near Harrisburg, Pa. John Hoffer, the well and favorably known miller of that part of Pennsylvania, and others, are building an immense steam flouring mill, at a point on the line of the Pennsylvania railroad, just below
the city of Harrisburg. The new mill is to be the city of Harrisburg. The new mill is to be
called the "Paxton New Process Mill." The building will cover 5,440 square feet of ground, being $85 \times 64$ feet, and will be built of stone. It will be supplied with the most improved "patent process machinery" for manuwill consist fiour. A portion of the apparatus wheels, which will receive force from an enwheels, which will receive force from an en-
gine of 200 -horse power. The operations of the establishment will necessitate the employment of a large number of skilled hands. At present the two mills owned by Mr. Hoffer,
one a water power and the other a steam mill, produce between 200 and 300 barrels of flour per day. The new mill when completed will, it is estimated, inerease the daily production

IT BEATS THEM ALL. Lehmann's Method of Truing the Faces of Mill Stones

Ever since the announcement was made of the novel and important invention by Wm.
Lehmann, of Milwaukee, of a simple method of securing a perfectly true face on mill-stones, great interest has been manifested by millers all over the country. His method is so perfect that, after he has trued up the faces of row of single thicknesses of paper all around on the lower stone, and then let down on it the upper one, and every piece of paper will be held tightyly between the stones. This he has done frequently. Every miller knows the
value of a true face. No patent staff of any kind is required. Mr. Lehmann's method has met with the warmest approval wherever introthe letters which we append below. The firs of which is from George G. Smith, the well known millwright, of the firm of Smith Bros. whom the Millers' Notion under no small obligations for efforts made in their behalf
 your improvement in staffing and truing mill-stones
Itave sen the improvent used, and paid attention
to the improvement it made in the grinding, and found hest meeed anything I have seen. I find that it is the
bot invented and find it entirely new
and novel, and would aheerfully reoommend it new .

 ening the face of a mill-stone, and worth the money
Yours truly, BENNETT, BROS. \& COE.

 entirely. Your method of staffing is beyond any ques
tion the most perfect used so far and in our opinion no
mill can afford to do without it
 that it is the best device we have seen. mell, head miller.
E. R. HOYT \& SON. G.S. Campbell, Fox LaKE, Dodge Co., Wis., March $26,1879,-\mathrm{Mr}$. Wm
LLehmann-Dear Sir: We enclose draft of
the balance due yoa for your method of staffing stones. We can retommend it as being a great improvemen
over anything we have seen. Yours truly,
COMAN \& MORRISON. J.W. Ashley, head miller. Watrerown, Wis. Feb. 26, 1879.-This is to eertify
that we are using W, Lehmann,s method of truing and
facing mill-stones in both of our mills, and find it superior to anything we have yet used or seen, and
foundo on bringing the two faces of the stone together
we could lay paper between each two separate lands and letting the stone downeen none of same courd be with-
drawn. F. MILLER $\&$ CO. W. H. Foote, head miller

 quality of patent flour. And would recommend its use.
Most respecfully yours
Dated
Dated Oconomewoe, Waukesha Co., Wis., Feb. 18, 1879,
 make some money, as you have a valuable imporove-
ment to mill owners. Yours truly, HENRY RODER Read Mr. Lehmann's advertisement on terms are reasonable, and his method is well worth the money asked for it. Address all communications to Wm. Lehmann, 722 Fourth street, Milwaukee, Wis. U. S. A.

## A CARD.

## From Notbohm Brothers.

Impression having obtained that our maT. Smith patents, we herewith append letters which will explain themselves, and can assure our patrons that ours is the safest regarding patents, and more reliable as to merits than
any purifier. any purifier.

Nотвонм Bros., Milwaukee, Wis.
Milwaukee, Sept., 23, 1876. Smilh, Plankinton House, Mitwaukee, Wis. Dear Sir-In your investigation into the validity of the patents of Geo. T. Smith on the construction of Middlings Purifiers, did you find any infringement in the construction N. LaCroix, assignor to us, and ourselves, upon any of Smith's patents upon the construction of his purifiers? Some of our customers using our traveling air blast machines
have been threatened by different parties to pay tribute, two bringing their cases into the courts, one at Springigield, III., the other at Rochester, N. Y., both being defeated, and edging that our machines as now built, are not subject to his rights or claims. You will thereby enable us to place ourselves right and
fore the community. Very truly yours,

- Plankinton House Milwaukee, September 23, 1876
Messrs. Notbohm Bros., Milwaukee, Wis.: Gentlemen-Referring to your letter of in-
quiry of this date, I reply that upon a careful xamination of the various patents issued for my client, Geo. T. Smith, Esq., for infringe fiers, I find no claims which would be infringed by the construction of such machines as de scribed in the claims of the patents to E. N. LaCroix, dated respectively June 3, 1873, and reissue of December 30,1873 , under which I
am informed you manufacture your machines. I informed you manufacture your machines.
I am very clear on this point, and am happy to find one manufacturer in the United States upon the construction of Middlings Purifiers Respectfully yours, Thos. S. Sprague,


## Situations Wanted, etc.

Millers, Engineers, Mechanics, etc., wanting situa
ions, or mill-owners or manufacturers wanting em ployes, can have their cards inserted under this head
for 50 cents per insertion, cash with order. WANTED compeA situation as head miller.
EDWIN PRIAdress correspondence
CDT, P. O. Box 618.

## WA NTEEP-Two young Millers to work in a custom mill; must understand stone dresing and grinding ; to work under a good Miller. Good references are re- <br> (uired, and state what Wages are expected. $\begin{gathered}\text { Address } \\ \text { autf }\end{gathered}$ SITEEASTION SCHAUPP, Columbus, Nebraska.

SITUATION WANTED-An experienced head
miller, having been employed for wany years in the
Austro-Hungarian stam

WANTEN-A young miller who is well posted to
take chargeof my mill. He must thoroughly under-
stand dresing and keeping the stones in order. In
answering this state how long and whers or


 SITUUA FION WANTERD-In either a merohant
or costom mill; have had eight years experienee in the
buinese business and guarantee satisfaction in all branches of
the business; am a single man willing to go anywhere.
Good referencees given ff desired. Parties answering this advertisement please state torms All Alters an-
swered promptly. Address MILLER, Runch's Gap,
Clinton county, Penn. TO MMLLEWNEBRS-Situation wanted by an ex
perienced Miller to take charge of a mill or stone dres
dressing in a new
 pattont flour. Reference furnished from the best of Mil
wauker mil-ownerg if neoessary. Any one in want of
my zervicesp peense address No. 221, Grand Avenue, third
floor, Milwaukee, Wis.
ault




For Sale or Exchange. Advertisements
cash with order.



For SALEEA small Steam Flouring Mill, 23 miles
below St. Lopis, on the Mississippi river and Iron
Mountain Railroad Mow St Lopis, on the Mississippi river and Iro
Mountain Railroad Everything in good running order
Wiil take part pay in oonntry store goods. For particu
C. Wr. FUNK.

PARTVER WANTEED-I have a good Grain
Elevator, , arge enough to run a flouring mill, Would
like a parterer who can furnish the necessary machinery, liike a partner who ean furniish the necessary machinery.
Parties having mills oot paying will find it to their
interest to correspond with me.
jot FOR RENT-I offor for rent my Grist and SawMill


FOR SALER OR LEASEE-For
The Cedar Street Flouring Mill, St. Leuis, Mo. Nears. The Cedar street Flouring Mill, St. Louis, Mo Now New
and in complete running order, having six rung of buhr
and a capoity of three hundred and fifty barrels per
day adjoint the



FOR sAK\&, -Wishing to concentrate my business,
I offor for sale one of my four nills situated at Brecken-

 For sALEE,-"Pearl Mills," at Columbia, Maury
Co, Tenessee, are being offored for sale at about half
cost. They were receotly robuilt, and been since run


sity

$\qquad$

## Cut This Out.

"United States Miller" Snbscription Blank.
We hope the milling friends of the United
States Miller will be as liberal to it as it has been in ther will be as liberal to it as it has been in the past, and will be toward them
in the future. Subscription price, one year $\$ 1$ in the future. Subscription price, one year \$1,
We shall be pleased to have an early response to this. Fill out the blank below, enclose with money in an envelope, seal carefully and send at our risk. A receipt will be sent by return at our risk. A receipt will be sent by retu
mail. Address all communications to the United States Mlller,
Milwaukee, Wis.

Editor of the United States Mlller, Mil-
waukee, Wis.-Sir: Send one copy of the waukee, Wis.-Sir: Send one copy of the
United States Miller for one year, for which find enclosed $\$ 1.00$.
Name..
Post-otice

FOR SALE.
Second-Hand Engines,
MACHINERY,

LOW PRICES!


Bennett's Patent Elevator Bucket.

## DISSOLUTION.

## 

CHEAPEST

## STRONGEST

 BUCKET$\qquad$ Manufaotured.


## -2.

## SMITH BROTHERS, Practical Millwrights.

Plans, Specifications and Estimates made for all kinds of
MILLWORK, MACHINFRY, Fite, Fte.
Flour, Sawmill, Tanners' and Brewers' Machinery, and General Mill Furnishers.

## No. 454 Canal Street,

MILWAUKEE, WIS.
IMPORTANT TO MILLERS.
The principals of a Cork firm (Ireland), long established and largely connected, are desirous to treat with an extensive miller respectfully for supplies of Flour, Maize, Meal and Oaten-meal, for cash, or usual terms with bankers' guarantee. Prompt communication (including best terms) to B. H., office of this paper, respectfully requested.

## EXPORT FLOURR.

We are prepared to furnish the trade with any of our well-known brands of Flour, in sacks or barrels. Address all communications to

## Mlwauke Mlumg Co.,

Milwaukee, - Wisconsin.



## BOTTKED BEER.

VOECHTING, SHAPE \& C0.,
Joseph Schlitz Brewing Company's Celebrated Milwankee Lager Beer Cor. Second and Calena Streets MILWAUKEE bottlers' supplies constantly on hand

# ROLLER MILLS! 

## ENTIRELY SUPEREEDNG MILL-STONES,

Wegmann's Patent Porcelain Rolls.
Grooved or Flated Chilled Iron Rolls. Smooth Chilled Iron Rolls.

All in our Improved Frames, which is the only one made which admits of perfect horizontal and vertical adjustment.
ALL LICENSED UNDER DOWNTON PROCESS PATENT.

## The Reynolds-Corliss Engine

Which has given on trial the best economy and regulation known in steam power.

We shall be pleased to correspond with any parties desiring prices and information relative to mill machinery or steam power.

## Edw. P. Allis \& Co,



Voline 7. 7 . No . 6.
British and Irish Flour Mills.
DEPTFORD BRIDGE MILLS, LONDON.
The owners of this establishment, the Messrs. J. \& H. Robinson, have been long
known in the trade in connection with the Lewisham Mills, and the success they achieved there naturally resulted in the further development of their business, which had taken place in the vicinity of Deptford Bridge.
Messrs. Robinson have been c⿹\zh26龴inected with milling and farming for many generations, the family having owned and occupied a farm in the lower part of Surrey unin the lower part of Surrey unin
terruptedly since 1637, where terruptedly since 1637, where firm were born, and which they continue still to own and
occupy. At the time the Lewisham Mills were started one of the members of the firm, Mr. Henry Robinson, now
President of the London MilPresident of the London Mil-
lers' Association, and Treaslers' Association, and Treas-
urer of the National Associn urer of the National Associa-
tion of British and Irish Millers, was in the United States, but soon after he joined his brother in the management of the Lewisham business, bring. ing to the work the experience he acquired in America, and a large share of that sympathy
with progress which a period of sojourn in that country usually inspires, more especially in those naturally endowed with progressive proclivities. At the time the site of the Deptford Bridge Mills was acquired by the firm one side of it was occupied by an old malt-house, and the other by an old floor-cloth manufactory. The site is convenient for milling purposes, being by a tidal dock, navigable for barges for the reception of wheat. The west side of the building is washed by the
small river Ravensbourne, on small river Ravensbourne, on
its passage to the Thames, but this stream is not available to a great extent' as a means of transit, either for material to be manufactured into flour. One portion of the site, which is all freehold,
was 1867 and firm about 1887 , and the other 1870 . It was originally intended to proceed with the building upon the portion of the site first acquired,
but subsequently the other portion, that occupied by the floor-cloth manufactory, came into the market, and recognizing the advantage of the larger productive power which a more ample building space would place at their disposal, the firm deferred building operations until the additional site was secured.
The building was commenced in September, 1870, Mr. Edward Badger, Blackheath Road, who subsequently erected the fabric of the Royal Mills, Vauxhall, being the Architect. The style is a modification of the LombardVenetian, the material being white brick, with the exception of two stone courses, the winbrick, an arrangement which adds materially to the architectural effect of the structure. The extreme length of the building is 92 feet, the width 66 feet, the height to the eaves 56 feet, and to the poak of the roof 76 feet. The root is surmounted by a vane 19 feet high, and the chimney staek rises from its floor line to a
height of 114 feet. The building has seven stories, the two first, from floor to floor, being 10 and the others 9 feet respectively, and is
composed of two distinct parts, the western portion comprising the mill, and the eastern

the granary, the two divisions being divided by a substantial brick wall and double iron doors. The floors are supported on cast iron columns about 9 inches diameter, and massive wooden beams, which, in the granary department, over the dock, are further strengthened by trussed wrought iron girders, firmly fastened into the side walls, and varying from an inch and a half to two inches in diameter. | inch and a half to two inches in diameter. | the north side, as shown in our engraving. |
| :--- | :--- |
| Although not fire-proof, technically speaking, | The boilers, which occupy a compartment by |

were excavated to the depth of about 20 feet,
and rest upon a solid basis of dry gravel. The foot courses are about 7 feet in thickness, and the walls which rise upon them are of pro portionate strength and solidity. In making the excavations the trunk of a tree was found at a depth of upwards of 20 feet, a human skull, and the skull of an animal of the deer species. A Roman coin was also found.
 on face of inches diameter, and 10$\}$ inches counter-shaft being about 3 feet $7 \frac{1}{t}$ inches diameter. The first length of counter-shaft is 8 inches, and diminishes to 5 inches diameter, the counter-wheels being 4 feet 2 inches diameter, and the pinions 2 feet 1 inch, the millstones making 120 revolutions per minute. The hurst frames are of iron, with iron pans with to the top of the frames, and provided machinery is driven from an upright shaft, which is worked by gearing. The flour-dressing machinery is driven off a main shaft which runs through the entire mill, and is actuated by a strap from the counter shaft communicating motion to all the other shafts, sack hoists, etc. and to all the wheat-cleaning arrangements in the event of der, or should it be under pairs. The power of this pur pose can be taken from either engine. Some of the counterwheels are interchangeable, in two halves, planed together, there being sixteen pairs at work. All the gearing, shafting, and erecting within the mill was done by Mr. John Smith, Grove Iron Works, Car shalton.
In describing the internal working of the mill we combrought to the premises in bar ges by means of the tidal dock already mentioned, and which is continued under the first floor of the granary. The rangement, is diately under the sack tackle by which it is raised to the various floors of the building. From the fifth floor of the granary the wheat is shot from the sacks into bins over the wheat-cleaning rooms, occupying, as has already been stated, two floors, and isolated as we have seen from the granary and mill by a strong party wall and double iron doors with flre-proof roof and floors. The machinery here is driven

DEPTFORD BRIDGE MILLS, LONDON.
care has been taken in the arrangement of the internal structure to minimise the risks from divided from the mill sy a the granary is and double iron doors, and the wheat cleaning department, which extends through two floors of the building, is completely isolated from the mill and the granary by similar means.
The advantages, so far as the safety of the general structure is concerned, of this isolation were strikingly exemplified in a fire which originated in the wheat-cleaning department of the mill on Sunday morning, September 16, 1877. The entire machinery contained in the department was destroyed, but, in consequence of the localization of the fire by the structural arrangement of the room in which it originated-from an unknown cause, the mill being standing still at the time-every other part of the building and its contents were unouched. In the building itself ample provision is made by means of hydrants, etc., for meeting any sudden outbreak of fire, while in the working of the establishment the greatest precautions are taken to obviate the peculiar dangers of conflagration that are incident to flour mills. The foundations of the building
themselves, are three in number, two being of the dimensions of 7 feet 6 inches by 20 feet, and the third 8 feet 6 inches by 20 feet. All these are used for the supply of steam for the engines. The motive power consists of two compound condensing beam engines, each of 40 horses nominal, manufactured and erected by Messrs. Wentworth \& Sons, of Wandsworth. The slide valves are worked by a single eccentric in each engine. The fly wheels are 16 feet 9 inches in diameter, and each weigh about 10 tons. Each engine is controlled by a "Pitcher's" hydraulic regulator, which answers admirably. We may add that one engine was erected in 1872, and indicated by the makers in 1873, when the gross indicated power, with 50 pounds pressure of steam in the boiler, and 32 revolutions per minute, with all work on, was 74 horses, and the indicated power when running empty at the same speed and pressure was only 2.5 horses. The loss by friction, therefore, was under 4 per cent, which fact speaks for itself as to the efflefency of the engine. The second engine was erected in 1875, and has not been indicated.
The first-motion wheel oh the crank shaft is
wheat-cleaning adopted is effective. All the dust attendant upon the operation is driven by the fans of the machines into stive passages, ventilated through air shafts surmounted by cowls, and a few seconds' residence in one of these passages while the machines are at work will convince the visitor that the work is being well done. These stive passages are perfect tempests of matter in the wildest state of commotion, the matter being the various finer impurities that have been taken from the wheat by the different processes of cleaning. From the cleaning machinery the wheat is elevated to the top of the mill, and run into the different bins connected with the millstones.
Turning to the mill, we find in its internal organization evidences of that departure from English traditional methods of milling which have begun to make themselves manifest in this country. Here the departure is certainly not of that extremely radical type which indicates a complete sevgrance from the anchorages which were formerly deemed alone safe.

United States Miller,

## E. HARRISON CAWKER, Editor.

## PUBLISHEDMONTHL

Subscription Price... Subseription Price.
Foreign Subseription
87. 81 per year in advanc
81.50 per year in advance


MILWAUKEE, SEPTEMBER, 1879.
We are indebted to Messrs. Marshall Bros. of Milwaukee, Wis., for a number of late Australian newspapers.

Subscribers changing their location and writing to us to send the Miller to their new address, will confer a favor by stating what Mr. L. O. Dickson, of Athens, McMinn county, Tenn., would like to have manufaclogues. improvements

We will send a copy of the Millers' Text Book, by J. M'Lean, of Glasgow, Scotland, and the United States Miller, for one year,
to any address in the United States or Canada, for $\$ 1.25$. Price of Text Book alone, 60 cents. Send cash or stamps.

## The Milwaukee Chamber

fixed the following as a car loadmerce has Wheat, 20,000 pounds; corn or rye, 18,000 pounds ; oats or barley, 16,000 pounds. These weights have been fixed upon to accomodate in proportion to their weight.

THE great Agricultural Fair will be held in Kalamazoo, Mich., Sept. 23d to 26th, in Na
tional Park. Hon. Frank Little, late tary of the Millers' National Association, is success. The Uvite States Miller hereby returns thanks for compliments extended

The Oesterreichische Gartenlaube. The above named journal is published at of excellent novels, with many beautiful illus. trations of art and of the latest inventions in of this paper is very extensive (some 30,000 per week) wherever the German language is
spoken. As an advertising medium, it is of great value. We would advise our German reading friends to send for a sample copy, and we think they will be sufficiently pleased Address as indicated above

Montana.-Montana, during the past sixteen years, has produced $\$ 153,000,000$ of gold California as a producer of gold. There are already 200 quartz-mines in the Territory. Iron and lead mines have been opened, and coal is
plentiful. It is claimed that the cost of ing herds of cattle in Montana is only 60 cents head. Including taxes, a 3 -year-old beef steer, which will sell on the ground for $\$ 30$, only costs $\$ 3$ for feed and care. The losses in from 25 to 40 cents per annum. In 1873 there were 250,000 head, while 22,000 , valued a $\$ 440,000$, were exported to Eastern markets.

Struck It Rich.-We clip the following paragraph from the La Plata (Colo.) Miner: John W. Collins, of Chicago, a member
the firm of Collins \& Gathmann, dealers in flour mill machinery, has been spending several weeks in silverton and vicinity, and left for
his home last Monday. Mr. Collins has made a host of friends during his visit here, and what is better, has secured by purchase and
bond $\$ 150,000$ worth of mining property, which includes some as fine lodes as there are in the country. It is the intention of Mr. Collins to return to Silverton this fall and he will open and develop several of his valuable
mining interests. mining interests.
We are glad to note this piece of good for tune to Col. Collins. There is no doubt but with his characteristic energy and unquestioned financial and executive ability, he will reap a rich reward.

## No More Elevator Falls.-Chicago ingenu-

 ity seems to have invented a very simple and The bottom of of preventing elevator accidents. tank, and so arranged that a falliug elevator aircompresses the air gently, but completely arresting the violence of the fall. At a trial made at thg Chamber of Commerce, 5,000 pounds of pig ironbeing placed on the floor of the cab, which weigh floor with the eggs and glass globes placed on the down at another trial, one with a basket full of egga and wine glasses, and one with a brimming glass of water; nothing was broken and but little of the water was spilled, and the passengers described the sensation as being like jumping into a hay mow. The rush of air caused by the falling elevator made an appalling noise, but did no harm. Such secure alacrity in

- Exchange.


## Cream City Notes.

The Milwaukee Middlings Millstone Co. have just received a large supply of violet blocks direct from France.
The Milwaukee Middlings Millstone Co. are now making plans for a large mill in Russia. Work is being rapidly pushed on the new mill which is being built in this city by the Milwaukee Middlings Millstone Co.
The Milwaukee Middlings Millstone Co. are now rebuilding the mill of Mr. R. P. Owens, at Auoka, Minn., which was destroyed by fire last spring.
The Milwaukee Middlings Millstone Co. are frnishing five sixteen-inch mills to Mr. C. L. leman, of LaCrosse, Wis.
The Milwaukee Middlings Millstone Co. are efitting the Northwestern Mills in this city.
The Milwaukee Middlings Millstone Co have a number of heavy contracts in Colo-
rado.
The Milwaukee Middlings Millstone Co. are shipping a large number of mills to England. The Cockle separator M'fg. Co. are selling their machines as fast as they can make them, and are working their force to its utmost caTh.
The Cockle Separator M'fg. Co. will have Minn., Cincinnati, O., and Louisville, Ky.

## Walker's Belt Tightener.

INT JOHN T. NOYE $a$ SONS AND THERE SUPER OTt, SAY ABOUT IT.
We are pleased to inform the milling frater nity that we have known Walker's belt tight ener from the first, and that it bore an excellent reputation with unillers of our acquaintance who were using it.
The material and plan of its construction insures durability, stability of form, ease, convenience, and economy in operation, and safety against the wear and tear of belts and heating of journals. We consider it a valuable acquisition in the line of mill fixtures, and recommend it as worthy of favorable consideration and liberal patronage
Since in the spring of 1878 we have pur chased tighteners of the inventor and proprie tor, Mr. Geo. Walker, Hamburg, Erie County, N. Y., to supply mills of our construction in various parts of the country, and as yet having heard no complaint, we conclude that it gives general satisfaction. Mr. Walker is a personall line, during the last twenty years or more him we take pleasure in saying that we regard is entitled to the confidence of all who have occasion to deal with him.
John T. Noye \& Sons.
Ira Wescott.

Buffalo, N. Y., Aug. 28, 1879.

## The German Millers' Verdict.

bodmer's bolting Cloth takes the firs prize.
The subjoined letter will show in what high estimation the Bodmer Bolting Cloths are held by the milling fraternity in Germany. These bolting cloths have given general satisfaction wherever used in this country. They are rep resented by Mr. H. Pestalozzi, of 11 Dey St., New York, who will be happy to furnish millowners with samples and price list:
 Editor of the United States Miller-DEAR Sir:
My Zurich house informs me of the agreeable news that the Bodmer Bolting Cloth was awarded the first prize at the recent Internachinery at Berlin, Germany. The verdict rendered by the jury was as follows: "For a very good silk bolting cloth." This is the high.
est distiction for this article. It is very gratiest distiction for this article. It is very grati-
fying for me to inform you that the sale of my cloth is rapidly increasing. Especially where requirement the Bodmer brand finds chief buyers, and $I$ am glad to state that almost all important middlings purifier manufacturers are customers of mine. Very Respectfully
Yours,
Henky Pestalozza,

America, the Leading Wheat Country
A little over thirty years ago the Republican notes that grain was imported to this country from the Black Sea. During the crop year on which the country is just entering it claims that it is certain that $160,000,000$ bushels of Wheat will be exported to Europe, and the amount may reach $200,000,000$ bushels. The grain is in this country; the only question is one of demand. The demand last year from Europe was for $150,000,000$ bushels, out of a crop estimated at $420,000,000$ bushels. The production this year is larger. It is one-fourth larger in Kansas. In Minnesota the produc tion this year is $40,000,000$ bushels, a large advance over last year, the grain fields of
Southern Ohio show an unprecedented yield, Southern Ohio show an unprecedented yield, wo do those of Iowa, and in Indiana the crop which it stands. The wheat the ground on country is put at $32,000,000$ acres, an increase of one-fifth in two years. The average yield is placed at 12 bushels an acre and the acre age at $31,000,000$ acres, by Alexander Delmar who wrote to the Times in the close of July, after a trip through the wheat fields of the
West, ending at Ogden. The statistican of the New York Produce Exchange puts the average yield at from 11 to 12 bushels, other 14 bushels an acre. Timates carry it up to 13 or made places the. The 36000000 be the largest at $440,000,000$, and a crop of 420 ,000,000 may be reasonably counted upon This is an increase in ten years of $133,000,000$ bushels in the annual wheat production of the country, and an increase nearly equal to this year's harvest, reckoning the. Out of this year's harvest, reckoning the population bushels will be needed for $48,000,194,000,000$ $50,000,000$ for seed; in all, $244,000,000$ leaving, at the highest estimate, $196,000,000$ for export, to which may be added $20,000,000$ bushels left over from last year's crop Whether the European demand will equal the mount of surplus wheat in this country is will unquestionably Republican as doubtful. It will unquestionably equal last year's demand, during the coming year will proffs exported during the coming year will probably reach $\$ 150,000,000$, and may rise to a higher figure. supply of the quantity in the whea vest has been pronounced far under the aver age for weeks past, but recent advices tell a more than an average surplus for export is to be expected, not over $50,000,000$ bushels ; and if this is supplemented by the usual European import of $20,000,000$ bushels faom Roumania and $5,000,000$ from Canada and Australia the total wheat supply which Europe is likely to meive from points outside of this çountry deficie placed at $75,000,000$. The current 000,000 to $275,000,000$ bushels. The demand in England is clearly known. It will amount o about $110,000,000$ bushels. The demand in France can be less accurately estimated. All Northern Africa is in a state of famine, or is producing barely enough for its own supply, leaving nothing for export. This cuts off one French source of supply in Algeria. The crops in Northern Italy have failed, and Italy is importing grain already, instead of exporting it, which closes another region from which France obtains grain. The potato crop in Northern France has generally failed, and the local food supply all over the Republic is deficient. It is a low estimate, then,
which places the French demand for $100,000,000$ bushels. The rest of Europe wil probably need $75,000,000$ more, but may need less. The food supply of a continent is not a thing easily reduced to figures. Moderate es timates, hower, place the demand at a larger igure than the amount of the probable surplus in this country* It will probably all be needed, but our authority is not likely that it will be called for at high prices. This is the presen outlook. Very trifling causes may change the existing condition of affairs in favor of high prices. One thing is certain; no crop of wheat ever harvested in this country will be carried to market more cheaply, and none, therefore, will leave a larger margin of profit cam, (III).

We respectfully request our readers when they
wrile to persons or firms advertising in this paper, to mention that their advertisement was seen in the United States Miler. You will thereby oblige not only this paper, but the ad-

## N. F. Burnham's Turbine Wheel

The economy in the use of water-power by full hydraulic wheel which always receives the full hydraulic pressure through a discharge tank above the wheel, has long ago superceded the more cumbrous and less economical modes where the old-fashioned breast and overshot wheels were used. The great saving in actual power, and certainty of action till the power is exhausted, is known to all practical machin ists. Consequently upright wheels, running on pinions, utilizing the entire force of the water pressure, have become the only wheel in use when economy of power is desirable.

. F. Burnham, a scientific and practical年wright, has been engaged for the past 20 ears in building water wheels on the turbine principle. Since 1860 his wheels have had a ational reputation, and during the intervening period it has been his constant study to power utize chanical imperfection and known metructions in the modes of conon His investigations have resulted in ented from time to time.
He discovered at last the point where durability superceded in importance any possible increase of power, and knew enough to stop hen. The result of his life work is the most perfect and durable wheel for the utilization of water power under all conditions-a tight ead and great volume, or small volume and large-head, ever invented. His latest cata-
logue shows testimonials from first-class firms logue shows testimonials from first-class firms very State in the Union. It gives a detailed


解 (reverse
description of its improvement and peculiar advantages over other wheels made on the turbine principle; full directions for its use, ilustrated with cuts that will give any machin st a clear idea of the wheel and its peculiar oxcellencies, as compared with other upright The accompany
The accompanying cuts give a vertical and logne, ill or orders, catalogue, or illustrated pamphlet, address,
N. F. Burnham,
P. O. Box 513. York, Pa.

The wheat crop is too large for grinding in the United States. It will do its work in the manufacturing of wheat into flour, and the millers will select the best samples possible for milling purposes. The hard varieties of spring wheat have heretofore furnished mill. ers, under the patent process, with the only
rain subject to successful provements in machinery, it is said imwinter grown wheat, of hard varieties, are being successfully used, and yield a better and Whiter patent flour than spring wheat. The Cequisites, so winter wheat seems to have all the skin go, to produce as hard granules and thin proved process of manufacture from the im: wheats could render the proper yield winter the new process, a new adjustment of price

WE call the especial attention of persons
desirous of purchasing milling property，on desirous of purchasing milling property，on
reliable water－power，to the notice in our ＂Sale and Exchange＂columns，of Matthew Bros．Furniture Co．The property they offer is in one of the most thriving villages in Wis－ consin，the water－power is never－failing，the price and terms reasonable，and the title per

## Important notice．

THE PARTY RECEIVING THIS PAPER W
NOT ALREADY A PAID SUBSCRIBER．
We hereby extend to you a cordial invitation to become a subscriber to the UnITED STATES MulLer．We shall endeavor to make it of the
greatest possible use and benefit to the milling fraternity，and no mill should be without it． The best talent that we can obtain in this and other countries will contribute to its columns， lated articles on subjects of interest to the lated articles on subjects of interest to the
craft．Subscription price，$\$ 1$ ．Enclose money or stamps in an envelope，seal carefully，and send at our risk．By return mail you will re－
ceive a receipt therefor．Address

The United States Mileer，
Milwaukee，Wis
John Bull Considers．－The Pall Mall Gazette （London）gives the following serious solilloquy on his wheat：
As the probability increases that all Western Eu－
rope will have to import largely from the United
States during the next twelve－month there io States during the next twelve－month，there is a
sapeculation as to the means of payment that will be be
resorted to． resorted to．When possible，we may be sure，gold
will not be sent，and the experience of the past
cou ne of years points to the employment of Stock
 doubtless thev will be used as largely as possible，
and the opinion seems to be that the currency bonds
of the better railways will come into favor．Already there is more inquiry for these．But this is an
other side of the question，which does not seen for American produce is as great as is now expected
prices mant certanily rise，and American a arricult－ uralists，who have now enjoyed two exceedingly good
harvests in succession，will be enriched by the pro ceeds of a third，disposed of on exceptionally favor－
able terms
of expenditure on whe the oonsequequently scale，and whill the the means crease largely their purchases of English goods
This will directly stimulate English manufacture and indirectly auggent the means of paying for
grain and meat－that is to say，it will diminish the margin to be paid for by either securities or gold
The Board of Trade returns tor June showed that the Americans are already increasing their pur－
chases，and under the circumstances we are now
supposing that they will certainly increase them supposing
still more：

The Paciflc Wheat Fields．
The San Francisco Journal of Commerce，in view－ ing the fuure possibility of the grea：
on the Pacific coast，ruminates thus：
Europe requires $300,000,000$ bushels of wheat this year，but she will not always require them－
wet years snd tempestous will not nal ways destroy
the the harvest．Three hundred million bushels are
more than the equivalent of a bushel for each in－ all the or himmense population wheaten bread－
average per head is four bushels use wheat．The indicate the production of not more than half enough by Earope to supply its people．Europe
this year，therefore if
the $300,000,000$ estimated be true，requires twie as much as she does in or－
dinary years her ordinary need being $150,000,000$
of bushels． hushels is generaily supplied a a a eurplus by Russia，
which the statisticians do not seem to take into ac． count when estimating the crop of Europe．With needs of the world，therefore，may be estimated
$150,000,000$ bushels annually，of which California has never supplied more than 18，000，000－Califor－ nia and Oregon never more than $25,000,000$ ．
But these two states have $43,000,000$ But these two states have $43,000,000$ acres of
wheat lands－CCalifornia， $25,000,000 ;$ Oregon， $18,-1$
 and Oregon，can therefore supply the world of Eu－
rope with 156，000，000 bushels，and the people of The much cour a has ever been shipped there．
That is to say，these two tates of the Pacific coast
can can supply all the usual needs of Western Europe． popuutaion，or one devoren times as large as it now is．That is， population of 350,000 workmen，or over a millifon
of men，women and children，and $2,000,000$ of gen－ eral population．AA a rate of increase of a hiun． twenty years beoporewe reached that．But by that
time the wheat eating population of the world ime the wheat eating population of the world
would nigh have doobledd while a great deal of
what are now wheat lands on this coant，one－third of
huem as least woold have ceased to be used for that
harpose．much cuases to tear therore seem as ir we shall ever be able
to raise too much wheat．
The Introduction of Wheat．－It is difficult in the present day to realize the fact that wheat was
at one time unknown to America，yet prior to the discovery of this continent by Columbus there was no cereal in America approaching in its
nature to the wheat plant．It was not，ob－ nature to the wheat plant．It was not，ob－
serves the Amerian Miller，until 1500 that
wheat found its way wheat found its way into Mexico，and then only
by chance．A slave of Cortez found a few grains of heat in a parcol of co and dowed them to his
sult showed that wheat would thrive well on Mexi
can soil ；and to－day one of the finest wheat valleys in the world is near the Mexican capitol．From Mexico the cereal found its way into Peru．Marie $0^{\text {Escobar}, \text { ，wife }}$ of Don Diego de Chauves，carried a few grains to Lima，which were planted，the en－
tire product being used for seed for several suceese－ ive crops．At Quito，Ecuador，a monk，of the or－ der of St．Francis，by the name of Fray Jodos
Bixi，introduced a new cereal ；and it is said tha Bixi，introduced a new cereal；；and it is said hat
the jar which contained the needs is still preserved by the monks of Quito．Wheat was introduced into the present limits of the United States contempor－ neously with the se

## Latest Statistics of Foreign Trade．

 From the monthly report of the United StatesBureal of Statistics，presented to the Treasury De partment Aug 29，1879，we present the following： The excess ot exports over imports of merchan－
dise was as follows： Month ended July 31,


The exports and imports of gold and silver coin and bullion were as follows
Month ended July 31，1879，excess of im ．
Monts．
Month ended ports．．．．ed．e．t．ended July 31, i879，exeess
seven mont
of exports．

## 

59,900
638,560
$6,58,600$

Twelve months ended July 31,1878 ，ex．
ess of imports．．．．．．．．．．．．．．．．．．．．．．．．
195，500
July，1879，were as shown by the following table：

##  Pudg Richn Salur San Savan Suv

From the above it will be seen that the bulk of foreign export trade is done by the five ocean ports of New York，Baltimore，Boston，Philadelphia，and
San Francisco．The volume of foreign trade is in the order of the places as printed．The favorable balance of trade as between exports and imports is decreasing，as compared with 1878.
The report shows the following comparative fig－ of exports over imports for the month of July， 1879， $89,573,174$ ；for the past seven months，in－
 For corresponding periods of 1878 ，the excess was or July， $810,662,751$ ；seven months，\＄166，317，286； welve months， $8270,893,055$ ．
In regard to movement of coin and bullion the report shows as follows，for 1879 ，ending July 31：
twelve months＇exports，$\$ 5,280,083$ ，against im－ ports of $\$ 195,504$ for corresponding period ending July 31,1878 ．For the seven months ending July 31，1879，the exports were $\$ 7,583,681$ ，against
$\$ 310,055$ in 1878 ．For July， 1879 the imports of coin and bullion were $\$ 59,924$ ，against $\$ 638,566$ in July， 1878.
The total balance of foreign trade，including merchandise and specie，compares as follows：July，
1879，excess of exports，$\$ 9,513,250 ; 1878, \$ 10,024$, 185；for past seven months，$\$ 132,193,466$ ，against months ending July 31 ，the exceess is for 1879 ， \＄288，852，172；for 1878，$\$ 270,697,551$ ．
From these figures，which are official，it appears that the balance of trade in favor of this country is not so large a
apecie is less．
THE following details of the cost of put lic build－ ings is interesting：The St．Louis building，com－
menced in 1872 ，which is now receiving menced in 8872 ，which is now receiving its cornice，
has cost $\$ 4,700,000$ ．The Chicago building，which was commenced in 1873，has already cost 84,900 ，－
000 ，and the last Congress made an appropriation of
8525,000 to complete the building this year．The Cincinnati building，colomenced in 1873 ，has cost
to date nearly $84,000,000$ ，and is the least adyanced
to
 building is about completed，and the Chicago build
ing will probably be completed next ing will probably be completed next year．The
other three large buildings are well advanced and

$, 000,000$ a yean．average of from 81,00


Grain Mixers and Barley Doctors． The grades of grain for storage in Milwaukee are more specifically described than in Chicago，and， on the description，are better than like grades in
Chicago．Nevertheless they do not always sell for Chicago．Nevertheless they do not always sell for
more，and in some cases fail to meet a consumptive demand here，when such is good in that clty．
The difficulty is quite marked in barley．The
Chicago elevaturs were，months ago，cleared of bar－ ley while a fair stock，in bushels，remained here， which nobody wanted．This little obstacle between
the elevators and the consumers is apparent to us he elevators and the consumers is apparen
and is to be removed in a very simple way tion on the part of the Milwaukee Chamber of
merce．It should forbid the recieval，into the vators，of all whest or other grain，under grade in－ pection，known to have been manipulated or mix－
ed，except it be put into special bins，and the receipts or the same so specified．
Chicago，with all her faulta，and they are many， either wheat mixers or barley doctors．The trade condemns itself in its inception．It is intended to
make something bad appear good by hiding it．A person buys a carload of light，shrunken wheat，
weighing 48 lbs．per measured bushel，and hides it by mixing with a sufficient quantity of a better
grade，or if sprouted，smutty or cockled lots can be got，which millers have rejected，by scouring off the defects，and mixing，passes it as sound wheat on
the very millers who had rejected it before．The he very milers who had rejected it before．The
deterioration of wheat for milling purposes by hid－ ing the natural and apparent defects of the grain from the miller are so serious that no miller will order without personal ingpection of a grade where professional scourers and mixers have been free to virgin wheat that has not been manipulated．
It is worse with barley，as on the growing quali－
ties of barley depend its only virtue for malting purposes．Shrunken or bleached grain that is unadulterated swindle on the malster．The receiving of mixed wheat and doctored barley into the ele－
vators under the established grades of the Cham－ ber of Commerce，is destined to work great mis．
chief to the trade in these two great staples．Why not stop it as they have already done in Chicago？ the men to Milwaukee who want to make some every wheat and bariey mixer expects to do；since hense of mixing and handling，thereby injuring the out of the Milwaukee Board of Trade inspection besides．The Board cannot afford to foster this peculiar branch of business．

## Scoured Wheat．

The induatry known as wheat scouring，is depre cated by all flour manufacturers．The Chicago heartily endorse．It says：
The question of＂scoured＂wheat has again been
brought to the attention of the Directors of the Chicago Board of Trade，and it is quite probable that steps will be taken to bring the matter before
the State Board of Warehouse Commissioners whose action the millers will undoubtedy look for
reief．Some time aro we made reference to the process of＂scouring＂wheat and its general prac－
tice among country ghippers．The obiect of scour－
ing the wheat is to clean it thoroughty thus ex－ ing the wheat is to clean it thoroughly，thus ex－
tracting from the grain every trace of what may be termed bogus kernels．＂Grown wheal
once deteriorates its value for milling． once det of flour who values his reputation manu
facturer flour he makes．will tonch wheat so tainted，but be by
the process of＂scouring＂all traces are obliterated
 ready a very large number of grades of wheat，it it
ren thought a separate grade ought to be entabisishect
for this quality．For milling purposes it is prati－
cally useless，and of manufactured the flour made cally useless，and if manuaracured the Hour mad
from it will not rise even though the best hop yeast
Prises Priec＇s baking powder，or any other of the＂rising＂，
powders of the day are used，without atint in the
nneading of it．The complaints of this scoured kneading of it．The complaints of this scoured
Wheat are nit confined to thicago，by any means；
they are requent at Mil they are frequent at Mil waukee，at Minneapolis and
at other great milling centers，both East and West．

A War Cloud in Russia－Russia is at this moment in the midst of great military preparations． Her arsenals ane fors matecty trustworthy Private lell us that she has already a store of amunition sufficing for $3,000,000$ of men．More－ over，in a single year she has cast no less than
twenty－five hundred cannons，on a model newly in－ twenty－ive hundred cannons，on a model newly in－
troduced from England．Against whom are these preparations levelled？Are they aimed at Austrian Hungary or ar Germany y One is tempted for an in
stant to believe that the Russians mean to bring at once to a head the issue which is certain to rise be tween them and the Hapaburg dynasty，with refer
ence to the limits of their respective spheres of ac tivity in the East．But，if our news be true，the sentiment whird Geally governs
jealousy toward Germany，whose influence in Eu－ rope they view with distrust．Prince Gortschako cannot forgive himseif for having with his own
hands pushed the Iron Chancellor to power and having put within his grasp the incredible successe of to－day．Prince Bismarek，on the other hand， he conquered the Baltio provinces．Thus the two great statesmen，allies in the past，rivals in the pres
ent，are linked by this common hope－that by creat－
contend with the socialism of Germany，the other with the nihilism of Russia．That is the duel which Vienne．Germany after Sadowa．－Le Messager de

Fasting．－Hard on the heels of essays treating cuses the opposite error．A large list might be made out of eminent men who while immersed in political affairs，oblivious to all else．If the machine is not kept well oiled it will middl fun down．When we see men long past we may rest assured that they have not been negli－ gent of their physical needs．Pitt died at forty－ seven；Byron，who played tricks with his health，
at thirty－six．Palmerton，who began official life nearly as young as Pitt，but played a noble knife
and fork，died miles the day of his death．And a for Piewenty appetite，he takes extraordinary care of it either in peace or war．Nature is revengeful，and those
who will not take tha assured that they will always have to pay the pen－

A gentleman desirous of purchasing a lion or
hyena might search the commercial columns of the papers in vain for information as to supply，de－ borne no quotable price．The shrewdest trading body seemed to know whel or a rhinoceros．No kept mostly inside cages，were worth．Hence menageries have hourished under a monopoly lif the veil and supplies a want long felt．Hereafter angerie or family pet business of going into the me The market quotations are in pounds sterling．In order to get the animals in taxable shape in by five，which gives the legal tender value of the
animal in dollars．The latest quotations in London are as follows：
Lions or tigers，$£ 80$ each；pumas，$£ 30$ ；leopards，
$£ 20 ;$ cheetahs $£ 40 ;$ black panthers，$£ 150$ ；clouded tigers，$£ 300 ;$ jaguars，$£ 30$ to $£ 40 ;$ ocelotat，$£ 3$ to
$£ 10$, Vivierre cats，$£ 10 ;$ servals，$\& 4 ;$ lynx，$£ 5$ to
$£ 15 ;$ hyenas，$£ 12$ to $£ 30 ;$ Aard wolf，$£ 40$ to $£ 100 ;$ civet cats，$£ 2$ to $£ 10 ;$ paradoxine $£, £ 2$ to $£ 5 ;$
ichneumons，$£ 25 ;$ wolt，$£ 5$ to $£ 10 ;$ silver fox，$£ 10 ;$
coatimundis or raccoons，$£ 2$ ，Polar bears，$£ 25 ;$ coatimundis or raccoons，$£ 2 ;$ Polar bears，$£ 25$ ；
brown bears，$£ 10 ;$ Syrian or black bears，$£ 12 ;$ Ja－ vers，$£ 40$ the pair；porcupines，$£ 6$ each；agoutti，
$£ 2$ ．A rhinoceros costs from $£ 400$ to $£ 1,000$ ；the one now in stock is a young one，and worth about
$£ 500$ ；it feeds，the attendant told us，on＂slopp pig－wash，and passes a serene existence in to meanine－
ment，dividing its time between consuming as it can hold and going to sleep．Elephants are
cheaper in this country than cheaper in this country than in India，an African
elephant being now worth only about $£ 60$ ，and an irs cost about $£ 150$ ，and the South American spec mens from $£ 30$ to $£ 40$ ；a llama or nylgherie will
fetch $£ 30$ to $£ 40$ ，and a zebra is worth from $£ 100$ fromair．Monkeys vary much in price，ranging or orang－outang，at $£ 100$ ．Most of the animals
enumerated above might be found somewhat inger venient in a private menage，but birds are more manageable pets．Those who fancy them may pur－
chase Australian finches，wimbles，Tasmanian dev ils，etc．，at from 8 s to $£ 2$ a pair；while parrots，par－
oquets，lores，etc．，range from 8s to $£ 50$ the parr．

## ONE day a tramp walked into a bar－room

 hampion rat－killer of the States，told the proprietress that，in consideration of a good dinner，he would destroy every rat upon the premises．To this she readily consented，as the house was indeed terribly infested with ．The tramp was marshaled inte e dining room，and enough eatables were set efore him for three ordinary men，which he went through in double－quick time；he then macked his lips and called for something ave lo wash the food down．The landlady ave him a flask of＂old rye，＂and by the timeit was gone he declared himself satisfied，and hing，get me a club，and I am ready for busi－ ness．＂Curious to know how he was going to proceed，and chuckling to herself as she
thought how cheaply she was getting rid of he rats，she soon placed a club in his hands． He rolled up his sleves，rubbed his hands to feel like annihilating a couple of thousand of them ？

Special 23 иsiness Əたtices．



：－

## Tho wia Animal Marteat



3

## 

## 

位 $=$ 
## 號

## 號




號
d．The re－

United States Miller.



## MILWAUKEE, SEPTEMBER, 1879 .

## MILLERS' Association directory.


are about to build an elevator in that city to have a capacity of five million bushels. It will he the largest in the world, and will cost about $\$ 1,750,000$.

The Unted States Mlleer has the argest circulation of any milling journal published in America, and was the first milling
iournal started in America entirely independent $f$ connection of interest with some macline on

## mill-furnishing establishment

Recent correspondence with millers in Kansas indicates that the milling interests in that State are in an excellent condition. In some sections of the State the wheat crop is not as good as it was expected to be, but is
still abundant. The corn crop will unquestionably be immense

-     - 

We would esteem it a favor if some parties who have more than one copy of the Uxited States Mhler for July will send us one. The demand for that number has been so great
that we have but two copies left-not enough to keep up our regular files.

ON a recent visit to Delafield, Wis., we had
the pleasure of meeting Mr. Buck, proprietor of the Stone Mills in that village. Mr. Buck has recently invented a new method of reducing wheat to middlings and thence to flour which he will no doubt bring before the public in due course of time. He feels confiden We call the attention of our readers to the
new advertisement of Mesrrs, Howes, Bab-
cock \& Co., of Silver Creek, N. Y. In cock \& Co., of Silver Creek, N. Y. In
addition to their grain cleaning machinery they are now manufacturing the SLDVER Creek Floctr Packer, which has already entire satisfaction. This Packer is conceded to be the best in the market.
We hope all who receive sample copies of the United States Muler will favor us with
their early subscription. The price-one dol lar per year-is a mere trifle, and ensures you a first-class paper containing a great quantity of matter of direct interest to your trade. Do not delay, but send your order now. Enterprising, go-ahead millers cannot afford to be
without the current milling literature of the day.
Milleres desiring to purchase middlings purifiers will do well to read the announcement of
Andrew Hunter, of Chicago, Ill. Mr. Hunter has long experience in the manufacture of middlings purifiers, owns 15 different patents on them, and claims to manufacture a machine which he can sell for less money antents, good work as anybody. Our readers will do well to correspond with him on the subject.

## Roller Mills.-We desire

to call the attention of our readers to the ad-
vertisement of Ganz \& Co.'s Roller Mills, on another page. These Roller Mills have given great satisfaction wherever they have been introduced. Upwards of 2,000 setts are now in operation in European countries, and their extensive introduction here is only a matter of
time. Millers desiring to purchase rolls would do well to write them for complete catalogues
and prices. Letter postage to Hungary is 5 cents. Address, Messrs. Ganz \& Co., Budapest, Hungary

## Again Endorsed.

Messrs. Collins \& Gathman, manufacturers of the well-known Garden City Middlings Purifier, have lately received the following letter which speaks for itself:
Navvoo, Hancock County, III., July 27, 1879. GExTLEMEX: I am happy to inform you
that $I$ started up the mill of $P$. Welter $\&$ Son, on the 21st, and everything worked splendidthe Becker brush, separator, and last but not least, the Garden City Purifier. I have run
different makes, the different makes, the
others, but find the Garden City runs easy, without waste, and beats them all. There may be others that do as well, but I am looking for
them. Mr. Welter is so well pleased with it them. Mr. Welter is so well pleased with it
on showing him the work that he conclude on showing him the work that he concluded wait the thiry day's trial.
one in this section wants to
den City Puritier works, let know how/a Garor to Nauvoo, and see fet them come to me spectfully yours,

## Export Flour.

how to increase our trade.
To the Flour Mill $\overline{\text { Owners of the United States }}$ -Gentlemen: The already large exports of American flour to European countries, can, by a little exertion and a trifling expense, on the part of our leading millers, be largely increased during the coming year. We have in our possession a list of 604 firms of flour dealers in Liverpool, London, Manchester, Salford, Bristol, Hull, Carlisle, Reading, Glasgow, Bir mingham, Dublin, Belfast, Sligo, Galway, Waterford, Londonderry, Limerick, Cork, Hamburg, Rotterdam, Antwerp, Havre and Paris, and it is our intention to mail the United States Miller to all those parties regularly for the months of September, October and November, and if we receive sufficient encouragement to continue it, to do so. You will readily see that by the insertion of your card in these three issues you will bring your names and goods before these foreign dealers in breadstuffs, and thereby open up corre-
spondence which will unquestionably prove of great financial benefit. For this purpose wo will make special rates to you. Our charge insertion of space occupied, as indicated by this diagram:

If desired you may send an electrotype of four mill to be inserted in your advertise ment. We hope you will respond immediate yo this, with your copy for advertisement, It would be well to mention the names of the different brands of flour manufactured by you United States Miller, Milwaukee, Wis.
the longest Tunnel in the World.The Joseph II mining adit, at Schemnitz, Hun gary, begun in 1872 and finished last October is now the longest tunnel in the world. Its
length is 16,538 meters ; that of the St. Gothard tunnel being 14,920 , and the Mount Cenis tunnel being 12,233 meters, The object of the adit is the drainage of the important gold and silver mines at Schemnitz. It fur nishes a geological section more than ten niles in length, and gives not only valuable information as to the downward prolongation
of the lodes known in the upper levels, but of the lodes known in the upper levels, but
some new ones have been traversed, and the entire series of rocks, with their mutual limits as well as modiflcations and occasional transitions, are disclosed without interruption. The entire cost of the tunnel was $4,599,000$ florins-about $\$ 2,300,000$. Its height is meters ; width, 1.6 meter. By the methods of working employed during the last three years it would have takeu twenty-seven years
to do the entire work.
A Remarkable Escape.-One day recently, as Frank Carr, of West Hopkinton, Mass,, was engaged in sawing in his mill at that place, he liad occasion to lift a trap in the floor, just over the flume which the water lowed into, and through a spout six feet long on to an iron wheel, revolving horizontally,
and which furnished power to move the machinery. The water was about six feet deep in the flume, and the wheel was encased in a close, circular wooden box, within which it revolved with great velocity. Mr. Carr's attention being called away, he neglected to close the trap. His two little girls, the one six and the other three years oid, were playing in another part of the mill, but soon tripped along to the near neighborhood of the open trap, which they did not see, and the youngest accidentally fell into the flume and was carried through the spout into the revolving wheel. At the instant the little girl disap. peared her sister exclaimed, "Papa, Sissy is killed! Mr. Carr took in the situation at the
first glance. He sprang and closed the gate which shut the upper water from the flume, then rushed below and, as soon as he could, removed the covering to the wheel-box. It
took but a few moments to do meantime the wheel had revolved one or two hundred times, and all the water had passed out of the flume. Strange as it may seem, he wheel-box, and uninjured without a serat the wheel-box, and uninjured without a scratch or
bruise. It could not have been los bruise. It could not have been less than ten
minutes that the little minutes that the little girl was in the flume, spout and wheel, and her escape from death seemed almost miraculous.

## British and Irish Flour Mills.

 [Continued from page 71].The new departure is tentatively cautious, but still it is sufficiently pronounced to separate it by a wide interval from the old system. The initial driving machinery is situated on the first floor, and on the same floor are the meal troughs, provided with worms for collecting the meal. The millstones, sixteen pairs, are placed on the second floor, each provided with exhaust produced by an effective fan. On the chird floor are five sets of Weg. man's percelain roller mills, indicating that in the system of flour manufacture practiced die the production and treatment of middings is an important element. On the fourth floor there are four sets of the same machines, making in all nine sets of rollers, employed in the softening of middlings. On the fifth floor the pastrys and wheat bins for the millstones are situated. On the sixth floor are
the middlings purifiers, and on the seventh the silk figs puriners, and on the seventh general view of the mechanical organization of the mill; but in addition to the machines we have mentioned, several of the floors ar devoted to storage and other purposes, includ ing a workshop for the millwrights. The interna organization of the mill is compact and con
venient, all space being rigidly economizeda remark that may also be made with regard to manual labor. From the meal troughs the meal is elevated to the silks, where it is separated into its different component partsflour, middlings, pollards, brans, etc.-Which re treated by the various machines adapted to each. The middlings, after dusting and purification in Nagel \& Kaemp's centrifugal machines and middlings purifiers-the latte being Messrs. Childs \& Sons' "Excelsior," and Messrs. Dell \& Sons' "Economic"-pass to the rollers for softening, the flour being dressed by Nagel \& Kaemp's centrifugal dressing ma chines. Such is a general view of the system of manufacture practiced at the Deptford
Bridge Flour Mills. There are many details in the There are, of course nected with the work whins processes consons, we have not touched upon. In notices of this description, indeed, there is no neces sity for any minute particularization of processes, as they are addressed to readers whose
practical insight is sufficient to enable them to infer particulars from a general exposition of the principal processes indispensable to the proper manufacture of flour. Our view of the mill is taken from the south-west side of the building, the point of view being the most effective that could be selected. It is a capacious and handsome structure, in all respects worthy of its metropolitan position and its enterprising owners.-London Miller.

How to Cook Crushed Wheat.-Two teacups of crushed wheat to four cups of boiling
water. Stir it till all the water. Stir it till all the lumps disappear, then
put it into a steamer, put it into a steamer, or double boiler, or far-
ina kettle. It can be cooked so as to be table iul. It can be cooked so as to be palacooked thirty minutes, but it is much nicer or doublee or four hours, and in a steamer without burning; but if simply boiled it cannot cook to perfection without drying on the kettle, occasioning much waste. Crushed wheat, if steamed, may be cooked in milk in-
stead of water, and be improved or cold, and eat with sugar and. Serve warm it becomes cold it may be re-warmed in a steamer; but never break it up. It is not nice fried, but it may be cut in slices and put into crushed wheat, whortleberv. When cooking crushed wheat, whortleberries may be stirred in fifteen minutes before it is done; but do
not break the berries while stirring not break the berries while stirring. Dried and the be used, but must cook an hour, made plain. Raisins and dates are sometimes used, but we do not think them very agreeable. -Christian Union.

Under the present condition of affairs it is impossible for Great Britain or France to compete with the United States at wheat raising. Our fresh new soil will produce more and better wheat than the long tilled fields of Europe. Our labor-saving machinery for tilling, sowing, harvesting and handling grain, will offset the cheap labor and lack of use of la-
bor saving machinery in bor saving machinery in Europe. The compe-
tition between tition between transportation lines of all kinds
between the West and the seaboan between the West and the seaboard, and be-
tween the seaboard and Europe puts the pre of frieght to wheat export can be changed to flour export

## GRAIN.

pecullarities in its Normal and Manufactured State

An Investigation Under the Microsocop-Showing the Adulterations and Natural Evils

COMPLETE INVESTIGATION of the subject by one of the leading chemists of europe.

Flour in General-wheat Flour-Rye Flour -Barley Meal-Oat Meal-Indian
 uced by our special engrav

## [Continued from August number.]

Fig. 18 is the microscopic representation of a sample of Cones Flour which consists of a mixture of wheat, rice and bean meal. (Compare the microscopic representations of the several pure flours.) The flour of "Durra" (Sorghum vulgare or Holcus sorghums. Durra sativus) called millet of Mauritania, negro or Caffrecorn, is used for the adulteration of flour, especially for that of wheat flour. This admixture is discovered by the microscopic examination of the starch particles and the fragments of the husks of this plant. The seed of this negro or Durra corn is surrounded by three membranes, , the starch particles which are similar to those of maize are much larger, however, and in their center show a
star-shaped figure. Fig. 19 is a representation of the husks and starch particles suitably enlarged. Flour in times of failure of crops or famine is often adulterated by the injurious admixture of the flour of the chestnut and acorn, but also of still less suitable materials. At the time of the famine in Koenigsberg in 1835, the flour for bread was mixed with the pollen of the aments of the hazel, and by the use of it a violent dysentery was caused; in India a kind of vetch (sweet vetch), Lathyrus sativus and cicera, was taken which caused a particular species of paralysis of the thighs, when more than a twelfth part of the flour consisted of this material. The wheat-flou lestined for exportation into foreign countrie is not unfrequently mixed with the ground kernels of buckwheat (Polygonum fagopyrum) millet (Panicum miliaceum), cow-wheat (Mempyrum arvense), horned or yellow medic or kidney-vetch (Trifolium arvense), and of cock's comb (Rhinanthus major). The adul eration of wheat-flour with that of buckwhea may already be discerned by the external ap pearance of the flour; it is less velvety and soft to the touch, dryer, adheres less to the fingers, and has a less agreeable and much more acrid odor; here and there small frag re owing to the seed hure observed whic In general the flour appears of a soiled dull white color and will pass through the hair sieve, in washing out the gluten, more readily than pure wheat-flour. When the flour that settles first which is that of buckwheat is examined with a microscope, it will appear as is represented in Fig. 20, slightly magnified. It forms those small lumps and 59 of the buckwheat flour which has been washed out, will, when dry, yield 0.120 grammes ashes. The separated gluten of such a mixture of wheat and buckwheat flour, when moist, will appear of a blackish gray color, when dry it looks black. A chemical examination has also been tried, especially since rye, barley, etc., contain much albumen but less gluten; so Rodriguez has recommended a process which we need not here explain, however, since it is not exact. To discover an admixture of Indian corn meal, if a microscope is not at hand, the method of Manviel Lagrange may be applied, whereby it is rendered possible to discover, an admixture of Indian corn up to 4 to 5 per cent. Namely, when to such suspected flour diluted nitric acid is added, and then a solution of carbonic kali, if there is any maize present, yellow flakes will form themselves which after the escape of carbonic acid are surrounded by orange colored spots. In the same way the addition of a very much diluted solution of corrosive kali to the suspected flour will render the color of it yellow as soon as there is maize in it. Chemically to discern rye-flour in wheat-flour, Cailletet recommended the following process: 40 to 60 g , of the flour are well shaken with double the volume of ether, and then the latter is separated by filtration and evaporation of the residuum in a porcelain plate. A greasy solid mass will then remain; a mixture is made of one volume of nitric acid of 1.85 with the same volume of
water and twe volumes of sulphuric acid of water and twe volumes of sulphuric acid o

1,84 and then this is added to the greasy resi duum in the ratio of 1 kcm ., and this is re peated until 20 g . of the flour have been treated; appear from the fatty oil of the wheat, but dark red color from the fatty oil of the rye, color ranging between the two on the other
he form of a plate when put in a saucer, ha a yellowish light color and resembles purified glue. If there is rye-flour among it, the gluten will appear slimy, uneven and blackish, become porous, adhere to the fingers, and when put on a saucer runs over the whole sur

hand, when wheat and rye-flour have been mixed. It has further been discovered that by the quantity of ashes contained in the different kinds of flour, foreign admixtures may be discerned, since good bolted wheat-flour, previously thoroughly dried at a temperature of $100^{\circ}$ Celsius and then burned to ashes, will give a fixed and definite percentage of it.
of assistance for the microscopic examination. alvany who first practically busied himself with the subject already observed that the flour of legumes deprived the gluten of grain of its adhesion, and took away its elasticity rendering it capable of passing through a hairsieve which it can otherwise not. Orfila repeated these experiments, and discovered that the gluten was put into a state of great divisibility by the legume of flours. Galvany also observed that a mixture of 7 g . of bean meal or 8 g . of vetch meal with 20 g . of grain flour was already sufficient to make it impossible to distinguish the gluten. We omit the methods of examination of Rodriguez and Cavalie rec ommended in France since they are neither precise or satisfactory, but we will here men. tion several other methods which by compar ing their respective results may become pretty safe expedients.

Selection of Burrs for Grinding Wheat.
Among the many things in buirding a flour mill, and one which is of importance, is the selecting of the burrs. Millers may differ somewhat about this, but at the same time there is a common sense view that should govern. My view is, a rather gritty, tough, closed, light cream-colored, old stock is the best for wheat. This quality of burrs is the most preferable because it is more free from openness, or what is called honey comb, and is of fine texture, and is posessed of tough nature, and will not shell or crackle when being ture, and will not shell or crackle when being
cracked. It is one grand point gained, to be sure, to have a mill-stone that can be cracked fine, and not crackle the face of the stones between the cracks. Not so with the light blue flint stone. The blue stone will crackle when being cracked, and is void of a grit or sharpness, and will easily glaze over and become slippery. A slippery stone rubs and heats the grain, but does not granulate; flattens the particles, but does not round them. Good flour is composed of rounded particles, while flattened flour is clammy and dead.
A porous or open stone is also a bad quality of burr for wheat, and for the reason that the bran turns and returns over in the honey comb cells, and is caught edgewise and sheared to atoms, and is bolted in with the flour. This open quality of stone wiil grind faster, perhaps, than most other kinds, but will put more specks in the flour than any other, and the blue flint will make a more brown, dead flour, while the tough, gritty, light cream stone is a stone that is the most free from cells or glossy surface, and will grind the meaty part of the kernel into a fine, round flour, and leave the bran broader and cleaner than any other quality of burr. My experience has taught me this, and I am warranted in recommending what my experience has taught. I recommend that every miller and mill-owner be wise, and use with their experience a good degree of practical judgment, when selecting burrs for flouring mills. Common sense and good judgment will go a good ways, with the help of experience, in filling the pockets or the mill capitalists in this direction. Every miller desires to get rich. To do so he must make the best possible selection of mill materials, materials the most skillfully made up, and use the best tools to do it.
Velocity of Water in Siphons.-The velocity of water in a siphon does not depend upon the depth of a well, or the length of the siphon under water, but on its height and the difference between the height of the water in the well and the lower opening of the siphon from whieh the water discharges. If there were no friction or inertia, the velocity would always be equal to that obtained by a body falling freely through that height. For instance, let the discharging opening of the siphon be 15 feet below the surface of the water in the well, then the water flowing out would have a velocity of 30 feet per second; but it is always considerably less by reason of
the inertia and friction of the water against the tube. The amount of this retardation is difficult to determine exactly, as it depends upon the width of the tube, the smoothness of its interior surface, its more or less sharp bends, and ths height of the siphon. Thus, a siphon that discharges the water 15 feet below
its surface, will discharge most and be nearest to the above statement when it is very wide and very smooth interiorly, when the bend is like the arc of a large circle, and also when the bend does not rise much above the surface of the water. On the contrary, the velocity
named is moro or less retarded by the pipe named is more or less retarded by he pipe bharp angles, and by having to raise the water to a greater or lesser height before the descent eparated from the flour. The gluten of
heat-flour is thoroughly uniform, spreads in
admixture of maize, the gluten is yellow, not slimy, but rather compact and will not spread itself over the saucer. These differences in the gluten may already be discerned even when 5 per cent of foreign flour are mixed with the wheat-flour. Very often wheat-flour is mixed with the flour of the legumes, peas, lentils and beans. In general there is already causo


Fig. 21. Buokwheat flour magnified 50 times.
for suspicion when the flour looks uncommonly glossy, the smell and taste also indicate the presence of flour of legumes. The micro scope is a safe and infallible expedient in this case, and we refer to the picture of the starch particles of peas, lentils and beans and Fig. 16. Chemically a great number of methods have been recommended, but these are party ontirely unreliable, partly they are only means

Ohio Millers' State Association
The third Annual $\overline{\text { Convention of the Ohio }}$ Millers' State Association was held at Akron, on July 8, the President, Ferd. Schumacher, in the ch,
present.
The President opened the meeting with his address, which was as follows:
Gentlemen: In this, our third Annual Con-
vention, the one important feature to sidered is the compromise by the Sub-Executive Committee of the National Millers' Asso-
ciation with the Consolidated Middligss Puriciation with the Consolidated Middlings Puri-
fier Co. It was reported at Chicago to the fier Co. It was reported at Chicago to the
Convention within half an hour of its adjournConvention within half an hour of its adjourn-
meet, and although indorsed almost unanimeet, and although indorsed almost unani-
mously, has been, and is now the cause of
considerable dissatisfaction. tive Committee had left the whole matter, as
well as the Downton claim, subject to the final decision of the Supreme Court, no fande
could have been found. It must be admitted, however, that the interest of the members of
said committec is is ientical with our own, that
undoubtelly undoubechy they have acted in ancordance
with their best judgment, and having once in-
dorsed and thus morally tained the claims of the Consolidated Midd
lings Purifier Co., we have have no choice bu to sanction the arrangement, or bid farewell to
the National Millers' Association. For one, am not prepared to do this, but to one,
against a similar state of anfairs in future, and
to preserve the integrity of our National Asso to preserve the integrity of our National Asso
ciation, I deem it my duty to add that by the
terms of its new constitution the "Sub-Com-
mittee of thee" is mirtare executive power that thed should such be
arbitary
modified or its decrees ought not to be bind ing until after due and ought moture to conside bind
ing
they shall
cutive Co endorsed, not only by the Exe cutive Committee as a whole, but also by two-
thirds of aul State organizations, or two thirds
of the number of burrs represented by the
National Association. An amendment to this
An effect to the National Constitution seems ad
visable. To those who appreciate the value of the
National Association it is no satisisfaction to be
told that they may reject the proposition and told that they may reject the proposition and
contest singlehanded, claims, the merit of
which the National Association was formed which the National Association was formed
and supported to establish or reject.
If you look upon these questions as I do, it
will be your duty to indorse will be your duty to indorse a constitution
upon a strictly legal basis, for the defense of
its members, so to be in harmony with the
the National Constitution and also to elect a member of the Executive
Committee, as well as a new presiding officer of this $\Lambda$ ssociation, from the duties of whicer
I earnestly desire to be relieved, that an abler man, who can and will devote more time to
the duties of the office, may be elected, for I
am free to admit that the mille am free to admit that the ming be electeded, for I Ithe great
State of Oino are not as fully represented as
it would seem their own finterest gest.
According to Toledo estimates, Ohio is yet
in arrears, which may and should be covered. But, as I said in Chicago, this failing, amecen.
vinced that the only true way is to reassess all States in accordance with the actual number
of burss represented.
I desire to refer this whole matter, with
some inmportant correspondent some important correspondence, touching upon
these several subjects, to a committee, which
also might be intrust of officers. It is to be hoped that thination and
our several standing committees will report promptly; but if some of the latter are not
prepared to do so, the very full reports of the
Chicaro Chicago and Indianapolis Conventions are
available for discussion.
The President's address was adopted by the private correspondence which had passed be-
tween himself and Mr. Seamans and Mr. Seybt.
promise, and tried to more fully explain the the National Association. After these were read, a Committee was appointed to report
upon the adoption of a constitution to conform with that of the National Association.
The Committee was composed of the follow ing gentlemen: Mr. Baldwin, Mr. Camp, Mr Griflith, Mr. Colton and Mr. Schumacher. pointed, consisting of Mr. Hardesty, Mr.
Brown and Mr. Turer Brown and Mr. Turner
The Treasurer then made his report, which showed a balance on hand of 8297.46 . No
new members have been added since last re port, and but 23 of the 68 members have paid the assessments made by the National Assois represented in the Association, fully paid
up. T meeting then adjourned watil half-past one
o'elock. 'clock
On reassembling, the President called for by Mr. Barney, as follows :
The following resolutions on the subject of railway discriminations were adopted by the
New York Board of Trade and Transportation New York Board of Trade and
at a regular meeting, June 10:
Whereas, The general prosperity of our
country is largely countryy transportation fair and on a syitabsem in of its
rall operations
ness ; and

Whereas, Through combinations and conUnited States, whe principal railroads of the been effected through have not infrequently lous methods, a comparatively few persons have secured almost absolute control of these highways of commerce, and have, to a great extent, used them to further their private
ends, ignoring the rights of the public; there fore
Resolved, That this Board affirms its convictions that Federal and State railroad conmissioners should be appointed at the earliest practical day, clothed with such legal power
as would enable him to protect the rights of the pople.
$R$ Resolved
Resolred, That this Board tender its thanks to the Hon. John H. Reagan, of Texas, for the
reintroduction of his bill, appointing reintroduction of his bill, appointing United
States commissioners to regulate inter-State commerce, and that this Board will use its in
fluence in aid of its passare. We in aid of its passage.
seech of Edmund Smith, Vice President the Pennsylvania Railroad Company:
"The great cardinal principle which should pervade this question of rates is that the rate
on the same class of goods for the same tity for the same distance should be the same

## to every one," We cheerfu

that however low a rate we may socure, if lower are granted from distant points West of us, it does not benefit us. We hold that all
through transportation should be based on so much per ton per mile. Every shipper and are what we desire more than low rates, and we hope to be able to show the different transportation companies how this can be accomin fact, with mutual benefit. In our locality,
where there is no great capital invested in where there is no great capital invested in
elevators and warehouses, place wheat in a different class of freight than flour and feed,
only a siight figure ligher; this would give only a siight figure higher; this would give
the mills the chance to manufacture all the wheat in our State, and we have the ability to do so, but, under the present state of facts,
the mills cannot sustain themselves wheat buyers, who can order in cars on any
siding, fill them, and on the receipt for same siding, fill them, and on the receipt for same
get a discount on the bill of lading get a discount, on the bille of lading, and so
proceed. In this instance proceed. In this instance, not a dollar of
capital is required. The millers have large capital permanently invested, subject to ruin-
ous risks, constunt expenditures ments, patents, and handicapped in many roads double freight on the same give the railto and from our mills, then, too, we could fur nish constant regular freight the year round As it is now, a few days of commotion, un-
usual demand for cars, and the wheat has left our country, and our mills must lie idle much
of the timeplacing wheat in a different class from what it is now rated. We demand this on the assurand that our business is not paying us in proportion to the risks and expenditures we hav maintained on wheat and flour, rebate of freight paid by us on wheat t
our mills. We ask only for if we cannot sustain ourselves as ind ividuals and associations we will not demand assist. pressed to you one year ago, for a through
rate of freight on wheat from the We seaboard at the custom from the west to the sion to manufacture it in transit, paying for
all delay incurred. With such an arrang ment every mill in our State could and would opinion that the year round. We entertain the last year benefitted us to our association the
lo extent hardly to
have been transportation are better than ever before ; that with slight modification we will secure mutually beneficial.
Mr. Barney's report was voted upon and adopted without any further remarks being made on this subject.
The new constitution was the next business before the meeting, and the new con-
stitution, as adopted by the Minnesota State Association was taken as a basis. Copies of this constitution were circulated among the members. This constitution which is the same as has been adopted by all ince state Associations that have met since the last National Convention in Chicago,
was read by the Secretary, Mr. Colton, and was voted upon by sections first, and was then adopted as a whole. The only changes made were in Section 2, which was amended so as lo give the power of setting the time and place of the meetings into the hands of the President and Secretary; in Section 4, in adding to the clause. "The Executive Commitmittee be authorized to arrange with the owners of meritorious patents for reasonable terms for the use of the same by members of this association," the words, "Subject to the ap-
proval of a two thirds vote," Further altera tions, consisted in changing Article 9 so as to give members the privilege of withdrawing from the agreements contained in the consti tution at any time, provided that said member has paid up all assessments made for the year then pending. Article 10 of the constitution, as adopted, and which refers to the admit tance of new members was changed to read.
"No member shall hereafter be admitted to preceding section, without paying in thell the amount of all assessments theretofore paid by the then existing members, including the amounts paid by the members of the State $\Lambda s$. sociation as heretofore organized; provided, that the Executive Committee shall have the
full power to admit as members any mills not full power to admit as members any mills not
benefited or protected by the expenditure up to January 1,1879 , on such terms as they may deem equitable, and also to reject any applisufficient.
After adopting this constitution, which har monizes the Ohio State Association with the National Association, the report of the Com mittee on Nominations was called for. The committee recommended that the old officers ing with the approval of the millers, the old officers were all re-elected by popular voice The business of the Convention then being at n end, after some informal and friendly talk the President announced the meeting adjourn ed sine die.:

## THE WHEAT BOOM.

How It Is Affecting Philadelphia Shipping Interests.

## Starting Figures Which Evide

"There has been a heavier wheat export business this year from the port of Philadelphia than ever before," said Collector of Customs Tutton yesterday. "To be more explicit, and as a fair sample of the tonnage sent abroad," he continued, "there were exported from this port during the month of July, 1878, 1879, thenhels of wheat ; for the same month, 1879, the amount has increased to $1,064,549$ during the more than four times as much as in such a hurry to reload that they have are this office for the privilege of unloading at night.
The subject of Collector Tutton's remark was corroborated by shipbrokers. Some of them admitted that there were not enough vessels in port to supply the demand for wheat abroad-a demand that was due to the failure dom wheat crop in France, the United King ioned country Portugal. In the first-men estimates that the expenditure of $£ 20,000,000$ will be required to make good the deficiency

The Why and Wherefore.-Many of the vessels, also, that usually anchor at this port have gone to New York and Baltimore, where, is said, a larger sum is paid for chartering Eurone The present scant supply of wheat in urope is owing to the small stock of last
year's crop on hand, and the "scarcity is in been said, failures in the rop, and although the latest advices are more cheerful regarding the harvest, on the Continent, still the falling off from the average crop will necessitate a vast consumption of Ameri. can breadstuffs.
The wheat now being exported from the United States is chiefly last year's crop. The product of 1879 will not be put upon the marof November. Minnesota, Iowa, Illinois, Ohio and Indiana furnish the larger part of the wheat in elevators and on cars in the seabord cities, and it is estimated by statisticians that if the entire surplusage of the wheat crop of the United States for the present year were shipped it would, without addition, feed twice the enire population of the Eastern Hemisphere.
Regarding Transportation. - Naturally the price asked by shipowners for the loan of their vessels has advanced with the foreign demand for wheat. The ship is hired or chartered by its capacity to carry so many quarters-eight bushels-of wheat. A vesse carrying 3,600 quarters could last year be obtained for 5 s d d per quarter, to go to a Continental port, Cork, Portsmouth, Falmouth, or
Plymouth for orders-the last two Plymouth for orders-the last two words mean ing that the vessel must stay at either one of the three last mentioned ports until she receives orders to go elsewhere. Possibly the Kamschatkans may have run out of wheat or chartivated an appetite for biscuits, and the charter-party may think there is much profi in sending a cargo of breadstuffs to that bleak and sumless territory. If so, the captain weighs anchor for Kamschatka. If he is not ordered to go somewhere within a certain time the party chartering pays him for "lay" day -in other words, the owner is paid for his time.
An Official Opinion.-There are no ves sels at present to be chartered. At least, this sevar was told a Press reporter yesterday by several gentlemen interested in the business
ous disinterested landsmen. It was further remarked that a 3,600 quarter vessel would command from " 5.9 to 6.6 , possibly 7 , spot, and 5.4 to 6 , to arrive."
'An enthusiastic broker explained the al. gebraic quotation as follows: It meant that a hip carrying 30,000 bushels of wheat, if at his port now, on the spot, would be paid from 589 d to 6 s 6 d per quarter to carry a cargo of Wheat to a direct continental port, Cork, Ports
ders.
"Supposing they carried more than 30,000 bushels ?"
"Then the rate is generally lower; but it is about the same whether they carry 30,000
bushels or less." "To any port ?
Tricks of the Trade.-"Oh, no; distance
has something to do with it. The price is greater to the ports of Spain, Portugal and werp, Bordeaux or the Hague., than to Ant"How mardeaux or the Hague.
"How many days will an average sailing vessel consume in going from Philadelphia to Liverpool and back?"
"Barring accidents, seventy days; ten of which will be devoted to loading and unloading, and sixty to her trip across the ocena, "
"The broker doesn't
; he simply acts as the cargo?"
No; he simply acts as middle-man between
speculator and the owner of the vessel. It the speculator and the owner of the vessel. If a bargain is made, a contract cements the obligations of both. Once clear of this port, the broker has nothing further to do with the ves sel. Everything is under the captain's orders, subject to the conditions of the contract."
"Is this activity likely to be prolonged?"
I think so. However that question can be more satisfactorily answered when the status of the foreign wheat crop is more a matter of fact than of speculation.
"Then Mr. Keene, the great wheat cornerer has not been the only fortunate adventurer in heat?"
How to get Rich on Wheat.-"Not by any means. While he has been the most extensive, there are other millionaires who have also profited to an agreeable extent. Lucrative business? You can make the calculation for yourself. Here are to-day's 3 o'clock Liverpool quotations: California wheat averages, St 6d to 9s 7d; red Western spring wheat, 7s 10 d to 8 s 9 d ; red winter, 9 s 2 d to 9 s 3 d . In other words, wheat sold in Liverpool yesterday at from $\$ 2.04$ to $\$ 2.22$. Here the range is from $\$ 1.08$ bid to $\$ 1.08 \frac{7}{8}$ asked. Take 6 s as the average cost of transportation per quarter, which would be about $\$ 1.44$ for eight bushels, or 18 cents a bushel. This would make wheat delivered in Europe cost $\$ 1.26$ for every four pecks-about 96 cents a bushel profit by that
calculation. Of course, there are other items calculation. Of course, there are other items疗 should think."
The panger's of the Deep.-"A wheat cargo is liable to all kinds of accidents, ship foundering, heating the grain, etc., is it not?" "Of course there is a risk that the ship will位der. But that may happen whenever an incompetent officer, a rough sea and sharp rocks come together. But this is not taken largely into account by mariners. The great fear is that the wheat in bulk will heat, and in-
stead of selling for No. 2 red Western, the market as damaged and only fit for the distillery."
"Can America compete with Russia in the Buropean grain trade?"

That depends. I think she can. If, however, Russia this year raises a crop of wheat beyond her own demands she will, of course, look out for some other market. How far she will carry her search for that other market de pends upon the amount of stock she has on hand. The United States, because of the im mense crop ot the can afford to risk largely in finding an outlet for her cereals.
And thus, from imformation obtained, there fore, it appears that not only the iron and sugar market are on a boom, but also that the wheat market, like this year's growing crop, is heading out tremendously.-Philadelphia
Press.

The newest thing in machinery is a device for tracklaying. It has been successfully used on the Central Pacific and other railroads. It consists of an application of a system of adjustable ways, on each side of a train of flat cars, by means of which the rails are brought forward on one side and ties on the other, in a forward on one side and ties on the other, in a
continuous stream, and delivered to the track

## Durant's Adjustable Tally.

The inventive genius of millers has been exercised during the past decade more than for the preceding century, and anything possible to save or lighten the labor of the miller is considered of importance. Among the many inventions of real value, we are pleased to note the Adjustable Flour Tally, invented and manufactured by Mr. W. N. Durant, of Milwaukee, Wis. Mr. Durant has studied and experimented for a long time in order to produce a machine which would be simple and durable in construction, and register accurately and automatically, eighths, quarters, halves and barrels of flour, as it comes from the flour packer. We present herewith two illustrations, Fig. 1 showing the interior view of
the Tally, and Fig. 2 the Tally in connection the Tally, and Fig. 2 the Tally
with the Eureka Flour Packer.
 barrols to halves, quarters or eighths; $\mathbf{1}$, pinion wheel
connecting a chain of gear wheels with $\mathbf{C}$, and operating the hand on the dial indienting fractional parts of a bar-
rel $;$, wheel operating hand on dial indicating whole
tarres
 Fig. 2), $\mathbf{Q}$, an adjustable bolt attached to platarm of
packer, and operating the Tally; $\mathbf{R}$, box enclosing


In connection with the Eureka-Packer, the Tally works as follows:
As the platform of the Packer moves down, the bolt,
Q, catches on the point of $\mathbf{\Theta}$, and carries it down till $\mathbf{D}$
 Dand conneection back to its former position. Lever
$\mathbf{D}$, moving from the top to the bottom of guage $\mathbf{M}$, causes the ratchet-wheel and wheel $\mathbf{C}$ to make one-
ffith of ${ }^{\text {fan }}$ revolution. The pininon I being one-fifth as large as C, makes one revolution; $\boldsymbol{J}$ being ten times as
large as I will make one-tenth of a revolutien, and tally one barrel.
If the $p$ in
will vibrate only from the pin to the bottom of the gauge, and cause wheels $\mathbf{A}$ and $\mathbf{C}$ to make only one-
tenth of a revolution, the pinion $\mathbf{Y}$ will move one-half around and tally half a barrel. If the pin be placeed in
the $\delta$ hole, wheels $\mathbf{A}$ and $\mathbf{\sigma}$ will make one. the $X$ hole, wheels $\boldsymbol{A}$ and $\mathbf{C}$ will make one-twentioth of
a revolution, and $\mathbf{I}$ will move one-quarter around and tally a
eighths
As the
As the platform of the Packer goes up, the bolt strikes
on the bottom of lever $\mathbf{0}$, and lifts it up sufficient to let the bolt pass.
The device for changing these machines to tally barrels or fractional parts of a barrel is very simple, and it takes but a few seconds to make the change. It is impossible to set these tallies back, and when they have tallied up to their capacity, they will set themselves
and commence over again. They are made entirely of metal, which renders them strong and durable. These machines are made of the best material, and by good workmen, and, if properly adjusted, each machine is wARranted to tally accurately each barrel or sack as it is being packed. An attachment
for the Packer accompanies each machine; the wooden box that covers the tally is se cured by lock and key. This box prevents strangers from meddling with the machine, and it also forms a guard around the connecat a each day, month or year, and in taking a yield much time and trouble is saved. They can be attached and put in accurate working order in fifteen or twenty minutes.

IT has been estimated that Europe will pay out, during the coming year, $\$ 600,000,000$ to foreign countries, and of that, one halt at least will be sent to this country. This is an encouraging prospect for the United States. Among the industries which will receive the largest benefit is the flour milling industry, Already our flour exports have reached enormous proportions, and they are steadily increasing. It is said that a successful bran packer and package have been invented and that exports of bran have already been made. Should this prove true, it will be a very important trade in the near future.

## A Mammoth Grain Depot.

In San Francisco, from which point our bulk of the grain is shipped, huge warehouses are placed at available points on the city front, convenient to the shipping, and in positions where grain may be landed from barges wifhout too much handling. The most extensive and complete enterprise of this character is the warehouse and grain depot, owned by the California Dry Dock Company, and situated on Mission Rock, an Island about 600 yards from the city front, near the Pacific Mail Steamship Co.'s wharves.
The whole property owned by the company aggregates 14 acres, of which 81 acres are over $2 \frac{1}{2}$ acres, At any point of the wharf there is sufficient depth of water to load and float the largest ships at extreme low water,
and the warehouses are accessible to receive or ship grain from all sides. There is room at the wharves to accommodate a dozen large ships at one time. The company have a small steam ferry boat, making half-hourly trips, Second street.
We made a visit to the warehouses recently and were impressed by their great size and the extreme neatness and thoroughness of the structures and all their appointments. At convenient points encircling the warehouses are placed tanks, numbered, which are kept filled
with water for the extinguishment of fire. with water for the extinguishment of fre.
Rows of fire buckets are placed about in different directions. The engine houses are intended for sheltering the hoisting engines when not in use, these engines being used for loading or discharging cargoes.
The grader is the only appliance of the kind on the coast, and was but recently introduced here. This new and improved machinery, for cleaning and grading wheat for export, has a capacity of 50 tons per hour.
It is well known that the San Francisco Produce Exchange have a standard of Nos. 1, 2 cording to quality. This grader is intended for procucing either of these grades, according to the desire of the owner. For instance,
a buyer purchases a number of lots of wheat, some good and some poor, some dirty and some clean. He may have seven or eight varieties. From his samples he makes a grade which suits him, and then directs the Superinin accord of the warehouse to grade the wheat in accordance with the samples sent. That is,
take two sacks of the first class, three of the second, eight or nine of third, and so on. The proportionate quantity of each lot is put into the grader. This machine takes the grain, mixes it thoroughly, takes out more or less dirt, chaff, straw, etc., so as to bring the
batch to the required grade. It it is wanted thoroughly clean, it can be made so. If only a second or third grade is wanted, the machine
is arranged to take out more or less substances as desired.
The wheat is put into a hopper and elevated to the top, where it falls into a series of shaking screens where it is cleaned and mixed, and comes out below again prepared to re-
quired grade, and is then sacked for market. Buyers can in this way average their purchases so as to bring them to suitable standards. This machine is available for cleaning wheat where it is not desired to grade it.
Grain stored in these warehouses is always accessible to the market and high rates may be obtained at all times. The warehouses are
light, airy, clean and free from rats. Danger of fire is very slight, the insurance being only 1 per cent per annum. Grain consigned to this company by water is insured in open policy at special rates. Wheat shipped by railroad via Stockton care of the California
Steam Navigation Company will be received by them at Stocktoll and delivered at Mission Rock warehouse
Oakland whart
Season storage ending June 18t, 1880 is $\$ 1$
per ton. Short rates of storage are, for first
per ton. The weighing in is free, but weighing out is charged 10 cents per ton.
The company are prepared to advance money at bottom rates, with interest payabre at end of loan. Freight is paid, and fire insurance and loans are effected free of commission. Tho premises of this company are a model of neatness, and it is really worth a visit to inspect the mammoth warehouse and grain depot of passengers free, and Mr. Sinclair, the Superintendent, will take pleasure in showing visi tors around. The wharves are built over the
old Mission rock, and the area warehouses is filled in so that the super structure is solid and substantial. The officers of the company owning this property are Oliver Eldridge, President; W. C. Gibbs, Sec-
retary; and Chas. H. Sinclair, Superintendent. The office is 318 California street. The entire storage capacity for grain, at present, is 40 ,000 tons, which can be easily increased.

## Shall Our Houses Be Painted or <br> Plastered

Of course, says the American Builder, everybody knows, or ought to know, that walls and ceilings are finished with plaster. But everybody may not be a ware that plaster has the property of absorbing moisture. This, perhaps, will not take place in rooms where a fire is kept steadily; but in rooms left, as is often the case, for weeks without a fire, the walls will take ap a considerable quantity of damp. The effect will be injurious to the health of the inmates. There are few persons who have not suffered from a mysterious cold, caught they know not how, though, perhaps, damp in the plaster had something to do with it.
The extent to which damp is absorbed in a what so often takes place in the rooms where the walls are painted and have become chilled by a season of cold weather. As soon as the temperature becomes warmer the atmosphere is condensed on the walls, and at times in such quantities as to run off in streams. Now, had it not been for the paint, the greater portion of this moisture would have been absorbed by the plastered walls. And as a consequence the quality of the plaster would have been impaired and the room made unwholesome. In view of this defect in plastered walls, it becomes a question well worth considering, whether, in finishing a house, the walls should be papered or painted. If paint is decided on, it is highly necessary that the painting be properly done and good materials employed. White lead, which is the chief ingredient of all paint used is of late years heavily adulterated -a season why some painters can do work so much cheaper than others. There are also
disho dishonest painters who will lay on nothing bu "whiting" and size for the first coat, and finish off with one coat of oil paint. It is not easy to detect the fraud at the time, but as such paint soon wears off the wall, and at taches itself to the garments of those who rub against it, the customer speedily finds out that he has been cheated. It takes three or four coats of good oil paint honestly laid on to make good work of painting plastered walls.
In paincing walls there is ample scope for most suitable for mony with the furniture. A partments lighted from the south and west, particulary in a sum mer residence, should be cool in their color ing; but the apartments of a town house ought all to approach toward a warm tone. In a drawing room the coloring should be characterized by vivacity, gayety, and light cheerfulness; by light tints of brilliant colors with a considerable degree of contrast and gilding -the walls being kept in due subordinution to the furniture, though partaking of the general liveliness. The characteristic colcring of dining rooms should be warm, rich and substantial, without vivid contrast, and gilding should be avoided, unless in small quantities for the sake of relief. Parlors ought to be in a medium style, between that of drawing room and dining room. Libraries should be solemn grave and quiet in color and finish, while bedchambers should be light, cleanly and exceedingly cheerful: A greater degree of contrast between the room and its furniture may be admitted in the chanaber than in any other apartment. stairways, hals and vestibales
should be of a cool tone and simple in their
and style of coloring, being in that what they are
in utility-a link between the exterior simplicity of a house and its interior richness an comfort.-Mnnufacturer and Builder (N.Y),

Subscribzes changing their location and writing to us to send the Muler to their new

## Oatmeal as Food

There is no question that perfect health and robust constitution are best secured and re tained by plain diet, in which the nitrogenous saccharine, amyloid and saline matters are in proper ratio.
I would urge upon the attention of the lab. oring classes oatmeal as a cheap and nutri tious food. Ample testimony has been borne to its value as a wholesome article of food by the most eminent medical and scientific at thorities. In short, its nutritious and sustain ing qualities are now beyond a question. Practical experience has shown that it pos sesses in an eminent degree the ingredients essential to the composition of health-that it helps largely to develop the body, to make blood and tissue, muscle and bone, beside being easy of digestion. Oats, owing to their chemical nature, exceed all other cereals in nutritious properties, amounting to 77 per cent of heat-forming principle, with 91 of solid matter. Wheat has only 62 per cent of the former and 85 of the latter. A man of average weight requires about 22 oz . of dry food per day, distributed as follows in round numbers: $4 \frac{1}{2}$ oz. of albuminous substances,
3 oz. fat, 14 oz. carbo-hydrates-starch, gum, etc.-and 1 oz. of salts.
Liebig shows oatmeal to be nearly as nu tritious as the best beef or mutton, and that it excels wheat-flour in forming bone and mus le. Surely, then, on such authority oatmeal should be more used by the English people For the working classes it forms a meal of porridge or brose, with milk, butter-milk, treacle-beer, treacle or sugar, much more nourishing than the wheaten bread and fat so much used by them. In Scotland oatmealporridge, with milk, is not only in great favo with the poor, but likewise with the well-to-do classes; and where is there a healthier,
stronger and more stalwart people? The cynical lexicographer, Dr. Johnson, defined oat as "food for horses in England, and men in scotland;" but he met with the just and terse etort, "And where will you find such horses s in England or men as in Scotland?
Porridge made from wheatmeal is much dearer, though greatly inferior, to that made ing about one halfpenny, makes a large plate ful of thick porridge, superior to the Sheffield meat soup, costing about threepence a platethe huysiologists and physicians tell us that the human body must have its various cousti uents presented to it in food. Oats contain all the nutriment and stimulant to be found in flesh food. Beef and mutton are supposed to be more nourishing, but this is not the case Porridge and milk, vegetables and all farina ceous foods, will support life as well, if not meal quickly develops their frames, forms their teeth and keeps them in vigorous health. As articles of diet, more might be done with barley-meal, bean and pea-meal, maize, hari cot beans, rice, pearl barley and split peas, all of which are nutritious and cheap.
In Scotland the men breakfast and sup on porridge and milk, and dine at midday upon "brose" and milk, or herrings and potatoes with oat or barley bread; and their fare the of varies from one end of the yeart he other. Herrings and potatoes compose an almost perfect diet, supplying the carbonized ood requisite to balance the farina in the po ed the general opinion when he said, "I have lived 36 year on meal and milk, and I do not like anything olse half so well.
There are many races of men whose food is as simple and unvaried-the South Sea Islandr with his bread-fruit and cocoa-nuts, the Hindoo with his rice, the Arab with his milk and dates and the Neapolitan with his macaroni. These are plain dietaries ; yet not more so than the primitive "milk and meal" of the stalwart Scotch peasant, who will bear comparison with any race for splendid physique and robust health.
I would recommend the numerous benevolent associations formed throughout the country to make greater use of oatmeal, as, in consequence of its cheapness, the funds at their disposal would be capable of greater benefit to a greater number.

THE adoption of the cental system in this country has been agitated for some time, and in the East has met with success, The Bos
on and New York Produce Exchanges have passed resoluy ons adopting it, and after Oct.

THE UNITED STATES MILLER.

## A Subscriber's Soliloquy. To pay, or not to pay, that is the question Whether tits better for meto efuse To take a trade parer med tope  Myself from reading all the news, Or pay up romply what the printer anks, And, by such payment, cheer him? No




 TTo pointed sxuibs nnd pungent paragra
Which for too ot reflet upon the man
Whof fails to seette his subbeription bill?


## Foreign Commerce of the United States for 1878-79.

 A compilation of statistics by the New YorkGrocer of Aug. 2nd, from the annual report of the
United States Bureau of Statistics, fiscal year endUnited States Bureau, of Statistics, fiscal year end-
ing June 30, , 1879, shows the balance of foreign
trade to be decidedly in taver of this country. The trade to be decidedyly in taver of this country. The
information gleaned from the report is invalauble to
students of the subject of international commerce.
The condensed report is'as follows:



Eight Litite Pigs.-While men were lay-
ing a pipe in ths street near Mr. Grau bee's shop yesterday near Mr. Grau Larrafor a while, and a sow, with a family of eight for a whive, and a sow, with a family of eight
while nosing around, got into it. The small wighe nosing around, got into it. The small
pigs could not get out, and the mother tried her best to help them. She would get down in the ditch, grab a pig, but could not toss
them high enough. Failing in this, she went to the pavement and tried to attract the attention of the passers-by by running up to them prisoned family, showing the way. Some imfinally helped them out, and the mother hog grunted her applause and mouthed each young-
ster fondly as soon as it was safely out.Madison (Ind.) Courier.

## Grades of Wheat. <br> The grades of wheat in Chicago and Milwaukee

Spring Wheat.-No. 1 Spring Whent-Must be cight pounds to thed, weighing not 1
Extra No. 1 Spring Wheat-Shall be composed of plump, sound, well cleaned spring wheat, bright
in color, and weighing not less than sixty pounds to the measured bushel.
nostly of the hard varieties of Shall be composed must be sound, well cleaned, and weigh not less No. 2 Spring Wheat-Must be sound bushel. ably ciean, and weigh not less than fitty-six pounds
to the measured bushel. No. 3 Spring Whel.
it for warehousing, weighing not less than fifty-four pounds to the measured bushel.
otherwise unfit for the higher grader, weighing not less than fifty-one pounds to the me surured bushel.
Rejected-Shall coll housing, but too low in weight, or otherwise unfit

Winter Wheat.-No. 1 Winter--To be sound,
well cleaned, reasonably plump, and composed of well cleaned, reasonably plump, and composed of
the white varieties.
reasonably plump, and composed of the red varie-
clean, and composed of the red varieties.
ably plump, and composed of mixed white and red No. 2 Winter-To be sound, reasonably cl
and composed of mixed whito and composed of mixed white and red winter.
No. 2 White Winter-To be sound, reaso clean and composed of the white varieties. fit for warehousing; weighing not aninter wheat four pounds to the measured bushel; not sound
enough or otherwise unfit for No. 2 of the other

 The daily Bulletin adds the following: This
comparison shows that, for the nine years preeed-
ing the

 and $84,000,000$ in $1877-8$.eng dding these factors to
the
teenerchandis for each of movement we he two periods
ret the following

grades.
Rejec
wise unfit for No. 3. 3 . Sit for warehonsing, but other-
Mixed Winter and Spring Whent-In the case of
a mixture of any considerable or material quantity ed mixed wheat, and graded according to the callity therecu, as provided for in the rule governing
the inspection of spring wheat with reference to weight and condition.
Rice Wheat-Will in no case be inspected higher
chicago.
Spring Wheat-No. 1 Hard Spring Wheat-
Shall be sound, plump and well cleaned Hard Spring Wheat-Shall reasonably clean, and of good milling quality.
No. 1 Spring Wheat-Shall be sound, plum well cleaned
No. 2 Spring Wheat-Shall be sound, reasonably No. 3 Spring Wheat-Shall incl shrunken or dirty Spring Wheat, weighin inferior, han 53 pounds to the measured bushel.
Rejected Spring Wheat-Shall include Spring any other cause which renders it undeached, or for In case of mixture of Spring and Winter Whea it shall be called Mixed Wheat, and graded ac Black Sea and Flinty Pof
case be inspected higher than No. 2, and Rice Whear no higher than Rejected
Warehouse Cheat.-The Board of Railroad and ing rules for grading winter wheat for the following rules for grading winter wheat, for 1879, wifh
the following provisio: "Theee wles The following provisio: These rules shall be in
force on and atter July 29 , 1879, but it is provided that all wheat in store on said date, inspected a
the winter wheat under the rules hereby amended, shall be inspected out in accordance with the provision of said rules as winter wheat.
No. 1 White Winter Whent.
winter wheat Winter Wheat-Shall be pure white wointer wheat, sound, plump, and well cleaned. No. 2 White Winter-Shall be pure white winter wheat, sound and reasonably clean.
No. 1 Amber
No. 1 Amber-Shall be pure amber winter wheat sound, plump and well cleaned.
No. 1 Long Red Wien
No. 1 Long Red Winter Wheat-Shall be pure red winter, of the long-berried varieties, sound,

No. 2 Long Red Winter-Shall be of the sam
varieties as No. 1 , sound and varieties as No. 1, sound and reasonably clean.
No. 1 Red Winter-shall be pure wheat of both light and dark colorare red winter berried varieties, sound, plump and well clearterNo. 2 Red Winter-Shall be of the cleaned. ties as No. 1, sound and reasonably clean. ties as No. 1, sound and reasonably clean.
No. 2 Winter Wheat-Shall inolude all grown winter wheat and $2 l l$ mixtude all northernscriptions of winter wheat, and thall of various desonably clean and of good milling quality. sonably clean and of good milling quality.
No. 3 Winter-Shall include
clean and plump enough for No. 2, and weighing not less than fif/y-four pounds to the measured bushel.
Reject
Rejected Winter-Shall include all winter wheat
damp, musty or from any cuase so badly damaged
ns to render it unfit for No to render it unfit for No
No
3 .

## Death of Geo. C. Stevens.

Geo. C. Stevens died in Milwaukee, Aug. 14th, 1879, at the age of 49 years. He was, though only resident of Milwaukee, having come here in his youth. His father, the late Horatio Stevens, was one of the pioneers, and was engaged in the trans-
portation business at an early day, owning one of the old Milwaukee piers, before the straight cut was opened, or the harbor otherwise improved. Here
young Stevens learned thoroughly the businese of transportation, and followed it, and that of advancing on shipments of grain till 1868. In 1870 he was appointed Collector of the Port of Milwaukee
under Grant's administration. After retiring from under Grant's administration. After retiring from
that position he confined his business efforts to the that position he confined his business efforts to the
old Empire Mills, which he owned, and partnership with M. B. Medbury and H. S. Seamans, till his death. His home, during the later years of his life, was on a beautiful stock farm, a short dis-
tance from the city, where surrounded by nature and art could combine, he kept open all that his host of friends.
He was a member of the Milwaukee Chamber of
Commerce, and the cocasion of his demise shows the eation on the which he was held by that body.
The special committee named to prepare a testilate Geo. C. Stevens reported as follows:
The announcement of the death of Ge
ens, who, from boyhood, has been active
nent in business and social affairs in this citromicast agloom upon the whole community. Educated
 tions; we reaall, alsoo, the ability with which he dis-
charged the duties of Co charged the duties of Collector of this port, and we
follow him into his late life of comparative retire. ment from the busy hum of our comparativer. retire-
In his
quiet tatention to the business of his mill, and in his
more contenis more congenial occupation of hroral murnd and in his his
last years of his life were entirely spent. Ase the last years of his life were entirely spent. As a
write or debater he was able to cope with the ablest
in the field of discu in the field of discursion. In his social qualities he
had sarcely nequal and to those who enjoyed his
society he will be an irreparable loss. society he will be an irreparablo loss.
While thus testifying to the
qualities of the the deceased, and lamenting and manly qualitites of the deceased, and lamenting his loss, we
wound tender our sympathy to his bereaved family,
and, as a token of respect to his and, as a token of respect to his memory, send
delegation of our Board to attend his obsequies,
Resolved, That the Kesolved, That the Secretary be direceted tos. send
a copy of these proceedings to the family of the
deceased.
 On the adoption of this expression of the sense Bright Chamber of Ccmmerce, Acting President Ogden, David Vance and Robert Eliot, as representary of the Board at the funeral.
As an executive business man he was a model; in a friend, true as tempered steel. feebly expressed in this imperfect record of a much
nearer perfect life.

The Great Farm of the Northwest.
"Peace hath her vietories no less than war," and what greater contrast to the ravages of war can be imagined than such wonderful iarming as is carried on by Oliver Dalrymple in Northern Dakota. For four miles on both sides of the railroad and as far as the eye can ne, stretch the largest whent fields under one management on this side of the Pacifio teen mie point of commencement being sixineluded 14,000 res. In this tract are prising the Cass, Oheney and Alton farms while away to the north, forty miles across the country, but reached by the Red River, is the Grandin farm, 6,000 acres under cultivation, and managed by Oliver Dalrymple precisely as are the others, making a grand total of 20 , Mr. acres under one man's power. In 1875 dent, and Bple induced Geo. W. Cass, Presiof the Northern Pacific, with the Grandin brothers of Pennsylvania, to enter upon the
schem scheme of a grand wheat farm, not only as a
matter of profit, but as the matter of profit, but as the best possible advertisement of the capabilities of this section of country, and two sections ( 1,280 acres) were broken in that year and cropped in 1876. From that time the progress of the enterprise has been sure and rapid, until to-day it stands
farming on a grand scale known on the conti-
Imagine yourself approaching the farms from the east; "o'er all those wide extended plains" stretches one sea of wheat as smooth as our great lake when the winds and wares are at peace. To the left rise the buildings of the Cass farm, beyond and on the same side of the track the Alton buildings, while on the right are those of the Cheney farm to which we ride rapidly for a nearer survey: 115 self-
binding reapers, each binding reapers, each cutting fifteen acres per
day, are day, are laying low the golden grain on the various farms, and one who has seen twenty of these in line, moving along with almost military precision, will never forget the sight. The whole work in fact has to be managed with the utmost minuteness of detail, for 400 men are now employed, while during thresh. ing the number will be increase 500 and 600 . At ten minutes to five breakfast be all ready and every 6 'clock the teams must be all ready and every man in his place; at 11 o'clock comes dinner, and at 3 o'clock lunch, and work finally ceases about eight. The men hired by the month receive $\$ 20$ and are paid during harvesting and threshing cupied in these two branches of work being about five weeks; 450,000 to 470,000 bushels is the estimated crop for this year, Mr. Dalymple putting the average yield at form 23 to 25 bushels fer acre, and as the present value of No. 1 wheat is $\$ 1.25$ in New York, we have left, after deducting 35 cents per te., over $\$ 400,000$ freight, insurance, commission,

Facts and figures are dry reading, yet it may e interesting to most of our readers to know me further details of the penses, etc. of this monster farm. Each 2 000 acres constitute a sub-division, with a superintendent for every 5,000 acres. On each sub-division is a complete set of buildings, including a house for superintendent, boarding house, buildings for sheltering machinery, etc The different kinds of work are allotted to dif ferent squads of men, with a superintendent ror each, and while harvesting is going on a repairer, on horse-back, follows each harvest
er, to make any needed repairs with the least possible delay. The cost of the first crop has averaged $\$ 11$ per acre, and of subsequent crops $\$ 8$, including interest on machinery, and the landed investment. This is about a dollar and a half less than it costs the average furmer. From a bushel and a quarter acre, one span of horses or mules (of which there is about an equal number on the farm) gang plow, and to the depth of done by the ches. In plowing, seeding and barvesting (proviled in the latter case the grain isequally ripe) a mile square is taken and finished up by itself. Each of the self-binding reapers saves the work of five or six men over the old style of reapers.
On reaching Dalrymple station, one naturally looks for an elevator or warehouse for the none is needed. The steam threshers, twenty in number, follow in a few days the harvesters, threshing the wheat from the shock, the grain is hauled at once to the cars standing on fille sidetrack, and when twenty-four cars are lay. Mr. Dalrymple's invariable custom for years, has been to sell his grain as soon as it could be got to market, and this year will be no exception in this respect.
The parties interested in this vast tract of land, 66,000 acres all told, of which less than a third is yet under cultivation, have paid on acre for their land four and five dollars per acre for their land, buying the railroad land
with bonds when the with bonds when the latter were low, and the Indinn sections of government land with Indian sorip. No other scrip is available, and no opportunity now exists for loeating such immense farms. Mr. Dalrymple after carea fexamining the land finally selected, made ap nis mind that the intrinsio value of it for larming purposes was not less than $\$ 25$ per acre, and he estimates the present value condierably in excess of that sum.

The Eureka Manufacturing Company, of Rock Falls, IIl., manufacturers of the Becker wheat brush have met with wonderful success. of theales this season are largely in increase of
unqualified satisfaction wherever used. All nill-owners who have not yet introduced the Eureka in their mills should lose no time in investigating the subject, Write them for their

## EVERYBODY READS THIS.

## tTEMS GATHERED FROM CORRESPONDENTS, TELE <br> GRAMS AND EXCHANGES.

The following parties are engaged in build ing new flour mills: John Wallace, Modell, Ks.; A. J. Stroup, Elk Mills, Mo.; Wm Adair, Parkinsville, Ind.; Joseph McGee Perry, Ill.; Camanche Mill Co., Camanche, Iowa; J. W. Pickle, Medicine Creek, Neb.; J. A. Baker, Cedarville, Ks. ; M. Watrous, Ft Collins, Colo.; A. Bertelson \& Son, Elsinore, Sevier Co., Colo.; Mr. Eitel, Chaska, Minn.; Skenworthy \& Co., Rapidan, Minn.; Mr. Phippen, Dundas, Minn.; G. Cooper, Mar tinsville, Ill.; John Hoffer, Harrisburg, Pa.
The flouring mill of Porter \& Mowbray, at Winona, Minn., was sold at auction August 9 , the partnership having expired by limitation. The property was bid in by Mr. Porter at $\$ 64,000$.
The following is the list of parties who have bought the Becker wheaf brush the past few days : E. P. Allis \& Cb., Milwaukee, Wis.; Bradford Mill Co., U'incinnati, Ohio; Nordyke \& Marmon Co., Indianapolis, Ind.; Hoogland \& Tresselt, Ft. Wayne, Ind.; Whitmore \& Benyon, London, England; W. Gilbreath, Elkville, Ill.; John T. Noye \& Son, Buffalo, N. Y.; J. N. Smith \& Bro., Brown's Mill, N. J.; Straub Mill Co., Cincinnati, Ohio; Sinker, Davis \& Co., Indianapolis, Ind.; Thos. Bradford Co., Cincinnati, Ohio; M. S. Rexford, Fargo, Dakota; C. H. Guenther, San Antonio, Texas; H. A Hayden \& Co., Jackson, Mich.; A. Millot, Zurich, Switzerland; John P. Dale \& Co., Louisville, Ky.
The grist, saw and planing mills of Letter \& Appleton, at Black Creek, about twentytwo miles east of Green Bay with contents, and about one million feet of lumber, were totally destroyed by fire. Fears were entertained for the safety of the village, and, in response to a telegram for assistance one of
the fire steamers from Green Bay was sent by the fire steamers from Green Bay was sent by
special engine over the Green Bay \& Minnespecial engine over the Green Bay \& Minne-
sota road. However the fire was the mill property. The loss is estimated at about $\$ 20,000$. No insurance. The mills had been shut down four days previous to the fire, and the origin of the latter is unknown. It is understood that the firm will rebuild immediately.
It is estimated that the crop of corn in Kansas for 1879 will be $125,000,000$ bushels.
Baltimore is now the second largest grain shipping port on the Atlantic coast. The receipts during July were five million bushels, and exports nearly four million bushels.
The Quincy, Ill., coopers have struck fo higher wages. The introduction of the use sad inroad in the coopers barrels has made sad inroad in the coopers trade.
The flour mill at Sauk Centre. Wis., is exporting flour to Germany.
G. W. Van Dusen \& Co. are building an elevator at Chatfield, Minn.
Mr. E. L. Baker, of Red Wing, Minn., while in Europe last winter, purchased six bushels of Hungarian winter wheat at a cost
of $\$ 7$ fer bushel. This wheat he hired Mr. of $\$ 7$ per bushel. This wheat he hired Mr.
Seth Lyons to put in on his farm, in WisconSeth Lyons to put in on his farm, in Wiscon-
sin, and the crop turns out first rate, standing up much better than other wheat. This variety of wheat is said to be the only hard winter wheat, and possesses properties peculiarly adapted to making a high grade of flour.
A grain elevator will be immediately built in Little Falls, Minn., by C. S. Barnes \& Oo., grain buyers.

A correspondent from Des Moines, Iowa, says: The oatmeal mill which started here a few weeks since already has a demand for its product exceeding its capacity, and will be doubled in size the present year. It has a permanent contract for four car-loads of meal per weel from Glasgow, Scotland. Another mill will soon be in operation. Buyers are out contracting with farmers throughout Central Iowa for their entire crop at from 20 to 22 cents per bushel. Quite a contrast with a year ago, when oats were a drug in the market at from 12 to 16 cents per bushel, and no sale at that, when anything else could be got
to ship. me
start up Sew Hubbard mill at Maukato, will The iept, 1st
The citizens of Monument, Colo and Ada, Dakota, wa
flour mill.
Yeo \& Clark will soon ereet a new mill at

Messrs. Schloth \& Gray will start up their ew oat-med mill at Dubuque Iowa, Sept 1st.
Donly and Harris' elevator at Colambus, 0., burned Aug. 21st. Loss, $\$ 25,000$. Insurance, $\$ 16,000$.
S. C. Barton \& Oo. are about to build a new mill at Pererson, Minn. It will have a capacity of 200 barrels per day.
The iron trade in England is said to be improving, but the cotton trade is in a bad condition.
Wages at the Indianapolis Rolling Mills will be increased ten per cent, September 1st. This is one of the signs of the times.
The Illinois wheat crop for 1879 is estimated at $45,417,661$ bushels.
Smith Bros., of Milwaukee, are rebuilding the mill at Saukville, Wis. It will have five run of stone.
Smith Bros., of Milwaukee, are rebuilding the mill at Scott, Sheboygan Co., Wis. It will have 3 run of stone
Smith Bros. have just completed plans for a 10 -run mill on the canal, Milwaukee.
Smith Bros., of Milwaukee, are making plans for a 6-run mill at Fox Lake, Wis.
Smith Bros. are putting in another run of tone, bolts, etc. for the mill in Peshtigo, Wis. The Star Mills, of Milwaukee, (Nunnemacher Co.) after being shut down for some time has started up. Eighteen setts of rolls and much other machinery has been added.
Jonathan Mills is now busily engaged in putting in his new method of gradual reduction and machinery in the mill at Terre Haute,
Ind.
Mo
More milling projects are talked off in Milwaukee by capitalists. Milwaukee is now one of the most important milling and grain centres in the world.
Mr. Brower, of the firm of Brower \& Bennett, Fox Lake, Wis., will soon commence the erection of a flour mill at that place. Their mill at that place was burned some time ago.
J. B. A. Kern's E igle Mills, of Milwaukee have started up again. The new engine and other machinery work finely
The electric light has been introduced at Niagara Falls. This magnificent waterfall presents an appearance of sublime grandeur when illuminated by this brilliant light,
J. G. Lawrence, of Wabasha, Minn., has shut down to make some extensive improve-
ments. He will add several setts of rolls and other machinery. He has a 5 -run mill.
The corn crop in Bulgaria is a failure.
Peoria's (Ill.) new corn-sugar factory be an immense affair, the dimensions of the building being $104 \times 293$ feet, and seven stories high. It will require 370,000 bricks in building, and is expected to consume 6,000 bushels of corn daily, employing 250 men.
The proprietors of the starch factory re cently burned at Vicennes, Ind., are talking of rebuilding at Danville.
The corn crop in South Carolina is said to e a failure generally throughout the State.
Minnesota millers claim that the wheat crop of 1879 will make the best flour of any crop ever before harvested in that State.
Mr. Mowbray, formerly of the firm of Porer \& Mowbray, is organizing a stock com pany for the purpose of building a large flouring mill at Winona, Minn.
Oshkosh is building an exposition building $400 \times 40$, for exhibitors at the Northern Wisconsin Fair.
S. C. Barton \& Co., will build a new mill at Peterson, Fillmore county, Wis., on the site of Barton \& Easton's mill, destroyed by fire in 1877. The new mill will have a manufacturing eapacity of 200 barrels per day.

The severe storms of wind, rain and hail, about the middle of August, injured the corn crop in many sections of the country, but notwithstanding that the crop will be the largest ever harvested in the United States, Corn dodagers and mush and milk will be plenty throughout the land.
L. W. Smith, formerly of the firm of Smith Bros,, has taken charge of a' Jefferson county flour mill.

Walter Crawford's mill at Paris, Tenn., is being extensively overhauled by Nordyke \& Marmon Co., of Indianapolis, Ind.
Miller \& Harvard, of Howard, Neb., are fixing up their mill to the new process, Nordyke \& Marmon Co., of Indianapolis, Ind., furnish the machinery.
The Corydon (Iowa) Elevator Co, have con tracted with Nordyke \& Marmon Co., of In-
works of Nordyke \& Marmon Co., at Indianapolis, Ind., have been shipped to Davenport, lowa, for the new 250 barrel roller or Hungarian mill which is being built for H. P. Beattie. A large force of millwrights follow to set the work in place.
D. C. Smith, of Waco, Texas, is commene ing to put up a flour mill.
S. Tallman, of Brunswick, Minn., is buildng a flouring mill.
The large mill-furnishing establishment of Nordyke \& Marmon Co., of Indianapolis, Ind., now employs 250 men, and owing to press of orders, runs from 6:30 a. m. to $10 \mathrm{p} . \mathrm{m}$. (15 made there made there
A correspondent from Knoxville, Ill., states that the mill of Eiker \& Warfel at that place, which was remodeled to the new process by Nordyke \& Marmon Co., of Indianapolis, Ind., is now running night and day, and the results are beyond what was expected. Their flour commands the highest market price.
H. Kreisher \& Son, of Frankfort, Ind., re cently had their mill changed to the new process by Nordyke \& Marmon Co., of Indianapolis, Ind. Their business now enables them to add two additional run of burrs to their mill which they have done recently, so promptly filled their excellent flour can be promptly filled.
Colton Bros.' five-run new process mill, being furnished and set up by Nordyke \& Marmon Co., of 'Indianapolis, Ind., is receiving the finishing touches, previous to starting upi The mill presents a fine appearance.

P: Heacock, of Chillicothe, Iows; Parker \& Bowdell, of Leighton, Iowa; Whitmore \& Son, of Oskaloosa, Iowa and J. Bosley, of Walnut, lowa, all have ordered of Nordyke \& Marmon Co., of Indianapolis, Ind., the machinery for making new process flour.
A two-run water mill is being built at Lenora, Kas, by Charles Lathrop.
Nordyke \& Marmon Co., of Indianapolis, Ind., have under contract the machinery for a two run water mill which will be put up at Kas., by B. J. Potter
Tibbott \& Son, of Harlan, Iowa, have or dered of Nordyke \& Marmon Co., of Indianapolis, Ind., the entire outfit for a two run
water mill. water mill.
Peter Faber has contracted with Nordyke \& Marmon Co., of Indianapolis, Ind., for an outfit for a three-run steam mill to be built at Wheatland, Minn.
Millers passing through Orrville, Ohio, may notice the handsome s1x-story brick building which is being built along the P., Ft. W. \& C. R. R. Messrs. Williams \& Griffith are preparing this building for 14 run of 48 -inch burrs, bolts, purifiers and all the latest improved appliances of the process system of milling. The power will be a handsome 250 horse-power Corliss engine. All the machinery will be furnished and set up by Nordyke \& Marmon Co., of Indianapolis, Ind.
J. A. White, of Shibley's Point, Mo., are remodeling their mill to the new process with machinery made by Nordyke \& Marmon Co., of Indianapolis, Ind.
The new elevator in Milwaukee, being erected by Angus Smith, will probably be ready to receive grain by the middle of Octo ber. Its capacity will be 800,000 bushels of heat.
Messrs. Henk \& Co., of Chaska, Minn., are building a new 3 -run mill. The building is already up, and Messrs. Wilford \& Russel, of Minneapolis, Minn., are furnishing the machinery,
Messrs. Hulbert \& Paige, of Painesville Ohio, have just completed a flour mill for R. D. Hubbard, of Mankato, Minn., and are just Wis.
D. J. Tew, of Rushford, Minn., has purchased Mr. Valentine's interest in the Rushford City Mills,

The Mazeppa Mill Co., in addition to adding steam power to their mill, have been largely increasing the capacity by adding rolls, bolts, purifiers, etc. The worle is being done by W. F. Gunn, of Minneapolis, Minn.

Beynon \& Maes are operating the Diamond Mill at Owatonna, Minn. very successfully. It is a 5-run mill. Mr. Beynon is now traveling in Europe for the benefit of his health, and also to examine European methods of milling.

Mr. E. W. Pride is furnishing bolting


Indiana estimates her wheat crop for 1879 at fifty million of bushels.
Messrs. A. Mill \& Co., Centerville, Manitowoc Co., Wis., are adding new and important improvements to their mills, in the way of a new run of stone for middlings, bolting cloths, proof staff, etc., etc., the same being furnished by E. W. Pride, of Appleton, Wis.
Messrs. Trieman \& Cooper, Manitowoc, Wis., are placing in their mills a sett of chilled iron rolls, bolting cloths, etc., etc., the same being furnished by E. W. Pride, of Appleton, Wis.
E. W. Pride, of Appleton, Wis., has the contract for the furnishing of a 2 -run mill to Ener Birum, Reed Wood Falls, Minnesota the stones and machinery from the celebrated house of J. T. Noye \& Sons'.
E. W. Pride, Appleton, Wis., is furnishing Mr. Charles Richards, Oxford, Wis., 1 run, 36 Mr. Charles Richards, Oxford, Wis., 1 run, 36
inch portable mill, to complete his new 2-run custom mill.
W. H. Stacey \& Co., Clintonville, Wanpaca county, Wis., have their mills now in complete order for the new crop, having recently added new and important improvements. Rebuilding entirely their bolting chest, add ing also new cloth and 1-run stones, Punfin's rollers, Becker brush, cockle separator, etc., making their mill first-class in all respects. The entire outfit for repairs was furnished from the celebrated mill-furnishing house of J. T. Noye \& Sons, Buffalo, N. Y., through E. W. Pride, Appleton, Wis.

Capt. E. W. Pride, Appleton, Wis., is placing a pair of $12 \times 20$ rolls in the mills of Arthur Kellogg, Fort Howard, Wis., furnished from the house of J.T. Noye \& Sons, Buffalo, N. Y.

Capt. E. W. Pride, representing J. T. Noye \& Sons' at Appleton Wis., has the contract for a new 3 -run mill for Ferdinand Rank, Brown Co., Wis. The work is now fully under way.
J. S. Lampher, of Depere, Wis., is the superJ. S. Lampher, of Depere, Wis., is the superintending mill-wright.

Messrs. Nofftz \& Ebling, Green Bay, Wis. are adding to their mills one of J. T. Noye \& Sons' Model Middlings mills, new bolting cloths, and other important improvements, the same being furnished by E. W. Pride, of Appleton, Wis.
Capt. E. W. Pride, of Appleton, Wis., is furnishing Messrs. Rublitz Cloves, Menasha, Wis., the machinery for their improvements, consisting of stones, bolting cloths, belting
cups, etc., etc. These mills cups, etc., etc. These mills are being put in first-class order. T. S. Bennett, of Oshkosb, is the superintending mill-wright.

Messrs. Hanert \& Co. are making new and important improvements in their mills at Afpleton, Wis., adding a new purifier, manufactured by Huntly, Holcomb \& Heine, Silver Creek, N. Y.; also new and important improvements in their manner of bolting. Their cloths, etc., were furnished by E. W. Pride, of Appleton Wis. Their mills are under the ef ficient charge of Mr. E. Whitmore, superin tending miller
E. W. Pride, of Appleton, Wis., is furnishing from the house of John T. Noye \& Sons, to Thos. Smith, of Green Bay, Wis., one pai $12 \times 24$ chilled iron rolls, bolting cloths, etc. tc. The mills are under the efficient charge f G. B. Hess, as superintending miller.
E. W. Pride, of Appleton, Wis., is furnishing the machinery from the house of J. T Noye \& Sons, to B. Miller, of New London, Wis., who is rebuilding his mill entirely, adding new and additional stones driven upon the reel belt system, also bolts, rolls, purifiers, etc., etc. These mills will be new and entirely first-class, consisting of five-run of stones, arranged for custom and merchant work. $O$ W. Burns, of Appleton, Wis., is the superintending millwright,
Skinner \& Adams new flouring mill at Kirwin, Phillips Co., Kan., was burned Aug. 23d. Nu insurance. Parties will probably rebuild at once.
A stock company is being organized at

Edward P. Allis \& Co. have closed a contract with the Minneapolis Elevator Company for a $24 \times 48$ Reynolds-Corliss engine and all the machinery for their large elevator now being built.

Angus, Smith \& Co., of Milwaukee, have ordered a $26 \times 48$ Reynolds-Corliss engine and independent condensing apparatus of Edward P. Allis \& Co., who are furnishing the machinery as well for the new one million bushel elevator.

The Reliance Works of Edward P. Allis \& Co. are running night and day with a foree of over 550 men, and can turn out work on very short notice.
Edward P. Allis \& Co. have received orders for over one hundred Wegmann's patent porcelain roller mills in the past othirty days. Many of the finest mills, both East and West, are grinding all their middlings on these vaiuable machines.

Dillon \& Carpenter, of Carpentersville, IIl., are remodeling their mill and putting in four porcelain roller mills.
are doing the work.
Jere Ames \& Sons, of Northfield, Minn., putting in the Allis rolls.

Edward P. Allis \& Co. have the large fine mills of E. V. White \& Co., at Minneapolis, and White, Listman \& Co., at LaCrosse, well
on to completion, and are pushing vigorously on to completion, and are pushing vigorously
the new Hungarian mill of E. T. Archibald at Dundas.

Edward P. Allis \& Co. have just sent a beautiful Reynolds-Corliss engine to Louisville, Ky., to drive the machinery in the Ex-
position building.
The Milwaukee Milling Co. have ordered a $28 \times 60$ Reynolds-Corliss engine and condenser for their new mill, of Edward P. Allis \& Co. Valier \& Spies, of Marine, Ill., are putting
n Wegmann porcelain roller mills, bought of Edward P. Allis \& Co , the sole manufacturers.
Stuart \& Douglas have ordered a $20 \times 48$
Reynolds-Corliss engine, with condenser, of mill being built in Chicago.
James Campbell, of Litchfield, Minn., is putting in a $12 \times 36$ Reynolds-Corliss engine, built by Edward P. Allis \& Co.
Ames \& Hulbert, of Hutchinson, Minn., have ordered of Edward P. Allis Co. a $12 \times 30$ Reynolds-Corliss engine.
J. N. Foster \& Co., of Ripon, Wis., are putting in Wegmann porcelain rolls, ordered of Edw. P. Allis \& Co

Thos. Ruddock, of Eureka, Wis., has ordered 3 Wegmann patent porcelain roller
mills of Edw. P . Allis. \& mills of Edw. P. Allis. \& C
H. P. Beattie, of Davenport, Iowa, has ordered 3 Wegmann patent porcelain roller of these machines in all that he has ordered, all to be used on patent flour
La Grange Mills, at Red Wing, Minn., are putting in the Allis rolls.
Lincoln Bros., of Olivia, Minn., have ordered a four-run mill complete and Reynolds-
Corliss engine of Ewd. P. Allis \& Co. Corliss engine of Ewd. P. Allis \& Co.
A. C. Godshall \& Bro., of Lansdale, have given Ewd. P. Allis \& Co. an order for porcelain rolls.
The Phconix and Reliance Mills, of Milwankee, are putting in the Allis rolls.
Horace Davis \& Co., of Golden Cate Mills, San Francisco, Cal., have ordered six roller Ewd. P. Allis \& Co., Milwaukee.

The Milwaukee Mills are putting in large numbers of the Wegmann Patent porcelain roller mills for grinding patent flour and cleaning bran.

## A Three-Millionth of an Inch.-One of

 the most singular mechanical operations imaginable is the making of gold-wire for what is known as gold-lace. The refiner first pre-pares a solid rod of silver about an inch in thickness; he heats this rod, applies upon the surface a sheet of gold-leaf, burnishes this
down-applies another coating, burnishes this down-and so on, until the gold is about one hundredth part of the thickness of the silver. The rod is then subjected to a train of profine wire, when it is passed through holes in a steel plate, lessening step by step in diameter. The gold never deserts the silver, but adheres closely to it, and shares all its mutations. It is one-hundredth part the thickness of the silver at the beginning, and maintains the same the gold-coated rod of silver can be brought,
the limit depends upon the delicacy of the human skill. It has been calculated, however,
that the gold actually placed on the very finest silver wire for gold-lace is not more than onethird of one-millionth of an inch in thickness : that is not above one-tenth the thickness of ordinary gold-leaf.

## Bi-Metalism in Germany.

Germany has been brought to a halt in the work of demonetizing silver. It must be remembered that all the old silver still in circulation remains a legal tender for its par value the form of thas silver is substantially all in presented, but are in general circulation at full value. In point of fact, therefore, Germany has reached the point where bi-metalism is as practically in operation as it is in the
United States. The old silver thalers with which the German people have so long been familiar reraain the legal tender and geteral currency of the people.
The Government is met by the astounling figures of the loss already sustained by the calling in of the smaller coins. The loss sustained already in the silver demonetized and sold, that is, sold for gold,--is somewhere
about $\$ 23,000,000$, and this without any possible hope of compensation. There are now outstanding silver thaler pieces to the
ameunt of $415,000,000$ marks. This is about amount of $415,000,000$ marks. This is about dollars. The bullion value of these coins as compared with their coin value is 7 per cent less than our silver dollars. Considering that Germany has yet in circulation $100,000,000$ of silver dollars of full legal tender, and that the Government has postponed indefinitely calling them in, there certainly can be no fear apprehended in this country from any excess of
silver money. In addition to the $\$ 100,000,000$ silver money. In addition to the $\$ 100,000,000$ of silver in thaler pieces, Germany has in circulation $\$ 50,000,000$ in subsidiary silver coin. The population of Germany is not greater
than that of the United States, and yet Gerthan hat of the United States, and yet Ger-
many keeps $\$ 150,000,000$ of silver coin in circulation, and $\$ 100,000,000$ of that sum a full legal tender on a par with gold.
Germany has paid dearly for the demoneti-
zation of silver, and has given two tices: (1) That the calling in of the thalers has been postponed indefinitely, and (2) that even the silver called in and meited down into bars will not be sold, at least during 1879. The demonetization has, therefore been
brought to a close, and Germany has now practically in force the policy of bi-metalism, the proportion of silver in the form of thalers
being equal to $\$ 100,000,000$ of being equal to $\$ 100,000,000$ of our money.
This action of the Government is, considered insufficient, and it is now strongly urged that there be an increase of silver coinage, and that the silver now held by the Government and heretofore offered for sale be re-coined and put into general use and circu-
lation. This is but another step in the direcIation. This is but another step in the direc-
of bi-metalism. With $\$ 150,000,000$ of silver already coined and in general use, a withdrawal of all silver from sale, and a resumption of silver coinage, Germany shows how severely firmly she arrests its progress and inclines to the adoption of bi-metalism. The banks and bankers of Germany, as well of those of
France, seem to differ widely France, seem to differ widely from the gold ring in New York, and from Zach Chandler as to the advisability of the largest possible
use of silver as money. They do not seem to use of silver as money. They do not seem to
be afraid of ruining the country by an increase of metallic money in the form of legal tender silver, and yet Germany has four times as much silver in general use as exists in this country.
It does not seem to terrify the German banks or the German Government that silver exists in such enormous quantities there in the form
of money, while the comparative pittance of of money, while the comparative pittance of
$30,000,0000$ of silver dollars locked up in the Treasury at "ushington is regarded in N Nw
York as some terrible menace to the country. York as some terri

- Chicago Tribune.

American trade in australia,-The following is a significant extract from a Melbourne merchant to his Birmingham correspondent: "We are very sorry to say that our American trade grows daily at the cost of our English department. Your English manufacturers must employ more labor-saving ma chinery, and not try to meet this American competition by reducing the wages of your workmen. We have noticed of late that in some cases the Americans, under the pressure
of keen competition, are sending goods of inferior quality. Nothing will help the English more than this. It is quality alone that has put the Americans where they are in these markets-their quality keeps them there ; if this falls off they will lose their hold at

## The Patent Laws.

There seems to be a concerted attempt throughout the West to break down our pres. ent patent laws, or at least to so modify them as to leave them powerless as an inspiring moive to inventive thought.
The crusade against these laws is led on by a few aspiring politicians, numbering among them certain Congressmen, who hope to curry favor with the masses by their course. The destruction of our patent system is urged for the most ignoble purposes. The men who are the active participants in the crusade are those who hope to receive the benefits of the toils of the inventor without returning to him an adequate recompense. Our patent system is the
growth of ages and the result of the best thought not only of this country, but of Europe. Chancellor Kent, as high a judicial authority as can be quoted upon this subject, says: "It has been found necessary for the promotion of the useful arts and the encouragement of learning, that ingenious men should be stimulated to the most active exer-
tion of the powers of genous in the production of the powers of genous in the produc-
tion of works useful to the country and instructive to mankind, by the hope of profit as well as by the love of fame, or a sense of duty. It is just that they should enjoy the pecuniary profits resulting from mental as well as bodily labor. We have accordingly, in imitation of English and foreign jurisprudence, secured by law to authors and inventors, for a limited time, the rights to the ex-
clusive use and profit of their productions clusive use and profit of their productions and discoveries." In pursuance of this pre-emimently just doctrine the United States Courts have always liberally construed the rights of inventors under the patent laws. In the case of Turrel vs. Michigan Southern \& Northern
Indiana R. R., I Wall 491, and in numerous other cases of later date, they take the ground that patents for inventions are not to be treated as mere monopolies, and therefore odious, but are to receive a liberal construction, or, as held in Carr vs. Rice, 1 Fish, 198, patents are dealt with by Courts as a grant by the Legisla, ture, in exchange for the free enjoyment of
the patent discovery, after the inventor's exclusive privilege expires.
The country is greatly indebted to-day to its inventors. To our patent system, perhaps, more than any other have we been enabled to thus rapidly advance from a weak colony in 1776 to one of the most powerful nations of the earth at the present day. As England, by
her system of trained labor, could successful her system of trained labor, could successful ly compete and outbid the continent in her
many lines of manufactures, so by the aid our mechanical inventions have we been enabled not only to compete with England, but are now fast becoming the master of almost every foreign market. No country has ever The number of our patents are more than
Thated this for its inventive skill double those of England, and are rapidly in creasing. This is the result of that beneficent law which is now so vigorously attacked. If protection to inventive rights shall be with drawn, the swift progress we are making will be checked. The inventor is inspired to labor for the reward. As the American Manufac
turer justly says: "This is a terribly practical ge, and the American people are the most practical portion of the human race. They pursue the business of invention as they do any other business, as a means of gaining a livelihood or making money. And that is the secret of the practical nature of their inventions. Take away the stimulus of protection in the property-right and ownership of their inventions, and all that kind of work would be laid aside at once. We would soon find as great a dearth of inventions and improvements as the most conservative could wish.'
The men who are at work tearing down our patent system would not care to do without the steam engine, the cotton-gin, the telegraph, the loom, the sewing-machine, or the myriads of other inventions that have multiplied the hands of industry into a thousand
fold power, but they would quietly recline up old power, but they would quietly recline upexpended a life of incessant toil, and brought them forth; then they would rob him of his property, and leave him, as has too often been he case even under our present laws, to die in poverty and want. We hope the day will not come when true inventive genius will fail to receive a due recognition and reward at the hands of the American people. There may be some modifications needed in our present system, but certainly the door should not be thrown open for a general and unrestrained piracy of
the age.
or
Subscribe for the U. S. Mulkr; $\$ 1$ per year.

Mr. Chas. Howard, of Neenah, Wis., is
making some neeessary repairs to his mills, making them first class in all respects.

## Subscribe for the U. S. Mllerr ; $\$ 1$ per year.

## The Weather as a Pain-Producer.

It is a familiar experience that certain bodily pains vary according to the weather. A series of observations on this subject, made with much ability and perseverance, has lately been reported to the American Academy of Science by Professor Mitchell. They are by Captain Catlin, of the United States Army, who lost a leg during the war, and since that time has suffered a good deal from traumatic neuralgia. He carefully noted, during five years, the effect produced on him by changes of the weather. For the first quarters of these flve years there were 2,470 hours of pain, for the second quarters, 2,100 hours, for the third quarters, 2,056 hours, and for the last quarters, 2,221 hours
The best "yield of pain" is in January, February and March, and the poorest in the third quarter-July, August and September. During these five years, while the sun was south of the equator there were 4,692 hours of pain, against 4,158 hours while it was north of the equator. The average duration of the attacks or the first quarters was 22 hours, and for the third quarters only 17.9 hours. Taking the four years ending Januray 1, 1879, it is found of the 537 storms charted by the Signal Bu reau, 298 belong to the winter quarters, against 230 for the summer quarters. Hence we have the ratio of the number of storms of the winters and summer quarters corresponding to the ratio of the amount of neuralgia for these respective periods; and the ratio of the aver age duration of each attack for the same time corresponds closely with the ratio of the respective total amount of neuralgia for the same periods. The average distance of the storm-center at the beginning of the neuralgic attacks was 680 miles. Storms from the Pa cific coast are felt further off very soon after or as they are crossing the Rocky Mountains, while storms along the Atlantic coast are as-
sociated with milder forms of neuralgia, sociated with milder forms of neuralgia
which are not felt until the storm-center is nearer. Rain is not essential in production of neuralgia. The severest neuralgic attacks of the year were those accompanying the first snows of November and December. One other interesting observation is as follows: Every storm sweeping across the continent consists of a vast rain area, at the center of which is a moving space of greatest barometric depression. The rain usually precedes this storm center by 550 to 600 miles, but be fore and around the rain lies a belt, which may be called the neuralgic margin of the storm, and which precedes the rain about 150 miles This fact is very deceptive, because the sufferer may be on the far edge of the storm-
basin of barometric depression basin of barometric depression, and seeing storm.

## Cut This Out.

"Jiitid States Miller" Sulscritition Blank.
Wr hope the milling friends of the Unitrd STates Mrluer will be as liberal to it as it
has been in the past. and will be toward in the future. Subscription price, oneyear $\$ 1$, We shall be pleased to have an early response to this. Fill out the blank below, enclose with money in an envelope, seal carefully and send at our risk. A receipt will be sent by return all communications to the
United States MmLer, Milwankee, Wis.

Editor of the United States Miller, Milwaukse, Wis.-Sir: Send one copy of the
United States Miller for one year, for which find enclosed \$1.00.
Name ..
Post-Office_-............................................................
County.
Shato.
THE IMPROVED
adjustable tally.



| Situations Wanted, etc. Millers, Engineers, Mechanics, etc., wanting situa tions, or mill-owners or manufacturers wanting em ployes, can have their cards inserted under this hea for 50 cents per insertion, cash with order. WANTED-A situation as head miller. At $\qquad$ <br> WA NTEE-TTo young Miliper to work in $n$ o oustonmill; must understand stone dressing and grinding; t <br> work under a good Miller. Good references are re <br> quired, and state what wages are expected. Addres <br> GLADE \&SCHAUPP, Columbus, Nebraska. autf <br> SITUATION WANTEEingrist or gristand merchant work. practical millerCan give good references, Please state salary and <br> address A. V. Kemerer, Waumandee, Buffalo Co., Wis <br> Respectfully, A. V. KEMERER. <br> autf <br> WANTED-A situation by a miller of 18 years' ex perience, understands thoroughly both merchant an $\square$ <br> be pe Addre Jeffer $\qquad$ <br>  $\qquad$ <br> SITTUATION WANTE IT-In either a merchant or custom mill; have had eight years experience in th $\qquad$ <br> SITHATEION WAN IESB.-A practical miller of te <br> proce in an art of $\qquad$ a thoroug he can pe $\square$ <br> June tf. Care of Rea TO MALIL- $\qquad$ $\square$ <br> dressing in a new process mill. Have worked dress process sing $\qquad$ $\qquad$ $\square$ $\square$ |
| :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

For Sale or Exchange.

|  |
| :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

 FOR XALLE.-A bargain for someono with a ititu

## POWER CORN SHELLER!


thelland The Chaeneets. Beat and mot Simplo Power Cori HULBERT \& PAIGE,

ATtention! MILLERS! ATtENTION:
Wayman's Bolting cloth
BUG AND MOTH

Mill Pick Works
HENRY HERZER,

## 

 Mill Picks,
## 456 Canal Street

 milwauker,wisconsin.




## LEHMAN'S

Patent Method for Truing the Faces of Mill-stones,
Will insure to the user a perfectly true granulating face for Mill-stones and with the use of my BOSOM STAFF the object secured by the a great a quantity of Middlings and clean Bran made as can be made by the Hungarian process, when used to perfection. With my but very little stone dressing is needed after the stones are once put in order. One great the stones are once put in order. One great
trouble with millers now is that they dress their burrs too much. Stop cutting out and half furrow; same at eye as at the skirt is what you want. It is the face and not the furrow hat makes Middlings, and hundreds of Millrs are to-day spending time and money and
ruining their burrs by over dressing them Secure a true face and the proper slont from the eye to the skirt and the results will be all that can be wished. The foundation of sucproperly done no amount of subsequent treatment will turn out good flour. I earnestly invite your attention to my inventions, and
solicit correspondence. My price for license solicit correspondence. My price for license
to use my PATENTED MECHOD with full printed directions, is Five Dollars per run, or, run. Price for BOSOM STAFF $\$ 35$. Any
quantity of references from leading mills furnished upon application. During September I shall be in the States of Wisconsin and Minnesota, and Mill-owners wishing to have
me call upon them for the purpose of explainme call upon them for the purpose of explain-
ing my inventions, will address me early, as below. I guarantee satisfaction or ask no pay.


## FLOUR TRIERS.

every description-Pearl, Ivory, Silver, Celluloid,
Ahell, Steel and Nickel'Plated.
As am the only party in the world that makes a
pecialty of Flour Triers, and Patentee and Sole Manuspecialty of Flour Triers, and Patentee a
facturer of the
BOARD OF TRADE
Flour, Grain ani Boliting Cloth Inspectori I can furnish them of any material, size or color known. oid Wher, and put them un in all colors and styles-
Red, White, Blue, immitation of Malachite, yhell
and Pearl. They are perfect beauties, as well as sueful
 All orders promptly filled at wholesale or retail.
H. J. DEAL, Bueyrus, Ohio.

## Export Flour.

We are prepared to furnish the trade with any of our well-known brands of Flour, in sacks or barrels. Address all communications to

## NOTBOHM BROS.,

Janesville, Wis.

## Export Flour.

We are prepared to furnish the trade with any of our well-known brands of Flour, in sacks or barrels. Address all communications to

## T. F. HERSEY,

Cawker City, Kas.

## IMPORTANT TO MILLERS.

The principals of a Cork firm (Ireland), long established and largely connected, are desirous to treat with an extensive miller respectfully for supplies of Flour, Maize, Meal and Oaten-meal, for cash, or usual terms with bankers' guarantee. Prompt communication (including best terms) respectfully requested. Address

HUNTER \& PERRY, 12 St. Patrick's @uay, Cork, Ireland.


## Porcelain Rollers!!

 THE INVENTOR AND MANUFACTURER,
## WILHELM BRAUN,

 ENGINEER,Carlsbad, - Bohemia, Offers the BEST and HARDEST in existence, of all sizes, in a rough state, mechanically fitted on their shafts, and ground ready to be laid in the Roller Mills.

## ERPORT FLOUR.

We are prepared to furnish the trade with any of our well-known brands of Flour, in sacks or barrels. Address all communications to

## Mıwauke Mıumg Co.

Milwaukee, - Wisconsin.

[^1]
## $\frac{5}{4}$

## James Leffel's Improved WATER WHEEL.

 PRIOES GREATLY REDUCED FOR 1879. The "OLD RELIABLE" with Improvements, making it the Moat Porreet Tur- JAMES LeFFEI, Ad Co.

JAMES LEFFEL e CO., springfield, Ohto, Stout, Mills \& Temple, DAYTON,

all Particulars as To THis machine can be obtained BY ADDRESSING

## PHILIP TRIGGS,

39 BROAD STREET,
BRISTOL, ENGLAND.
Sole Concessionaire for France and Belgium, Mons, Toufflln, 25 Rue de Gonstantinople, Paris,





Send for desoriptive eiroular.
GRATIOT BROS., Platteville, Wis.
WELL-AUEER, Oursisg guarantoedto bo the


## The lnited States

Volume 7.-No. 6
MILWAUKEE, OCTOBER, 1879.

THE BEST is the CHEAPEST.

## The Garden City Puifier



LORD'S TOLL CARDS

 subscribe for the United States Miller! The Leading Milling Journal of America. subscription Price One Dollar per year, post paid. A
dress
UNITED STATES MILLER, 62 Grand Opera House, Milwaukee, Wis

, BURNHAM'S<br>WATER=WHEEL<br>Prices reduced.


you see for yourself what you can do at
the business we offer. No room to explan here. You
tan devote all your time or only your spare time to the
business, and make great pay for every hour that youl butinesse and make great pay for every hour that you
work. Women make an much as men. Send for special
wrivate torms and varticulars, which we will mail free.
privard T5 outfit free. Don't complain of hard, times while you
have such a chance. Address, H. HALLET\& Co.

Mill Furnishing, Poundrymen \& Machinists.
 Flouring Hill Contrators. Sond for Pamphlot. Vordyke \& Marmon Co
Indianapolis, Ind.

THE IMPROVED ADJUSTABLE TALLY.


Is the only machine that will repister $\%$, 2 and $1 / 2$
barrels, as well as barrels. Is easily attached to the


WARD \& CO., french burr Mill-Stones.
 mutar Yarst Pat ward a co., Mill-stones.
Old and
New built on edge. Stone peeiaily $\left.\begin{array}{c}\text { prepared for } \\ \text { grinding Middlings }\end{array}\right)$ made of stock seleeted
mor that purnose als those buirt one p. . . W . W .
Ward's new plan hard's new plan as Johso Kergan. EVE ESCRIPTION OF $\begin{array}{lllllll}\mathrm{B} & \mathrm{D} & \mathrm{D} & \mathrm{C} & \mathbf{1} \\ \mathrm{D} & \mathrm{D} & \mathrm{C} & \mathrm{D}\end{array}$ CAT NEW YORK PRICESE GOODVEARPUBBERCO. s suvoam agent 370EASTWATERST.MILWAUKEE. BRANCHOF GOOOYEAR RUBBER CO. NEW YORK.

$\qquad$

Is Licensed Under all Patents.

## Send for descriptive circular.

## COLLINS \& GATHMANN

 CHICAGO, ILL.$\qquad$



For the best Vertieal and Horizontal French Burr Grinding Mills, Portable Flour Mills and Machinery


WALKER?
BELT TIGHTENER. Indispensable for Safe and Economical Operation of
Belts on Yertical Shat and Svinde Pulleys. Prices
Bed Eeduced. Circulars free. Adrress
GEO. WALKEK, Box 2 . Hamburg, Erie Co, N.Y.
$\$ 1,500$ c.

 You wint toknow all atoont ho bert pyying busingss be


FLOUR TRIERS.
of every deserription-Pearl, Ivory, Siliver, Celluloid,
 Flour, Giain and Boting Cloth Inspector, I can furnist them of any material, size or eqlor known: Red, White, Blue, immititition of Malathite, bhell



GET THF BEST.


MILLER'S PATENT COMPOSITION BURR RUBBER.
For Cleansing, Sharpening, and Facing Burrs, and Smoothing Furrows.
Miller's Patent Composition Burr Ruber for clean-
ins, ,hariveniwn





## SAXONY MILLS.

Lombard St., bet. Third \& Fourth Sts. ST. LOUIS.


## STOP：STIOP！STOP： Purchasing Middlings Purifiers

 Until you send your address to Andrew Hunter， who will explain the reason why and show you how to save from $\$ 50$ to $\$ 300$ on the purchase of each Machine．＂A dollar saved is a dollar earned．＂ members and those who are not members of the Millers＇National Association will hereafter reap the benefit of the decision．Said decision prompted Hunter to reconstruct and simplify his machine，placing it outside of all possibility of infringements from reissues of old patents or any invention in use．Hunter has the good fortune in simplifying his machine to be en－ abled to compete in price with the poorest machine on the market．Hunter＇s Purifiers are fully pro－ tected by his own patents，he having spent the last eighteen years experimenting on machines for sepa rating by specific gravity．He owns now over fif－ teen different patents，which cover fully all the prin－ ciples used in his machines，consequently there is no necessity of purchasing a license or bolstering up with the aid of old patents or reissues．

He warrants better work and greater capacity than any machine in the market．

ANDREW HUNTER，47I West Washington St．，Chicago，III．

## The Geo．T．Smith IMPROVED MIDDLINGS PURFFER．

SIMPLF，DURABLF，FCONOMICAL，
AND REQUIRES BUT LITTLE POWER．


Purifies Middlings or Beturns from Hard Spring or Soft Winter Wheat，thoroughly， and without waste．
The Traveling Brush，The Sectional Draft，The Pockets， and many other important features．
A large number are in use in the successful New Process Mills of this country We manufacture eight sizes，adapted to the smallest or largest mills．Our prices range from $\$ 225$ to $\$ 600$ ，and cover a license under all of the patents owned by the Consolidated Midings Purifier Company．
Send for our New Circular

Address the Manufacturers，
Geo．T．Smith Middlings Purifier Co．，


HOWES，BABCOCK \＆CO．，
Silver Creek，Chautauqua Co．，N．Y．

## BOLL日R MILLS！

## ENTIRELY SUPEREEDNG MLL－STONES．

## Wegmann＇s Patent Porcelain Rolls．

Grooved or Fluted Chilled Iron Rolls． Smooth Chilled Iron Rolls．

All in our Improved Frames，which is the only one made which admits of perfect horizontal and vertical adjustment

ALL LICENSED UNDER DOWNTON PROCESS PATENT．

## The Reynolds－Corliss Engine

Which has given on trial the best economy and regulation known in steam power．

We shall be pleased to correspond with any parties desiring prices and information relative to mill machinery or steam power．
Edw．P．Allis \＆Co．，
MILW AUKEE，WISCONSIN．


BOTT工E』 BEER
VOECHTING，SHAPE \＆CO，
Joseph Schiitz Brewing Company＇s Celebrated Milwaukee Lager Beer Cor．Second and Calena Streets， MILWAUKEI
bottlers＇supplies constantly on hand
ISCONEIN．

## HULBERT \＆PAIGE，

 MILL BUILDERS，CONTRACTORS，General Mill Furnishers，Founders，Machinists．
 STEAM ENGINES，

Triumph Power Corn Sheller．
Plans and specifications made by accomplished Mechanical Engineers and Millwrights．
＂Send for Illustríced Catalogue＂G．＂
HULBERT \＆PAIGE，

## （6）BRANCH HOUSE，Kansas City，Mo

## The Becker Brush！

Is now Receiving More Attention than any other Machine known to Millers，for Brushing and Polishing Wheat．

The superiority of the Becker Brush over all others consists in the following points ：

Conical Sbape Brush．
Combination Jacket of Punched Iron and Steel Wire．

Raising and Lowering the Brush when in motion． An Adjustable Fan，to run with or against the sun． It Scours，Polishes and Separates at same time． Takes the dust out of the crease of the berry．
Takes the furze off the end of the wheat．
It does not disturb the bran．It greatly improves the color of the flour．Millers say it is a good Buckwheat Cleaner．

## SEND FOR ILLUSTRATED CIRCULAR TO

Eureka Manufacturing Co．，Manufacturers，
myly
 ROOK FALIS，ILI．


Volume 7.- No .6.

British and Irish Flour Mills.
waveney flour mills, yarmouth.
We have frequently had occasion to contrast the mode of flour manufacture practiced in former times, before the revolutionary force of steam was introduced and the development of the mechanical contrivances for the treatment of grain to be converted into flour, and of the latter before being sent to the flour merchant or the baker-with the mode of manufacture now in use. 䭴The interior of our flour mills, more especially those of them in which the manufacture of the article is pursued on a large scale, have been almost revolutionized, while as regards their exteriors quite as marked a revolution has taken place. The old mills, when wind and water were the motive powers, judging from the relpowers, judging from the rel-
ics of them which have esics of them which have escaped the ravages of time and
the unsparing hand of imthe unsparing hand of improvement, were quaint and picturesque features of landscape, or townscape, which were attractive alike to poets, painters and musicians, as songs, pictures and musical compositions abundantly attest. In our last technical issue, a correspondent, Mr.
George Allsop, referred, in a George Allsop, referred, in a
brief communication, to the brief communication, to the
favors that had been conferfavors that had been confer-
red on "Mills and Millers" by painters and poets. They are the old mills, and the old millers chiefly, who are thus eners chiefly, who are thus en-
balmed on canvas and in song. Who has not heard of the jolly miller who lived on the river Dee, who taught one of our ancient kings a few valuable lessons in the "Thinosophy Lass o Pattie's Mill" is equally well known; an old poet has sung "Merry may the maid be that marries the miller;" and all readers of Burns know the mercenary instincts of "Meg ' the Mill," who broke "the heart of her barley miller." One of the most beautiful of the earlier lyrics of the Poet Laureate has for its subject "The Miller's Daughter," and in the same poem the miller himself as well as the mill are touched off with a truly artistic hand. One of the most powerful of our living writers

George Elliot, has adopted
mill as the title of one of her most powerful works-we refer to "The Mill on the Floss,"and in and around the miller and his family the main interest of the story is concentrated. Who ever entered a picture gallery, or an exhibition of pictures, without finding amongst its leading attractions landscapes in which a mill was a chief feature? In short, the mill of earlier times than the present is surrounded with a halo of poetry and romance; but our modern millers are more generally associated with economic questions, which, however intrinsically important, are as dry as the dust that floats in the atmosphere of their mills.
Structurally speaking, the typical modern mill is a much more spacious and convenient affair than the typical ancient mill, loved by poets and painters. It is a building of many stories dominated by a towering chimney, frequently, as has been seen by the recent examples we have given of it in The Miller, of considerable architectural attractions, filled with an elaborate system of machinery. The Waveney Mill which we describe and illustrate



#### Abstract

inches, and both have a length of stroke of 2 feet 6 inches, making 62 revolutions, or a piston speed of 310 per minute. There is a sep- arate expansion valve working at the back of the train valve of the high pressure cylinder, arranged to be adjusted by hand in a very simple manner whilst the engine is running. The low pressure cylinder has but one valve; all are worked by separate excentrics, direct, so that each is susceptible of a separate adjustment, and being outside the cylinders at the sides of the engine, can at any time be most readily got at; the whole arrangement of the details of these engines having been most carefully studied with a view to this most important feature, viz., easy access to all parts in case of repair. This is often lost sight of say, to the modern class of mills, and is a good specimen of its elass. It occupies an excellent site for milling purposes near Yarmouth Bridge, by the side of the harbor of that ancient port, on the bar of which there are 16 feet of water at neap tides. Ships of seven or eight hundred tons burthen can come alongside the mill with grain cargoes, and smaller vessels and wherries have direct communication with the principal towns on the tributary streams, Bure, Yare and the Wave ney,-viz., Norwich, Acle, Aylsham, Nort and South Walsham, Loddon, Mutford, Lowes toft, Beccles, Geldeston and Bungay. Our i1- lustration of the mill is taken from the northwest, and it will be seen that although it has no pretentions to great, architectural beauty


well as the difference between the weights of the two connecting rods, so that a very uniform motion is the result. The fly-wheel is very heavy-a great advantage in flour millsweighing seven tons, and is 14 feet in diam eter; the periphery of the fly-wheel outrun ning the periphery of the millstones by about 1,000 feet per minute. This fly-wheel is of greatly improved construction, and well calcu lated to resist its great momentum, the boss, arms and rim being in parts, the latter in six segments. The arms, being turned at their lower ends, are fitted into the boss, which is bored to receive them, by strong folding cutters; these, when all fixed, are put into large wheel lathe and the upper ends of the arms carefully turned also. The segments o the rim having been accu rately planed at their ends are then fitted to the arms by strong bolts and nuts; the whole rim is then turned and polished on face and edges, and a thoroughly good job is the result. The condensing apparatus, with air pump, is arranged at the back of the low pressure cylinder, and is worked by a gun metal rod in worked by a gun metal rod in
a line, vertically, from the low pressure piston, but about 8 inches below the piston rod. The air pump is double acting, all of gun metal, with its bucket and valve seats, guards, bolts, and nuts; to resist the action of the salt waters used for condensation, six valves are used for the suction and
six also for the delivery, and the vacuum is, with a fair supply of water, most excellent. Steam is supplied from a "Galloway" boiler, 18 by 6 feet, and provision is left by the side of it for one of the
same make, but 24 by 6 feet same make, but 24 by 6 feet,
when the engine will be able to run fifteen pairs of stones if needed, or a corresponding amount of other work. There are at present put to the engine twelve pairs of 4 -feet
stones arranged in two rows of six pairs each, worked right and left from off two
drum pulleys on the end of fly wheel shaft projecting into the mill. These drums are each 7 feet diameter and 13 each 7 feet diameter and 13
inches wide on face-well rounded driving on to drums
the building has a highly effective appearance. | in the endeavor to effect some fancied economy The mill is eighty feet long by thirty-eight of detail. The guides to the piston rods are feet wide, sixty feet high, and comprises six stories. It was commenced in the summer of 1877, and is built of red brick, the floors being laid on wooden beams twelve inches square, which are supported by seventy-two massive iron pillars.
The engine, which is of the compound high and low pressure expansive and condensing class, is of horizontal construction; and of 30 horse power nominal, and is of ample strength and capacity for working up to 100 indicated horse power, with a steam' pressure of 70 lbs . on the square inch. It was made by Messrs. Riches \& Watts, and is of similar pattern to many constructed by the same makers, which are most successfully working at many of the largest flour mills and other establishments in the county of Norfolk. The steam cylinders are placed close together side by side, are both steam jacketed, as also are the covers, supplied by steam direct from the boiler. The diameter of the low pressure cylinder is 24 in -
ches, and that of the high pressure cylinder 14
of the "slipper" kind, with adjustable shoes of hard cast iron fitted to gun metal blocks. These shoes, which are of large surface, work in cast iron channels accurately planed and fitted to the bed plate, and are provided with oil pans or dishes at each end for the effectual lubrication of the guides. The connecting rods are of the best forged Yorkshire iron, and are fitted at the crank end with heads of "marine" type forged with the rod, the caps of which are securely held by strong screw bolts and lock nuts. The crank shaft is also of the best forged Yorkshire iron, formed solid, and the iron slotted out; it is $\beta 1$ inches diameter in the neck and the main bearings, and is coupled to a short wrought iron shaft 7 inches in diameter, on a swelled part of which is keyed the fly-wheel. The other end of the crank is fitted with a cast iron dise crank (which is actuated by the high pressure pison), having a crank pin of cast steel. This disc is so formed as to accurately balance the
-one to each lay shaft under the stones-6 feet 9 inches diameter and 13 inches wide on face. On the lay shafts (which are of wrought iron, turned and polished throughout) are bevel wheels, geared with wood and working into "heels" of iron teeth on the stone spindles. The hursts are strong cast iron tandards, with brays and bridetrees all fitted by planing, metal to metal, the stones resting on pans of cast iron faced and turned and ftted to the turned ends of the standards and to each other, metal to metal, the whole arrangement being of a most rigid and substantial and rigid character and working exceedingly smoothly and satisfactorily; each pair of stones has a separate governor to regulate them. This arrangement of driving the them. This arrang ment of ding the tones has the merit of obtaining by its adoption large strap power, a better distribution of
the strain from the engine shaft, and a minimum of vibration frem the gearing; no upright shaft is used, as there is an additional pulley on the end of the crank shaft projecting nto the mill, 6. feet diameter and $10 \frac{1}{2}$ inches [Concluded on page 92.]

## United States Miller.

 E. HARRISON CAWKER, Editor.
\%imenemin
sip peryonr in advance
si.50 per year in advanco

## 

## [Enterod at the Post Ofice at Milwakee, Wis., second-colases mater.)

MILWAUKEE, OCTOBER, 1879 .
We are indebted to Messrs. Marshall Bros.,
of Milwaukee, Wis., for a number of late Australian newspapers.
Col. Gratiot, of Platteville, Wis., called
during the month. He reports orders lively
for the well for the well-known Gratiot heaters.
Jovathan Mus.s is heartily pleased with the final result of his milling experiments at
Terre Haute, Ind. He is confident that there is "millions in it,"

Subscribers changing their location and writing to us to send the MmLere to their new
address, will confer a favor by stating what address, will conter a
their former address was.
Another member of the British Parliament
-Hon. John Henry Puleston-is $e n$ roulte for -Hon. John Henry Puleston-is en route for culture in America in its relation to British

The aggregate internal revenue receipts of the United States, since June 30, from all
sources, up to and including last week, show an increase of 872,000 over the corresponding period
Mr. Albert Hoppis, of the Northuestern
Miller, Minneapolis, made a pleasant call during Miller, Minneapolis, made a pleasant call during
the month. Although the weather was rainy during most of his sojourn, he expressed himself ain.
We will sena a copy of the Mlleers' Text
Book, by J. M'LeaN, of Glasgow, Scotland, and the United States Mlleer, for one year, to any address in the United States or Canada, Send cash or stamps.

We respectfully request our readers when they

seen in the Untted States Mmler. You will

## thereby ob

The Kingdom of Greece, according to a reing an increase of 221,771 since 1870 . The Since the liberation of Greece from Turkish rule in 1837 , when her population was only 850 -

Crors in Italy, like those in England and other parts of Europe, are of a very low grade this year. The Italian Government has issued
a circular to the Prefects of the various provinces directing them to call on property-owncrop of Italy is estimated to be $15,000,000$ bushels short of the average this season.

## A Joint commssion, appointed by the Gov-

 ernor of New York and the Canadian Govern-ment, has commenced its session at Niagara Falls, for the purpose of devising means by which to prevent the destruction of the won-
drous natural scenery there. How the action of the mighty forces of nature there at work
may be arrested is not easy to conceive, but pernaps the commission may hit upon it. It
has many times been proposed to turn this trehas many times been proposed to turn this tre-
mendous water-power to very extensive practical use.

The Ohicago Inter-Ocean says: "The question is, What are we to do with our gold? NoEurope continues in a steady flow, $\$ 33,000,000$ and over having been received since the first of August. Silver is also bothering us, though not to anything like the extent of gold; beside there is a demand for silver, and a great deal of it keeps in circulation, while gold is shunned silver certificates that are being issued by the Government will soon have the effect of adding the entire silver coinage to the active circula-
tion of the country, and this being so, a natural expansion of the currency will result." We
would just say to the Inter-Ocean man that if would just say to the Inter-Ocean man that if
he can't get rid of his gold any other way, he can come to Milwaukee and buy beer.

## The Question Answered.

In the June number of this journal, in which was published the condensed statement rarnished to the milling press of the receipts
and expenditures of the Millers' National As. sociation during the progress of the celebrated Cochrane suit, it appeared that George Harding, counsel for the $\AA$ ssociation, had received
over $\$ 40,000$. As there was no explanation furnished, many members throughout the country wrote to us inquiring if this fee was n order to answer the quest of them putit. note to Mr. Seamans, the Secretary of the National Association, to which we have received the following reply, which we think
will bead wih interest by millers generally: Miluw auker, Wis., Sept. 30, $1879 .-$ Editor
United States Miller-Deas Sis:
In answer to United Sates Miller-DeAs Sis: In answer to
your inquiry in relation to the apparently yarge
amount of amount of $\$ 40,000$ paid Judge Harding in the
Cochrane case, as per Executive Committees Cochrane case, as per Executive Committee
published report, $I$ beg leave to submit the fol
owing condensed list of exponses owing condensed list of expenses paid out o
his sum by Mr. Harding, as per his report on file at my office. You will see by this account that the actual amount received by him thus
far for professional zervices is less than
sia $\$ 12,000$, instead of $\$ 40,000$, as you infer.
will also take the liberty of quoting the fol lowing extract from the letter received from
him enclosing the annexed statement: him enclosing the annexed statement:
"I know that in traveling expens bills, telegrams, etc., I have paid out between $\$ 2,000$ and $\$ 2,500$ more than this. I I have
labored at this case to the labored at this case to the exclusion of the
greater part of my other business for more
tan seventeen months, office seventeen months. During that time, my
orgazaztion, and expenses in New York and Philadelphia necessary to my busi
ness hand ness has been $\$ 6,000$ or $\$ 7,000$ a year. I con-
gratulate the millers ou their victory, but to me it has been a matter of honor rather than
profit," profit.'
List of







## Yours respectfully,

F. B. Miuls, Asst. Sec'y

## Correspondence.

Mansfield, Ohio, Sept. 26, 1879.-Editor United States Miller-Dear Sir: In complianee
with your frequent request for persons interwith your frequent request for persons inter-
ested in milling to contribute something for publication in your paper, I will say that, as the opportunity is presented, I will occasionally give my views on the subject of milling in its different departments, and in each article some one special topic. And as the millstone is universally acknowledged as the basis or
foundation of successful milling, it would foundation of successful milling, it wo
seem to claim my attention in this article.
Uniformity of the blocks is a matter great importance, and one which is overlooked by very many millers in making selection of
millstones. Where one block is hard, another soft; one opere one lose it will be impossible to keep the burr in true face. And if the face of the stones are uneven, the result will
flour, and waste of product. As to the best style of dress, the opinions of our best practical millers differ widely. In my opinion, there are at least three different modes, either of which does well, viz., the three-quart
the two-quarter, and the equalizing dress.
The three-quarter dress has the objection too much draft in the short furrows, and makes it necessary to give the leading furrows less draft than they really should have, so as to prevent the product being thrown off too rapidly or from being delivered before being thoroughly granulated. The two-quarter dress is preferable, because there is less difference
in the draft of the furrows, and consequently more uniformity in delivery.
I prefer the equalizing dress, because each furrow may extend nearly or quite to the eye of the stone, thereby securing greater uniformity to face, furrow and draft, and the result will be more perfect granulation. As to proper draft, width, number and depth of urrows, no fixed rule can be adhered to strictf work to burr, quality of stook, and kind
direction can safely be given in a matter so important. The number furrows necessary in a millstone of any size depends upon the condition of the stone (whether open or close) and upon the kind of work to be done. Suppose I have a 48 -inch best old stock French burr, medium close, which I wish to put in order for granulating wheat. I will first put possible. I will then lay off my furrows, say possible. I will then lay off my furrows, say
forty in number, of such width as to divide the surface equally between face and furrows, giving one a quarter inch draft per foot to the furrows, and making the depth at the eye one-fourth of an inch, and at the skirt ope-
eighth, taking the same care to have the fureighth, taking the same care to have the fur-
row true, as I have taken to true the fuce dressing it to a perfect feather edge, being careful to avoid leaving a shoulder, even of the very slightest depth, as it would have a tendency to cut the bran and make the flour mpure. Having dressed the barrs as above indicated, I would place the bed-stone perfect level on a solid base, and have the runner o perfectly balanced as to entirely avoic danger of the surfaces running together, ex-
cept by carelessness of the operator. With cept by carelessness of the operator. With
the wheat in proper condition, I would expect to granulate thoroughly 6 to 7 bushels per our, with my burrs running at a speed of 140 evolutions per minute. For granulating middlings I would use stones of same quality f stock as for wheat, but smaller, and very For wrind less furrow surface.
For grinding corn and feed nch stones, built of the quality of edge blocks, quite open, using the equalizing dress with more furrows, narrower, and some deeper than for wheat, giving my furrows $1 \frac{1}{2}$ inches draft per foot of the diameter, and run them per minute. I consider the edge block burr much more valuable for grinding corn and chop than those built in the ordinary way for the reason that they require much les dressing, are naturally sharper, and grind more rapidly, requiring much less power to do given amount of work.

Should Millers Speculate in Grain? Whether the number of millers who are el gaged in grain speculation is large or not, the
thoughts advanced by the st. Louis Miller, in thoughts advanced by the St . Louis Miller, in
a recent editorial, are well worthy of consideration. It is certainly true, as that paper intimates, that the miller who speculates enjoys no immunity from criticism not possessed by gambler. A person, it says, should not pursue an outside policy to the general detriment of the trade to which he belongs. Now, pure and undefiled milling we believe to be inher-
ently as safe and sure a business as there is in ently as safe and sure a business as there is in
the country. True it has had a small margin of profits for some years past, but in that re gard it has surely been upon a par with every other line. Other things being equal, if one of mill grind with a profit so can the mass will not grind without a reasonable profit. Millers could approximate in advance very closely to the amount and character of their devices of one class of traders-grain speculators. The element of hazard would be very largely eliminated from milling were it not for the shifting values, the bulling and the bearing, the artificiality, the eapriciousness and ulation.
For a miller with a large outside capital to buy a vast amount of wheat on speculation, sell his flour as fast as he grinds it, until wheat
has reached the desired figure, and then by has reached the desired figure, and then by
throwing it upon the market help to create a tumble, he thenceforward hangs on to every barrel of flour he grinds until the market recovers from the revolution which he has aided to bring about-is right enough to himself, but wrong to the milling fraternity. The process unsettles values, and is necessarily detrimental to the general trade. It shakes the very foundation of the business, and lessens the stability and integrity of the otherwise Comperstructure
Comparing the effects, loosening the cornerstone of his neighbor's mill would be no more demoralizing. It is proper and prudent for a miller, if he have the means, to store grain enougb one harvest to run his mill until the next, if in his jndgment prices and market man sects jastify such a course. But when a dred, or grain to the amount of ten, a hun city of his mills, hed times the grind. a capamiller, for be has raised his hand against the regular business; and if the blow does not fall upun the mass of the fraternity, it is only
because he has made a miscalculation, and in stead of biting is bitten.
The extent to which this super-milling, this operated is, this exterior mill a tachment is either by us or by sider the matter. It cities the mater. It is confined to great has its Many a district has its speculative miller who helps to lock up
the graiu of the country and prevent a natural and equal distribution of milling profit. Some of the nicest, most honest and most re putable men, gentlemen of the strictest integ rity and most public-sprited impulses, are continually engaged in this sort of speculation, but they are not regular millers, although they may grind a great deal of flour annually.

## An Electric Railway.

the latest use to which electricity has been put.
Many attempts have been made to apply the motive power obtained from electricity to the working of locomotives, but no satisfactory result was obtained. However, a step forward has been made in this direction, in Berin, with apparent success. There are two ines of rails laid down, which, as in a narrow guage line, return in themselves in a ring shaped curve. The length is about 300 metres. In the middle is an isolated third line, con-
sisting of an upright, continuous iron plate The locomotive carries two rollers, with which it stands in connection with the isolated middle line. The essential portion of the locomotive is formed by an electro-dynamical machine, one pole of which connected with the middle line, and the other with the pair of outer rails, through the outer wheels. Similarly the machine which produces the current
stands in ihe machine-room in connection stands in ihe machine-room in connection
through one pole with the middle line and through the other with the outer pair of rails. When, therefore, the dynamical machine in the locomotive is on the railway, the electric current produced in the machine soon runs through it and causes it to rotate and to impart its rotary motion to the wheels of the ocomotive, and the latter continues to move until the current is interrupted. Even an imperfect state of isolation on the part of the
rails does not materially affect the action of he machine. When the locomotive is moving, its conducting wires form much better conductors than the damp earth. If the current is interrupted the damp ground is not a sufflcient conductor to keep the dynamo-electrical action going. The magnetism of the machines producing the current consequently isappears, and the result is that the subordinate stream through the earth is also inerrupted. A great advantage is possessed by the transmission of electric force from the fact the locomotive, whether moving slowly or quickly, always works up to its full power-an ffect which has hitherto been an unsolved roblem in mechanics. When the machine . gives the power has to do much work, and so goes slowly, the counter-currents it pro-
duces are also correspondingly weak, and the current through the conductors thereby undergoes an increase in strength to a similar exand, corresponding to this, the attractive power of the machine, are increased. The dynamo-electric locomotive has the further advantage that it carries in itself the power which can be employed as a brake, inasmuch as it becomes itself the primary or currentproducing machine when it rotates more rapidly than the actual machine. In judging of the performances of the electric locomotive in the Berlin exhibition, it must be remembered that it was not constructed for the purpose to which it has been applied-that is, to propel the three elegant little passenger carriages which are attached to it. Each carriage holds from eighteen to twenty persons, and all three are drawn in from one to two minutes round the circular railway of 300 metres in length. The locomotive was originally made or the purpose of drawing up coals out of the pit. Nevertheless, its performances are very remarkable, and render it certain that there are many cases in which electric locomotives may be employed with advantage. The question of the extent to which electro-dynamie locomotives may possibly be employed is as yet difficult to decide. Apart from the question of the possibility of a sufficient isolation, it depends on the conductive resistance the rails. According to Dr. Siemens' view, his requisite on long railways may be partly satisfied by setting up from time to time new primary dynamo-electric machines, which would maintain the necessary electric tension between the middle and the outer rails.-Gal-

## The Old Miller

by w. N. DAvidson.
Iknew an old miller in boyhood,
Whin Ived on the side of a hill,
In the sound of the falling waters, In the sound of the falling waters,
And nigh by a clattering mill. 1 remember the low ancient cottag The elustering fivy that clung
To the stately and olden linden That over the gable hung. A pathway led down through the garden And out through a latticed gate, With a sad and complainning grate. And on through a little meadow,
Where cattle used to graze, And a spring-brook used to babble
Through long, britght Till it joined the highway to the village That ran at the foot of the hill; And there stood the bourne of $m$,
The dingy and elattering mill. How lofty it was, and so narrow
The rafters how The rafters how peaked and tall!
The angles so crooked and leaning The angles so crooked and leaning,
Men said the old building would fall The miller but smiled at the warning, And unto them, gaily, he said: Long years when the miller is dead." "Oh, give me the clash of the gearing,
The buzzing, and whirring, and far Of the stone," he would say, "I would Have these than the wealth of the Czar.

## Ah! well I remember the mille In fancy I see him to-night,

 As saw him in the days of my chilahood,His clothing all matyed with And his musical accents are ring ing In memory's galleries still, Above the loud clang of the mill Thrice'Famine had spread his dark pinions
And Want brooded sore in the land And oft were the poor and the widow, Relieved with a bountiful hand.
or never, when hunger oppressed them,
And dreary and dark was the day, Went they to the miller for succor And came empty-handed away.
remember the high and wide door.w
The form that led up to the sill, The hook and the ponderous cable That hung from the top of the mil. The upper one ever ajar; whatered with innocent wonder One night when the river was swollen
And Thor was abroad on the blast And Thor was abroad on the blast,
Recording his journey in lightnings, And bowing the woods as he passed.
The family up at the cottage
Whatever of ill should betide therm, To shelter the good miller's form.
But, oh! as their prayers were
High up to the radiant Hill
Of Promise for aid and protec They heard the aid and protection, They heard the loud fall of the mill! "The chastening hand of our Father
In wisdom is over ns all!" In wisdom is over us all! Cried the reverent dame; but its shadow
Lay over her soul as a pall.
The glorious eye of the morning The cot, the brook, and the garden, Bnt where was the dingy old building,
So leaning, and narrow, and high, With roof all so lofty and peaked, It seemed to be piercing the sky?
Down under the wide-seattered ruin The miller lay rigid and still.

## Was bloodless forever and chill!

They buried him nigh by his cottage-
His tomb could be seen from its door

## And graved on it: "Here lies a miller;

Toothipick Agitation.-The toothpick market is agitated. Those chiefly in use are of white wood and pointed at both ends. A patent for fourteen years was obtained for them in 1866, and the factory of the Boston owners at Bucksfield, Me., used from 3,000 ta 5,000 cords of wood yearly, and turned out incalcucents, quantities. A box of 2,500 sold for 25 long and about 18 inches in diameter was placed in a machine where bevel knives cut it each direction, and turned out the toothpicks ready for market. About eighteen months ago another Boston firm started a factory in the woods of Ohio and used similar machinery.
The price then began tumbling, and fell to 20 The price then began tumbling, and fell to 20
cents at retail, then to 18,14 , and 12 . Of late the original manufacturers have reduced the figure to 10 cents, or 8 cents at wholesale, and report their antagonists to be on the verge of stoppage.
The well known firm of Z. M. Davis \& Co., of Canton, O., have lately made quite extensive improvements in their mill, putting in their mystem of porifiers, and also changing new process, and putting on new bolting
cloth, furnished by O. F. Miller, of

## The Hungarian Milling Trade.


The flours made in Hungary by the highclass mills are only to a small extent disposed of to its inhabitants, the greater part being exported. To enable them to do this, they
must be in a position to sell their products in must be in a position to sell their products in
the respective countries abroad at prices the respective countries abroad at prices
which will stand competition or the rates there which will stand competition or the rates there
current, and they are, therefore, forced to carry on business on a grand scale, and to have the rates of freight reduced to a minimum.
The main basis of the Hungarian milling is, therefore, the manufucture in vast quantities, The business flourishes as long as large quantities of wheat are available, and it ceases com pletely as soon as unfavorable commercial in-
fluences force the mills to reduce the scale on fluences force the mills to reduce the scale on
which they would otherwise work. Fortunately for the trade, all those conditions would nearly always exist in Hungary, which enable mills, by working on a large scale, to bring a considerable part of the raw product on the market in a manufactured state.
There are no reliable statistical data pub lished of the quantity of wheat grown in Hungary, as is done in France, England, etc. It is proportion the manufacture of flour stands to the wheat and corn production of the country nor has it ever been ascertained what quantity of flour the Hungarians are on an average able to produce annually. Approximately, it may be said, that the mills grind about thirty to thirty-five million cwts. of wheat and rye in the year, the products made therefrom being worth from 350 to 400 million florins.
be me mills in the town of Buda-Pesth may be considered as equal in grinding capacity to
one-sixth of the whole milling trade of Hungary. As previously mentioned, the home consumption is of little importance to the
large Hungarian mills. If Hungary has a harvest which is at all favorable, but a small part of the flour made goes to satisfy home demands, while the greater part by far, particularly of fine and medium sorts of flour, is a surplus, and is exported. The farmer, in acnone but inferior qualities of flour, a great none but inferior qualities of flour, a great
part of the same being ground in the most primitive manner at the nearest water or other small mill, where he takes his wheat and gets a proportionate quantity of the low qualities
of flour in exchange. The requirements of flour in exchange. The requirements of
the larger districts and towns are smull to fully occupy the mills. Of fine flours the home consumption is very small; these qualities of flour, destined for fancy baking, are not adapted to the mode of living in our country, and their sale is restricted to foreign countries, particularly England.
With the prices of wheat at the figure at which they are at present, and have been since the last harvest, we are able to compete with
the respective foreign manufactures, the respective foreign manufactures, although on the various markets, particularly those of
England, the millers have made astonishing progress in their powers of competition, although there are some obstacles already existing and some about springing up which may prove injurious to this branch of trade. Whecher the import duties which Germany has in view will prove of continually extending influence to,Austrian millers, is a question which necessarily remains undecided at present. But there can be no doubt that the price of the low kinds of flour formerly sent to Germany can bear the duty of two marks $(2 \mid)$ actually imposed with difficulty, and that generally the introduction of these duties will act unfavorably on our trade.
For the past two years Hungarian flour has been made exclusively from Hungarian wheat. Formerly, in years of bad barvest, important quantities of wheat were imported from Roumania for the manufacture of flour, but now the Hungarian wheat, which of all kinds in the world is the most suitable for our system ufficiently largene used, a
The wheat used by our mills is grown in different parts of the Kingdom. The Theiss wheat is best conditioned and ranks highest for the manufacture of good flour. Next stand the Weissenburg and Pesth, as well as the Banate, Marose and Bacska wheats. Gen-
erally these kinds of wheat are used for the manufacture of flour in the following propor ions:
Thirty-five per cent, Theiss wheats; 25 per ent, Banate and Marmarose ; 25 per cent, Pesth an
wheats.
The markets for Hungarian flour are: At
low quality flour. Upper and Lower Austria, Bohemia, Moravia, etc., white flours of medium quality and bread flour. Abroad: Southern Germany, bread and low quality flours for brown bread. North Germany (Berlin), exclusively fine quality flour. Switzerland, Belgium, Holland, generally bread and low quality flours. France and Italy mostly import small quantities of various sorts. England, fine and medium sorts, sometimes also bread fours. Turbey and Greece, low qualities of lour. The Brazils, fine flour. Egypt, fine and medium flour. East Iadies, fine quality flour. The export to England and Germany was greatest in 1878, and these countries are our two most important customers.
Formerly our flours were forwarded to England by way of Northern Germany and the North Sea. In consequence, however, of the well-known innovations in the German cusoms policy, and the raising of the railway freights which was connected therewith, the Hungarian mills were obliged to look out for another route of transport. They found it in the way by the Southern Railway to the Adriatic Sea, and thence from the port of Trieste,
o also from Fiume to the United Kingdom. Thus we have placed in safety this branch of the export trade, and if the parties conerned will now see that the railway freights trieste and Fiume respectively, are fixed at ing a figure as possible, and that the shiping between Fiume and England gets more regular and frequent, we may be assured that e need not be displaced in the English marrets by American competition.
A new and more direct railway communicaion between Pesth and Fiume is proposed; it would make the latter the only port on the coast of
Hungary.

The duties recently imposed by Germany affect our home trade to some extent. Pretty large quantities of common wheat and rye flour are sent from Germany, chiefly from Saxony, to the north of Bohemia and Mora-
via, being very cheap, and, consequently easy of sale. Now, in my opinion, an end should be made to this competition, for competition it is after all-by imposing, in our not now abstain from doing this in consideration 0
ors.

## How to Interpret Dreams

Many great men have been superstitious. Dr day, would heved in ghosts, and, had he lived to day, would have been a modern Spiritualist. The
Cocklane ghost story was exploded, but Johnso believed it till the last. Napoleon was a fatalist, and believed that dreams gave reliable forecast of future events. The following are from his dream-
book:
AlMS.-To dream that you deny, indicates want
and misery to the dreamer; that you bestow, signi-
fies joy and long life, either to the drent and misery to the dreamer; that you bestow, signi-
fies joy and long life, either to the dreamer or some
particular friend. ar riend.
denotes prosperity and happingre your clothes are good, is good only for clergymen; to others it is a sign of sick, death. If of black, however, it is of their re-
covery; of rich and servants, signifying honor, is dignity, and for liberty
-but is death to the sick, and loss or captivity to the poor; to dream of womenn's apparel, is god god for
the unmarried -but to a married man, loss of his
wife or sicknes. wife or sickness.
Apparition.-If attired in white signifies deceit,
and temptation to sin.
Barking of Dogs.-Detraction and insult.
Bathing.-In a clear fountain, joy; in stinking
water, shame and false accusations.
BEARD-
BEARD.-To dream of a large beard is good for
any of the learned professions, denoting any of the learned professions, denoting eloquence
and success; to a maid, an early marriage; to amar ried woman, widowhood; to a widow, second mar-
riage; to a young child it is death; to a youth, pro-
Brothers - To see the deceased, denotes long Brothers - To see the deceased, denotes long
life; that you discoure with your brethren, vexa-ton-for in dreams brethren denote enemies. Timo-
crates dreamed that he had buried his brother, and soon after one of his greatest enemies
died. died.
Cards.-Playing at, deceit and craft, success in
ove and gambling. Catrle.-Fat,
City.-Denotes a thief; to fight a cat, affliction,
iekness. Child.-If a man dream he is with child, increase of riches, loss of a wife, sickness, revealing
of secrets. To a maid, it denotes nuptials, joy, and
reveling-yet sometimes grief and fear to the
mother. mother.
Chilldren.- That many are born denotes joy and
good success. To dream of your own children good success. To dream of your own children is a
bad -but of other persons is a good-omen; better
of boys than of girls. of boys than of girls.
Combing.-Happy change of contention
Combing.- Happy change of affairs.
health; but death of the sick; to dance to music in deates activity and mirth, but without music de-
notes poverty. notes poverty.
Docs.- Denote fidelity, affection and courage, if
hey are our own. Strange they are our own. Strange dogs imply enemies;
that our clothes are torn by, slander. Greyhounds
import actions and

A mastiff, a potent enemy; the result of a fight with,
denotes your success with opponents. Denotes your success with opponents.
Devil-To dream of, implies punishment, and
is an ill dream; to see him, intends-to the healthis an ill dream; to see him, intends-to the healthful, melancholy and sickness- to the ill, death. To
talk to him indicates temptation and treachery, de spair, and ruin.
Drinking.-Is a sign of sickness.
Earthevakes - Change of estate, injuries,
death; to see a town destroyed by, famine, war, and
desolation. Eclipse
Eclipse of the Moon-Death of a mother ; of
he sun, death of a father. Enemy - To
o dream of, intimates caution
oy; pale or meagre, trouble, poverty, and death;
black face, long life ; washing, repent Falling from High Places - Imports loss of Frelds.-Indicate
ith much happiness
Fighting.-Denotes contention, and a wound by
Floops.-Denote rigorous judges, angry masters Flowers,-Pleasure and consolation. Yellow
flowers denote obstruction. Red flowers, still greater : to wear them, sh
them, mirth and jollity.
Fortưne.-To dream Friend.-To see him dead, denotes joy; but to a
lover, inconstancy.
Frumr.-Signifies profit and gain.
Funeral-Acquisition of an estate, marriage.
GiFT.--To bestow, loss and damage ; to receive
Gowd gladness. -On clothes, denotes joy and
GoLD.-On clothes, denotes joy and honor; a
crown of favor and promotion; to gather, deceit
and loss. Grain.-To see and gather is profit and advanHail to ead, bad, except peas.
Hat.-To be torn or dirty, dama
Hatred.-To dream of, indicates misfortunes.
Heaven.--To ascend into, grandeur and glory Heaven.--To ascend into, grandeur and glory.
Hell.-To see, and hear of, denotes repentance

Horses.-To dream of a horse has ever been held to be a fortunate dream, one of a very happy omen, whether the horse is taken, mounted, or merely
seen. A running horse indicates prosperity. Ridseen. A running horse indicates p
ing on a tired horse, falling in love.

## Keys.-To lose, denotes anger. a lover, but bad to a traveler.

## KilL.-That you kill



LICE - To dream of having many, imports sickess ; destroying them, incres Light-To hold one in the hand, implies suc-
cess in love, honor, and good will. Lightning.-Without a tempest, denotes change
of place ; to be smitten by, is good for the poor ; it imports also marriage to the single.
Linen.-To dream of washing, is loss to the rich,
but profit to the poor
Lookingeriss
Looking-GLAss.-To look into, denotes to the
single, sweethearts ; to the married, children Marriage.-Denotes danger and death, damage,
sickness, and melancholy. Money.-Loss of, indic
ye young, immodesty a nd dishonesty , death ; to Mother.-To see her alive, is joy; dead, is mis-
rortune. ortune.
Music

Mysterious music, unexpected discords, bad news. Mysterious music, unexpected happiness.

Akedess.-To see a man naked, fear and ter-
a woman, honor and joy. Navigation.-To be sailing in smooth waters,
ndinates comfort and success; in rough waters, disappointment and trouble.

## Night-BIRDs.- Denotes misfortune and portends

 OIL.-Is good fortune to women; to men, shame Orchards.-Pleasures, riches, and plenty. Organs.-The sound of, joy
## Paper.-To write on, news;

## Peacock.-Implies a fortunate marriage.

## Perfumes.-That you are perfumed, vanity and

## Pictures. -Joy, without profit.

Pond.-The love of a beautiful woman
Prayers - mply happiness
Precipices-Injury and danger; loss by fire.
Purse -T O ose, is a good and auspicious dream
Ride. With
RIDEE-With men, is - profit; with women, deceit
and trouble; in a coach, pritide.
SAIL-To, is a good dream;
SEA.-Denotes good to travelers and servants.
SEAT.-To fall from, disgrace.
SLIPPERS.-To the rich, decay and poverty.
SMALL-POX - Profit and wealth.
SNAKE.-A cowardly enemy.
SWEETHEART.-It she look.
SWEETHEART.- It she look fuir, that she is cop-
Stant; if pale, that'she has broken her faith. Sweetmeats.-Token of being invited to a feast.
Theft.-To dream of having conmitted, implies
Thieves.-To dream of driving them away, is a
good dream; to be robbed by, portends mishief Thirst.-and quenching it, portends mishief.
THOllity. ThissT.-and quenching it, portends jollity
ThUNDER.-Is affliction to the rich; joy to the
Tragedy.-To see a, loss, grief and sorrow
TravELING.-In a wood, misfortunes; over hill
Tvancement.

## Tancenent. Treasure.-To find hidden, imports evil. VELVET.-Profit and joy

Velver.-Profit and joy.
VIoIn.-Concord and good news.
WALKing.-In the dirt sickngas
grief; in the night, adversity
WA sickess; in the water
W AsHiNG.-Riches ; that you bathe, prosperity
that you swim, danger and sickness.
WEDDNos.
Weddings,-Denote death.
Weeping,-Dengtes joy and mirth.

THE UNITED STATES MILLER.

## United States Miller.

UBLIBHED MONTHLY. Subaription Priee
Foroisn Subeription. i.50 per year in in advananee

MILWAUKEE, OCTOBER, 1879.
milekers amociation directory.
2 $=$ 5 Na. $=5$
 Michigav-President, J. D. Hays, Detroit; Secretary
and Treasurer, W. Hibbard, Grand Rapids.
IndaNA-President, Nicholas Ellis, Evansville; See
retary, H. H. Emery, Indianapolis; Trensurer, D. A.
Richardson, Indianapolis. 1 "-$=-1$


We send out monthiy a large number of
sample copies of THE UNITED STATES MILLER to millers who are not subseribers.
We wish them to consider the receipt of a sample copy as a cordial invitation to them
to become regular subscribers. We are
working onr beat for the milling interest of this country, and we think it no more
than fair that our milling friends should help the canse along by libernl subseripstamps, and we will send THE MILLEK

M'Lean's Millers' Text Book and the United States Miller, for one year, for $\$ 1.25$. Order R. L. Downton, of the firm of Downton \& Miller, St. Louis, Mo., is now at Langham's
Hotel, London, England.
We have received the first number of the
Chromutic Art Magazine, published by John Henry, 9 Spruce street, New York. It is one
of the most beautiful specimens of typography we ever saw, and practical printers know how

The United States Mhler has the lished in America, and was the first milling

## mill-furnishing establishment.

We call the attontion of our readers to the ing millstones and Lehmann's patent bosom staff in another column. Where he has introduced his inventions they have given unquali fied satisfaction, and many of the leading
mills are now them. When a miller once becomes acquainted with his inventions, he will not do without them.

We hope all who receive sample copies of the United States Miller will favor us with their early subscription. The price-one dola first-class paper containing a great quantity of matter of direct interest to your trade. Do not delay, but send your order now. Enter-
prising, go-ahead millers cannot afford to be without the current milling literature of the day.
Nordenskiold, the Swedish Arctic explorer, has succeeded in making the passage
through the Arctic Ocean from the Atlantic to the Pacific, and has arrived at Yokohama,

Japan. He sailed from Norway in July, 1878, and was detained by the ice at East Cape for 264 days. Scientists are anxious to learn the result of his explorations. Commercially, this northern passage can never be of use.

We have been requested in some half dozen etters during the past month (principally by Western subscribers) $t$, quote mining news. To these we would say it is entirely out of our line of business, and we do not pretend to be authority on the subject. We would advise our inquiring friends to send for a sample copy of the Chicago Mining Reriew. It will
probabiy answer all the questions propounded

The Webtern Corn Crop.-The Weatern corn crop of 1879 is immense. The acreage in the
States of Illinois, Missouri, Kancas, Nebraska, Iowa, Wisconsin and Minnesota is $23,000,000$ acres, hich, at the estimated yield of 40 bushels per in thoee $700,000,000$ bushels. The increase is not less than $200,000,000$ bushels this year, an amount nearly equal to all the surplus wheat crop of the United States. This increase in the corn crop is an essential element the price of wheat steady, or to increase the supply f cattle and hogs. If fed to stock and swine ped it will give such cheap food to starving Europ as to prevent famine prices on wheat.

The Slow Movement of the Wheat Crop. The lowest estimate for the European demand for American wheat 0 , 200,000 eoming cereal year ally believed, the late bountiful harvest, will be abundantly able to supply. The wheat will. of entres. Seven-eighths of the surplus will pass hrough the cities of San Francisco, St. Louis, consumption of its immense requirements, average daily receipts and shipments at these four primary wheat markets of 750,000 bus. are necessary. As shipments have been not quite 300,000 bushels, he average amount now required is nearly 800,000 thus far, has been entirely inadequate to fill the prospective demand, and accumulations are smaller han usual. It has, however, been sufficient to supply all immediate demands on foreign account.

Another Court Decision Against ShortSellers - A suit was brought before the Phila-
delphia Court of Common Pleas by John J. as, a stock broker, to recover from the executor John B Dixon for cash advanced during the lifetime of the latter for the purpose of "selling short" in stocks. On the trial of the case in November laet, the jury found a verdict in favor of the plain-
tiff for $\$ 3,93886$. The case was carried before the full bench by the defendant's counsel, who argued that the plaintiff could not recover, as the contract was in law a "gambling contract." Judge Thayer sustains the claims of the defendant, and grants a of the Supreme Court in the case of Fareira vs. Gobell is conclusive upon the point that where a broker, employed to effect wagering contracts on
the prices of stocks, advances his own money at the request of a defendant to settle differences in
stocks, the broker in such cases cannot recover from the defendant the amount advanced for such a pur-
pose.
A Warning to Wheat Exiorters.-We clip the following paragraph from the Corn we would call the attention of wheat shippers : "A miller, a native of England, writing to warns buyers of American cargoes about the
condition of the same. He says that large quantities of wheat, perhaps millions of bushels,
are threshed out when quite damp, and taken by shippers without the slightest scrutiny or
objection. This grain goes eastward quickly, York, reaching Europe, in'a state unfit for human food, the object being simply to fill old
contracts. The moral of this appears to bepurchase only o
known shippers.

This is the first complaint we have heard on this subject in a long time. We scarcely be lieve it ; but if it is true even occasionally, it is to be regretted. Wheat should be in a thoroughly dry condition when shipped. Grain
driers of any capacity can be procured, and, if the wheat is in the least moist, it should be pu in proper condition hefore shipment. Let
fault of ours damage our growing trade.
Bringing iron to Pennsylvania seems a proceeding as superfluons as carrying coals to Newcastle, butit is being largely done. Fortyfive thousand tons of Bessemer pig have been ordered from England, and heavy shipments from Africa are announced. This makes
another among the many signs of the business revival which is following in the wake of re sumption.

## A School for Millers.

The above subject has been before the milers of this country for a long time, and the idea has met with general approval, but as yet nothing tangible has been done. It is about time that the matter was practically taken up and a fund raised, a location selected, teachers employed, and the work of instruction prosecuted. A successful school for millers has been in operation in Germany for some years and is self-supporting. If a school of the kind was established in this country, it would have no lack of patronage. Millowners who have sons that they wish prepared to succeed them in business would not hesitate to pay a liberal sum for the purpose of proper theoretical and practical instruction. Mr Frank Chamberlain, of Albany, N. Y., has
taken a sincere interest in the project, and we hope he will continue his work until a Millers School is in actual operation. We have no doubt if a subscription paper was started out by Mr. Chamberlain (the Chairman of the Committee on the Millers' College of the Mill ers National Association), but what it woul enough to give the enterprise a fair start. W shall be pleased to hear from our readers on this subject

Dakota Territory-Facts in Relation to Its Early History.
The Winona Republican publishes the fol lowing letter from Judge Flandrau, which con fains some intereating historical reminiscence of the Territory of Dakota, the most of which will be new and interesting to the gen ral reader
Dear Sir: In response to your letter of
August 15, 1879, asking me for information concerning the origin and early history of the
town of Flandrau, in Dakota Territory, I am glad to say that I am in possession of the
facts you seek to know, and that I give them to you with plensure, becuuse there seems to people of that place as to its origin. Being
pomewhat of an "old settler," I take great insomewhat of an "old settler," I take great in-
terest in all that concerns the history of this portion of the Northwest, and like to see the In the early part of the year 1857 we al would be aimitted into the Union upon what we then called the "North and Sonth" line of
division, which was the line finally adopted. There was a strong party in favor of a State
upon an East and West line of division upon an East and West hine of division, tory in two, on a line just north of Minne portion, and leaving the Territory or rempent

You will remember that when Wisconsin was admitted on the western boundary of the St. Croix, it left all the couc try west of that river in an nuorganized condition, and that
the inhabitauts heid a convention and elocted Gen. H. H. Sibley as a delegate to Congress as an experiment, and that he was admitted soon after parsed, organizing the Territory of Ninmesota. We unticipated just such a con-
dion of thug, on the admission of Minne sota, and concluded we would occupy the Territory west of the new State, send a delegate
to Congress, secure the capitol, university, penitentiary and other public buildings at our own towns, and make a good speculation out of the enterprise. To enable us to accomplish this a corporation was organized under an act of the Legislature of the Territory of Minne--
sota, passed May 23, 1857, which was entitled sota, passed May 23, 1857, which was entitled
"Au act to incorporate the Dakota Land Com pany." The original incorporators were, W Medary, Samuel 4 . Brown, James Lynd, N
R. Brown, F. J. DeWitt and Friedenrich, Th corporation was vested with full powers fo the purchase and entry of land, and the doing of anything that was necessary to establish
towns and cities anywhere in the Territory or future State.

## future State.

Under this organization agents were sent into the Southwest and the sites for several
cities selected, among which were Sioux Fall city, Medary and Flandrau, all on the Big Sioux. Sioux Fulls was designed for the capital of the future Territory, and the other
places were to share the governmental prizes. Mr. A. G. Fuller was elected a delegate to never admitted to a seat, notwinhstanding the precedent of Generul Sibley's admission in 1848 from Minnesota. Sioux scrip was laid drawn. Very considerable improvements were made by the compary at all the places,
but especially at Sioux Falls city, where a capitol building was erected, a hotel built,
and a printing office established, with and a printing office established, with Sam paper was published there, called the Dakuta Democrat, of which I now have a copy of the
issue of August 5th, 1879, being Vol. 1, No. 2, of the paper
The efforts of Mr. Fuller in Washington, and other friends of the organization, failed
to procure a Territorial Government for Dakota for several years, and my opinion has always been that the delay was on account of all the members of the Dakota Land Company being Democrats, and Congress expecting a change
of administration in 1860, destined to postof administration in 1860, destined to post-
ment until the other party could control it. At any rate they did postpone it until March 2, 1861, when the act was passed organizing
Dakota Territory and leaving the selection of Dhe ssat of Government to the Governos. During this delay, however, a serious stma of things existed. The people of the Terri ory, becoming impatient at the delay, organ-
ized a State Government, elected first Henry Masters a State Government, elected first Henry Masters and then Sam Albight, Governor,
chose a Legislature, which assembled at Sioux Falls and passed laws which were duly printed and approved by Gov. Albight, and demanded admission to the Union "on an equal footing with the original States;" but Congress. was inexorable, and all the time and money spent by the company and others in this diection were lost.
hen the Sioux outbreak occurred in August, 1862 , all the improvements at Sionx
Falls, Flandran and Medary were burned by the Indians, and the places were virtually abandoned by the company. The United States Government made reparation to the company for its losses, which enabled it to
make its first and only dividend on its capital make
stook.
This
This is briofly the history of the town of Flandrau, up to the time when its present title was made by new comers, and about which I know very little. Sioux Fally city, as its name
indicates, was called after the fall in the Big Sioux, at which place it is located. Medary is named after Governor Samuel Medary, who sota, and the Dakota Land Company did me the honor to name the town of Flandrau after

The facts given you are largely from recollection, but they are substantially correct in all essential particulars. I would suggest, however, hat Mr. Alphens G. F'uller, Who now resides It or near Yankton; Mr. F. G. DeWitt, who,
I believe, also resides in Yankton, or somewhere on the Missouri, in the territory; Captain Fisk, who is now in Pembina; and Daniel F. Browley, who, I believe, resides in Winnepeg; all were intimately connected with the
operations of the Dakota land company, and operations of the Dakota land company, and can undoubtedly give you accurate informa-
tion as to the history of the town of Flandrau, and being old settlers, they will willingly recount the experiences of the pas
Respectully yours, Chas. E. Flandrau.

In practice 100 pounds of flour will make from 133 to 137 pounds of bread, a good averge being 136 ponnds; hence a barrel of 196 pounds should yield 266 one-pound loaves.

A Scientific Bible.-An English religious pa per says: The preparation of the new Bible has not made much advance yet. We lay before our readers the improved version of the first chapter of
Genesis: 1. There never was a beginning. 2 . And Cosmos was homogeneous and undifferentiated, and somehow or another evolution began and molecules appeared. 3. And molecule evolved protoplasm, and rhythmic thrills arose, and then theme was light. 4. And a spirit of energy was developed, and formed the plastic cell whence arose the primordial germ. 5. And the primordial germ became protogene, and protogene somehow shaped eozoon; then was the dawn of life. 6. And the after yielding seed and the fruit-tree yielding fruit according to it, whose seed 7 . The cattle after his kind, beast of the earth after his kind, and every creeping thing became evolved by heterogeneous segregation and concomitant dissipation of motion. 8. So that, by survival of the fittest, there evolved the simiads from the jelly-fish, and the simiads differentiated themselves into the anthropomorphic primordial types. 9. And in due time one lost his tail and became man, and behold he was the most cunning of all animals. 10. And in process of time, by natural selection and survival Charles Darwin appeared, and behold it was very good.

How Old is Glass?-The oldest specimens of pure glass bearing anything like a date is a little molded lion's head, bearing the name of an Egyptian king of the eleventh dynasty, in the Slade collection at the British Museum. That is to say, at a period which may be moderatelv placed as more than 2, 000 years B. C., glass was not only made, but made with a skill which shows that the art was nothing or varnish of glass is so old that among the frag ments which bear inseriptions ofthe
 nonarer as a bead found ar Thebes which has the name Queen Huaso or Hasep of the eighteath dy Queen Husso or Hashep, of the eighteenth dyand many fragments, It can not be donbted that and many fragments. It can hot do dobled that the story prepared by Plin, wioh asogns the crodit that thesealue to other cour from Egypt Dr Schlieman found disks of found disks of glass in excavations at Mycenæ, known to himer does not mention it as a substance known to him. That the modern art of a glass-blower was known long before is certain from represent Beni Hassan, of the twelfth E whin or a Beni Hassan, of the twelfh Egyptian dynasty, but a much older picture, which propably represented the same manufacture, is among the haif-obiterat ed scenes in the chamber of the tomb of Thy, a Sakkara, and dates from the time of the fifth dynasty a time so remote that it is not possible, in spite the assiduous researches of many Egyptologers, give it a date in years.- The Saturday Review.

## THE UNITED STATES MILLER.

GRAIN.

## Pecullarities in its Normal and Manu-

 factured State.In Investigation Under the Microscope-Showing
the Adulterations and Natural the Adulterations and Natural Evils
which It has been Subjected.
complete investigation of the gubject by one of the leading chembis of europe.

Flour in General-Wheat Flour-Rye
-Barley Meal-Oat Mear-Indian


## [Continued from September number.]

According to Robine, the flour which is to be examined is grated for five minutes in a
mortar of porcelain (16 g . of it for instance) tomortar of porcelain $(16 \mathrm{~g}$. of it for instance) to-
gether with 16 g . of pulverized sandstone, and then gradually and in small portion $1-16 \mathrm{~L}^{*}$ of water is added. Then the liquid is filtered. If it has been obtained from flour which has been adulterated with the flour of white beans, it will pass through the filter more slowly and always remain turbid. If $1-32 \mathrm{~L}$ of iodine
water is nowadded, the liquid will become of a water is now added, the liquid will become of a
rosy reddish color if the flour is pure, and will only appear somewhat darker when the flour has been made of other grain than wheat, or when this had been reaped during a wet season; but if the liquid becomes fleshdisappears quickly, it contains bean-meal. By the same treatment pure bean-meal will give a slate-color. But it is not necessary to be as circumstantial as Robine; one may simply
dissolve 8 g . of the suspected fine with dissolve 8 g . of the suspected flour with $1-32$ Lumpy, and then add $1-32 \mathrm{~L}$ of iodine water, and the same result will be obtained. Several chemists have tried to determine the presence
of legumine, that is, the peculiar nitrous component of legumes, which is very similar to caseume and which as nutritious matter supplies the gluten in them, so as therely to
prove the presence of the flour of legumes. prove the presence of the flour of legumes.
But these modes of examination are too dif ficult for men who are not professional chemists, and still are no decisive test when practically applied for the discoverv of adulterations. But in order to state how legumine
may be found, we will describe the mode of may be found, we will describe the mode or Chenais, a mode of proceeding which is in fact only a modification of the method of Martens. To wit: A dough is made of the suspected flour and some tepid water which is
thoroughly kneaded over a a fine jet of water, gradually applied, just as is done when the gluten is to be separated
from the flour.- In this case, too, a similar mafs will remain on the seive while the liquid filters through. The liquid thus obtained is now treated with ammonia, which is an excellent means of dissolving the legu-
mine. The liquid is left untouched time until the starch is separated from it, and is then filtered. Into the filtrated liquid a very
diluted numeral acid is poured, which will diluted numeral acid is poured, which will cause the legumine to precipitate if there is
any flour or legumine present. This legumine is collected on a filter that has been pre-
viously weighed; it is then dried and weighed, while on the filter and the weight of the latter is substracted from the entire weight; the remainder will be the weight of the legumine. To discover the bean and vetch-meal (of Vicia sativa, the flour obtained
from which is often mixed with grain flour) the method of examination recommended by Donne, but improved and simplified by Martens, may be applied, namely: An alcoholic extract is prepared of the suspected flour, this is poured in a thin layer on the surface of a small porcelain plate, heated to $100^{\circ} \mathrm{C}$., and then exposed for one or two minutes, first to the
vapors of concentrated nitric acid, and then vapors of concentrated nitric acid, and then
to ammonia; if there is any bean or vetch-meal present, the mass will become of a very fine red color. The method of Donne, applied for the same purpose, is based upon the experience that the vapors of nitric acid and subsequently of ammonia give to bean and vetchmeal a beautiful bright red color. A mixture of both will consequently show more or less
bright red spots tn the yellowish mass. This bright red spots tn the yellowish mass. This
experiment is very striking and reliable and since it enables us, with a little practice, to detect an admixture of but 4 per cent of the
flour legumes in the grain-flour without diff culty. We will here let the method follow for those fond of chemical experiments. From
one to two grains of the flour which
be examined are taken, spread over the sides a small porcelain plate, which had been
reviously moistened with a little water. Care previously moistened with a little water. Care
must be taken, however, that the flour is not put upon the bottom of the plate, for into it is put a little nitric acid, which dare not come in contact with the flour. The plate is now covered with a glass plate, and is slowly heated over a spirit lamp, but so that the acid does not begin to boil. The nitric acid evap-
orating in this way will now begin to color orating in this way will now begin to color
the flour spread over the sides of the plate; it will become yellowish and turn darker the nearer it is to the acid, while higher up on the rim of the plate it will remain lighter. This process is discontinued while the flour on the rim is still white; then the acid is care fully removed from the bottom of the dish, which is best done by abosrbing it with blot-
ting paper, and in its place some ammonia is poured, the glass plate is then again put over it and now the vapors of ammonia are allowed in the middle of the soon be observed that tiful red color is appearing, especially in places where the nitric acid had acted neither too strong nor too feebly on it. The red colo indicates the presence of bean or vetch-meal.
It is to be remembered, however, that pure wheat-flour will assume the same orange-red color when the nitric acid is over-heated. grain-flour is founded on the presence of tanit in the husks of, beans and the absence solution of sulphate of iron are put into saucer of porcelain, a small quantity of flour is dissolved therein by stirring it with a glass
tube, so that a thick. mass will be formed thereof, to which, if necessary, a drop of distilled water may be added, so as to make it less tenacious. It is then noticed whether particular color will show itself on the dul white porcelain. Pure grain-flour will be-
come of a delicate straw-color, flour of phasels or French beans, an orange-yellow and flour of white beans, a delicate bottlegreen color. The latter will even be discernof white only $10-16$ per cent of the flour Wheat-flour imported from the Caucasus and brought into commerce under the name of "Cubanca," and which is principally in demand in France, always has a considerable
admisture of the flour of white beans. By admixture of the flour of white beans. By
the same method by which Villain taught us how to judge the quality of the grain-flour and its adulteration with potato-starch from the nature of the gluten, as has been stated above, he was capable of finding the different adulterations of the flour of legames. From mixure of wheat-flour and peas-meal the gluten may be easily 'separated in the wellknown manner, but the dough made thereor has a greenish coloor, and a peculiar taste and out the gluten. Even when only 3 per cent of the peas-meal has been added, the greenish color appeared, which, when the gluten becomes dry, will be even more marked. If
there is any flour of phasels or French beans among the wheat-flour, the gluten can only be extracted with difficulty, and very often disappears entirely; the mass feels slippery in the hands, but when dried become of a light yellow color. A mixture of wheat-flour and entil-flour forms a residuum of glaten which will leave a yellowish-brown bran on the hair sieve, the gluten separates easily and when
dried will also become of a yellowish dried will also become of a yellowish
brown color. ${ }^{*}$ Litre.

## [To be continued.]

Prevention of Fire and Explosion in Flour Mills.
One of the most destructive explosions and conflagrations that ever occurred to the manufacturing industries in this country, was the result of an explosion of mill dust in a large flouring mill. The destruction of several Minneapolis mills, one of them being the largest flouring mill in America, is still fresh in the minds of our readers. Previeus to that and since, there has been several smaller and less destructive explosions, in each case in volving the total destruction of the mills in which they occurred. These dust explosions have formed the subject of several elaborate papers read before Millers' Conventions in this country, as well as others published in milling and scientific journals, but we are not aware that any definite practical plan has been adopted our millers, for the prevention of explosion. We have hitherto referred to this
matter and given the methods of prevention
practical millers. We find in an English scientific and industrial exchange the following account of a recent and valuable invention by Mr. W. Swain, of Newport-Pratt, Ireland, designed to prevent or diminish the destruc tive effects of fire and explosions in mills, and at the same time to purify the air, so that the health of persons employed therein may not be endangered, as it is when the hot air, dust, and floating particles of flour are allowed to remain. It is stated, that

In order to carry this invention into practice, there is constructed at any convenient place outside the mill, a shed or similar build-ing-or if desirable, more than one such shed -of suitable size according to the size of the mill in connection with which it is to be employed. This shed should be constructed of non-inflammable materials, such as bricks, or of wood or other substance rendered inflam-
mable by the application of a coating of as bestos or the like, and its walls should be made as thin and slight as is consistent with sufficient strength to support the roof and stand firmly, for the reason that if it should be destroyed by fire the loss would be insignificant. In the case of mills not provided with ground space outside the same, piles or pillars
of a suitable height from the ground may be employed, upon which the shed may be sup. ported. The latter may, in some cases, be placed on piles or pillars above the roof of the mill, or in any place which may be found most convenient for any particular mill to which the present arrangement may be applied The
separate shed or building may be situated at a separate shed or building may be situated at a
considerable distance from the mill if more convenient in any particular case; a suitable air-passage flue being provided to connect the mill with the shed, which passage or flue may be entirely underground if desired. It is beter for this outside structure to be placed at as low a level as is practicable, and for the pas-
sages or other connections leading form the mill to the shed, to incline at an angle downward from the mill. Pipes or tubes lead from aparatus therein where heated air and dust are most likely to accumulate-such, for instance, as the middlings purifiers, and elevaors. These pipes should be carried to the
wall, and out through the same by the nearest practicable route; and they may all be either continued direct to the outside shed separately, or may be made to unite in one larger tube or shute leading to the shed. It is better that the tube in connection with the elevators should be placed on that side of the latter which caries up the meal, flour, or grain. By thus carying off the current, the upward draught which travels along most elevators-and which
in the case of fire assist combustion-is counteracted, and a downward current is created, which is led by the pipes or tubes to the outside of the mill. If desirable, these pipes or ubes may be provided with suitable checkvalves to prevent any chance of fire being communicated to the mill along the tubes-in
the event of an explosion taking place in the outside structure- In some cases a valve or valves are provided in the pipe or pipes outside the mill to admit fresh air therein, which may mingle with the air or dust going to the shed, thus rendering the mixture of air and dust from the mill less dangerous. Within the outer building a cylinder or drum is fixed, to which the pipes coming from the mill lead. This cylinder is constructed with a covering of some suitable material, for the purpose of ar-
resting the particles of dust, whilst the air can pass through the same. This covering may consist of wire-gauze underneath flannel, serge or similar material; or, if desirable, the latter only may be used. The air cannot enter the cylinder except threugh the said covering, the ends of the cylinder being provided with air partitions or leather curtains, which prevent the air from entering at those parts. At
suitable distance beyond the cylinder, a suc suitable distance beyond the cylinder, a suc-
tion or exhaust fan is placed, by means of which the air, dust, etc., are drawn or exhausted from the mill along the channels provided for that purpose. The fan and cylinder may be operated in any suitable manner, by means of a strap or band leading from the mill, and
driven by the steam or other motor used in the mill; or by a separate motor provided for the purpose. The fan having been put in motion, a stroug draught is created in all the pipes or tubes, which draught collects and draws with it the air, dust and other light floating particles within its reach, and conveys them to the outer circumference of the cylinder. The dust and other flcating particles are here ob-
structed, whilst the air-freed from the same drawn into the cylinder, whence it goes into the at, and is blown out or discharged
cylinder or drum is caused to rotate slowly; and at one or more parts of its periphery a brush or leather flap-or both-are provided for the purpose of ensuring the falling of the dust or other matters which may collect on the surface of the cylinder. These brushes may be caused to rotate, or may be stationery. Any ordinary fan suitable for the parpose may be used, but care should be taken that it is large enough, and that it is not driven at too high a speed. Although it is verz advantageous to cause the heated air to be fitered or
separated from the dust and other light matters separated from the dust and other light matters
before it reaches the fan, if desireable in any particular case, and said filteration or separation may be effected afterwards as usually practiced, but by means of the cylinder above provide more than one cylinder and more than one fan for each mill, and these may be placed in the same or in separate sheds; and sometimes an intermediate fan or exhauster may be employed at some part of the pipe leading
from the mill in order to create a stronger draught. The cylinder above described may be used with advantage, even within a mill, for separating the air and dust, in place of the woolen-covered frames above named. In order to provide additional security against fire
and explosion in flour and other mill, the same are best illuminated (when working at night or at any time when artificial light is neces sary) from the outside, by means of lamps
placed outside the windows. These may be gas, paraffin or other lamps and should be furnished with powerful reflectors, to reflect the light to the interior of the mill; or the electric light may be advantageously employed for such exterior lighting. Footways or balconies may be erected outside the mill, extending partly or the whole way around the latter, by
means of which an attendant may walk round the exterior of the mill walls, for the purpos of inspecting the pipes, etc., and of lighting and attending to the lamps or other lighting apparatus. By means of the arrangements we have described, the danger of fire and. ex plosion from the cause above mentioned is re duced to a minimum ; and in case a fire should occur, it would not be nearly so destructive in
its effects as such fires now are' as it would in all probability be confined to the outer shed or building, which could be readily replaced
without a large cost.

## Petroleum for Fuel.

A part from the local use of petroleum for lighting purposes, and its exportation for a navigation. With the old feshioned boilers in use, with a central running opening longitudinally, no modification is necessary for the ap plication of the new fuel. A reservoir contain ing some hundred pounds weight of the refus (astalka) is furnished with a small tube bearin another at its extremity a few inches long and at right angles with the conduit. From this latter it trickles slowly. Close by is the mouth of another tube, connected with the boiler A pan containing tow or wood saturated with astalki is first introduced to heat the water, and once the slightest steam pressure is produced a jet of vapor is thrown upon the dropping bi tuminous flud, which is thus converted into
spray. A light is applied, and then a roaring deluge of fire inundates the central opening of the boiler. It is a kind of self-acting blowpipe. This volumne of fire can be controlled by one man by means of the two stop-cocks as easily as the flame in an ordinery gas jet. This I have repeatedly witnessed on board the Caspian steamers. As regards the expense, I give the following data on the authority of a merchant captain who has used naphtha fuel for years. His steamer is of 450 tons, and of
120 -horse power. 120-horse power. He burnes thirty pood per hour of astalki to obtain a speed of thirteen nautical miles in the same time. One pood is about thirty-three pounds, and costs on an average from 5 to 6 pence. Thus a twenty hours voyage at full speed for such a vessel costs $£ 12$ The fuel is as safe and ocoupies much less space than the amount of coal necessary to produce a similar effect, not to speak of the enormons difference in price and the saving of manual labor. Twe engineers and two stockers suf fice for a steamer of a thousand tons burden. With the immense supply of natural petroleum, as yet only very slightly developed, and its application to the already guaranteed railway from Tiflis to Baku, aud to the inevitable future ones beyond the Caspian gver the plains of the far East, I think the subjeot is worthy $\stackrel{\text { of every }}{\text { Daily News. }}$

Subseribe fop the U. S. MUUER; only ह1

## British and Irish Flour Mills.

 [Continued from first page.]wide on face, driving by belt a cross shaft on the stone floor, which drives all the
machinery for cleaning and dressing the wheat machinery for cleaning and dressing the wheat
and flour. The engine has at present not been "indicated," but judging from the results obtained from a similar but smaller engine erected by the same makers at Mr. Clarke's mill at Earsham, tife consumption of good coal, it is stated, will be about $2 \downarrow$ lbs. per horse power per hour.

The wheat cleaning and flour dressing machinery was supplied by Messrs. Whitmore \&
Binyon, engineers. Wickham Market. The Binyon, engineers, Wickham Market. The
former consists of a Child's aspirator, through which the whent is first passed. Its next treatment is by a Murdoch smut machine, and brush machine. The flour is dressed by the ordinary silk reels, the later developments of the art of flour manufacture necessitating a
more complicated system of machinery, not being adopted at this mill. The mill takes its name from the river Waveney, which divides
Norfolk from Suffolk, and which runs through the Earsham Flour Mill, which was first built in the reign of William the Conquerer, and Mr. R. H. Clarke, the proprietor of the Waveney Mill.
milling industry. As already indicated, its macilities for the inward transit of grain and the outward transit of its products are of a
superior order. The town is a rapidly grow ing one, the population being 41,819 , so that the local demand for flour is constantly on the
increase. In addition to the local demand, a large portion of the produce of Mr. Clarke's
mills goes to Newcastle-on-Tyne and other mills goes to Newcastle-on-Ty
places in the North of England.
Citico Steam Flouring Mill, ChattanMessrs. H. C. Evans \& Co. have their new process mills in operation and are turning out
a most excellent quality of flour. These mills have a capacity of 150 barrels of flour and 500
bushels of meal per 24 hours. The machinery is all of the best and latest improved. They French burr stone for grinding wheat; 1 set 30-inch stones for grinding middlings, and 1
set 30 -inch stones (under runner) specially for grinding corn. They have six bolting reels or
chests- 2 for flour, 2 for returns, 1 dusting chests-2 for flour, 2 for returns, 1 dusting
and 1 reel for middlings. These reels have all been clothed with "Dufour's" best bolting cloths, and with numbers specially adapted for
the work they have to do respectively. One J. W. Pyne's purifiers is used for the middlings.
This is said to be the best purifier now in use; an improvement on all others. They are manufactured and sold by the Bradford Mill Co
and of Cincinnati. The "Great Western Bran
Duster" is used for cleaning the bran. The flour is delivered into three separate and dis, tinct bins-one specially for the "patent
flour, one for custom and one for the packers The Eureka Flour Packer is used for packing the flour for shipment, which is done in
sacks of 24 lbs., 49 lbs., 98 lbs., or barrels, as the market may require. The bran is all coneral car loads, where it may accumulate and ment.
These mills claim to have the best cleaning machinery for wheat to be found-the wheat
is elevated from the sinks and delivered upon a separator screen and shaker, where all the
chaff and light material is driven off by a fan. Then it passes through one of Kurth's cockle machines (which for itself is a wonder), re moving all cockle and wild onion seed. Thence which runs at a speed of 625 revolutions per minute, driving all dirt and smut out. After all this fanning and scouring, it passes into
and through the wonderful Becker Brush where every individual grain of wheat is brushed. This last process is for the purpose of removing the fuzzy and remaining portion of the blossom. Then the whest is elevated and spout-
ed to the grain bins over the stones ready for grinding.
All this cleaning machinery is placed in a closely ceiled room separate and apart from the milling room, thus keeping the dust and dirt entirely away from the flour.
This mill also has the best and most complete machinery for cleaning corn preparatory to grinding, aud being provided with a corn
bolt, will furnish their customers with bolted and unbolted meal as required.
The mill building is $50 \times 225$ feel, extending
from Chestnut street along 7 th to Railroad avenue, affording extensive storing capacity. They now have in store about 10,000 bushels of selected wheat and engagements out for
large amounts. Owing to the continued low water in the river, but a small portion of the wheat crop along the river has yet been brought into the market.
This mill is strictly a new process. The mill and all the machinery has been carefully selected and placed under direction and supervision of skillful millwrights, and it promises
good results. Mr. P. W. Tyson, late of Danville, Ky., an experienced new process miller is in charge. He bears the reputation of being at the head of his profession.
Mr. W. R. Carlisle of the firm has the man agement of the business, and has his office in the mill, corner of 7 th and Chestnut streets. -Times (Chatanooga)
A Few Words to Young Steam Fitters.
Feed Pipes.-The feed valve should be a globe or angle valve placed near the boiler, with the fewest possible joints in the feed
pipe between it and the boiler. If it is a loose pipe between it and the boiler. If it is a loose
or swivel disk valve, it should be secured with solder (sweated in) in the threads of the double part of the disk, so as to make it al most impossible to lose the disk from the stem; enough. The valve should be so turned toward the boiler that the inflowing water will be under and against the disk, so that in the case of the valve against the influx of the feed water This arrangement will bring the pressure of the water in the boiler always against the
stuffing box of the valve; but all things considered, it is best.
The check valve should be close to and out-
side the feed valve, with only a nipple between side the feed valve, with only a nipple between hey admit of easy cleaning. With the ordiany vertical check it makes it necessary to

When two or more boilers are fed from the same pump, or when the pump is used for
pumping water for some other purpose, it is well to have a stop valve on each side of the check valve, as it will enable the engineer to get at his check without stoppi
the other boilers or elsewhere.
In passing through the boiler walls or cast iron fronts, care should be taken that the feed
pipe does not nest, or the settling of the boiler will break it off.
Use a flange union on the feed pipe instead of the common swivel union; the engineer it makes a more permanent job and it will not Neak.
Never put a $T$ in the feed pipe inside the eed valve for the purpose of a blow-off; make - separate connection to the boile

Blow-off Cocks.-Never use anything but a plug cock of the best steam metal throughout. The reasons for using a cock are that the engineer is always sure when he looks at it
whether it is shut or open. It gives a straight opening; if chips, packing or dirt gets into the cock it will shear them off when closing,
or if the dirt does not, the engineer knows it is not shut. Do not use an iron body cock with brass plug, for when the cock is opened to blow down a little the hot water expands the plug of the cock more than the body, and
it is almost impossible to close it. Do not use globe or angle valve, as you cannot always tell when it is shut; a chip or dirt getting be-
tween the disk and seat will prevent it from closing. I have seen two fine boilers destroyed from this cause. Gate or straight-way valves are sub
angle.
When it is practicable there should be a T with a plug in it in the blow-off pipe outside the blow-off cock, the plug to be removed
when the cock is closed. By this means the engineer can always tell if he is losing water from his boiler.
The blow-off pipe should be large, with few bends in it, and fire bends are better than el the shell of a bord be attached to the bottom of into the head a few inches up. When there is a mud pipe, attach it to it at the opposite end from the feed pipe.
Safety Valves.-They are the main stay of the engineer, acting both as a relief and a warning signal. They should be attached to the steam dome up high. At the side is better
than at the top, as they are not so liable to draw water when blowíng off in that position. They should be large and have a large pipe
connection all to themselves. The ordinary cross body safety valve is very much to be condemned, and I think in some countries there are regulations against their use; they are constructed to save making an extra connection for the main steam pipe, thereby drawing the largest amount of steam directly from under the disk of the safety valve. A weighted safety valve is better than a spring valve when it can be used, as the lifting of the valve makes practically no difference in the leverage ; not so with a spring valve, for the higher it is lifted the more power it takes to compress the spring.
Guage or Thy Cocks.-Guage cocks are various in style, the wood handle compression guage cock being a very good kind for all purposes. When setting guage cocks, care should e taken that they are not too low, and that he drip will not flow over the person who tries them. They should be tapped directly into the boiler if possible; but when it is
necessary to use a piece of pipe to bring them through a boiler front of brickwork, give the pipe an inclination backward, that the condensation may run back and into the boiler. When the pipe inclines outward and down, the condensation remains in it and the cock, and will deceive the unwary, giving the appearance of plenty of water, with a short blow
best set when attached to a vertical cylinder at the front of the boiler. The cylinder should be connected to the boiler with not less than one inch pipe, top and bottom; the top or boiler connection should be taken from the the dome or steam pipe, as the draught of steam in either will cause the glass to show more water than the boiler contains. The
bottom or water connection should be taken from the front head at a point where about twothirds of the water in the boiler will be above and one-third below; this will lessen the chances of the pipe stopping up with mud, etc., and it should also be provided with half
inch pipe at the lowest point for a blow-out. When guage glasses are set in this way the condensation in the cylinder is downward, through the bottom pipe, the tendency is to cleanse the glass and cylinder and keep them

Steam Guages should never be set much above or below the boilers to which they are attached, as each two feet of fall or elevation
from the direct connection is nearly from the direct connection is nearly equal to always when the guage is below for the densation in the guage pipe fills it with water, which leaves a pressure on the steam guage equal to the hydrostatic head, which is a little over two feet perpendicularly to the pound
per steam guage, giving the guage the appearance of being weak. When the guage is above pipes not always so, though generally, the trapped, which and of small diameter or in them, they fill with water, which acts against the pressure from the boiler and gives a guage the appearance of being strong. good way is to connect the guage pipe to a and the guage on the boiler about 10 inches above the water line, using no water trap or siphon, that the water may run back from the guage when there is no pressure in the boiler, thereby preventing the possibility of freezing or of getting steam to the spring of the guage. Sometimes a steam fitter has to run a guage
pipe a long distance to an office or engine room. When such a guage is far above the boiler he should run a large pipe direct from the steam dome and give it sufficient pitch to clear itself of water; it should be covered with some non-conducting material, and be of such size that the flow of steam through the
pipe to supply the loss by condensation will be so slow as not to interfere with the flow of water along the bottom of the pipe in a con-
trary direction, and it should immediately under the guage.
When it is necessary to have a guage very much lower than a boiler, fill the pipe with water, but before doing so remove the glass and lift the hand or index over the stop-pin, and mark where it remains stationary ; now fill the pipe to its highest point with water, then with two knives draw the index from its spindle and set it back to the mark where it remained stationary before the pipe was filled, and press it on; then bring it to its normal position on the stop-pin and adjust the glass. he Main Steam Pipe for Heating Apparatus should be high up on a boiler, and any pipe
larger than 2 inch should not be tapped in, but connected with a flange bolted or riveted to the boiler. Two and a half inch pipe and
larger sizes have eight threads to the
and will not make a good job otherwise Automatic water feeders, combination water guages, or steam guages, should not be tapped into the steam heating or engine pipe, as the draught of the steam through the pipe interferes with their proper working.
Engine or pump pipes should not be taken from the steam heating pipe, as the draught they cause relieves the pressure in the heating apparatus and spoils the circulation, especially if it is a direct return gravity circulation.
With an automatic return steam trap applied to an old job, it will not be necessary to move the engine pipe, but should the circulation be still defective, remove the engine pipe to shell of boiler remote from heating pipe.Scientific American.

## Russian Wheat.

the extent to which amertonn compettion is injuilige hussia's wheat trade.
Robert Orbinsky, a representative of the Russian Government now in this country for the purpose of investigating the grain interests of the West, with especial reference to elevator construction and operation, and question of railroad transportaition and rates, has written a communication in which he says: On
the' English market the wheat of southern Russis gispeared the frst time in the winter of 1802-3, when the prices under the influence of bad crops for several years and under the then existing corn law,
had raised to exceptional height of 110 shillings por quarter. You know, sir, that under this law foreign grain trade was nearly impossible in England beyond exceptional circumstances as that I mentioned. In the following Russia, but it Italy that we did so, than to England. Then the bad crop of 1817 again opened to us the latter market, and from that time we have not ceased to occupy there a place rising every
year. In 1847 we were actually the first furnishers of bread for the English nation. We oould do so because the production of our country was not limited there, and the prices for grain in southern Russia were lower than anywhere in the world. There have been years when in the market of Odessa, itself
pretty far from the places of production, a bushel of wheat of no bad quality could be sold with profit for the seller, for fifteen cents, and that in moments when the average price in London market was sixty shillngs per quarter, And yet the distance from Odessa to London is somewhat ghorter than the distance between London and New York. You can see by it, sir, how much money under such circumstanoes could be made by foreign merchants in our southern country, and you will understand how a great purt of the Greek insurrection has been paid off by Russian wheat.
Since that time price: certainly have changed, become lower in England and higher in Russia, but still Odessa remained the queen of the grain trade of the world, growing to an average amount of twenty millions of bushels per year. A merioa, as the French used to say,
was not yet invented for grain trade. That happened only about 1830 , and since that time the role of America is increasing from year to year, so that now it becomes truly overpowering. The last year your country has furnished no less than 51 per cent. of the want of England and we only 22 . Ten years ago it was exactly the contrary of that proportion.
I oan say I was the first man in Russia that had foreseen and foretold such a result. In 1875 I published a brochure on that subjeot, and was laughed at by our press. It was considered a product of my imagination. I was called an incorrigible pessimist and my pessimism not worthy of attention. So I was, indeed, but events have proved that trath was on my side. Then it was very natural for my Govenment to inquire in what manner and by what way such a change could take place. With this inquiry I had the honor to have been charged.

Till now the productive pewer of Russia is great as that of America; perhaps even greater. In 1870 your wheat crop arrived to the cipher of $230,000,000$ bushels, and the amounit of ours was not beyond $325,000,000$. But our population, however, in the greater part fed by rye, is nearly twice that of yours, and consequently the surplus we can sell abroad is less than yours. Bat it is not the quantity that decides the question, but the kind of use whioh is made of it, and on this behalf certainly nothing can be more ins.
the esample of America.

Subscribe for the U. S. Miller; $\$ 1$ per year.

## The Baker's Art.

Bread, as we areq all aware, is obtained by baking dough made from flour and water. In most cases wheaten flour is employed, but other cereals, as for instance corn or rye, furnish flour suitable for baking purposes. The theory of the manufacture of bread has been thoroughly explained of recent years, and
practical men have turned their attention to practical men have turned their attention to
introducing mechanical power into this industry to replace the manual labor which has bitherto been employed. Although the results obtained by the use of mechanical means are still questioned by many, and the machines have not attained the popularity counted upon by their inventors, the problem will no doubt be satisfactorily solved ere long.
In its ordinary state, wheaten flour contains a proportion of water varying from 18 per
cent to 18 per cent, according to the kind of wheat and the nature of the crop. This proportion can be regulated in the flour by the process of drying, and the quantity of water need never vary, no matter what the nature of the wheat has been from which the flour has
been obtained. This process is an important advance in the art of milling, and one in which many improvements have been made. Besides water, which we have just mentioned, flour contains:

If we wish to obtain the greatest amount of nourishment from all the elements of the flour they must be rendered soluble, and the pro cess of baking, by acting principally on the
gluten and starch, has precisely the preparation of this dissolution in view. The grains of starch are swollen by the absorption of the flour in the water, and the baking causes them to burst by breaking the lining of the cells in which they are confined. The process of fermentation stretches the gluten to allow of its being more easily attacked by the gastric juices of the somach. Thus the manufacture of bread comprises three distinct operations
g.

The fermentation which renders the dough less dense by increasing the surface presented by the gluten to the gastric juices of the stomach.
3. The Baking.
The richness of the flour in gluten renders the dough more plastic, and the bread is consequently more nourishing. Several kinds of apparatus have been invented with the view of determining this richness, among which may be mentioned Boland's "Aleurometer," and
Robine's "Appreciatuer." The richness of flour in nitrogenous matter varies according to the kind of wheat from which it has been made, as may be seen from the following table which we extract from a work published by Mr. B. Corenwinder, Director of the Society of Science and Agriculture at Lille:


The Galland wheat furnishes a larger proportion of flour than the other wheats, which may be attributed to the exceptionaly large the flour leaves much to be desired in some the flour leaves much to be desired in some
respects-it is wanting in whiteness, poor in nitrogenous matter, the dough does not knead well, and it produces a bread without cohesion.
The blue wheat, so called from the bluish tint of the husk, is sometimes known by the name of Australian wheat, although, strictiy speaking, the term is incorrectly appiled. The
grain is pretty large, and of a brownish color; the flour is short, as it does not contain a sufficient quantity of gluten.
The Chilian wheat has a white grain, well formed, regular and moderately large. It produces a flour very similar to the second qual.
among the products of America. The different varieties of wheat from Armentieres, Estraives, Bergnes, Meraille, and other localities of the North of France, are, in general,
more highly prized than the Californian wheats.

The Oregon wheat is of superior quality; the grain is white, clear and regular, and it gives a large proportion of superior flour. It takes its place in the first rank among the soft wheats.
The New Zealand wheat is white, pretty regular and produces a flour rich in nitrogen. The American winter wheat grown in Ohio and Michigan gives a very fair quality of flour. The grain is of a brownish color, small, translucent, rough in appearance, and rich in nitrogenous matter.
The Australian wheat is of a superior class, and maintains its reputation both with regard o its suitability for sowing or for consumption. Its grain is clear, regular and of moder
ate size. The proportion of flour obtained is large, the quality good, and it is richer in nitrogenous matter than any other kind of
wheat. In short, the fertile soil of Australia produces the finest wheat in the world.
The best kinds of flour, and those which are best liked by bakers, are of a dull white color, slightly approaching to yellow, unctuous to the touch, do not contain a single particle of ran, and possess an agreeable and istic odor. When mixed with half their
weight of water, and thoroughly kneaded, they produce a homogeneous dough (contain ing ueither lumps nor foreign bodies) which may be drawn out in thin sheets, possessing a certain degree of elasticity.
If flour is submitted for a certain time to a temperature of $100^{\circ} \mathrm{C} .(212 \mathrm{~F}$.) it loses large portion of its hygroscopic water, gener ally from 12 to 18 per cent, according ;to the manner of, and the time employed in, the drymeans employed for the preservation of flou are based-processes which have long been he object of important improvements at the hands of C . Toualion. When again expose to the action of the atmosphere, the flour re-
absorbs the water which it previously lost. One of the chief causes of change in flour is the excess of humidity contained therein; the inore millers cannot guard too much agains regular damping of the wheat. A slight damping issometimes necessary, but if the flour is destined to be kept for a lengthened period it must be dried. Flour, when too moist, agglomerates, and sometimes becomes quite hard. Fer-
mentation is hereby engendered, and the gluten undergoes certain changes which render the flour unsuitable for producing a white,
light bread, agreeable to the taste. An excess of humidity also favors the development of certain cryptogams (fungus), which impart a disagreeable odor to the flour and give it unhealthy or even poisonous properties.

## Triumph of Electrical Science

In the cable news of a few days since it was stated that the French Atlantic cable was "broken 161 miles from St. Pierre Miquelon, in 500 fathoms of water." These few words show one of the many triumphs of modern electrical science. Here is a wire cord buried
in three-fifthe of a mile of the water of the ocean, and 180 miles from land-and yet the people on shore can exactly locate the points
at which it is broken. Strange as that seems, it is actually done, and has been time and again. The repairing vessels will go out to the indicated point, throw over their grappling hooks, and within affew hundred yards will find the broken ends and splice them. This wonder is accomplished, first, by exact knowledge of the laws of electricity, which
make known what amount of currents a wire of given dimensions will carry, and the resistance it must overoome in going a given distance, and next, by the instruments made by the mechanicians of the present day which will make the operation of both laws visible to the experienced observer, even if the brake in the cable is a thousand miles away and two miles onder the sea.-Philadelphia Ledger.

A New Process of Grazing, - A new process of glazing has been introduced by which putiy may be altogether dispensed with. Vulcanite is the substance that is to take the place of the old material. The window sashes under the new system are to be so arranged that the glass may be fixed into the grooves prepared for it, and, coming into contact with a strip of vulcanite attached to the frame, the glazing is

Any unskilled workman can fix the
when fixed, there is no putty to

## Balancing Millstones

## Usirko Statre Muluki]

Every miller ought to know how very im. portant it is that the runners of millstones be exactly balanced.
There are, however, many millers who be stow little or no care thereto, and think it is
quite sufficient that the stones are at a standing balance; but it is just in the accuracy of the running balance that the great secret of manufacturing good and wholesome flour lies.
Even in the smallest and mest imperfect mill the greatest care should be bestowed upon the stones, that is: First, to have a level
grinding surface, and second, an accurate standing and running balance.
We hope there are not many millers who do not understand how to balance the stones; but for the benefit of those who are not posted we make the following explanation
To begin with, the bed-stone must lie level; then the spindle must be brought to a per pendicular.
This having been done, the runner is laid upon the cock-head of the spindle, however, can now find out whether it is in standing balance or not.
To this end we press with our hands in arious places on the outer edge of the stone, sign that it is the heaviest on that side ; then we take weights, in preference scale-weights,
and lay them upon the opposite side, that is, upon the lightest, close to the edge, and tes them until the stone is balanced.
Having succeeded in this, we, with a chisel, make a longitudinal hole close to the edge, arge enough to contain the necessary amount f-lead.
The hole should be wider at the bottom than the top, in order that the lead may not fall or fly out when the stone is put in motion. The weights used and the pieces of gypsum stone chiselled out are now weighed to gether, and an equal amount of lead is poured necessary with some stones of modern construction, they being already provided with shot or balance holes.
The runner is now taken off and the driver put on, in order to see if the stone runs true in running balance
We now procure two thin, well-planed boards, three-eighths of an inch thick and $4 \times 6$ inches wide, and long enough that the ends may be made fast to the floor outside of the stone.
These boards are fastened on each side of the spindle, midway between the spindle and the outer edge of the stone.
The stone is now put in motion, and lowered down, so that it runs tight upon the boards ; but beforehand a platform is constructed above the stone, preferably of a plank three inches
thick and 12 to 14 inches wide, the ends of which are fastened to solid supports, so tha we can easily work thereen.
This plank should be about $1 \frac{1}{2}$ to 2 inches above the stone. With a chisel we now ac curately turn or true the back of the stone.
As soon as this has been accomplished, we As soon as this has been accomplished, we
test the standing balance again, for it often happens that it changes again after the turn ing.
The stone is put in motion, however, first screwed up, so that it does not touch the boards, and the motion gradually increased until in attains
We now take a sharp-pointed lead pencil and hold it tight against the upper plank in such a maner that it lightly touches the stone about six inches from the edge. This is the side that runs the highest.

The reason that the stone runs high on the heaviest side is that the centre of gravity or weight is too low on that side, that is, lies under the point of suspension, while, on the other hand, the centre of gravity of the opposite side lies above the point of suspension. In order to change this we must try to bring both centres of gravity in horizontal position to one another.

After ascertaining whioh side runs high, we take a certain quantity of shot, lead, or pieces of iron, that is, where balance-boxes exist, (some stones are provided with solid cast-iron balance-weights, that may be screwed at pleasure) and, serewing the box on the high side up and on the opposite side down, divide the weight in two equal parts and fill each box with one-half thereof.

We must be very careful in weighing the
be destroyed. We continue this manner of procedure until the true balance is obtained. In old stones without patent balances we always try to affix the lead under the lowest band; of course we can pour the lead in the top of the stone, as mentioned in speaking of the standing balance.
Various patent balances have been inserted into the old stones, which have all, more or less answered their purpose
A standing balance is simply an equal weight on all sides. In a running balance the centre of gravity must be just exactly as far removed from one grinding face as from the other.

## An Infamous Business,

May the curse of God rest upon an impious raffic which is robbing our State of its man hood; turning the feet of our sons away from the paths of industrious fathers into condemned criminals. It certainly would seem that enough of disgrace and destruction has already been visited upon our homes to warn all those who have anything of self-esteem and family love remaining, to shun an indulgence which saps their strength, distracts their minds, casts to the winds the fruits of a life-time's labors, and leads them to deeds which bend theirheads with shame and plunge their families into the depths of despair. But the end is not yet. Infatuations still lead men to pursue gain even where loss and ruin are surest to be found, and the community, while it pours out its sympathy for the fallen, still accords respectability to a traffle which should be held in the deepest detestation for the evil which it brings upon

## society.

Instances recur which are so like hundreds which have gone before that the details need hardly be recited. A man, with a beautiful home, a devoted wife and group of lovely children; a man who, by nearly 20 years of coners, havotion to the interests of his and who stuod before the community as a model of unyielding industry, suddenly appears a confessed criminal, and in a day is transformed from an apparent promoter of public virtue to an enemy of society, who has his liberty only at the price of pledges from his friends. Does any one need to be told the cause of the transformation? Is it necessary to tell again how the glittering snares of the stock gambler entrapped the feet which trod so firmly the path of virtue and industry; how the mind was turned from its sober thoughts and honorable ambitions by the visions of shorteuts to for tunes; how the blinding promises were false as perdition, and yet so alluring that he who pursued them was led in the deeper, until the funds of employers, confidently entrusted to his care, were secretly appropriated to feed the unholy fire of the gambling passion; how the theft was ere long discovered, and how the bars closed in the wreck of reputation and honor, while tears flow in the home and heart felt sympathy and regret fill a neighborhood. But what use is it to recite such painful inci dents when the evil seems to grow the while ? impious men fall into the hands of the polioe than another, even more glaring, springs into view. And the people-poor, senseless throng -crowd the counters of the swindling oormo rants giving their hard-earned savings in return for naught but worthless promises. For a few days the gold pours in, and then the throng comes some morning to find the doors closed and their treasures gone beyond recovery.
One would think that these specious frauds would be recognized by the shallowest brain, andyet experience proves that victims are always ready to jostle one another in the rush to ruin. It is plain that there should be som power to guard the people against these coar catch the frau, for these are the traps that thing the poor and the unwary. There is on thing that the public should demand from the should not be spared in the public prints.
What use is it that the editorial colmms of our dailies warn people against them so long as their glittering advertisements are reogived by the publishers? What use to preach virtue when the hands are filled with the rewards from vice? The press is a sharer in the fortunes made by ruining homes and wreeking lives, and so long as this is true, the friends of humanity will have cause to mourn.
The public has its eye open to the evil, and yet it lives. In the city, some business hounes which employ many men have their spies abroad, and as soon as any man in their employ takes a hand in stocks, he is watehed and his accounts sorutinized. What better evidence could be had of the way in which the business is regarded by our leading men? And yet the weights that each side receives the same nitrogen, and it is classed in the second rank | perish under the action of the atmophere.
hey have introduced the California system, and already victims are falling just as men fall when plague settles down upon a city. Only last week it was a bank officer who went down to perdition in New York, by breach of trust, through gambling in stocks. Thus, East and West, the evil spreads, and distrust rises as virtne sinks. What can save the people ? Nothing, unless each one works to save him self, and to spread a truer idea of the danger. Let it be understood that whoever enters the business in any form places his foot upon dangerous ground, which may ere long part and engulf him. As a man values his reputation as he loves his home, his wife, his children as he values a right life here and cherishes a hope beyond, let him shun the evil-the cro ing evil of the day.-Pacific Rural Press.

## Winding Up a Horse.

The Rev. Dr. Chamberlain, in a letter to the American Missionary, from Mudnapilly, India, gives the following
Nineteen years ago, says the venerable divine, I bought in Madras a peculiar kind of horse. He had to be wound up to make him fis
When breaking him to go in the oarriage he had been injured. An accident occurred in starting him the first time, and he was thrown and hurt and frightened. It made him started he would never balk, until taken out of the carriage. He would start and stop and go on as many times as you pleased, but it was very difficult to get him started at fil
time he was harnessed in the carriage.
He was all right under the saddle,
ent riding horse, ind would eary exceldistances in my district work, so that I did not wish to dispose of him; but I could not keep two ; whatever I had must go in carriage as onquer.
How I have worked over that horse! At first it sometimes took me an hour to get him started from my door. At last, after trying everything I ever heard of, I hit upon an expedient that worked.
I toold a strong bamboo stick, two feet long and over an inch thick. A stout cord loop was passed through a hole two inches from its end. This loop we would slip over his left ear down to the roots, and turn the stick round and ound and twist it up.
It is said that a horse can retain but one dea at a time in its small brain. Soon the wisting would begin to hurt. His attention would be abstracted to the pain in his ear, He would forget all about a carriage being hitched to him, bend down his head, and walk
off as quiet as a lamb. When he had gone a rod the horse boy would begin to untwist, soon off would come the cord, and the horse would be all right for the day. The remedy never failed.
After having it on two or three times he objected to the operation, and would spring bout and rear and twitoh and back, anything but start ahead, to keep it from being applied. We would have, two of us, to begin to pat and rub about his neck and head. He would not know which had the key. All at once it would be on his ear and winding up. The moment that it began to tighten be would be quiet, stand and bear it as long as he oould, and then off he would go. It never took hirty seconds to get him off with the key. It would take any hour without. After a little he ceased objecting to have it put on. He seemed to say to himself, "I have got to give would not start without the key. In a few months he got so that, as soon as we got into the carriage, he would bend down his head to have the key put on, and one or two turns of the key would be enough.
Then the key became unnecessary. He ar to the hand and twist it, and off he would go.
My native neighbors said, "That horse must be wound up or he cannot run." And it did

When he got so that the "winding up" was nothing but a form, I tried to break him of that, but could not succeed. I would pat him and talk to him and give him a little salt or sugar or bread, and then step quietly into the carriage and tell him to go. "No." Coax him. "No." Whip him.
braced, every muscle tense for resistance. A genuine balk. Stop and keep quiet for an instant, and he would hold down his head, bend over his ear, and look around for the horse boy appealingly, saying very earnestly by his
actions, "Do please wind me up. I can't go without it, but I'll gladly go if you will." The moment his ear was touched, and one twist given, off he would go as
contented as ever horse could be.
Many hearty laughs have we and our friends had over the winding up of that horse. If I were ont on a tour for a month or two and he were not hitched to the carringe, or if he stood in the stable with no work for a week or two during the monsoon, a real winding up
had to take place the first time he was put in. had to take place the first time he was put in.
We kept him six years, The last week I We kept him six years. The last week I
owned him I had to wind him up. I sold the patent to the man that bought the horse, and learned from him that he had to use it as long as the horse lived.

Sir Henky bessemira has had an experienco that few inventors are allowed to have, in living to see the world-wide results of his invention, and to realize the economy in resources which has been made possible by its use. The sewing machine and electric telegraph have been labor-saving in their effect to an enor moas ext for their originators when alive to es-
difficult timate the monetary value to mankind of the discoveries. With the making of steel the case, however, is different, for the saving can be figured down to a nicety on every ton made, and the annual product of the various civilFrom countries is pretty accurately known. in labor data thus collected it is estimated that the amount of $\$ 100,000,000$ a year by using the Bessemer process in converting ore into steel-Or considered in another way, the advantage of a low-priced enduring material, such as Bessemer steel, when compared with iron, has been made a matter of calculation,
as far as railroad tracks are concerned, with the following astonishing results : Mr. Price Williams, who is an expert in matters of this kind, has stated that by substitnting steel for iron a saving in expenditure will be made during the life of one set of steel rails on all than $\$ 850,000,000$. In view of these faet says the New York Sun, if Sir Henry has obtained in syalties the sum of $85,250,000$, most persons will concede he has got no more than he deserves.

Eight Points in Bread-Making.
We sum up briefly eight essential points in bread-making, as gathered from recent contribations on the subject and formed from the inter-editorial consciousness, to-wit

Good wheat for flour. Some varieties wheat, such as are deficient in gluten, will not make good flou
bread-maker should be sure to find the good miller.

The wheat should not be ground when
ing Choose a "wet spell" for the grind-
The flour should be sifted before using, to separate the particles.

Good yeast. This is made from new hops. Stale hops will not, with certainty, make lively yeas

Thorough kneading. After it has had enough, knead it a while? longer.

Do not let the dough rise too much. Nine out of every ten bread-makers in this
country let their bread "rise" until all its sweetness has been destroyed.
8. The oven can be too hot as well as too cold. The "happy medium" must be determined upon and selected.
There are three kinds of bread, to-wit sweet bread, bread, and sour bread. Some housewives make sour bread, a great many
make bread, but very few make sweet bread. "Sweetness" in bread is a positive quality that not many bread-makers have yet discovered.
Consumption of Timber by Ralluoads.-
The consumption of timber for railroad ties has reached enormous dimensions. The Lumberman's Gazelte estimates that as we have now about 90,000 miles of railroad the annual consumption of ties or sleepers alone is 40 , 000,000 , or thirty years' growth of 75,000 acres. The tremendons destruction of crosstie timber, only certain kinds and sizes of which can be used for the purpose, is using up the stock within reach so fast, and good
ties are in consequence becoming so hard to ties are in consequence becoming so hard to
get, in many quarters, that railway managers are seriously turning their thoughts towards some substitate. Some' railroad companies advocate tree planting, and others iron sleepers, which, are now extensively psed by Belgium roads, and which are being adopted by
the German and some English roads. Glass and prepared wood sleepers are also recommended.

## The "Washbnrn A" Mill.

The following description of the Washburn A mill we take from the Pioneer Press : Among the giant mills which rise on every hand about the milling distriets of Minneapolis, the great "Washburn A" looms up conspicuously. Beside it the Humboldt and the Pettit and the Arctic and others in that vicinity look like pigmies. From the oanal way back to Second street, a distance of 250 feet, and with a frontage of 100 feet on the canal, the solid walls of limestone are slowly rising under the ekillful guidance of Mr. McMallen, the builder of the "B" mill. These are to be carried to the height of eight stories, thas making the building not only the largest mill on the ground, but the highest of any in the city, for the distance from the level of the oanal to the oap stone will be 114 feet. To gain an idea of its size one needs to walk about it, both outside and in. The railroad which runs through the building on the second story seems to take up but little room, and yet think of a train of cars passing through any other of our public buildings, how much room would there be left besides? The height of the basement story seems consider able to look at, yet one gets but an imperfect idea of the vast amount of space until he is told that the western half, which is to be used for storing, will hold 100,000 bushels. He can get another idea of its size by figuring the area, when he will be astonished to discover that there are enclosed $8,850,000$ enbic feet. How much flour this monster is to turn out when completed, is a secret which Mr. Washburn keeps to himself. It certainly is large enough to make from 2,500 to 3,000 bbls per day, for
" 4 " mill, on whin twas as much room as the old mill the last day it run made over 1,500 bbls. In regard to the process to be used it is premature yet to speak, but this much can safely be said, it will be the most approved now in use,
Mr. Washburn has been testing the Hungarian process in the " B " mill for some months pase, and the conclusion has been reached that the exclusive Hungarian system has some disadvantages connected with it. A portion of the walls are now up to the third story, and the entire building will be under roof by the firs December. When completed, hore will States as regards size, and if there is anything States as regaras size, and if there is anything
across the water its equal, we should be very glad to hear from it.

The tongue and the Sense of Taste. The tasting power of the tongue is not reg ularly distributed over all parts of that organ. according to the unanimous judgment of physiologists the back part of the tongue is bes qualified for this function, while there is a dif-
ference of opinion as to the tip of the tongue The older observers have repeatedly said that a tasting power in the tip is limited to certain persons, whereas more recent ones affirm its presence in all men. In experimenting on the
so-called "reaction-time," Herr Vintchgau lately met with a case of limited tasting power in the tongue-tip, and this led him to a thorough investigation of the subject. The observations were made with solutions of chloride of sodium sugar, quinine and citric acid. The results were as follows. There are persons who are capable of acurately distinguishing all principal tastes with the tip of the tongue alone; others
perceive with certainty the qualities of sweetness, saltness, acidity, but less distinctly bit terness. Others, again, can only with great difficulty distinguish tastes with the tip of the cannot do this in the least.
borax and nitre for hoarsenkss.-La France Medical remarks that these two salt have been employed with advantage in cases of
hoarseness occurring suddenly from the action The remedy is recommended to singers and orators whose voices suddenly become lost, but which by these means can be recovered almost instantly. A little piece of
borax, the size of a pea, is to be slowly dissoly ed in the mouth ten minutes before singing or speaking. The remedy provokes an abundan secretion of saliva, which moistens the mouth and throat. This local action of the borax should be aided by an equal dose of nitre taken in a warm solution before going to bed.

A NEW automatic pumping engine is in op eration at the Providence (R. I.) water works, It has ten cylinders, five for water and five for steam, arranged alternately in a circle. It possesses an enormons eapacity, but it will, without attention from the attendant, do the
duty of pumpingeither for a single fancet duty of pumping,either for a single faucet or
for a dozen steam fire engines, The cylinders
are all conneoted to a single central upright shaft, which automatically either maks one revolution in five minntes or twenty-five in one minate, according to water required. If the fire barns low, the engine will open the damper; if this is not sufficient, it will put on the blower.
"You don't seem to have made much money in bringing your hogs down here ?" was the casual remark of a bystander to a speculative agriculturist, Who had driven his hogs seven miles to the markel Cown and sold them for precisely what was offered him before he left home. "Well, no," said the agriculturist, pensively, "I hain't made no money, but then"-brightening op- you know I had the

## Cut This Out.

"United States Miller" Sunberipition Blank. We hope the milling friends of the UnitedStates Miller will be as liberal to it as it in the future. Subscription price, one year $\$ 1$, We shall be pleased to have an early response to this. Fill out the blank below, enclose with
money in an envelope, seal carefully and send money in an envelope, seal carefully and send
at our risk. A receipt will be sent by return. mail. Address all communications to the

United States Minler,
Milwaukee, W
Editer of the United States Miller, Mibwaukse, Wis.-Sir: Send one copy of the find enclosed \$1.00.

## vom

remb

## H. WILLIAMS \& CO.

## 

Houston, Minnesota.
THE CALIFORNIA Horizontal Bussh Scurver

AND FINISHER,

M. DEAL \& CO., Manufacturers,

Bucyrus, Ohio.


FOR SALE.
TEN GRATIOT Wheat Heaters.

In Use but a Short Time.
E. P. ALIIS \& OO. miLwaveke, wis.
TRIUMPH
POWER CORN SHELLER!

shells and Cleans 2,000 Bushels Rars per day.
 HULBERT \& PAIGE

## Great Wheat Farms.

Ninety years ago, Arthur Young, writing to President Washington, expressed considerable donbt whether agriculture would ever be a paying occupation in the United States. He elaborately calculated that the net profit from
300 acres of land in England, after the Jeduction of taxes and other expenses, was £323 10 s , or 5.15 per cent on the combined capital of the landlord and tenant ( $£ 6,240$ ); whilst in
America the net profit, after similar deducAmerica the net profit, after similar deduc-
tions had been made, was $£ 20614 \mathrm{~s}$, or 10.55 per cent on the capital of $£ 1,951$, the farmer being his own landlord. It is curious to study the figures in the light of present events, when the English farmer is making a very different anthor of "Agricultural Survey" never even anthor of "Agricultural Survey" never even
dreamed. If any one had told Washington's correspondent of 1789 that in 1879 the American wheat growers would threaten ruin to the
English farmers, he would doubtless have English farmers, he would doubtless have
been called a madman. Yet ninety years ago American agricaltare was infinitely more promising than that of Australia less than nent now competes with the New World for the profits of feeding the old one. When the first European landed in New Holland they found a land producing no vegetable fit for
food, no animal akin to those in the regions they had left, and no domesticated cattle of
any kind. Repeatedly the cosvicts were on any kind. Repeatedly the convicts were on
the point of. starving, and probably would have perished had it not been for the abund-
ance of kangaroos, and the fortunate arrival ance of kangaroos, and the fortunate arrival
of a ship from Java. In 1804 flour was quoted in Van Dieman's land at fl12 per ton; appeared so likely to rise to a still higher price that a garrison order was issued making it a penal offence for the settlers to charge for
it more than $£ 32 \mathrm{a}$ quarter. But times have ohanged. Last year New South Wales alone had feeding within its borders over twenty-
seven millions of sheep and four million of horned cattle, while the colony of South Australia alone in this year prepared to export, her immediate neighbors, no less than 170 , 000 tons of wheat. In America, however, dians cultivated maize from the earliest period, and among the first plunder of Miles Standish and his companions was the corn which the
"red sons of Balial" had stored away for winter use. The Aburignes taught the Virginians and New Englanders to cultivate this
grain, and, as mines were not worked in America for long after its first colonization, the earliest settlers depended on farming as their main resource. Yet, for one century at least, wheat-growing was on its trial in America, and so little progress did tillage make,
that we find, as late as 1660 , the Massachusett townships paying a bounty to any one who would buy and keep a plow in repair for use
of the neighboring farmers. The stony New England clearings required all the aid of art; but they got so little that the narrow-minded
Puritans looked upon a man who ventured to Puritans looked upon a man who ventured to
make improvements as a reckless innovator, certain to come to grief himbelf and bring ruin to the commonwealth. A century ago, if he did not plant just as many acres of corn the moon," if he did not sow just as mnch
then rye to the acre, use the same number of oxen to break up the soil, and to carry home the crops on exactly the same day as his neighbors did, he was shunned in company by
old and young, as a visionary who imagined that the wisdom of his anceetors was not good enough for him.
Last year the United States sent to Europe year the amount of wheat to be exported cannot amount to much less than 190 million bushels. No sterile Northern State ever maide much advance in grain crowing, and though
Virginia and Maryland were rich, the amount of land capable of raising wheat was but limited, and on the rich river "bottoms" the exhansting tobacoo oulture for a time paid much better. Even there the expense of its costing little to buy the freehold did not counter-balance this original disadvantage to the farmer. But when Illinois, Iowa and Missouri became opened up, in the treeless
prairies of this farther West, the corn grower prairies of this farther West, the corn grower
revelled. The soil was rich-there were no forests on it-and the plow was merely required to be run through its stoneless extent to prepare it for grain. When the Indianswho, it must be allowed, were a drawback to
the delights of the new Cereal Paradise-were removed aeross the Mississippi, settlers and
oultivation spread still more, and when rail-
ways were ways were run through these prairie States,
it was not long before even the highly-colored it was not long before even the highly-colored
advertisements of the companies which had advertisements of the companies which had
"donations" of land to induce them to build these iron roads could convince the most sanguine farmer that between the Ohio and comer who was not, enamored of extracting grain out of sage-brush and alkali wastes, great "wheat centres," and prospered as the great "wheat centres," and prospered as the
cities of the middlemen who tithe the farmers" grain before it reached the Eastern States and Europe. In some quarters, indeed, Was found that to grow a sarplus crop
would not pay. It is not thirty years since would not pay. It is not thirty years since
that, in some parts of Illinois, maize brought only five cents per bushel, so that, after all on it, the remainder was barnt as fuel.
But though this practice is now only tra ditienal, it has been found by those who have carefully watched the progress of events that around which cluster the largest production of that cereal-has been gradually shifting farther and farther West. Within this cen-
tury, the six New. England States grew the wheat for their own bread. They oould not strated, feed themselves with wheat flour fon fortnight
in New York ; then it migrated to Pennsylvania, a State which can now eat up all it can
produce in ten months. Virginia was never whent centre, but in 1860 it produced 12
bushels for every person in it ; whilst in 1870 it only raised 6 , and probably the return per head is at present very much lower. Ohio,
Indiana and Illinois were successively for a time the States in which wheat oulture centered, but successively the yield fell off in
these regions, until at the prosent time the "centre" is stationed somewhere between Yowa, Wisconsin and Minnesota. There are,
however, already signs that, true to its pre-
vious history the farin not long stop there, but-as its migration has always been westward-that it will progress stil further towards the setting sun. To do so ir must take a long leap, a fact which
who have made their calculations wheat-producing capabilities of the States have generally failed to enlighten their viotim regarding. The reason is this. East of the Reven-sixixeountains is a country comprising is a desert, with not five per cent of improv-
 great. During a short season it affords a little pasture for stock bat, as its capabilities for
feeding cattle are only during the season of greatest plenty, not during that when other food is scarce, even as a grazing region it can suver be of much value, and on its soilless The reason for this migratory character of the "wheat centre" is plain. The soil is getting same crop is grown year after year on the same
same fields, because it pays best. The land is rich, The it cannot bear this constant exhanstion, The farmor cannot afford to buy artificial manure to fertilize it ; while this system of
tillage allows of no domestic manure being made, so that in time everything is taken out of the soil and nothing put baok into it. The end is a decreased yield of wheat, and the necessity for the thriftless oultivator seeking resh virgin soil on which to resume his old being, profitable agriculture. He is, in a word, not charging to revenue alone the interest of his money; he is every year adding to
it a part of the principal also, with the result that in time he finds that he has no capital with which to work. If he sold every year an acre of his farm, and ate, drank, dressed with the sum received, he could not more effectually accomplish his ruin than by the method he is adopting. However, this is not patent to him, for so long as land is plentiful in Amer-ica-and in a few years tillable soil will be is no theory. New York, Pennesylvania and Virginia have been "worn out" as completely, as wheat growing regions, as whole tracts of
country along the Mississippi have been rencountry along the Mississippi have been ren-
dered useless by oontinued tobacoo cropping The early settlers in New England, and even in Maryland and Virginia, were not so thriftless, for though land in those days was cheaper than it is now, it cost too much labor to clear it for them to think of rendering of killing the goose that lays the golden egg. Their farms were, moreover, small, and their
agricalture mixed. They consumed the straw grown on the soil and returned it again in the
form of manure. Artifcinl manures then known, but the accordingly fish and seaweed supplied admirable fertilizer, to the thin soil on which were reared the pioneers of the Great Republic, until it had again recuperated its feeding properties. Even the Indians knew better.
They fertilized their maize crops with the horse foot or king crab, and until this crus tacean became scarce the Massachusetts farm-
ers followed their ers followed their example so satisfactorily
that, early in the century would ordinarily return only 10 bushels of
and "corn" to the acre was stimulated by the free use of the crab and fish manure into yielding double that crop. The Virginians made much merriment out of this New England onlture,
bat they have since discovered that it would bat they have since discovered that it would
have been better for them to have followed so good a practice
What has been the result of this wearing out of the soil? In Illinois-no less an au-
thority than Abraham Lincoln nsed the wheat fields of that once fertile State had sunk as early as 1863 to an average of 8 bushels per acre. The wheat centre has thus board, but for the present has been stopped by the barren central deserts of the Conti-
nent. Even on the extreme confines of that region wheat is beginning to prove by no
means such a profitable crop as it once did. The last four seasons' bad crops in England
have stimulated wheat-growing in the States the boastfulness of the Western "rwacher" the hard prose of figures, we find that Great Britain, though not over one sixty-fourth part of the size of the United States, produced did the States in 1870, and though this year the disproportion will be much higher, there is little ground for believing that it has not at
tained its maximum. Even France, neve tained its maximum. Even France, never
looked upon as especially a wheat-growing country, has in 20 years contributed more of
this grain to the world than the United States during the same period. The crops even in England are more certain than across the Atlantic. Droughts, grasshoppers and rus thing, on an average, like twice in five years and, owing to the grain maturing so rapidly, it io rarely as heavy as that ripened more
slow our milder climate. Maize is really the crop which suits North America best, and were it not for "corn," as the Indian grain
is called, the United States would require to import part of its bread.
It may be said that in time the A mericans wir learn a better system of farming, and according to the English axiom, feed them, But it is doubtful whether the average Western farmer will ever attain this stage of agricultural wisdom. In the first place, he will
never bring himself to do so as waste land is never bring himself to do so as waste land is
to be had. He will rather sell out and "move West," or "go into business," for agriculture is not the industry which the average ener-
getic American affects. In the second place aria present afford to manure his land. To bring fish refuse from the coast, or town sewage from the cities, would cost to other artifioial fertilizers -the use of which at once abridges the English farmer's profits and keeps his land in a condition fit to make these
profits, suoh as they are, permanent-would profts, suoh as they are, permanent-would
be still further beyond the Illinois, Nebraska and Missouri grain grower's reach. To use
them would so decrease his moderate returns as to put it out of his power to land wheat in England, even in the best of seasons, without a loss to himself or to the exporter. But every year that he hesitates about putting
back into the soil what he is taking is content with the profit which the difference between these two extremes represents-will make it more and more difficult for him ever to do so.
Oregon and California have been represent-
ed as countries likely in time to be "wheat ed as countries likely in time to be "wheat pect. Oregon has no great extent of land capable of growing grain, except in the Willamette and a fow other valleys, chiefly to the west of the Cascade Mountains, and in these regions the farms are all small, and devotedluckily for their owners-to mixed agriculthough not very wealthy. In are prosperous, millions of very weathy. In 1878 about seven milions of bushels of, whent were received in
Liverpool from the country of Californio The best lands will yield 30 bushels to the The best lands will yield 30 bushels, to the
aere. But the farmer is not content with this,
for having reaped his 30 bushels at a profit of ing $\$ 10$, he depends apon nature for returning him the next year a volunteer harvest of some 18 bushels, in addition to the plentifal crop of weeds, which cost him donble plowing and absolute rest the third year, in order to extirpate then, and at the same time raise the soil to something like its old fertility. Still, W anghin the oregon and Wnshington Territory farms have not been worn out to anything like the extent which the larger ones in California and the "Westorn States "proper have.
The Californians love to do things on a grandiose scale-the greater the more pleasthe rule in that State, though the amount of soil capable of being tilled is muoh less than in many distriots in the Mississippi Valley,
and the cost of land very muoh higher. In and the oost of land very muoh higher. In
consequence of the existence of old Mexican grants, there are still large tracts in California held in the hands of single proprietors. For
instance, Mr. Mitohell, in the San Joaquin Valley, has 90,000 acres under whent, and is ambitious to have 100,000 ; and Dr. Glen, lin Colusa County, has 45,000 acres under the same crop; and another tiller named Reavis has a modest little farm of 15,000 acres. But though these "ranchers" get 85 cents per
bushel for their wheat, they do not find their business so profitable as imagined. Indeed, ome of them have in ten years cleared noth ing, but have managed to get into debt on a scale quite as gigantic as their farms.
Large wheat farming does not pay. It is too precarious, as is proved by the failure of other States. To use a familiar phrase, the large wheat grower puts his eggs all into one basket. If wheat is high, he makes a great profit; if, on the other hand, wheat-his
only crop-fails, then he is ruined, for he has frming. These milos of whe practice mixed ragged appearance. There are no barns farm buildings. The ears are snipped off by wonderful machine, which also threshes and acks the grain on the field. The straw is ways, ner ournt or disposed of all variou any advantage from it. The same plan is pursued in South Australia. In the colony here are no large farmers, bat the "cockaless. They use no manare, but equally thrift the 1 , a coult, no the soil that in a few years its fertility will soils, both in Australia and America-but in America more than Australia-will bear continual cropping for a long time. But the tales of 80 bushels to the acre must be received ath many grains of sall, and-at best-as re as anything like an aserage of even a single State. Evon in California all "pumpkins" time of the year begin their which about this Ahe truth is, that the average return of wheat land is America is only eleven bushels per acre, lower
than in any conntry except Russi3 only fl conntry except Russia, whero what the little Danish farms, on which all the
straw is consumed, field to the more thrifty cultivator. The outloools of the British farmer is not quito so bad as he imagines, or as some
dubious frieuds of his would have him to believe. Ail things, it is said, come to the man
who can wait; and if the English agrienltur-
ist has only suffient ist
above narrated indicate that, in all likelihood,
he will again have his day,

The following is a list of parties who have recently ordered the celebrated Becker Wheat Brush: Thos. Magee, Periy, Ill. ; S. W. Hickox, Springfield, Ill.; Eby \& Stehman, Man heim, Pa.; J. M. Brant, Mt. Joy, Pa.; Jerre
Witter, Upton, Pa.; Thos. B. Bryson, Mechanicsburg, Pa.; W. H. Elder, Turin, Ga.; H. Merrill, Newman, Ga.; J. H. C. Curtis,
Oregon, Mo.; East Forest Mill Co., Forest City, Mo.; C. C. Buzby, Jerseyville, Ill.; D. O. Johnson, Perry, Ill.; Thos. Williams, Pontiac, Ill.; Grant \& Trostor, Meoresville, Ind.; Wysor, Kline \& Co., Muncie, Ind.; Jos, N Brooks, La Porte, Ind.; Nordyke \& Marmon Co., Indianapolis, Ind.; Simpson \& Galt, CinOhio; E. P. Allis \& Co., Milwankee, Wis.; J. F. Ellsworth, Williamsbnrg, Pa.; Thos. Henderson, Spruce Creek, Pa.; Henry \& Co. Huntington, Pa.; Schenk \& Sowers, Ovid, Mioh.; Jos. Marriott \& Bro., Long Grove, N.
Y.; Bramble \& Miner, Yankton, Dakota; Jos. M. Lee, Chattanoga, Teiñ.; E. W. Jaqui. Morris Plains, N. J.; Hugh Bartley, German Valley, N. J.; Joseph Courand, Costroville, Texas; Sills Brob., Meyersburg, Canada.

## NEWS. <br> EVERYBODY READS THIS.

## tems gathered from correspondents, tel

GRAMS AND EXCHANGES.

The Cookle Seprantor Mig, Co, of Miliman koe, Wis, is crowided with work, and thei meles have been hearier during the past month than in any other month this year
The Coocke Separator Mig. Co., of Miliwan. kee, Wis, has sold in the past month 18 of thair largett size machines in Miineapolies Min.
The new crop in the different States is so fall of cookle that millers say they could not do without the cockle separator, manufactured by the Cockle Separator Mfg. Co., of Milwan kee, Wis.
The Cockle Separator Mfg. Co., of Milwaukee, Wis, are building their machines with a capacity from 15 bushels up to 240 bushels per hour.
Mesers. Stewart \& Donglas have ordered three cockle machines from the Cockle Separ ator Mfp. Co., of Milwaukee, Wis., for their new oat-meal mill at Chicago.
Messrs. E. Woodyear \& Co., of Baltimore, Md., have purchased one of the largest size cockle machines with oat separator combined from the Cockle Separator Mfg. Co., of Milwankee, Wis.
The Wells Flouring Mill Co. at Wells, Minn. Co.'s largest size cockle machines with oat separator combined.
The Kurth cockle separator, manufactured by the Cockle Separator Mfg. Co., of Milwaukee, Wis., is an indispensible machine in every
mill, and all mills in course of construction mill, and all mills
are puttting it in.
Millers will save the cost of buying a special oat separator, when purchasing the combined oat and cockle separator manufactured by the Coc
kee, Wis.
Write to the Cockle Separator Mfg. Co., of Milwaukee, Wis., for their illustrated catalogue, which gives a full description of their memian
The Philadelphia Commercial Exchange has passed a resolution adopting the cental system for all transactions in grain, flour and seeds, from the lst day of January, 1880.
An elevator was burned at Hastings, Neb Sept. 16th.
Peter Provost, of Appleton, Wis., patentee and manufacturer of the Victor wheat heater and drier, has just furnished four of his ex-
cellent heaters to Barney Demoss \& Co., of Roscoe,
The Russian Minister of Finance recently declared publicly at Nijni Novgorod that he
intends very soon to prohibit the importation of iron into Russia duty free.
The ont meal mill of Kiser \& Pierson, of Ottumwa, Iowa, burned Sept. 12th. Loss,
$\$ 18,000$; insured $\$ 15,000$. $\$ 18,000$; insured, $\$ 15,000$. The fire was irst the roof of the drying kiln, and it burned down in just thirty-five minutes.
New flouring nills are being built at Olivia, Minn.; Jasper, Ga.; Holmes City, Minn. Comanche, Ia.; Evansville, Ind.
Exportation of American whisky to foreign countries has increased very largely during the present year, as the cheapness and abundance
of the raw spirit has offered to merchants of the raw spirit has offered to merchants
large opportuuities of profit. It is the most compact and condensed form in which grain can be sent abroad.
The revival in the iron industry has sent a good many vessels into carrying iron ore that ordinarily belong to the grain fleet, thereby cutting down the supply of grain vessels so largely as to allow
to paying figures.
The man that secures the right to construct an aqneduct around the falls at Sault Ste. Marie, for water power purposes, may find himself in possession, a few years hence, of a franchise worth a pretty penny.
Henry Schultz, of Scott, Sheboygan Co., Wis., is building a new 3 -run mill. Smith Bros, are doing the work.
A. M. Grau, formerly of the firm of Asmuth Dakota, and intends to build a flour mill.
The 4 -run mill of A. B. Rarey, Grove Port, O., thoroughly overhauled, refitted and refurnished by C. F. Miller, of Mansfield, O., and started about Aug. 20th, is running to its full capacity night and day, and the quality of
 any straight grade in that State. This mill is near the city of Columbus, and we are told
there is no brand of flour in the city so much there is no brand of flour in the city so much
sought after, and appreciated as the Grove Port Mill's flour. The millwright work was done under the superintendence of Mr. G. W.
Bliss, of Mansfield, O., and Mr. D. D. Van Bliss, of Mansfield, O., and Mr. D. D. Van
Degrift, formerly of Zanesville, 0 ., is head miller.
Edward P. Allis \& Co. have closed a contract with the Winona Mill Co. for a 600 -horse power componnd engine and steel boilers. This will be the finest steam power possessed by any flouring mtll in the United States.
The Star \& Crescent Mills, of Chicago, have ordered an outfit of porcelain rolls from Edw. P. Allis \& Co.
S. B. Pierson, of Lawrence, Kansas, has purchased the magnificent roller mills which Edward P. Allis \& Co. had on exhibition at the St. Louis Fair
A. Fredenhagen, St. Charles, Ill.; M. Range, Raymond, Ill.; and Mr. Kertochwell, of Day ton, Ohio, have ordered porcelain rolls of Alis \& Co .
Edward P. Allis \& Co. have orders for over 100 po
month.
The large elevator at Minneapolis is well along. All the machinery is furnished by E. P. Allis \& Co., and the power will be a $24 \times 48$ Reynolds-Corliss engine
E. T. Archibald, of Dundas, Minn., are putting in an $18 \times 48$ Reynolds-Corliss engine, built by E. P. Allis \& Co
Edward P. Allis \& Co. are remodeling the Star \& Crescent Mills, Chicago, to the roller system.
Edward P. Allis \& Co., of Milwarkee, have shipped two car-loads of machinery a day for the past 60 days. They are running day and night with a force of 700 men , aud have now their large milling contracts.
Edward P. Allis \& Co. have been engaged to entirely remodel one of the largest mills in England. This mill now has 48 run of stone, and Allis \& Co. will change it entirely to their roller system, which is being universally adopted by the larger mills of this country.
At a recent trial of one of Allis \& Co.'s Reynolds-Coriss engines a duty $190-100$ pounds obtain $n$ d of 190-100 pounds of coal per indicated horse
power per hour. This is the every-day work of the engine, and there are but few, if any, engines in the country that can equal it.
The Milwaukee Middlings Millstone Co. are furnishing a 5 -run mill for Messrs. Schlegel \& Koenig at Saukville, Wis.
The five hundred barrel mill being built in Milwaukee by the Milwankee Middlings Millstone Co., is progressing rapidly. This will
be, when finished, the most complete flour mill in this country.
The Milwaukee Middlings Millstone Co. are furnishing twelve 16 -inch mills to Messrs. McMoran \& Co., at Port Huron, Mich., and overhauling their mill generally.
The Milwaukee Middlings Millstone Co.'s
business still increases, and their little mills are becoming more popular every day.
The Mulwaukee Middlings Millstone Co. will start up Mr. R. P. Owen's mill, at Anoka, Minn., some time during October.
The Milwankee Middlings Millstone Co. are building a new 3 -run mill for Messrs. Lodde \& Son, Sauk City, Wis.
The Milwaukee Middlings Millstone Co. have order
little mills.
The Milwaukee Middlings Millstone $\mathrm{C}_{0}$
enlarging their stone shop again in order to keep pace with their orders,
Mr. Geo. A. Granger, of New Lexington, 0 , whose new 4 -run mill has been running
about a month, is proving a success, about a month, is proving a success, and
thinks it is second to none in his part of the state. The burrs, bolting cloth and all the machines and materials were

Miler, Mansfield, Ohio
htely made woll, of Plymouth, 0 ., has lately made additional improvements, and his
mill, as furnished and arranged by C. F. Miller, of Mansfield, O., is doing first-class work, running almost entirely on custom grinding.
C. F. Miller, of Mansfield, Ohio, has by special contract made very extensive improvemonts in the flour mill owned and operated by the Brewster Mill Co., Akron, O., putting in new burrs, separators, smutters, brush machines, bran dusters, wheat heaters and
other materials, also has re-clothed their bolts, making the necessary changes, so as to conform to the improved system. Mr. Wm. Man.
and capability as a miller we may expect good results. Mr. C. Parker, millwright, of Mansfield, O., has had charge of the work. The work in about complete
running by Sept. 25 th.
Messrs. Pickering, Grant \& Co., of Zanesville, O ., are determined to be up to the times in mill improvements, and having from time in the the last two years added purifiers and other new improvements, now have their mill in condition to muke, and are turning out the bost quality of flour made in that city. Their bolting cloth and other materials were furnishmills are in charge of Mr. Bower, who has mecome noted as a miller of the first class.
Messrs. Commins \& Allen, of Akron, O., are among the leading millers of Ohio, and seem determined to avail themselves of every admillige to be gained in the improved mode of milling. They are making some chunges in their system of bolting, and adding some 4 -inch best selected millstones, supulied by C. F. Miller, of Mansfield, $O$

The flour mills of Mansfield, O ., thongh constantly running night and day, are unable to supply the demand for their flour. The mill of Messrs. Hicks, Brown \& Co., formerly 6-run mill, have lately added two run of 48. three Munson burrs, and contemplate adaing they feel compeled to do to meet the ivereasing demand for their product. The "City Mills," Messrs. Gilbert, Waugh \& Co., proprietors, have also found it necessary to increase
their capacity, and have lately added another run of 48 -inch Munson burrs, supplied by C . F. Miller, of Mansfield, O

## Pulleys and Belts.

The evil of sliding or slipping of the belt on the pulley is experienced by all who use them, and various means have been devised to
woid it for years past.
One method is to cover the pulley with inside of the belt. The latter is soon pressed into the leather, and contributes largely to its speedy destruction. A wood covering gets polished in a short time and is then as slippery as iron. A convexity of the rim of the pulley is very effective to prevent the drupping off of the belt, especially when the pulley has a horizontal position; but it only counteracts the slipping to a very small extent. Some years ago, it was found that leather completely pre vented the sliding of belts on pulleys. The reason is obvious. The friction of leather on on iron, and as leather can be roughened and easily kept in that condition, it is very evident that the sliding of belts cannot easily take place on pulleys covered with leather, not even
when the belts have to transmit the very highest amount of power
Besides the evident advantage that results from the avoidance of the slipping, a leather
covering on the pulley preserves the belt, in the flrst place the belt does not require tightening so hard, the friction being considerably increased; and in the second place because there is no necessity for a rapid trotting of
the belt. This rapid trotting is caused by the fact that, under the influence of the heat produced by friction, the tannic and other acids contalned in the leather of the
belts combine chemically iron of the pulleys, forming a hard compound on the belts which produces rottenness. The operrtion of covering is very simple and can miller.
BIG Words - Big words are great favorities with people of small ideas and weak conceptions. They wish to use language that may best concenl their thoughts. With few exceptions, however. illiterate and half educated persons use more "big words" than people of thorongh education. It is a very
common but egregious mistake to suppose that long common but egregious mistake to suppose that long
words are more genteel than the short ones-just as words are more genteel than the short ones-just as
this sort of people imagine high colors and flashy this sort of people imagine high colors and niashy
figures improve the stvles of dreess. These are th kind of people who don't begin but always "commence," They don't live, but "reside" They
don't go to bed but mysteriously "reitre." They don't go to bed but mysteriously "retire." They
don't eat or drink, but partake of "refreshmenta." don't eat or drink, but partake of "refreshments."
They are never sick, but "extremely indisposed;" and instead of dying, at last, they "decease." The strength of the English language is in short word -chiefly monosyllables of Saxon derivation ; and people who are in earnest seldom use any other. Love, hate, anger. grief and joy express themselves in short words and direct sentences; while cunning, falsehood and affectation delight in what Horace calls verba sesquipeddlia-words "a footand-a-half" long.-Exehange.

What is that Conundrums.
mal? Kittens.
Queen Elizabeth take her pills in? In dider (inside her)
they both a have done quacking. fruit should I be ree you riding on a donkey, what fruit wair
How is it that a man more thoroughly appreciates good coffee when he's smoking than at any other Why was Blackstone like an Irish vegetable? Because he was a common tatur.
Why is an egg like a colt? Because it isn't fit or use till its broken.
If a Colt's pistol has six barrels, how many ought a horse pistol to have? Give it up.
Why is a professional thief very comfortable? Because he takes things easy
Why are cowardly soldiers like tallow candles? Because when exposed to the fire they run
When does a man have to keep his word? When one will take it.

## When btained.

Why are two young ladies kissing each other emblem of Christianity? Because they are doing unto each other as they would men should do unto them.
humbag? Beause the hest of How can you get a new set of teeth inserted gratis? Co somebod garden where Why a big dog, and kick him
Why is a good husband like dough ? Because a State the differ
State the a grocer selling a pound of sugar, and an apothecary's boy with a pounds away.

Why is it easy to break into an old man's house ? When does a is broken and his locks are few. father leaves him nothing to tako Is there a word in
Is there a word in the English language that Why is a woman's beauty likquestionably.
Why is a woman's beauty like a $\$ 10$ greenback Because when once changed it soon goes.
Why shouid not ladies and gent
Why shouid not ladies and gentlemen take castor oil? Because it is only intended for working How
tside. What
little soper length for a ladies' crinoline?
Friendly Counsel.

## spread them not at all. <br> If you cannot speak well of another, at least

 do not speak ill of him.3. Never speak ill of another behind his back. Why should you consider his character of less value than your own?

Speak of others as you would were they resent; speak as a friend
5. Consider yourself the guardian of the charac er of those who may be absent, as you would wish others to guard your character in your absence.

Whenever it may be needed to mention anything to the disadvantage of another, let it be done the recollection of how much has been forgiven thee. $-E x$. $\qquad$
A Cure for Drunkenness.-The Scientific American contams an account of an experimental drunkenness. The experiment consisted of a simple change of diet, and was tried upon twenty-seven persons, with satisfactory results. The diet proposed is farinaceous, and in the cases reported was composed of maccaroni, haricot, beans, dried peas and lentils. The dishes were made palatable by or olive oil. Breads of a highly glutinous quality were used, care being taken to prevent their being soured in course of preparation. In this explanation of the theory, Liebig remarks that the disinclination for alcoholic stimulants, after partaking of tained food, is due to the carbonaceous starch distasteful the carbon of liquors. If this plan proves successful, it will be the medium of effecting a more thorough reform than years of legislative en* actment

A Lumber Preservative.-Quicklime, as a preservative of timber, has been made the subject of experiment by M. Loatal, a French railway conputs the applied it to railway sleepers, He quicklime, ehhe into pits, and covers them water. Timber for mines must be left for eight days before it is completely impregnated. It becomes extremely hard and tough, and is said never to rot. It is also stated that beech-wood prepared in the same manner has been used in several ironworks for hammers and other tools, and is reputed to be as hard as iron, without losing the elasticity peculiar to it. The Builder (London) says that according to the Kurze Beriehte, lime slacked in a solution of chlorand water-proof coating for wood.

The Grain Trade of New York
One cannot cross either of our river ferries, still less circumnavigate the city or take a few hours' sail up the Hudson, without being amazed at the movement of breadstuffs visible on all sides. On the Hudson River Railroad, and all the other iron thoroughfares converging upon this city, long trains of grain cars are almost constantly in sight, while on the river vast rafts of grain laden canal boats more than rival the railway trains in carrying capacity. It is no uncommon thing for one of the large towing steamers to bring down the river fifty, sixty, or more canal boats, each carrying from eight to fourteen thousand bushels of wheat, corn, or other grain. In single file, one of
these vast tows would make a continuous line of canal boats more than a mile in length; while an equivalent tonnage in cars would re quire twenty-five or thirty 40 -car trains, or from six to seven miles of cars, according to the nature of the grain.
Not unfrequently four or five ocean steamers, and a fleet of other shipping, may be seen
about the great railroad elevators at 65 th about the great railroad elevators at 65th
street, receiving cargoes of grain and cattle. At each of the piers of the numerous Eu ropean steamship lines, floating elevators are
busy transferring grain from canal boats; others are at work in midstream alongside ocean steamers and sailing ships at anchor; and at the extensive warehouses along the
shores, permanent or floating elevators are similarly engaged in the rapid handling of the staff of life, brought to their doors either in canal boats and barges, or in cars Loated, on the Erie and other railways.
The magnitude of this grain trade of New York may be judged from a few statistics ceipts at this port were: Flour, 112,124 bar rels; wheat, $2,271,492$ bin 014 bushels ; oats, 279,355 bushels; ; rye, 139,
886 bushels; barley, 1,100 bushels-about as much as was received at all the other port together. During the same week the exports
of breadstuffs from New York included 113,-224 barrels of flour, $2,519,409$ bushels o wheat, 914,623 bushels of corn, 2,996 bushels ${ }^{\circ}$ of oats, 103,701 bushels of rye. At the last
date named, September 6 , the amount of grain in our city granaries and afloat in our harbor, embraced in round numbers, 3,750,100 bushels of wheat, $3,100,000$ bushels of corn, 810,000
bushels of oats, 160,000 bushels of rye, 26,000 bushels of barley. The grain of all sorts in store at New York was $6,332,035$ bushels. The storage capacity of the port is
about $12,000,000$ bushels, but the present active demand for grain for foreign shipment, due to the general deficiency of European crops, prevents any large accumulation here. Indeed,
the bulk of shipping devoted to the transportation of grain from this to foreign ports is at this season something unprecedented in the history of the world. During the week end-
ing September 10 (six days), the clearances of flour and grain for Europe alone embraced eighty-five vessels ( 45 barks, 30 steamships, 4 ships, 5 brigs, 1 schooner), carrying a grand total of 78,112 barrels of flour, $1,942,248$ bushels of wheat, and $1,249,092$ bushels of
corn. The promise for the current week i still greater.
During the year 1878 the receipts of grain alone at this port were, by canal, $63,683,049$
bushels; by vessels, coastwise, $1,090,236 ;$ by rail, $63,960,486$ bushels-a total of 128,613 , 771 bushels. Changing flour and meal to their equivalents in bushels, the receipts of grain, flour, and meal were, during the year $152,862,170$ bushels. During the same period the export of cereals from New York amount-
ed to $107,819,044$ bushels, the exports from all the other Atlantic ports together (including Montreal) being $104,678,187$ bushels-evidence enough that our city still holds the lion's share of this trade. To describe in detail the manner in which the grain trade is conducted here it will have to answer.
As already indicated, the vast stream of life sustaining wealth flows to us through channels of two distinct sorts-by water and by rail.
The inflow coastwise is too small, relatively The inflow coastwise is too small, relatively speaking, to demand especial notice. The Erie canal, with the Hudson River on one side and the railways on the other-chiefly the New York Central and Hudson River Railroad, the Erie road and the Pennsylvania Central-divide the traffle about equally. And the grain received by each route has, speaking generally, its particular treatment. That rules agreed upon by the New York Produce rules agreed upon by the New York Produce
Exehange, and is sold by grade, the identity
of the grain being lost. The grain received
by water, on the by water, on the contrary, is chiefly handled without grading, the identity of lots being preserved. In the latter case the consigne receives the identical grain shipped to him, say from Buffalo or any point farther West in the former, he receives not the grain billed of wheat, corn, or other grain of a specified grade, his particular shipment being, for economy in warehousing and handling, mixed with other receipts of the corresponding kind and grade after it has been offlcially inspected, graded and weighed. The quantity of grain
represented by each certificate is limited to 8,000 bushels each certificate is limited to certificates are not to exceed 10,000 bushels each. These certificates, which are dated and numbered consecutively, state in detail the kind, grade, and quantity of grain represented by them, and are furnished to the consigne the business of the Produce Exchange begins
the the business of the Produce Exchange begins,
On the floor of the Exchange all ungrade grain is sold by sample, the various sample being exhibited on their proper tables, in the lot, and the place where it is stored or afloat, being fully set down.
The graded grain is represented by typ samples, so that dealers can see exactly what
their certificates call for. A buyer purchase for exportation from various sellers, say,
100,000 bushels of No. 1 white winter wheat or any other of the dozen different grades of winter wheat. He handles no grain, but re amount of grain of the specified kind. O railway company or companies issuing them, reight and accrued charges being paid, th eompanies deliver the grain out of their gen-
eral stock of that grade, at such point in the harbor as may be designated.
A vast amount of loading is done at the ele arger amount is transferred by floating ele ators, which draw up alongside the grea slips, receiving or discharging their freight. There are besides numerous stationary ele vators belonging to large grain-dealing firms, ang the Brooklyn shore ; and the Erie Rail road Company are building at the Jersey City erminus of that road an elevator which prom ises to
Central.
The speed at which grain is transferred at these elevators is amazing to one not familiar with their management. A shaft inclosing an ndless chain of buckets is thrust into a laden ins canal boat, and instantly the grain beered on the opposite side at a rate often ex eeding fifty bushels of wheat a minute, or larger quantity of lighter grain.
The report of the Produce Exchange for 878 shows the authorized charges for hand ing grain at this port to be, per bushel: weighent; for delivering from canal boats, cean vessels, $\$ 8$; on ocean vessels in bags, $\$ 6.25$; on coastwise vessels, $\$ 2.50$. The ex
penses on grain to shippers by rail from the interior are: for inspection, 25 cents a car
elevation, $\frac{1}{2}$ cent a bushel; half weighing, cent a bushel; storage, $\frac{1}{4}$ cent a bushel. the New York Central elevator the charge for bulking grain with storage ( 10 days) is $\frac{1}{4}$ cent bushel. The Erie and the Pennsylvania Ce storage in lighters, $\ddagger$ cent a bushel for each 10 days. The charge for delivering afloat ungraded grain in railroad lighters, including $\frac{1}{2}$ cents a bushel, according to the bulk of the lots handled. The authorized charge for tow ing laden canal boats about the harbor ranges from $\$ 5$ to $\$ 11$, according to distance. The freight tariff from the great grain-distributing with the season, the style of carriage, the degree fompetition between the rail water and rail carriage. In the winter, when the lakes, the Erie canal, and the Hudson
river are closed, the rate rises as high as 25 river are closed, the rate rises as high as 26
cents a bushel. On the opening of the water routes the rates fall, dropping at midsummer as low as 8 or 9 cents by rail and 6 cents by was. The average rate by water during 1878 n important link in the water route, the Erie canal is of infinite importance. The existing ailways alone would be incompetent to do th carrying required at the time required (assum ing the foreign demand unimpaired); besides,
by having the monopoly, their rates would not only be made higher than now obtains, but possibly so high as either to destroy the possibility of our competing the price with Russian wheat in Liverpool, or to make competition possible only at the sacrifice of all profit our wheat-growers. It is worth noting in verage cost of transporting whe present yea rn Minnose to Now -is less than was the cost of the carriage wheat by lake and canal from Chicago

## IMPORTANT NOTICE.

the party receiving this paper who not already a paid subscriber. We hereby extend to you a cordial invitation Miller. We shall endeavor United States greatest possible use and benefit to the milling raternity, and no mill should be without it. The best talent that we can obtain in this and other countries will contribute to its columns, which will also be enriched by carefully transated articles on subjects of interest to the or stamps in an envelope, seal carefully, and send at our risk. By return mail you will reeive a receipt therefor. Address

The United States Miller, Milwaukee, Wis.
Christian Bros. \& Co. have ordered 80 pairs
Situations Wanted, etc.


## For Sale or Exchange.



## IMPORTANT TO MILLERS.

The principals of a Cork firm (Ireland), long established and largely connected, are desirous to treat with an extensive miller respectfully for supplies of Flour, Maize, Meal and Oaten-meal, for cash, or usual terms with bankers' guarantee. Prompt communication (including best terms) respectfully requested. Address

HUNTER \& PERRY, 12 St. Patrick's Quay, Cork, Ireland.

## Attention, Millers!

## Method of Staffing Mill-Stones!

No new staff required; it does its werk perfectly; increases the capacity; makes more middlings; requires less tone dreasing and lesa power to run the mill; will make mill-Atones do as good work as can be
done with rollere. Price for license to use my Patented Method, with full printed directions, 85 per run or if required to come perronally a reasonable distance to explain it $\$ 10$ per run. I have aloo invented

Mill-Stone Bosom Staff,
Which will ahape the booom of the stone from the eye to the grinding gurface, as it ahould be, price
835. It is the mont perfect Staff for thia purpoee ever invented; it will save much time and labor, and show concluaively whent the stone is juat right. All the persons named below are using my PATENTED BOSOM STAFF
Geo. S. Smith, Milwaukee, Wis,

E. R. Hogt \& son, Beaver Dam, Wis.
Coman $\&$ Morrison, Fox Lake Dodge
P., Wis.
F. Miller $\&$ Co.. Watertown, Wis. Wakeeh 3 Co., Wis.
Orivile Hathaway Ocononowo, Waus.
Henry Roder, Ogidenslurg, Wis.

Orville Hathaway, Oconomowoc
Henry Roder, Odemstburg, Wis.
J. S. Dunhan, Deperc Wis.
Sredenhace A. Fredenhangen, Lt . Charles.
W. H. Howell, Geneva, Ill. J. Burton, Geneva, III
R. J. Faines, It. Charles. III.
Thompson \& Co., Dixon, III.

J. G. Schaupp, Alda, Nebraska.
T. S. Hayhurst, Portland, Wis.
When
i. S. Hayhurst, Portland, Wis.
Wm. H. Porter, Marshall, Wis.
Wm. Boorman, Waterlo Wi .

Sanford, Logan \& Co., , Blacus, Earth, Wis.
S. Diokson, Viola, Oregon.
 H. F. Letmanam, Hagarstown, Indiana.
Nichols $\&$ Braddury, Bunker Hill, Kas

Address all communications to
WMI. LEFIMANN,
722 Fourth St., Milwaukee, Wis.
ATLAS-CORLISS ENGINE!


Hingines and FBOMEIS. We build The Best Farm Engines and Small Engines for Warehouses and Elevators. janly

## Porcelain Rollers!!

 THE INVENTOR AND MANUFACTURER,
## WILHELM BRAUN,

 ENGINEER,Carlsbad, - Bohemia,

Offers the BEST and HARDEST in existence, of all sizes, in a rough state, mechanically fitted on their shafts, and ground ready to be laid in the Roller Mills.

## HEXBY syith, JR.

## SMITH BROTHERS,

 Practical Millwrights.Plans, Specifications and Estimates made for all kinds of MIMTETRE, MAGEIMMRE, Ften Fter Flour, Sawmill, Tanners' and Brewers' Machinery, and General Mill Furnishers. No. 454 Canal Street,

MILWAUKEE, WIS.

## James Leffel's Improved WATER WHEEL.

## PRIGES GREATLY REDUCED FOR 1879.

 The "OLD RELIABLE" with Improvements, making it the Moat Perfeet Tur-bine now in Use, comprising the Largese and the Smallent Wheels, under bothe now in Use, comprising the Largees and the smalient Wheels, under
bithent and Lowent Hoads used in this oountry. Our Now Book for
1879 sent free to those using Water Power. Address .
and 109 Liberty

## Stout, Mills \& Temple, DAYTON,

## nomanumo priv

 , Best Quality French Burr Millstones. dH FOUR \& CO.'S CELEBRATED BOLT'NG CLOTHS.Flour and Paper Mill Machinery, Best Chilled Wheat or Midalings
AND CENERAL MILL FURNISHINGS.
 The AMERICAN TURBINE, as reeently improved, is unequalled in the power
tuitized from a given quantity of water, and is decidedly the BEBT PART GATE Water Wheel
been otherwise greatly improved. Large Illustrasea Catalogue Sent Yree on Application.

Awarded SILVER MEDAL Paris Universal Exhibition, 1878.

## CARR'S PATENT <br> Disintegrating Flour Mill.

ALL PARTICULARS AS TO THIS MACHINE CAN BE OBTAINED BY ADDRESSING

## PHILIP TRIGGS,

39 BROAD STREET,
BRISTOL, ENGLAND.
Sole Concessionaire for France and Belgium, Mons. Toufflin, 25 Rue de Gonstantinople, Paris.


$$
\begin{aligned}
& \text { Machines sent out on their merits, and WARRANTED to give satisfaction. For illustrated circulars and } \\
& \text { price list address }
\end{aligned}
$$

C. RAKES, Lockport, N. Y.


## recice prict. Belt




GRATIOT BROS., Plattevilie, Wis.
WELL-AUGER, ournitgoarantostato bot tho


## CREAIV CITY IRON WORKS.

 Milwaukee Middlings Mill-Stone Company, MILW AUKEE, WISCONSIN, MILL BUILDERS AND FURNISHERS, AND SOLE MANUFACTURERS OF

## Jonathan Mills'

## Wheat and Middlings

© Mills.
MOST PERFECT DEVICE ever INVENTED tor REDUCING GRaINo FLOUR.
REQUIRES LESS POWER, LESS ROOM, and LESS ATTENTION Than any other mill manufactured. and can be set on any good mill floor without extra foundation.
Send for Circular and Price List to the MILWAUKEE MIDDLINGS MILL-STONE CO., Milwaukee, Wis. Plans and Estimates furnished on application for complete Flouring Mills on our system.

## KURTH'S PATENT COCKLE SEPARATOR.


'V 'S 'ח 'NISNOJSIM ‘ЗヨXחНM TIN
The above illustrated machine separates perfectly cockle, wild peas, wild buck-wheat, and other similarly-shaped foreign seeds from wheat. Requires but little power to run it. We also manufaeture an

## OAT SEPARATOR,

Which is fully equal to any manufactured. This is made in two styles, and is in combination with Cockle Separator. One style has two suctions, one operating on grain as it enters the machiue and the other af it Which is fully equal to any manufactured. This is pade in two styles, and is in combinaty regulated. The other style has one suction, which may be either first or second. Among our references we respectully call attention to the following :

 that we hary yet soen that will separate the oooklio from the wheat. The improved maehinesgive us no trouble in
any way. We shall want two more machines soon, to replace those burned in our Anchor Mill.

 Akrow 0. , Jan. 27, 1879.․ Coekle Separator Manufacturing Co., Milwaukee-Gentlemen: Having three of your

We make a machine espeetally for extraetivg Coekle and other similar Seeds from oats and
Send for Illustrated Catalogues, describing machine fully with diameter, capacity, etc., to

THE UNITED STATES MILLER.
GEO. R. GALE, The Millers' Text Book. Bennett's Patent Elevator Bucket. HaYWARD MILL FURNISHIIG WOKKS


HENRY BODMER'S CELEBRATED Het Anker (Brand) Botiting Cloths.

## THE BEST QUALITY OF FRENCH BURR MILL-STONES. Office, No. 66 River Street, <br> nov cleveland

 MILL PICK WORIS,

38, 39 and 40 Lower Pershore St. birmingham, england.

## 

English Refined Silver Steel,

 Noye's Patent Pick Holder


The Only Holder Worthy of the Name.

 JOHN T. NOYE \& SONS, Buffalo, N. Y.


For Truing the Face and Furrows of Millstones,
Cutting own high Sopot, and restoring the Burrs to
their natural grit it is far
 been used for this purpose. It is the only Tool used
with wed
remove the er. Cuts faster, lasts longer, and will remove the glaze inster, hasts longer, and will
witho other Hand Tools. Too-hal the the time it takese to send by mail.
Price, $\mathbf{F 3 . 5 0}$.

 Sold by Miu Furnishers through oun, the TETER \& ALLEN, Proprietors, DEALERS IN FLOUR MILL SUPPLIES,
404 Commerce St. Phila. Pa

SLATER'S IMPR0VED Bolting Reel Warranted the best in the world, The on
will dust Midddings perfeetly. to suit the times. DUFOUR \& CO.'S BOLTING CLOTH. Superior Wheat Scouring and Brush Machines. Gen
eral Mill Furnishings. CHARLES B. SLATER \& \& CO.anchester, Ö
 MANUFACTURERS OF WATER WIIEEIS MICHIIIE MOULDED
mill cearine: SHAFTING, PULLEYS AND HANGERS, STEAM ENGINES AND BOILERS

## GANZ \& CO_? 

 Buda-Pesth, Hungary, or Ratibor, Germany.

We take this method of recommending to the American milling public our PATENT ROLLER MILLS with chilled cast iron rollers, for crushing and grinding wheat, which have met with such eminen
uccess in Eurpe. The mill-owners of BuDA-PEsTH, as well as the prominent millers of Anstro-Hungary and a large number in Southern German,
 different European countries, Africa and the United States of America about 2,100 mills, and all work satisfacteril Mills with chilled cast iron rollers, and from 1874 to Jesp power than the best mill-stone, and
 ant of numerous testimonials at hence assure the performance of a great deal of work, avoiding all waste of power caused in other machines by means of of trion in the newly-devised Anti-Friction Prearings. Out of numerous testimonials at hand we select the following:






 For the purposes of reduction to flour you have l-bilit mill, working on the high or half grinding with stonese


 (signed) C. HAGGENMACHER, Director of the First Ofen-Pesth Steam Mills,
Tivoli Kussruughle, Munich, April 5, 1878.-To Messrs, Ganz $\&$ Co., Engineers, Buda-Pesth-Dear Birs;
reply to your esteemed of March 28, we have pleasure in testifying to our satisfaction with the Chilled-Iron Roller Address all communicationsto
















[^0]:    Ros 0. Jan．27， 1879 ，－Coekle Separator Manufacturing Co，

[^1]:    ## SMITH BROTHERS, Practical Millwrights. <br> Plans, Specifications and Estimates made for all kinds of MIMTNORE, MACEINFRE, Fte, Fte. Flour, Sawmill, Tanners' and Brewers' Machinery, and General Mill Furnishers. No. 454 Canal Street, MILWAUKEE, WIS.

