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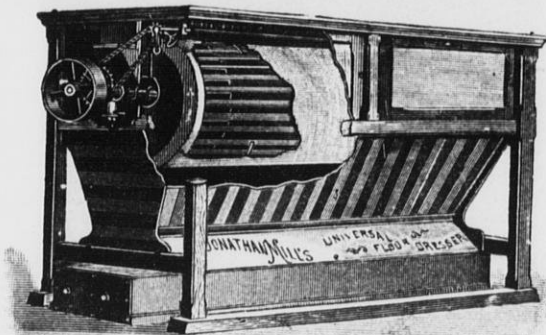
The United States Miller



Published by E. HARRISON CAWKER. Vol. 23, No. 1. MILWAUKEE, MAY, 1887.

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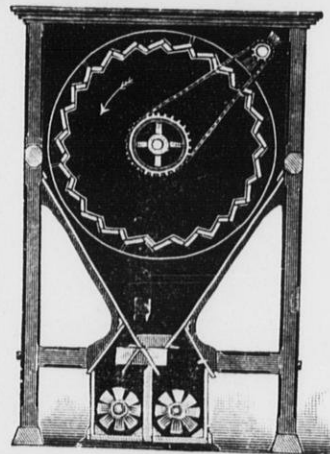
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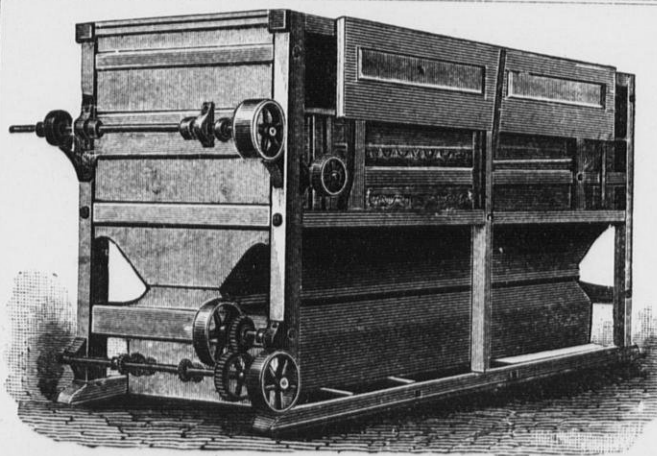
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THE WISCONSIN MILLERS' ASSOCIATION.

In response to the call issued some time ago a number of Wisconsin millers met at the Plankinton House at 2.30 o'clock P. M., April 19th. The present officers hold over for another year. The milling press was represented by E. H. Cawker for THE UNITED STATES MILLER and Mr. Turner for the *Northwestern Miller*. It is quite probable that many more millers would have been present if it had not happened that the reports came in that Hon. Alexander Mitchell was dead. As soon as this report was received the meeting adjourned. The following is the report of the secretary in full.

MR. PRESIDENT AND GENTLEMEN: In calling you together at this time, being the day for our regular annual meeting, it is not so much for the purpose of transacting business of financial importance, as it is for the purpose of keeping up a State Organization, ready to meet any emergency that may arise. Our books now show a membership of 55 firms, representing 322½ units of capacity. Six firms, representing 15 units of capacity, have joined us this year, under the resolution adopted by the Millers' National Association, at its last meeting, admitting members on the basis of \$5 per unit capacity. The balance of the membership are those who have paid in full the last assessment levied by the National Association Jan. 31st, 1883. In case another assessment should be levied, 10 firms or mills, representing 61 units, would not respond, for the reason that four mills, representing 19 units, have been torn down, all of them in Neenah and Menasha. Three mills, representing 22 units, have been burned and not rebuilt. Three firms, representing 20 units, have retired from the milling business, which would leave our membership, subject to assessment, comprising 45 firms with 261½ units of capacity.

The cost of membership since the settlement of the Cochrane, Denchfield and Smith litigations, has been comparatively nothing. No assessments have been levied for four years. All matters threatening the milling industry, such as claims for infringement of patents, obnoxious laws, rules and regulations pertaining to exports, have been taken care of and provided for by the constant care and attention of the Executive Committee of the National Association; in fact, the milling industry has been relieved entirely from any and all vexatious litigation. Whenever our members have been threatened or called upon by claimants for infringement or royalties, they have simply turned the

business over to the Executive Committee, and given the matter no further thought.

One of the most, if not the most important, result accomplished by the Committee, has been the settlement, so far as members are concerned, of all patents of whatever name or nature, pertaining to the mechanical construction of roller mills. The manufacturers have been put in the position that requires that they shall defend and protect all roller mills of their manufacture. The four concerns, composing the Consolidated Roller Mill Co., owning and controlling a large number of patents, have arranged with the National Executive Committee, whereby every member of the National Association, using roller mills of any make, is entirely released from all claims owned by the Consolidated Co. An arrangement was also consummated with six other roller mill manufacturers, whereby they obligate themselves to defend their machines from all claims for royalties, infringements, etc. These arrangements, I think, will set at rest, for all time, so far as our members are concerned, any litigation upon the mechanical construction of roller mills.

When we realize the fact that patents on roller mills are numbered by the hundreds, the validity of which can only be tested by the courts, and the further fact that heretofore manufacturers have been perfectly willing that the miller or the user should pay the expense of testing their validity, we can appreciate the value in securing a settlement of this whole matter, without any expense to the association. The accomplishment of such an undertaking is only possible by means of organized power.

It seems to have become quite fashionable of late for some of the milling papers and their correspondents to decry the value of the work and efforts of the association, as now constituted, but no complaint, within my knowledge, has ever come from any member of the Association, but is generally made by some miller outside of the Association, not entitled to its benefits, or by some manufacturer, whose desire is, to put machinery upon the market, regardless of infringements of patented devices used in its construction.

We all know the milling business, at the present time, is in a state of depression never before experienced, and the question arises "What can be done in our organization to better the condition of affairs?" In order to accomplish the largest amount of good at the least possible expense, every miller, not only in this, but in every other State, should become a member of his State Association.

The fees, at present, for membership, are comparatively nothing. The benefits to be derived, if millers will only give their time and meet together at least once each year in council, ought to be of great value to the milling interest. Why it is that millers, particularly those in the smaller towns, have been so loth to meet in council, I have never been able to understand, but that such is the fact is shown by experience. Is it not possible to bring into our membership every miller in the State of Wisconsin? This is what ought to be, and the "How to do it" is worthy of your consideration.

You will be called upon to-day to elect a President, two Vice Presidents, Secretary and Treasurer, and an Executive Committee of four. Also a representative of the State upon the Executive Committee of the National Association. Your Secretary has represented this Association upon the National Executive Board since the meeting at Buffalo in '77, a service of ten years. This has been a long service, and it may be advisable and for the best interest of the Association to select some one else to fill this responsible position; one of the necessary qualifications of which will be an unlimited amount of backbone, ready to meet any emergency, and to decide at once upon the merits of any case that may be presented.

While the condition of our finances are not flattering, I do not deem it necessary to levy an assessment at this meeting, although we are behind a small amount on our dues to the National Association; yet the need for money by that Association is not pressing, consequently it will be time enough to make the assessment when the money is needed.

Respectfully submitted.

S. H. SEAMANS, Secretary.

Milwaukee, April 19th, 1887.

SHORT SYSTEM MILLING DEFINED.

R. JAMES ABERNATHEY.

As I have before said in these columns, it has been clearly demonstrated that the operators of the short system of milling obtain as good yields on the same kind and quality of wheat as are obtained by any other system of milling. That is being proven by every-day practice. Arguing from a logical standpoint, I am inclined to the belief that with equal care and management a well-arranged short system mill will give a better yield than an elaborately arranged elongated mill. The reasons for that belief are quite obvious. The more any kind of material is handled, the greater the waste. Even a piece

of gold coin wastes by long and continuous handling. The numerous and long-continued handling causes an imperceptible but material waste. So also there is a much greater waste by evaporation caused by the many drying-out processes to which the material is subjected in its long, tedious and tortuous route, which leaves the flour unnaturally dry; and thus robbed of natural moisture, which cannot be replaced by artificial methods, the bread made of it dries out too quickly, as is so often complained of by good housewives, who are after all the real arbiters as to the merits of flour. That complaint is never made against flour made by the short system, for the reasons above given.

Reasoning naturally from one step to another, we are brought to the question of how quickly to do the work. Now I know the work is being done thoroughly and well in many cases with two breaks only on wheat. That is an incontrovertible fact. With practical business men one fact is worth ten thousand theories and bare assertions. For all that there are many men who assert that it can not be done in that way. There are just two reasons why such assertions are made, and these are that they are dictated by supposed business policy or interest, or else those who make them are entirely ignorant of existing facts. Now if the first reason causes the assertion, they do not want to know anything about the facts; if the last reason is the one, then a knowledge of the facts may or may not change the mind of the asserter, the effect depending altogether on the kind of a man he is. It often occurs that the most ignorant men are the most positive and pompous, and I do not believe any question of public interest ever yet discussed has brought out such a marvelous array of that kind of talent as has been developed on the elongated side of the short system discussion. It seems to me that every man who can wriggle his ears with the vim and energy of his ancestral prototypes has felt called upon to wield his pen against the short system and in favor of the elongated system. I cannot account for it except that once upon a time, as is related, one of the aforesaid ancestors felt called upon to rebuke its rider, and I suppose the disposition to put on airs and appear important was transmitted and became hereditary. But the perplexing part of it is how so many of them could become editors of mill-furnishers' private organs at this time. I suppose, though, the time and occasion demand that kind of talent for that purpose.

In relation to the number of breaks I always meet the assertions above referred to with facts, but now and then I meet a doubting Thomas who thinks he must have at least three breaks on wheat, that is, he must have what is called a "first break." It is not convenient to show him actual work, so I meet him in this wise. I say to him it is possible for those men to be right and for me to be wrong, but allowing that to be so, why not give my views the benefit of the doubt and try to save your money? Go right along and fit up your mill with the two breaks as I propose, then, if I am mistaken, all you will have to do will be to add the first break and attachments, as it costs no more to do it afterward than at first, because no part of the programme is disturbed or changed in any way. You simply put the machinery in

and connect it. That phase of the case catches them and, of course, settles it and saves their money. That is just the light in which any miller who contemplates changing his mill should view the situation. Whether I do so or not, they should regard the objection to the two-break system honest, though possibly mistaken, and conclude to try the two-breaks first and then, if it be found necessary to add a first break, the cost will be just the same in the end. If it is not needed, then the cost will be saved.

The theory of the two-break system is to get the work done quickly, that is to say get rid of the bran quickly along with the other impurities. The flour can then be dressed clearer and be whiter, and that is all that is required of flour in these times; it must be white and clear. Briefly described, my ideal short system is, say for a 50-barrel mill, 3 double sets of rollers, 4 centrifugals or short round reels of other kinds, and 4 to 6 short scalpers with the necessary cleaning machinery to clean the wheat thoroughly. An outfit of that kind will cost less than two-thirds of an average elongated outfit and will average better in results. For old mills to be remodeled it often occurs, with what machinery they already have, that less than half the amount demanded by elongated mill-furnishers will fit them up in good style on the short system plan.—*Milling World*.

ADULTERATION OF FLOUR AND MEAL.

By Prof. H. C. White, of the State University, Georgia.

It is very fortunate that these universal and important articles of food offer but little temptation or opportunity to adulteration. Bad flour is about as cheap as any adulterant that could safely be mixed with it, and good flour has certain definite and well-known characteristics which protect it from this abuse. Of course, gross sophistication is possible. It is asserted that flour is sometimes adulterated with kaolin or other white clays, soapstone and similar mineral matters. This is hardly true. It certainly is not common. Such substances, if not detected on simple handling by the hard, gritty particles always associated with them, would inevitably be discovered on mixing and stirring the flour with a good proportion of water when they would separate at the bottom of the vessel by reason of their greater weight. Bad flour has a musty flavor and sour taste. Dough made from it is ropy, hard to work and gives dark-colored bread. It can hardly be worsted by adulteration. Good flour is a soft, almost impalpable powder, sweet and free from musty odor. It makes a tough, elastic dough. The only substances at all likely to be mixed with it are starches obtained from other grains or other sources. As flour is itself mainly starch such an adulteration would be perfectly harmless. These foreign starches may easily be detected by the microscope. They, moreover, so modify the natural creamy appearance of good flour that their presence is apt to be apparent to the eye. Such adulteration is probably rarely practiced. We need not comment on the occasional occurrence in flour of chaff, darnel or ergot. These are not strictly adulterations but occur accidentally, usually in small quantities, as the result of imperfection or carelessness in the gathering and milling. They are harmless and readily detected.

ITEMS OF INTEREST.

HOW TO BUILD A CHIMNEY.—A contributor, writing from Cambridge, Ill., to a local journal, gives the following directions for the proper construction of a chimney:

To build a chimney that will draw forever, and not fill up with soot, you must build it large enough—sixteen inches square; use good brick, and clay instead of lime up to the comb; plaster it inside with clay mixed with salt; for chimney tops use the very best of brick, wet them, and lay them in cement mortar. The chimney should not be built tight to beams or rafters, as most chimneys settle a little and if too tight between the beams and rafters, there is where the crack in your chimneys come, and where the most of the fires originate, as the chimneys sometimes get red hot. A chimney built from cellar up, is better and less dangerous than one hung on the wall. Don't get your stove-pipe hole so close to the ceiling—eighteen inches from it.

SAWDUST FOR FUEL—*Walla Walla (W. T.) Statesman*: At last one Oregon saw mill is doing a good thing with its sawdust, a contract having just been made with a flour mill close at hand for a supply of sawdust sufficient to keep the mill engine running, at a cost of \$50 per day, the power for the carrier being furnished by the flour mill. Even at this apparently exorbitant rate, the owners of the flour mill cut their fuel bill in half, the present expense for this item being one hundred dollars. It is doubtful if any saw mill in the United States is doing as well with its hitherto despised dust, but it is a "burning" shame that millions of tons of sawdust go to waste every year in a country which needs cheap fuel about as badly as it needs anything. It is alleged that sawdust can be worked into a fuel equal to hard coal at a cost of one-fifth or perhaps one-tenth the average price to the consumer of coal, but neither inventors nor capitalists seem to have done their duty in making and placing upon the market such a fuel.

STATE LOANS ON GRAIN IN RUSSIA.—To encourage the production and marketing of grain in Russia it is stated that a plan of giving state aid is being considered. The plan which it is stated will probably be adopted is for the State to lend money on consignments of grain, whether home or foreign, to the extent of 60 per cent. of its value on wholesale certificates, to be deposited in bank. The state will further agree to refund to railroads money advanced when receipts are deposited. One per cent. commission is to be allowed railways to cover special costs of handling. Grain not disposed of after a stated period is to be sold at auction. The responsibility for loss resulting must be borne by the railroads. This system of State aid is expected to encourage railroads to handle grain. At present great quantities fail to reach markets, owing to excessive charges.

DISTRIBUTION OF POWER BY COMPRESSED AIR.—A company is about to make the experiment in Birmingham, England, of transmitting power by compressed air over an area of about one square mile and a half, which will include about twenty-three miles of main pipes. Commenting on this, a writer in *Nature* says: "This is the first time that an experiment of this kind has been

tried in Britain. Power is distributed from a central station at Hull by the hydraulic system, but transmission by air has hitherto only been tried in small installations at mines, quarries, in sinking piers, as at the Forth Bridge, and in tunnel boring. In mines and tunnels it has very evident advantages, in that it keeps up a continual supply of fresh, cold air where ventilation is very much needed. The result of the present experiment will therefore be of the utmost scientific value to engineers, and will be watched with corresponding interest."

USING OIL IN BOILERS.

The *Manufacturers' Gazette*, of Boston, recently published several articles on the use of oil in boilers. The editor, who is a practical man and who has had considerable experience in the matter, says he believes "in a limited amount of oil, and that is *crude petroleum*, first, last, always and *only*. The quantity to be used is very, very small. We would take in every instance a boiler which had a slight amount of scale upon it, release every particle of this scale or sediment, blow

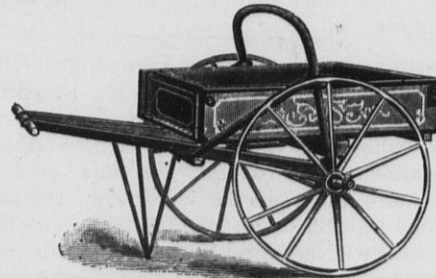
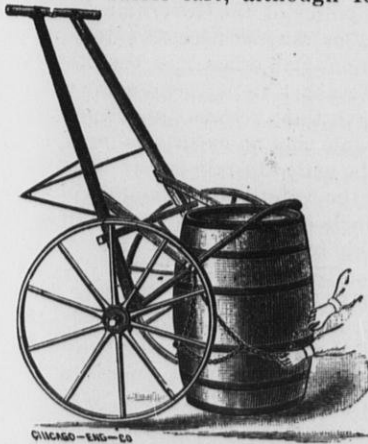
it out, and keep it out, and we are sure that our readers will profit by following the directions which have been given so many times, with increased safety to themselves and an advantage in economy, and we believe it is just as applicable to a cast-iron as a wrought-iron boiler, although we have not positively proved that such is the case from any actual experiment or test." The *Scientific American* says on this subject: "The proper way to use the crude oil is to send it into the boiler through the feedwater, only once a day, and only in very small quantities. One-half an ounce per day will keep an ordinary tubular boiler of 50-horse power as clean as possible: and after a few months of regular use the shell will be found as smooth as a piece of japanned work, provided it was not pitted at the start, and the tubes will be perfectly clean and smooth. The oil must be introduced into hot water, and for some reason it does its work better under pressure. If any constant feeding of the oil into a boiler takes place, the fire seams will commence to leak, for this has been tried; there seems to be a call for only a small amount of oil, and the small amount must not be exceeded."

* * * * *

THE GENERAL UTILITY CART.

This month we have the pleasure of illustrating an ingenious arrangement made by the Sandwich Mfg. Co., Sandwich, Ill., and which owing to its many and varied uses has been named as above, "*The General Utility Cart*."

We believe that the cuts will readily suggest a few of the many uses to which this combination is adapted. Please notice it is *not* a common barrel cart, although for



that purpose alone it is far superior to any of the barrel carts offered to the public.

With this cart, it is possible to handle not only one, but any number of barrels without fitting each with special trimmings.

Any number of barrels may be kept about the place, and by means of this cart made useful in many ways, because so easily lifted and transported. For instance, the barrel of swill from kitchen or dairy to pens, the barrel of clean water from the pump to kitchen or dairy, the barrel of apples or potatoes from the orchard or garden, the barrels of water deposited at the most convenient places about the hot houses, flower gardens, nurseries and lawns.

For the purposes named above and many others of a like nature the cart is complete without the box. In order, however, to give

it a wider range of usefulness the manufacturers have added a substantial box which is easily adjusted to its place or removed.

When in place it is supported on a bar with front link fastening and back end gates so that its load may be easily dumped.

We shall not attempt to enumerate the various uses to which this cart will be found adapted, but we prophesy that it must have an immense sale not only among farmers, builders, florists, horticulturists and warehousemen, but also among owners of suburban homes, for it will be found especially convenient in the garden and around the lawn.

For further particulars write the Sandwich Mfg. Co., Sandwich, Ill., who will be pleased to send full descriptive circulars and quote prices.

"We have boiler tubes cut from a tubular boiler which has been in use six or seven years, very small amounts of oil were used, where the tubes are as clean on the water side as though they had freshly been japanned with a thin coat, a little more being deposited on the upper side than on the lower side in their relative position in the boiler.

"We know that petroleum is in use on several ocean steamers, and that the work of cleaning the boilers in port amounts now to but little more than thoroughly washing them out and cleaning away the very thin scale which forms, where, before the petroleum was used, picking the scale from an eighth to a quarter of an inch thick on some parts of the boiler was regularly performed every time the ship laid up in port, while her cargo was being discharged and the return cargo being put in. We are not surprised, therefore, at the results which are given by these engineers, nor that they speak very strongly of its value. Every engineer has at hand, at a very low cost, an almost certain preventive of incrustation. It can be used every day at not more than one or two cents per 100 horse-power."

RECIPES.

CLEANING BRASS.—It is a great mistake to clean brass articles with acid, as they very soon become dull after such treatment. Sweet oil and putty powder, followed by soap and water, is one of the best mediums for brightening brass and copper. To frost brass-work, and give it an ornamental finish, boil the article in caustic potash, rinse in clean water and dip in nitric acid till all oxide is removed; then wash quickly, dry in boxwood sawdust and lacquer while warm.

TO HARDEN TOOLS.—A. E. Tucker claims that he has successfully edged grooving tools for chilled rolls by dipping the actual cutting portion in mercury. No more of the steel than is actually necessary should be dipped as, while imparting extreme hardness it naturally makes the body of the tool extremely brittle.

DETECTION OF ALUM IN BREAD.—The detection of alum in bread is accomplished as follows: A piece of gelatin (free from alum) is immersed in a cold infusion of the suspected bread for twenty-four hours. The gelatin upon being washed off with distilled water, to which has been added a little of a 10 per cent. solution of logwood tincture and ammonium carbonate, should not show a blue coloration if the bread is free from alum.

BOGUS BUTTER TEST.—To test oleomargarine, take a small bit of lard and place it between two pieces of thin, common window glass, each about an inch square and press together until only a film remains. When held up to the light white, opaque spots are always to be seen. These are crystals of fat. For the same reason oleomargarine and butterine, containing as they do, solid fats, may be detected in the same manner. Pure butter, on the contrary, does not show such specks. A little experiment with lard in this direction is an excellent means of cultivating the eye and qualifying one to readily determine, when applied to butters, the imitation from the genuine. This rule is practical enough, and is a sure one.

UNITED STATES MILLER.

E. HARRISON CAWKER, EDITOR.

PUBLISHED MONTHLY.

OFFICE, NO. 124 GRAND AVENUE, MILWAUKEE.

SUBSCRIPTION PRICE—PER YEAR, IN ADVANCE.

To American subscribers, postage prepaid..... \$1.00
To Canadian subscribers, postage prepaid..... 1.00
Foreign subscriptions..... 1.25
All Drafts and Post-Office Money Orders must be made payable to E. Harrison Cawker.
Bills for advertising will be sent monthly, unless otherwise agreed upon.
For estimates for advertising, address the UNITED STATES MILLER.

[Entered at the Post Office at Milwaukee, Wis., as mail matter of the second-class.]

MILWAUKEE, MAY, 1887.

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 UNITED STATES MILLER. You will thereby oblige not only this paper, but the advertisers.

MILWAUKEE AMUSEMENTS.

ACADEMY OF MUSIC—Performances every evening, Wednesday, Saturday and Sunday matinees.

GRAND OPERA HOUSE.—Performances every evening, and Wednesday, Saturday and Sunday matinees.

DIME MUSEUM—Performances every hour from 1 P. M. to 10 P. M. every day.

PALACE THEATRE—Every evening, Wednesday, Saturday and Sunday Matinees.

STADT THEATRE—(German)—Wednesday, Friday and Sunday evenings.

S. P. TILTON, of Chicago, for many years flour inspector in Milwaukee was on 'change April 28.

MR. FRED. C. HEWEN is duly authorized by us to make contracts for advertising in the UNITED STATES MILLER.

THE next meeting of the Millers' National Association will be held in St. Louis, May 25, 26 and 27, 1887.

THE American Exposition opens in London May 2. It is to be hoped that it will prove beneficial to our commerce.

THE many friends of Tom Miller, Jr., secretary of the St. Louis Roller Repair Co., will be sorry to learn of his great misfortune in losing his wife. She died after a short illness, Sunday, April 10th.

ROBERT WILLIAMS, for many years head miller of the "Cream City," "Reliance" and later of "The Empire Mills" in this city is here on a short visit. He is now engaged in milling at Red Wing, Minn.

THE inter-state commerce law has a very stimulating effect on the business of all water routes. "It's an ill wind that blows naebody any gude." The Mississippi boatmen are jubilant over the present outlook and expect to carry a great amount of flour to New Orleans for export.

SECRETARY WHITNEY has awarded to the Bethlehem Iron Company, of Bethlehem, Pennsylvania, the contracts for furnishing about 1,310 tons of steel gun forgings and 4,500 tons of steel armor-plates at a total cost of \$4,512,938.29.

FLOUR spoils very easily. During the months from October to April but little change takes place in good flour; but from

spring to August a fermentation is carried on; which gives rise to an offensive odor and which, once started, progresses throughout the winter following.

A STEAM wagon that runs on ordinary roads and hauls 30,000 pounds is making successful trips between Bisbee and Fairbank, Arizona. The distance is 60 miles and the trips are made wholly by daylight. The wagon is owned by the Copper Queen Mining Company.

EVERY large mill should have its own machines for grinding and corrugating its rolls. They are as necessary in mills now as mill-picks were in good old days. Millers can find a rare opportunity to secure a machine for this purpose by addressing The Filer & Stowell Co., Milwaukee, Wis.

FOR many years the export of American flour to Brazil has been quite an important item. It is now reported that English capital is about to be invested in large roller mills in that country. If such should be the case it will no doubt cut off to a certain extent the importation of American flour. The time, however, will come in the no distant future when our own population will consume nearly all of our own wheat crop.

THE only countries that allow their people to eat American bread without paying duty on it are Belgium, Denmark, Holland, England, Sweden, Honduras, Nicaragua and Chili; the countries that levy duty on American breadstuffs are Austria, France, Germany, Greece, Italy, Portugal, Russia, Spain, Switzerland, Turkey, Canada, Mexico, Hayti, Porto Rico, Argentine Confederation, Brazil, Ecuador and Peru.

AN exchange says: A fire broke out near the government wharf in Detroit, and the officer in charge called a tug, which put out the fire. The bill was sent to Washington, and payment refused because the officer did not advertise for sealed proposals to put out the fire and have it done by the lowest bidder.

FROM the report dated April 20, of the Hon. Wm. F. Switzler, chief of the Bureau of Statistics, we learn that the exports of merchandise for the twelve months ending March 31, 1887, were of the value of \$741,448,078, and that the imports for the same time were valued at \$673,097,213. The total number of immigrants arriving in this country during the same period was 179,861.

A NEW YORK labor commission reports that last year there were 1,900 "strikes;" in 1885 but 225. He finds that the total loss resulting in fifty-eight of them aggregated \$3,000,000; and, presuming on the ratio given, estimates the total loss at \$95,000,000. This is a high price to pay for a difference of opinion, or a clashing of interests, for the logic of all this, that the immense loss must be endured because those who earn wages do not stop to consider the immutable laws which govern the price of all commodities.

WE publish elsewhere a complete list of members of the various state associations who are also members of the Millers' National Association. It is to be hoped that not only the delegates appointed to attend

the convention will be present, but a large number of members of state organizations and outside millers. Any miller can become a member of the National Association on payment of \$5 per unit of capacity (35 bbls. per day of 24 hours). Can you afford to do without the protection of this body when it can be secured so cheaply?

MR. J. L. Styne, of Marietta, O., will read a paper entitled "Uniform Inspection and Terminal Charges," before the Millers' National Association at its St. Louis Meeting, May 25. Mr. Styne is connected with the Harmer Roller Mill, of Marietta, O.

P. D. ARMOUR, of Chicago, was on 'change April 28. Mr. Armour has great faith in the future of wheat, and says that while the market may go down 1c, it is quite likely to go up 20c. Before another crop is marketed, wheat will sell at a dollar in every market in this country. There is a large export demand, and New York shows a profit of 2c in shipments from lake markets. Mr. Armour says the Chicago people who are handling this deal are amply able to carry it to a successful close. They have plenty of money, experience and energy. Mr. Armour's dispatches from New York were of a stimulating nature, showing an active and advancing market. Chicago is leading the country, and other markets must follow.

ISIDOR WORMSER, of the New York banking firm of I. & S. Wormser, predicts a financial panic next fall on account of the contraction of the amount of national bank notes growing out of the calling in of 3 per cents and the failure of Congress to pass certain appropriation bills and to adopt other means to release the surplus in the U. S. Treasury. Secretary Fairchild says in substance that it will be the policy of the Government to take such action as may be necessary to prevent any such financial crisis, and that the law gives the Treasury Department sufficient authority to avert any serious difficulties. It is quite probable that an extra session of Congress will be called to relieve the difficulties caused by the Inter-state Commerce bill and to enact such other laws as may be deemed indispensable to the public welfare.

MR. SAWYER, of Sawyer, Wallace & Co., New York flour brokers, said recently, that he believed it would not be long before England would put a tax upon American flour to save her own millers from ruin, as London millers cannot make flour out of American wheat within 2 shillings per sack as cheap as American millers can lay it down in that market. He also said that on a recent trip through Great Britain he found the feeling very strong and growing in favor of protection, as the British farmer sees France and Germany adopting such measures to save their agricultural interests. He said the difference in freight on a compact sack of 200 lbs. flour 1,500 miles by rail, from Minneapolis to New York and 3,000 miles from New York to London, and on 4½ bushels of wheat, is an important one in favor of American millers, which cannot be overcome by English millers in any other way than by a tax on flour. Hence there is no alternative for the British government but to put a duty on flour, unless they decide to leave the millers of Great Britain to their fate.

MILWAUKEE NOTES.

CHARLES S. BIRGE succeeds the millwrighting firm of Birge & Smith. Mr Smith having been elected to Congress is obliged to devote his entire time to his official duties. Mr. Birge, now sole proprietor, will without doubt do a large and prosperous business. His work is well-known and well-liked throughout the Northwest.

H. C. RAU, a well-known Milwaukee miller and millwright and draughtsman, is now looking through the Northwest for a suitable location for a flouring mill.

JACOB OBERMANN, senior member of the firm of J. Obermann & Co., extensive brewers, died at his home Sunday, April 24th, after an illness of two or three days. He has been a resident of Milwaukee since 1843. He amassed a very considerable fortune. A large circle of friends throughout the country will receive the news of his death with profound sorrow.

THE Milwaukee Association of Stationary Engineers will soon remove to their new hall, 514 Grand Avenue. They number seventy members, including several manufacturers. The objects of the organization are: To elevate the profession; to secure a legal or recognized status for operating steam engines; to elevate and help its members; to secure the confidence of steam users; to prevent the explosion of steam boilers; and to permit only licensed engineers to operate boilers under pressure.

CHARLES WINCHESTER, a city flour dealer, has mysteriously disappeared. He is a son of Winchester of the milling firm of Winchester & Partridge, of Palmyra, Wis. His accounts are all correct, and he had but little money with him.

THE MILLERS' NATIONAL ASSOCIATION.

The above organization has of late been receiving a good deal of criticism from the milling press, the most of which is entirely uncalled for, and some of our contemporaries have made assertions which we believe they would not have done, had they taken the trouble to investigate the affairs of the Association. The strength of the Association, and the actual number of members and the milling capacity represented, can be inferred by referring to the lists of full paid members, May 1, 1887, which we publish elsewhere in this number, and the returns are not all in yet. When they are we shall print them. The list shows conclusively that the estimate made by some journals of from 160 to 200 members in the Association, is by no means correct, but we cannot help being surprised at the comparatively small number of milling firms who are members, when we know that there are about 20,000 flour mills in the United States, counting big and little. There are, however, probably not more than 4,000 flouring mills in the United States that can distinctively be called "merchant mills," that is, mills that grind for export and the general trade of the country, and not almost entirely for local custom, and the present membership of the Association is a reasonable though not an encouraging percentage of the number of "merchant mills." But it must be admitted that the membership does contain a large number of the leading and most progressive millers of the country.

During the past month we have visited Mr. Seamans, Secretary of the Millers' National Association, and he kindly answered all inquiries we saw fit to make and proved to us beyond all doubt, that the work of the Sub executive Committee was not only one of the greatest responsibility but at times very onerous, and further that *not a single member of the Association had ever yet expressed any dissatisfaction with the labors of said Committee, or with the results accomplished.*

It should be understood *plainly*, that the business of the Association has been conducted in the interests of its members, and not for the benefit of those millers who for any reason did not see fit to join, and if outside millers get into trouble over infringement suits, and have to pay more to get out of it than members of the Association, it is certainly their own fault, for they have been urged and entreated to join during many years past. There are few millers in the country who individually are able financially to fight a patent suit clear through the United States Supreme Court, but an Association of a few hundred millers can do so if need be, and the expense to each miller will be trifling. And here it may be noted that an Association can command more influence and has greater facilities for securing testimony than any individual. As we understand it, the members of the Association after years of trying to increase their membership got tired of missionary work and concluded to follow such a course as they deemed would be of the most pecuniary advantage to them and consequently some suits have been contested successfully and some have been compromised on most advantageous terms for the members. In successfully contested suits all millers in the country, *whether members or not* reaped the advantages, while in compromised cases they have been compelled to settle on the best terms they could get.

A few months ago an organization was incorporated under the laws of the state of Illinois, called the Consolidated Roller Mill Co. This company consisted of four of the largest manufacturers of roller mills in the United States, viz: Edw. P. Allis & Co., of Milwaukee, Wis.; The Stilwell & Bierce Mfg. Co., of Dayton, O.; The Nordyke & Marmon Co., of Indianapolis, Ind., and the Jno. T. Nye Mfg. Co., of Buffalo, N. Y. This consolidated company is duly authorized to issue licenses for the use of any and all roller mill patents owned by each of the firms above named. It must be conceded that this is a powerful combination and after mature consideration the sub-executive committee came to an agreement with the Consolidated Co. for the protection of its members, which agreement will no doubt be ratified by the convention to be held in St. Louis May 25-27.

Further, five other prominent manufacturers of roller mills (Todd & Stanley Mill Furnishing Co., St. Louis, Mo.; Barnard & Lea Mfg. Co., Moline, Ill.; The Great Western Mfg. Co., Leavenworth, Kas.; Willford & Northway Mfg. Co., Minneapolis, Minn., and The Richmond City Mill Works, of Richmond, Ind.), without solicitation on the part of the committee put up bonds in the sum of \$50,000 each, binding themselves to protect their customers from all suits for infringement of roller mill patents. These bonds are a reasonable security to the *entire* milling

public using rollers. It was immaterial to the committee whether they put up bonds or not. The Consolidated Company being the aggressors, had proposed to release against any possible contingency, *every member of the association*, in the right to use roller mills now being used from any and all claims contained in any of the numerous patents controlled by them, and it may be noted that two suits brought by a member of the Consolidated Company against one of the nine manufacturers represented at the Chicago meeting, had already been decided in their favor. The strength of the association has been able to effect so much protection for members and non-member. We deem it but just to say that in view of the *fact* that every roller mill in this country is liable to suits for infringements and the committee having the opportunity, it was their *duty* to their members and no one else, to protect them against any possible contingency. This they have done by the agreement with the Consolidated Company, and a bond of indemnity to carry out the details of their agreement on the one hand made it necessary for other manufacturers to likewise secure roller mills of their make or else go out of that line of business.

The committee is not slow to look out for the general welfare of the trade as may be seen in Secretary Seaman's office from reading a voluminous correspondence carried on for several months in relation to our flour trade with Brazil and other countries. This matter will be brought before the St. Louis convention for thorough discussion and action.

We hope to see a large turnout at the St. Louis convention, and a thorough and harmonious discussion of association affairs. We further hope to see a good set of officers elected or re-elected, and as we said last month we do not want to see any milling journalists on the roll as an officer of the association in any capacity for the reason that it is sure to cause unpleasant feelings among even that most amiable body of men in the world, *i. e. the milling journalists.*

THE Minnesota State Millers' Association met in Minneapolis, April 12 at 10 A. M. The report of the treasurer showed the financial condition of the Association to be good, over a thousand dollars being in the treasury and consequently no assessment was made for 1887. The following officers were elected: F. L. Greenleaf, president; Chas. Espenshied, of Hastings, and L. Christian, of Minneapolis, vice-presidents, and F. R. Petit, treasurer. F. L. Greenleaf was elected member of the National Association Executive Committee for Minnesota. A committee of seven were appointed to attend the National Millers' convention to be held May 25, 26 and 27 in St. Louis. It was agreed that any milling firm in the state might become members on payment of \$10 per unit of capacity (35 bbls.) providing no suits for infringement of patents was pending against them. The Columbia Mill Co. and Christian Bros. Mill Co. of Minneapolis became members. The bran question was discussed and \$500 placed at the disposal of the Executive Committee for the purpose of publishing the Wisconsin and Kansas bran tests and other facts which would tend to increase the demand for bran for stock.

FOREIGN NEWS NOTES.

LATE advices from the Argentine Republic, S. A., are very favorable to that country. It is estimated that that country will have about 12,000,000 bushels of wheat for export this year. The imports of the country for the past year are placed at \$50,000,000 and the exports at \$60,000,000. Wheat, wool and linseed are being exported to Europe in large quantities. The cholera has almost entirely disappeared.

THE untaxed importation of American flour has led to the embarrassment of one of the largest firms of millers in the south of Ireland, Messrs. John Norris Russell & Sons, of Limerick, who will probably make, however, a substantial offer to their creditors. There is not a town of note in the county in which Messrs. Russell's mills, worked in the main by water-power, did not give large employment. In and around the city of Limerick they had five large mills worked by water, and in addition to this they had numerous bakeries and establishments all over Ireland, so far north as Londonderry. They were also large importers of grain, and some years since were the chief proprietors of a large fleet of steamships, which traded between Limerick and England.—*Mark Lane Express*, London.

AT Birtle, Man., Arnold Williams is fitting up a grist mill and will soon have it in operation. The farmers about Portage la Prairie have organized a stock company for the purpose of building and operating a grain elevator.

A VIENNA correspondent says that in Vidovec, a Hungarian village near Warasdin, the belief of an approaching war seized hold of the entire population a few days ago. A splendid Fata Morgana was observed during three consecutive days on the wide plains around the village. Enormous divisions of infantry, with scarlet caps, appeared to be moving in the plains and performing exercises to the words of command of a colossal chief whose sword was seen flashing in the air. The phenomenon lasted several hours, and finally the soldiers disappeared in mid-air. The people stood awe struck in great crowds, and observed every movement of the phantom soldiers with breathless attention. Two gendarmes afterwards went in the direction of the scene of action to see if any traces could be found, but of course in vain. The phenomenon is believed to have been the reflection of some infantry divisions manœuvring at some miles distance.

LATE advices from Frankfort a. M., Germany, indicate that the World's Fair at that place is a great success.

A CURIOUS accident occurred at a brewery at Dover, England, recently. The apron of a man engaged in painting some machinery caught in a fly-wheel which was making about forty revolutions per minute. The man was at once carried up, and the first time he was whirled round his head struck against the ceiling; but he clung close to the wheel, and avoided any more blows of the kind. The unfortunate man's shouts were heard by the engine driver, who stopped the machinery as soon as possible, but not before the wheel, with its living burden, had made thirty or forty revolutions. When he was taken down, he was stripped of all clothing except his boots, but beyond a severe shaking and a few bruises, he was uninjured.—*The Engineer*.

A GERMAN milling paper says: Russia has over 6,000,000 soldiers at her command, and Italy could place 2,400,000 men in the field at a moment's notice.

THE Port Elizabeth steam flour mill at Port Elizabeth, South Africa, reports a loss on the past year's business of about \$9,000.

The three items following are from *The Miller*, London:

THE CEREALS DUTY IN FRANCE.—After long debates in both Houses of the French Legislature, the proposed raising of the duties on cereals and certain substances manu-

factured from cereals has become law, and was promulgated as such in the Official Journal of Paris on the 30th of March last. By its provisions wheat imported into France pays a duty of 5 francs, instead of 3 francs, on each 100 kilogrammes (220.49 lbs.), while flour, or meal containing more than 10 per cent. of flour, is subjected to a duty of 8 francs on the same weight.

THE RIO DE JANEIRO FLOUR MILLS.—An extraordinary general meeting of the Rio de Janeiro Flour Mills and Granaries, Limited, was held at the Cannon Street Hotel, on Tuesday, March 29, Mr. R. Foster occupying the chair, when it was stated that of the 25,000 shares, 18,526, or close upon three-fourths, have been allotted. On the share register appear the names of several merchants and persons of influence residing in the Brazils, or whose business is with that empire. The time fixed by the contract for the completion of the works is Nov. 30, 1888, but the contractors hope to finish before that date.

MESSRS. GANZ & CO., LIMITED, ironfounders, millwrights and engineers, of Budapest, Hungary, and Ratibor, Germany, have established a branch in Melbourne, as head office for Australia and New Zealand, under the style of Ganz & Co., Limited, Branch for Australasia. Mr. Chas. Flesch has been entrusted with the management of this branch.

THE N. Y. *Commercial Bulletin* says: Our Canadian friends are beginning to discover the folly of placing a duty upon wheat, thus depriving their millers of the very kind of wheat they most need, namely, American hard spring, and at the same time affording not the slightest benefit to their farmers, the price of the cereal being established in both Canada and the United States by the English markets.

It has been reported that L. Walter, the technical manager of the Buda Pesth (Austria-Hungary) mill with civil engineer A. Gillitzer, has invented a new milling process. It is further asserted that this process is, owing to its simplicity, heavy yield and economy over present methods, likely to effect a revolution in Hungarian High Milling. We shall endeavor to furnish further particulars to our readers soon.

PRACTICAL NOTES.

THE *American Machinist* SAYS: It is very generally believed that in all boilers where the scale and dirt can be removed from the bottom by scrapers and washing, it is better to let the water out cold, or nearly so. By doing this more of the scale is likely to be dissolved and loosened, and there is less danger from sudden contraction.

A WESTERN trade journal calls attention to the clever contrivance of an engineer who has a copper urn attached to the steam pipe above his sight feed cylinder oil cup. The urn is kept full of oil, and is connected by a small pipe to the feed cup, which may be filled from it at any time by the manipulation of a couple of valves. The arrangement is a decided improvement on trying to pour a thick stream of cold oil into a small hole in a hot oil cup in the dark.

A MODE of preventing boiler explosions has been patented by B. Meyer, Gleiwitz, Germany. It consists in bolting a metallic plate over an opening in the shell, with a strip of packing between to make a steam tight joint. This plate is of such strength that it will be torn out, it is claimed, before the elastic limit of the shell is reached.

CARRYING POWER OF CONVEYORS.—D. K. Clark is authority for the following: A 12-inch screw, having a pitch of 4 inches, turning in a trough with a clearance of $\frac{1}{4}$ inch, and revolving with the speed of

maximum effect, 60 turns per minute, discharged $6\frac{1}{2}$ tons of grain per hour, expending .04 horse power per foot run. The sectional area of the grain moved was 49 per cent. of that of the screw. At speed above 60 turns per minute the grain did not advance, but revolved with the screw. An endless band 28 inches wide, traveling about 9 feet per second, delivered 70 tons of grain per hour; power expended, .014 horse power per foot run.

PULLEYS AND BELTS.—A belt has been known to refuse to do the work allotted to it, and continue to slip over pulleys two feet in diameter, but from the moment the pulleys were changed to three feet in diameter there was no further trouble. These observed facts seem to be at variance with and to contradict the results of the experiments that have been made.

It is recommended that all pipes, steam, exhaust and discharge, be made as straight as possible, but always of ample area. Keep the steam end well oiled. The exhaust should have an area double the steam pipe. The pump should be firmly secured on a rock or masonry foundation, and in all cases be easily accessible for use.

TO REMOVE one troublesome complaint that frequently causes grate bars to warp, have suitable space, or clearance, at each end of the bar. Grate bar bearers will prove more serviceable if they are placed a short distance from the end of the grate bar, leaving space so that whatever falls at the end may not lodge there. Some grate bar bearers are placed up to the bridge wall at one end and join the dead plate at the opposite end. As these places are most likely to accumulate ashes they speedily choke up, if openings are not provided for their escape.—*American Engineer*.

FUEL FOR THE PRAIRIE.—An Iowa genius has introduced to notice a new fuel, which is designed to take the place of coal in the prairie countries. This fuel is made by grinding corn stalks and coarse prairie grass together, moistening them, and then pressing the pulp into blocks about twelve inches long and four inches thick, and dried. It is reported that one block will give an hour's steady heat. This fuel can be produced at \$2.00 per ton.

A BONUS OF 1500 DOLLARS

Will be donated by the Citizens of

BILLINGS, MO.

to a Responsible Party or Firm who will erect a \$10,000.00 Flouring Mill at the above point. Best location for a mill that can be found and the best wheat country in the west. For further information address

J. W. SANDERS & CO.,
BILLINGS, CHRISTIAN COUNTY, MISSOURI.

DISSOLUTION OF PARTNERSHIP

OFFICE OF C. S. BIRGE,
659, 661, 663 EAST WATER STREET,
MILWAUKEE, MAY 1, 1887.

The undersigned begs to inform the public that the co-partnership heretofore existing under the firm name of Birge & Smith has been dissolved by mutual consent, Henry Smith retiring.

I will continue the business and endeavor to deserve a continuance of your patronage by first-class work, promptness in the execution of orders entrusted to me and adequate prices.

I will also collect the outstanding accounts and pay all claims against the firm dissolved.

Thanking you for past favors, I respectfully solicit a continuance of same, again assuring you, that no pains will be spared to meet your approval.

Yours very truly,

C. S. BIRGE.

NEWS.

Gaines & Lewis, Kingston Ga., will change their mill to the roller system this summer. Estimates wanted.

The Wythe Speedwell Mining and Mfg Co. of Speedwell, Va., contemplate the erection of a flour mill during the coming summer.

James Craik, a miller in the employ of A. A. Freeman, of La Crosse, Wis., mysteriously disappeared not long since. Some suspect foul play, and others think it a whim of Craik's, as he is said to have suddenly disappeared once before, for fourteen months.

The Jackson Milling Co. succeeds the firm known as Coleman, Jackson & Co., with mills at Stevens Point, Amherst and Centralia, Wis.; capital \$100,000; capacity of the three mills about 400 barrels per day.—J. R. Callender's mill of Bicknell, Ind., has been fitted up on the "Short" system.

Articles of Association have been filed at the Wisconsin Secretary of State's office by the Reliance Wire Company, of Milwaukee, with a \$20,000 capital stock. Its purpose is to manufacture and deal in all kinds of wire goods. The incorporators are Frank A. Hall, W. N. Fitzgerald and Oscar F. Lindman.

It is said that a company with a capital of \$100,000 and upwards will be organized at Fayetteville, Tenn., to use the large water-power with which that place is blessed. This company will build mills of various kinds, among which will be a 200 bbl. flour mill and a large cotton factory. A. J. Thomas is interested in the project.

THE Lake Park Roller Mill Co., Lake Park, Minn., have contracted for a 75-bbl. roller mill.—C. Burkhard, of Burkhard, Wis., intends to have his 200-bbl. mill ready for work Sept. 1.—O. C. Gove & Co. will soon erect a large oat-meal mill at Spokane Falls, W. T.—At a meeting of the St. Cloud, Minn., chamber of commerce the executive committee was instructed to draft articles of incorporation for a 300-bbl. roller mill. The capital stock is placed at \$50,000.

Serious damage was done by the flood at Black River Falls, Wis., April 12.—A young man named Joseph Barth was instantly killed by a fall, while working on Gilbert's new mill at Menasha, Wis.—Krueger & Lachman shut down their mill at Neenah, Wis., April 12, on account of the Inter-State Commerce law which increases the cost of Neenah flour delivered at Milwaukee, 45 cents a barrel, where the wheat is shipped in and flour shipped out.—The firm of Henry & Co., Huntingdon, Pa., has been dissolved and will hereafter be known as the Henry Milling Co., with B. F. Isenberg as general manager.

Mr. T. C. Friedlander, of the San Francisco Produce Exchange, in his latest report concerning the wheat crop in California, says: "The acreage seeded to summer fallow is considerably below the average, but this part of the crop is in a generally good condition, and with any rain will make a good crop. The total acreage seeded is below the amount seeded last year. The late grain, of which there is a large amount, is beginning to suffer want of moisture, and, in some sections, is beyond redemption—notably on the west side of the San Joaquin Valley, where the acreage seeded is not 25 per cent. of last year's area.

FIRES.—W. A. Hart's flour, saw and grist mill and 1,500,000 feet of lumber, at Wahjamega, Tuscola Co., Mich., was burned by an incendiary. Loss, \$40,000. No insurance. The Union elevator at Morris, Minn., burned April 17th with contents, about 12,000 bushels of wheat. Fairly insured. Cause unknown.—John Wahl's elevator at Wrightsville, Ill., burned with contents April 19th. Loss \$3,000. Insured.—Reynold & Dobbin's mill at Chattanooga, Tenn., burned. Insured.—A. T. Morrow & Co's mill at Prospect, O., burned. Loss about \$17,000.—Enyeart & Co.'s mill at Saxton, Pa., burned April 14th. Loss \$12,000. Insurance \$4,000. R. M. Todd's elevator at Rock Falls, Ia., burned April 20th, with 12,000 bushels of

oats. Loss \$6,000. Fully insured. Incendiary.—At Willmar, Minn., April 20, the elevator owned by the Northwestern Elevator Company of Minneapolis was burned. Twenty thousand bushels of wheat were destroyed. Loss about \$22,000.—At Alosey, Ill., April 21, the large flouring mill of J. T. Roberts was burned. Loss \$14,000. Insurance \$6,700. Cause of the fire unknown.—At Yates City, Ill., April 19, a large grist mill belonging to M. Beeson was destroyed by fire. The cause is unknown. The loss is estimated at \$3,000, on which there is \$1,200 insurance.—At Elgin, Ill., April 18, William Heine's flouring mill was burned.—At Draketown, Pa., April 20, Frank Drake's flour mill was burned. Loss \$30,000. Insurance \$13,000.—At Burlington, Kan., April 23, fire destroyed the flouring mill owned and operated by Peer, Horton & Miller. The mill was a total loss and valued at \$40,000; insured for \$25,000.

Work on the elevator at West Superior, Wis., is being rapidly pushed by the Chicago, St. Paul, Minneapolis & Omaha Railway company, under the supervision of the reliable contractors, J. T. Moulton & Son. This firm erected the first elevator on the Duluth side, and most of the others. They expect to have the one they are now engaged at in West Superior ready for business early the coming fall. It will have a capacity of 800,000 bushels, with two additions of 1,000,000 capacity each. They have a force of two hundred men at work, which will be greatly increased upon the breaking up of the ice. An average of 20 car loads of material per day is received. This, with the coal dock and numerous other contemplated improvements, will warrant a boom of the substantial kind at Superior the coming year.

P. J. Gramling, Orangeburg, S. C., will soon start up a mill.—Citizens of Alpena, Mich., are striving to secure a mill at that place.—Payton & Mitchell, Guthrie Centre, Ia., will put in rolls.—Wisner, Neb., will soon have a 100-bbl. roller flour mill.—The \$50,000 steam flour mill at Minneapolis, has at last been completed.—Donaldson & Freeman's mill at Clayton, Ga., has started up.—Richard Mann's mill at Brownsville, Tenn., has commenced to grind.—F. Arnold has purchased a considerable part of the machinery for his new mill at St. Cloud, Minn.—Mt. Pulaski, Ill., citizens offer a bonus for a flour mill.—A stock company is being organized at Danville, Ky., to build a mill.—Riceville, Tenn., will probably have a 100-bbl. mill soon.—D. C. Backus and others are to build a flour mill at Annawan, Ill.—McDaniels & Richards have bought the "Rapid Mills" at Mankato, Minn.—G. E. Comstock and others are making arrangements to build a mill at Canaserago, N. Y.—Council Grove, Kans., wants somebody to build a mill there.—A \$10,000 mill is to be built at Seymour, Ind.—A stock company is being organized at Brooklyn, Iowa, to build a big roller flour mill.—Hamilton's mill at Flint, Mich., is being overhauled.—E. C. Hutchinson's mill at Trenton, N. J., is being completely overhauled.—The Danube Mills" owned by the Alvarado Mill and Elevator Co. at Alvarado, Tex., have started up and are making 100 bbls. flour and 100 bbls. corn-meal per day.—Stutz & Son's mill at Rolling Prairie, Ind., is being rebuilt.—A stock company is being organized at Warsaw, Ill., to rebuild the "Grace Mill" recently burned, the capacity to be from 150 to 200 bbls. per day.—Forrey & Co. are soon to build a mill at Stillwell Junction, Ind.—The Coleman Milling Co., Coleman, Tex., are building a 100-bbl. mill.—Messrs. J. D. & F. A. Raht are about to build a 75-bbl. mill at Tullahoma, Tenn.—J. C. Bucher, Mt. Holly Springs, Pa., is changing to the roller system; also Lorah & Leech, of Hughesville, Pa.—Bardick & Van Horn, Larned, Kas., will build a 100-bbl. mill; and also an elevator at Hutchinson, Kas.—Work will soon be commenced on a 150-bbl. mill at Groton, Dak., L. H. Neff, John Cole and others, comprise the company.—A 150-bbl. roller mill will be built at Craigsville, Pa., by Haines, Leard & Smith.—The sum of \$50,000 is to be expended in improving the water-power and building a mill on the Arkansas River, at Derby, Kas., by a stock company.—G. S. Richard and Co.'s mill, at Unionville, Ct., is nearly completed, and is far superior

to the one burned.—The Timmons Mill Co., are building a corn, oat-meal and hominy mill at Nashville, Tenn.—Messrs. Kendrick, Pearce & Spillman, will build a 75-bbl. roller mill at Plano, Tex. The contract has been let.—It is reported that a 200-bbl. roller mill will be built at Fayetteville, Tenn., by A. J. Thomas and others.—Allum & Holtry will receive a bonus of nearly \$4,000 for building and operating a 100-bbl. mill at Des Moines, Ia.

Flour mills will probably soon be built at Keyser, N. C.; Kaufman, Tex.; Dayton, Tenn.; Rockville, Ind.; Paris, Tex.; Pocahontas, Ark.; Columbus, Miss.; Lake Benton, Minn.; Russellville, Ark.; Dodge Center, Minn.; Eureka Springs, Ark.; Brownsville, Tenn.; Cleveland, Tenn.; Usquepaugh, N. Y.; Greenwich, O.; Bufordville, Va.; Blacks, S. C.; by Haldeman Bros. at Luetha, Wis.; Homer, Mich.; Crockett Depot, Va.; at Greenville, Tex., by G. M. McSpadden; at Tollesborough, Ky., by Grigsby & Putnam; at Perry, Ga., by Perry Variety Works; at Chattanooga, Tenn., by a Mr. Thompson; at Boiling Springs, Pa.; at Vilas, Dak.; at Marysville, Tenn.; at Benton Harbor, Mich.; by Benton Harbor Milling Co.; at Pearsall, Tex., by Pearsall, Mill Co.; at Savannah, Ga., by J. H. Rowe; at Honey Grove, Tex.; at Hannaford, Dak.—At Ancaster, Ont., by W. H. Shaver.—At McGregor Station, Man.—By G. Shepherd, at Primrose Ont., a 75-bbl. roller mill.—By Smith Bros., at Long Island, Kas.—J. W. Burtin, is building a mill at Maple Hill, Kas.—The Waterville, Kas., mill is to be rebuilt.—Mound Ridge, Kas., has a new \$20,000 roller mill.—Jos. Wellman contemplates building a mill at Flint, Mich.—S. D. Thayer, Clifford, Mich., will build a roller mill.—H. Sproul & Son will build a mill at Anandale, Pa.—W. H. Nurburger has started his mill at Augusta, Ga.—The Union Milling and Manufacturing Co., capital \$50,000, will soon erect a flour mill at West Point, Ga.

THE time having arrived (May 1, 1887) for the final settlement of the C. C. Washburn estate an important part of which is the milling property at Minneapolis, the heirs have organized a stock company with a capital of \$1,000,000 to be known as "The C. C. Washburn Flouring Mill Company." The company is composed wholly of heirs and legatees, the various amounts being set down as so much cash. The officers are: President, Charles Payson, Washington; secretary, A. M. Bayley, Minneapolis; treasurer, John B. Gest, Philadelphia. The directors consist of these gentlemen, with the exception of Mr. Gest, and S. B. Washburn, Jr., F. E. Homes and F. W. Stephenson, St. Paul. It is not at all probable that the new company will operate the three mills. They will undoubtedly be leased to Washburn, Crosby & Co., as they were under the old arrangement. In the meantime the mills are closed down and the employes dismissed, pending the completion of arrangements.

MAY 4, A. L. Clarke disposed of his large interest in the milling firm of Comstock & Co., of Hudson, Wis., to C. Burkhardt, a prominent flour manufacturer of Burkhardt, Wis. The plant was then converted into a stock company to be styled the "Willow River Milling Company," capital stock \$12,000. The directors are Messrs. Comstock, Jefferson, Goss, Burkhardt, Ismon, Buell and Agnew. They elected officers as follows: C. Burkhardt, President; A. J. Buell, Vice-President, J. R. Agnew, Secretary and Treasurer. The new management have entered upon their duties. Mr. Clarke will go either to California or Mexico, on account of his family's health.

MAY 2, at Louisville, Ky., fire destroyed the five-story grain elevator of Strater Bros., the grain warerooms and conveyor owned by Brown, Johnson & Co., and 12 cars loaded with grain and hay, on the Louisville & Nashville track, and 2 small cottages. Losses are: Strater & Bros., \$85,000—insured 58,000; Brown, Johnson & Co., \$20,000—insured \$12,000; other losses about \$7,000—no insurance.

WE will furnish the UNITED STATES MILLER for one year and Alden's Handy Atlas of the World, post-paid, to any address in the United States and Canada, for \$1.

PUBLICATIONS RECEIVED.

Two articles on the Pharaohs, containing thirty illustrations, will appear in the May *Century*. The special subject is the Oppressor of the Israelites, Rameses the Great. Mr. Edward L. Wilson, who will be remembered as the author of "A Photographer's Visit to St. Petra," tells the romantic story of the discovery of the royal mummies, as he had it from the finder, Brugsch Bey. The second article, by Prof. J. A. Paine, is a study of the characters of the Oppressor and his daughter, the rescuer of Moses, as shown by their many monuments. Professor Paine inclines to the belief that Rameses was of Assyrian descent. Many of the illustrations are from photographs by Mr. Wilson.

The *American Magazine* for May contains articles by Prof. Van Buren Denslow, Edgar Fawcett, E. Frank Lintaber, Z. L. White, W. H. Rideing, Rev. John P. Newman, John Philip Phillips, Rose Eytlinge, and other writers of note. Prof. Denslow appears in a new role, viz: that of a novelist. The title of his story is "The Raquette in 1855."

AGAIN a welcome visitor has arrived, and as usual, with new ideas. In fact, one will always find something new in *Demorest's Monthly*. In the May number is commenced a new department, "Sanitarian." It is to teach woman how to keep healthy; and as Demorest always does things well, this department will be found a great boon to mothers and daughters.

The serial "Allan Quartermain" (by the author of "She"), increases in interest, and the publisher is to be congratulated upon securing such a great addition as H. Rider Haggard to the already fine list of contributors.

Ladies, if you want a progressive magazine, see *Demorest's*. Published by W. Jennings Demorest, 15 East 14th St., New York city.

ST. NICHOLAS FOR MAY.—The number opens with a beautiful frontispiece illustration, by Blum, to "Catarina of Venice," the "Historic Girl" whose romantic history is related by E. S. Brooks; while Nora Perry, in "An Only Daughter," tells of a very modern and unhistoric girl, whose story is, however, none the less interesting on that account.

How many boys who whistle "Marching Through Georgia" know the story of "Sherman's March to the Sea"? General Adam Badeau tells it in the May *St. Nicholas*, and it reads like a tale of adventure—which in fact it is—the biggest adventure in modern times. It is illustrated by Theodore Davis, who was with General Sherman on the march, and by E. W. Kemble, W. L. Shepard, and W. Taber. There is also begun in this number a three-part story of life at the U. S. Military Academy at West Point, by a recent graduate. It is entitled "Winning a Commission," and shows how the future Shermans of our country are being turned out. A number of other sketches and stories will prove of interest not only to the youthful but the "grown up" reader.

WE HAVE recently received among our foreign Exchanges *The Mark Lane Express* of London, which under its new management is paying great attention to the grain and flour trades in addition to its many other departments of interest to the agriculturist and general reader. It is a large paper, published weekly and will be mailed to any address in this country for \$4.50 per year. The publisher's address is Mr. Walter Matthews, Clements House, Clements Inn Passage, London, W. C., England.

SCRIBNER'S MAGAZINE for May will contain an interesting illustrated article by Commander F. E. Chadwick, of the Navy, on "The Development of the Steamship," in which he traces the rise and progress of steam navigation, including the history of the great transatlantic lines, and describes the remarkable developments in naval architecture from the early boats of Fulton down to the magnificent ocean steamers of the present day. Professor N. S. Shaler, whose recent article on "Earthquakes" attracted much attention, will contribute to the May number of the same magazine an article on the "Forests of North America." These papers are understood to be the first of several by the same author.

MESSRS. H. V. & H. W. POOR, publishers of *Poor's Manual of the Railroads of the United States*, respectfully announce that the Twentieth Annual Number of that standard work is now in preparation and will be issued about July 1st, 1887. The forthcoming number marking an important epoch in the

history of the work, as well as in the history of the vast interest of which it is the official hand-book, preparations are being made to issue the most elaborate *Manual* ever published. The completeness and official character of the book are now everywhere recognized, so that no comments on that point are believed to be necessary.

The price of the book will remain \$6 notwithstanding the increased cost of its publication. Orders may now be forwarded, those first received being assured earliest attention. The Second Number of *Poor's Directory of Railway Officials* is also in preparation, and will be issued in March next. Price \$2 per copy, or one copy of both works for \$7, if order for both works is forwarded in advance of the publication of the *Manual*. Address H. V. & H. W. POOR, Publishers, 70 Wall Street, New York City.

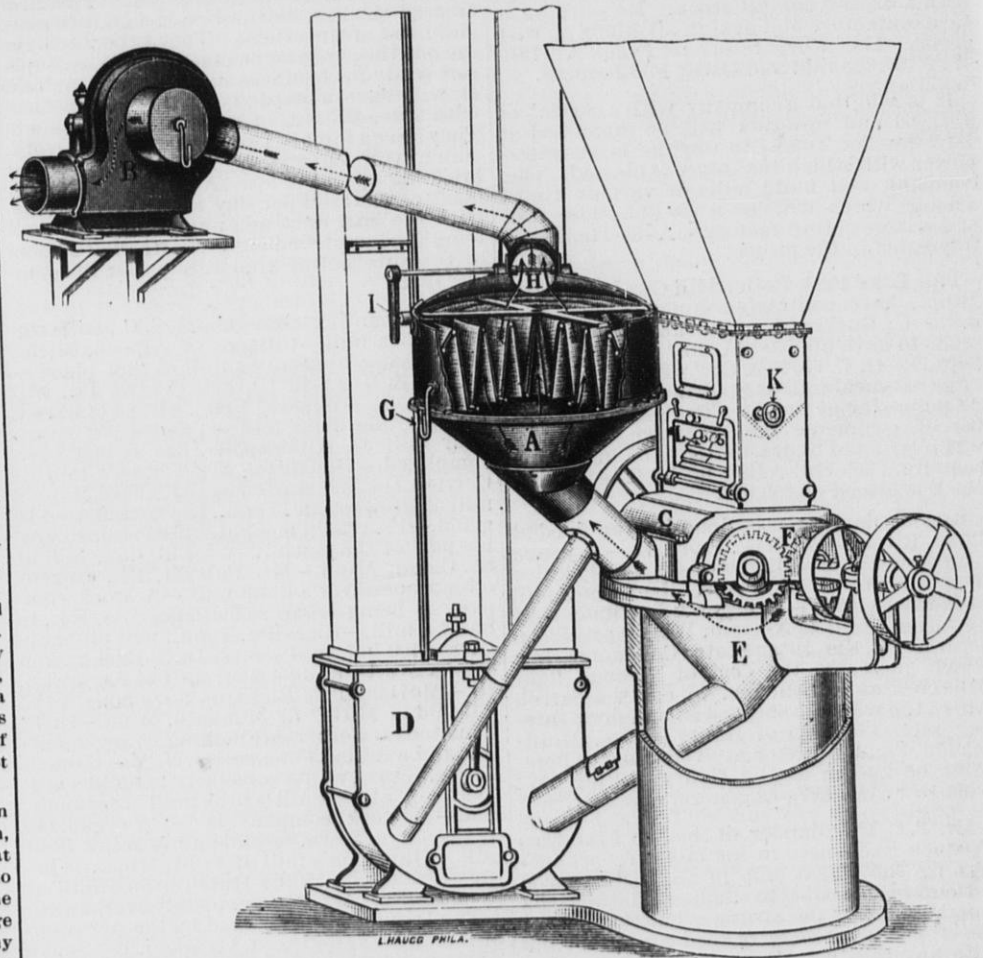
THE ART AMATEUR for May gives a striking portrait study in colors by Stephen Hills Parker of a "Norman Peasant," forcibly painted and full of life and character. The remaining designs include a pleasing decorative head by Ellen Welby in brown, a fine study of lilacs, three full-size panels for a hall

MR. CHAS. B. MURRAY, Editor of *The Cincinnati Price Current*, is just out with his thirty-eighth annual report of "Pork Packing in the West," and elsewhere in the United States. It is a carefully prepared work and of deep interest to all interested in the provisions trade. Price 25 cents.

BEHRN'S FLOUR DUST COLLECTOR.

The terrible explosions which took place in the gigantic flouring mills of Minneapolis, Minn., in 1878, gave rise to reflections over the cause of their origin. Prominent milling engineers, chemists and other scientific men, took an interest in the matter, and labored jointly towards solving the cause and devising means for preventing a recurrence of such serious disasters.

After a lengthy and thorough study all arrived at the conclusion that the primary cause of the explosion must be attributed to the ready inflammableness of the mill-dust.



BEHRN'S FLOUR DUST COLLECTOR.

chest of carved oak, decorations for a fruit plate (plums) and a vase (marsh marigolds), a bird design for a fan, a page of monograms in N, and designs for a stole and other needlework. Several illustrations are given of American pictures at the forthcoming Paris Salon, including a double-page drawing by Henry Bacon, "At the Capstan—Etretat," and a striking dog picture, "Comrades," by Elizabeth Strong. The Salon, the National Academy Exhibition, the Boston Art Museum and the Probasco picture collection are the subjects of interesting articles. The practical topics specially treated are fruit painting in oils, flower painting on china, sketching from nature, and wall and floor decoration; there is also a timely "talk" on fitting up a seaside cottage. The department of "Books Old and New" is unusually interesting to bibliophiles this month, and the whole number is an admirable illustration of the skill and thoroughness with which THE ART AMATEUR covers its chosen field. Price 35 cents. Montague Marks, Publisher, 23 Union Square, New York.

and although not the direct generator of this horrible devastation, yet it was fostered by the same. This being determined, the mechanical engineers could take charge of the matter, and one Mr. Behrn succeeded in building an apparatus, combining all the advantages desired for not only checkmating most effectually all such disasters, but whereby they become simply impossible. The first step in this direction was soon followed by another of none the less importance than the first.

Mr. Geo. F. Ott, 207-213 Buttonwood st., Philadelphia, has improved the machine invented by Mr. Behrn, so that it can be made serviceable in flouring mills. As can be seen from annexed engraving, the Behrn apparatus, improved by Mr. Geo. F. Ott, consists of a flannel filterer (A) and a suction appara-

tus (B), the tubes of which are connected with the grinding mill (C) and the elevator (D). Immediately beside the grinding mill the dust collector is located, which is connected with the funnel (F) below the rolls (E). As soon as the air suction apparatus is set in motion, the fine flour dust produced in the mill during the grinding, is carried to the flannel filter and attaches itself there. When so much dust has accumulated as to impede the motion of the suction apparatus, the air shaft (H) is closed, and a heavy blow with a "knocker" is given the concussion plate (I), thus causing so strong a vibration of the filterer that the entire accumulation of dust falls either direct into the elevator or any other vessel or receptacle placed in readiness. Valve K, which serves as a feeder for the rolls, located above a magnet, has an air gauge (G) attached, indicating whether the air shaft must be closed or not.

The improved device by Mr. Geo. F. Ott, not alone excludes every possibility of an explosion, but also protects the proprietor of the apparatus against the slightest loss of material, and the different apartments of the mill are kept perfectly free from dust, an item of great importance, the health of the respective employes taken into consideration.

Those desiring further information will please communicate with Mr. Geo. F. Ott, Progress Iron and Brass Works, 207-213 Buttonwood St., Philadelphia, Pa

MILLER'S NATIONAL ASSOCIATION.

It has been decided to hold the annual meeting, Millers' National Association, at St. Louis, May 25th, 26th and 27th.

The Missouri State Millers' Association will meet at the same time. Arrangements are being made for a mass convention of millers. All are invited.

Come prepared to give as well as receive ideas and suggestions that may assist to relieve the present depressed condition of the milling industry. Anybody wishing to read a paper of interest to the members, on any subject pertaining to the milling business, will please confer with the secretary.

Arrangements have been completed for reduced hotel rates, an excursion on the river in one of the palace steamers, etc.

A pleasant and profitable time may be expected.

As further arrangements are completed, particulars will be made known through the milling press.

S. H. SEAMANS, Secretary.

Milwaukee, April 25, 1887.

We will send you a copy of "Leffel's Construction of Mill-dams, and Bookwalter's Millwright and Mechanic," and "The U. S. Miller" for one year for \$1.30. Don't miss it.

GLEANINGS FROM FOREIGN JOURNALS.

From the *Mark Lane Express*, London.

Briefly, the matter to be determined by the public is whether British agriculture shall stand or fall; if it is worth preserving on national grounds we see no means of providing timely relief other than import duties. If these can be proved to be necessary, then, we say, cast aside all side issues, compromises, "expedients," "bounties," "Fair Trade," "Reciprocity," "countervailing duties,"—*et hoc genus omne*—and go for Protection, pure and simple, "as straight as the crow flies;" otherwise, let it alone. If protection is necessary it will, we think, have to be all along

the line; there are so many conflicting interests concerned that it would be difficult to adjust them. Not only so, but if our fiscal policy is to be changed—as we think it *must* be—why should not every article of foreign origin sold in our markets pay market tolls and ease the burden on our taxpayers?

From the *British Baker & Confectioner* (Glasgow.)

LOW PRICES.—It reads uncommonly curious in these days, when prices are so exasperatingly low, that in the time of David I. of Scotland, about the middle of the twelfth century, one could buy a gallon of ale for a penny, or, desiring wine, a gallon of that liquor could be had for twopence. A cow could be bought for six shillings, and a sheep for eightpence, whilst the butcher's charge for killing an ox was only one half-penny. According to Haydn, in Henry I.'s reign (1130) enough wheat could be bought to serve 100 men for a shilling, and a sheep for fourpence. At the time of the enactment of assize laws for bread (1202), wheat appears to have been 1s. 6d. per quarter; yet it was even lower than this in 1280, there being such bountiful harvests in Europe. Wheat was sold at 1s. per quarter in the first Edward's reign (1286). During the fourteenth century it was under 3s. 6d. per quarter, but when it rose to 13d. a bushel in 1390, it was considered prohibitory, though about twenty years previously it had been 3s. a quarter more. When Edward IV. ruled, red wine was retailed at about 8l. per gallon, and white wine at 10d. Rabbits were 3d. each; moorcocks, 2d.; brace of pheasants, 3s. 4d.; a salmon, 1s.; a pike, 3s.; pair of peacocks, 6s. The hind was paid for threshing corn in kind, receiving one quarter in thirty of wheat threshed; one in forty of barley and peas; one in sixty of oats, the measure being struck, and not heaped, says Professor Rogers. In Charles II.'s time the best cuts of butcher's meat sold for 2d. per pound, and coarser cuts at 1d. In the fifth year of Elizabeth, an old law relating to labourer's wages was re-enacted and put in force by the magistrates at quarter-sessions. Amongst others laid down by the Justices for Rutland, Professor Rogers cites that "a chief miller who can expertly beat, lay, grind, and govern his mill, may have for his wages forty shillings a year, and six shillings for his livery." But a common miller, who cannot beat, nor lay, but only grind, may have for wages twenty-eight shillings an sixpence per year, and five shillings for his livery. These were presumably wages in addition to board.

From the *North China Herald* (Pekin).

THE FOOD OF CHINA.—The greatest part of the soil of the Celestial Empire which is cultivated is devoted to the production of food. There are no flocks or herds, and the areas devoted to cotton and mulberry are very small compared to the extent of the empire. Of the two hundred and fifty or sixty millions of China, three-fifths live on rice, and two-fifths on small millet and wheat. In the dry, dusty soil of the northern provinces millet and wheat grow well, and form the food of the inhabitants; in the moist soil and hot climate of South China rice prospers, and forms the chief produce and food of the people. Maize extends over a wider area every decade. Valuable, too, is the glutinous rice, Hwang-mi, from which the old undistilled wine is brewed, and which is itself an appetising article of food. Cabbages and carrots, with the best turnips, onions, melons, and radishes, have come into China from the West; the kinds which are indigenous are inferior. Western gardening, which has improved so many vegetable productions, has done much, for China is supplying her markets. Spinach was introduced a thousand years ago from Persia, and the name Pot-say, by which it is known, means the Persian vegetable. Lately beet-root has come in from Europe, for, though the Chinese cannot make up their minds to make railways, they like new fruits and vegetables well enough. The introduction of European and American vegetables, seeds, and fruit trees into China is improving and varying the food of the people, just as

Western arts and manufactures are increasing their luxuries and comforts. And in these ways many changes are being brought about quietly but effectively, which are to a considerable extent altering the old life of the Chinese and almost imperceptibly opening the way to further departures.

MILLERS desiring to secure the latest and best practical book on milling should send to us for a copy of *Gibson's Gradual Reducti*m. Price \$3.00, or with the UNITED STATES MILLER \$3.50.

NONSENSE.

DAUGHTER—"Father, did you really kick George, as you threatened to do?"

Old Man—"I did."

Daughter—"Oh, father, how could you? You have broken his heart."

Old Man—"No, I haven't. I didn't come anywhere near his heart."

CUSTOMER (in barber's chair) — Were you ever a butcher?

Barber—No, sir. But my fadder vas a butcher by dot Vashington market. He vas a good butcher.

Customer—You have inherited his talent. Only once over, please.

AGENT (to woman at the door)—Have you one of our patent double-back-action catch-'em-quick burglar alarms in your house, madam?

Woman—No sir. We had one awhile ago, but a burglar broke in one night an' stole it.

"WILL you please give me twenty-five or fifty cents?" he wailed: "I'm starvin'!"

"Can't you buy a loaf of bread for less than twenty-five or fifty cents?"

"Yes; but do you think a man can make a dinner on bread only? It's nothin' but a side dish."

GUEST (rising excitedly from the table, after testing an olive for the first time)—"It's scrry I'd be to disturb the hilarity of the meeting, but I believe some joker's been salting the gooseberries!"—*Judy*.

A LITTLE city maiden, on a visit to her uncle's farm, saw a thrashing machine in operation for the first time. "Oh, mamma," cried she, rushing into the house all out of breath, "there's something out in Uncle Joe's barn with two horses in it, and they keep going and going and never get anywhere."

THIRTEEN IS BAD LUCK.—"W'y, how yer do, Nancy?" said old Hester, addressing old Sanderson's daughter. "Didn't yer git married last Saddy night?"

"No; the weddin' dat come off didn't take place."

"Wha fo' didn't it, gal?"

"Well, 'case der wan't but 13 present."

"All foolishness. You oughtener b'lebe in no sich foolish 'spicion ez dat. I 'clar ter goodness, yer make me eshamed o' yer, puttin' offer weddin' jes' bekase dey want but 13 dar. W'y n't yer sen' out an' induce de fo'teenf pusson ter come?"

"Well, daddy go out an' beg him ter come."

"Well, w'y n't yer go ahead an' let him erlone?"

"Couldn't."

"Why?"

"Case de fo'teenf man was de pusson what had promised ter marry me. I tells yer, Aunt Carisy, 13 is bad luck."—*San Francisco Chronicle*.

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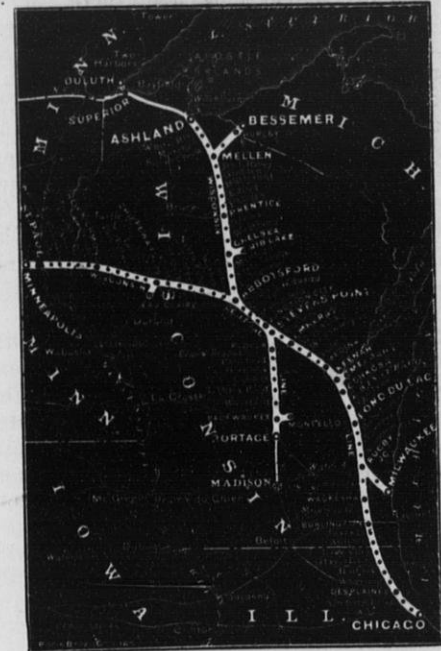
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SHORT LINE

TO

IRON MOUNTAIN and MENOMINEE, MICH.,

Marinette, Green Bay, Fort
Howard, Depere, Appleton,
Menasha, and Neenah,
Wis.

DEPART.	TIME TABLE.	ARRIVE.
*1:45 a. m.	Iron Mountain Through Express	*3:20 a. m.
3:10 p. m.	Iron Mountain Fast Mail	3:55 p. m.
*1:45 a. m.	Menominee Through Express	*3:20 a. m.
3:10 p. m.	Menominee Fast Mail	3:55 p. m.
*1:45 a. m.	Marinette Through Express	*3:20 a. m.
3:10 p. m.	Marinette Fast Mail	3:55 p. m.
*1:45 a. m.	Green Bay and Ft. Howard Through Express	*3:20 a. m.
9:10 a. m.	Local Green Bay and Ft. Howard	9:55 a. m.
3:10 p. m.	Fast Mail Green Bay and Ft. Howard	3:55 p. m.
1:45 a. m.	Menasha & Appleton Through Express	*3:20 a. m.
9:10 a. m.	Local Menasha & Appleton	9:55 a. m.
3:10 p. m.	Mail Menasha & Appleton Fast	3:55 p. m.
1:45 a. m.	Neenah Through Express	*3:20 a. m.
9:10 p. m.	Neenah Local	9:55 a. m.
3:10 p. m.	Neenah Fast Mail	3:55 p. m.
6:35 a. m.	Way Freight	7:45 p. m.

*Daily. Other trains daily except Sunday.

NOTE.—Freight trains are not for the accommodation of passengers. Passengers taking them at their own risk in regard to time.

Trains arrive at and depart from New Passenger Station, Fourth Ward Park.

C. F. DUTTON, General Supt.
W. B. SHEARDOWN, Gen'l Ticket Agent.

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1.	Alex. Syme, (torn down, 8)	Menasha	Capacity	8
2.	J. A. Kimberly & Co., (torn down, 4)	Neenah	"	4
3.	D. L. Kimberly	Neenah	"	4
4.	Krueger & Son	Neenah	"	3
5.	S. H. Seamans & Co., (burned, 10)	Milwaukee	"	10
6.	C. Manegold & Son	Milwaukee	"	12
7.	Schroeder & Trotman	Cedarburg	"	3
8.	A. Bodendoerfer	Cedarburg	"	3
9.	Heald & Reysen	Sheboygan Falls	"	2
10.	J. S. Manning	Columbus	"	3
11.	Wm. Albrecht & Co.	Newburgh	"	2
12.	Globe Milling Co.	Watertown	"	13
13.	J. D. Warren	Wauwatosa	"	3
14.	Edw. Sanderson & Co	Milwaukee	"	40
15.	John Schuette & Bro.	Manitowoc	"	6
16.	Wm. Gerlach & Co.	Milwaukee	"	9
17.	O. Puhlmann, (out of business, 3)	Plymouth	"	3
18.	Coleman, Jackson & Co.	Centralia	"	4
19.	Foot Bros. & Co.	Oshkosh	"	3
20.	A. C. Parfrey	Richland Center	"	3
21.	Gilbert & Barber	Geneva	"	2
22.	J. N. Foster & Co., (out of business, 3)	Ripon	"	3
23.	J. B. A. Kern & Son	Milwaukee	"	34
24.	A. A. Freeman & Co.	La Crosse	"	16
25.	Gem Milling Co.	Milwaukee	"	6
26.	Robbins & Baltzell	Madison	"	2
27.	Freeman & Stevens	River Falls	"	8
28.	Stanford, Logan & Co.	Black Earth	"	1
29.	Voak Bros.	Wilmot	"	1 1/2
30.	Nunnemacher & Co., (out of business, 14)	Milwaukee	"	14
31.	Straubel & Ebeling	Green Bay	"	2
32.	W. Seyk & Co.	Kewaunee	"	4
33.	Dow, Townsend & Co.	Stoughton	"	4
34.	Amos Phelps	Delevan	"	2
35.	J. D. Putnam & Co.	River Falls	"	3
36.	Cooper & Cary	Wonevot	"	2
37.	Comstock, Clark & Co.	Hudson	"	11
38.	George Sears	Shopiere	"	1
39.	Coman & Morrison	Fox Lake	"	4
40.	H. Kurtz, Jr.	Poynette	"	1
41.	E. Schraudenbach & Co., (burned, 3)	Nashota	"	3
42.	Paul Schneider	Merton	"	1
43.	B. Stern	Milwaukee	"	8
44.	C. W. Howard, (torn down, 3)	Neenah	"	3
45.	J. L. Clement & Son, (burned, 9)	Neenah	"	9
46.	Heimke & Orth	Erfurt	"	5
47.	Johnson Bros. & Co.	Boardman	"	2
48.	Smith & Proctor, (torn down, 4)	Neenah	"	4
49.	Daisy Roller Mills	Milwaukee	"	13
50.	J. O. Kendall & Co.	Hartford	"	4
51.	Jno. Howett	Waukesha	"	1
52.	Stelling & Hackendahl	Pt. Washington	"	3
53.	Willy & Co.	Appleton	"	3
54.	R. Hooper	Lake Mills	"	2
55.	Allen & Treleven	Fond du Lac	"	2

Of the above mills or firms represented, 4 mills, representing 19 units, are torn down, 3 mills, representing 22 units, have burned and not rebuilt, 3 firms, representing 20 units, have gone out of business.

MINNESOTA STATE MILLERS' ASSOCIATION.

1.	Washburn Crosby & Co.	Minneapolis	Capacity	157
2.	A. W. Krech, successor to F.S. Hinkle	Minneapolis	"	7
3.	H. F. Brown & Co.	Minneapolis	"	6
4.	Crocker, Fiske & Co.	Minneapolis	"	14
5.	D. R. Barber & Son	Minneapolis	"	15
6.	Mazeppa Mill Co.	Red Wing	"	19
7.	La Grange Milling Co.	Red Wing	"	24
8.	Engle & Co.	Austin	"	4
9.	A. D. Ellsworth	Winona	"	4
10.	Cannon River Mfg. Co.	Northfield	"	6
11.	Sacket & Fay	St. Pet-r.	"	3
12.	Geo. F. Strait & Co.	Shak'pee	"	6
13.	Mathew Gregson	Austin	"	1
14.	Conkey Bros.	Preston	"	3
15.	F. Arnold	St. Cloud	"	6
16.	W. H. Officer	Austin	"	2
17.	R. L. Frazee	Frazee City	"	6
18.	Florence Mill Co., Stillwater Mills	Stillwater	"	11
19.	Akermann Bros.	Young America	"	3
20.	Jennison Bros., successors to Stokes Bros. & Co.	Janesville	"	4
21.	L. C. Porter Milling Co.	Winona	"	17
22.	C. H. Payne & Co.	Winnebago City	"	1
23.	Chas. Espenschied	Hastings	"	14

24.	Stamwitz & Shober	Minneapolis	Capacity	8
25.	Pettit, Christian & Co., successors to J. A. Christian & Co.	Minneapolis	"	34
26.	Washburn Mill Co., successors to W. D. Washburn & Co., Palisade Mill	Minneapolis	"	32
27.	Washburn Mill Co., successors to W. D. Washburn & Co., Lincoln Mill	Anoka	"	20
28.	Cargill & Fall	Houston	"	6
29.	Lyman Fondro	Rochester	"	1
30.	C. A. Pillsbury & Co.	Minneapolis	"	161
31.	Richard Gregg & Co.	Hastings	"	11
32.	Morehead Mfg. Co.	Morehead	"	4
33.	Wm. Lindeke	St. Paul	"	1
34.	John J. Fulkerson	Rochester	"	4
35.	Andrew Friend	Garden City	"	1
36.	Galaxy Mill Co., successors to Cahill, Fletcher & Co.	Minneapolis	"	20
37.	Frank Nicolin	Jordan	"	9
38.	Hubbard & Co.	Mankato	"	14
39.	D. Morrison & Co., successors to E. V. White & Co.	Minneapolis	"	30
40.	Hinkle, Greenleaf & Co.	Minneapolis	"	17
41.	D. J. Tew	Rushford	"	2
42.	Doran & Smith	La Sueur	"	4
43.	Shaw & Ehlers	Litchfield	"	4
44.	Jesse Ames & Son	Northfield	"	11
45.	Christian Bros. Mill Co.	Minneapolis	"	43
46.	Columbia Mill Co.	Minneapolis	"	29

MISSOURI STATE MILLERS' ASSOCIATION.

1.	Geo. P. Plant & Co.	St. Louis	Capacity	11
2.	Victoria Mill Co.	St. Louis	"	11
3.	Camp Spring Mill	St. Louis	"	11
4.	Saxony Mill Co.	St. Louis	"	11
5.	E. Goddard Sons' Flour Mill Co.	St. Louis	"	13
6.	Sessinghaus Mill Co.	St. Louis	"	11
7.	F. L. Johnson & Co.	St. Louis	"	10
8.	St. Mary's Mill Co.	St. Mary	"	7
9.	Carter, Shepherd & Co.	Hannibal	"	8
10.	Hannibal Mill Co.	Hannibal	"	7
11.	J. F. Lawton	Carrollton	"	3
12.	Wagner & Gates Mill Co.	Independence	"	8
13.	Cowgill & Hill	Carthage	"	7
14.	Morehouse & Higgins	Breckenridge	"	1
15.	Columbia Mill Co.	Columbia	"	4
16.	Jas. Bannon	Clinton	"	5
17.	M. W. Jarboe	Carrollton	"	2
18.	J. C. Yantes	Fulton	"	3
19.	J. B. Thro & Co.	St. Charles	"	3
20.	Rolla Mill Co.	Rolla	"	10
21.	Wm. Pollock & Co.	Mexico	"	6
22.	Simons Bros.	Moberly	"	3
23.	Boone County Star Mill Co.	Rochport	"	3
24.	C. A. Smith	Lebanon	"	2
25.	Sombart Milling Co.	Boonville	"	6
26.	Crane & Pearson	California	"	2
27.	M. Jopling	Longwood	"	1
28.	Zimmerman & Harter	Sedalia	"	4
29.	Imperial Mill Co.	Clarksville	"	6
30.	S. H. Merten & Co.	St. Charles	"	6
31.	Harrison, Marr & Co.	Glasgow	"	6
32.	F. J. Schwegman	Washington	"	5
33.	Pendell Bros. & Co.	Hannibal	"	8
34.	J. F. Roberts	Napoleon	"	1
35.	J. R. Hamacher & Bro.	Richmond	"	2
36.	O. H. Corbin	Liberty	"	1
37.	Pollock, Holmes & Co	Slater	"	3
38.	D. Kunkle & Son	Oregon	"	1
39.	Bakehouse, Buchanan & Co.	New London	"	2
40.	H. B. Eggers & Co	St. Louis	"	5

OHIO STATE MILLERS' ASSOCIATION.

1.	F. Schumacher	Akron	Capacity	10
2.	Hicks, Brown & Co.	Mansfield	"	5 1/2
3.	Barney, De Moss & Co.	Roscoe	"	5 1/2
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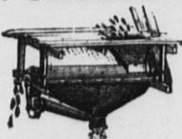


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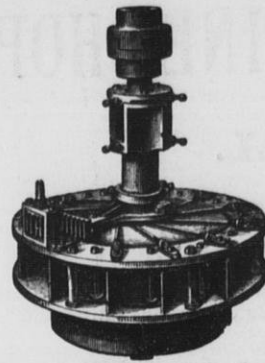
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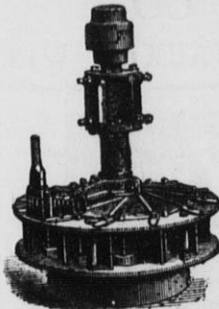
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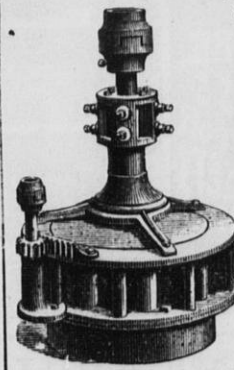
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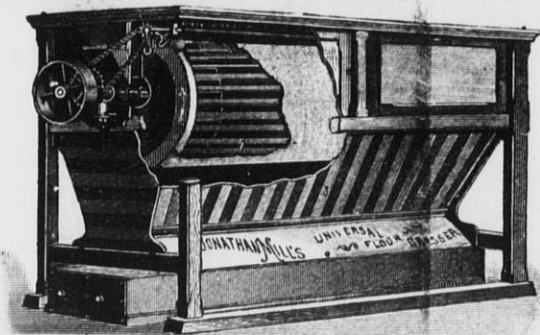
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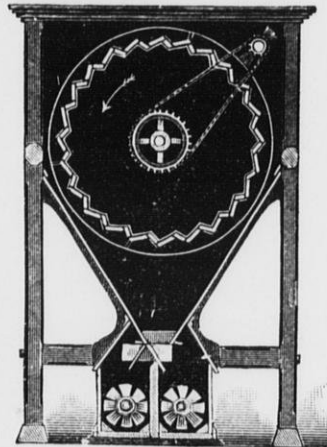
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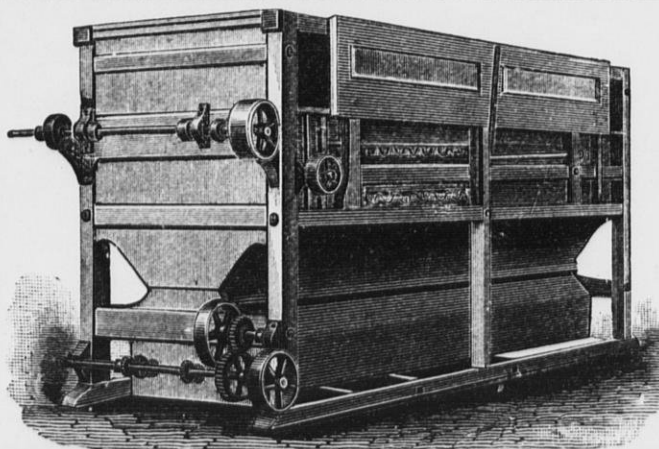
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THE MILLERS

HOLD THEIR ANNUAL NATIONAL CON-
VENTION AT ST. LOUIS, MO.,
MAY 25, 26, 27.

They are cordially received and entertained by
the Millers, Flour Brokers, and Citizens
of St. Louis generally.

Carriage Drives, Banquets, Base Ball and a Steam-
boat Excursion on the "Father of Waters"
make the time pass pleasantly, and the
occasion one long to be remembered.

The Convention unanimously endorses all the
actions of their Sub-executive Committee.
Adopts strong resolutions in regard to the
Brazilian Flour Trade, Grain Gamb-
ling, Transportation Abuses, Ter-
minal Charges, etc.

Some of the Milling papers roundly scored
for the criticisms of the committee by
Alex. Smith of St. Louis, and J. J.
McCann, the Tennessean.

THE "NORTHWESTERN MILLER" AND THE
"UNITED STATES MILLER" THE ONLY
MILLING PAPERS (PUBLISHED OUTSIDE
OF ST. LOUIS) REPRESENTED.

Election of Officers, Etc., Etc.

The morning trains arriving in St. Louis,
May 25, brought delegations of millers from
Minnesota, Illinois, Indiana, Wisconsin,
Kansas, Missouri, Ohio, Pennsylvania and
Kentucky. They were warmly received by
Messrs. Geo. Bain, Alex. Smith, Geo. H.
Plant, Henry B. Kirk and others of the
reception committee of the St. Louis millers
and flour dealers.

The headquarters were at the Southern
Hotel. On invitation of President Emmons
of the Cotton Exchange the visitors marched
to the Cotton Exchange Chamber and were
agreeably surprised at finding the room
beautified with floral decorations from
Messrs. H. & L. Chase, the well-known firm
of flour and grain sack manufacturers. Hon.
Geo. Bain, ex-president of the association,
made a pleasant welcoming address and re-
called the meeting of the millers held in St.
Louis thirteen years ago. Mr. Bain's perti-
nent remarks frequently called forth enthu-
siastic applause. In concluding his address
he introduced President Emmons, of the

Cotton Exchange, who in a few well chosen
words welcomed the visiting millers and
tendered them the use of the Exchange
rooms. President John Crosby, on behalf
of the Association, thanked the members of
the Cotton Exchange and the millers, flour
dealers and citizens of St. Louis generally
for their kind consideration and boundless
hospitality.

Letters were read from the Chief of the
St. Louis Fire Department, inviting the con-
vention to witness some exercises of the
fire brigade in the afternoon; from L. C.
Baker, of the Western Union Telegraph
Co., notifying members that messages to
their families would be sent free of charge
during the convention; from the Secretaries
of the Public Library and Mercantile Li-
brary, tendering the use of their facilities,
and from the Merchants' Exchange, inviting
the convention to visit them. On motion of
Mr. Greenleaf, of Minnesota, the invitations
were accepted with thanks. The conven-
tion then proceeded to business. Mr. Fred.
C. Pillsbury of Minneapolis moved that a
committee be appointed to consider the best
means of advertising the merits of bran as
a food for fattening stock. Carried. The
committee as appointed consisted of F. C.
Pillsbury of Minnesota, Geo. H. Plant of
Missouri, W. F. Kidder of Indiana, D. R.
Sparks of Illinois and John Crosby of Min-
nesota.

On motion of Mr. Sparks, of Illinois, a
committee was appointed to nominate officers
for the ensuing year. The committee con-
sisted of Ex-Gov. E. O. Stanard of Missouri,
D. R. Sparks of Illinois, F. C. Pillsbury of
Minnesota, John J. McCann of Tennessee
and W. F. Kidder of Terre Haute, Ind.

The chair announced a meeting of the
general executive committee (one member
from each state), at the Southern Hotel at
2:30 P. M. The convention then adjourned
to 3 P. M.

AFTERNOON SESSION, MAY 25.

The convention was called to order at 3 P.
M. by Pres. Crosby. The report of S. H.
Seamans, secretary and treasurer, was read
and approved. Balance on hand \$3,661.27.
Mr. Fred. C. Pillsbury, chairman of the com-
mittee on the "bran question," reported
recommending the expenditure of \$1,000 at
the discretion of the sub-executive committee
for the purpose of preparing and circulating
a paper showing the value of bran as a food
for fattening stock, thus creating a greater
home demand for bran than now exists.
After some discussion the report of the com-
mittee was concurred in unanimously.

Secretary Seamans brought the attention
of the convention to the fact that mills were
being constructed in Brazil by English cap-
italists, that a duty of 75 cents per barrel was
now imposed on every barrel of American
flour imported into Brazil, while wheat was
allowed to enter free of duty from the Ar-
gentine Republic. This matter was of the
most serious importance to Maryland and
Virginia millers. Mr. Smith, of Missouri,
said that such treaties should be negotiated
by our government with Brazil as to admit
American flour, duty free, and failing in that
the United States should impose an import
duty on Brazilian coffee. Mr. Sparks, of
Illinois, warmly endorsed the idea, and after
the expression of similar opinions by several
others, Ex-Gov. Stanard, of Missouri, moved
that a committee of five be appointed to re-
port in the morning after a thorough consid-
eration of the whole subject. Adopted.
The committee appointed was as follows:
Louis Fusz and E. O. Stanard of St. Louis,
P. H. McGill of Baltimore, F. C. Pillsbury of
Minneapolis and D. R. Sparks of Alton.
The subject of putting up flour in one-six-
teenth barrel sacks and smaller packages was
discussed, and it appeared to be the general
opinion of the millers present, that it was
unprofitable and entirely undesirable to put
up flour in less than half-barrel sacks.

Mr. J. L. Styne, of Marietta, O., then read
the following address:

Gentlemen of the Convention: The gathering
here of a representative body of men, all fol-
lowers of an industry most important to the
human family, is surrounded by a signifi-
cance the magnitude of which is not easily
grasped. While the results of the annual
deliberations of this body are watched by the
business world with undiminished interest,
does it not seem pardonable that your essay-
ist makes this attempt with mental misgiv-
ings and anxiety, but not the less oblivious
to the fact, that among great men magna-
nimity is the greatest, and charity the no-
blest of qualities. I should not have under-
taken this task, but for my solemn conviction
that from the crudeness of my effort there
may be drawn, by abler men, facts of great
moment to the welfare of all my auditors,
and that from the chaff, some sound grains
of wheat may be gathered, which, when
sown on productive soil, may yield rich,
plentiful and golden harvest, in good season.

My theme selected for this occasion is

UNIFORM FLOUR INSPECTION AND TERMI- NAL CHARGES.

Let us look then, at the first topic, critic-
ally, carefully and justly. This subject is of
such importance to every milling firm in this
country, that if taken hold of in earnest by
this association it is bound to work import-
ant and grateful changes in the entire sys-
tem of flour sales all over the country, and
especially in the markets now the foremost
terminal points for shippers and consignors.

That into an industry of such magnitude as the flour trade of this country, inconsistencies and fallacies should have crept, and usurped the place, by constant usage, of custom, does not reflect on its character, but calls for the prompt application of the pruning knife, lest the ancient and majestic oak of commerce should be sapped at its root, by the too rapid outgrowth of unwieldy limbs and branches.

The correct method arriving at a uniform flour inspection which needs more general supervision, is, first, to elevate the minds of those engaged in it, to the conviction that it is something more than a petty contrivance, something better than an open door for the practice of ingenuity and artifice. The leading authorities on inspection of flour to-day are like the mariner bewildered without a compass, and at such variance and diversity in their adopted grades that their very establishment has become a source of vexatious disappointments and often of loss to the shipper who is compelled to accept them. There is no important theme in business to-day that calls for re-organization so imperatively as the inspection of flour under the supervision of a national committee directed by the councils of this association, not only for a guide to the general improvement of the uniformity of grades, but as a protection to every miller who ships a car load of flour, over which he loses control after it has left its starting point, unless he could protect himself with a certificate, backed up by the national association, which would be worth something more than the paper it is written on.

In 1835, the legislature of the commonwealth of Pennsylvania passed an inspection law for the protection of the consumer, which divided that state into two districts, comprising the eastern and western division, bounded on the east by Philadelphia, on the west by Pittsburg, with Altoona, in the mountains, as the dividing line. The Pittsburg district comprised fifteen counties and the Philadelphia circuit eighteen. The inspection within these lines was so uniform that flour in the east end was not subject to reinspection or challenge after having been inspected in the western section. By that law, the condition of the grain after each harvest and the quality of the crops, controlled the yearly standard establishing the grades, which consisted of superfine fine, extra and middlings flour. When wheat was good the standard of quality was higher than when crops were poor. In those days the exercise of the inspector's judgment was more binding than it is now, the quality running so uneven that often all of the four different grades could be found in a shipment of so few as ten barrels of flour. The miller then made his flour by close attention to his buhrs, by physical labor of the most arduous kind, practically "in the sweat of his face." With bent back, on his knee, with mill pick in hand, he dressed his furrows and faced his surface. Look at this picture of distress and then glance at the glowing achievements of our roller system of the present day. It is a practical illustration of the triumph of machinery over the work by hand of the skilled artisan.

From this strict government supervision over the flour production, we have drifted into a bastard state of an attempted equalization of merits, the authorities for which, no one acknowledges or respects, and the arbitrary edicts of which are upheld only by the cast iron rules of produce, corn, flour, and grain exchanges and boards of trade, in the adoption of which this association has never been consulted or asked to participate. Nothing is known officially to-day that could throw any light upon the advantages in the way of terminal facilities or superiority of inspection in the handling of flour consignments of one city over another.

A close study of the rules of Baltimore, Boston, Philadelphia and New York exchanges, seems to confirm the conviction that all of them are modeled into one type of self-interest, with a preponderance of jealous rivalries between the several points to attract the largest shipments to their respective outlets. Is it not our duty then as the representatives of a far reaching industry, as the

custodians of the vast interests of the great flour trade, to post ourselves and aid each other by demonstrating the "greatest benefits to the largest numbers?" I rejoice in the conviction that, for the present at least, the interests of some of my auditors are secure, but do not flatter yourselves that you will be involved in no future difficulties. In this I refer to some of the giants of this association, who snap their fingers at inspection, knowing full well that no false valuations or grading of their flour would be attempted, owing to the large shipments, that command influence enough to intimidate the receiver, for fear of loss, from unfairly treating these consignments.

It is an old and well established maxim that men are influenced in their conduct by what appears to them their interest, and from that standpoint I observe that justice in the same instance denied to one is granted to others without reference to the respective merits of the cases in controversy. What we shall aim at, therefore, is the establishment of grades of inspection of flour of a national character by this body which will give equal justice to all, and put us, large or small, rich or poor, influential or unassuming, on the same basis of representation when our products enter into the marts of competition, the rivalry of which exists in every pursuit of life, being inseparable from even the commonest enterprise.

The simple fact that the official inspection of the produce exchange of New York of grade Extra No. 1 represents a valuation on the day's market of flour worth from \$3.75 to \$5.20 per bbl., is a strong argument for national supervision. How are you to arrive at the real value of your shipment, which is officially slated to be worth from \$3.75 to \$5.20? I addressed a letter on this subject some time ago to a prominent commission house in New York, and was informed promptly in reply that after the official inspection of different grades had been passed upon, the value of the parcel must be arrived at between the buyer and seller.

Comment is unnecessary. Draw your inferences of the amount of justice you will get when two buyers get together to determine the average value of your property, so vaguely described. The probity and unimpeachable honesty of your factor is then your only hope. I leave you to infer the rest. In 1883 your relator shipped a car of flour in sacks to an eastern market, which was stored because it would not sell from the dock without a loss. The flour graded extra No. 2 and sound.

After a period of something over a month I received a certificate showing that 36 sacks of this consignment had soured, and simultaneously a report of sale of the entire shipment of 200 sacks at a price representing the value of damaged flour. My angry protest brought forth the explanation that the flour had been sold to protect my interests, as its condition was fast approaching unsoundness. Why, in the name of fairness, they sold it at all at a "sour price," and did not wait until all of it had turned musty was beyond their ability to explain.

I will not weary my auditors by citing isolated cases of the abuses of shippers. I could enumerate a score of more recent occurrence. But I am not here to ventilate individual grievances. My motives are of no such ignoble import. I merely wish to call the attention of this assembly, to convince and arouse them to the necessity of a prompt change in these monstrous inconsistencies. Under the present system of inspection each locality makes its own rules, which are never honored or recognized by the others. Hence a certificate from an inspector at a shipping point would be of no value whatever on the arrival of the flour at its destination. In fact, it would prove an absolute detriment, for the chief inspector of "Rome" "has it in" for his colleague of "Utica" who dares to put a brand upon the flour before he has passed his invaluable verdict on the quality. We have at Pittsburg an old gentleman, the Nestor of flour inspectors. He has wielded the scoop for nearly half a century and has done his work conscientiously and well. His judgment on grades is remarkably intelligent and clear,

and while he has forgotten many of the incongruities of the past, he has learned new methods as the step of progress demanded them. He held his first commission from the governor of Pennsylvania in 1851, and has ever since been identified in the inspection field. I would rather to-day take his judgment on grades and quality than that of any other expert. If this body will honor my points with consideration for discussion during this present session, I shall recommend this gentleman to the committee, who may draw important information from his ripe and mature judgment. I mention him to illustrate to you that his brands are of no more value in shipment to other markets than if they were written in the snow. In fact, as mentioned before, they are often detrimental, owing to professional jealousy.

A recent dispatch says that Duluth has secured an expert flour grader, who after looking the situation over will arrange for the grading of flour at that point on the same basis as wheat.

Whence does this Cæsar draw his authority? Had he not better await the promulgation of a national standard by this association, and thus establish for the "city by the unsalted sea" an advantage that is commensurate with its enterprise and rapid growth, and which will make it one of the most important distributing points of flour in this country? Without this official interpretation, its large shipments of flour will only be construed as transfers from a railroad terminus to lake navigation. A Duluth flour inspection, ratified and directed by this association under national rules, would make its grades respected and recognized everywhere.

Reference to this inspection of flour which is to be done on same basis as wheat, brings to the surface a point at once valid and important. Has it ever occurred to you, my friends, that all the different inspections at various terminal points are valueless as a demonstrator of strength, a correct water and weighing test being the only absolute measure to establish the adaptability of the flour? I do not mean by this to discard standard of color, but you pay greater attention to the variety of wheat from which the flour is made. We have grades of soft wheat and hard wheat. We should have officially established grades of No. 1 hard, No. 2 hard and No. 1 and No. 2 soft flour, and for this reason I applaud the item mentioned by the *Northwestern Miller* referring to the grading of flour on the same basis as wheat. I wish to illustrate this point more practically by the methods of the baker. In making their bread, nearly all professional trades bakers use from two to three kinds of flour to get a good result; spring wheat, because it will take the water and sizes the loaf, and winter wheat to get the color. In my section the most generally adopted mixture is two parts of the former to one of the latter. This flour is generally sold by the jobber, who selects and guarantees the mix. Some brainy and original bakers buy each grade on its merits and do their mixing from experience. But, of these there are few, compared to the host of small fry who adopt the ideas of others. In getting the sponge some flour will come up to the proof too soon, which is evidence of the strength of it, while a slower approach to proof is evidence of weakness and a softer kind of flour. One flour after coming to the proof will stay there, while another coming up nicely has not the staying quality when it gets there.

And here is where the vigilance and skill of the baker counts something—to know at the proper time how to handle his loaf. If not gifted with intelligence, and his bread is bad, he does not know which of the three flours has caused the disaster. He is as apt to blame it on the best, but never on his own stupidity. It is not expected that the miller will furnish a barrel of brains with every car load of flour, but it is on the other hand not the less demanded that we give to this baker all reasonable guides and information about the grades which he is using. Let us show to him by the inspector's mark, which is the soft flour and which is the hard variety, and

thus aid him to place the blame where it belongs, when he fails in his results.

It goes without saying that a combination of different flours when intelligently handled, though one of them be of a softer and cheaper grade, will achieve better results than the use of strong flour alone, notwithstanding the latter being the most costly. I trust that I have clearly established the necessity of a national inspection. I leave the subject now to the wise deliberation of the experienced men who compose this gathering and I now enter upon my second theme:

TERMINAL CHARGES.

This subject, while not so momentous or important, is also full of interest to flour shippers, and its inconsistencies, contradictions and abuses need the pruning process as well.

When your flour arrives at its destination, whether sold or consigned, who represents you at that end to settle such disputes as may arise as to its quality, weight or condition? It is smooth sailing if everything is all right, but in case of rejection whom do you hold responsible for delinquencies? Surely not the railroad companies, who have no interest at stake after the freight is paid, and who, I will be able to show you, will not bother about your rights after your merchandise has reached its destination. I presented an original shipping receipt to the Pennsylvania Company from a Minnesota mill last year, for a car of flour, which would have been lost to its shipper had it got into the hands of a notoriously dishonest dealer. I had contracted to store with the Pittsburg Produce and Commission Co., whose warehouse is new and well adapted to storage. They charge three cents a barrel a month and two cents a barrel for drayage. But this being only a shipping receipt, the Pennsylvania company stored the flour at the warehouse where all their delinquent freight is placed, at most exorbitant rates. When the flour was finally delivered to me two months later, on the very same shipping receipt previously declined, the charges were six cents a barrel for hauling it a distance of the length of half of a city block, and ten cents a barrel a month for storage.

I had to pay this outrageous bill, under protest, and secured afterwards a concession of 2½ cents a barrel, but even then the rate exacted was 4½ cents a barrel in excess for each month, and three cents more for drayage. The same company held 300 barrels last year in dispute, of which there were 360 half barrel sacks and 120 barrels of cooperage. When finally released the storage and drayage on this flour amounted to over \$100, or about 60 per cent. more than it would have been if stored and hauled by other competing parties in a better warehouse and locality. The sacks were dirty and rat eaten, and had to be changed. Whereas, the Pittsburg Produce and Commission Co.'s warehouses, especially adapted for the storage of sacks, would have taken it for less than one-third of the cost charged by the Pennsylvania company's chosen representative. My remonstrance with the general freight agent had no effect whatever, and they are continuing to store under the same conditions to-day, with even no protection of insurance against fire on the merchandise placed in their charge. How many other points in the Pennsylvania system outside of seaboard cities labor under such abuses, for which innocent milling firms have to suffer? It is unquestionably the prerogative of this association to look into these usurpations, and to establish a storage system wherever it is needed, regulated only by responsible competition. In discussing, as late as last week, the subject of weights with a president of the Pittsburg Flour and Grain Exchange, whose representative character as a merchant and a baker of prominence, is known probably to every miller within the sound of my voice, and whose yearly consumption at Pittsburg, Pa., Cleveland, O., and Wheeling, W. Va., is something like 40,000 barrels, he suggested that a standard of weight of 200 pounds to the barrel should be adopted and a price based thereon. I deem it almost impossible to change the landmark of decades,

but the feasibility of the suggestion should meet with some thoughtful consideration and discussion.

Outside of the established weight of 96 pounds for a barrel of flour, there are no authoritative rules for the determination of the short weight or the surplus. Under the enactment of the laws for inspection, previously alluded to, which were passed by the legislature of Pennsylvania in 1835, the penalty for short weight was 10 cents for every pound, 10 cents a pound for heading and filling and 6 cents a pound for weighing, making a special penalty of 26 cents a pound for short weight, and in addition to this, a payment of 75 cents per barrel for false taring. That these severe measures were unjust and burdensome cannot be denied. It is a question whether it made millers honest. The blue law character of such legislation made the repeal of the laws only a question of time. There is to-day, however, no adopted standard for the weight of sack flour of different sizes. Some traders hold to the opinion that the market weight should include the sack, while others, principally jobbers and retailers, exact net weight of flour, irrespective of package. This demand is especially insisted on by dealers in paper-sacked flour, but not always conceded by the miller. It would be well to have a definite expression on this subject by the official declaration of this association, to set at rest this ever recurring question which has heretofore been determined by usage only. This constant appeal to custom is the never failing resort of those who feel uncertain about the justice and correctness of their conclusions.

When the organization of this National association is better understood by every milling firm, and the benefit derived from membership is once demonstrated, our numbers will rapidly increase, and I therefore cannot too strongly advocate the common interest of all, in everything that appertains to the improvement of trade and its protection from imposition and fraud. Under the laws of this country and those of its different commonwealths, it is almost impossible to punish a man for fraud when the perpetration of it is the result of studied rascality. If the code of honor among merchants was displaced by the code of morals, founded upon the corner stone of the religion of Christ, it might be different, and the golden age of happiness and contentment would be then at hand indeed. But we need a supervision, not only of the laws governing our special branch of trade, but of the motives and acts of the men with whom we deal. A certain party in Pittsburg the history of whose crimes is known to many of my auditors, for over ten years made it a practice to defraud unsuspecting shippers out of the entire proceeds of their consignments. Hundreds of thousands of dollars have thus been swept into the pools of speculation and lost at the gaming table, until at last a brave firm in Illinois, who had been swindled out of several car loads of grain, placed him behind the bars, where he is now languishing awaiting trial. Should not the general care of this association exert a controlling influence in the affairs of every injured milling firm within its jurisdiction? The councils of this association should be a comforting resort to all those who have a grievance of that character. Men should be watched, exposed and brought to the bar of responsibility of this association, who are detected in sharp practice, even though it is done within the pale of the law. I fearlessly assert that the merchant who does all the good he can, to himself only, ignoring entirely the interests of others, making money by trickery, which, however, does not subject him to judicial discipline, is little better than the thief who robs a hen roost and suffers imprisonment for it. Most of all the reefs, hidden beneath the breakers of this rough sea of life, is the man whose honesty passes unchallenged, whose probity and uprightness is never questioned, and who is rascally at heart.

Let the names of such be entered on the books of this association, that their records may be held up to the fierce light of investigation. "Let the injury to one of our num-

ber be the concern of all" I feel now that I have done my duty by having dwelt on subjects which from their isolation have had little or no attention in the past. I have endeavored to lay bare the weak points that need strength and protection. Some of my arguments may have been faint repetitions of what has been said before, but I am impressed with the force of these truths, and I rejoice to have been able to commit to paper and submit to you ideas and reflections so long unspoken, but not the less interesting to the milling industry of my beloved country. I leave you to apply the remedies.

Upon the conclusion of the reading of his paper as above, Mr. Styne offered a carefully prepared resolution in regard to the correct classification of flour at all the terminal points in the country. The convention adjourned to 10 A. M. May 26. After the adjournment the members proceeded to Fire Engine House No. 6, where a fine exhibition of the pomper corps was given under the direction of Chief Lindsay.

SECOND DAY'S PROCEEDINGS.

Convention called to order at about 11 A. M. President Crosby in the chair.

Mr. Alex. H. Smith presented the association on behalf of Ex-Judge Treat, the records of the U. S. Circuit Court in the Cochrane suits, covering about 2,000 printed pages, said suit representing an expenditure of about \$98,000 of the association's money. Mr. Smith went on to state the objects of the association and referred sharply to the criticisms of some of the milling papers. He believed that the association should hereafter keep all information to itself, and act solely for the benefit of its own members, and deprecated the publishing at all of the proceedings of the convention or of the committees except by private circular to members only, which circulars should be considered strictly private and confidential. Mr. Bain warmly approved the remarks of Mr. Smith.

President Crosby deprecated the idea of making the association a secret society, especially so far as the general conventional proceedings were concerned. After considerable discussion, in which Messrs. Bain, McCann, Sparks, Halliday, Greenleaf and James took part, the whole matter of selecting any paper for an official organ, and of determining what proceedings should or should not be published was left entirely in the hands of the sub-executive committee to act as they deemed best for the interest of the association.

Mr. J. J. McCann, of Nashville, Tenn., then offered the following resolution, which was adopted *unanimously* with great enthusiasm:

Resolved, That all the official actions of the sub-executive committee of the Millers' National Association in the past be fully endorsed by this convention.

Mr. James, of Niagara Falls, N. Y., being called upon, said that although his firm had only been members since yesterday, that he had realized the necessity of becoming a member ever since his mill was started a year ago. He thought the association could be easily doubled by each member explaining the value of the association to some other miller and thereby bringing in a member. He closed his remarks by inviting the association to meet in Buffalo next year.

Chairman Fusz, of the Brazilian committee, reported the following two resolutions which were *unanimously* adopted:

(CONTINUED ON PAGE 22.)

UNITED STATES MILLER.

E. HARRISON CAWKER, EDITOR.

PUBLISHED MONTHLY.

OFFICE, NO. 124 GRAND AVENUE, MILWAUKEE.

SUBSCRIPTION PRICE—PER YEAR, IN ADVANCE.

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[Entered at the Post Office at Milwaukee, Wis., as mail matter of the second-class.]

MILWAUKEE, JUNE, 1887.

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 UNITED STATES MILLER. You will thereby oblige not only this paper, but the advertisers.

ACADEMY OF MUSIC—Performances every evening, Wednesday, Saturday and Sunday matinees.

GRAND OPERA HOUSE—Performances every evening, and Wednesday, Saturday and Sunday matinees.

DIME MUSEUM—Performances every hour from 1 P. M. to 10 P. M. every day.

PALACE THEATRE—Every evening, Wednesday, Saturday and Sunday Matinees.

STADT THEATRE—(German)—Wednesday, Friday and Sunday evenings.

The Southern Illinois Millers' Association will meet at Centralia, Ill., June 14. All Illinois millers are cordially invited to attend.

The Milling Sphere is the title of a new paper that will be issued about July 1 by J. H. Donan & Co., of St. Louis, Mo.

CHICAGO elevators are full to overflowing with wheat. A mammoth elevator on the line of the C., M. & St. P. R. R. is projected which will have a capacity for storing over 4,000,000 bushels of grain.

WE will furnish the UNITED STATES MILLER for one year and Alden's Handy Atlas of the World, post-paid, to any address in the United States and Canada, for \$1.

It seems odd but it is nevertheless true that one miller will take a mill of given construction and operate it to his entire satisfaction, producing excellent results and the next miller that takes charge of the plant will at once condemn it and will not be able to produce desired results. This is frequently the case with men who are called good millers.

JOHN WEBSTER, of Jackson, Mich., the well-known millwright, says that the future great milling centre of this country will be Sault Ste. Marie, Mich. The St. Marie Water Power Co., with a capital of a million dollars, is reported to be about to make great improvements, among which are two 1,000-bbl. mills.

HON. GEO. F. STRAIT, miller, died at Shakopee, Minn., May 30, of typhoid pneumonia. He was born in Bradford county, Pa., about fifty-five years ago. He was engaged in the lumbering business in that state and came to Minnesota in 1853, locating on a farm in St.

Lawrence township, Scott county. In 1865 he entered the milling business at Jordan, Minnesota. Afterwards he engaged at Chaska in the same pursuit. He came to Shakopee ten years ago, continuing in the milling business. He leaves a widow and a young son. He has two brothers in Kansas. He was a nephew of S. B. Strait of Shakopee and cousin to Hon. H. B. Strait. The deceased suffered heavily in two fires, which swept away his all. He managed to pay his debts in full. He was mayor of Shakopee for several successive terms.

HINTS ON IRON ROOFING.

It is very important to remember that sheet iron roofing, to be effective and durable, must be a superior and uniform quality of iron, with some simple and strong mode of fastening.

Such improvements have been made in the manufacture of and annealing of sheet iron that with proper care it can be made almost perfect in quality. A peculiar mode of fastening made and used by the Porter Iron Roofing Co. possesses in an eminent degree simplicity, strength and durability, provided expansion and contraction will always remain firm and secure in any climate.

The Porter Iron Roofing Co., Cincinnati, O., whose advertisement appears on another page, are the "pioneers" of the iron roofing business in the United States.

NO MORE BUCKET SHOPS IN ILLINOIS.

A dispatch from Springfield, Ill., dated June 2, says: The bucket-shop bill, which had already been pushed through the senate, was passed in the house to-day. The measure will become a law July 1 if the governor signs it, and this he is almost sure to do. Should the boards of trade and stock exchanges most interested put the matter into the hands of an active, able lawyer, the bucket-shops in this state will have to close up "for keeps." Gambling in grain, stocks, etc., will thus be permanently checked.

MILWAUKEE ITEMS.

THE commission firm of Wall & Bigelow has dissolved partnership. Mr. Bigelow will continue the business.

THE annual banquet of the Merchants' Association of Milwaukee took place May 19, at the Plankinton House. Between 200 and 300 persons were present. Many prominent men from various sections of the country were among the guests. A most enjoyable time was had. The Merchants' Association is making efforts to increase the commercial prosperity of Milwaukee.

GEO. TIEJEN, representing The Wilford & Northway Co. of Minneapolis made us a call.

HENRY HAMPER, representing Howes & Ewell of Silver Creek called on us June 2.

MESSRS. E. P. ALLIS and others will probably soon be owners of the Pabst mine. One million is said to be the amount to be invested.

THE Reliance Works of Edw. P. Allis & Co., are being steadily improved and enlarged. The demand for engines and mining machinery generally keeps a large portion of the works busy.

GEO. T. SMITH, of Jackson, Mich.; W. J. Fender, of Minneapolis, Minn., and a number of other mill machinery men have been in the city lately.

MESSRS. FILER & STOWELL, proprietors of the Cream City Iron Works, inform us that they have received a handsome order from Constantinople, Turkey, through an announcement in the UNITED STATES MILLER.

THE Michigan Senate has passed a bill abolishing the dealings in options, and the New York Assembly has voted down a similar bill.

WE acknowledge the receipt of an invitation to attend the Minneapolis Operative Millers' Annual Picnic, to be held at Lake Park, June 19. Arrangements have been made for a great time. Three passenger trains will be required to convey the excursionists from Minneapolis to Lake Park. A steamboat trip about the lake is an interesting feature.

THE *Daily Commercial Bulletin*, in its monthly fire record, places the losses for May at \$10,360,065. These figures are \$2,500,000 larger than the average figures for May during the last 12 years, and larger than those of May, 1886, by \$3,636,500. The total fire waste for the five months of 1887 amounts to \$51,886,500 against \$44,150,000 for the corresponding period of 1886. The losses do not include forest fires.

A FEW SHORT WEIGHT MILLERS IN IOWA.

A recent number of the *Iowa State Register* says: It has recently come to light that owing to the absence of any law in Iowa regulating the size and weight of packages of provisions, unscrupulous millers have resorted to the dishonest practice of putting up their quarter-barrel flour sacks from one to five pounds short weight. A barrel of flour, as all the world knows, should weigh 196 lbs. net—a half barrel 98 lbs., and a quarter barrel 49 lbs. But we understand that several millers who have been shipping to this market put up as little as 45 lbs. in a quarter-barrel sack, while it is no uncommon thing to find sacks weighing only 43 lbs.

It is probable that at the next meeting of the Legislature some law will be passed similar to the Ohio law requiring manufacturers of provisions to stamp each package plainly with the weight of its contents. Meanwhile it is proper that all those who do not wish to be imposed upon by such a petty swindle as this, should see that the flour that they purchase is full weight—either 49 or 98 lbs. to the sack.

N. R. Leonard, State Superintendent of Weights and Measures, at Iowa City, Ia., in regard to the above clipping says: "The State Superintendent of Weights and Measures endorses the above article and requests the press of the state to copy. Few people recognize the extent to which this species of fraud is practiced. The shortest course to an efficient remedy is to call public attention to the facts."

There are as a matter of course more or less dishonest men in all branches of business, even in the prohibition state of Iowa, but we think millers as a class are fully as honest as any other class.

THE DUST COLLECTOR CASE.

A decision rendered in the U. S. Circuit Court, June 1, by Judges Gresham and Dyer, is adverse to the Milwaukee Dust Collector Co.

Following is the substance of the conclusions reached by the judges:

First—The complainants in the original bill were entitled to receive from the defendant, the Milwaukee Dust Collector Manufacturing Company, under the Michigan contract, royalties on all machines known as dust collectors, manufactured and sold by them, whether sold in the United States or exported to and sold in foreign countries.

Second—These complainants were also entitled to royalties at contract rates on all fans sold in combination with dust collectors. That is to say, in all cases where fans were sold as attachments to machines, and therefore as parts of the machines, the complainants were entitled to, and should have been paid royalties based on the whole price received for each such machine and fan combined. This ruling is not to be regarded as meaning that the defendant was required to pay royalties on fans sold independently and not as parts of machines.

Third—The Milwaukee Dust Collector Manufacturing Company was guilty of violation of the contract in failing to pay royalties on the so-called foreign machines, and on fans when sold in combination with particular dust collectors.

Fourth—Because of this breach of contract the complainants had the right to declare the contract terminated, and the license therein granted revoked.

Fifth—The complainants in the original bill did not with knowledge of the facts, acquiesce in or ratify the non-payment of royalties on machines sold in Canada and foreign countries, and the fans sold in combination with and as parts of machines, nor were they debarred by any previous conduct on their part from the right to declare the contract at an end, and license therein granted, revoked.

Sixth—The court finds no such violation of the contract by the complainants in the original bill, or failure to perform its obligations on their part, as deprives them of the right to the relief which they seek by their bill.

Seventh—The complainants in the original bill are entitled to a decree declaring the contract between the parties terminated and at an end, and the license to the Milwaukee Dust Collector Manufacturing Company to manufacture and sell dust collectors, revoked, by virtue of the option exercised and the notices thereof given by the complainants in March and April, 1885; also declaring that the Milwaukee Dust Collector Manufacturing Company has no longer the right to manufacture or sell dust collectors under or by virtue of the license granted in and by the Michigan contract, and enjoining and restraining the defendant from further manufacturing or selling dust collectors covered by the patents mentioned in the bill, under or by virtue of the Michigan contract.

Eighth—The cross-bill of the Milwaukee Dust Collector Manufacturing Company will be dismissed, and the temporary injunction granted in these actions Feb. 24, 1886, restraining the complainants in the original bill during the pendency of this action from manufacturing or selling dust collectors constructed in pursuance of, or covered by, or embraced within any or either of the patents in question and originally held by one, more or all of the complainants herein, and by Faustin Prinz, is dissolved.

A NEW USE FOR GRAPHITE.—John A. Walker, secretary of the Dixon Crucible Company, says: "From time immemorial steam and gas fitters have used red lead in making joints and connections. It has been a matter of tradition with them that nothing else could possibly answer as well. However, after a few months have passed it is found that the red lead was 'set,' and it is

next to impossible to open a joint. The fitter applies his tongs with all his strength, and, in a large percentage of cases, the joint is finally broken, and the tongs sprung, sometimes almost beyond repair. The progressive fitter has found that graphite (black lead) carried ready mixed for the purpose, or carried dry and mixed with best boiled oil, as occasion requires, makes an infinitely better joint. Being a natural lubricant it enables the fitter to make a much tighter, and, consequently, a much more perfect joint. Further, a joint so made can remain three months, or three years, or thirty years, and will then yield to the ordinary pressure of the tongs. It will make a better joint with less leakage, and render absolutely unnecessary the breaking of joints and couplings and the straining of tongs. The graphite should be pure and of the right degree of pulverization.

THE NATIONAL LOAN AND BUILDING ASSOCIATION.

A New Milwaukee Institution of deep interest to all desiring to make safe and profitable investments, either large or small.

Western investors have but recently become interested in that plan of investment which has, for several years, been a favorite one in the East, and has been successfully practiced in Europe for over a century—the building and loan association. A demand for an institution of this character has induced a number of prominent Wisconsin gentlemen to incorporate the National Building and Loan Association, establish a general office, and offer to the people of this section an absolutely safe and profitable means for placing idle capital. It is safe, inasmuch as every dollar is invested or rather loaned on the very best real estate security, and it is profitable from the fact that an interest of 10 per cent. is guaranteed. The plan offered to investors or shareholders in the association (as every investor becomes a stockholder and in fact a part of the association) is one which readily recommends itself to the man of limited means as well as one of immense wealth. Shares of \$100 each, are paid in installments of 70 cents per month, so that it is not felt. No person is allowed to hold more than fifty shares in any one series of 5,000 shares of stock, the state law allowing the association to issue ten series. Certificates of stock mature in eight years, at which time the holder is paid the full face value of his stock, having actually paid in less than two-thirds that amount. This is done by the careful and prompt handling of funds, which can only be done through an association. That the National Building and Loan Association's affairs are in safe and reliable hands, is assured by a glance over the list of officers and directors. For president Geo. J. Obermann, of the Obermann brewing establishment, has been chosen; for vice-president, A. W. Rich, Milwaukee's well-known dry goods merchant; for treasurer, Edward Ferguson, ex-United States pension agent and present auditor of the Wisconsin Central Railway; for secretary, L. M. Sherman, of Sturgeon Bay; for attorney, A. G. Weissert, attorney at law; for general agent, G. A. Dreytzer, ex-postmaster and present member of the Assembly from Door county. Aside from Messrs. Obermann, Rich, Fergu-

son, and Weissert, the association's directory includes Senator Scofield, of Oconto, Jacob Litt, manager of the New Academy, and P. J. Shannon, of the Riverside Printing Company. In addition to the abovenamed gentlemen, several others are included in the list of incorporators, all of whom have enlisted their energies to make the association a success of even greater magnitude than institutions of its character have proven in other parts of the country. Investors can be given full and explicit information regarding the institution and its many desirable features by addressing the secretary, at the association's general office, 153 Second St., corner Grand Avenue, Milwaukee, Wis.

THE Pioneer Press (Minneapolis) says: The private elevator companies and mixing houses are now, and have been for some time, reaping the benefits of a small bonanza. Since cash wheat at Chicago has been pegged at 89 cents or thereabouts, the mixers have done a very large business by buying the low grades of wheat, No. 2 Northern and poor No. 1, cleaning it, and putting in a small amount of No. 1 hard. They then sell it to shippers, guaranteeing the grain to pass as No. 2 at Chicago. There is at present prices a profit of about 1½ cents a bushel in the operation, and the amount being forwarded is only limited by the amount of transportation that can be obtained. The Burlington road is said to have plenty of vacant storage but few cars, while with the other roads it is the reverse. Some of the millers have been holding their flour and shipping this mixed wheat, there being more profit in the latter. One shipper alone is said to have lost the profits on 100,000 bushels of grain by the inability of the railroad companies to furnish cars.

RECIPES.

MARINE GLUE.—The true marine glue is a composition of shellac and india-rubber, in proportions which vary according to the purposes for which the cement is to be used. The degree of softness is regulated by the proportion of benzine used dissolving the india-rubber. When only a small quantity is needed the following recipe may be followed. Dissolve one part of india-rubber in twelve parts of benzine, and to the solution add twenty parts of powdered shellac, heating the mixture cautiously over a fire. Apply with a brush.

TO CURE CORNS.—Try a daily application of two drachms fluid extract Indian hemp and two ounces styptic collodion.

**ROLLER • MILL
FOR SALE.**

Daily Capacity 125 barrels. Has 10 sets Rolls and Modern Machinery throughout. Is located in a good farming country and enjoys a good custom trade. Mill is located three miles from station on the Lake Shore and Western R. R. in Wisconsin. Good reasons for desiring to sell. Address,

**THEODORE BUETTNER,
CAROLINE, WIS.**

Resolved, That a committee of three be appointed to go to Washington and use all wise measures to secure prompt action by our Government in regard to the new restrictions on American flour exports to that country, and to secure the favor of the government for domestic ship-building enterprises, with a view of giving us a large mercantile navy.

The Chair appointed the following committee: P. H. McGill, Baltimore, Md., W. L. Halliday, Cairo, Ill., and J. J. McCann, of Nashville, Tenn.

The second resolution was as follows:

Resolved, That a committee of three be appointed on transportation, whose duty it shall be to secure the abolition of present discriminations by railways in the shipment of flour and wheat; and further to endeavor to secure the repeal of the present navigation laws, so far as to admit ship-building materials duty free and to give bounties to domestic ship builders.

The Chair appointed on this committee, C. A. Pillsbury, of Minneapolis, Minn.; E. O. Stanard, of St. Louis, Mo., and W. L. Kidder, of Terre Haute, Ind.

The evils of option trading and its immense damage to the milling interests of the country and measures to stop it, were discussed at length, and the following resolution was introduced and adopted:

Resolved, That a committee of three be appointed by the Chair to agitate the matter of option dealing among millers and to secure such legislation in the various states of the Union as would put an effectual stop to it.

The Chair appointed on this committee, Messrs. Kreider, A. C. Loring and W. L. Kidder.

On motion of Secretary Seamans, the invitation to meet in Buffalo, N. Y., next year was accepted.

A written report was read from A. B. Kellogg, of Buffalo, regarding his work in securing uniformity in the numbering of bolting cloth. He stated that several foreign manufacturers had agreed to co-operate in his work. Report filed.

The committee on nominations reported as follows: For President, John Crosby, of Minneapolis, Minn.; First Vice-President, C. H. Seybt, Highland, Ill.; Second Vice-President, P. H. McGill, Baltimore, Md.

The report was unanimously adopted and Mr. Hill, of Carthage, Mo., instructed to cast the vote of the convention for the nominees. The President elect was escorted to the chair by Messrs. Sparks and McCann, and thanked the convention for the honor again bestowed on him. On motion of Mr. McCann, the thanks of the convention were tendered to the flour and grain men of St. Louis for their lavish hospitality; to all the various organizations and institutions that had thrown open their doors to the visitors and to St. Louisians generally for countless courtesies. Mr. Bain announced the program for the afternoon and then the convention adjourned *sine die*.

The convention having adjourned the members and their friends and entertainers entered carriages and were given a ride through the city, to the Fair Grounds, where an elegant banquet was given. Many short and pithy speeches were made and then upon invitation of Mr. Christ von der Ahe, President of the St. Louis Browns, the champion Base Ball Club of the world, visited the Base Ball Park and saw a lively game be-

tween the Browns and Metropolitans, after which the visitors were taken to their hotels and spent the evening in a *go-as-you-please* manner, as Ex-President Bain expressed it. (Quite confidentially, you know, but then—everything goes).

LAST DAY—MAY 27.

After a slight shower about daybreak the sun came out nicely and at 9 o'clock the guests, headed by the St. Louis reception committee (of which the untiring Geo. Bain was chairman, and Alex. Smith major-general) and a fine brass band, marched to the levee and on board the steamer City of New Orleans, one of the floating palaces of the Mississippi. Soon thereafter the steamer with a huge covered barge on each side, one for dancing and one for banqueting purposes, steamed down the mighty river. The brass band discoursed music on the hurricane deck, while the string band struck up in the barge for dancing, and in a few moments a hundred couples were whirling in the dizzy mazes of the waltz. After two hours the steamer landed its passengers at Montesano Springs. The two thousand pic-nickers started for the shady grove and spent several hours in a manner well known to pic-nickers in general. At 1 o'clock the members of the association and the reception committee and invited guests sat down to a sumptuous banquet on the dining barge. The twenty tables accommodating twenty persons to each table were loaded with substantial food and the delicacies of the South, and were beautifully decorated with flowers. At 4 P. M. the steamer started on its return trip reaching St. Louis at 8 P. M., with a tired but happy and thoroughly satisfied party. The evening and morning trains carried the members to their homes and with them all, a sort of *awful-glad-they-went* feeling, and all sincerely wish St. Louis millers, flour and grain men and citizens in general the unbounded success they and their beautiful city so richly deserve.

CONVENTION NOTES.

The Eugene Jaccard Jewelry Co. presented all the millers with handsome flour-triers.

The committee of the St. Louis millers and flour and grain men appointed to receive and entertain the visitors was composed of the following well-known gentlemen: George Bain, chairman; Alex. H. Smith, E. O. Stanard, Louis Fusz, Duncan M. Kehlor, Geo. H. Plant, John W. Kauffman, F. H. Ludington, Henry Stanley, Harry F. Kirk, S. A. Bemis, John C. Fisher, Conrad Fath, Richard Perry, Theo. Sessinghaus, A. Gerdemann, Roger P. Annan, Frank Gaiennie, Jerome Hill, Geo. P. Emmons, Theo. Booth, John M. Gilkerson, Charles R. Pope. The committee filled its office to perfection, leaving no one neglected in the slightest degree.

A goodly number of mill-furnishers, mill-builders and machine missionaries were present.

Judge J. E. Loomis of St. Louis, has made an engagement with Messrs. Howes & Ewell, of Silver Creek, N. Y., to represent their interests in the Southwest.

The picnic tickets were very unique in design, being in the shape of five flour-triers bound together with corn-husks, printed and decorated in an appropriate manner.

The badge worn by the visitors bore a design of a lamb nicely balanced on a flour barrel, with a bull on one side and a bear on the other.

MICHIGAN MILLERS' ASSOCIATION.

The Michigan Millers' Association met at Kalamazoo, May 27, at 2 P. M., President Merrill in the chair. The following millers were present: E. S. Badger, of the Niles Milling Company; H. F. Colby, of Colby & Son, Dowagiac; A. N. Hart, of Lansing; C. G. A. Voight, of Grand Rapids; DeRo, of Walsh & DeRo, of Holland; J. H. Heck, of Heck Bros., Tecumseh; Mr. J. M. Darrah, of Darrah Bros., Big Rapids; A. Beech, of Jonesville; M. Parmelee, of Conner & Parmelee, of Lansing; Mr. Henshaw, of Henshaw, Pollard & Co., of Allegan; J. C. Henry, of St. Louis; J. R. Reynolds and Mr. Hayden, Jr., representing H. A. Hayden & Co., of Jackson; Wm. A. Coombs, of Coldwater; F. W. Stock, of Hillsdale; D. L. Haines and C. H. Bird, of the Merrill Milling Company, of this city. Mr. Heuston, representing the Knickerbocker Manufacturing Company, of Jackson, and John Earle, of Schoolcraft, a wheat buyer, were also in attendance.

Secretary Little read several clippings from milling papers criticising the Millers' National Association, etc. He also explained what the "Big 4" and "Little 5" meant and who were the members. He also stated that one member of the association, Mr. Coombs of Coldwater, had been sued by the Consolidated Roller Mill Co., or the "Big 4," for use of rolls purchased of the Richmond City Mill Co. Mr. Coombs had received a letter from that company stating that they would protect him. Mr. Voight said that most Michigan millers were using standard machines, and with the guarantees he did not think there was any danger, and opposed litigation.

Mr. Colby said that some complained of the National Association in making an agreement with the Consolidated Roller Mill Company, to shield only its members. He thought that it was a one-sided agreement.

Mr. Voight was in for the state association and wanted all the state millers to join them and they would probably have less trouble.

Mr. DeRo and others agreed with Mr. Voight in the belief that it was best if possible to avoid litigation.

Mr. Voight was in favor of every miller selling his flour under his personal or mill brand. He objected to the letter or blank way of shipping flour, allowing every commission dealer and groceryman to have his own brand.

On motion of Mr. DeRo, the executive committee was chosen, consisting of Mr. D. B. Merrill, C. G. A. Voight, Frank Little, the officers, and Messrs. Badger, of Niles, and DeRo, of Holland.

Mr. Stock, from the committee on insurance, appointed at the February meeting, reported that the committee went to Lansing and had a conference with the state insurance commissioner and the legislative committees on insurance, and they caused a bill to be prepared setting forth the points desired by the state millmen and the bill is still pending.

The interstate commerce and state railroad transportation bills were discussed, and Mr.

Voight said that if the law makers would let the whole business alone, the millers would take care of themselves. Mr. DeRoo seconded his opinion.

On motion of Mr. Stock, a committee of three, consisting of Messrs. Stock, Coombs and Hart, was appointed to visit Lansing and look after the present bill and get it modified if possible.

The secretary was instructed to designate in the different districts of the state persons to increase the membership of the state association.

On motion of Mr. Stock, a committee consisting of Messrs. Stock, W. A. Coombs, of Coldwater, and Henry Hayden, of Jackson, were appointed as a committee of conference, with a like number of Millers from the states of Indiana and Ohio, to meet at Toledo and take under consideration matters of general interest to the millers.

Ten new members were enrolled on the state association books at the meeting.

Messrs. Hayden and Reynolds extended an invitation to the association to hold its next meeting at Jackson, which on motion of Mr. Colby was accepted and the association adjourned subject to the call of the president and secretary.

MISSOURI MILLERS' ASSOCIATION.

Pursuant to call, the Missouri Millers' Association met at the Leclède Hotel, St. Louis, at 10 a. m., May 25, with President Carter in the chair. The minutes of the last meeting were read and approved. The applications of The E. O. Stanard Mill Co, The Regina Mill Co., and Kauffman Milling Co., of St. Louis, and of the R. T. Davis Mill Co., of St. Joseph, were presented and accepted. In the case of the Kauffman Milling Co. a proviso was made that the Association should not be called upon to defend any suits against applicant now commenced. The meeting then adjourned until 8 p. m., to give the members an opportunity of attending the National Convention being held in the Cotton Exchange.

At 8 p. m. the meeting was called to order, when the election of officers was taken up. Mr. Bain moved that Mr. Pollock cast the vote of the Association for the present officers for another year. The officers so re-elected are as follows:

President—S. M. Carter, of Hannibal. First Vice-President—W. H. Waggoner, of Independence. Second Vice-President—H. B. Eggers, of St. Louis. Treasurer—Geo. J. Plant, of St. Louis. Secretary—Henry F. Kirk, of St. Louis. State Executive Committee—S. M. Carter, Hannibal; Frank Hill, Carthage; O. M. Harrison, Glasgow; Elbridge Goddard, St. Louis.

Member National Executive Committee—Alex. H. Smith, St. Louis.

President Carter, in a very pleasing address, thanked the Association on behalf of himself and his fellow officers for the high honor again conferred upon them.

After some discussion it was decided not to have any official paper. The meeting then adjourned, subject to the call of the President for future meetings.

THE ROLLER SUITS.

In the case of the Consolidated Roller Mill Co. vs. The Barnard & Leas Mfg. Co., the defense filed a demurrer reciting that the bill of complaint was not sufficient, in that it did

not exhibit the inventions they were charged with infringing, or show when the complainant acquired title, or whether the infringements were made since it acquired title. The case was argued by Hon. Rodney Mason for the complainants, and by Parkinson & Parkinson on the part of the defense, in the United States Court at Chicago, on May 24th ult., and the court sustained the demurrer.

On the same day, in the case of the same complainant vs. The Peoria Distilling Co., on the Todds & Stanley roller mills, the complainant filed exceptions to the answer of the defendants, charging that it did not sufficiently set forth the defense, and that the defense set up was not pertinent. After argument the court ruled in favor of the defense, overruling the exceptions. The complainants now have until the first Monday in June to file an amended complaint, in one case, and until the first Monday in July in the other.

DOWNTON VS. KAUFFMAN MILLING CO.—Robert L. Downton, Eliza Downton, and T. R. Reynolds May 25 brought suit against The Kauffman Milling Company for infringement of patent. The complainants allege in their petition that on March 21, 1882, Robert L. Downton obtained letters patent on a certain new and useful invention in the manufacture of flour. About the time of the grant the patentee conferred upon his wife, Eliza Downton, all his right, title and interest in the patent. On January 4, 1886, Eliza Downton sold to Louis Lipman a one-fourth interest on the patent, and the exclusive right to construct and remodel milling systems in accordance with this patent was conferred at the same time upon Robert L. Downton. On March 22, 1887, Lipman transferred to Thos. R. Reynolds his interest in this patent, of which he is now the owner. The complainants aver that they expect large returns from the patent rights if infringement by the defendant can be prevented. These rights the defendant has infringed in their mills in the Eastern District of Missouri, at Bethalto, Ill., and elsewhere in the United States. Wherefore the complainants have filed a bill in equity to restrain the company from using their patent without proper authority, and ask that an injunction to that effect be granted.—*Northwestern Miller.*

NEW PUBLICATIONS.

SCRIBNER'S MAGAZINE for June contains the following illustrations and articles:

Bonaparte—(Frontispiece)—From a painting by Arpiani. *Some Illustrations of Napoleon and his Times*, by John C. Ropes, with illustrations from the author's collection. *An Art Master*, by John Boyle O'Reilly. *The Ethics of Democracy*, by J. F. Stimson. *Sister Annunciata*, by Henrietta Christian Wright. *A Collection of Unpublished Letters of Thackeray—III*, illustrated by portraits and reproductions of drawings by Thackeray (to be continued in further numbers). *For an Old Poet*, by H. C. Bunner. *Miss Pringle's Neighbors*, by Mrs. Robert Louis Stevenson. *An Uncommercial Republic*, by W. T. Brigham, with illustrations from photographs by the author. *Miss Peck's Promotion*, by Sarah Orne Jewett, illustrated by E. W. Kemble. *Separation*, by Ellen Burroughs. *Seth's Brother's Wife—Chapters XXI—XXIII*, by Harold Frederic. *Preparation*, by Mrs. James T. Fields. *Two Russians*, by Nora Perry. *Fulfillment*, by Graham R. Tomson. *The Magic Flight in Folk-lore*, by H. E. Warner. *The Stone-cutter*, by Elizabeth Akers.

EUREKA RECITATIONS.—We have just received from the publishers a copy of number nine of this series of Recitations. It is a very good collection, containing nearly one hundred pieces, compiled by Mrs. Anna Randall Diehl, whose reputation as a writer of standard works of elocution, and also as a teacher of the

art, is second to none. Comprising Prose and Poetry—Serious, Humorous, Pathetic, Comic, Temperance and Patriotic. All those interested in providing an entertainment, should have this collection. It contains 128 pages, and is bound with a handsome lithograph cover, and will be mailed to any address, post-paid, on receipt of 12 cents in stamps, by J. S. Ogilvie & Co., the publishers, 57 Rose street, New York.

THE June number of the AMERICAN MAGAZINE contains a great variety of articles, among which are at least four completed short stories.

THE departments of the June HARPER'S are freighted with rich contents as usual. George William Curtis, in the *Easy Chair*, discusses the relations of author and publisher with his characteristic good-sense, and also chats pleasantly about "The Taming of the Shrew" at Daly's, noble public gifts recently made to New York, and the ocean yacht race. The *Editor's Study* is devoted this month, to the subject of criticism, and the opinion of a leading novelist like Mr. Howells upon the American and English schools of criticism and their apparent futility is full of interest. Charles Dudley Warner's department, the *Editor's Drawer*, has a large fund of humorous anecdote, with an illustration by Hyde.

THE ART AMATEUR for June begins the 17th volume with a new cover and a profusion of attractive illustrations and vigorous letter press. Three figure and drapery studies in two colors, a striking full-page portrait and a number of pen drawings after pictures and sculpture accompany an interesting biographical account of Sir Frederick Leighton, President of the British Royal Academy. Montague Marks, Publisher, 23 Union Square, New York.

THE June number of THE COSMOPOLITAN, the last that will be published in Rochester, before its appearance in New York City, opens with a charming story entitled "The Sculptor's Ward," by Jeanne Mariet. "Sgnora Io," by Salvatore Farina, is brought to a close in this number. The wonderfully interesting series of articles by Emile Julliard, on "Life Beneath the Crescent," is also concluded. This, like the other articles is handsomely illustrated. "How I Ascended a Mexican Volcano," by Ad. F. Bandelier, the well-known American archaeologist, is a lively and interesting account of the author's experience while climbing Popocatepetl. "An Imperial Barbarian," by Henry Howard, presents, in an attractive manner, M. Taine's views of Napoleon Bonaparte. "The Icelander's Wealth," by W. H. Allen, is an instructive description of the eider duck. The Young Folks and the Household departments are excellent. The July number will appear in New York City. It will be enlarged and improved in every way.

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NEWS.

A 400-BBL. addition will probably be made to the L. C. Porter mill at Winona, Minn.

H. GILL, of the Asessippi, Manitoba, roller mill has reduced the price of grinding to 15c. per bushel.

THE mill and elevator erected at Wolesley, Assa, by Cooke & Cole, will be put in operation in a few weeks.

BURNED—May 31. Becker & Chadbourne's elevator at Brown's Valley, Minn., with 30,000 bushels of wheat. Insured.

JUST at present a good demand for millwrights is reported from Minneapolis, with wages quoted at \$2.75 to \$3.00 per day.

OSCAR LUDENBURG had both his hands torn off by getting caught by machinery in the St. Paul Roller Mill. He died from the effects of his injuries, June 1.

BURNED, June 6, Messrs. Taylor & Noble's flour mill at Fostaria, Ia. Cause supposed to be from friction of machinery. Loss \$22,000; insurance \$7,000.

NEW MILLS.—We note the following:

Atwood & Lane, Canton, Me.; Steam mill, by S. P. Switzer, Sand Patch, Pa.; J. N. Biggerstaff, Forest City, N. C.; North Carolina Mills & Stone Co., Carthage, N. C.; J. N. Kendrick & Co., Plano, Tex.; Burnett Roller Mill Co., Burnett, Tex.; Lowther & Thorn, Elizabeth, W. Va.; E. Shifflet, Pleasant Valley, Va.; Allen & Smith, Dayton, Tenn.; J. W. Underhill, New Hampton, Ia.; S. A. Julien, Wallaceburg, Ont.; a 100-bbl. roller mill at Dallas, Tex.; a roller mill at Riceville, Tenn., by J. Bishop and others; a 125-bbl. roller mill at Sweetwater, Neb.; an 80-bbl. roller at Sabetha, Ks., for Sabetha Mill Co.; 100-bbl. roller mill, at Brockway Center, Mich., by S. O. Welch; 100-bbl. mill, by Haven Mill Co., at Haven Ks.; a 100-bbl. roller mill at Prosser, W. T., by L. A. Heintzlerling; A Texas correspondent to *Dixie* says: "Throughout the State there is a growing feeling in favor of the home manufacture of our cereal products. For example, note the following new enterprises: The Adams Mill Co., capital stock \$100,000, has been incorporated at San Antonio; a first class flour mill is projected at Greenville; Freeman & Peede will build a roller flour mill at Kaufman; J. R. Stuart, of Midlothian, is interested with Dallas parties in a plan for establishing a roller mill at the former place; a \$25,000 roller mill is to be built at Trenton; the Co-operative Milling Company of Grayson County, will build a new roller mill; work has been commenced on a large flour mill at Paris; Lone Oak is likely to have a roller flour mill at an early day; a flour mill will shortly be erected at Pecos City; C. D. Morgan will build a roller mill at Coleman; H. Friedly will build a flour mill and a gin at Kemp; a stock company has been organized at Rockwell to build an \$18,000 flour mill; and the Pilot Point Roller Mill Company seems to be an assured fact." E. G. Styron & Co., are building a large roller corn mill at Fayetteville, N. C.; a \$40,000 roller mill is projected at Kingsley, Ia.

MILLS FOR SALE.—There is just now a large amount of milling property in the market, and the most fastidious purchaser ought to be able to find something to suit his taste. For the convenience of our readers we have compiled the following list: 125-bbl. roller mill, steam power, F. M. Rudd, Bronson, Mich.; mill, farm and water power, J. M. Holladay, Holladay, Va.; roller and stone water power mill in Matherton, Mich. for sale by M. A. Tyler, Hubbardstown, Mich.; 80-bbl. roller, steam mill, Henry J. Taylor, Sioux City, Ia.; 2 mills, Geo. Barlow, Chaucey, Mich.; 50-bbl. roller mill at Stuart, Neb.; 3-run water power mill, Thos. A. Carter, Taylorstown, Va.; 3-run steam power mill, W. T. Moxley, New Milford, Pa.; good mill at Mt. Sterling, Ky., by G. E. Chick; 3-run steam mill, H. Hartsborne, Meadville, Mo.; 125-bbl. roller mill, steam power, Thayer & Kramer, Springfield, Ill.; 4-run steam and water power mill, L. R. Hoff & Co., Candor, N. Y.; "The Centennial Mill" steam power, gas for fuel Dr. E. Fraul, Portland, Ind.; 2-run, water power mill, Garrett Bros., Daily, Mich.; a 4-run steam mill by Joseph Keller, Milan, Ohio; a full roller water power mill, by A. B. Raymond & Co., Brockport, N. Y.; a water power mill with 200-acre farm, by J. Y. Trammell, Notasula, Ala.; a 5-run water power mill by A. S. Olmstead, Sheldon, Vt.; a 200-bbl. steam roller mill by J. M. Hains, New Albany, Ind.; a 4-run water power mill by Dr. W. R. Ezell, Ezell P. O., Va.; a 250-bbl. mill by H. A. Brunns, Morehead, Minn.; a 50-bbl. steam mill, at Slayton, Dak., by C. D. Dinehart; a 350-bbl. steam power roller mill, Nashville, Tenn., by John J. McCann; two mills in Ripon, Wis., by J. N. Foster &

Co.; a full-roller water power mill, by C. S. Mitchell, Tower, Minn.; another at Eliva, Ontario, of 150 bbls. capacity, by Hortop and Argo; 120 bbl. steam power roller mill by B. Gilbert, Glasco, Ks.; and about 50 others are advertised. We commenced to compile a complete list for the month of the mills advertised for sale, but find the job too great. Enough are given however to show that there are plenty of flour mills in the market, and present indications are that there will be many more. The fact is that the milling capacity of the country is entirely too great.

AMONG the late engine shipments of the Prospect Machine and Engine Co., Cleveland, Ohio, are two 165-h. p. Engines to the Joshua Hendy Machine Works, San Francisco; a 90-h. p. engine to E. J. Foster, Cleveland, O.; one of 75-h. p. to the Acme Machinery Co., also Cleveland, O.; 120-h. p. engine to the Greenfield El. Lt. Co. Greenfield, Mass.; 75-h. p. to F. Madlener, Chicago, Ill.; a 75-h. p. engine with two boilers and Steam outfit complete to Messrs. Stuart, Hungerford & Warriner, Jacksonville, Florida. The Company have also shipped three ice and refrigerating machines built for the Case Co. of Buffalo, one to Brooklyn, N. Y., and one for a Brewery at Cleveland, O. Engines built by the Prospect Machine and Engine Co., have just been started at the A. H. Hart Co.'s, New York City; Brown Hoisting and Conveying Machine Co., Cleveland, O., and at several other points in different sections. This Company has also been very busy on special and important work for the large telescope for the Lick Observatory in California, said to be the largest telescope in the world. They have just put in hand another ice and refrigerating machine for the Case Co. of Buffalo, and a 90-h.p. engine for Root & McBride Bros., Cleveland, O. They report a large and steady sale for the Jonathan Mills' Universal Flour Dresser. A new mill has just been started at Ligonier, Ind., with 12 of these machines in; one at Bay City, Mich., is about ready to start with 10 of these machines; one at Alton Ia. with 10. A new mill at Milford, Mich., is putting in several, and also a mill at Mt. Morris, Mich.; besides single orders from all sections.

ITEMS FROM FOREIGN COUNTRIES.

HARD VS. SOFT WATER FOR BREAD MAKING.—An interesting question has been raised as to whether hard or soft water is the better for bread-making. A correspondent writes: "Hard water contains too much limestone, and that causes bread baked with it to soon dry out. If you use soft water to mix the dough you get a much better article of bread, and one that will retain its freshness. My wife makes as good bread out of stone flour as can be made of roller flour, by using soft water. A good plan is to set a cup of water in the oven when your bread is baking; this will enable you to get softer bread, and only half as thick a crust." We should be glad to elicit some expression of opinion on this head.—*The British Baker*, London.

BREAD-MAKING IN SPAIN.—A series of interesting articles has lately begun in *Le Journal de Meunerie* (Paris, France) regarding milling and baking in various countries of the civilized world. The initial paper relates to Spain, and the writer remarks that in that country it is very common for bakers to buy their own grain and have it ground in a custom mill; but in the larger towns, more particularly at Madrid, many bakers have their own mill and grind up as much flour as they require. These mills generally form part of the bakery premises, and are sometimes driven by a gas engine, but more often the gear wheels are turned by mules. A single pair of stones—their diameter, it is said, does not as a rule much exceed 3 feet—will take the services of four mules, and as a mule cannot be kept at this kind of work for more than two hours a day, a large bakery using up seven to nine sacks a day, will need 25 to 30 mules in daily work. In Spanish bakeries the primitive custom of kneading with the feet

is still in full vigor, the excuse alleged being the stiffness of the dough, which is attributed to the imperfect reduction of the grain. The writer of this article has indeed no exalted opinion of Spanish milling, and remarks that throughout the country a mill well fitted and intelligently worked is the exception, putting aside the province of Catalonia, which is the only one portion of the Peninsula in which modern industry has made any progress. The custom mills are all furnished with the most primitive appliances, so primitive, indeed, that it is usual for the peasants who bring their grain to do the work of grinding with their own hands. The typical merchant mill is provided with four to ten pairs of stones, usually driven by a turbine. The conduct of these mills is said, however, to leave much to be desired, the stones being badly kept, and the dressing machinery of a somewhat rude type; still, some Spanish millers manage to make eatable flour of rather a dark color.

THE present Spanish import duties in cereals and cereal products is as follows: Wheat, \$2.50 per 480 pounds; wheat flour, \$2.10 per 280 pounds; other meal, \$1.14 per 2.80 pounds; rye, barley, oats, corn (maize) \$1.30 per 480 pounds. Italy has raised the import duty on wheat to about \$1 per 280 pounds.

At a meeting of Irish millers recently held in Dublin, it was decided to ask Parliament to impose an import duty of \$1.20 per sack on foreign flour. Is flour too cheap in Ireland now for the people?

THE National Convention of British and Irish Millers will be held in London, June 15, 16 and 17. A number of papers on milling subjects will be read, and by way of amusement a banquet and a trip down the river Thames.

It is estimated that the Argentine Republic will have 10,000,000 bushels of wheat for export this year.

DEATH OF A. B. CHILDS.—A well-known figure in the London mill furnishing trade has just been removed by death. Mr. A. B. Childs, of the firm of A. B. Childs & Son, 70 Fenchurch Street, died recently, aged 69, after an illness which has incapacitated him for work for more than two years. Mr. Childs was an American; he came to this country more than 20 years ago, with the intention of making a temporary stay, and with the object of selling a grain-cleaning machine, Childs' Aspirator, as it was called; The demand for this machine, however, grew so large, that Mr. Childs very soon determined to settle down in London. Soon afterwards he brought out other machines, amongst them being a Decorticator; but next to the aspirator above referred to, Mr. Childs was principally identified with Wegmann's Porcelain Rolls, which he introduced into this country, and of which he sold a very large number. When the rage for gradual reduction milling first began to show itself, Mr. Childs adopted what was known as the *Jonathan Mills* system, and built a number of mills on its lines. In connection with this system Mr. Childs retained the services of probably the ablest and best-paid American milling expert in this country, Mr. W. A. Scott, whose salary reached £1,000 a year. About two years ago, however, Mr. Childs had a severe bronchial attack which led to a complication of diseases, from which he succumbed on the 20th ultimo. He was one of the best known of London milling

engineers, and was highly popular amongst English millers, who will have a lively recollection of his portly form and agreeable manners, as well as admiration for his straightforwardly honest business character. Personally, we had a high regard for the deceased gentleman, whose unvarying good humor made him endeared and respected by all. The business will be carried on under the same style of firm by his son Clarence A. Childs, who has for some years been associated with his father in the business.—*The Millers' Gazette*, London.

A NEW description of type writer known as the "Simplex" is announced. It is described as consisting of only two main parts—the writing mechanism and the base plate. This machine is about 10½ inches long by 2 inches deep from back to front, and 4 inches high at the typewheel, and weighs only 1 lb. It consists of typewheel and the baseplate, on which the wheel is moved progressively from left to right as the writing proceeds, and afterwards run back to the other end for a fresh line. The paper is placed on the baseplate, where it is held in position for each line and is shifted up by hand for each fresh one. The typewheel carries the twenty-six letters of the alphabet, ten figures, and all the necessary signs and stops, which are embossed in relief on its outer rim. It is actuated by means of a pin which

projects, and is rotated until it is seen that the letter or figure required is in position. A slight pressure brings the letter down upon the paper, and the typewheel is then moved on a space, or several spaces if necessary, and adjusted for the next letter or character. The chief advantages claimed are simplicity and low price.—*Engineering*, London.

THE WHEAT SUPPLY AND FUTURE REQUIREMENTS OF FRANCE.—The *Journal des Debats* says: "The price of wheat appears to have advanced in the provincial exchanges, owing to the scarcity of offers of native produce. But why is there any diminution in the supply? Do farmers expect to see a further enhancement in values, or is there really a perceptible exhaustion of stocks among them? Everything leads to the belief that the latter hypothesis is apparently the most infallible one. The last wheat harvest afforded, in fact only an ordinary yield, particularly from a qualitative point of view; and, on the other hand, the imports have been on a much more moderate scale than had been anticipated. Moreover, farmers having sold very extensively at the opening of the campaign to meet their pecuniary exigencies, it is not at all surprising that the depletion of stocks is already beginning in most directions to be more or less felt.

THE DRIVEN WELL PATENT SUSTAINED.

On the 23d of the present month, the United States Court rendered two decisions in cases brought under the celebrated driven well patent, sustaining it and adjudging the infringement of the patent as proved. For several reasons, these decisions are of widespread interest, both to laymen and the professional world. An enormous number of driven wells have been constructed, and the royalties now collectible are very large, and those from whom they are to be collected comprise all classes of our people. The decision was rendered upon a reissue, on its face possessing expanded claims, and one applied for four years after the granting of the patent.

The original patent bore the number 73,425, and was granted January 14, 1868. The reissue number, 4,372, was dated May 9, 1871. Thus the decision includes the sustaining of a reissue, something that is not generally expected of the Supreme Court.—*Scientific American*.

MILLERS desiring to secure the latest and best practical book on milling should send to us for a copy of *Gibson's Gradual Reduction*. Price \$3.00, or with the UNITED STATES MILLER \$3.50.

List of Members of the Millers' National Association.

NEW YORK STATE MILLERS' ASSOCIATION.

1.	J. A. Hinds & Co	Rochester	Capacity	5
2.	Mosely & Motley	Rochester	"	15
3.	Ferguson & Lewis successors to Fraley, Ferguson & Wilson	Rochester	"	6
4.	J. G. Davis & Son	Rochester	"	5
5.	Armstrong, Shaw & Maccauley, successors to Elwood & Armstrong	Rocheeter	"	3
6.	James Wilson & Cs.	Rochester	"	5
7.	Gerling Bros.	Rochester	"	3
8.	Smith & Sherman, successors to Boardman, Sherman & Co.	Rochester	"	5
9.	Chase & Co.	Rochester	"	5
10.	Albert Bennett	Rochester	"	3
11.	Harvey & Henry	Buffalo	"	10
12.	Schoelkopf & Mathews	Buffalo	"	30
13.	Thornton & Chester	Buffalo	"	15
14.	E. J. Newman & Co.	Buffalo	"	6
15.	Leonard Dodge	Buffalo	"	3
16.	Banner Milling Co.	Buffalo	"	15
17.	George Urban & Co.	Buffalo	"	10
18.	Renfried, Lyon & Co.	Oswego	"	15
19.	B. Doolittle	Oswego	"	3
20.	Kings County Milling Co., successors to Tongue, Moller & Co.	Brooklyn	"	14
21.	A. H. Herrick	Watertown	"	3
22.	Sidney Brown, successor to Brown Bros. & Co.	Ogdensburgh	"	8
23.	G. H. & A. T. Hotaling	Baldwinsville	"	3
24.	Amos Bros., successors to J. Amos & Son	Syracuse and Baldwinsville	"	18
25.	Willey & Moore	Lockport	"	3
26.	Jewell Milling Co.	Brooklyn	"	18
27.	Geo. Q. Moon	Binghamton	"	5
28.	J. C. Williams	Dansville	"	2
29.	M. Humphrey	Mt. Morris	"	3
30.	G. W. Terry	Hornellsville	"	1
31.	Reamer & Hallstead	Waterloo	"	4
32.	Isaac Horsefalls	Freeport, L. I.	"	14
33.	Rochester Milling Co., successor to Drake & Buell	Holly	"	3
34.	Biddlecombe & Hoard	Macedon	"	1
35.	Van Natta Bros	Ithaca	"	1
36.	A. M. Hull	Ithaca	"	2
37.	S. T. Hayte	Corning	"	5
38.	W. S. Hodgman & Co.	Painted Post	"	2
39.	Weld & Hill	Medina	"	7
40.	Chester & Wilson, successors to G. T. Chester	Lockport	"	6
41.	J. T. Voght & Son	Pittsford	"	3
42.	W. G. Gage & Co.	Fulton	"	7
43.	Central Milling Co.	Niagara Falls	"	29

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2.	J. B. Lillie	Franklin	"	4
3.	Nashville Mill Co.	Nashville	"	17
4.	Henry Lannier	Nashville	"	12
				37

NEBRASKA STATE MILLERS' ASSOCIATION.

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2.	Elam Clark & Sons	Waterloo	"	14
3.	Wilbur Flour Mills	Wilbur	"	2
4.	Walshans, Pratt & Haines	Oma a	"	1
5.	D. H. Harris	Bennett	"	14
6.	C. C. White	Valparaiso	"	2
7.	White & Glade	Crete (2 mills)	"	10
8.	Wells & Nieman	Schuyler	"	6
9.	O. P. Hurfurd	Oakdale	"	1
				264

KANSAS STATE MILLERS' ASSOCIATION.

1.	Shellabarger & Griswold	Topeka	Capacity	6
2.	Goodlander Mill & Elevator Co.	Ft. Scott	"	8
3.	Bowman & Kellogg	Atchison	"	5
4.	Woodward & Norton	Leroy	"	2
5.	F. Goodnow & Co.	Salina	"	7
6.	Hargis & Clark	Wellington	"	7
7.	W. H. Childs	Abaline	"	2
8.	Crosby Roller Milling Co.	Topeka	"	13
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1.	Salem Flour Mill Co.	Salem	"	14
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1.	Texas Star Flour Mills	Galveston	"	9
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3.	J. O. Norris	Baltimore	"	6
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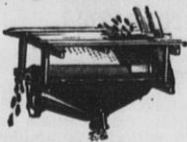
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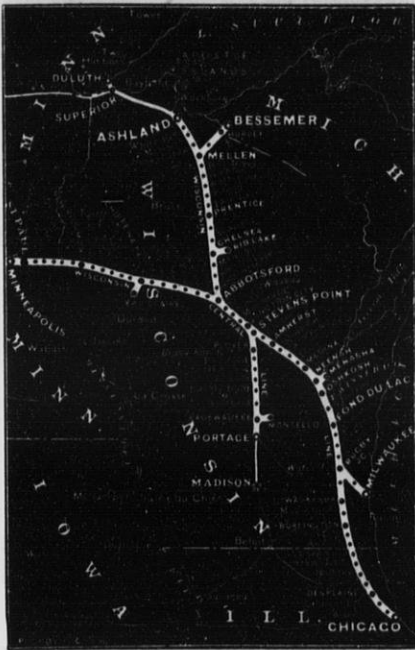
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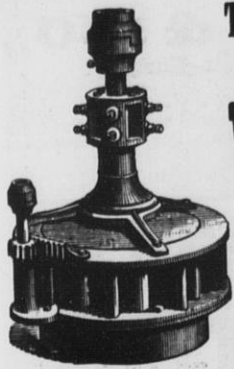
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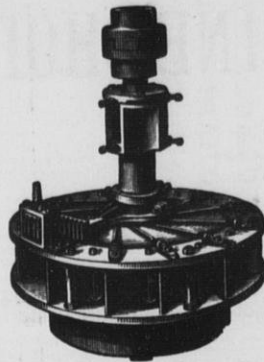
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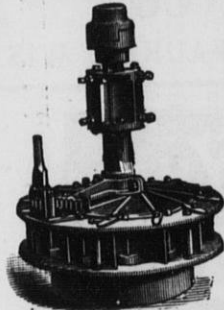


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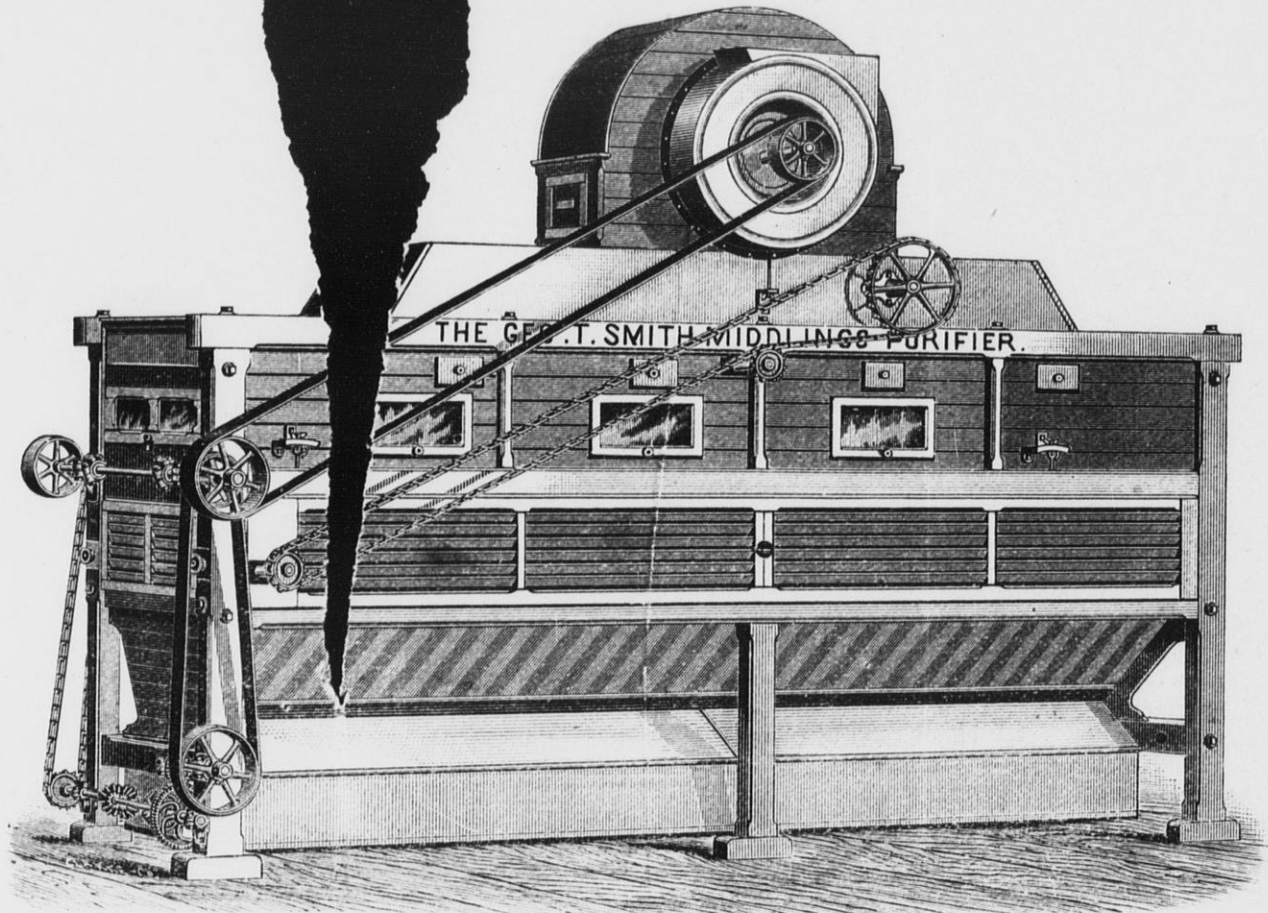
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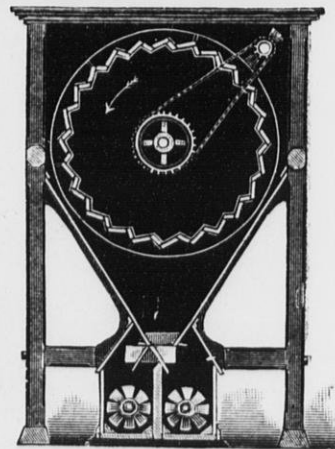
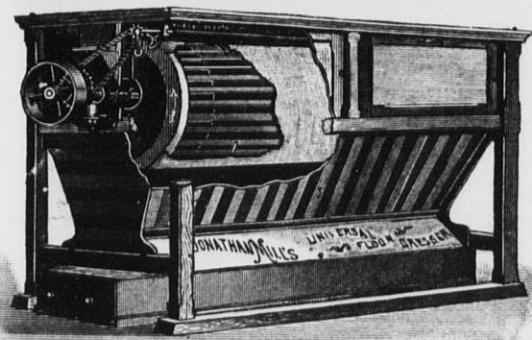
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TRANSMISSION OF POWER BY BELTING.

At the recent meeting in Philadelphia of the National Electric Light Convention, Mr. J. H. Shay, of Munson & Co., Chicago, read a very interesting paper, a part of which is here reproduced, on the above subject.

The transmission of power from its origin at the driving wheel to the receiving pulley or shaft, originated, as nearly all mechanical appliances have done, in necessity, and in their first existence such creations have always been rude and imperfect. Thus, we see in ancient pictures that strips of rawhide were used, more or less twisted, perhaps, but with huge ungainly knots where the ends of these pieces are connected. From this an advance was made until cordage of imperfect construction became common.

The time which elapsed before any reasonably fair belting made its appearance, may be counted by scores of years, and during that long period, of all the various devices the most satisfactory had proved to be a tanned leather belt. Still the users of belts were not happy over the results obtained, and a radical innovation was made when an iron wire cable or rope made a stir for a comparatively short time; yet, except for special purposes, it has found little favor. A few of the more serious objections to a wire rope are perhaps worth mention.

Constant use as a belt will, in a comparatively short time, crystallize and render the wire brittle, when it will, of course, refuse to bear the strain, and gradually give way. The repairing of a broken wire cable belt is extremely difficult, and the mended portion is never the same diameter as before. When it commences to fail it is only a short time until its ruin is complete; and lastly, no round belt has bearing enough to do perfect work, where solid hard labor is required of it, and the wire belting is no better than any other round belt on that account.

Other methods of transmitting power, by gearing, etc., had their day, but these have nearly gone out of use, and there is nothing to be gained by discussing these noisy methods. For the past half century these have been gradually disappearing from view, until we have to search for an existing example outside the industrial centres of the world.

The verdict of the mechanical engineer, everywhere, when called to sit in judgment on this question, is the same; "There is nothing like leather." Yet there are as many kinds and forms of leather as there are of nearly any other animal product, and, while for some purposes other leathers are better suited, the fact is undeniable that for strength, dura-

bility, ease of repair and adhesion, oak-tanned leather captures the blue ribbon and stands superior to any other on all occasions.

The first essential is found in the character of the hide. Due care must be exercised in the tanning, and a thorough and careful selection of hides must be made to insure evenness of stock. Without particular pains in this last requisite uniformity in the belt is impossible. Or the stock must be reduced to a uniform thickness by splitting, which introduces another fault—weakness and consequent want of durability. Having now arrived at the point when the properly selected tanned and sorted stock is ready for cutting and splicing, we have to decide which of several methods is best for attaching the various lengths to form a continuous web or belt.

There are as I have intimated, several methods of attaching these, viz: By thongs of lace leather; by wire hooks; by rivets and burrs; and finally by scarfing and lapping—the two scarfed surfaces being cemented under pressure. This has been adopted quite generally by western manufacturers, and any objection to such joints which may have formerly existed is now set at rest through the use of more recent methods and materials.

There are objections to the three methods first mentioned which are at once simple and damaging, from a mechanical point of view. It goes without saying, that a belt punched full of holes for either thongs, hooks, rivets, or any other appliances for fastenings, is weakest at those splices instead of being strongest. Again, any inequality, such as must necessarily arise from any one of these fastenings must result in undue strain on the belt and cause a slapping motion, and thereby reduce the useful work of the power. We may find a still more serious objection farther along. When an important belt is properly constructed, properly proportioned and speeded, and receives the attention and care which it deserves, there is scarcely any limit to its durability. The cause of the failure of many large belts may too often be found in some one of the above particulars. Of course there are other things to be considered. It is a mistake to figure too closely on the length or width of an important belt. Do not risk a possibility of slipping, which means heat, and will ruin the best belt made in an astonishingly short time.

A few years since it was the rule among one class of belt customers to depend almost exclusively on rubber for the severe work required in saw mills. This has now fallen into disuse and has been replaced by leather, this proving better adapted for this purpose.

Of the care of belting in use, a few words may not be out of place. The saturating of belting by any kind of oil is destructive. Belting stock, properly prepared, needs occasionally a slight coating on the grain. The dressings ordinarily offered in the market for this purpose are destructive. They are mostly of the mineral variety, and contain more or less of those light products of distillation known as naphtha, benzine, etc. These combine readily with many vegetable and animal products, and destroy their integrity. There are belt dressings produced which not only do not injure, but really add to the life power of the belt.

RECIPES.

TO WRITE ON GLASS.—An ink that will write on glass can be made from ammonium fluoride dissolved in water and mixed with three times its weight of barium sulphate.

FRENCH POLISH.—The true French polish is one pint of spirits of wine added to a quarter of an ounce of gum opal, the same of gum arabic, and one ounce of shellac. This polish is used for plain wood that has been stained in imitation of natural wood. The principal of action is the floating with oil the gummy or resinous substances into the pores, and bringing the polishing up by rubbing. The simplest varnish is a solution of shellac dissolved in naphtha.

A NEW USE FOR GRAPHITE.—John A. Walker, secretary of the Dixon Crucible Company, says: "From time immemorial steam and gas fitters have used red lead in making joints and connections. It has been a matter of tradition with them that nothing else could possibly answer as well. However, after a few months have passed it is found that the red lead was 'set,' and it is next to impossible to open a joint. The fitter applies his tongs with all his strength, and, in large percentage of cases, the joint is finally broken, and the tongs sprung, sometimes almost beyond repair. The progressive fitter has found that graphite (black lead) carried ready mixed for the purpose, or carried dry and mixed with best boiled oil, as occasion requires, makes an infinitely better joint. Being a natural lubricant it enables the fitter to make a much tighter, and, consequently, a much more perfect joint. Further, a joint so made can remain three months, or three years, or thirty years, and will then yield to the ordinary pressure of the tongs. It will make a better joint with less leakage, and render absolutely unnecessary the breaking of joints and couplings and the straining of tongs. The graphite should be pure and of the right degree of pulverization.

WILLIAM LEE, THE INVENTOR OF THE STOCKING FRAME.

BY GEORGE MAKEPEACE TOWLE.

Those who have strolled through the streets of the old town of Cambridge, in England, will not easily forget the many college edifices which appear on every side, composing the ancient University. Many of these are imposing and beautiful. They are adorned with numerous architectural devices; with arches gables oriel windows, gargoyles, pinnacles, and other sculptured ornaments, and almost all of them bear marks of great age. The air of the town is one of studious repose; it seems a place well suited for quiet study and for the pursuits of tranquil scholars. The old town has changed so little moreover, in the progress of time, that very much as it looks now it looked in the good Queen Elizabeth's time, three centuries ago.

It was in the reign of Elizabeth that a young man named William Lee went up to Cambridge to get an education. Lee was a country lad who had been brought up on a large farm. From childhood he had been fond of study and had had a craving for knowledge. He loved reading and learning far better than the active duties on his father's farm. All the time he was at the University he studied hard and at the end of his course had taken high rank among his comrades. As a reward for his good scholarship he was given a "Fellowship." This provided him with a small income, and enabled him to continue living at the University after graduating, and to there pursue his studies.

Lee was one of those dreamy, thoughtful young men who care for little outside their books, and being much wrapped up in them, learn but little of the ways of the busy world. He was not in the least what we call a "practical man." His life was absorbed in the love and pursuit of book knowledge. He was wholly unfitted for any other kind of work. His destiny seemed to be to live and die a college professor.

And so he might have done if his fate had not led him astray into the paths of love. If he had not fallen in love, the world would have never heard of William Lee. He was fond of wandering through the pretty roads and hedge-bound lanes in the vicinity of Cambridge, taking a book with him on his jaunts, and sauntering dreamily along the paths thinking of what he had been reading.

It chanced that on one of these excursions he met a young country lass with such rosy cheeks and bright eyes that he was at once roused out of his reverie and attracted to her. His dreams now took another turn. He thought less of his books and more of the maiden who had stirred his heart. She lived on a poor little farm some miles away from town, and Lee having succeeded in making her acquaintance, betook himself more and more often to the modest cottage where she dwelt. To his delight his affection was soon returned, and now many were the happy hours which he spent at his rosy-cheeked young lady-love's side. But there was one drawback to his pleasure which greatly worried him. The young girl's parents were very poor and it was her task to eke out the small family income by knitting stockings. She had her household duties to perform during the day, and so she was obliged to take up her knitting

in the evenings. Oftentimes when Lee came she was so busy with her work that she could not talk to him.

At last his patience was exhausted, and he proposed that they should get married. He thought that his income as a "Fellow" would suffice for both, and he would be careful to keep his marriage secret. It was the law of the University that the Fellows should be unmarried men, and Lee saw that if his marriage were known he would lose his fellowship and be thrown upon the world.

So one morning they got married. But Lee's happiness was not long-enduring. His marriage was soon discovered and he was abruptly expelled from his Fellowship in the University. Worse still, when his father heard of the marriage, he disowned poor William, who was now cast upon the world with his young wife without a penny. What should they do? If they did not soon go to work they must soon starve. Every day they grew poorer and more wretched.

His young wife, who was very cheerful and industrious, took up her knitting once more to earn enough, if possible, to support them. As for poor Lee, he was totally unfitted to do anything, and his pride was greatly hurt to sit idly by while his wife toiled patiently, hour after hour on her work.

One day as he sat watching her fingers busily plying the needles a bright thought suddenly struck him. Could not a machine be somehow contrived which imitating human fingers, would knit stockings? If he could only devise such a machine, his wife would no longer have to work so hard, and perhaps it might bring fortune to his poverty-stricken door. It seemed there was something practical in the poor student after all. He set eagerly to work to realize his new idea. He studied such machines as he could find in his neighborhood. He made a great number of models, and was not disheartened when one after another failed to perform the task he had in view. But at last the day came when an actual working *stocking frame* stood in the miserable little room which was all the home he had. He had successfully carried out the idea of imitating fingers knitting, and to his joy he found himself able to weave stockings on his machine of a finer texture and more rapidly than those which were made by his wife's hands.

It was not long before Lee's great invention became known far and wide. Queen Elizabeth heard of the silk stockings woven by Lee's frame, and having received a pair vowed that she would never wear cloth hose any more, but would always thereafter wear woven silk stockings. The great ladies adopted the fashion, and Lee found himself raised at last above the galling poverty which he had suffered after his marriage. He established himself at Calverton, not far from his native place, and for sometime did a thriving business. But so valuable was his machine that pretty soon unscrupulous men began to make machines like it, and so Lee lost much of the benefit of his invention. Though the proud Elizabeth was glad enough to wear the fine silk stockings, she would not protect him against those who invaded his rights, and when King James came to the throne he also refused to aid the inventor.

But Lee, who had proved himself a far more energetic and able man than he had seemed to be in his studious days, was resolved that he would continue in the industry which he

had created. So he packed up his machines and crossed over to France. There he was heartily welcomed by the great-hearted King, Henry the Fourth, and by Sully, the wise and far-seeing Minister. Lee settled in the beautiful old town of Rouen, where he became so busy that he employed nine men to help him weave stockings. His wife could now sit at home in ease and take care of their children. Happy days had dawned upon them, and it seemed as if their troubles had forever vanished.

One day, however, the good King who had so generously befriended the English inventor was murdered as he was riding in his carriage. Lee was now bitterly persecuted because he was a Protestant. He was forced to give up his establishment at Rouen, and sought obscurity and safety in Paris. There, it is said, he died in poverty and wretchedness before he had passed the middle years of life. Some of his workmen managed to get safely to England, and one of his apprentices, named Aston, set up a stocking factory in his own country, and established the weaving of stockings as a permanent industry of England. Thus Lee's invention proved to be of the greatest benefit to his native land, although he himself did not reap fortune from it.

But happily his name was not forgotten. Sometime after his death, a curious painting was made of him watching his wife at her knitting. He was represented as wearing the costume of his college, and pointing to an iron stocking-frame, while his wife was busy with her needles at his side. On the picture was this quaint inscription: "In the year 1589 the ingenious William Lee, of St. John's College, Cambridge, devised this profitable art for stockings (but, being despised, went to France); yet of iron to himself, but to us and to others of gold; in memory of whom this is here painted." The curious old picture long hung in the Stocking-weaver's Hall, in London, but has now disappeared.

So lived, loved, worked and died the modest scholar who gave to England one of her greatest industries, to which he was inspired by his tender affection for his wife.—*Harper's Young People.*

SUGGESTIONS ABOUT ENGINE RUNNING.

The following taken from the catalogue of a well-known firm of engine builders, contains so many pointers of value to those young in the work that we consider it worthy of reproduction:

Always start the engine slowly. After stopping for some time, and especially in the morning, the cylinder is cold, in which condition the steam is rapidly condensed as soon as the throttle is opened. If at this time the piston is allowed to make its regular stroke the water will not have time to escape before it, and the effect will be much the same as if a piece of iron were introduced between the advancing piston and the cylinder head. The result of this, even when not made immediately apparent by a serious breakdown, is to overstrain some of the parts, introducing the liability of a failure in the future. By slowly admitting steam and working the valve motion by hand until the cylinder is gradually and thoroughly warmed, all danger is avoided.

Oiling the engine, while always important, is especially so during the first three months' use. Oil holes should be carefully examined to see that they do not get stopped up with foreign matter, and the oil-cups occasionally cleaned. None but oil of good quality should be used, as nothing is further from good economy than using "cheap" oil on good machinery. Be sure that all oil-cups are filled and in condition to feed before starting. While attention to oiling is essential in the instance of all journals or wearing surfaces, neglect in the instance of the crank pin will be particularly unfortunate, as, if this pin is allowed to cut from the lack of oil, it is ever after liable to cause trouble by heating.

The cylinder lubricator should be examined occasionally to see that it is feeding regularly. None but the best cylinder oil should be used in the cylinder. Avoid the use of all animal oils or tallow, etc., as, when exposed to the heat of the steam, they become gummy, adhering to the parts and not unfrequently chemically attacking and destroying them.

Packing the piston rods and valve-stems of a steam engine hardly ever receives proper attention. The packing should be in a condition to prevent the escape of steam, and, at the same time, be soft and pliable to avoid friction and injury to the rods and stems. The most common fault in this respect is in allowing the packing to remain unchanged until it becomes so hard and gritty as sometimes to cut the brass valve-stems nearly in two. We recommend that the packing be entirely removed from the stuffing boxes once in three months, and new packing substituted. In removing the packing care should be taken not to scratch or mar the valve-stems. In no other case should the stuffing box be screwed more than sufficient to stop the escape of steam, when, if the packing has been properly done, the stems will be quite free to move, and abrasion will not occur. The packing for use should be kept in some place where it will be free from the accumulation of dust and grit.

Uselessly tinkering with the engine frequently causes trouble. So long as it is performing satisfactorily it should be let alone. Many good engines are ruined by ill-advised zeal. When it becomes necessary to adjust any of the parts, it is better to stop short of going too far, even at the risk of trying a second time, than to go too far and cause trouble.

THE DANGER TO LIFE AND PROPERTY FROM THE ELECTRIC WIRE, AND THE REMEDY.

At the convention of the National Association of Fire Engineers, at Providence, R. I. Prof. John P. Barrett, superintendent of fire alarms in Chicago, read a paper on the danger arising from electric light wires, and the underground system, in the course of which he spoke of the only means of prevention, as follows:

The surest and simplest remedy, the most perfect guard against danger to life and property from electric light wires, is inspection at the hands of some competent party, who should be clothed with authority to compel obedience to his just requirements. Again, the dangers from electric light wires

are materially lessened when these are placed beneath the ground, where contact with other wires, roofs and buildings is impossible, and where a loosened wire cannot drop across the street or sidewalk. I must strongly urge upon all the great necessity as a precaution, a life-saving measure, of having some check put upon the unsafe methods of the electric light people. The methods of accomplishing this are simple, and if an effort is made can be successfully carried out. The fire departments and the insurance men are natural and friendly allies. If these but pull together for a general purpose they must succeed, and no stone should be left unturned until every electric light plant in this country is subjected to proper inspection and control, and every wire, where possible, is put underground. I will conclude this paper with a few remarks as to why I consider underground wires the proper thing for cities generally, and for fire and police alarm service in particular, together with a short description of the system now existing in Chicago.

It is generally acknowledged that in a large, prosperous and wealthy city, where fire and police departments are considered necessary, that a simple, effective and reliable fire and police alarm system is indispensable. Such a system is in use in every large city in the country, and the electrical and mechanical parts of it have been so perfected by the work of earnest and scientific men that, as you know, a child can give an alarm that will at his choice summon either department to extinguish a conflagration or suppress a riot. But with the onward march of science; with the improvement in the equipment of the fire and police department, with the improvement in the mechanism of electrical instruments, and the mastery that man has gained over electricity, the method of stringing wires for electrical use has not kept pace; in other words, the lineman has not kept up with the procession. In any large city in the land you can see huge poles towering aloft, carrying tons of iron wire; you can see these wires crossing and recrossing the streets until it would seem as though you could not fire a bullet in the air without striking one. You can see them fastened to the same old cross-arms, uprights, brackets and insulators that we saw years ago. A menace to life and limb of the passer-by, a hindrance to the fire department and a general nuisance to everybody.

It has long been my conviction that the proper place for electric wires in a large city is under the surface of the earth. Especially is this true of fire and police wires. In a system from which so much is expected, where a single broken wire may cause a delay in giving an alarm, involving a loss of thousands of dollars, it seems to me that we should have the wires in a place where wind, sleet and sulphurous gases cannot harm them. To be perfect, a fire alarm system must be certain. It should be an absolute certainty that when the hook in a fire alarm box is pulled down an alarm will be given to which the department will respond. We cannot have this certainty in our present system of aerial wires strung in the neighborhood of hundreds of other wires, subject to the destructive action of smoke and storm, liable to accident from countless causes; there is no reasonable certainty that, at the

time a box is pulled, the line to which it is connected is not opened or crossed in such a manner as to render it for the time being useless. With a wire of suitable conductivity, well insulated and protected from mechanical injury, placed under ground, we will have this certainty, which the air line cannot give. That is the way I feel about underground wires, and I am backing up the faith that is in me by planting those of the Chicago fire and police alarm telegraph as fast as I can get money to do it with. With me it is not a question of hair-splitting argument. It is a question of money, of first cost; outside of that, everything is in favor of underground and against aerial wires, and that seems to be the general sentiment.

WONDERFUL STRENGTH OF THE PORTERS OF CONSTANTINOPLE.

Another curiosity of Constantinople, which does not excite disgust, but, on the contrary, a surprise akin to admiration, is the *hamel*, or porter. His name, which has in Arabic the same origin as that of camel, describes him quite well. He is, in fact, a camel without the hump; but this hump is, however, more or less represented by a large leather cushion resting on his back, and intended to support his burden. Moreover the Turkish porter has the sobriety, the patience and the strength of the camel.

The French proverb, "As strong as a Turk," must have been suggested by the sight of this burden-carrying biped, whose back is strong enough to bear frightful loads. One hardly dares to tell of some of their feats of muscle, for fear of being considered a boaster. Here are two, however: One day when I changed my lodgings, I had three men come to move my piano. They tied it up firmly with straps. Then two of them went away, and the third, stooping down, raised the piano, and, placing it upon his back, carried it a distance that took more than three-quarters of an hour. On another occasion I met a *hamel* who was carrying upon his back an enormous calash, the wheels and axletrees of which had been taken off and fastened to one side of the vehicle. The only thing wanting was the two horses on his arms. The passers-by, accustomed as they were to these prodigies of strength, stopped to see this diminutive Hercules walk by, who disappeared under his load, taking an easy and even step, and uttering at the same time the word "guarda."

The frugality of the *hamel* is equally surprising. Who knows but it is one of the secrets of his strength? He never eats any cooked food, except a little rice, and a kind of soft and insipid sea-cracker, called *pide* in Turkish, and taking the place of bread. His ordinary food consists of cucumbers, which he eats with the skin on, salad, without salt or seasoning, and uncooked onions.

*Hamel*s never drink any wine, beer or spirituous liquors, and thus present a conspicuous refutation to the claims of those that insist that the drinking of alcoholic and fermented beverages sustains and increases one's strength. In times of drought they follow the example of camels, their brethren. If they are thirsty, very well; they do not find fault, but wait until wet weather comes.—M. JULLIARD, in the June *Cosmopolitan*.

UNITED STATES MILLER.

E. HARRISON CAWKER, EDITOR.

PUBLISHED MONTHLY.

OFFICE, NO. 124 GRAND AVENUE, MILWAUKEE.

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[Entered at the Post Office at Milwaukee, Wis., as mail matter of the second-class.]

MILWAUKEE, JULY, 1887.

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 UNITED STATES MILLER. You will thereby oblige not only this paper, but the advertisers.

DULUTH will have a grain storage capacity, Sept. 1, 1888, of 19,200,000 bushels.

A CERTAIN editor in Indianapolis favors the organization of a new Millers' National Association. Are there any millers in Indianapolis that coincide with the editor's views? If so, let him speak out over his own signature.

WE acknowledge the receipt of a very handsome programme of the proceedings of the Fourth Convention of the National Association of British and Irish Millers held in London, June 15th, 16th and 17th, published by "The Miller," London.

A NUMBER of millers residing in Southwestern Illinois held a meeting at Centralia, June 14, and organized the Southern Illinois Millers' Association. Mr. Joseph Reichert, of Freeburg, Ill., is president. The next meeting will be held at Du Quoin, in November.

THE Minneapolis Millers had their fourth annual picnic on Lake Minnetonka, June 19. It passed off very pleasantly, and proved a success in every sense of the word. We regret that other engagements prevented the UNITED STATES MILLER from being represented on the occasion.

MESSRS. EDW. P. ALLIS & Co., of this city have taken the contract for building a 1200 barrel mill at Rat Portage, Manitoba, for the Lake of the Woods Milling Co. The cost will be about \$200,000. The power is furnished by two 60-inch wheels running under a 24-foot head.

THE exports of England to America during the years ended September 30, 1884, 1885 and 1886, show the following figures respectively: £32,773,896, £27,648,644, £34,481,724. Comparing the period of 1886 to 1885, there is an increase of nearly £7,000,000.

WE have received from Messrs. Howes & Ewell, Silver Creek, N. Y., a copy of their elegantly illustrated catalogue of "Eureka" Grain Cleaning and other machinery. It contains much practical information, valua-

ble to millers, and complete descriptions, with illustrations, of all the machines manufactured by this firm, which has been in business over thirty-one years. Copies of this catalogue will be sent free of charge on application.

A WELL-KNOWN New Orleans firm of dealers in corn products (corn meal, corn flour, hominy, etc.,) have written to us for addresses of modern mills turning out that kind of goods. We will send the names of such millers as reply to this to the firm asking for them, and in some instances at least it will no doubt result in a satisfactory trade.

IN this age of speculation when men are not satisfied with moderate profits, but seek immediate wealth, the risks of business become very largely multiplied. To be enterprising now, men must take great hazards; and neither ability, nor cunning nor industry, nor tiresome days, nor sleepless nights, can prevent risks from bringing losses, nor losses from producing bankruptcy, nor bankruptcy from creating fearful solicitude about the future of dependent ones.

THE *American Miller* seems to be worrying a good deal of late about the Millers' National Association. As the tenor of the articles in that paper for some time past has indicated that the Association did not amount to such a great deal, we don't see why the astute editor should worry this hot weather. He gently insinuates that the editor of this paper has misinformed him as to the strength of the Association. When asked by the Chicago editor what our estimate was of the number of members in the M. N. A., if we remember rightly, and we think we do, we said: "Probably not far from 200." Since then we have published (including this issue) the official list which is complete to June 1, 1887, with the exception of Illinois. The official list shows that our guess was not far out of the way. We may here, however, call the attention of the Chicago editor and of millers generally that the list includes a very large percentage of the large mills of the country. Further it may be well to bear in mind that the Association is simply for the benefit of its members, and does not require the aid of the *American Miller* or any other milling paper. Its members are, collectively or individually, evidently quite able to look after their interests. So long as the Millers' National Association works for the advancement of their own milling interests, their labors will in general be of benefit to the entire milling industry of the country.

BRADSTREETS' of July 2, says:

"The exports of wheat and wheat flour from eight Atlantic ports and California and Oregon from July 1, 1886 to June 25, 1887, have been 155,756,288 bushels, and the consumption for food, seed and manufactures, is placed at 335,000,000 bushels. The home crop of 1886 was 457,218,000 bushels, and it has been generally believed that the old stock amounted to 25,000,000 bushels, aside from 50,000,000 bushels "reserves." The "available surplus," aside from this 50,000,000 reserve, has, therefore, been disposed of, and the latter, by inference, is being drawn upon at the rate of about 3,000,000 bushels per week for export alone. As has been many times suspected, the crop

of 1886, as reported by the Department of Agriculture, is probably less than the quantity actually harvested. Either this is so, or the old wheat carried over has been underestimated or the home consumption has been less than the usual estimate of 4.65 per capita for food and manufactures, aside from seeding, as commonly computed.

ABOUT \$50,000 IN ROYALTIES.

A DECREE ADVERSE TO THE MILWAUKEE DUST COLLECTOR COMPANY.

A decree was entered in the United States court June 30, in the suit of Alvah H. Kirk and others against the Milwaukee Dust Collector Company, which perpetually enjoins the latter from manufacturing or selling any machines covered by the patents mentioned in the bill. It is also decreed that the Dust Collector Manufacturing Company account for all royalties on machines at the rates specified in the contract and on all fans sold as attachments to machines; also that the company account for all damages suffered by the complainants by reason of the granting of the injunctive order of Feb. 24 last. The court refers the case to the clerk of the court to state an account of such royalties, dismisses the cross-bill and orders the defendant to pay into court the royalties for May. The decree further states that the contract entered into between the parties, dated May 1, 1883, was terminated, and the license to the Dust Collector Company to manufacture dust collectors under the contracts was revoked by virtue of an option expressed and notice given by the complainants in March and April, 1885.

The suit was begun in the state court in the fall of 1885 and was removed to the United States court the following winter. The decree is adverse to the Milwaukee company and disposes of about \$50,000 in royalties paid into the hands of the clerk of the United States court.

THE "800" CANAL.

Montreal Gazette: If the present rate of development in the Lake Superior trade continues, the construction of a new canal at the Sault Ste. Marie, which Canada has undertaken half as a matter of self-defense, will be regarded within a few years as a matter of necessity. It is almost impossible to conceive the change that has taken place in the conditions of commerce in the near Northwest. In 1881 there passed through the the American canal vessels of a freight tonnage of 1,567,741; in 1886 the figures were 4,527,759. Last summer the average number of vessels passing through was forty-two a day, many of them of the largest class. The growth of the mining industry will, in the immediate future, call for an annual tonnage 1,000,000, in addition to that now employed, while the grain trade of Duluth and Port Arthur is destined to steadily increase. So evident is this that American papers are calling for an enlargement of the existing canal, to meet already perceived requirements. The construction of the Canadian canal will be justified, therefore, by a regard for the needs of our commerce, without consideration of contingencies that recent events have made possible, though not, it is hoped, probable.

NEWS.

BURNED, June 2, McBean Bros' elevator and 13,000 bushels of wheat, at Morris, Man.

BURNED, May 27, J. & S. A. Lum's mill at Renwick, Ia. Loss \$6,000; insurance \$2,000.

BURNED, June 13, E. O. Stanard Milling Co.'s "Eagle Mill," St. Louis, Mo. The Company have leased the Park Mill from the Kauffman Mill Co., to take its place to fill orders.

THE Grand Forks Roller Mills, Grand Forks, Dak., were damaged by the cyclone, June 16, to the extent of \$10,000.

JOHN WINES, formerly of Faribault, Minn., has removed to Coursen's Grove, Mitchell Co., Ks.

AT Union, Me., June 23, the mill known as the Pullen Mill was burned. The mill and machinery were valued at \$4,000, and the stock at \$5,000; insurance on the mill, \$2,500.

THE Prospect Machine and Engine Company, formerly the Sumner Engine Company, Cleveland, O., made an assignment June 16. Liabilities, \$200,000; assets \$500,000. An hour previous to the assignment a chattel mortgage for \$61,000 was given to several of the leading stockholders. Gen. M. D. Leggett, president, says the assignment was caused by the dissatisfaction of certain shareholders, and that the corporation would be reorganized.

WORK on the new Chamber of Commerce Building in Cincinnati, O., is progressing rapidly.

BURNED, June 23, a mill belonging to Blair & Alexander at New Brighton, Pa.

BURNED, the Farmers Mill at Otter Lake Mich. Loss \$15,000; insurance \$7,500.

THE contract has been let for the erection of the largest paper mill in the United States, at Appleton, Wis.

PLACING GRAIN-CLEANING MACHINES.

In too many cases improper attention is given to locating grain cleaning machinery in the mill. It is now so almost universally admitted that upon the proper and thorough cleaning of the wheat depends the purity of the flour, that it is surprising to note how meager are the accommodations usually set apart for the reception of the grain cleaners. A small space, scarce large enough to receive the separator or the smutter, or both, may be partitioned off in some corner of the mill, or they may be placed in the basement, and here in dirt and darkness is performed the operations upon which so much of profit or loss hinges. In many cases, of course, it will be perhaps impossible to provide, what we would deem almost vitally essential accommodations in order to secure the best possible results from the operation of the machines, but inasmuch as the more nearly perfection of accommodation is secured, the more satisfactory will be the operation of the machines; and, furthermore, as in some instances, ignorance of requisite conditions has been the reason why they have not been provided, we will, very briefly, state what we consider absolutely essential to be observed.

I. The machines should be so placed that quick and easy access may be had to every part. In other words, plenty of room *all around* the machines should be provided.

II. Plenty of light, daylight, to reach so far as possible, all sides of the machines should be provided for. The advantages of this can at once be discerned. In case of an accident the injury may be quickly gotten at and repaired. If necessity for adjustment arises, it may be quickly and intelligently effected. If the machine is not properly performing its functions, the reason can be easily seen, not guessed at. In addition to this, a machine which has plenty of daylight around it, is

absolutely certain to receive better attention, be more regularly oiled and cared for than one which stands in almost darkness.

III. Machines should be rigidly secured in position. The frame of the machine is intended simply to support the operating mechanism. If permitted to oscillate or vibrate, it will interfere materially with the operation of the working parts, and the result must inevitably be a more or less unsatisfactory product.

IV. Particular attention should be given to the arrangement of the dust-discharging spout. Too great length of spout trunk should be avoided. Abrupt turns in the trunk will detrimentally affect the operation of the machine. If discharge is made into a dust-room, the vent for escape of the air from such dust-room should never be less than three times the area of the trunk or spout discharging therein. In every case where such an arrangement is at all possible, each machine should have its own, separate, discharge spout or trunk, with separate and distinct outlet. Where this is not possible, then where connection with another trunk is made the area of the extension must equal the combined area of spouts or trunks at point of connection.—*From Howes & Ewell's New Catalogue for 1887.*

AUTOMATIC SPRINKLER PATENTS.

In the United States Court, on Saturday, June 1st, Judge Sage, in a suit by Charles Barnes against infringers of his patents for Sensitive Automatic Sprinklers for fire extinguishing, rendered a decision fully sustaining the validity of the Barnes patents, and declaring that Barnes is the first and original inventor of a sensitive automatic fire extinguisher possessing the requisite of prompt action at the incipency of a fire, "a point," the Court stated, "in testing the validity of the complainant's patent, that must be kept constantly in view." The Court said that in the case before it there was an illustration of that ingenuity in evasion which is not invention and does not avoid infringement. His remark would apply to the many devices in imitation of the Barnes Automatic Sprinkler being introduced by parties who display more ingenuity in evasion than in invention. One of the efforts at evasion of the Barnes patent was the use of a deflector instead of a rose head as a distributor. This the Court declares to be the equivalent of the Barnes mode of distribution, as the defendants' patent accurately describes what is accomplished by the Barnes rose head distributor. The Court says that the deflector was known before the date of the Barnes invention and is shown in Loftus' patent of March 2, 1880.

The conclusion of the Court was that the defendant infringes the fourth, fifth and sixth claims of Barnes' patent No. 233,393, of October 19, 1880. A decree for injunction and account was entered, and Gen. R. B. Cowen was appointed to take such account.

This decision awards to Charles Barnes priority of invention in points of sensitive automatic sprinklers, that are indispensable to their success as fire extinguishers, and without which no automatic sprinkler has yet been made that is of any value. The ingenuity which has been expended in efforts to evade the Barnes sensitive automatic sprin-

kler now goes for naught, as such evasions have been judicially declared not to be inventions and are infringements.

THE MILLING INDUSTRY IN GALICIA.

From some recently published official statistics it appears that there are in Galicia (Austrian Poland) 3,474 flour mills, of which 34 are steam mills, while 3,245 are classed as common mills, that is small country mills, and 112 are described as water mills fitted on modern models. The list is completed by 13 tide mills, 68 windmills, and 2 mills driven by horse gear. The Galician mills are owned by 3,000 different individuals, and employ 6,538 people. We have no official record of the amount of grain ground in these mills later than 1883, in which year it is recorded that the Galician mills operated on 3,622,837 meter-centners of wheat, the metercenter being equal to 220.46 lbs. The value of the flour exported from Galicia in this year was reckoned at four millions gulden, or about £33,000 sterling, as against fifty-eight millions of florins, or about £4,833,000 sterling, exported from Hungary during the same period. Formerly Galicia was a large flour-exporting land, but it has been driven out of this field of industry by Hungary. From 1860 to 1869 was the golden time of the Galician milling industry, which may be said to have reached its zenith in the latter year. From that time, what with Hungarian competition and business depression (it is well known that the commercial crisis of 1873 was especially severe in Austria), Galicia began steadily to decline as a milling and flour-producing land. The death-blow came, it is said, when some few years since Germany began to lay import duties on cereal products. Until 1879 both grain and flour were exported to Germany from Galicia, but in 1880 the German Government laid an import duty of 2 marks, or about 2s. on each 100 kilos. (220.46 lbs.) of flour, and in the following year, his was raised to 3 marks. Thus the Galician lost their last foreign customer.

DEY IS WELL.—*Texas Siftings:* "Mawnin', Brudder Smif! how's all de folks wid you?"

"Dey is well, bress Moses! One ob de chilluns was ailin' yisterday, but hit died jurin de night."

SITUATION WANTED.

Situation as second miller in Merchant or Custom mill. Have had considerable experience. Reference furnished. Address, R. A. BROWN, 501 5th St., Milwaukee, Wis.

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Patterns and Models

35 & 37 SOUTH CANAL ST.,

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PASSENGER AND FREIGHT

ELEVATORS

L. S. GRAVES & SON,

Rochester, New York.

YE FOWLER'S MILLS, MILFORD, CONN.

Established in ye Year 1639.

BY J. W. FOWLER.

On the second page of the First "Book of Records," under date of March 9, 1639, is found the following:

"It is agreed between Mr. Wm. Fowler and those of the Brethern, that he shall build a mill and a house for it, and doe all the worke to her for stones and iron worke, and all other materials fit for her and substantially done, and have her going by the last of September. When it is finished the Towne is to take it off, if they will for £180, or else the brethern are to appoint what towle he shall take as the profits of the mill and land allowed with the money disbursed."

Whether Mr. Fowler succeeded in "having her going" by the last of September, according to the agreement the records do not inform us nor do they show any further action on the subject until 1645, when it was

"Voted, That all the towne shall help Mr. Fowler to repair the mill, and he is to call for them every one a day till he have gone through the town, and those he is to have when he needs them. If it goeth not through the towne in one year the same is granted him till he hath gone through the towne."

The inference is that the brethren "passed" and he "went it alone."

One cannot fail to admire the nerve and grit of this man who single-handed in a country less than a year old, unhesitatingly submitted to the very liberal terms of "the brethren," to furnish all the materials himself, and in six months "have her going," and give them the option of taking it at a given price, "if they will," or give them the privilege of fixing the rate of remuneration as toll for providing them with the fruits of his enterprise.

His keen discerning eye, however, discovered the facilities, advantages and capabilities presented, and he accepted the situation, and at once proceeded to control the water power in its natural condition, to plot out the location, to build the dam, quarry out the millstones, and obtain the iron and other necessary material with the limited means of transportation.

All this was to be accomplished in the midst of arduous duties thrust upon him, filling various offices, and a leading citizen in the numerous projected improvements in progress.

The present energetic proprietor of the New Mill has converted as a stepping stone to its entrance, a rough uncouth mill stone, which has lain dormant about the premises for several generations, and which tradition says on examination by geologist and antiquarians, has been pronounced as undoubtedly the "original mill-stone," quarried and hewn out that way by Wm. Fowler, and used temporarily until a better substitute could be obtained. If these views are correct, then this was the stepping stone to his success, and has been after two hundred and fifty years appropriately utilized by the eighth William, as his successor.

If the present owner could be induced to part with it we do not doubt the "New England Historical and Genealogical Society" would gladly transport it to the "Hub," and have it shown up in a glass case as bric-a-brac. Already its fame has brought numerous applications from ladies and gentlemen of Boston, for clippings of it for that purpose, but until after the 250th anniversary of its birth in 1888 it cannot go.

LIST OF MEMBERS OF THE MILLERS' NATIONAL ASSOCIATION.

[Continued from June Number.]

IOWA.

City Mill and Elevator Co.	Sioux City	3
F. J. Woodbury & Son	Marshalltown	2
W. D. Watrous & Co.	Cedar Rapids	2
Charles City W. P. Co.	Charles City	5
G. N. Miner	Cedar Falls	4
A. C. Tiede & Co.	Elkport	1
Bailey Bros.	Adel	1
		18

MICHIGAN.

		Capacity.
H. A. Hayden & Co.	Jackson	14
Wm. Hayden	Tecumseh	6
Dewey & Stewart	Owosso	3
Jesse Hoyt & Co.	East Saginaw	6
J. Jenks & Co.	Sand Beach	4 1/2
Turner & Reynolds	Stanton	1 1/2
		35

INDIANA.

Wm. Trow & Co.	Madison	9
Jno. Orff	Ft. Wayne	5
Heilman Milling Co. successor to Elles & Knauss	Evansville	5
Jos. Pollock	Vincennes	7
Inglehart Bros.	Evansville	6
Emmison & Callender	Vincennes	3
Elkhorn Mills Co.	Boonville	3
Jno. A. Thompson & Co.	Edinburgh	4
L. Niblack & Co.	Rockport	2
Geo. W. Callender	Greencastle	2
W. L. Kidder & Sons	Terre Haute	6
Pfeffer & Traudt	Mt. Vernon	3
J. W. Laubischer	Evansville	1
A. W. Loughrey	Monticello	3
Eckert Bros.	Jasper	3
R. D. Roberts	Monticello	3
		65

HOW OLEOMARGARINE IS MADE.

The process of making oleomargarine was discovered about 1872 by M. Hippolite Mege, a French chemist. He was directed by the French Government to find, if possible, a chemical product that would take the place of butter for the poorer classes. By experimenting upon milk he found that it always contained butter-fat even when cows had been for a time wholly deprived of food. He then to produce this butter fat from the fat of the cow by chemical process and finally succeeded in getting a pure, sweet fat, free from all foreign odors, which by churning with milk was converted into palatable butter. Properly speaking the name oleomargarine should be applied to the butter fat, and the product obtained by churning this oleomargarine with milk is butterine. The name oleomargarine is from the two words oleine and margarine. Oleine is the thin oily part of fats, and margarine is a peculiar, pearl-like substance extracted from some vegetable oils and also from some animal fats, the name being of French origin, from margarita, a pearl. It was thought that oleomargarine was composed principally of these two substances, but chemists have since discovered that margarine is not a simple fat, but contains stearine, a substance which does not exist in pure butter fat, so that the name is really a misnomer.

The process by which oleomargarine is made may be described briefly as follows: Clean beef fat is thrown piece by piece into large tanks containing tepid water, where it remains for an hour or two, when each piece is taken out and thrown into another tank of pure tepid water. It is again thrown into a third tank and after the three washings the fat is dumped into cars and hauled to the top

of the building. Here it is put into a cylindrical machine where it is cut very fine by revolving knives, after which it is forced out through a fine sieve at the opposite end and falls into kettles which are jacketed and surrounded by water. This water is heated by forcing steam through it to a temperature of from 114 to 122 degrees Fahrenheit, and great pains are taken to keep it from getting above the latter point, as the lower temperature at which the fat is rendered the better the product. About 5 per cent. of salt is added to the fat when in these kettles, and it is kept continually agitated by machinery, and this with the salt causes the membrane or "scrap" to settle at the bottom and the pure fat to remain on top. The fat is now cooled by drawing off the hot water in the jacket and letting in cold water. It is then drawn off into settling kettles, which are also placed in jackets; here it is thoroughly skimmed and kept at a temperature of 122 degrees F. by hot water in the jackets for three hours. It is then drawn off through a fine sieve into tanks which are immediately removed to the "seeding-room," which is kept at a temperature of 85 degrees F., and here the fat is allowed to solidify very slowly. This process requires from 36 to 48 hours, and must not be hurried. At the end of this time the fat, which has assumed the consistency of mush, is pressed by being packed in cloths set in molds, the packages then being lifted out and set on plates of galvanized iron in a press. Here by the gradual application of force a pressure of about 3,000 pounds to the square inch is secured, and this is kept up until all the butter oil is squeezed out from the packages, and a cake of perfectly dry, hard, white stearine is only left. The butter-oil pressed out is received into a large reservoir and thence passed into clean tierces, where after solidifying it is sealed up for shipment. In this form it can be kept perfectly sweet for an almost indefinite period. When used for butter making it is churned in the proportion of about 442 pounds of butter oil, 120 pounds of milk, 37 1/2 pounds of cream-made butter, and 1 1/2 ounces of bicarbonate of soda. To this some coloring matter is added and the mixture churned for some 50 minutes, giving as a result a smooth mass resembling an emulsion of cream. This is allowed to flow directly from the churns upon pounded ice or into freezers, which prevents the crystallization of the fat.

When oleomargarine was first made it was complained that it always had a gritty taste. This was caused by the crystallizing of the fat, and the method of preventing this by suddenly freezing the mixture was the discovery of Dr. Mott, of New York. This was found to make a great difference in the taste of the mixture, and of course converted it from an unsalable into a saleable article. Later experiments by Dr. Mott and M. Mege resulted in the discovery that to put the emulsion into ice-cream freezers and keep it constantly agitated until it solidified, was even a better plan than pouring it upon ice. Sometimes this butter is again worked with milk, but this is not usually considered necessary. It is worked over with revolving butter workers to work the necessary amount of salt well into it, and is then packed in firkins or made into molds. The general impression exists that oleomargarine butter is not cleanly in its constituents, but the fact is that not only must the mate-

rial used be of the cleanest and purest sort, but the processes must be in all respects cleanly to produce a sweet and palatable substance as the result. As no other result will sell in the markets, manufacturers are compelled to see to it that all necessary care is used in its preparation. Science shows that, chemically, pure oleomargarine butter differs but slightly from pure cream butter. By analysis the constituents of cream butter are: Water, 11.968; butter solids, 88.032. Those of oleomargarine butter are: Water, 11.203; butter solids, 88.797. Under the microscope there is no difference perceptible between the two substances.—*Chicago Inter-Ocean.*

NONSENSE

THERE is a livery-stable keeper in Houston, Texas, who is very careful to whom he hires his turnouts.

One Sunday afternoon a young married man called at the livery-stable and wanted a horse and buggy.

"Who is going along with you?" asked the livery-stable man.

"I am going to take my wife's mother out for her health, and you can put a hatchet and spade in the bottom of the buggy, as I wanted to bring in some young cedar trees to plant out at the cemetery."

"My buggies are all engaged, and if they were not, you would have to pay \$200 buggy hire for one afternoon."

"Why, how's that?"

"Besides, I don't want to be hauled up as a witness every time the court meets."

"Witness! What about?"

"And then you'll be taking a change of venue because public sentiment is down on you here, and I don't want to be attached by the sheriff as a witness, travel forty miles and be fined forty dollars, and then be black-guarded by three or four lawyers."

"Why, what are you talking about?"

"That's all right. I don't say you aint justified, but I aint no fool. When a man wants to take his mother-in-law out in the country for her health, with a hatchet and spade, and talks about planting things in the cemetery, I know all I want to. My buggies are hired for a year in advance. Just take your custom to some rival house. When I hire a buggy, I hire a buggy; and when I hire a hearse, it is a hearse. I don't want to do any business what's not legitimate."

IT was spiteful, but spitefulness cannot be legislated out of human nature. "Did you hear that Mrs. Smith is having her picture painted?" "You don't say! That old thing!" "Yes, indeed; painted in oil." "Well, I never! In oil! If she ever wants to have a good likeness she'll have to be painted in vinegar."

A MAN was recently brought before a Yankton (D. T.) Justice of the Peace on the charge of assault and battery. "The complaint says that you attacked this man with a knife and nearly killed him; how is it?" said the justice. "Yes, I stabbed at him a few times; he came up to my house and began abusing me and calling me names and—" "That's no reason for assaulting him the way you did." "Hold on a minute, Judge; then he jumped around and said he could lick me and struck at me—" "Still you had no business to attack him so savagely; you nearly killed him." "That's all right, your Honor,

I'll explain; then he went on to abuse my wife and began chasing the children around the yard and—" "That will do—you had no excuse for attacking him with a knife; you should have called a policeman to remove him; I must hold you for attempt to kill." "Just another word, Judge; after that he walked over and kicked my dog and—" "Hey!—kicked that liver-colored bird-dog of yours?" "Bet he did, Judge; walked right up to him when he wa'n't doin' nothin' and kicked him right in the side." "Yes, and just as like as not injured him so you can't hunt with him this season; why didn't you tell me this at first? you did perfectly right in going at him with a knife, and I discharge you. Mr. Plaintiff, just whack up a \$10 fine to this court for kicking the dog."

ROUGH ON THE JUDGE.—I have just heard the following good story on Chief Justice Bleckly, says a writer in the *Augusta (Ga.) Chronicle*. All who know Judge Bleckly and recall his long waving hair and beard will appreciate the story. Judge Bleckly was on his way to the Supreme Court one morning when he was accosted by a little street gamin, with an exceedingly dirty face, with the customary "Shine, sir?"

He was quite importune, and the Judge being impressed with the oppressive untidiness of the boy's face, said:

"I don't want a shine, but if you go wash your face I'll give you a dime."

"All right, sir."

"Well, let me see you do it."

The boy went over to an artesian hydrant and made his ablution. Returning, he held out his hand for the dime.

The Judge said: "Well, sir, you've earned your money; here it is."

The boy said: "I don't want your money, old fellow; you take it and have your hair cut." Saying which he scampered off.

A GIRL OF ANOTHER COLOR.—*Boston Courier*: Too enthusiastic in his praise.—*Wife*—What do you think of the new girl, John?

Husband—Was that her that just let me in?
W.—Yes.

H.—Well, she's just a daisy.

W. (icily)—Think so?

H. (enthusiastically)—Think so? Why, she has a complexion like a moss rose, and eyes like—like—I don't know what. And her teeth are splendid, too.

Next day when John went home to dinner he was let in by a girl with a complexion like polished ebony, eyes as large as saucers, and teeth like two rows of piano keys.

CORPORATE CONSIDERATION.—A claim against a neighboring city for damages on account of the drowning of ducks by a overflow of the drain suggests this anecdote: "Yer Honor," said a visitor in the Mayor's office, "me name is Patrick Murphy, and I live in East Boston. The rain has come into me cellar an' me chickens are drownin'." "Ah, indeed!" said the polite Mayor. "The Fire Department will attend to your case." "My name is Patrick Murphy, an' I live in East Boston. The rain has come into me cellar, an' me chickens are drownin'," repeated Patrick to the Fire Department. "You should see the Street Commissioners, Mr. Murphy," answered the Fire Department. Patrick repeated his case to the Street Commissioners and afterward returned to the

Mayor. "Yer Honor, me name is Patrick Murphy, an' I live in East Boston." "O yes," said His Honor. "I remember you perfectly. Didn't I tell you to go to the Fire Department?" "I did, Yer Honor, an' then I went to the Street Commissioners." "What did they tell you?" asked the Mayor. "They said, 'Why in the devil don't you kape ducks?'"

IN THE—regiment, Indiana volunteers, during the late war was an unusually eccentric native of "Erin Go Bragh," who had the fortune while on picket duty to capture a confederate soldier and take him to camp.

In the same company was a lazy and far from courageous comrade, who, seeing Dan with a prisoner to be turned over to the colonel of the regiment, said:

"Dan, you are obliged to go back on duty; let me take the prisoner up to headquarters."

"Bedad, an' not a bit of it. If you want a rebel go out and catch one for yourself. The bush is full of em," was Dan's reply.—*Detroit Free Press.*

Wall Street News: A Cleveland church deacon who had a few thousand dollars to spare was advised by a friend to invest it in oil. The deacon held off for a while, arguing that it was flying in the face of the Lord to enter into speculation, but he finally put up \$4,000, and in a few weeks came out winner by over a thousand.

"Well, I guess you have changed your mind about speculation," remarked the friend as he met him.

"Y-e-s, somewhat," was the reply. "I've kinder come to believe that the Lord has got me and Deacon Smith mixed up, for Smith went into wheat and dropped \$1,500 in a month."

A PHILADELPHIA society family is very angry because one of the young ladies of the family has married a base ball player. Strange that the family should not like it, as some of the greatest catches of the season are to be found among the base ball clubs.—*Detroit Free Press.*

BENEVOLENT old lady (addressing one of her proteges, a native of the Emerald isle)—Im am very much surprised, Mrs. Maloney, to see this pig living in the same room with you and your children.

Mrs. Maloney—Sure, marm, he's a very illigent crature, and particular; but he don't moind us, a tall, a tall.—*Life.*

AN INVENTIVE FARMER.—According to the *Los Angeles Times*, a farmer in that vicinity combines the faculty of adapting the means to the end desired in a degree that makes the successful inventor and engineer. He had a tract of land useless without irrigation, which he was unable to provide for in the usual way; and he also had a family of twelve children. In his case the rising generation of family offshoots were the means and irrigation the desired end. He had money enough to dig a well, by buying a low-priced pump and a gigantic family swing, of the picnic order. He connected the pump to the swing, gave the youngsters full liberty to amuse themselves with the latter, the result being a stream that makes the arid soil fairly smile. Nothing less than enough measles or whooping cough to go "all around" will stop the supply of water.

**AUTOMATIC ROLLER MILL OF HADLEY & CO.,
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Capacity 1400 Sacks per day.

BUILT BY SECK BROTHERS, DARMSTADT,
GERMANY.

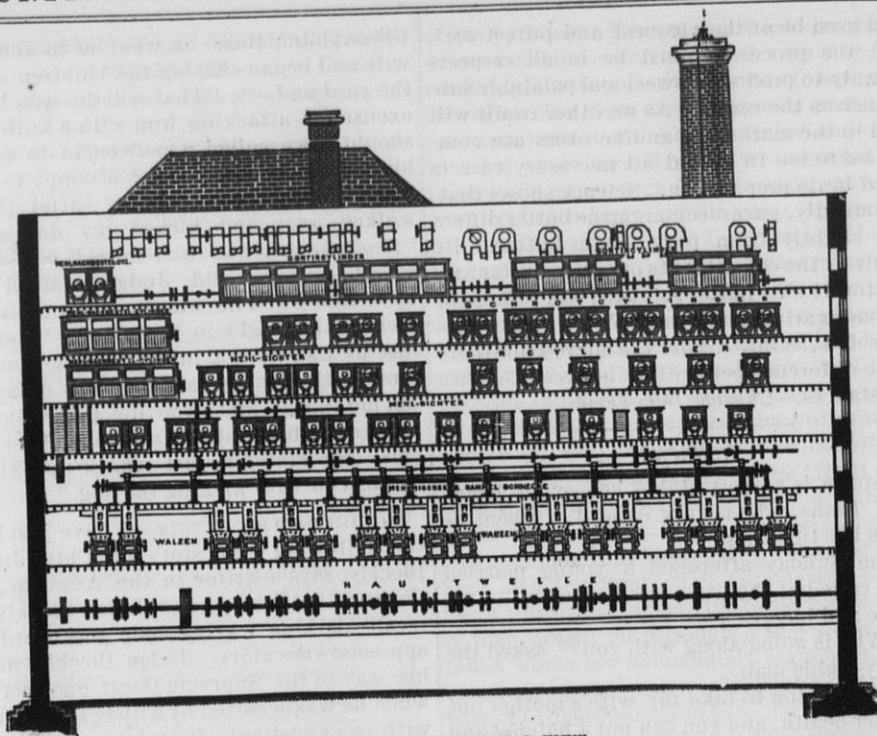
The illustrations herewith represent the new roller mill of Hadley & Co., in Newcastle-on-Tyne, England, now in operation for one year, the grinding capacity of which is 1400 sacks per day. It is a pleasing indication of the fame attained abroad by German milling architecture, that the construction of this mill, one of the largest in England, was awarded to a German firm, Seck Brothers' machine works at Darmstadt, upon the merits of their automatic roller system.

The structure, part of which is only given in our illustration, consists of three distinct buildings, viz: (1) The grain-cleaning house, which was built new; (2) the mill building proper, which has been utilized as a warehouse for years, and running parallel with the grain-cleaning house, from which it is separated by a spacious court, and (3) the grain and flour elevator.

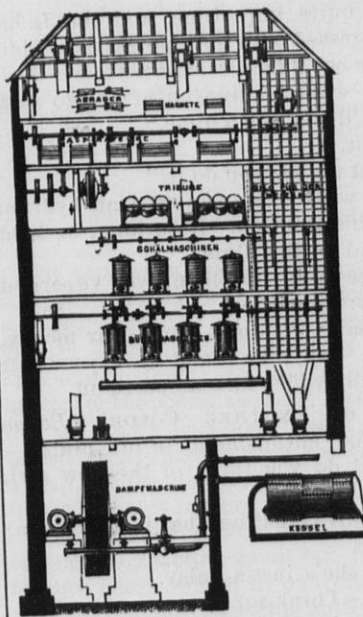
(a) GRAIN ELEVATOR.—The grain elevator is built after the silo system, and is supplied with all the necessary mechanical contrivances for rapid transmission of grain, for conveying the same, for automatically mixing of the different grain varieties, for the preliminary cleaning of the same, and for "turning." The buckets for filling silos have a capacity of 30,000 kilogrammes per hour; it empties upon an automatic scale, and then the grain, the weight being established, passes two elevator aspirators, built in zigzag manner with seven sieves each; these are brought into service for the removal of coarse impurities, such as straw, stones, etc. Adjoining these are ten separate grain chambers (i. e. silos), at the top of which there is a spiral contrivance that conveys the grain taken from the aspirators to any one of the silos. The silos have a capacity of one million kilogrammes. The spout of each one of the ten silos is supplied with a mixing apparatus, which empties into an accumulative mixing conveyor, which now transports the mixed grain to the grain cleaner. These mixing apparatuses are constructed in such a manner, that by means of a small slide any desired quantity of grain may be withdrawn from the silos, and thus, in a purely mechanical manner, accomplish the desired mixing of the grain. The spiral mixer, alluded to above, then conducts the grain to the

(b) Grain-Cleaning Building.—The same consists (see cut) of basement, which was used as engine room, and five stories above, now occupied by the cleaning machinery. The grain brought over from the warehouse by spiral conveyors first passes four large sieves, which remove all rough impurities, and at the same time separate the large and small wheat.

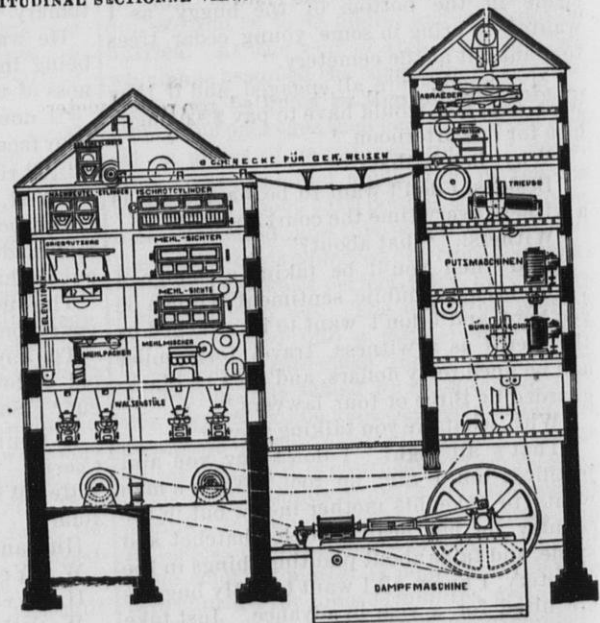
The grain then reaches two large Seck Magnetic separators, which remove all particles of iron and wire, and thence five powerful aspirators, followed by six Seck cockle separators of 700 millimetres diameter. On the fourth floor will be found four Seck grain cleaning machines, from which the grain finally passes to four Seck brushing machines. The cleaned grain is then stored



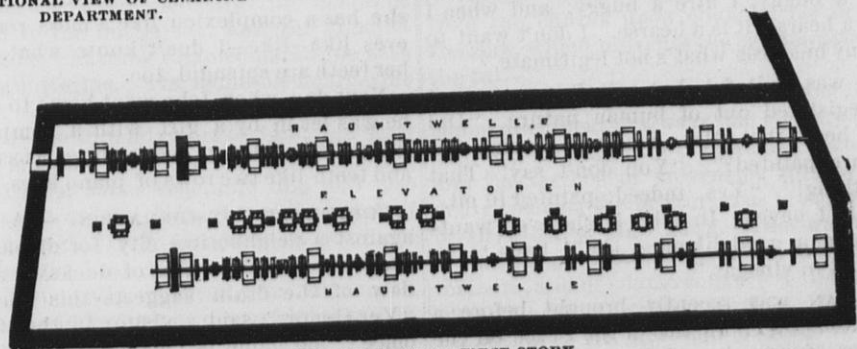
LONGITUDINAL SECTIONAL VIEW.



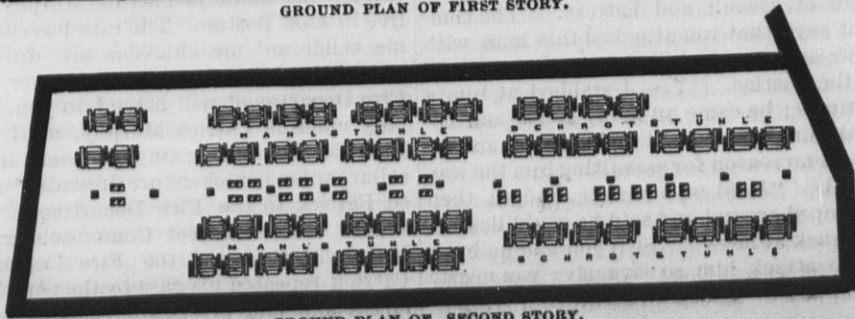
SECTIONAL VIEW OF CLEANING DEPARTMENT.



CROSS SECTION OF MILL AND CLEANING DEPARTMENT.



GROUND PLAN OF FIRST STORY.



GROUND PLAN OF SECOND STORY.

in large receptacles specially reserved for it, and is then carried by elevators (see cut) from the grain-cleaning building by spiral conveyors to the mill for grinding. Besides the spiral conveyor there is no other connection between the mill and the cleaning building, forming quite an item in the cost of fire insurance.

(c) *The Mill* proper consists of a building 138 feet long and 38 feet in width, formerly used as a warehouse. In the basement the two main shafts are located that transmit the driving power for the entire building, which is furnished by an engine. Four cornered leather belts are used throughout the mill. One hundred and twenty belts are necessary for the driving of the roller mills. To the ceiling of the basement the spirals are attached, which, dispensing with tubes, transport the ground material from the rolls located above to the fourteen double elevators.

The Roller Floor.—When entering the roller floor, on one end of the mill, it presents an imposing, yet very harmonious view. One hundred and twelve pair of rolls in four double rows along the entire length of the building meet the eye of the visitor. Forty-eight pair of rolls serve as break and sixty-four pair for the grinding of the grits and dust. The grinding is done, as stones are excluded from the mill, with chilled iron rolls. All roller mills were furnished by Seck Brothers, of Darmstadt, and each is supplied with four horizontal chilled-iron rolls 750 millimetres in length and 220 millimetres in diameter. The pressure of the Seck rolls is obtained partly by levers and partly by weights. Every pair of rolls has its own driver, and in order to avoid all noise, the gearing runs entirely in oil, covered by securely closed boxes. The wood-work of the roller mills is polished black walnut and all are furnished with ventilators. Each roller mill has a funnel fastened to the cover, with long narrow glasses inserted on each side, which shows the flow of the ground material. The automatic milling in this mill, in which all filling is dispensed with, and where systematic running depends upon the regulation and feed of the rolls, enables the operator to see on the funnels whether there is any deficiency in the feed of the roller mill or not.

The Flour Floor.—The second floor serves as a receptacle for the finished products, flour and wastes. Sacks will only be found on this floor of the mill. The gathering and mixing of the flour is accomplished by means of four spirals of thirty centimetre diameter, in close proximity, about one metre above the floor, along the entire length of the building, which, in following the flour tubes coming from above and connected with the flour sifters, render it very easy to test each kind of flour. Conforming to the sixteen flour sifters on the next floor above, there are placed upon the fourfold flour gathering and mixing spirals another sixteen flour mixing apparatuses, which center into four spiral flour conveyors, thus enabling the miller in charge to conduct the flour descending from above into any one of the four spirals mentioned by means of a turning slide. The flour is then carried by the spiral flour conveyors to the so-called safety cylinders, of which there are six, each six metres in length, on the upper floors. Along

the wall the flour packing machines are placed, and, leaving these it is transported direct into the warehouse.

The Grits Floor is in the fifth story. Twenty-two fourfold Seck suction grits and dust-cleaning machines are placed in a row along the wall. The grits and dust machines located above furnish the feed, while the cleaned grits and dust are carried direct to the smooth rolls by tubes and spiral conveyors. The shelling cylinders, the grits and dust assorting cylinders are placed on the fifth and sixth floors and under the roof, and their symmetric positions afford a neat view and serve as a good illustration for utilizing space. Twenty-two Seck sifting machines are used for sacking the flour, all built with cast iron frames. As will be seen in the illustration, all elevators are set in a row in the middle of the building. Before the first break-roll as well as between the single break passages, strong aspirators are placed which, in the first place, clean the wheat once more, coming from the cleaning floor, and, secondly, to remove the light bran, caused by the several breaks, before it reaches the next rolls. The necessary power for the mill as well as for the three dynamo machines which feed 260 electric lamps, is furnished by a 500 horse power engine, a so-called twin machine. The fly-wheel of the same has a diameter of six meters.

The small number of employes about the mill seems strange to the visitor. This circumstance is easily explained, however, through the entirely automatic grinding process of the Seck system. From the moment the raw material enters the elevator to the sacking of the flour and waste, human labor is unnecessary; there are no sacks to take down, and the distribution of the different products is done by means of spirals and tubes. The greatness of the construction, its good results, and the fact that the entire fixtures and all machines were furnished by Seck Bros., of Darmstadt, truly speaks well for the fame of German mill-builders.

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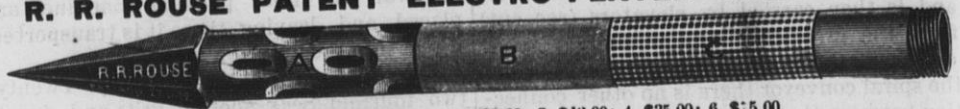
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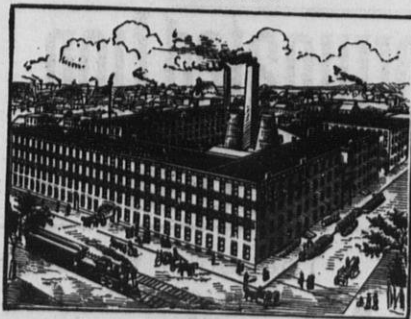
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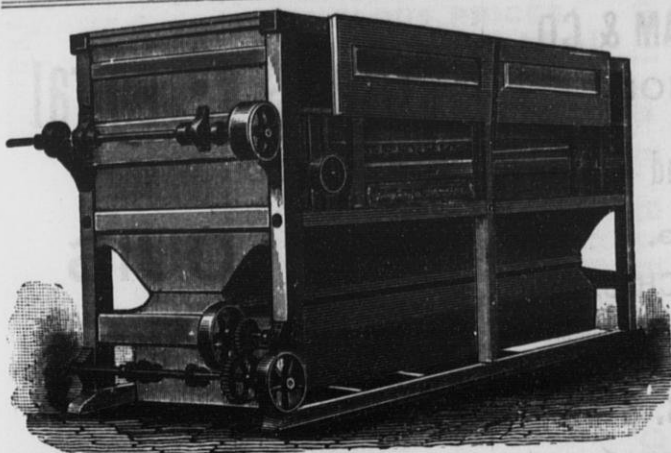
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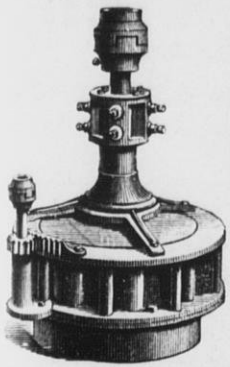
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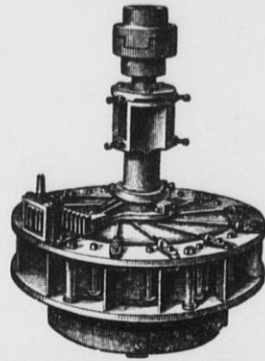
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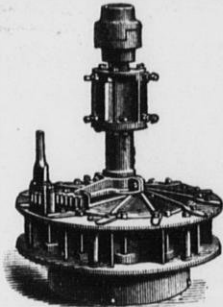


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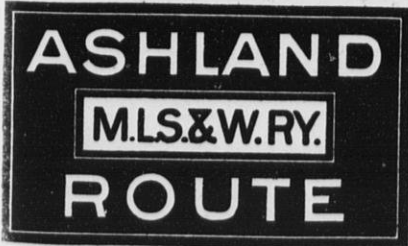
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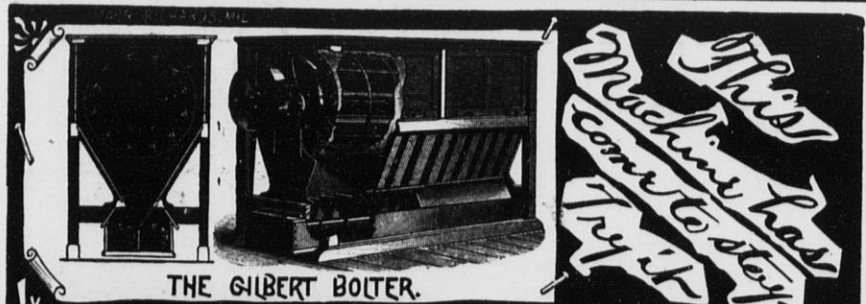
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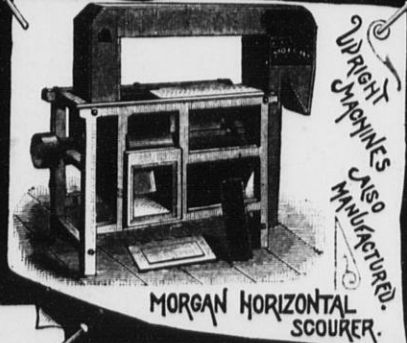
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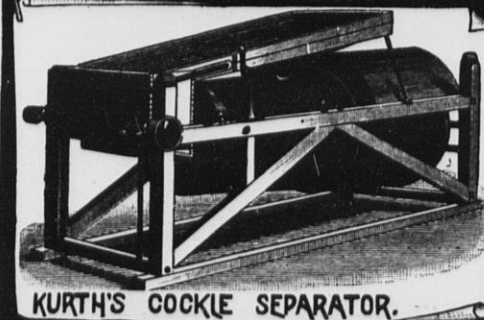
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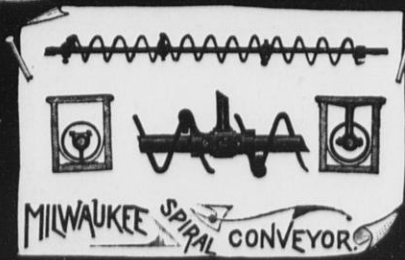
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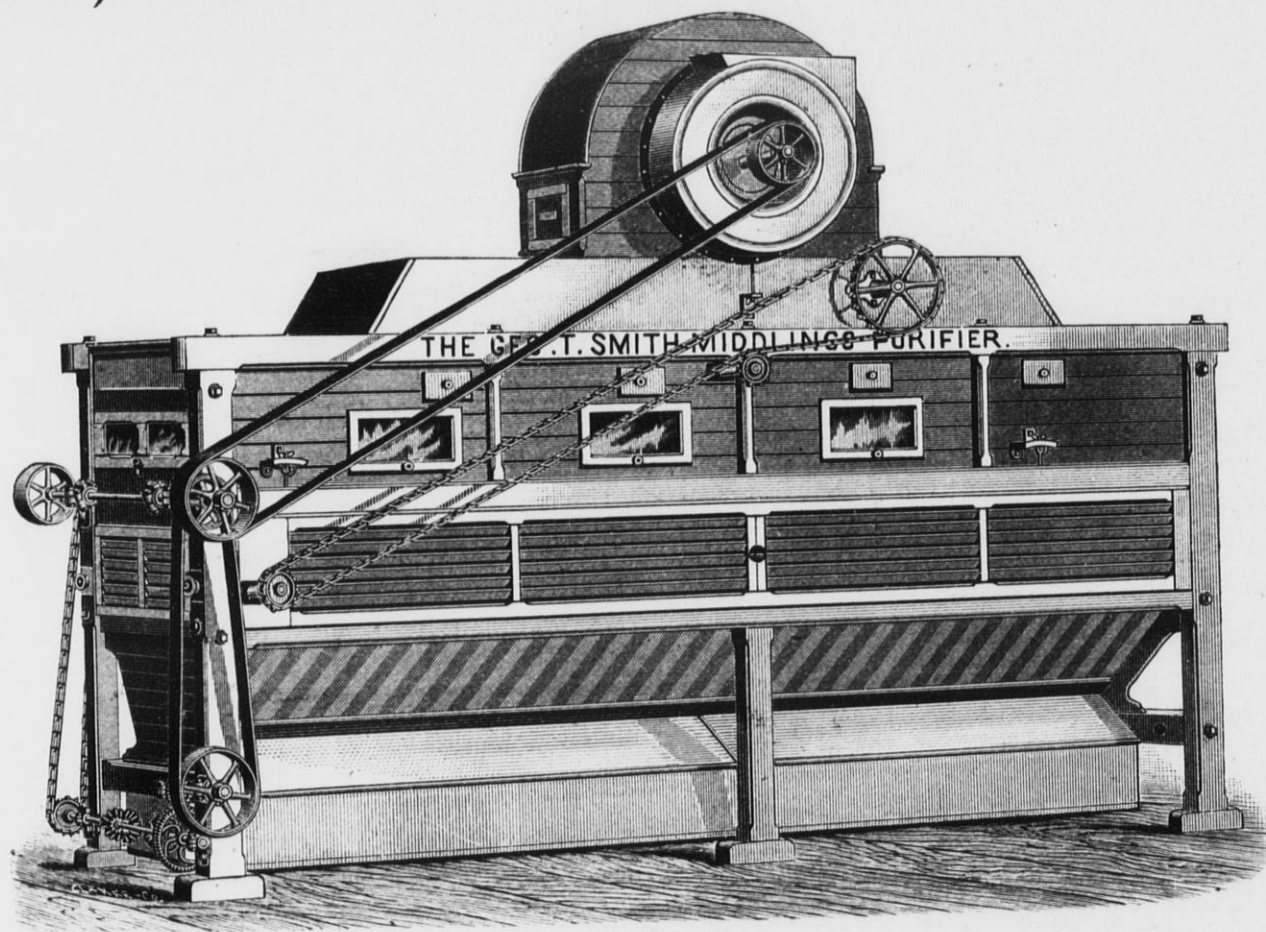
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The decision awards the Complainants upwards of eighty-thousand dollars damages and enjoins the Milwaukee Company from the further manufacture or sale of the Dust Collectors.

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For further information in regard to our control of the manufacture of Dust Collectors, we refer to our Attorneys in the litigation, Messrs. Flanders & Bottum, of Milwaukee, Wis.

We have improved the Dust Collector and fitted it for attachment to our Purifiers; when sold in connection with Purifiers, no extra charge is made for attachment.

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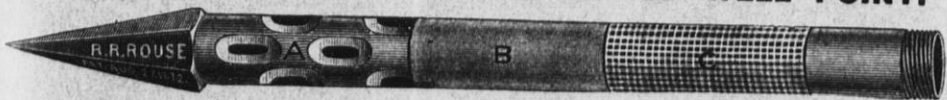
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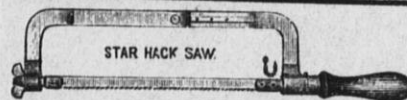
My 1½ Point is 24½ inches long and has 26 1¼x¾ openings. Then counter-sunk two-thirds of entire surface of screen section.

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The United States Miller

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MILWAUKEE, AUGUST, 1887.

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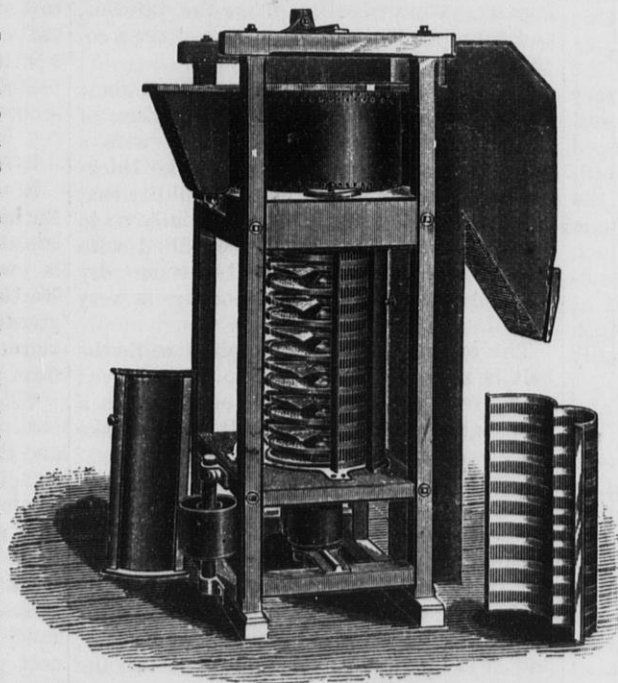
YATES' MINNEAPOLIS GRAIN SCOURER, POLISHER AND SMUTTER.

It has become a trite saying to remark: "Millers, if you would have good flour you must first thoroughly clean your wheat." This advice, though old and often given, is good, and various machines, some good, some bad, some indifferent, have been and are being used to accomplish the object of grain cleaning. It has remained for Mr. Joseph Yates of Minneapolis, Minn., a miller and inventor of long experience and great ability, to invent and construct a machine on a new principle, which thoroughly and wastelessly scours, polishes and removes smut from grain. This machine has stood the test of usage in the best Minneapolis mills, as well as elsewhere, for a considerable length of time, and is pronounced by all who have seen it WITHOUT EQUAL, and being entirely satisfied as to its merits personally, Mr. Yates has now concluded to place the machine on the market, manufactured in three different sizes, so as to meet the requirements of millers, small or large. The accompanying illustration gives a good view of the machine.

The grain is operated upon in this machine by a series of corrugated disks arranged at intervals on a vertical shaft and radial blades beveled gradually from the rear to the front on their upper sides, and arranged on another vertical shaft so as to intervene or extend between and alternate with the disks. A reticulated jacket is arranged about the scouring devices, within the usual shell or incasement, which is preferably made of steel. The blades and disks are made to revolve at a differential velocity by pulleys of different size. A superposed suction fan draws an upward current of air through the openings along the outside of the perforated jacket and discharges it on one side of the incasement. By a simple device the blades and disks can be brought nearer together or farther apart, at the pleasure of the operator. The discharge-spout empties its grain into an air flue, which is open at the bottom and connects with the upper side of the fan, which thereby produces an updraft through the discharging grain after it has been scoured. At a certain point the flue defects so as to pass over the top of a pocket, so that the air will strike the opposite wall or casing, and impurities of any magnitude will be precipitated into the pocket. The pocket has a flap door which is hinged to close by gravity and the suction of

the fan. Through this whatever may accumulate in the pocket may be removed.

In practice the scourer is kept full, or nearly so, so that the grain will be laterally supported by the perforated jacket and surround the disks and blades. The blades turn less rapidly than the disks, and force the grain up and down against their roughened faces. The grain being thus caused to rub against one another and against the roughened disks, are very rapidly and very thoroughly scoured before they are discharged. The differential motion of the blades and disks contributes in no small degree to this result. The feed is



YATES' MINNEAPOLIS GRAIN SCOURER, POLISHER AND SMUTTER.

regulated by a slide or valve in the spout or usual hopper, while the discharge-spout is preferably valved so that the operator may control the rapidity of the flow of the grain through the scourer, and thus determine the degree of scouring to which each lot of grain shall be subjected.

Our readers will observe that this machine differs vastly in its principle for scouring grain from any other on the market. Mr. Yates says that any miller who operates any short system especially will find this machine indispensable. For further particulars, prices etc., our readers will address Mr. Joseph Yates, 702 Lumber Exchange, Minneapolis, Minn., or James Young, No. 307, Broadway, Milwaukee, Wis.

IMPORTANCE OF THE RAILROAD INTERESTS.

At the present hour there are more than 140,000 miles of main track in constant use in the United States. Their gross earnings this year will amount to about \$800,000,000. In the present calendar year they will carry 400,000,000 passengers and move at least 500,000,000 tons of freight. The entire capital stock and funded debt of the railroads of the country to-day, equal if they do not exceed \$7,750,000,000. This represents an amount which the human mind cannot adequately comprehend. It is far larger than the national debt of any of the great nations of the world. France's is \$1,500,000,000 less than this, while it is larger than the debt of Great Britain and Russia together, and more than seven times as great as the interest-bearing portion of the indebtedness of the United States. In 1880 the railroads composed over one-ninth of the aggregate wealth of the entire country. The value of the railroad interests to-day is undoubtedly one-eighth as great as that of all the property in the country, real and personal, combined.

The railroads form one of the mightiest agencies of modern civilization. To the railroads more than to any other one of the appliances devised by man can the stupendous advances in the material and moral development of the great nations of the world in the past half century be traced. Their ramifications extend through the whole social system of every civilized state. They touch society, and touch it vitally, at many points. Under their control are billions of dollars and millions of men. To direct any great division of this vast and complicated organism wisely requires talents as conspicuous as any which the military commander or the actual ruler of any great nation is ever called upon to display.—*St. Louis Globe-Democrat.*

A LOST OPPORTUNITY.—*Omaha World:* Omaha Youth (reading)—Alfred Sully, the New York railroad king, has given his niece, just graduated at Carlisle, Pa., a check for \$50,000.

Omaha Girl—How mean!

"Mean?"

Yes, why didn't he give it to her before?"

"What good would it have done her while she was at school?"

Good! Just think what a lovely graduation dress \$50,000 would have bought.?

THE MACHINERY OF ELEVATORS.

The machinery of an elevator should not be too heavy. On an elevator consuming not over 50-horse power, no shaft in the building requires to be over $2\frac{1}{8}$ inches in diameter. Heavy shafting is not required if proper speed is maintained. In large elevators the friction shaft should be fully as heavy as any other in the building, not so much for the purpose of resisting torsional strain as transverse strain, as the heavy head pulleys, together with their loads of grain, rest on that shaft, and where there are a number of them in one line the weight is very material. On all such shafts there should be a journal bearing on each side of each friction pulley.

Where it can be done the main line should be connected directly with engine shaft; but if that cannot be done then the engine and main shaft should be so set in relation to each other that a belt of reasonable length can be used. The main shaft ought to have a speed of about 150 revolutions in all cases, and can much exceed that in small houses. There are very few cases where country elevators need more than a 10x16 engine, which should make 165 revolutions at least. A good 12x20 engine will do the work of the largest country house, and should have a speed not less than 140 revolutions per minute. Good engines should always be selected. Everyone now admits that elevators discharge by centrifugal force and that the head pulley speed in revolutions should be about the same for all sizes. If it was not necessary to throw the material beyond the mouth of the down leg of the elevator, the speed would be uniform for all sizes of pulleys, but owing to that fact the smaller the pulley the greater the number of revolutions to get over and discharge properly. A 36-inch pulley discharges well at 38 revolutions handling corn and cobs, and will do very well at 40 revolutions with loose grain. A 60-inch pulley can be speeded lower to obtain equally good discharging results.

The laws governing centrifugal force are: First, the centrifugal force of a revolving body is as the square of its velocity; Second, the centrifugal force of revolving bodies of equal rotary velocities is as the diameter of the bodies; Third, the centrifugal forces of revolving bodies of varying sizes and velocities are to each other as the squares of their velocities multiplied by their diameters. If mechanics will study the laws they will be readily enabled to adapt them to practical uses so far as will be required. — *R. James Abernathy in Modern Miller.*

HOW TO CARE FOR LEATHER BELTS.

From the French, *Annales Industrielles.*

A recent issue of *Annales Industrielles* says on this very important question: We have had occasion at various times to combat the widespread custom of employing resinous substances for augmenting the adhesion of leather belts to pulleys.

These substances for a short time produce the desired effect, but rapidly become inactive and deteriorate the belts. One must not forget that it is the more or less perfect contact between the belts and the pulleys which renders the adhesion more or less intense.

It has been suggested, perhaps with reason, that it is the pressure of the atmosphere

which renders the friction so considerable between a well-polished pulley and a belt of good quality and condition. According to this, we should seek to render the contact between the surface of the leather and the surface of the pulley as intimate as possible. This result is not obtained by means of rosin, but rather with a fatty substance, such as fish-oil, tallow, or better yet, with a mineral oil. A belt so treated glues itself, so to speak, to the polished surfaces.

For some time mineral oils have been substituted for the oil, and other substances above mentioned. We could not recommend the former too highly for the preservation of belts. It suffices for maintaining them in excellent condition, to oil them about every two months on the exterior face; they will then remain supple, and consequently easily take the form of the pulley. It is needless to add that this suppleness contributes essentially to their preservation, because cracks and ruptures are not produced as in belts dried by the action of the atmosphere.

The experiments of Morin have demonstrated that the co-efficient of friction of new belts on wooden pulleys .50; that of greasy belts on the same pulleys .47. The co-efficient of friction between humid belts and turned and polished cast-iron pulleys is .38; that of greasy belts on cast-iron pulleys .28. Belts heavily saturated with oil on the interior, and running on cast-iron pulleys, have a co-efficient of .12 only.

It is the humid belts which have the highest co-efficient of friction. Now the oiling of the external surface of the belt with a mineral oil maintains throughout the thickness of the same a species of humidity that is very advantageous. It is especially so in locations that are very dry or filled with dust, where the belts generally become dry in a short time, that this oiling is very useful.

The mineral oil may be applied while the belt is running, and ought to be employed every few weeks. For the best results a thorough cleaning of the belt should take place every three or four months.

For this purpose the belt is first removed from the pulleys, then washed with tepid water in order to remove the dust and other matters which are always deposited upon it. The belt is dried by rubbing it energetically with waste or a cloth, then the mineral oil is applied to it, likewise by means of a cloth, and it is hung in a warm place. After the first portion of the oil has penetrated the leather, more is applied.

The employment of mineral oils has up to the present given excellent results. A belt treated in the manner we have given above retains its suppleness for a long period, and resists the action of the atmosphere. Its running is noiseless and regular, the losses from passive resistances are much less, the belt has a much longer life, and the expenses of maintenance are by this same largely, and in fact we may say in most cases fully, compensated for.

RECIPES.

CONCRETE UNDER WATER.—An ingenious method of laying concrete under water consists of first inclosing the beton or concrete in paper bags or other soluble envelopes, and then lodging the bags so filled in the desired position under water by sliding

them down a chute, or in such a manner that they will not be ruptured until after their contents shall be in place.

A SUBSTITUTE FOR FIRE CLAY.—When you have to repair your boiler furnace, and can't get any fire clay: Take common earth mixed with water, in which you have dissolved a little rock (or other) salt; use same as fire clay—the furnace will last fully as long.

REMOVAL OF WARTS.—A correspondent of the *Therapeutic Gazette* announces through its columns the virtues of castor oil in the removal of warts. Constantly applied for from two to four or six weeks each day—that is, once a day—it has not failed in my hands, says the writer, in any case of any size or long standing. The time it takes may try the patience of the user, but if faithfully used they will get their reward in the removal of the wart without leaving any scar. I have used it with some success in other growths, and had benefit enough to merit further trial. It might, he adds, be a success in the removal of certain kinds of cancer, especially scirrhus forms.

CEMENT FOR GLASS AND METAL.—Every one who uses brass letters on glass windows, and knows how often they tumble off from unequal expansion, or from the too energetic efforts of window-cleaners, will be glad to have the following recipe: Litharge, 2 parts; white lead, 1 part; boiled linseed oil, 3 parts; gum copal, 1 part. Mixed just before using, this is said to form a quick-drying and secure cement.

THE LARGEST FARM IN THE WORLD.

In the southwest corner of Louisiana lies the largest producing farm in the world. It runs one hundred miles north and south, and is owned and operated by a syndicate of Northern capitalists. Their general manager gives an interesting account of this gigantic plantation, which throws the great Dalrymple farm in Dakota into the shade.

"The 1,500,000 acres of our tract was purchased in 1883 from the State of Louisiana and the United States Government. At that time it was a vast grazing land for the few cattle dealers in the neighborhood. When I took possession I found over thirty thousand head of half-wild horses and cattle. My work was to divide this immense tract into convenient pastures, establishing stations or ranches every six miles. The fencing alone cost in the neighborhood of \$50,000. The land I found to be best adapted to rice, sugar, corn or cotton. All our cultivating, ditching, etc., is done by steam power. We take a tract, say half a mile wide for instance, and place an engine on each side. The engines are portable, and operate a cable attached to four plows, and under this arrangement we are able to plow thirty acres a day with only the labor of three men. Our harrowing, planting, and other cultivation is done in a like manner; in fact there is not a single draft-horse on the entire place. We have, of course, horses for the herders of cattle, of which we have sixteen thousand head. The Southern Pacific railroad runs for thirty-six miles through our farm. We have three steamboats operating on the waters of our own estate, upon which there are three hundred miles of navigable waters. We have an ice-house, a bank, a shipyard and a rice-mill.

COMPOUND AND SPECIFIC.

A insures \$2,000 on mill building, machinery, engine, and saw-mill machinery.

B insures \$500 as follows: \$200 on mill building, \$200 on machinery, and \$100 on engine and boiler.

The loss is on building, \$1,175; on machinery, 1,159; on engine and boiler, 600; and on saw-mill machinery, \$300.

The adjustment has been made under the rule, as total insurance is to total loss, so is the full sum insured by A to the full sum to be paid by A on mill building.

Because B gets a salvage on this item, mill building, the assured is dissatisfied, and thinks he should be paid the full amount covered by B on said building. Can you give us a more equitable way in which to settle the above? Your prompt answer will greatly oblige. I might add that A's amount is used up in second item, machinery, and has nothing left to apply to engine and saw-mill machinery. B's \$100 is all that is paid on those items under engine and boiler.

A SUBSCRIBER.

ANSWER.

Without going much into details, we remark that the courts hold that a man with a loss of \$2,934 and insurances of \$2,500, no matter how "compound and specific," provided the insurances apply to the property burned, must have all that the policies call for. There are numerous complicated rules for the adjustment of non-concurrent policies whose recital is a weariness to the flesh. When they apply so as to give the assured the largest possible indemnity the courts do not quarrel with them; but when they interfere with that chief end of insurance they are set aside, and a company is not permitted to make a salvage on an item on which there thus remains unpaid loss if the policy applies to it.

In the case presented a court would say that A had all the loss on "saw-mill machinery," and must pay that \$300; then it would say that B has all the loss on the "boiler," and must pay up to the amount applying thereto, \$100 (the separate amount of loss on boiler is not stated, but we will assume that it was \$100 in our suppositious adjustment), then A would have to pay the remaining loss on engine, \$500. This would leave A with \$1,200 unexhausted, and B with \$400 to apply to losses aggregating \$2,334 on mill building and machinery, and they would have to pay the \$1,600, and the owner would lose the balance, \$734.

This is, of course, a short cut to final results; and the court might not travel precisely by the route we have indicated, but it would come out at the same place, and would maintain the doctrine which it has so often laid down, that such methods of apportionment will be adopted as will secure the fullest indemnity to the insured.

Specifications in a policy save the company from undue loss. If there had been no loss whatever on "machinery" the \$200 insured thereon by B would have been equivalent to a separate policy thereon, and no portion of that particular amount could be called on. In such a case salvage would be entirely legitimate; but in our opinion the salvage got by B on "mill building," in the case as stated above, was not only bad law but bad practice. Adjusters and correspondents will be able to answer a great many of their own conundrums if they will remember the basal rule laid down

by the courts, that only such rules of apportionment as secure to the insured the fullest indemnity will stand the final test.—*Insurance Monitor.*

A CORNER ON ELECTRIC LIGHT CARBONS.

For some months there has been an effort by certain parties to control the market in electric light carbons, and as we go to press the matter has assumed a new aspect. These carbons have for a long time been supplied chiefly by two firms in Pittsburg, three or four in Cleveland, two in St. Louis, and two or three in New England. Two months ago a combination was formed, with headquarters at Cleveland, embracing all the principal factories, and the price of carbons advanced from \$10 and \$12 per thousand to \$20 and \$25. As these carbons are chiefly made from the coke of petroleum and naphtha, it has been proposed by a syndicate, composed of some of the electric light companies, to take the entire petroleum-coke product of the Standard Oil company and manufacture their own carbons. This product is 20,000 tons per year, and it is reported that it has been offered to the syndicate at \$8 per ton, and that the offer will be accepted as soon as the various parties interested can signify their assent, and that the new factory will be located in New York city.

It seems that \$20 and \$25 per single thousand is not considered an unreasonable price for good carbons, but the Cleveland combination would make no wholesale rates to large consumers—charging them just the same as those who bought by the single thousand, and this has been one chief cause of dissatisfaction. As the Standard Oil company seems to be the principal producer of the coke, it is thought that the new arrangement will give the syndicate virtual control of the market, and leave the Cleveland combination and those depending on it out in the cold.—*Western Electrician.*

NONSENSE.

THE MAN WITH THE FLAIL.—It carried the beholder back to thirty years ago, when the thrashing-machine was heard only at rare intervals, and the honest farmer spread his golden stalks on the clean barn floor and flailed away with such tempered blows that not a kernel was broken. The man who had it sat down on one of the benches in the West Circus Park. The rare sight of such an article halted every pedestrian, and the man had to keep explaining over and over: "Well, I'll have some beans to shell this fall, and I kinder thought 'twould be easier to flail 'em out. The hardware man told me he had to send to Vermont for it." Pretty soon along came a grayheaded alderman, and when he saw that flail he looked ten years younger all at once. "I handled that for over ten years," he said, as he picked it up and spit on his hands: "seems like old times to get hold of this hickory again." He stepped out one side to give the crowd an exhibition on the grass, and his success was great. At the second blow the flail end hesitated in mid-air, wobbled about, and finally came down with a whack on the patriot's head, making him see more stars than a winter's night ever brought out. He dropped the weapon with the remark that he was already ten minutes late in keeping an appointment, and he was rubbing his skull as far down the street as he could be

seen. The next to try it was one who got off a passing car under the idea that a dog-fight was in progress. "A flail? Ha! ha! Why, I haven't seen a flail since I was married," he chuckled, as he reached for it. "I presume I have flailed a thousand bushels of wheat in my time. You boys stand back there." The boys retreated, and the man lifted the flail on high and patted the grass in a vigorous manner. "Yes, my stint used to be twenty bushels a day," he continued, "and though I do say it myself, I—" something happened. He dropped the flail, seized his jaw, and danced off as if he had springs under him, and although a dozen voices asked what hit him, he refused to tell. By-and-by a third man came sailing along, and when he saw the flail he remarked that his father had used one like it nearly all his life, and was called the smartest flailer in New Hampshire. "Can't you use it?" inquired one of the crowd. "Why, of course. If you boys want to see how our fathers got their wheat to mill, I'll give you a little exhibition. Here, Bob, hold my hat." He buttoned his coat, moistened his hands, and began work. The first blow nearly broke a man's knee; the second cracked against a boy's elbow; and at the third the flailer grabbed the top of his head and sat down with a subdued look in the corners of his mouth. "Well, I guess I'll be jogging along," said the owner of the flail, as he rose up. "It's all in getting the kink of it. A feller who makes twists and wobbles a special study won't get his head broke over twice a day, but a green hand might as well sit down under a brick-kiln durin' a tornader. Day, gentlemen."

A PREACHER TELLS THIS ONE.—"Yes, I'm from Dakota," he said meekly, as he got into conversation with a man on an Eastern train.

"Ah, is that so? I am thinking of going out there myself to invest in some farming land."

"We have some very fine land."

"So I understand; but are not some of the stories they tell of its fertility exaggerated?"

"Why, my friend, I am sorry to say some of them are downright untruths."

"That's what I thought. Now, what is the most remarkable instance of the fertility of Dakota soil which ever came under your observation?"

"Well, I believe the case of my pump might go at the head of the list."

"What was it?"

"I dug a well about forty feet deep the first season I was there and put down a wooden pump. It happened that it was made out of a small cottonwood log which was a little green, and the soil at the bottom of that well, forty feet from the surface, was so fertile that the pump took root, and it also grew up and branched out, and now while my children play in a swing attached to one of the branches I pump water through the hole which still remains in the trunk."

"Do you tell that for the truth?"

"Why, certainly, sir, I never tell anything else."

"Are you in farming or the real estate business?"

"Why, I'm engaged in neither, my friend, neither. I'm a preacher. I went out there as a missionary seven years ago, and though my work has been humble, I trust it has had a beneficial influence on our people."—*Dakota Bell.*

UNITED STATES MILLER.

E. HARRISON CAWKER, EDITOR.

PUBLISHED MONTHLY.

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Bills for advertising will be sent monthly, unless otherwise agreed upon.

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MILWAUKEE, AUGUST, 1887.

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 UNITED STATES MILLER. You will thereby oblige not only this paper, but the advertisers.

MINNEAPOLIS and St. Louis mills are running nearly full capacity.

A CONSIDERABLE number of good modern mills will be built on the Pacific Slope during the year 1887.

If the Millers' National Association does not amount to anything, why does the editor of the *Millstone* squirm and twist so about it? This we ask and "nothing more."

THE California wheat corner has collapsed, but at present writing (Aug. 4.) no failures are announced, and it is believed that \$60,000 will cover the heaviest loss of any one firm.

AMERICAN manufacturers of flour-mill machinery are, we think, losing a good deal of business by not pushing their interests in France. As it now stands England and Germany get the bulk of the trade.

THE bureau of statistics reports that the exports of this country for the year ending May 31 were valued at \$724,500,000, against \$672,100,000 in 1885-6, and the imports \$685,342,000 and \$630,539,000, respectively.

THE Hartford Steam Boiler Inspection and Ins. Co. has outstanding policies on 23,000 steam boilers, only one of which has it met with a loss since the beginning of the present year. The fact demonstrates the skill and thoroughness of the work of inspection.

MILLERS owning horses (what miller does not own horses), will find a truly valuable remedy in Campbell's Horse Foot Oil, advertised on another page. A can of it should be in every stable. We know its value from experience and do not hesitate to pronounce it good.

WE have received Vol. 1, No. 1, of *The Milling Sphere*, St. Louis, Mo. It is published by Donan & Co., and F. M. Tatlow is the editor. The first number is a very good one, and no doubt Bro. Tatlow will have his new paper in elegant shape in a short time. Missouri ought to be happy now, as three milling papers are published within her borders.

THE *Mark Lake Express*, an English agricultural and milling journal which has a world-wide reputation, has just removed to modern and commodious quarters at No 1 Clement's Inn, Strand, London, W. C. Correspondents will please note this in all future communications.

THE FARMER, an excellent agricultural paper published weekly at St. Paul, Minn., in its issue of July 21, printed an elaborate article with illustrations, on the subject of the chinch-bug. The article describes its life-history, habits, natural enemies and best method of getting rid of them.

ENGLAND levies more customs duties on imports than any other country in Europe. In the last year for which the figures were complete, the amount of duties collected were as follows; Austro-Hungary, \$12,750; Russian empire, \$44,435; German empire, \$46,745; France, \$65,480,000, and Great Britain, \$96,050,000.

MILLERS in all parts of the country, and especially in the West, are studying up the value of bran for the purpose of fattening stock, and it seems to be an assured fact that there will in the near future be a strong demand at fair prices for all the bran we can make.

BRITISH millers are making a loud cry for protective tariff so far as flour is concerned. Those interested in other trades don't like this selfish movement on the part of millers to restrict protection to their industry alone, and threaten to oppose it unless the protective tariff shall apply to all interests. The general consuming British public, however, are still willing to eat American bread and meat so long as they can get it cheaper than it can be produced at home.

THE Secretary of War has caused the *Northwestern Miller* to be placed upon the list of official papers for the War Department, authorized to publish advertising for the department.—*Northwestern Miller*.

WE congratulate the *Northwestern Miller* in getting on the list, but at the same time beg leave to remark that the UNITED STATES MILLER has been on the Government advertising list for over eight years. We confess, however, that we are but little richer so far on account of Government patronage.

THE Treasury Department has notified customs officials of the decision of the Supreme Court that grain bags manufactured in the United States, when exported filled with American products, may be returned free of duty, notwithstanding that such bags were manufactured from foreign materials and that at the time of the exportation the manufacturers were paid a drawback for duties on such materials. Collectors are instructed to apply this decision to all future importations of returned grain bags and other coverings of reputed merchandise which may be the manufacture of the United States.

THE losses by fire in the United States and Canada during May last are estimated by the *New York Commercial Bulletin* to amount to

\$11,489,500, as against \$7,000,000 in the corresponding month of 1886, and an average of \$8,000,000 in May during the past twelve years. The number of fires of \$10,000 and over was 183, or 35 more than in May last year. The losses for the first five months of 1887 have been \$52,739,500 as against \$44,150,000 during the like period of 1886.

MESSRS. EDW. P. ALLIS & Co. have favored us with copies of their new catalogue of pulleys, hangers, gearing, etc., thoroughly illustrated. They have also issued an order book for bolting and wire cloth, which is very convenient for millers when desiring to order cloth. These books will be sent to millers on application.

MILLERS desiring to secure a first class book on milling can do no better than to send for a copy of "Gibson's Gradual Reduction Milling." Price, \$3.00. Address UNITED STATES MILLER, Milwaukee, Wis.

THE MINNEAPOLIS INDUSTRIAL EXPOSITION.

It is said that one hundred and seventy-three exhibits in the Minneapolis Exposition will consist of manufacturing processes, or of machinery of an interesting nature, in motion. Manufacturing of almost every kind will be represented, and many processes that have never been seen in the West: These are the manufacture of gold pens and pencils, manufacture of decorated and enameled tinware, manufacture of mother-of-pearl ornaments, weaving of oriental rugs, coining of medals, spinning of brass dishes, etc.

The art collection of the Minneapolis Industrial Exposition will include works of over two hundred of the most eminent American painters: The Morans, Smilies, William and James M. Hart, Boughton, Champeney, Bierstadt, Bradford, Hamilton, Beard, Bricher, DeHaas, Patterson, Brown, Nicoll, Morgan, Lyman and a hundred more of equal prominence will be represented by their best and latest work. Those who have been favored with a preliminary catalogue state that no such collection of American art has ever been shown in the country. Despite the unequalled excellence of this exhibit, the price of admission will remain the same; only ten cents admits to all the fourteen galleries and the sculpture hall with its balconies, each of which will contain something of an artistic nature, which will be entirely unique and not to be found elsewhere.

BRADSTREET'S says: The practicability of making Buffalo the great grain storage point of the country has been discussed by the newspapers of that city. It is stated that the only essentials lacking are greatly increased storage room and cheap rates of storage. Of late a tendency has been noticeable to furnish the facilities. Seven new elevators have either been lately opened or are in process of construction. A rate for winter storage has been fixed which is said to be much lower than at any other storage point. Buffalo has now forty-three elevators, with a combined capacity of 14,000,000 bushels. Double this capacity is really necessary if that city is to become the great storage point. For winter storage its posi-

tion at the foot of the lakes and its proximity to New York and Philadelphia are among the advantages claimed. Transportation facilities there are ample. The possibility of making Buffalo an iron manufacturing center is also being discussed. Cleveland, Chicago and Milwaukee are prominent in that direction, and use Lake Superior ores. The coke used comes from Pennsylvania, and much of it passes through Buffalo. The cost of ore at Buffalo would, it is said, be little in excess of the cost at the points named, and the cost of coke would be less. Attempts to utilize Niagara river water-power at Buffalo have never been specially satisfactory. A large sum of money is now being raised at Buffalo as a prize for the best system of utilizing Niagara river as a water-power. The sum is expected to amount to \$100,000.

THE corn millers and oat meal millers are endeavoring to "pool their issues," so as to be able to limit production and secure a reasonable profit on their products.

THE following is from a statement issued by the United States Geological Survey in advance of the report on mineral statistics for 1886: Domestic iron consumed, 10,000,000 long tons; value at the mines \$28,000,000. Imported iron ore consumed, 1,039,483 long tons; total iron ore consumed, 11,039,483 long tons. Pig iron made, 5,683,329 long tons, an increase of 1,638,803 tons as compared with 1885; value at furnace, \$95,190,760, or \$30,483,360 more than in 1885. Total spot value of all iron and steel in the first stage of manufacture excluding all duplications, \$142,500,000, an increase of \$49,500,000 as compared with 1885.

AMONGST the great changes in the milling trade during the last two years, not the least remarkable is the great reduction in the price at which millers can obtain complete roller mill plants. The great demand for new plants in 1883-84-85 led, naturally enough to much activity in the business of mill builders, of which the number perhaps exceeded the demand. When that demand had been fairly satisfied, that is say, after some 500 mills had been converted to the roller system, the competition became very severe amongst milling engineers, the result being that prices have been gradually cut down to such a low point that one begins to wonder how it is that the business can be profitable; it is, in fact, no exaggeration to say that the present price of roller mill plants is 25 to 35 per cent. less than five years ago. Thus, millers are now more favorably situated in this respect than they ever were before, and yet orders for complete plants are few and far between—a sure sign of the unremunerative state of the flour milling trade.—*Millers' Gazette (London)*.

NEWS.

A. J. BROOKS is building a mill at Verbena, Ala.
M. L. DICK is erecting a mill at New Market, Tenn.
H. A. MORRIS is building a mill at Germantown, N. C.
JOHN FLEMING is building a grist mill at Summer-ville, Fla.
ANGLIN & JORDAN are building a mill at Mountain Home, Ark.

THOMAS CRYMES is building a grist mill at Williamston, S. C.

H. C. CARRISON, is putting up a grist mill at Germantown, N. C.

THE Hunt County Farmers' Alliance will build a mill at Greenville, Tex.

BURNED—July 10, M. Amherst's mill at Kalamazoo, Mich. Loss, \$5,000. No insurance.

BURNED—July 13, Charles Frenzel's mill, Oakfield, Wis. Loss, \$5,000. Insurance about \$2,500.

BURNED—July 15, J. L. Rix & Bro.'s mill at Cedar Creek, Wis. Loss, \$6,000. Insurance, \$2,900

BURNED—Robert & Jones' mills, Neosho Rapids, Kans. Loss about \$12,000. Insurance, \$6,000.

THE E. HESS Elevator Co., recently built an elevator of 400,000 bushels capacity in just fourteen days.

BLODGETT & NELSON's mill at Beloit, Wis., was damaged by fire July 5 to the amount of about \$7,000.

W. H. BRUMBERRY is building a saw and grist mill at Camilla, Ga., and E. P. Willis & Co. are building a grist mill at Midland, same state.

THE Crookston Mill Roller Co., Crookston, Minn., will soon rebuild their mill recently burned. Another elevator will be built in St. Louis by the Merchants' Elevator Co.

DULUTH papers boast that the shipments from that place for one week were nearly two-thirds as great as the total receipts at Kansas City for one year, although the latter point is considered quite a grain center.

THE Pioneer Oatmeal Mills at La Portage, Man., were closed down July 15. The present machinery and the whole interior of the mill will be renovated and a large amount of additional facilities, including a new engine, will be placed in position.

C. J. KERSHAW & Co., the Chicago Board of Trade firm that went to the wall when the wheat corner collapsed in June, made a statement July 30, showing gross liabilities of \$1,800,000 and assets of \$1,760,000. Of the latter amount, \$1,500,000 is in claims on the Cincinnati parties to the recent wheat deal.

BALKWELL's stone flour mill at Rapid City, Man., continues to hold out against the new roller mill. The *Spectator* of that place says: "This mill continues to do a good business, as a great many farmers prefer stone ground flour to the roller process. Balkwell is putting in some improvements and intends to turn out good work in future.

THE Lisbon (Dak.) Roller Mills are being improved. John Cannons mill went up in smoke at New Athens, O. St. Cloud, Minn., will have a new mill of large capacity. Heavy improvements in the Lisbon Roller Mills, at Lisbon, Dak. New mills are just done or in process of construction: Verbena, Ala.; Willmans-ton, N. C.; Wichita, Tex. Burned, Parker's mill at Oneida, N. Y.

PUBLICATIONS RECEIVED.

WE have received No. 1, Vol. 1, of *The Western Electrician*, published weekly in Chicago for \$2.00 per year. It is a handsome paper, has an efficient corps of writers, and no doubt will be an able exponent of electrical matters.

Southern Industry is the title of a monthly paper published at Chattanooga, Tenn. Subscription price \$1.00 per year. It has just reached the end of its first months' existence and presents a healthy appearance, and is deserving of the patronage of Northern manufacturers who intend to extend their business in the South.

THE *St Nicholas* for August opens with a dainty poem by Edith M. Thomas, entitled "Invitation to Echo," which furnishes the subject of the frontispiece. The contents are fresh and varied and profusely illustrated, maintaining the high character of this publication as the most attractive of periodicals for young people. Published by The Century Company, New York.

Scribner's Magazine for August contains a further installment of Thackeray's letters with illustrations and reproductions of letters and drawings. These letters are delightful reading and have attracted wide attention both in this country and England to the magazine which had the good fortune to secure them for publication. The other illustrated articles are "The Picturesque Quality of Holland," by George

Hitecock; "A Girl's Life Eighty Years Ago," part II. and conclusion; and "The Instability of the Atmosphere," by Prof. N. S. Shaler. Among the other noteworthy articles of the number are "The Revival of Handicraft," by Jno. F. Weir, and "Realism" and "The Art of Fiction," by Arlo Bates. There are besides a number of poems, short stories, further chapters of Harold Frederick's serial, and the conclusion of Mr. Boyesen's story "A Perilous Inco-rito."

THE *Art Amateur* for August contains an attractive figure study in colors by Henry Bacon, one in pencil by Carroll Beckwith, the second of the striking series of large classical decorative figures by Ellen Welby (Pandora), a fine study of lady's slipper, decorations for cup and saucer and a plaque, applique border of bryony, a handsome double-page decorative bird design, and a page of monograms in O, and several other good things. Price, 35 cents. Montague Marks, Publisher, 23 Union Square, New York.

AT the recent meeting of millers at the Crystal Palace, Mr. Stringer, whose acquaintance with the milling properties of the wheats at the disposal of the British miller none can doubt, warned the meeting that they would never be able to compete with the American miller if they used American wheats. This was presumably on account of its price, which is often fictitiously high, owing to the manipulations of "rings," such as that which collapsed a few weeks ago. Many a British miller thinks, on the contrary, that the only way to successfully compete with his formidable American rival is to use the same wheat as the latter, out of which the progressive miller in this country may be credited with the ability of obtaining equally good flour. In Glasgow, for instance, it is a well-known fact that only the flour made from Minnesota, or some equally good wheat, meets with any demand; and it is the occasional dearness of this particular quality of wheat which renders the position of Glasgow millers even worse than that of the London millers, for instance. There are times, however, when American spring wheat is virtually the cheapest, all things considered, in the market; the present moment, for instance, is an example in point. Fine Duluth wheat, for prompt shipment by steamer, is obtainable as low as 32s per 480 lb. c. i. f. for parcels, and No. 2 Chicago spring at 30s5d; compared with 33s6d per 492 lb. for No. 2 Calcutta, 32s for Soft Red Calcutta, 34s6d for No. 1 Bombay, and an average price of 35s6d for English wheat, American spring wheat is now undeniably very cheap, and should be one of the most profitable of wheats. Californian wheat, on the contrary, at 38s to 39s per 500 lb., its present nominal price, is obviously beyond the reach of our millers.—*Millers' Gazette (London)*.

COME TO MILWAUKEE.

If a hundredth part of the people of these United States knew what a beautiful, healthy city Milwaukee is, our hotels and boarding-houses could not begin to accommodate the number of summer visitors we should have. The attractions to Milwaukee, especially in summer time, are too numerous to mention. The parks, the lake, the drives, the places of public amusement are numerous and offer pleasant recreation to all. Milwaukee has now a population of about 180,000, and is well governed in every respect. Among the notable attractions of the season will be the Industrial Exposition and the State Fair.

Reader, if you have the time and money to spare, you will do well to visit Milwaukee.

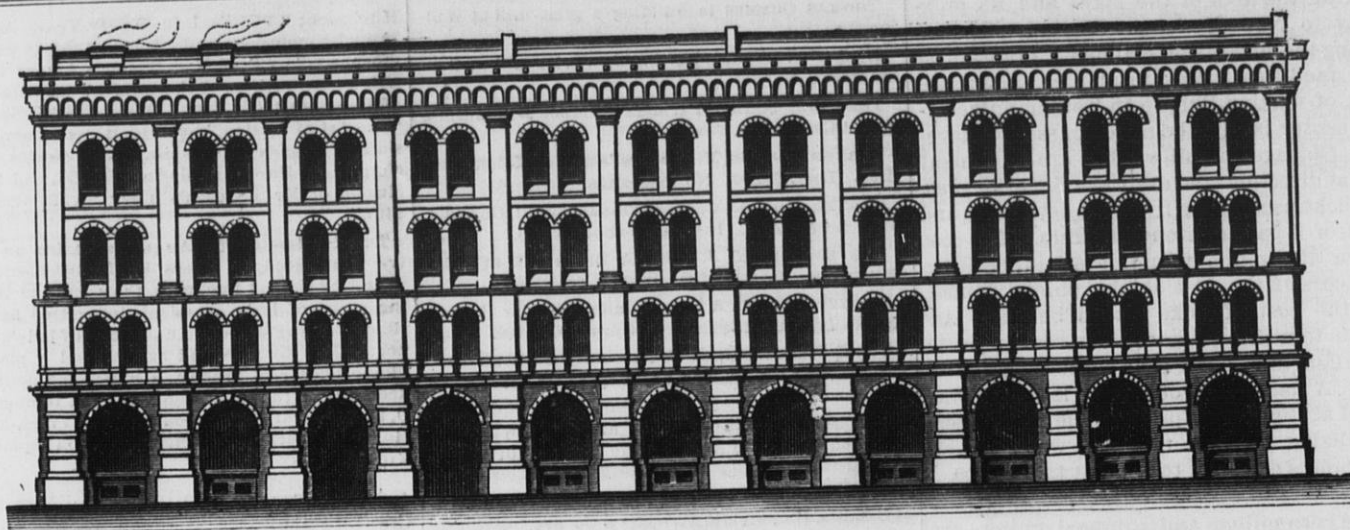


FIG. I.

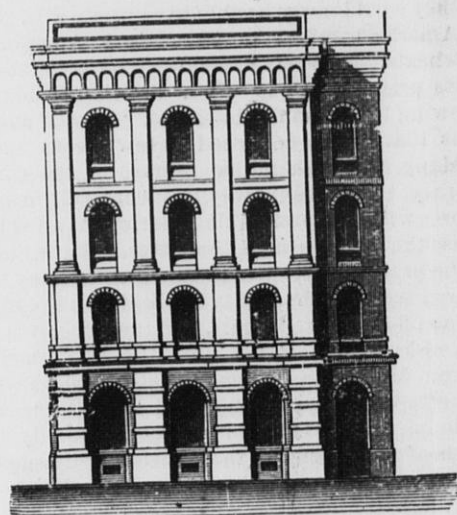


FIG. II.

THE NEW RYE MILL OF THE STEAM-MILL STOCK COMPANY AT DRESDEN, GERMANY.

MACHINERY OUTFIT BY NAGEL & KAEMP, OF HAMBURG.

Of the illustrations herewith Fig. I. represents the front view of the rye mill (containing purifying facilities and offices), Fig. II. a view of the gable side, Fig. III. a sectional view of the purifying department of rye mill, Fig. IV. a cross sectional view of the purifying department, and Fig. V. a cross sectional view of the rye mill.

The building consists of basement and four stories, the last of which, with its exceptional height of six meters, reaches directly the flat cemented wooden roof. The floors rest upon a central row of iron pillars with double iron plates. The upper floor is entirely free and the roof rests upon double thicknesses of timber.

Below the purifying room the machinery room is located, which extends to the second floor, being divided from balance of building in a fire-proof manner by iron beams and intervening arches. The other floors are on an equal height with those of the mill and are supported by iron pillars resting upon stone foundations. The basement of the rye mill proper contains the apparatuses for the aspiration of all break machines.

On the first floor six dismembrators of Nagel & Kaemp patent are placed in a row,

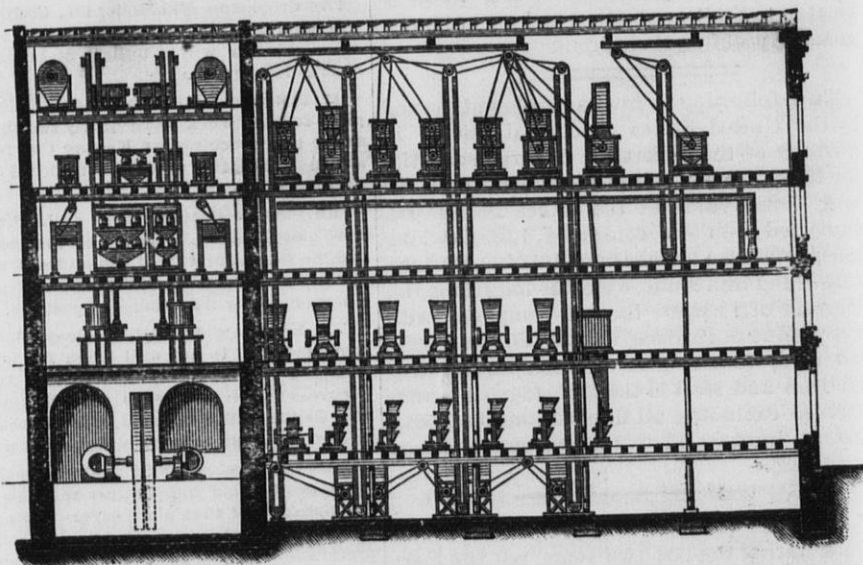


FIG. III.

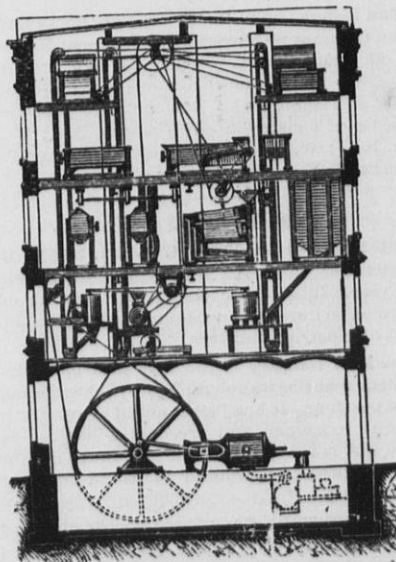


FIG. IV.

all of which are driven from their own pinions; the latter are supplied with tight and loose pulleys, thus setting either machine at rest with ease.

Arranged in a row on the second floor will be found six roller mills of the Nagel & Kaemp patent, driven from the main shaft located along the wall. The third floor is used for sacking flour, and flour hoppers and conveying and elevating apparatuses con-

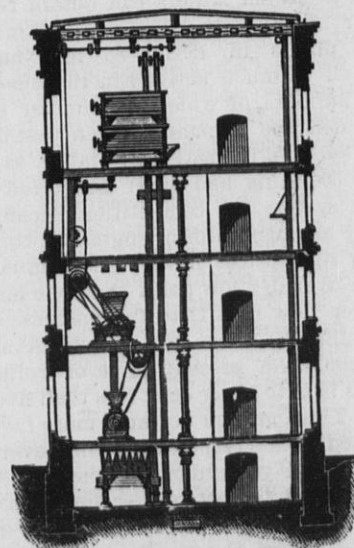


FIG. V.

stitute the only machinery on this floor. A bridge connects this floor with the warehouse, where the flour is stored and from where the shipping is done. On the fourth floor, fourteen centrifugal bolting machines of the Nagel & Kaemp patent are placed, the different sizes being adapted to the various quantities worked in the systems in use.

(FOR GROUND PLAN SEE NEXT PAGE.)

THE USE AND CARE OF CHAINS.

Mr. Henry Adams, M. I. C. E., at the meeting of the Civil and Mechanical Engineers' Society April 27, London, read a paper on "The Use and Care of Chains for Lifting and Hauling," which excited much interest and discussion.

He divided chains into two classes, those with oval links and those formed of flat bars or plates; the former were again subdivided into "common" and "short linked" chains. The latter being of the most importance received the principal attention; it was pointed out that the links being well rounded, each one acts as a spring when the load surges, and hence their universal adoption for lifting purposes. The dimensions of the links are for the extreme length and breadth $4\frac{1}{2}$ and $3\frac{1}{2}$ times respectively the diameter of the iron of which the link is made. In repairing or joining a chain the new link has to be made a little longer, to give room for welding, as there are two others in it instead of one, as in making a new chain. The various modes of welding were then described,

The strength of chains received very full notice; it was shown with crown s. c. iron of b. b. quality, equal to an average tensile stress of 26 tons per square in., an elongation of 15 per cent; and a contraction at point of fracture of 20 per cent., the chain should have a strength of double this because two sides are acting, or one side with a leverage 2 to 1, but there is usually a loss of 25 per cent. from imperfect welding and other causes. Several defects in welding were explained and an interesting collection of links handed round. From a large table of formulæ we select the following, d being the diameter of iron in $\frac{1}{4}$ ths of an in.; breaking weight in tons short linked crane chain = $\frac{1}{2}d^2$; Admiralty proof strains in tons = $\frac{3}{8}d^2$; safe load for ordinary cranes in cwt. = $1\frac{1}{2}d^2$; safe load for coal cranes in cwt. = $1\frac{1}{4}d^2$; weight in lbs. per fathom = d^2 . The proof test is made upon lengths of 15 fathoms each, the breaking test upon 4 ft.

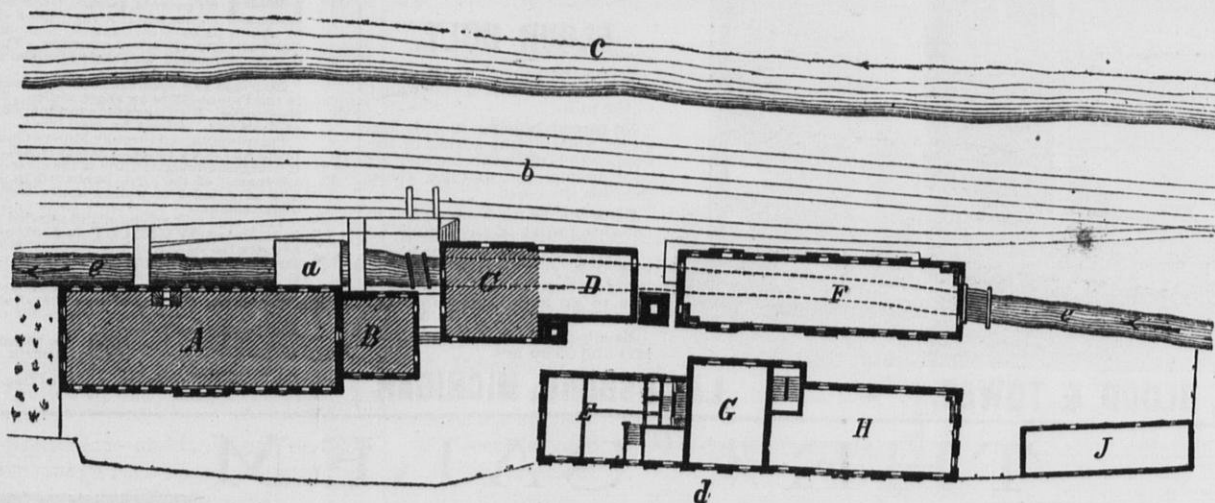
The author then described in detail the system adopted for the care and maintenance of the chains at Messrs. Cory & Son's coal-

the length the chains should be cut and pieced when partially worn, so that when finally discarded each link shall have done its full share of work without overstepping the limits of perfect safety.

ITEMS OF INTEREST.

THE RICE INDUSTRY.—The cultivating and milling of rice in Louisiana gives employment to a large percentage of her population. There are about 900 rice plantations in the state. New Orleans has 12 mills, with capacity of cleaning 275,000 barrels per annum.

STEAM JACKETING.—This was the title given by Mr. S. G. Bleasby to a paper read by him at the last meeting of the Junior Engineering Society, in London. The author in his introductory remarks said, that although the steam-engine had been in use for upwards of 100 years, we had even yet but an imperfect acquaintance of its theory. Of late years a few authorities had investigated the matter from a practical standpoint, and had produced results of much interest and value. The chief point of steam-engine



GROUND PLAN OF THE NEW RYE MILL AT DRESDEN, GERMANY.

and the peculiar tendency of some chains to twist while in use. The different sheaves in use according to circumstances were shown upon the diagrams, the diameter in any case being not less than thirty times that of the chain iron. The loose end of the chain should have a swivel either separate or as part of the hook, and all cranes except coal cranes should have counterweights; in these cases, as the tubs have to be pulled from under the hatchway combings, no counterweight is admissible. Several illustrations of chain fastenings were shown and described, and the modern forms of hooks and shackles were contrasted with those thought to be "nice" some years ago. Conveyance sheaves and other supports, chain bones for cylinder ends, and the best position of the machinery for cranes and hoists were described, and reference was made to Mr. Westmacott's patent cupped drum gearing for cranes, capstans and gate engines. Turning chains next came under review, and the various methods of connecting them to the crane. Stud link chains being used only for ships' cables and mooring purposes were passed over with only one remark, that the use of the stud was to prevent the chain getting kinked, and that it added slightly to the strength for a steady pull by keeping the link in shape.

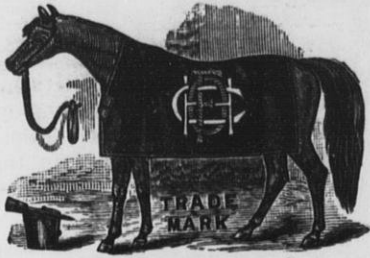
ing establishment, where he has been responsible for chains which have lifted upwards of 15,000,000 tons of coal in the last ten years, and during that period only one fatal accident occurred from a chain breaking, although the machinery is at work day and night, and the men necessarily work under the cranes. The inspection and lubrication are very thorough and each chain will make about 100,000 lifts before it is worn out for lifting purposes; it is then cut up into sling chains, barge moorings &c., as there are still many years of useful life in it. In hotels, warehouses, and large offices much damage is done by the servants sweeping the dust off each floor into the hoistway, cutting the chain like emery. Coal dust is not very detrimental to chains, but coke dust is decidedly bad. Sling and fall chains used in the erection of machinery and buildings are always used dry for various reasons; they should be put through a wood fire and annealed after every large contract, or, say, every two years, and carefully examined by a skilled man before being taken into use again.

In summarizing the points of economy in the maintenance of chains, the author said the testing should be moderate, the annealing frequent, the lubrication thorough, and when the wearing is not uniform throughout

inefficiency — incomplete expansion — continued to exist, as increased expansion entailed such loss by condensation. Greater economy than at present was to be sought in using a cylinder material of far less conductivity for heat than that now in use. From a correct indicator card, and knowing the quantity of feed water used, Mr. Bleasby showed how the existence of cylinder condensation could be proved, and proceeded to explain by figures the improbability of the change of temperature of the cylinder walls taking place through the whole thickness of the metal, owing to the very short time allowed for the change and the slow rate at which the passage of heat occurs. The author referred to waste gas and hot-air jackets, and after showing their inferiority, graphically indicated the beneficial results of steam jacketing. He concluded by observing that considerable economy was attainable; from the use of efficient steam jackets, and gave some practical considerations in their design, construction, arrangement and management.

A CURIOUS FACT.—Chicago Tribune: It is a well known fact among railroad men that on railroads running north and south the west rails wear out the faster; that five rails will wear out on the west side of the track while three are doing service on the east side.

Campbell's Horse Foot Remedy



WILL POSITIVELY CURE AND PREVENT
BRITTLE OR SHELLY FEET, CONTRACTED
FEET, QUARTER CRACK, CORNS,
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Cuts, Wounds, Shoulder-Galls, Scratches, Soreness
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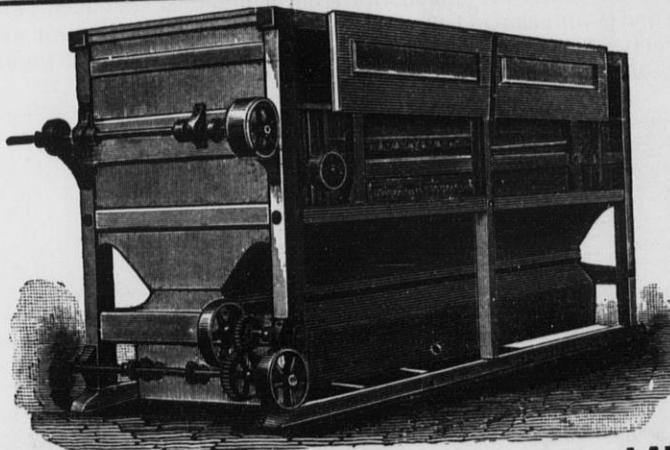
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—THE— Advance Shake FLOUR BOLT.

Better than the Centrifugal or
Old-Fashioned Bolt in every part
of the mill.

No forced bolting in this Machine, but a sliding action of the chop which tails the impurities over instead of driving them through the cloth.

No Machine but it can begin to equal the work of the ADVANCE.

This is no clap-trap or hoax, and if any miller is about to build or remodel, it would pay him to go a thousand miles to see this machine and its work.

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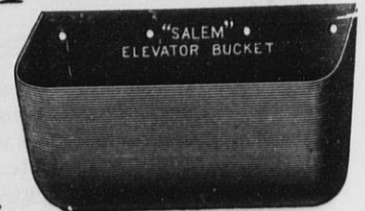


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THE FILER & STOWELL CO.,

MILWAUKEE, WIS.

THE PRIZE PAPER.

FIFTY OF THE BEST POINTS IN THE MANUFACTURE OF FLOUR BY THE MILLSTONE SYSTEM.

From *The Miller*, London.

1. Good stones and good wheat.
2. It is essential for good work that they be of uniform quality throughout; neither porous nor close, but free cutting.
3. For ordinary flat, or finishing grinding, there is nothing much better than the common ten-four dress.
4. For the production of middlings, or high grinding, a greater number of furrows of less width are better.
5. Face.—The face of a millstone is by far the most important "point" in a stone mill. Without a true face it is utterly impossible to do good work.
6. To obtain a good face, a thoroughly correct and reliable staff is necessary. There is nothing equal to the circular staff for correctness.
7. Where the ordinary staff is used great care should be exercised, as it may prove misleading. Keep it true.
8. Never, in staffing a stone, let the staff cross the eye. It should cover only about a fourth of the stone, or just up to the eye-burrs.
9. The grinding face of a stone should never exceed 9 inches, and this should be perfectly flat and smooth (not glazed).
10. Let the bedstone be really flat; but the runner should taper from the grinding face to the eye, for which use a short prepared staff.
11. Do not overdress your stones, but get them true and smooth by all means. Many a stone is spoiled by too much cracking. Be discreet.
12. Be particular about your furrows. Avoid sharp, rough fore edges. Inattention to this causes irremediable mischief.
13. It is most essential that stones should be kept sharp and in good face; for this reason they should be dressed at frequent intervals.
14. Running stones too long without dressing is a fruitful cause of bad face and unsatisfactory work.
15. Stones will preserve their work much longer where the driving irons are rigid.
16. Balance.—A correct running balance preserves the faces of stones, as an incorrect one certainly destroys them.
17. They should be balanced first standing, then running; for this purpose there is nothing like the well-known patent balance boxes.
18. Have the diameter of all driving-wheels and pulleys as large as possible, and belts to correspond; this saves power, and prevents excessive strains on shafts and bearings.
19. Next to a true stone face, the most important "point" is wheat—that is, wheat which will suit the stones and yield a strong, white flour.
20. In blending wheats for a standard mixture bear in mind the following qualities—strength, color and flavor.
21. A washer and whizzer for dirty wheat of the Indian type, and a damping worm for dry brittle wheat, are great acquisitions and profitable investments.
22. The conditions and adaptability of wheat for stones is an important matter.

Allowing the mixture to lie in a bin for a time will greatly improve it.

23. For suitability there is nothing equal to winter wheat, or our own native wheat when in good condition. The milder Russian wheat will supply strength.
24. Aim at a good standard of flour, and, when found satisfactory, maintain it. This can be done only by great attention to wheat.
25. Clean your wheat thoroughly of all extraneous matter by a proper arrangement of machines. Too much attention cannot be paid to this "point."
26. Let there be no waste in any part of the mill. "Do for your master as you would for yourself."
27. It is well to have some simple machine for the treatment of screenings, for the removal of any good wheat which may have got in accidentally. It pays.
28. A separate pair of stones for grinding screenings, etc., and a simple machine for dressing will pay. Their (the screenings') value is enhanced in the offals.
29. Grinding.—A well-dressed, true-faced and correctly-balanced stone will grind cool and free.
30. Cool meal dresses freely; hence true stones require less silk surface than untrue ones.
31. A regular even flow of meal indicates a true stone, and an uneven, intermittent flow an untrue one. The latter is generally hot.
32. A correctly-dressed stone will produce broad bran, the miller's desideratum. Broad bran and white flour go in unison.
33. However, if white, fine flour is desired, it must be finely dressed; and, if fine, a large silk surface is necessary.
34. Remember that length of silk means "length" of flour; and the finer the silk the greater the surface required.
35. Observe, good, properly-milled flour has a uniform appearance. Hard and soft flour mixed indicates bad milling and uneven stones.
36. Observe, also, that the finer flour is ground the whiter it becomes; and if killed by too much pressure, becomes blue-white and worthless.
37. Have no returns of any kind in your mill. Always work forward.
38. If you cannot finish in one operation, grind the unfinished stuff separately, and mix the flour; or, buy more machinery to treat it continuously.
39. Let everything be as automatic as possible. Hand labor produces irregular work.
40. Handle your products only twice, as wheat and flour (and offals).
41. No good stone mill is complete without one or more purifiers.
42. For purification, grade your middlings and arrange the clothing of your purifiers so that the tail sheet is one number coarser than its respective grader number.
43. Dust your middlings well, and properly ventilate your purifier fans. The outlet of stove-chamber should be twice as large as inlet from fans. This will prevent waste.
44. If you have sufficient stones or rolls, grind each size of middlings separately, and, for convenience, dress together.
45. A second, or greater number of purifications, is advisable; and grinding the middlings with rolls is an advantage.
46. If your rolls are belt driven, see that the differential speed is maintained. Too

much pressure will result in more power being required and less work done.

47. Make a practice of examining and testing all the products in the mill at least twice a day. The oftener the better, as trouble, regret and loss will thereby be avoided.
48. Have no unfinished products about the mill. These have a tendency to increase unaccountably, and are great nuisances. "A place for everything, and everything in its place."
49. Re-dressing all the flour will greatly improve its color. Wipers, or sweeper, hung on reels, will keep them clean; they can be lifted off or placed on at will.
50. Bear in mind always that a good article sells itself. Endeavor to give your customers a little more than their money's worth, and you will find it worth the money.

The question is often asked, why the coal fire will be increased in intensity by moistening the mass with water; that it is a fact is evident and without going into a lengthy discussion of the matter, we will state that the water contains Hydrogen, two parts; Oxygen, one part.

Technically speaking, then, no more heat is produced by the action of the water, but it is in the condition to communicate heat; the steam in contact with the incandescent coal is decomposed, the oxygen going to the carbon to form carbonic oxide, leaving the hydrogen of the water free. Now if the carbon is abundant as in firing, hence heat high. The carbon and oxygen is also decomposed, just doubling the volume of CO formed. In short, the water is decomposed by the heat, the hydrogen burns with a pale flame while the combustion is increased by the addition of the oxygen thus set free.

It will be seen from the foregoing, that to obtain the best results, the water must be added while the fuel is in a glowing condition, and if the addition is made before the fires are started, the fuel is merely wet, no decomposition has ensued, hence combustion is increased. The same rule applies, but in a modified force, to wood as fuel, but in this instance, the wood having more moisture than that of crystallization, while coal has much less; of course this must be driven off by the heat units represented in the wood (and wood, particularly *across the grain* being among the poorest conductors known) must not be considered as decomposed as carbon is not sufficiently in the majority.—*A Chemist.*

AN eminent civil engineer of St. Louis expresses the opinion that electricity will supplant gas for illuminating purposes within the next decade, and that the pipes now used for the transmission of illuminating gas will, during that time, be given up to the uses of fuel gas. The present illuminating gas companies will go into the business of manufacturing fuel gas, and will not be ruined by the advance of electricity. For fuel, gas will have to be manufactured. Natural gas will not supply the demand. The natural gas wells are becoming exhausted, and they cannot be relied upon for a steady supply. Everywhere one has been opened it has been drained in a little while. Those around Pittsburg will last longest, but they will refuse to flow, too, after some time, and then coal will have to furnish the gas.

THE FALL OF MME. EEF. — A friend clipped the following from a newspaper twenty years ago, and submits it for republication as about the most reasonable theory extant of Eve's temptation that has ever been written:

M. Adam was all alone in ze garden. He have plenty for eat and plenty for drink and ees very comfortable, but he 'ave not much clothes.

Von evening he lie down on ze ground for take a nap. In ze morning he vake viz a pain in his side.

He say: "O mon Dieu, vat ees ze matter, eh? Ah, Le Diable, ees one rib gone! I shall take un promenade in ze open air. I shall feet bettaire."

He promenade. Mme. Eef she approach. It is ze first lady zat M. Adam have ever met; it ees Mme. Eef's first entree to society. They approach each other and both are very much attract. M. Adam he say: "Madam, shall I 'ave ze plaisair for promenade viz you?"

Mme. Eef raspond: "I shall be most happy," and they valk together.

They promenade under an arbre; un arbre viz ze pretty appel on it; ze appel viz ze red streak.

M. le Serpent he sit up in ze arbre. He 'ave pretty mask all over hees face—look like elegant gentilhomme.

Mme. Eef she see M. le Serpent viz ze pretty mask and ze appel viz ze red streak, and she ees very much attract.

M. le Serpent he say: "Mme. Eef, shall I 'ave ze plaisair for peek you un appel?"

Mme. Eef she reach out her hand for take ze apple.

M. Adam he say: "Hoh! hoh! voila? Vat you do, oh? Do you not know ees prohibit? You must not touch ze appel? If you eat ze appel you shall become like un Dieu—you shall know ze good from ze evil!"

M. le Serpent he take un pinch of snuff. He say: "M. Adam, ees prohibit for you. If you eat ze apple you shall become lik un Dieu—you shall know ze good from ze evil. But Mme. Eef—Mme. Eef—she can not become more of a goddess zan she ees now."

And zat finished Mme. Eef. — *Atlanta Consitution.*

THE CARROT WOULD'N'T DO.—A man sat on a salt barrel on Michigan Grand Avenue yesterday making a great display of eating a carrot. A small colored boy halted in front of him, watched the performance for awhile, and then said:

"My fadder tried dat dodge de odder day."

"What dodge?"

"Tryin' fur to git sympathy, but it didn't work."

"Why?"

"Kase de whisky smells right frew de kar-rut. He's tryin' onions now."—*Detroit Free Press.*

It was spiteful, but spitefulness cannot be legislated out of human nature. "Did you hear that Mrs. Smith is having her picture painted?" "You don't say! That old thing!" "Yes, indeed; painted in oil." "Well, I never! In oil! If she ever wants to have a good likeness she'll have to be painted in vinegar."

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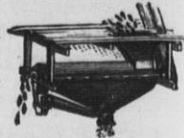
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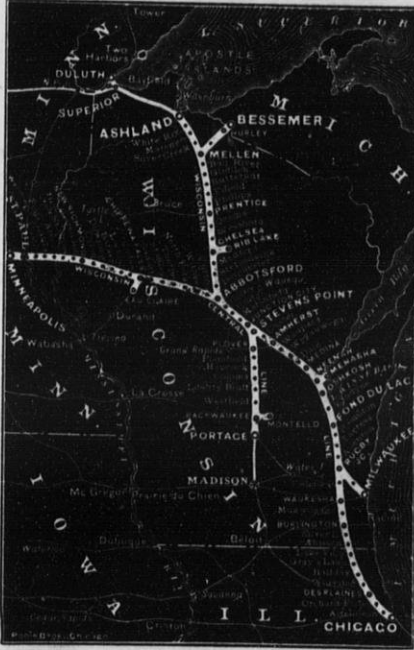
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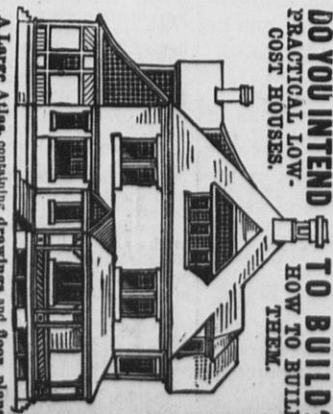
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HOW TO MAKE VIENNA BREAD.—First and foremost, Vienna bread is made with *patent* flour and compressed yeast. Neither potatoes nor ferment should be used, and in place of water it is best to use only milk, or milk and water. The following is a good method: to every eight pounds of flour take three quarts of milk and water (half-and-half), $3\frac{1}{2}$ oz. of compressed yeast, and 1 oz. of salt. Mix the warm water first with the milk so as to give a temperature of from 80° to 85° F. Now add enough flour to make a weak sponge, and take care that it is not of greater consistency than batter. Crumble the yeast and mix it well in. Let the sponge stand for about three-quarters of an hour. Now add in the remaining flour slowly and also the salt. The next thing is to thoroughly knead the dough, and set it to ferment for quite two and a half hours. It is best to use the finest spring American patent. By introducing a jet of steam into the oven, the bread is nicely glazed.

TO UNITE IRON AND RUBBER.—A correspondent of the *Scientific American* says that rubber may be fastened to iron by means of a paint composed of powdered shellac steeped in about ten times its weight of concentrated ammonia. It should be allowed to stand three or four weeks before being used. He says he has tried it.

DEATH TO RATS.—A German milling paper says that no rat can resist eating "brick stone" cheese (Backstein Kase) smeared with brimstone.

ADMITTING that Hungarian millers are the most skillful in the world, of what avail is their extra skill in making and holding profitable markets? Allowing that Hungarian wheat possesses some superior qualities not equaled by any other, and that Hungarian processes of milling are refined and multiplied above all other processes, it yet remains true that American millers convert American wheat into flour that answers the highest demands of the greatest number of consumers. While Hungarian millers are losing their markets, the American millers are gaining new ones and holding old ones. Less refinement might materially help Hungarian millers.

SPAIN will not impose further cereal import taxes. Recently a proposition to increase grain duties was voted down by 89 to 26. The present rates are \$1.49 on flour, 31 cents a bushel on wheat, 16 cents a bushel on corn, 9 cents a bushel on oats, 16 cents a bushel on rye, and 14 cents a bushel on barley.

The "bucket-shop bill" which became a law at the last session of the Missouri legislature is an iron-clad arrangement which will not only shut up all the bucket shops in the state, but will prevent any more trading in options with the Chicago Board of Trade, so it claims. The bucket-shop men naturally feel very sore over the demolition of their business, and will endeavor to revenge themselves by tripping up the brokers and commission men who have worked so hard to get the bill through. The lawyers have been consulted, and give it as their opinion that no orders can be forwarded to Chicago, as the law expressly states that anyone who opens up a business in the state to buy or

sell any commodity, and does not deal in the actual article, is liable. A test case will probably be brought into the courts before long.

The *Miller* (London) says editorially: "We have expressed our belief that American competition is responsible for but a portion of our present position. Now, we verily believe that the reigning depression in the milling trade, in other words, the difficulty of selling flour, is largely due, with the exception of such ports as London and Glasgow, and a part of the South of Ireland, to the stress of home competition. Such a result is, after all, only natural. The last few years have been spent by a large number of British millers in refitting their mills. This work of refitting has almost always been accompanied by an increase in capacity, and now the result of this enormous increase in the milling power of England is beginning to be apparent. This evil will in time cure itself, but we think that the imposition of anything like prohibitory duties on foreign manufactured flour would not have any effect in abating it."

THERE is a growing tendency to abandon the hydraulic test as an independent, self-sufficient means of determining the true condition of a boiler after having been in service, and all indications now point to the fact that the necessity of something more reliable is being generally appreciated. The advice so freely given that the hydraulic test should be cautiously and judiciously applied, and that its results should not be accepted with implicit confidence, is thus bearing fruit, even if only after years of experience. Those who have unbounded faith in the test and do not hesitate to deny the necessity of any further inspection, are happily decreasing in number from year to year, making room for men with a broader knowledge of the requirements of steam-boiler inspection and preservation. The hydraulic test has had ample opportunity of demonstrating its good and evil features, and it is only natural that a decline should be experienced in its popularity.—*Power*, April, 1887.

A STRIKING instance of labor-saving machinery is that which makes tin cans. One of the machines used in the process solders the longitudinal seams of the cans at the rate of fifty a minute, the cans rushing along in a continuous stream; of course a drop or two of solder is left on the can. The drop on the outside is easily wiped off, but is not so easy to secure the drop left on the inside. An ingenious workman has patented an arrangement for wiping the inside of the can without stopping the machinery. Result, several thousand dollars in royalties in his own pocket and saving of \$15 worth of solder

per day to the firm that uses it. Thirty thousand cans is a days work for this machine.

NOT A GEORGE-IAN.—Chicago *Tribune*: Arizona Road Agent—Hands up, in this stage coach! Lively now!

[Intermission of a few moments, during which considerable business is transacted.]

Sarcastic Passenger—You've got about everything except our boots. Hadn't you better go through us again?

Road Agent—I never take up two collections from one crowd. I'm no anti-poverty society.

BYSTANDER—"Doctor, what do you think of this man's injuries?" Doctor—"Humph! Two of them are undoubtedly fatal, but as for the rest of them time alone can tell."

"HELLO, Shorty," said a gamin, looking at a man of about five feet two, in front of the postoffice.

"Don't call me Shorty, you little cuss," answered the man of low stature; "if you do I'll warm your jacket."

"Ain't yer name Shorty?" replied the kid.

"No, it ain't Shorty," said the man.

"Den don't answer an' get mad when somebody yells shorty if yer name ain't Shorty. I was talkin' to Shorty. If yer ain't the man I was talkin' ter what's the matter wid yer?" said the youngster.

THE editor of the Chicago *News* is a pretty cunning man, but he slips up once in a while. He took a walk around Springfield one day recently. A buxom young lady, holding a baby in her arms, was leaning over the gate in front of a large, fine-looking residence.

"What a lovely child," exclaimed the observing journalist; "pray, may I kiss it?"

"Certainly," said the buxom young lady, and the Chicago man gave the baby a smack that made it put out its under lip and wrinkle its red face all up for a howl.

"That's as fine a child as I ever saw, madam! I'll warrant you it's the picture of its father!" said the editor. "In fact the child interests me so much that I'd like to have its father call on me at the hotel." With this he handed out a card.

"Sakes alive sir!" cried the buxom young lady, "it hain't got no father; this is a orphan asylum.—Chicago paper.

"HERE, porter," cried a distinguished victim of the interstate commerce law, who was traveling on a Southern railroad, "bring me a bottle of ale." "Can't do it, sah, we's passin' through a prohibition county. You'll have to wait about fifteen minutes."—*Burlington Free Press*.

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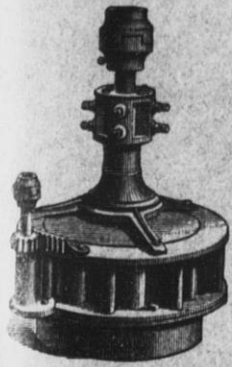
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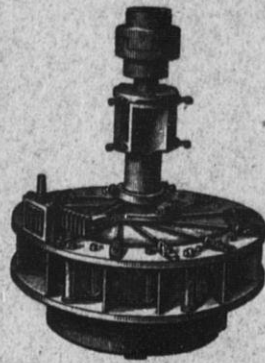


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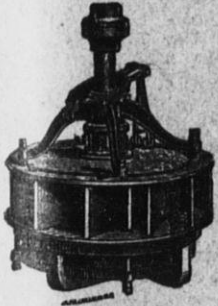
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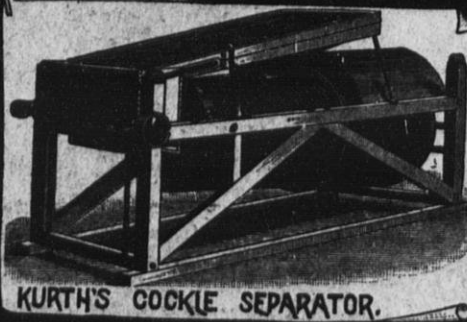
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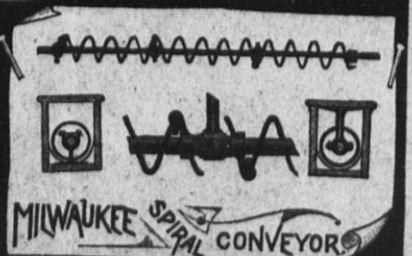
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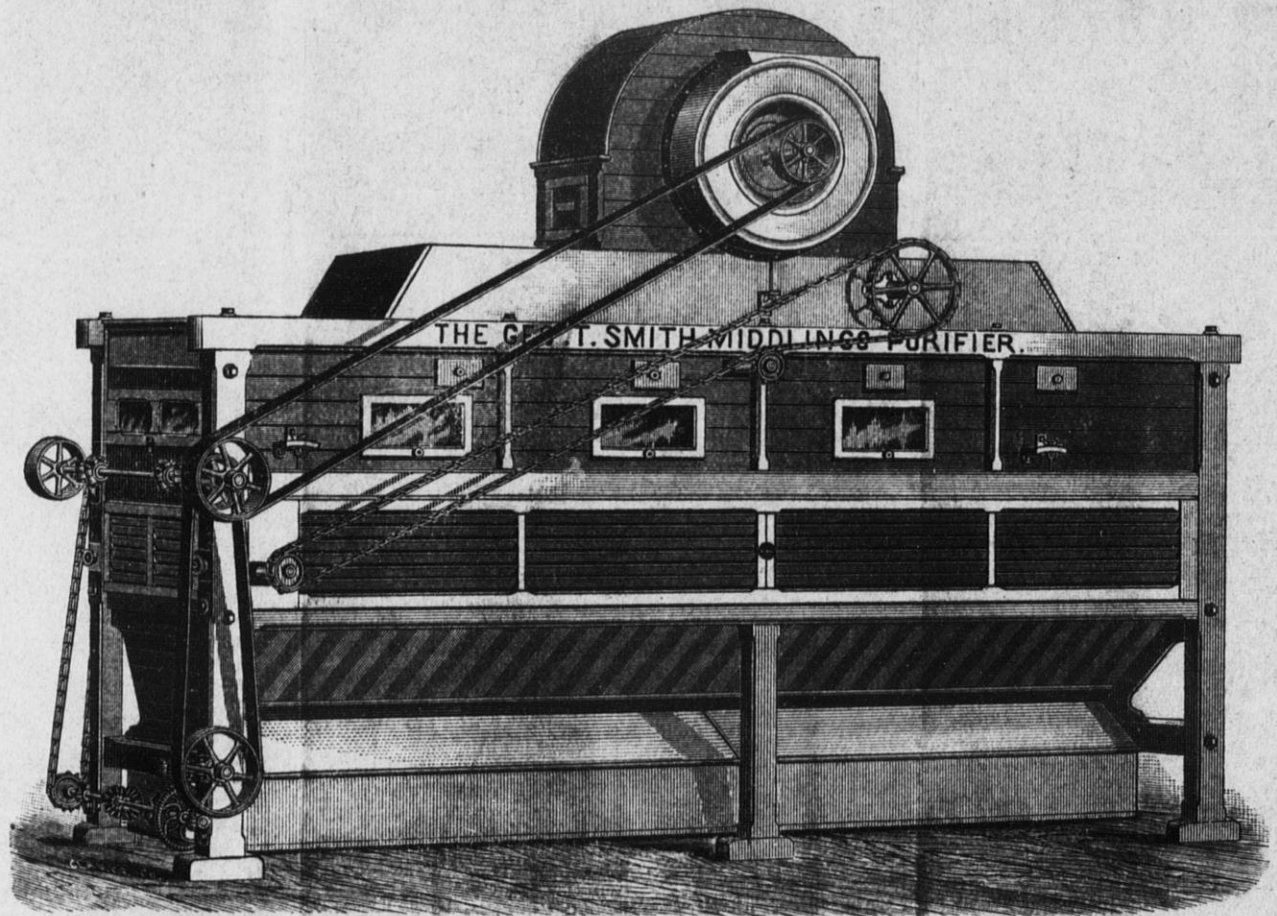


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\$80,000 Patent Decision.



The United States Circuit Court, for the Eastern District of Wisconsin, Judges Gresham and Dyer, have rendered a decision in favor of The Geo T. Smith Middlings Purifier Company in the suit of that Company and others against the Milwaukee Dust Collector Manufacturing Company.

The decision awards the Complainants upwards of eighty-thousand dollars damages and enjoins the Milwaukee Company from the further manufacture or sale of the Dust Collectors.

We have the exclusive right of Manufacturing Dust Collectors under upwards of twenty patents (all the patents in question, including the patent of Faustin Prinz).

For further information in regard to our control of the manufacture of Dust Collectors, we refer to our Attorneys in the litigation, Messrs. Flanders & Bottum, of Milwaukee, Wis.

We have improved the Dust Collector and fitted it for attachment to our Purifiers; when sold in connection with Purifiers, no extra charge is made for attachment.

**Geo. T. Smith Middlings Purifier Co ,
JACKSON, MICHIGAN.**



Published by
E. HARRISON CAWKER. VOL. 23, No. 6.

MILWAUKEE, OCTOBER, 1887.

TERMS: \$1.00 a Year in Advance
Single Copies, 10 Cents.

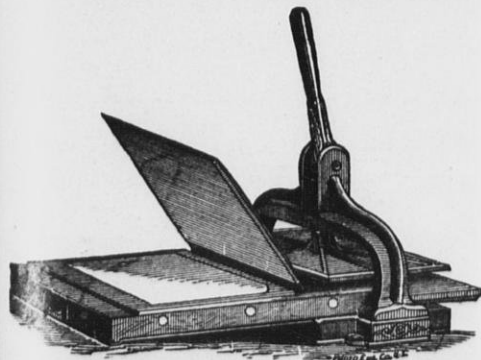
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"GOLD SEAL" RUBBER BELTING,
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Are you alive to the importance of handling the best goods that the market affords? In this day and generation good goods are coming rapidly to the front while the inferior goods are being relegated to the rear. Note the fact that the intelligent consumers of this country are inquiring more carefully into the quality of goods offered them and are beginning to realize that they cannot afford to use cheap goods even at low prices. In this connection we urge your examination of the specialties that we make and sell, as we believe them to excel all others in strength, durability, quality and finish. We sell them at such favorable prices that it is manifestly to your interest to handle them.

Yours Truly,

THORNBURGH & GLESSNER, Chicago.

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The Garden City Wheat Cleaning Process!

RESULTS IMPROVED IN ANY LONG SYSTEM MILL.
INDISPENSABLE FOR THE SHORT SYSTEM.

◀ HAS STOOD THE TEST FOR YEARS, AND NEVER FAILED. ▶

MILLERS

We wish to say a few words in regard to WHEAT CLEANING, and to ask you whether our views are not correct. With the exception of some few cranks, who cannot be convinced, until it tells on their bank account, NO ONE DOUBTS the existence of a certain amount of dirt in the crease of the berry. Nature put it there, and there it is, and you can call it by any name you choose. It is a self-evident fact, that unless this dirt is removed, it must be incorporated with the flour, and to incorporate it, is to lower the grade. The BEST SCOURER or even DECORTICATOR, will not do more than to clean the exterior of the grain, and hence the removal of this crease dirt, requires a different method of treatment.

WE OFFER THIS METHOD IN OUR PATENTED PROCESS.

FIRST, thoroughly clean your wheat. Get it as clean as the latest and best machinery can do it. SECOND, SPLIT THE CLEANED WHEAT, AND THEN SCOUR AND BRUSH THE HALF KERNELS. You are then in a condition to proceed with your flouring operations, and by no other method can you get as good results.

NOW GENTLEMEN, consider that this **PROCESS** has been in successful operation for the last five years, and has been thoroughly tested in hundreds of mills in this country and abroad. IT HAS NEVER FAILED TO IMPROVE THE GRADE OF FLOUR IN ANY MILL WHERE IT HAS BEEN ADOPTED. **LONG SYSTEM MILLS, SHORT SYSTEM MILLS, BURR MILLS** have all been benefited. You need this Process and cannot afford to do without it, as we can convince you.

We offer you to carry it out. **THE GARDEN CITY BREAK MACHINE AND BRUSH SCALPER**, and will guarantee the work. If you are now making a good FIRST BREAK, then the BRUSH SCALPER alone is what you want.

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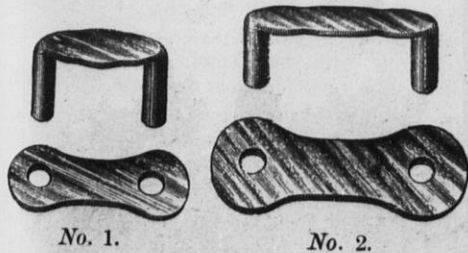
The United States Miller

Published by E. HARRISON CAWKER. { Vol. 23, No. 6. MILWAUKEE, OCTOBER, 1887.

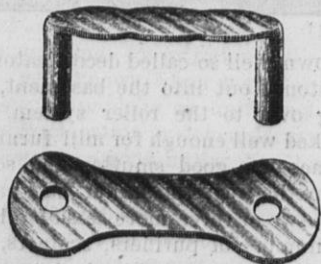
TERMS: { \$1.00 a Year in Advance. { Single Copies, 10 Cents.

THE SMITH PATENT BELT FASTENER.

What, another new belt fastener? No, not exactly a new belt fastener, but probably new to many readers of THE UNITED STATES MILLER, and we will, therefore be able to pose before the dusty fraternity as a benefactor for introducing this fastener to the patrons of this journal. We feel that we are doing them a great service, for which they and their descendants will rise up and call us blessed.



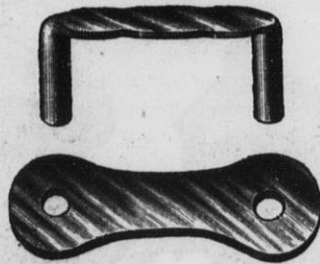
The Smith belt fastener has been upon the market about four years, sufficiently long to enable those who have used it to be able to speak of its merits, and they who have tried it speak aloud in one voice and unstintedly in its praise. The publisher of this journal when recently in the office of the enterprising agents, Messrs. Thornburgh & Glessner, at Chicago, was shown letters from all quarters of the civilized globe bearing witness to the excellence of this little contrivance. A little thing it is, but capable of doing an immense amount of good in this world of care and trouble, for here is a cure-all for nearly if not quite all of the annoyance in mills and fac-



No. 3.

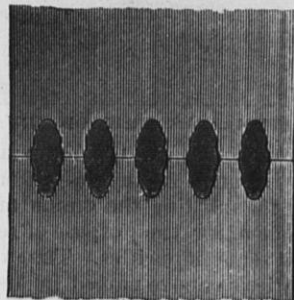
ories occasioned by a poorly laced or fastened belt. Here is a peculiarly made copper rivet of the shape shown in the cut, and provided with a copper washer made to correspond, and the method of application is so simple and easy that a word explains it. A hole is punched by the punch provided for the purpose, the rivet or fastener is put through the two holes, the washer is placed in position and the rivet ends ham-

mered down. The result is a perfect fastener warranted to last as long as the belt lasts. It passes smoothly over the pulleys, causing no jar as the backs of the fasteners are nearly flush with the surface of the belt. Longer

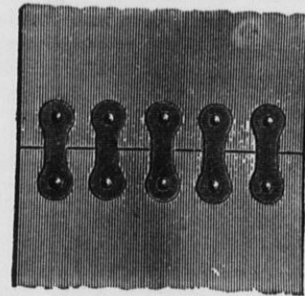


No. 4.

life to the belt and a steadier power is thus guaranteed, and the saving in time and trouble in a mill or factory equipped with these fasteners will amount to many dollars every year, while the cost of the fasteners used in the time is hardly worth mentioning, as one box will fasten from twenty to thirty belts. If power users only could be induced to keep a record of the number of hours consumed by their help in lacing belts and would notice the loss of power occasioned by poorly laced belts, they would be astonished at the result. Not one man in a hundred can properly lace a belt and even that one man will often ruin a belt or shorten its life by carelessness in lacing and the belting bill is thus increased.



With the merits of the Smith belt fastener once known among power users less complaint will be heard of poor belts. The belt is often more sinned against than sinning, to use an old expression. For the information of the public at large, we call attention to the fact that a separate size is made for each kind of belt. No. 4, as shown herewith, is intended entirely for leather belts, No. 3 for rubber belts, No. 2 for cotton belts and No. 1 large drive belts to run over very large pulleys. Extra long rivets are furnished when double belts are used. The cuts show also



the appearance of a belt fastened with this fastener. It is a matter of congratulation to the trade that the agency of this contrivance is in the hands of so well known a firm as Thornburgh & Glessner, of Chicago. The very fact that this firm is pushing their sale means that the article will soon stand at the head. They would not lend their name and reputation to any article that did not possess genuine merit. A descriptive circular of this fastener can be had by addressing Messrs. Thornburgh & Glessner, at 12 to 16 North Clinton street, Chicago.

PLEASANT PARAGRAPHS.

OXBERIENCE vas a bully deacher. Der only trouble mit him vas dot he gifs his knowledge out when it vas pooty late.—*New Age*.

MOSES and Isaac Rabbenstein were sitting in the back part of Isaac's store talking, when there came a jar to the building. "Mein Gott, Itzig," exclaimed Moses, rising in terror, "led us get oud." "Pe kvied, Moses; vat's der madder wid you?" said Isaac, angrily. "Vy. Itzig, dat var an erdkvuag." "Erdkvuag noddings! Dat vas only Shakey ubstains dropping der bri es on summer cloding."—*Tid-Bits*.

"CHARLES, I want to ask you to do something for my sake," said young Mrs. Tocker. "You know you are very dear to me, and I am always afraid something is going to happen to you. I saw in the newspaper that some men take their soda water with a stick in it. I'm sure I don't see how that makes it any better, but I do hope that if you take yours that way, you'll be careful not to swallow the stick. It would be sure to choke you to death. You'll be careful, won't you, Charlie?"—*Merchant Traveler*.

CLERGYMAN (to inebriate)—"My dear sir; you drink schnapps as if it was water."

Inebriate—"Alas! you have too good an opinion of me. I'm so out of practice at drinking water that it will be a long time before I can swig it down as if it were schnapps."—*Texas Siftings*.

LOUIS GATHMANN'S NEW OBSERVATORY.

Many of our readers who delight in looking around them and contemplating the works and mysteries of nature, have no doubt looked up to the stars and lost themselves in a variety of reflections. Others, perhaps, even take a great interest in astronomy, and for these the accompanying illustration will be of special interest. We say *special* interest, because even if there should be a miller who did not care enough about astronomy to go one step to find out whether or not the man in the moon was alive, he will feel interested when we shall explain further on what connection there is between the subject of this sketch and milling, beyond the fact that it is the property of a mill-furnisher.

of wheat and samples of mill products of every kind. Every miller who has looked at these objects through even a small glass only knows how plain a story the latter will tell in many cases, which would remain in the dark when searched after by the naked eye. What wonder if Mr. Gathmann received many valuable suggestions from his powerful magnifying glass when examining samples of flour, in order to determine the nature of the impurities present. It was through observations made in this manner that he was enabled to tell the fuzz and beard and bran and other impurities from the flour particles to such a nicety as to suggest the manner of cleaning wheat as advocated by him ever since. His microscopic studies further disclosed the nature of the black streak which is seen on splitting a

FROM LOUIS GATHMANN.

Editor of *United States Miller*:

At your request I herewith write you a few lines for your readers and thinking millers. I hope that my writing will please you, as you were aware that in giving my opinion I go the straight road, without "giving taffy" to anybody.

As I have said before this, I am satisfied that milling to-day is but little better understood than in years past, a great many millers apparently being unaware even at this late day, that it takes good healthy and strong wheat to make good flour from. Little progress has been made in this direction during the last twenty-five years, and scarcely has more progress been made in the wheat-cleaning department. A number of cases have come to my knowledge where millers



LOUIS GATHMANN'S NEW OBSERVATORY.

We cannot here go into the details of the building, and will only say that the house, as many of our readers will remember it, has recently been added the large tower, serving for the purpose of an observatory. The tower is about ninety feet high and fitted out with the various instruments used for astronomical observations.

Now, as to the relation between this observatory and milling. From the study of astronomy, which Mr. Gathmann undertook simply for his recreation; and from observations through the large telescope, developed a taste for optical observations of a different kind, and so, from the telescope to the microscope was but one step in this case. When he took up the study of the secrets that are revealed by a powerful magnifying glass, it was, of course, the most natural thing in the world for a mill-furnisher to explore the grain

of wheat through the seam, and this ultimately resulted in the invention of the machinery for splitting the grains and then scouring them, for the purpose of removing these black seam impurities. The ever present impurities as above named in discolored flour were made apparent by the microscope, and thus it happened that Mr. Gathmann, from examining all the products of a mill, was convinced that nothing short of complete removal of all foreign matter from the wheat grains before grinding would admit of the production of clear flour, as these impurities could certainly not be present from the beginning to the end of the reductions, if they had been removed before the grinding. Mr. Gathmann has often said, and evidently with good reason, that a rule is no more indispensable to a carpenter than a microscope to a miller.

have thrown their so-called decorticators and ending stones out into the basement, since changing over to the roller system. The idea worked well enough for mill furnisher, as in place of a good smutter and scourer (which, by the way, the miller had paid for long ago) two or three more sets of rolls, besides a number of purifiers, scalpers, bolts and centrifugals if possible, had to be put in, in order to remove the impurities in a more highly scientific manner, and at an excellent profit for the mill furnisher. This, when seen through the spectacles of our modern mill-builders, looked like real progress. In fact, however, "an ounce of prevention is better than a pound of cure," and in regard to this old saying, the smutter is the prevention, and the other numerous machines in place are the cure.

Now we come to the second part. Many millers have asked themselves the question: Is it really of much benefit, to clean the half kernels after the first break? And in answering this question, no doubt many have thought that if there was much in it, all our large millers would have already adopted it. They seem to forget that it was over two dozen years before our most wide-awake flour millers adopted the rolls after many roller mills had been in full blast. During all this time they hardly thought enough of rolls to even investigate into their merits, although our flour came in direct competition with the European full roller mills, and even after hundreds of millers adopted them, there were thousands who would not have them as a gift. The purifier met the same fate. It took many years before it was universally adopted, and a quarter of a century passed before it was evident to all first-class millers that the purification of some middlings was an absolute necessity for obtaining first-class results. Also in this case hundreds of millers for a long time would not have used a purifier if they could have had them free of charge. Why then should there not be millers for a long time trying to get along without a first break and a machine for cleaning the split wheat? But they will all come to it, just as sure as they did in the above-mentioned cases, as a clear, high grade of flour will always be demanded; and the miller who will produce it must keep in line with the improvements, in spite of the arguments of interested parties against it. As I said years ago, for the sake of comparison, if a cook wants to prepare good mashed potatoes, the first step is to secure good material, and to remove all impurities, even to cutting the potatoes open to remove everything unsound in the core. Then there is the clean stock to prepare the clean meal from. It matters little then, whether a two, three or four-tined fork of silver or steel is used for the mashing. All this appears to be a matter of course, and yet, from the methods of first grinding and pulverizing into thousands of particles, and then endeavoring to remove the impurities, it would seem as if some millers were very slow to recognize the common sense method in the above described proceeding.

If we could only forget our prejudiced notions about milling for a time, we would see at once that to make good flour we need good wheat in the first place, then a proper and thorough system of cleaning it, then the proper machines for grinding and a sensible miller, who knows when his offal is clean, and how to produce as uniform a grade of flour as the location or demand may call for.

In regard to a good miller, I will say a few more words. A great many mill owners make a great mistake in this respect. They fix up their mills as perfectly as their means will allow, or even as perfectly as they know how, and then have an incompetent man to run it. A good miller is cheap at any reasonable price, while a poor one is dear at any price. Success in this case depends in a great measure on getting a good man and paying him good wages. I have found it the best plan in our business to always get the best mechanics to be had, and pay them good wages; they are by far the cheapest in the end. It is well known that in this city the Garden City Mill Furnishing Company are

paying their men the highest wages. I mention this to show that I practice what I preach.

Another thing I will mention is that I have found the best school for millers in small and medium-sized mills. This class of mills gives the best chance for men who wish to learn milling throughout, the adjustment of rolls as well as the cleaning, bolting and purifying departments. Not only do these mills afford a better chance to learn all this more thoroughly, but also in much less time than in large mills. For the same reason it may be said that as a whole, better milling is done in small than in the larger mills.

Yours truly, LOUIS GATHMANN.
CHICAGO, Oct. 1887.

NEW PUBLICATIONS.

St. Nicholas for October opens with a delightful story entitled "An Ivy Spray," by Miss Alcott; Frank R. Stockton writes of "The Low Countries and the Rhine;" Gen. Badeau of "Grant at Vicksburg," and W. H. Rideing of "The Boyhood of John Greenleaf Whittier." There are numerous stories, sketches and poems by popular writers, and the illustrations are profuse and excellent.

The American Magazine for October contains five illustrated articles including a description of an ascent of Popocatepetl, by A. H. Noll; "A Pot-Hunter's Paradise," by C. L. Norton; "American Experience in China," by C. B. Adams, portraying the crowded life of Peking and the vicinity; and an account of the building of the Washington monument, by Oscar Foote. A number of other papers, including one by Grant Allen, stories and poems make up an attractive and valuable mass of reading. Among the poems is the striking one by Maurice Thompson, "Rebel or Loyalist". Published by The American Magazine Co., 749 Broadway, New York.

The *October Century* opens with an illustrated article by Mrs. Van Rensselaer on "Ely Cathedral." The chapter of the history of Abraham Lincoln gives a sketch of the secession movement directly following the election of 1860, and throws some new light on the details of the conspiracy to destroy the Union while presenting a vivid picture of Mr. Buchanan's weakness and vacillation. It is a chapter that should be carefully read by those who wish to understand one of the most important passages in American history. "Twelve Years of British Song," by E. C. Stedman, is a capital literary paper on recent English poetry. The war articles include a paper by Capt. Daniel Oakley on Sherman's March through Georgia and the Carolinas, and "Sherman's March from Savannah to Bentonville," by Gen. Slocum, profusely illustrated. The poetry of the number is by Helen Gray Cone, Louise Imogen Guiney, Robert Burns Wilson etc.

The October number of *Scribner's Magazine* will be an unwelcome one to a large class of its readers, in that it contains the last of the Thackery letters, which they have been reading with so much pleasure. It will be welcome, however, to another class, who like good short stories, of which they will find two here, "The Mortgage on Jeffy," by the lady who writes over the pen-name of Octave Thanet, and who has no superior in the line of pathetic provincial life and manners, and

"The Village of Viger," by Mr. Duncan Campbell Scott, who has a natural and charming vein of phantasy. There are two papers appropos to phases of French art and manners, one by Mr. Henry G. Avery on "The Paris School of Fine Arts," of which examples are given. The other by Mr. W. C. Brownell, who, in a consideration of French traits discusses the sense and sentiments of the Gallic nation. The serial of "Seth's Brother's Wife," by Mr. Harold Frederic, is continued, and the Japanese novelette of Mr. E. H. House, "The Sacred Flame of Torin Ji," is finished. The solid papers are an illustrated one on "Caverns and Cave Life," by Prof. N. S. Shaler; another on "Municipal Government," by Mr. Gamaliel Bradford, and a third on "The Bucolic Dialect of the Plains," by Mr. Louis Swinburne. The verse is by H. C. Bunner, Elgot Weld, Charles Edwin Markham and Graham R. Tomson on "An Unbidden Guest."

The *Illustrated London News* in its American edition of October 15th furnishes as usual many pictures upon a variety of subjects, including a double-page picture "Deer Stalking in the Highlands," three pages devoted to the British Mission to Morocco, a most pleasing and instructive picture entitled "A S. d Dog's Day," sketches of life on board a man-of-war, the home of Florence Nightingale, &c., &c. The supply of reading matter is also abundant and interesting, while the number complete costs at retail only 10 cents. The office of publication is 237 Potter building, New York.

ITEMS OF INTEREST.

THAT the barley crop in California this year is large is evinced by the heavy receipts, over a million centals or 50,000 tons having arrived from July 1st to date. Threshers report that in some localities the yield was full 100 per cent. greater than the growers had anticipated. In a single day as much as 2,000 tons have arrived at this port within the past few weeks. Some who have grown gray in the grain trade assert that they have no recollection of barley coming in so rapidly in any former season. This is corroborated by statistics, which show that, while in some former years, notably the one immediately preceding, there was some similarity to the present season, in no previous year was the aggregate of receipts so large from July to September inclusive. In the first quarter of the cereal year of 1886-7 the barley receipts were 905,000 centals, but with this exception, they never exceeded 700,000 centals for corresponding time, and in only three years, viz., 1876, 1879 and 1883, was the aggregate of 700,000 centals attained in receipts from July 1st to October 1st.—*San Francisco Grocer*, Oct. 14.

A 12 INCH screw having a pitch of 4in, turning in a trough with a clearance of $\frac{1}{4}$ in. and revolving with a speed of maximum effect, 60 turns per minute, discharged $6\frac{1}{2}$ tons of grain per hour, expending .04 horse-power per foot run. The sectional area of the grain moved was 49 per cent. of that of the screw. At speed above 60 turns per minute the grain did not advance, but revolved with the screw. An endless band 28 in wide, traveling about 9ft per second, delivered 70 tons of grain per hour; power expended, 014 horse-power per foot run.

UNITED STATES MILLER.

E. HARRISON CAWKER, EDITOR.

PUBLISHED MONTHLY.

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MILWAUKEE, OCTOBER, 1887.

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 UNITED STATES MILLER. You will thereby oblige not only this paper, but the advertisers.

EASTERN mill-furnishing establishments report business unusually good.

THE Kansas Millers' Association has 55 members representing 12,000 bbls. daily capacity.

ST. CLOUD, Minn., citizens claim that their city is to rival Minneapolis as a milling centre in a few years.

IT now seems highly probable that Switzerland will soon have a patent law similar to that in force in other countries.

WAS it, or wasn't it a straight square deal on the Chicago market that broke you? Don't you think you'd like to know?

NO more stoves will be used in railroad cars in the state of New York after May 1, 1888.

THE import of wheat-flour from the United States into Amsterdam, Holland, during the year 1886 amounted to 1,037,140 barrels.

FRENCH millers recently held their first National Convention for the purpose of discussing all matters affecting the French milling trade.

NO quorum being present at the meeting of the Northern Indiana Millers' Association, advertised, those present adjourned to a later date.

EXTRAVAGANT claims are being made as to the great value of G. Luther's middlings purifier, manufactured at Brunswick, Germany. It has been patented in nearly all countries.

H. W. CALDWELL is furnishing W. J. Meeks elevators with Caldwell's Automatic Grain Shovels (a new article of manufacture) and a large quantity of Caldwell's Conveyors.

NOW is the time for millers to mend their broken windows, and close up all unnecessary openings in their mills. Timely action will save wood and coal and add to the

comfort of employes. It is true economy to keep the mill comfortable in the winter.

THE *Oesterreichische Revue* says that the deaths upon the whole earth are calculated at sixty-seven per minute, 97,790 per day, 35,639,835 per year. The births according to the calculation are seventy per minute, 100,800 per day and 36,792,000 per year.

WHEAT being unusually dry this year, wheat-heaters will be in good demand. The action of the heater is to draw the moisture from the interior of the berry to the surface, thus toughening the bran and making its removal in large flakes easy.

FLOUR mill and elevator owners are respectfully requested to send us as soon as possible full answers to the questions propounded on page 92. The necessary blank will be found there. If there is not sufficient room on blank write us a separate letter. It is to the interest of the entire trade to have this work carefully done.

IN a recent circular from Harris Bros. & Co., 6 Crosby Square, London, we note the following: "Flour from abroad is a shade too plentiful, especially home millers are now making so good and cheap a sack, most bakers calling out for a better run of "straight" Americans, with not so much "patents" taken out, or they must go more on home-made!"

OREGON flour will hereafter be shipped to China via the Canadian Pacific Railway's new line of steamers from Portland to Port Moody and thence direct to Hong Kong, China.—Seven hundred and seventy-four bushels of wheat were raised on a 17-acre field of the Missouri Agricultural College Farm this year.—W. J. Clark & Co., of Salem, O., announce that certain parties are infringing their patent on elevator buckets.

REV. T. DE WITT TALMAGE recently preached a whole sermon on life insurance. He strongly urged his hearers to invest in insurance. It will now be in order for life insurance companies throughout the country to send the reverend gentleman a paid-up policy in payment for the advertisement so gracefully given.

A PHILADELPHIA lawyer, suspecting his client of being an imposter, turned detective, proved his suspicions correct, and then went into court and withdrew from the case, after handing the client over to justice. Verily, that lawyer was the big r scoundrel of the two.

THEY do say that there is to be a stampede among some of the leading Western millers to "THE SOO." Well, why not? If "THE SOO" suits millers better than some other points just let them stampede. There is plenty of water power there with fair shipping facilities, which our Minneapolis friends know full well.

THE Shields & Brown Co., 78 and 80 Lake street, Chicago, manufacturers of sectional pipe coverings, report business with them as very active. They have lately shipped a large bill of covering to a Western Railroad Company, and have closed several large city

contracts in Chicago. Beside which, orders for their well-known goods are now pouring in on them from all directions to such an extent that their factory is heavy taxed to keep up with the demand for their various styles of covering.

Their Eastern house at 143 Worth street, New York, is also enjoying a very active trade.

BROWN bread and Graham bread have long been praised by people of delicate appetites, but we will stake a considerable sum on the question of these persons resuming their praise of this sort of food after investigating the manufacture and baking of this material.

AMONG the laboring men of the new Congress is Senator Blodgett, of New Jersey, who began life as an apprentice in the Amoskeag Engine Works; Congressman Nichols, of North Carolina, who served six years as an apprentice in a printing office; Henry Smith, of Milwaukee, who is a millwright, and J. B. White, of Indiana, who was a calico printer in Scotland, and has been a tailor for many years in this country, but is now a manufacturer of carriage wheels.

J. R. DODGE, statistician of the United States Department of Agriculture, concludes his latest report as follows: "The product of the world promises to be quite as much as for each of the two preceding harvests. Present indications do not promise material increase of prices; they certainly do not demand lower prices." The report further shows a great falling off in the imports of wheat into the United Kingdom from Russia and India.

THE largest day's clearances of flour on record were made from New York Oct 20, namely 47,930 sacks and 10,220 bbls., or equal to over 62,000 sacks. This was said by the older flour men to be the largest exports of flour ever made in one day in the history of the trade. This is not a spasmodic activity either, as the exports of flour have been increasing almost as rapidly as those of wheat are decreasing.

THE Milwaukee Water Works now in use have a daily capacity of 23,000,000 gallons, and another engine with a daily capacity of 20,000,000 gallons is to be purchased as soon as the Legislature authorizes bonds to be issued for the purpose.

THE advantages of electricity over other means of illumination in reducing the fire hazard in mills, are noticed in the following paragraph taken from *Modern Light and Heat*:

Fire underwriters all over the country are now, it is interesting to know, strongly recommending and advocating the introduction of incandescent lights in factories where explosive dust is produced or inflammable fabrics are made. What is of further interest in this connection is the fact that mill owners and others are beginning to realize the superior advantages of illumination by electricity, not only in the better physical condition of the operatives, but also in the greatly decreased fire risk.

THE inference to be drawn from the official reports indicate that there is a small deficiency in the world's wheat crop.

J. L. STYNE, one of the brightest millers in this country died recently. He was a member of the firm of Dierks, Jenvey & Co., Harmer, O. He read a very interesting and valuable paper before the May convention of the Millers' National Association, in St. Louis.

THE grain dealers of Stockton Cal., organized a Merchants' Exchange and Call Board and elected a board of seven directors, with J. D. Peters as president. They will petition the San Francisco produce exchange to place Stockton warehouses on the list of the call board. The exchange will hold daily sessions.

MR. E. H. WALKER, for many years Statistician of the New York Produce Exchange, has joined the editorial staff of *Bradstreet's* the well-known commercial and financial paper published in New York, to which he will give his exclusive services. Mr. Walker is perhaps the best informed man in the country on the statistics of grain, flour, provisions and kindred lines. He is the author of the only complete records of this kind in the country, and the inventor of the "visible" grain supply statement. With his aid, in addition to the original work in that direction which *Bradstreet's* has done and has projected, that journal must become indispensable to all interested in those subjects.

WOULDN'T you like to know what has the harvest been? Oh! Wouldn't you like to know?

Is there a shortage of wheat on the world's crop?

Wouldn't you like to know?

WHERE are the profits on your last years' work?

Wouldn't you like to know?

WE recently met an old Milwaukee man who emigrated to Woonsocket, Dak., about three years ago, and naturally asked him about the country, how he liked the climate, how the crops were in his section, etc., to all of which he replied in terms most complimentary to his adopted territory. We queried further: Will trees grow well there? "Well, I should say they would," he answered. "Anything under Heaven grows luxuriously there that is a blessing to the human race. Why, just look at my head," said he, removing his hat. "When I left Milwaukee my head was as bald and shiny as a billiard ball and now just look at it. Can you show me a man in Milwaukee, young or old, that's got a better head of hair?" The hair was there and no mistake. It might be well for the bald-headed gentry to desert the front row in the theaters for awhile and take to the fertile prairies of Dakota.

IMMENSE FLOUR SALE.—The *N. Y. Commercial Bulletin* says: "The largest sale of city mills flour ever made in a single day's transactions was effected Oct. 14 by Hecker & Co., of the Croton and Metropolitan Mills, in the disposal of 30,000 sacks and 5,000 barrels, of which 20,000 sacks went to one European buyer in Portugal.

The above sale is remarkable, not alone for its volume, but as indicative of the growing strength of the Eastern mills, which now contest for the European trade, and, as never in the past, offer in proportion to their facilities formidable rivalry to the flour interests of the West. Our growing export trade in flour compensates for the decline in wheat exports, and the development of the foreign flour output is generally regarded on 'Change as the direct result of the Inter-State Commerce Law, under which the long haul shippers receive no discrimination favors, except under old contracts, and the New York market is given a chance to assert itself, as it is now doing.

OUR \$5.00 OFFER.

For \$5.00 we will send post-paid to any address in the United States or Canada, THE UNITED STATES MILLER (monthly), *The Northwestern Miller*, including Holiday number (weekly), *The American Miller* (monthly), *The Milling World* (weekly), and *The New York World* (weekly), with either one of the three books, "History of United States," "History of England" or "Everybody's Guide." These books are described fully in another column. Address orders to the publishers of this paper and they will be promptly attended to. Remit by Post-office Money Order, Registered letter or bank draft on New York or Chicago. Don't send local checks for our banks charge 25 cents each for collection.

DIED, Oct. 27, 1887, Carlos Ewell, of the well-known firm of Howes & Ewell, Silver Creek, N. Y., of bright's disease. Mr. Ewell was about 54 years of age at the time of his death. He was always esteemed as a skillful manufacturer and an honorable citizen. In noticing the demise of Mr. Ewell, the *Courier*, of Silver Creek, N. Y., says: "In the spring of 1866, he bought an interest in the firm of Howes, Babcock & Co., at Silver Creek, maintaining his connection therewith through the subsequent changes of Howes, Babcock & Ewell, and Howes & Ewell. In health, Mr. Ewell was noted for activity and unflagging industry, but since 1877 he had been more or less of an invalid, at times being compelled to abandon all active participation in the prosecution of business. This was notably the case from 1877 to 1883, when nervous prostration totally incapacitated him for business cares. From this, however, he rallied and again taking up his round of duties, the purchase of materials and supervision of the working departments of the great establishment of which he was part owner, he prosecuted them with much of his old time vigor, until, stricken with that dread malady, Bright's disease, his ability to care for his departments gradually waned, and one by one he relinquished his cares. Mr. Ewell was a man of much decision of character, exacting from those in his service implicit compliance with his instructions, yet possessing the happy faculty of retaining, in large measure, the respect and esteem of his employees. A man of untiring industry, he, seemingly, made social demands a matter of secondary importance, and spent his leisure time in the domestic circle. Successful in his business, his gains were largely expended in surrounding his family with such comforts and luxuries as would conduce to their happiness and

pleasure. In former years he had attained considerable prominence in local political circles. He leaves a wife, one married daughter, Mrs. Geo. W. Moore, of Leona, and a son and daughter, minors, to whom the sympathies of a wide circle of friends will be extended.

EGYPTIAN CORN.

A few weeks ago, we sent the following clipping taken from a Southern paper to the County Clerk of Sutter County, Cal.:

The planting of Egyptian corn is becoming quite an industry in some parts of California, and is being made very profitable by those who have undertaken it. On one ranch in Sutter County 1,000 acres are being put in.

In due course of time, we received the following reply from the Secretary of the Bureau of Immigration, the Hon. C. E. Williams.

MARYSVILLE, Cal., Sept. 1, 1887.

Editor *United States Miller*, Milwaukee, Wis.:

DEAR SIR: Yours of the 20th Aug. to the County Clerk, Sutter County, was referred to me. The cutting which you enclosed is quite true and the industry is assuming considerable importance, some 10,000 acres being planted this season. The greater part of it is grown on land summer-fallow for the next season's wheat crop. It thrives well on "upland" soil without irrigation, and is planted after the rains have all ceased, or at least at a time when we expect to get no more rain. The only trouble with the crop is in the gathering, as it gets ripe late in the season it is sometimes difficult to cure it properly. It yields well, if properly cultivated. I have never known of any being milled in any way. It sells for feed at about the same price as barley. It yields from 20 to 40 bushels an acre; weight 60 lbs. to the bushel.

I will send a sample of the grain to-day or to-morrow. Yours respectfully,

C. E. WILLIAMS, Sec.

ANOTHER MOVE BY THE MILLERS' NATIONAL ASSOCIATION.

The following correspondence clearly explains itself, and scarcely needs comment.

MILLER'S NATIONAL ASSOCIATION.

SECRETARY'S OFFICE,
Milwaukee, Wis., Sept. 16, 1816. }

To the Members of the Millers' National Association:

At a meeting of the sub-executive committee at the Grand Pacific Hotel, Chicago, Sept. 2, 1887, the following resolution was adopted:

Whereas, An official notice, dated May 5, 1883, published the fact that the Milwaukee Dust Collector Manufacturing Co., of Milwaukee, had made arrangements whereby they secured control of all patents that in any way conflicted with the right to manufacture the Prinz Dust Collector; and

Whereas, The Milwaukee Dust Collector Manufacturing Co. having closed out their dust collector business to the Geo. T. Smith Dust Collector Co., of Jackson, Mich., who will hereafter manufacture dust collectors, our members are hereby notified that the Geo. T. Smith Dust Collector Co., having succeeded to all the rights of the Milwaukee Dust Collector Manufacturing Co. in the manufacture of the aforesaid Prinz Dust Collector,

Resolved, That the notice of May 5th, 1883, be rescinded, and the secretary is hereby instructed to publicly notify members of the change mentioned above. Very truly,

S. H. SEAMANS, Secretary.

(Continued on page 88.)

FROM JONATHAN MILLS.

The United States Miller, Milwaukee, Wis.:

GENTLEMEN: In reading the report of the Pennsylvania Millers' State Association at Williamsport, Pa., on the 6th ultimo, I was much pleased with the report of the committee on patents. It is a well digested and a well written report. They, however, overlooked some matters that I think would have been well to have shown up in their report. There is as we all know several million dollars of a cash surplus in advance of costs of all nature now in the Treasury to the credit of the Patent Office, and in many departments a hearing cannot be heard on a claim in from six to nine months. The inventors and hard-working mechanics of this country have built up and supported this important branch of our government and justice demands that we should have more prompt returns than we are getting. Our Patent Commissioners for the past fifteen years have been greatly hampered by Congress withholding or rather not making appropriations large enough to meet the demands of the office. As I understand it, the Patent Commissioner must work his expenses within the appropriation: If our government had never fostered a patent system, it is hard to tell what kind of a country this would have been now. Stop the patent laws now and it would paralyze every branch of manufacture. It would at once stop almost every important manufacturing business in the country. If we will but stop to reflect on the benefits conferred on all classes of people, rich as well as the poor, by having our patent laws to protect and stimulate their various manufacturing enterprises and reflect and take into account the millions of devices patented that are used to make mankind the happier and greater, we stand aghast with our every sense of pride quickened at our wonderful ingenuity and fairly shudder to reflect what the consequences would be should our government conclude to abandon our patent system. Reflect on even the consequences of the small conveniences we have in daily use that we could not have expected to have if our inventors had not the patent laws to stimulate them and insure protection to capital and time employed to invent them. Take for instance the paper this is printed on, the type, the ink, the press, the pen or pencil that writes this article, the inkstand that holds the ink, the desk it is written on, if not all patented they are made by machinery that is patented, and who would have spent their time and racked their brain to perfect machinery to even make our common lead pencil if they were not sure of some kind of protection from our government? Take the common lead pencil from the people of the world to-day and it would throw our whole mercantile and manufacturing business in a perfect chaos. A supposition even could not be maintained for one minute that we would now be enjoying five per cent. of the many every day conveniences that we are enjoying if it was not for the protection of the patent laws of the different countries. I am not too sure but what we would still be using the old wooden plow or something in its place not much better.

Our Congressmen should take a greater interest in our patent laws, or at all events not hamper the Patent Department by with-

holding ample appropriations. The manufacturers, mechanics, merchants, farmers and men of every class that are entitled to a vote should not vote for any man for Congress that will not pledge himself to use his influence and vote to further every interest of our patent laws. They are fairly good as they now stand if they were not hampered by Congress.

I believe that there is more money invested to-day in patented articles and the manufacture of patented machinery than is used in every other branch of industry, not including the agricultural interests. Without the patented machinery used for agricultural purposes and to manufacture and transport the products of our soil, we would now be in about the same condition that India, Spain, Mexico and some other benighted countries are in to-day. What condition would our great country be in to-day without our patent-railroads and steamboats? I say patented in a broad sense for the reason that almost every part of a railroad is patented from the hand car on up through all and every grade of car up to the locomotive, the rails, the fish joints, the car wheels, the boxes, the brake, on through almost every part of the equipment from the signal light to the steam whistle, and to-day this great railroad interest is encouraging every inventor and invention that shows true merit. The inventor that should invent an indestructible railroad tie would receive untold wealth and the blessings and homage of the civilized world. What kind of heathens would we be without the railroad? Our President could not ride in a veritable palace from Washington to St. Louis in the short space of 30 hours and meet hundreds of thousands of intelligent people on the route. He could not notify the people in the great cities he is to visit that he would arrive in their midst on a certain day, hour and minute. Without the protection of our patent laws I venture to say we would lapse into a half-civilized nation.

In fact, I think we would soon lose all interest in upholding our country; our people would drift into tribal colonies. Without the protection of our patent laws we would never have had the telegraph to flash the busy doings of a day to and from all parts of the world, so that every man, woman and child that can read can learn all that is going on in the world almost every hour of the day.

In fact, the benefits of our patent system are so vast, that no man or set of men can begin to enumerate their number or blessings.

I am of the opinion that the time is at hand now that Congress should appoint an independent Board of at least five Commissioners to be paid out of the surplus money accumulated by the Patent Office. The duties of these Commissioners should be to adjust infringing cases and should in no way conflict with the duties of our present officers. They should have similar powers to our Interstate Commerce Commissioners. They should receive salaries large enough to command the very best talent fitted to the requirements. At least two of them should be attorneys thoroughly posted on patent and general law. The other three should be thorough mechanical experts with acknowledged ability that would command salaries of eight or ten thousand dollars a year as mechanical engineers from any large corporation requiring such

ability. They should be located at Washington and serve the year round, and should hold the position for life or as long as their integrity was not impeached.

Then if Roe believed Doe was infringing his rights Mr. Roe could notify the Board of Commissioners and they in turn could set a time that both parties could be heard, and the Commissioners should decide the matter right there and then and put an injunction on Mr. Doe if he was infringing, and if Mr. Doe concluded he had not received justice, let him appeal the evidence just as it had been presented to the Commissioners without any further testimony, to the Supreme Court for final decision, but he must stand enjoined until the court rendered a decision, and if then the court should decide to raise the injunction and let Mr. Doe go ahead with his patents, his patents should be extended to cover as much time as he had been stopped by the injunction, and Mr. Roe should pay all costs. The Commissioners should have the power of deciding the amount of damages in the shape of royalties that the infringing party should pay.

Then if the infringing manufacturer should not be able to pay the amount, the rightful patentee should have the right to collect of the user of the infringing machine not to exceed 20 per cent. of the selling price of said machine and not be compelled to pay anything out of the profits he might have gained by the use of such invention, except in process patents and they should be settled for on a basis fixed by the Commissioners at the time of giving their decision on the invalidity of the infringing machine or process, or within at least six months after their infringing decision. They should have the time and power to learn through the users of the infringing machine or process and through those using the genuine machines or process what would be a fair royalty for the infringer to pay, and I think it might be proper for the Commissioners to appoint a receiver to collect the royalties and pay the money over to the rightful patentee, with a full and complete statement of every transaction.

Some such arrangement as I have crudely blocked out should be made by our very next Congress, and I hope all the papers and every person interested will persistently urge this matter. I believe it is to every commercial as well as individual interest to use every possible influence for bringing about the appointing of such a Commission and to insist on more ample appropriations being made to allow the Patent Commissioner to keep up with his work in every department and hold him to account if he fails to do his duty, all of which I most humbly submit to the favorable consideration of all who have interest in the welfare, progress and development of our vast national resources.

JONATHAN MILLS.

CLEVELAND, O., Oct. 1887.

WATCH-SPRINGS are tempered by electricity by the Sedgwick Manufacturing Co., 21 S. Canal street, Chicago.

JAMES JAMES, a negro, residing at Santa Rosa, Mexico, is believed to be the oldest man living. He was born in 1752 and is now 135 years old. He ran a corn mill in Georgia for a number of years.

NEWS

BURNED—Perkins & Degarmo's mill at Sunset, Tex.

BURNED at Enochville, N. C. Plaster C Lipe's mill. Loss \$7,000.

BURNED—J. W. GIVIDEN's mill at Sulphur, Ky., loss \$7,000.

MCBRIDE & WAITE succeed Wm. McBride at Strathy, Ont.

T. WARTHEN & Co.'s grist mill at Warthen, Ga., burned recently.

ASSIGNED—Charles Koenig, Watertown, Wis.—Sold out, S. Carson, Galesburg, Mich.

BURNED, Oct. 23, Ellis & Co.'s flour mill at Hopkinsville, Ky. Loss \$40,000. Insurance \$30,000.

BURNED—Gary & Jones' mill in Portage, Wis., burned Oct. 28. Loss \$5,000. Insurance \$1,000.

DIED—Oct. 13, aged 67, Geo. Urban, Sr., one of the oldest and most prominent millers in Buffalo, N. Y.

BURNED—M. L. Luke's mill at Nanticoke, Pa.—A. W. Miln & Co., Champoeg, Oreg., has sold his mill.

AT Columbus, Miss., Oct. 24, Dr. Hutchinson's steam gin and grist mill were destroyed by fire. Loss about \$15,000.

NEAR Medford, N. J., 'Oct. 20, the flouring mill at Snyder's Mill, belonging to J. Bowker, was entirely destroyed by fire, causing a loss of \$6,000, partly covered by insurance.

THE new town of Walker, Ellis County, Kans., on the U. P. R. R., 275 miles west of Kansas City, is said to be growing rapidly. A good flour mill is wanted there and the citizens are willing to aid such an enterprise.

AT St. Paul, Minn., Oct. 23, at 3 A. M., the flouring mill belonging to Sylvester & Peddicord, in the south part of the city, was destroyed by fire. Insured for \$2,000. The fire is supposed to have originated in the furnace of the mill.

J. K. BARTON has bought the "Union Mill" at Trimble, Wis.—J. T. Walker & Son are building a mill at Mt. Airy, Philadelphia Pa.—B. B. Atkinson is remodeling his mill at Columbus, N. J., to a 50-bbl. roller mill, steam power.

AT Mooresville, Ind., Oct. 19, D. W. Overton's large new elevator was burned to the ground. It contained 12,000 bushels of wheat, 4,000 of oats, 2,000 of corn, and \$1,600 worth of clover seed. The entire loss is estimated at \$20,000; only partly insured.

BURNED—Oct. 4, G. H. Vincent's 50-bbl. water-power mill, near Waukesha, Wis. Loss \$6,000. Insured in Millers' National of Chicago for \$4,500. Fire thought to be incendiary. Mr. Vincent was just returning from Waukesha when he discovered the mill to be on fire.

THE new elevators of the Duluth Elevator Co., on the West Superior side of the bay, are nearly completed. No. 3 is ready for and receiving wheat, and Nos. 1 and 2 will be ready by November 1. These elevators will have a combined capacity of 5,000,000 bushels and will make the total capacity there about 19,300,000 bushels.

HUDSON & THRAILKILL, Milford, Tex., will soon build a 75-bbl. roller mill.—Bedford & Smith, Anderson, Cal., will build an \$8,000 roller mill.—G. Most & Sons are building a 100-bbl. roller mill at East Dubuque, Ill.—The Farmers' Roller Mill Co., Trenton, Tex., has been incorporated with a capital stock of \$30,000.

ANDREW PETERSON has bought the mill at Rushville, Wis.—Wm. D. Shorno, Reading, Pa., is changing to the roller system.—J. M. Taylor's 100-bbl. water-power roller mill at Slate Mills, Va., has just started up.—S. G. Brubaker & Co., Camden, O., are building a 50-bbl. roller mill.—James Bibby & Bros. are just starting up their mill at Charleston, W. Va.—J. J. Robbins is building a feed mill and elevator at Scranton, Pa., to be run by electricity.

A 100-BBL roller mill is being built for Gardner & Co., at Russellville, Ind.—Rogers & Bastian are about to build a mill at Carlisle, Ky.—Ritzer Bros. have leased Manegold's mill at Hartland, Wis.—Howes & Ewell's grain cleaning machinery was recently awarded a "Diploma of Merit" with "Highest Honors," at the International Millers' and Bakers' Exposition in Milan, Italy.—W. A. Coombs

now owns both of the mills at Coldwater, Mich., having bought out Johnson & Starr & Kerr Bros.

THE Baltimore, Md., *Journal of Commerce* of Oct. 22 says: "We are pleased to learn that the extensive flouring mill and elevator of the C. A. Gambrill Manufacturing Co., on Smith's wharf, in this city, which were so seriously damaged by fire last summer, have been thoroughly refitted, and that, with improved machinery and appliances, they will resume operation; on Monday of the coming week. The elevator has been busy getting in wheat this week and the bins are well filled. We congratulate the energetic management upon their success."

MILLS AND ELEVATORS BURNED RECENTLY.—L. Luziere's mill and elevator at Manteno, Ill. Loss \$50,000. Ins. \$12,000.—Robert & Jones' mill at Neosho Rapids, Kas. Loss \$12,000. Ins. \$5,000.—Golden Gate Mills, Denver, Colo., Loss \$45,000. Ins. \$12,000.—Horner & Slocum, Medaryville, Ind. Loss \$7,500. No Ins.—J. W. Richardson's elevator, Greenwich, O. Loss \$15,000. Ins. \$7,000.—Cullen & Feaga's mill near Frederick, Md. Loss \$4,000. Ins. \$2,500. Tyrell Mill Co.'s mill at Tyrell Hill, O. Loss \$15,000. Ins. \$4,000.—W. M. Galt & Co.'s mill, Washington, D. C. Loss \$21,500.—Marshall Bros.' mill, Inlay City, Mich. Loss \$5,500.—F. D. Tower's mill, Albany, N. Y. Loss \$25,000. Ins. \$15,000. S. McAllister's grist mill, East Brimfield, Mass. Loss \$3,500.—Aug. 19, The Eagle Mill in Memphis, Tenn., burned. Loss \$30,000. Ins. \$15,000.—C. B. Palmer's mill at Dayton, O. Loss \$17,000. Ins. \$13,000. Loss on stock not included.—Walter Holden's mill and a quantity of grain in Chester County, Pa., burned Aug. 6.—An explosion and fire in the malt grinding mill of the Bergdoll Brewing Co., Philadelphia, Pa., caused damage to the amount of \$100,000. Cause unknown.

ROWAN & SONS' mill at Shawneetown, Ill., is being remodeled to a 150-bbl. roller mill.—Geo. G. Dutton is building a 60-bbl. roller mill at Chester, Pa.—The contract has been let for the rebuilding the St. Anthony elevator, Minneapolis, to J. A. McLenan, of Chicago, who recently built the Great Northern Elevator at West Superior, Wis.—A boiler in the mill owned by the Geo. Plant Mill Co.'s mill in St. Louis, Mo., exploded Oct. 3, killing four persons and injuring several others.—N. Webber & Son are building a 50-bbl. roller mill at Eldorado, Ill.—Jas. E. A. Gibbs is building a corn mill and elevator at Rapshire, Va.—W. R. Freeman, of Chesapeake City, Md., is remodeling his mill to the roller system.—Three heavy failures of grain and flour brokers in Boston and one in New York are announced. Minneapolis, Rochester and Niagara Falls millers are losers to a considerable extent.—Burned—Douglas & Stuart's "Star" oat meal mill.—Large quantities of flour have recently been shipped from Portland, Oreg., to Great Britain.

MCCLURE BROS., at Bethany, Mo., have adopted the roller system. and W. C. Keith, of Goldfield, Ia., is about to do the same.—J. H. Little, Yellow Springs, O., are building a corn meal mill.—Watson & Fullington, Greensburg, Kans., will soon begin the erection of a full roller mill.—C. Asmuth's mill (feed) at Brandon, Wis., has burned, together with 5,000 bushels of grain and an adjoining grain elevator. Loss heavy.—Hatch & Talbot, millers, Rockland, Tex., have dissolved.—Burned—G. H. Vincent's mill, Waukesha, Wis.—Assigned—Dunlop & McClance, Richmond, Va.—Burned—Roundtree & Holcomb's mill at Broadhead, Wis.—It is reported that V. Stoskopf has sold his mill at Freeport, Ill.—Sold out—W. F. Allen, Ashland, Neb.—An unusually large number of millers have been obtaining loans within the last 60 days. It takes cash to buy wheat and many think that the present is a good time to buy.—Dissolved—Rush & Co., White City, Kans.—Dissolved—Carmer & Parmalee, North Lansing, Mich.—Work has been commenced on a 100,000 bushel elevator in Minneapolis.—Died—Sept. 27, at Aberdeen, Dak., W. H. Mass, a well-known Minnesota miller.

T. M. C. LOGAN is building an elevator at Blevens, Ia.—J. N. Ready, of Lewisville, Tex., desires to correspond with some miller with a view to the building of a flour mill at that place.—\$1,500 bonus for a flour mill at Grass Lake, Mich.—Incorporated—The Omaha Mill & Elevator Co., Omaha, Neb.; capital \$100,000.—S. M. Jennison & Son are building a mill at Talladega, Ala.—Beckley & Phipps, Paynesville Minn., now use steam instead of water

power.—J. P. Moore is building a mill on the site of his old one, which was destroyed by floods not long since, and Jacob Parker & Sons are doing likewise at Parker's Store, Ga.—B. Whitfield has finished his grist mill at Jefferson, Ala.—A 75-bbl. mill will be built at Filley, Neb., for J. R. Vorhees.—Milling seems to be in a very unsettled condition at present in California. It is thought, however, that the business will be steady and good in a month or so.—A stock company with \$30,000 capital has been organized at Anniston, Ala., to erect a 100-bbl. flour mill.—Bachman & Co.'s mill at Clover Bottom, Tenn., is nearing completion.—Freeman's 1,000-bbl. mill at La Crosse, Wis., has recently been extensively improved.—C. W. Bonniwell is about to build a 100-bbl. mill at Howard Lake, Minn.

PUBLICATIONS RECEIVED.

MR. TURNER, of the Link Belt Machinery Co. of Chicago, Ill., has furnished us with a handsome copy of the company's new catalogue. It contains 176 pages of handsomely illustrated letter press and is well bound. It graphically shows the numerous uses to which the link belting may be applied. Mill and elevator owners can secure copies by writing to the company.

WE acknowledge the receipt of the Fourth Annual Report of the Agricultural Experimental Station of the University of Wisconsin at Madison. This report is an especially valuable one and the article on "Feeding for Fat and Lean" is worthy of the careful attention of all interested in stock raising.

THE CHOICE OF A BOILER.

Buying a boiler which figures up largely in "heating surface" is one thing, and getting good evaporative results from this "surface" is quite another thing. It was supposed by many persons some years back (and is supposed yet by some few,) that the more tubes you could crowd into a steam boiler the better "steamer" it would be; but time and some bitter experience have proved to manufacturers that free circulation of water in the boiler is much more important. It has been proved time and again, says the *Millstone*, to the satisfaction of everyone (except coal dealers) that boilers having from six to ten tubes less than others, with a good open space in the center of the cluster of tubes of about 3½ inches, and the same space between the tubes and the shell of the boiler, evaporated more water per lb. of coal, besides giving good room for cleaning and a freedom from expensive repairs. The writer came across a case some years ago that will serve as an illustration. A prominent mill owner had in his boiler house a strong, well-built, 54-inch boiler of the tubular type, with 49 3¼-inch tubes, the boiler being 16 feet long. Draught to furnace good; setting of brick work under boiler very good. After one year's use the boiler did not steam well, no matter how much fuel was burned, sheets directly over fire grates had to be replaced twice on account of bulging down and cracking rivet holes. A good-sized man-hole was in front end under the tubes, and the boiler bottom was kept clean; good mud receiver at rear end, but the tubes were not not over three-quarters of an inch apart, and would be easily clogged to prevent steam bubbles from rising up to the water-line if the water should happen to be a little dirty. A finer grade of coal was used, still it wouldn't do. A row of tubes in the center was taken out, reducing the horse-power as per figures about ½; slack coal was used thereafter, and less of it than ever before, to do the same work. The old tubes were stopped up with "dummies."—*Mechanical World*.

MILLERS' NATIONAL ASSOCIATION.
SECRETARY'S OFFICE,
Milwaukee, Wis., Sept. 16th, 1887.

Having received letters from prominent members referring to the fact that dust collectors similar to the one made by the Knickerbocker Co., and called by it the "Cyclone," are offered for sale; and inquiring into the possibility of trouble and litigation arising therefrom, communication was opened with the Knickerbocker Co., the result of which was an interview at Milwaukee between the chairman and secretary of the sub-executive committee, and members of the Knickerbocker Co., at which interview the status of the applications in the patent office in the interest of the Knickerbocker Co., was fully explained. But inasmuch as a call had been issued for a meeting of the sub-executive committee at an early date no action was taken, and the Knickerbocker Co. was requested to present their case in writing at that meeting in order that the committee might take such action as they deemed best for the interest of the association. The meeting was held in Chicago, Friday Sept 2, when the following letter was presented by the Knickerbocker Co.:

JACKSON, MICH., August 18, 1887.

C. H. Seybt, F. L. Greenleaf, J. A. Hinds, Alex. H. Smith, S. H. Seamans, sub-executive committee Millers' National Association:

GENTLEMEN: With this we give you a statement of the history of the Morse Cyclone dust collector to the present date. Our object in writing this is that you may, if you see fit to do so, inform the members of your association of the situation, and having thus put them on their guard, probably prevent them from incurring future trouble and expense, which is almost certain to occur if they buy similar machines from any one but ourselves. As evidence of good faith, and to furnish the milling public with an assurance that they will be protected in the use of the machine bought from us against all other claimants, we tender for your acceptance the enclosed bond, which we will execute upon your expressing your willingness to inform your members and the public that such a bond has been delivered to you. At the same time we wish to give fair notice, that we shall in due time protect our property and our rights against unauthorized manufacturers or those who purchase or use any machines of that character not manufactured by us. Very truly yours, THE KNICKERBOCKER CO.,
Per R. H. EMERSON, Treas.

After hearing a full detailed statement by a representative of the Knickerbocker Co., regarding the status of their claims, your committee adopted the following resolutions, offered by F. L. Greenleaf:

Resolved, That the proposition offered by the Knickerbocker Co., of Jackson, Mich., to furnish a bond with good and sufficient sureties in the sum of fifty thousand dollars (\$50,000) to protect the members of the Millers' National Association in the purchase and use of the Cyclone dust collector, be accepted.

Resolved, That when the necessary bond is properly executed and delivered, the secretary publicly notify our members that such a bond has been provided for their protection in the purchase and use of said Cyclone dust collector, and that this association will not assume the defense of any purchaser of a similar dust collector conflicting with the patent claims of the Knickerbocker Co., but each individual buyer must look to the seller for his indemnity and protection.

The bond named in the foregoing resolutions, properly executed, is now on file with the secretary, and this notice is published by direction of the sub-executive committee, Millers' National Association, in accordance with said resolution. Very truly,

S. H. SEAMANS,

Secretary. Address, H. P. YALE & CO., Milwaukee, Wis.

FROM H. A. HUEFFNER.
[CORRESPONDENCE.]

Editor United States Miller:

Your favor of the 20th inst. came to hand, and in answer I will say the following: The opponents of the short system have, since the very time that the latter commenced to be heard of, spread the report that the product of the short system mills was deficient in strength. Perhaps they felt that they could not uphold their claims about low grade, small yield, and so on for a long time, and thought it a good plan to run down the strength of the flour. At all events I do not know on what authority they based their claims. Of course, running a short-system mill myself, I was deeply interested in the truth, and so at the first opportunity I sent samples of my flour to Saint Louis for inspection. As a definite proof a competitive test was made against one of the St. Louis mill, and the percentages of our out-put compared as follows:

Mine (Short System.)	St. Louis Mills (Long System.)
Patent, 70 per cent.	Patent, 25 per cent.
Baker's, 26 " "	Baker's, 63 " "
Low Grade, 4 " "	Low Grade, 12 " "

It will be seen from these figures, that in point of yields I was far ahead of the St. Louis mill, against whose samples I was to compete as to quality. The test was conducted under the supervision of the flour inspector and flour merchants of St. Louis, and two bakers of the same city. As to strength and baking qualities the samples from my mill and those from the St. Louis mill were pronounced without any marked difference, and if any, it was in favor of mine. Both bakers failed to detect any difference in the flour from both mills. The kind of wheat used in both mills was the same. I will also mention that the St. Louis mill claims to use 4 1/2 bushels, while I use 4 bushels and 26 pounds, which will settle the question of yields. Of course it must be understood that I do not claim such results could be gained by simply shortening any kind of long system. It is a system for itself which must be carefully followed out, from perfectly cleaned wheat to begin on, and through the proper grinding and scalping, &c. Hoping that many millers who may read this, and that are prejudiced against the short system, may duly consider the competitive test made as to percentages, yields, strength and baking qualities between the two systems.

I am very truly yours, H. A. HUEFFNER.
Palmer, Ills., Oct. 25, '87.

MILL FOR SALE.

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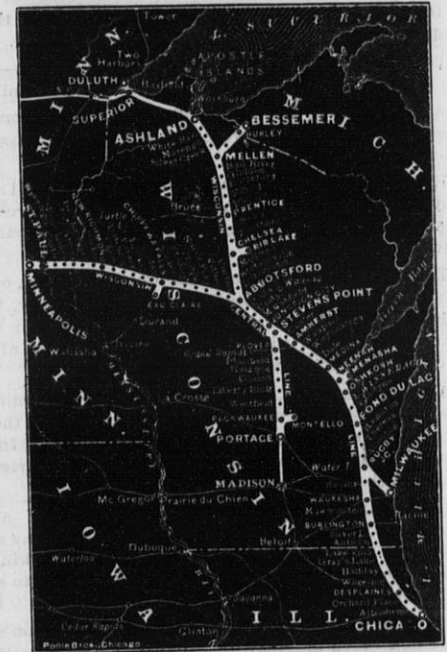
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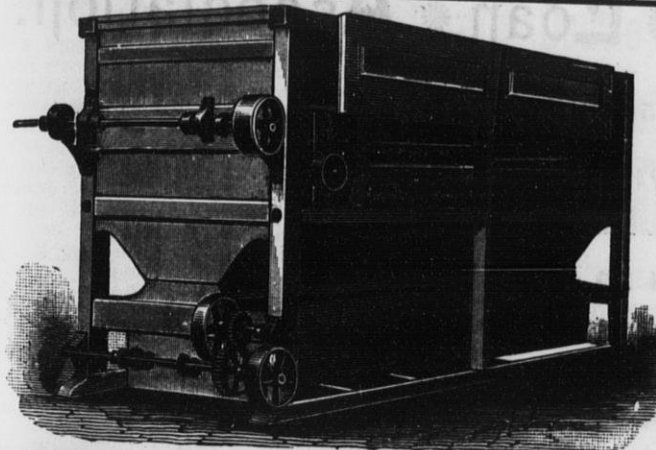
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FLOUR MILL DIRECTORY FOR 1886-87.

All persons desiring to reach the milling trade should invest at once in a copy of Gawker's American Flour Mill Directory for 1886-7, issued Feb. 1, 1886. It is carefully compiled; contains 18,289 addresses in the United States and Canada; Shows in thousands of instances the capacity, power and system of milling (i. e. whether the stone or roller or combined system is used). It also contains a list of millwrights and American and European flour brokers. The book is sold at \$10 per copy and can be obtained by addressing the United States Miller, Milwaukee, Wis. This Directory is published once in two years.

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We respectfully refer to the following well-known firms: S. H. Seamans (Empire Mills), Sec'y of the Millers' National Association; E. Sanderson & Co. (Phoenix Mills), Milwaukee, Wis.; Daisy Roller Mills, Milwaukee, Wis.; Nunnemacher & Co. (Star Mills), Milwaukee, Wis.; Roots & Co., (Millers), Cincinnati, O.; C. H. Seybt, (Miller), Highland, Ill.; Kosmack & Co., (Flour Brokers), Glasgow, Scotland; J. F. Imbs & Co. (Millers), St. Louis, Mo.; E. Schraudenbach, Okauchee Roller Mills, Wis.; Winona Mill Co., Winona, Minn.; Herrick, Kirk & Co., New York; and many others.

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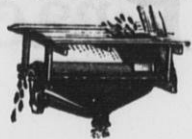
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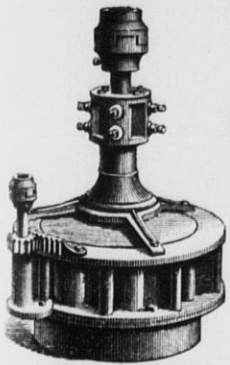
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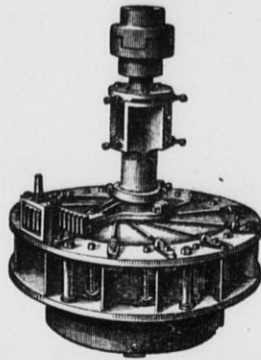
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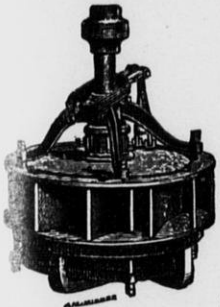
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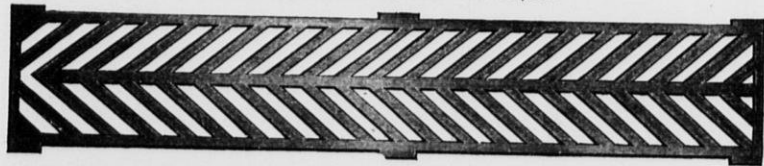
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* Campbell's Patent Grate Bar *

PATENTED AUGUST 1st, 1882. No. 261,930.



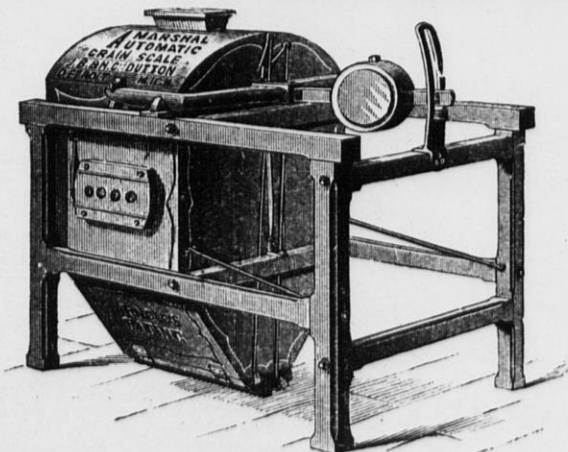
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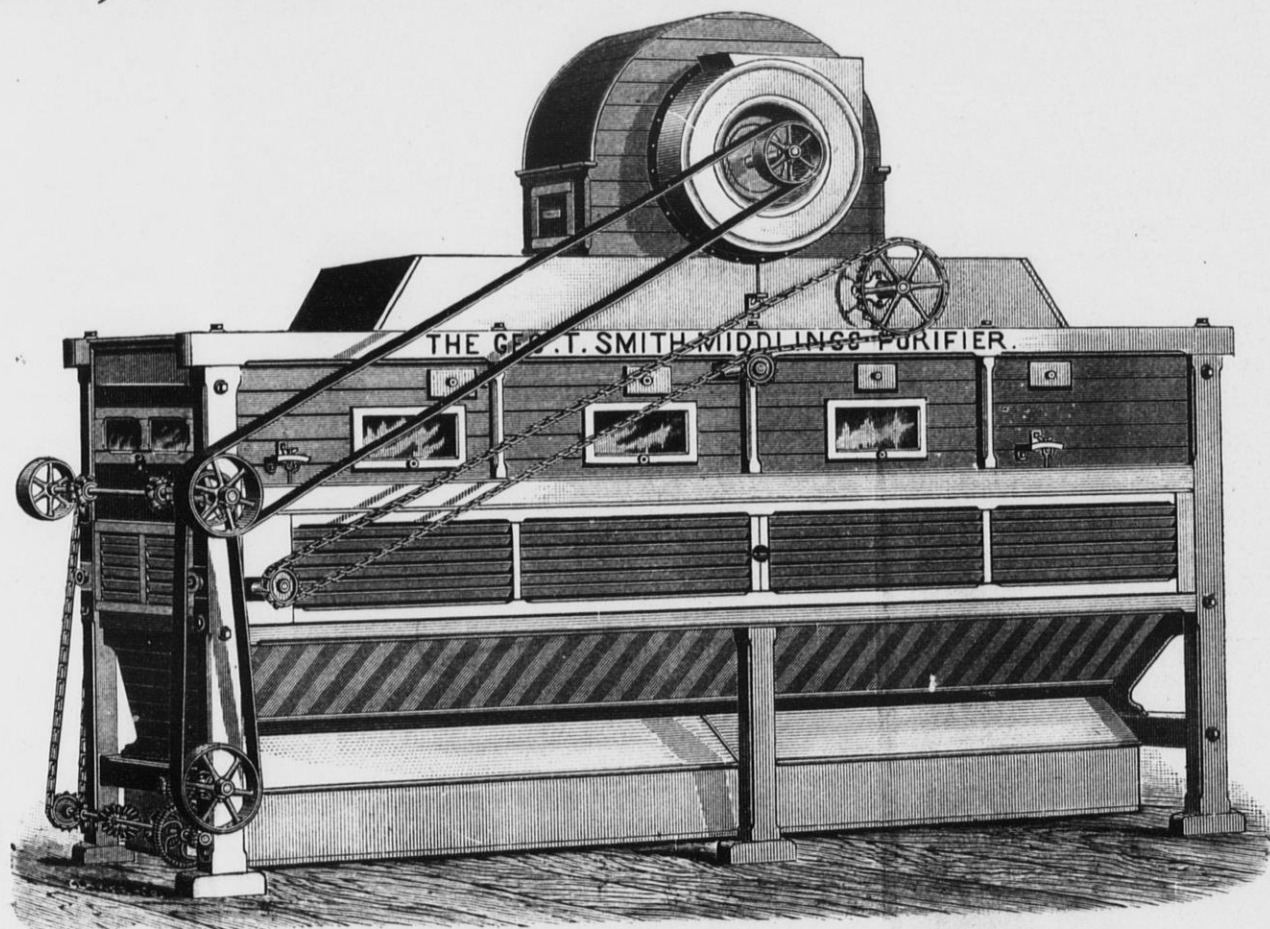
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THE UNITED STATES MILLER.

\$80,000 Patent Decision.



The United States Circuit Court, for the Eastern District of Wisconsin, Judges Gresham and Dyer, have rendered a decision in favor of The Geo T. Smith Middlings Purifier Company in the suit of that Company and others against the Milwaukee Dust Collector Manufacturing Company.

The decision awards the Complainants upwards of eighty-thousand dollars damages and enjoins the Milwaukee Company from the further manufacture or sale of the Dust Collectors.

We have the exclusive right of Manufacturing Dust Collectors under upwards of twenty patents (all the patents in question, including the patent of Faustin Prinz).

For further information in regard to our control of the manufacture of Dust Collectors, we refer to our Attorneys in the litigation, Messrs. Flanders & Bottum, of Milwaukee, Wis.

We have improved the Dust Collector and fitted it for attachment to our Purifiers; when sold in connection with Purifiers, no extra charge is made for attachment.

**Geo. T. Smith Middlings Purifier Co ,
JACKSON, MICHIGAN.**