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Published by
E. HARRISON CAWKER. } Vol. 21, No. 1.

MILWAUKEE, MAY, 1886.

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Single Copies, 10 Cents.

CAWKER'S AMERICAN FLOUR MILL DIRECTORY FOR 1886

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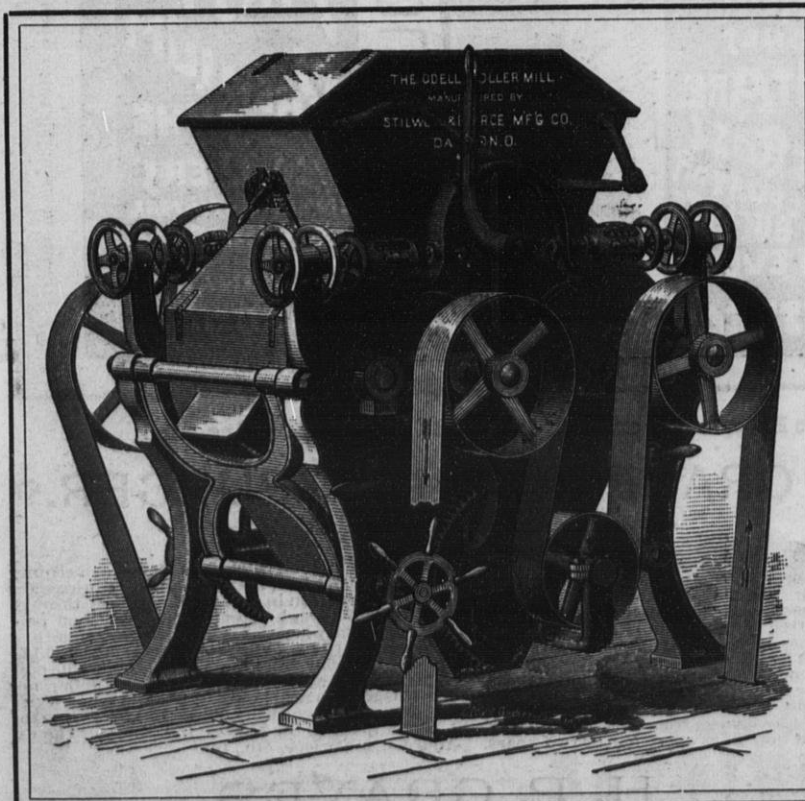
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FLOUR IMPORTER, MERCHANT MILLER,

Or anyone desiring to reach those connected with the **FLOURING INDUSTRY**, should order this Book at once.

THIS Directory contains the names and addresses of 18,289 Flour Mill owners in the United States and Dominion of Canada. It further specifies in many thousands of cases whether stones or rolls or both are used in the manufacture of flour; whether rye, buckwheat, cornmeal or oatmeal are specialties; whether steam or water power is used. Names of Millowners estimated to have over \$10,000 invested in the business are marked by a special sign. It also contains a reliable list of **MILLWRIGHTS** in the U. S. and Canada, and a long list of the **PRINCIPAL FLOUR BROKERS** in the U. S. and Canada, and a list of **EUROPEAN FLOUR IMPORTERS**. These last named lists are of immense value to **MILLERS**. Address all communications and make all paper payable to the order of

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ODELL'S ROLLER MILL SYSTEM



Is now in successful operation in a large number of mills, both large and small, on hard and soft wheat, and is meeting with unparalleled success. All the mills now running on this system are doing very fine and close work, and we are in receipt of the most flattering letters from millers. References and letters of introduction to parties using the Odell Rolls and System, will be furnished on application to all who desire to investigate.

Odell's Roller Mill

Invented and Patented by U. H. ODELL, the builder of several of the largest and best Gradual Reduction Flour Mills in the country.

AN ESTABLISHED SUCCESS!

We invite particular attention to the following

POINTS OF SUPERIORITY

possessed by the Odell Roller Mill over all competitors, all of which are broadly covered by patents, and cannot be used on any other machine.

1. It is driven entirely with belts, which are so arranged as to be equivalent to giving each of the four rolls a separate driving-belt from the power shaft, thus obtaining a positive differential motion which cannot be had with short belts.

2. It is the only Roller Mill in market which can instantly be stopped without throwing off the driving-belt, or that has adequate tightener devices for taking up the stretch of the driving-belts.

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4. It is the only Roller Mill in which the movable roll-bearings may be adjusted to and from the stationary roll-bearings without disturbing the tension-spring.

5. Our Corrugation is a decided advance over all others. It produces a more even granulation, more middlings of uniform shape and size, and cleans the bran better.

WE USE NONE BUT THE BEST ANSONIA ROLLS.

Our Corrugation differs from all others, and produces less Break Flour and Middlings of Better Quality.

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No. 4, weight 1,100 lbs., \$50.

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A beautiful Machine, per-
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on the Singer pattern, Black
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proved Attachments. War-
ranted perfect. Save money.

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all points East, South and Southwest.

Sheboygan & Manitowoc Line.

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Milwaukee..... Leave. Arrive.
At Milwaukee 6:00 p. m.

Manistee & Ludington Line.

Daily, leave 7 P. M., except Saturdays.

Saginaw & Bay City Line, Daily except Saturdays.

	Leave	Arrive.
Milwaukee.....	7:00 p. m.	At Milwaukee. 8:00 a. m.

Making close connections at Ludington with F & P.
M. R. R. for Saginaw, Bay City, Detroit, and all points
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urdays, at 7 A. M.

Menominee & Sturgeon Bay Line.

Tuesdays, Thursdays and Saturdays at 7 A. M.

Green Bay & Escanaba Line.

Leave Milwaukee Tuesdays, Thursdays and Sat-
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Quinnesec, Norway, and all Lake Superior points.

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Rapid * Grain * Dryer!**

FOR RAPIDITY, SATISFACTORY RESULTS AND THOROUGHNESS

UNEQUALED!

Get the Best; the Best is Cheapest. No Parch, Shrivell, Discoloration or other evidence
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The grain is dried at the rate of about 1,000 bushels per hour, the automatic arrangements and low
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of the very dry air, peculiar to this machine, remove from the grain any slight odor from sweat or heat,
and put it in condition to grade. The air used is a prepared air, and has all the varied degrees of low
temperature necessary. Damp grain made as rules of inspection require, or as dry even, as old grain.
Thus the BATES' DRYER is the most perfect as well as rapid dryer extant. It is beyond question The
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New Corn can be made to grade immediately by the BATES' CHAMPION RAPID GRAIN DRYER.
Corn of present crop, all over the country, is too damp to grade, and likely to be thus for
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dryer that can dry the Grain in large quantities at trifling cost, naturally, and not show parch, shrivel, or
other evidence of artificial drying; the drying by this method being precisely that accomplished by a
natural dry atmosphere, only that the machine accomplishes in a very brief space of time what would
ordinarily require months. It is not necessary by this process to dry out any more moisture than will bring
the grain up to the desired grade.

Dryers for grains of all kinds, including Brewers' Grains, cotton seed, flax, and grass seeds, glucose
refuse. Also for Phosphates, Starch, Glue, Fruit, Lumber, Shingles, and Veneering, Hides,
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THE BATES' FERTILIZER DRYER accomplishes about three times the work accomplished by any
of its competitors with about one-quarter of the steam. Besides grinding and drying the offal, this dryer
delivers it cold and ready for immediate shipment.

The expense of drying by this method is reduced to smallest possible cost, which is below that of any
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P. O. BOX 585.

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To Preserve Iron and Keep Boilers and Flues from Scaling, use

*** H. P. GRAVES' BOILER PURGER. ***

It has been practically demonstrated that a scale one-sixteenth of an inch thick on a Boiler will require
twenty per cent. more fuel than a clean Boiler, while a scale one-fourth of an inch thick will require sixty
per cent. more fuel. The scale is a non-conductor of heat, and its formation in Boilers is general through
the United States, more especially in the lime and alkali districts, and enough attention has not been paid
to keeping Boilers free from accumulations. The cost of fuel for steam purposes is an important item, and
any system for economy in this direction should receive due consideration. I am manufacturing a BOILER
PURGER which I claim is the best made: First.—That it will remove the scale from any Boiler, and, by its con-
tinued use, will keep it from forming. Second.—That it will not injure the Boiler, Valves or Cylinder, nor
foam the water, nor injure the water for drinking purposes. It is easy to use, being in a liquid form, it can
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Tank. Third.—That by its use, from fifteen to forty per cent. can be saved in the cost of fuel, besides the ex-
pense of putting in new flues every one or two years. Address, for prices, etc., to

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DETROIT, 36 Jefferson Ave.

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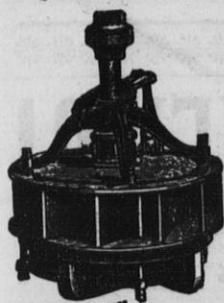
Office: No. 11 S. George St. York, Pa.



Works: Christiansburg, Lancaster Co., Pa.

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Improved + Walsh + Double + Turbine



This wheel has a perfect fitting cylinder gate and draft tube combined, and allows no water to escape when closed.

POWER GUARANTEED

equal to any wheel on the market using equal amount of water. Address for particulars,

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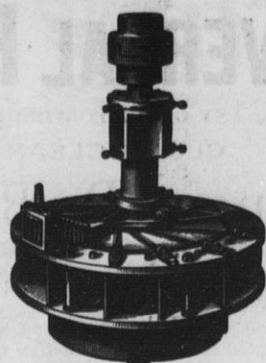


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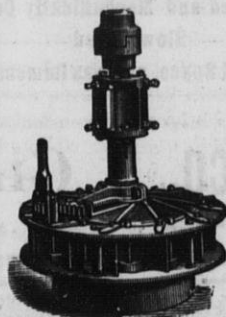
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Made of best material and in best style of workmanship.

Machine Molded Mill Gearing

From 1 to 20 feet diameter, of any desired face or pitch, molded by our own SPECIAL MACHINERY. Shafting, Pulleys, and Hangers, of the latest and most improved designs.

Mixers and General Outfit for Fertilizer Works.

Shipping Facilities the Best in all Directions.

POOLE & HUNT, Baltimore, Md.

N. B.—Special attention given to Heavy Gearing for Pulp and Paper Mills.

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Alcott's Improved Turbine.

This Wheel is considered one of the most correct that has been devised, gives the highest results, and, with late improvements, is now the best, most practical, and efficient Partial Gate Wheel in existence.

For Economy, Strength, Simplicity, Durability, and Tightness of Gate, it has no equal. State your requirements, and send for Catalogue to

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Rolls Re-Ground AND Re-Corrugated

— TO ORDER —

Also, Porcelain Rolls Re-Dressed,

Our Machinery for this purpose is very accurate. Can do work promptly.

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FROM 1-4 to 15,000 LBS. WEIGHT.

True to Pattern, sound, solid, free from blow-holes, and of unequalled strength. Stronger, and more durable than iron forgings in any position or for any service whatever. 40,000 CRANK SHAFTS and 30,000 GEAR WHEELS of this steel now running prove this.

CRANK SHAFTS and GEARING specialties. STEEL CASTINGS of every description.

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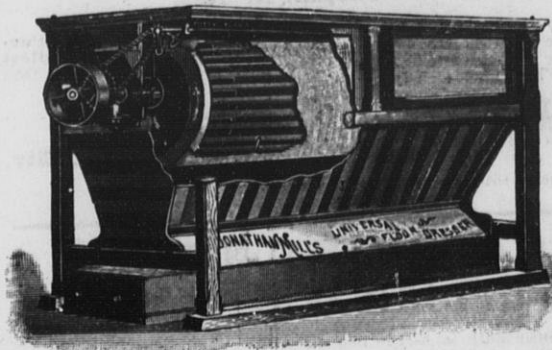
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GUARANTEED TO BE SUPERIOR TO ANY OTHER BOLTING DEVICE FOR
CLEAR, CLEAN

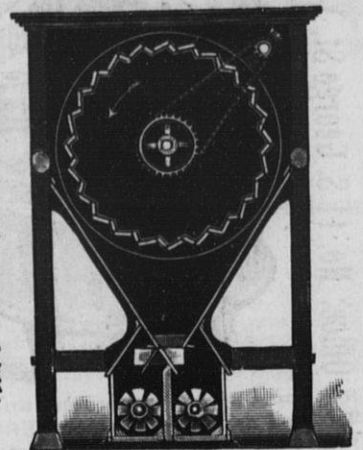
Bolting or Re-Bolting

OF ALL GRADES OF FLOUR.

They cannot be beat on any Stock, and are being extensively adopted for the entire Bolting in new mills.



Finely Designed and Mechanically Constructed.
— Slow Speed —
Occupies Small Space, and has Immense Capacity



For Price Lists, Sizes and Dimensions send to the

THE PROSPECT MACHINE & ENGINE CO., CLEVELAND, OHIO.

(Formerly THE CUMMER ENGINE CO.)

Send also for 150 Page Catalogue Describing their Engine.

Milwaukee & Northern Railroad.

THE OLD RELIABLE ROUTE.

17 Miles the Shortest Line

— TO —

GREEN BAY,

Fort Howard, Depere, Menasha,
Neenah, and Appleton.
Marinette, Wis., and Menominee, Mich.

— THE NEW ROUTE TO —

New London, Grand Rapids, and all points in
CENTRAL AND NORTHERN WISCONSIN.

The new line to Menominee is now completed, and opens to the public the shortest and best route to all points on the Michigan Peninsula.

CONNECTIONS.

AT PLYMOUTH with the Sheboygan and Fond du Lac Division Chicago & North-Western R'y for Sheboygan and Fond du Lac.

AT FOREST JUNCTION with Milwaukee, Lake Shore and Western Railway.

AT GREEN BAY with Chicago & North Western and Green Bay, Winona & St. Paul Railroads, for all points North and West.

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SUPERLATIVE PURIFIER!

“UNLIMITED CAPACITY.”

SALEM MILLS.

SALEM, DAKOTA, FEB. 15TH, 1886.

SUPERLATIVE PURIFIER MFG. CO.,

Milwaukee, Wis.

GENTLEMEN:—We consider the Purifier all you claim for it. It can be controlled to suit the work required and has almost *UNLIMITED CAPACITY*. I can safely say it is the *BEST PURIFIER I EVER SAW*.

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Pres't Salem Mill Co.

FOR PRICES, ETC., ADDRESS

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MILWAUKEE, WIS.





Published by
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MILWAUKEE, MAY, 1886.

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Single Copies, 10 Cents.

DOING UP THE BEARS IN RHYME.

NOTE BY THE AUTHOR.—An advance in wheat is nearly an impossibility. All reports favoring such are untrue, and are not to be believed for an instant.

If you hear from the seaboard a miller's bought wheat

To make into flour for people to eat:

If you hear an exporter a boat-load has bought—
Except to fill shorts—Oh! Credit it not.

If you hear from the country by mail or by wire,
Set down your informant a crank or a liar—
So, tell him at once, let your answer be curt,
If he dare to assert winter wheat may be hurt.

If you hear that in Europe the weather has been such

As seldom's been known, and the fear is that much
Of the grain crop is damaged, thus causing alarm—
Don't worry, they'll tell you, frost never does harm.

If you hear that from Russia there comes the report,
Wheat being so low, farmers now will resort
To new modes of farming, and other grains try—
It's the veriest bosh, rest assured, but a lie.

If you hear from Calcutta, the vale of the Ganges,
That wheat has been damaged by rain on the ranges,
"Tis not true" from Kurachee, the vale of the Indus
Must be cabled forthwith by reliable Hindoos.

If you hear from our Northwest the farmers all sold
The bulk of their crop and but little now hold—
Have someone forthwith, if you're not in the humor
Brand the statement at once "unreliable rumor."

If you dare to suggest that Europe may need
A pound of our grain for food or for feed—
Expect to be dubbed a crank or a fool,
Synonymous terms as you know for a 'bull.'

The "bears" have made money—look at R. J. and C.—
And also their 'tailers,' say A. B. and Z.:
But I just want to see the farmers one day
To the price of their grain having something to say.

Then the "bears" and their cubs, the great and the small,

For once in their lives for mercy would bawl;
And the gains from short sales they've been making
for years,

Would be forced from their grasp in spite of their
tears. McD. L.

OUR UNJUST TARIFF.

BY J. C. BATES, OF CHICAGO.

That my statements of fact and methods of presenting them are unsatisfactory to Mr. Hinton, of the "N. W. Tariff Bureau" and his more able coadjutor, the *Milling World*, is not surprising. They could not be otherwise.

Had I been the paid agent of a Free Trade organization, what changes would have been rung on that circumstance, together with the customary mention of "British gold."

Does Mr. Hinton derive pecuniary benefit from any tariff organization? His only reply is to show temper and, metaphorically, throw dirt. Readers of the UNITED STATES MIL-

LER can form their own conclusions. For my own part in this discussion, my efforts are wholly disinterested save what interest I have in common with the public as a consumer.

Over thirty years' experience in exporting and importing many kinds of merchandise, afford me a practical knowledge of tariff matters, as well as insight into the operations of the tariff itself. While it brazenly proclaims to protect our manufactures, trade and commerce, that tariff severely cripples all these industries. Look, for instance, at commerce and navigation. The earnings of vessels engaged in our foreign commerce now amount to two hundred million dollars annually, nearly, all of which goes to the owners of foreign shipping. American ocean tonnage was driven out of the foreign trade by the tariff, and that tariff effectually prevents these United States to-day from asserting supremacy upon the seas. The derivation of the word "Tariff" is said to be from Tariffa, Spain, where the Moors in the days of their power collected customs duties after a manner now in vogue in China, where custom-houses are appropriately styled "Squeeze Stations." The plunder thus obtained was originally for revenue. Taxes on imports, however, continue to bear far heavier on the poor than upon the rich, and for this reason: They are taxes not upon what people have, but what they use. The rich need not pay more than the laborer with his scanty earnings is compelled to pay.

It must be apparent to any who have studied this question, that the heavier taxes are upon the cheaper articles, instead of the expensive articles, used by the rich. For instance, the tax on potatoes is 15 cents per bushel, or 50 to 60 per cent., while that on diamonds is but 10 per cent.!

Custom duties are collected in such an insidious manner that the consumer, who finally pays that duty, with all the added costs and profits, is not aware to what extent he has been plucked. But what a howl there would be throughout the country if customs officers demanded at every door, in a direct manner, the same duty of 50 to 60 per cent. And yet, wherein the difference to the consumer who pays it? The principal sufferers from that tax—the great mass of consumers—have been led to believe that they were actually being benefited in being thus plundered. As it took a long time to do away with the practice of bleeding a patient for every ill, so it has required time to fix the attention of consumers to the fact that they have not only been bled needlessly, but to their own hurt.

Import taxes, interest many private interests in their behalf. Let a movement be made to repeal any tax and a persistent lobby hounds the congressman to leave the tax on that one item undisturbed.

Again, every sort of extravagant expenditure of public money has been resorted to by private interests for getting money out of the treasury that there might be some excuse for keeping the tariff where it is.

It will be remembered that certain industries, which many years ago first timidly sought the assistance of the government, styled themselves "infant industries," and wanted just sufficient maternal assistance to enable them to stand alone. One infant, however, followed another until about every producer and manufacturer in the country got to be an infant in this nursery where for half a century nearly, they have been holding on to the government teat as theirs by right and denouncing all who questioned their claim. In proof of this, which of our protected industries are any less clamorous for protection, than they were forty years or so ago?

Is this nation to be forever an eleemosynary institution for the few, at the expense of the many?

That large and much neglected class of consumers, who have so long had to pay for the government pap fed to hoary-headed "infants," now seek a recognition of their rights. They being by far the greatest number, surely beneficent laws should confer the greatest good on the greatest number.

But if it be absolutely necessary to sustain certain industries by bounty, why not instead of present method, pension them and levy a direct tax for that purpose? To such a proposition the whole crowd of "infants" would howl forth: "Could any proposition be more absurd!" And yet this government now pensions certain industries for whose benefit it levies an indirect tax. It is now paying bounties in drawbacks on a number of articles exported, including refined sugars, far in excess of duties received. In return for which favor Louisiana sugar interests and eastern sugar refiners have been kicking against the Hawaiian reciprocity treaty, which is giving the Pacific coast cheap sugar and a large amount of trade, 92 per cent. of Hawaiian trade being done with the United States, and 95 per cent. in American vessels. According to Hawaiian statistics in nine years of the treaty, goods amounting to \$23,600,000, have been imported from the United States. Sugar interests will kick in vain against such showing. It is commercial freedom which breeds commercial enterprise,

opens new avenues of trade and makes increased business for our vessel docks, warehouses, manufactories and labor. But if there is one thing more than another which private interests benefitted by the existing tariff despise and leave no stone unturned to defeat, it is commercial treaties. And why? Because they, in common with Hon. W. D. Kelly, believe such treaties are but the thin end of the wedge which is to undo them. The great milling and agricultural interests of the United States, however, have every reason to favor such treaties. The failure to negotiate such, leaves those interests at the present time almost wholly dependent upon the liberality of England for any considerable market in Europe. High tariff having shut American wheat entirely out of France, and almost entirely out of Germany, while in 1855, Great Britain took of our flour and wheat 39,800,000 cwt. And now as to the Laborer, at whose elbow we are told our tariff stands "to help him to better wages, to a more independent position etc."

Did it ever occur to the reader that under the highest tariff the country had ever known, the condition of the laborer is most unsatisfactory?

The laborer having suffered under one high tariff, is one still higher likely to work a cure for him?

In view of the fact that there has been the least employment and most discontent, would not the condition of the patient seem to demand some other remedy? That certainly, in the light of experience, would be the most natural conclusion, for the golden age of the laborer in these United States—the period of the most employment and least discontent—was from 1847 to 1855, under the liberal tariff of 1846, a tariff so generally satisfactory as to lead to a further lowering afterwards. The attempted refutation of my former statement, that "the tariff from 1846—60, was generally satisfactory" is confronted by the fact of a general opposition, especially on the part of New England manufacturers, when the Morrill tariff was proposed. The Morrill tariff was not the tariff of 1864, as Mr. Hinton would give the reader to understand. The latter, a war measure, a temporary expedient, after nearly a quarter of a century of peace, is practically still in operation, and still gnawing at the vitals of the great industries of this American people.

The panic of 1857, is cited as unanswerable proof of the deplorable effects of a low tariff. Seeing that, a panic is just what its name implies, a senseless scare, not unlike a stampede among cattle, it is a senseless argument to advance. As well might I point to the great fires in Boston and Chicago, as evidence against a high tariff.

Mr. Hinton appears to be a man of the past, a veritable Rip Van Winkle, in tariff matters. If there be a more hidebound old blue-bottle protectionist anywhere, one would expect to find him in Philadelphia. And yet the following is a lecture which a protection organ there reads to just such men as now represent at Milwaukee, the "North Western Tariff Bureau."

Philadelphia Times (Protective Tariff).

"The suicidal policy of the Republicans in refusing to take hold of tariff revision as they solemnly promised the country in their last national platform will materially strengthen Morrison's cause. They could and should

come to the front and revise the tariff in the interest of general industry and natural economy, as their plighted faith to the nation, demands of them, and, if there shall be either disaster or disturbance to business circles by the tariff agitation that both parties invited in their platforms, the Republicans will be justly responsible to the country for their violated pledges. The Republicans could make a just tariff now by abandoning the monopoly features of protection that can be no longer tolerated, and if they fail in their duty they must answer for the needless agitation and uncertainty of the future."

Sensible high tariff men seeing the cyclone coming are preparing to get down off their high fence in a hurry. They see that the only way to stop tariff agitation is to reduce taxation. But men of the past, whose interests are still promoted by the tariff, talk as if they expected to maintain that tariff forever at an average of sixty per cent. above the rate of 1861.

By preventing importation they have for years been enabled to limit production. In reference to this method as applied to coal (and I do just enjoy quoting a Pennsylvania editor), the *Philadelphia Record* says:

"The deliberate announcement of the coal combination, that the price of coal will be raised by progressive jumps, \$1.10 per ton, is as cool proceeding as the demand of the highway-man for the purse of the passer-by. The highway-man enforces his request with a cocked pistol; the coal companies cock their pistol at the consumer by limiting the production."

The effort of my opponent to make a high tariff point in reference to the 200,000 tons of railroad iron dumped here in 1849, by England, at \$40 per ton, closing up our iron mills, is a desperate one. Seeing that there are only 11 or 12 mills in this country to day making rails, after a quarter of a century of prohibitory tariff, and that the production of steel rails was less in 1885, than in any years since 1880, one can but smile at such reference, especially as the capacity of even these few mills is far beyond any demand likely to arise in the home market. In absence of any chance at foreign markets, these few mills, in common with other subsidized interests, limit their production. My early home was in Illinois before the advent of railways. My father's log cabin stood in a wilderness of prairie, over which deer bounded freely by day, and wolves prowled and howled by night. The farmer in those days could barely get a picayune a bushel for corn after hauling it a long distance, and but very little more for wheat. To-day every foot of that great prairie is under profitable cultivation by thrifty farmers, who no longer live in log-cabins, but are surrounded by all the comforts and conveniences of modern life, and able to obtain at their own doors, nearly Chicago quotations for their grain and farm products. Why? Because no small part of this thrift and improvement can be traced to the cheap railroad iron dumped here from England in 1849, at \$40 per ton. It is enough to know that millions of people were benefitted thereby. To the railroad system, steam and electricity, and the vast agricultural and mineral resources of this country, are due mainly whatever degree of prosperity this country at present enjoys. With resources a thousand times superior to those of any other nation, our vicious tariff policy only has prevented the United States from being perpetually prosperous. To abandon that policy will end combination to produce a

scarcity of articles in general use to enhance prices.

Our late minister to England, Mr. Lowell, sounded the key note of the future in store for the United States, when he said in London:

"The moment America forsakes her protective policy, England will find her most active and formidable competition in the World's markets that she has ever met."

That time will rid our manufacturers and commerce from the fetters, which now bind them. Pauper industries, supported by the toils of others, may, in some instances, suffer, but upon the entire country the effect will be most healthy and stimulating and cause an awakening and developing of industry such as never before witnessed.

Mr. Hinton, on quoting Jos. Medill, Sept. 25, 1883, in reference to tariff on Wool and Woolens was perhaps a little too previous since by so doing, he compels me to quote Jos. Medill in the *Chicago Tribune*, on the same subject, under the later date of April 15, 1886, which quotation will in itself, I trust be sufficiently convincing as to the correctness of my earlier statement:

"Wool-growing, even in Ohio, is simply an incident of ordinary farming, sheep being used to keep down weeds and eat grass in the fence corners. Putting wool on the free list will cause a great cry in certain hilly, sheep-growing parts of Ohio, but very little if any change in election returns.

Besides it is by no means clear that a removal of the duty would affect the price of the wool produced in Ohio. If all kinds of foreign wools could be brought into this country free, it would enormously stimulate the manufacture of woollen goods and increase the demands for domestic wools to mix with the foreign article in producing varieties of cloth. The manufacture in this country is now practically restricted to the use of domestic wools, and the finer cloths produced by mixing different qualities are imported, chiefly from England, which enjoys free wool. It is entirely reasonable to expect that if the woollen factories of this country were put on the same footing as those in England, and permitted to use all kinds and combinations of raw material, the business would so increase that the demand for the home product would be as great as it is at present, and perhaps greater. Woollen goods valued at \$40,000,000 were imported into this country last year, and the largest part of this manufacture might just as well be conducted in the United States, if all grades of wools were admitted free of duty. If wool were put on the free list it would not be surprising if the result would be an increase in the price of domestic wools, which would then be in great demand for mixing with foreign wools.

But even if American wool would be somewhat cheapened by taking off the duty, there is no reason why the interest of a handful of wool-growers in Ohio and Western Virginia should be preferred to that of the 60,000,000 people who buy woollen goods. Nine farmers out of ten are not producers of wool, but all farmers buy woollen goods. * * * * * If the proposition to put wool on the free list could be submitted to a popular vote it would no doubt be carried by a majority of millions of votes, and perhaps even then the wool-growers would learn in a few years that they made a mistake in taking the negative. Wool should be one of the first articles added to the free list. The present duty on wool is an unjust tax on every man, woman and child in the United States except a few thousand wool-growers, and it is at least doubtful whether its abolition would not be a benefit even to them.

And while I have my hand in I may as well further quote Joseph Medill in the *Tribune* under the date of April 30, 1886, in reference to Senator Frye, whom Mr. Hinton quoted so freely as an authority:

"The blunders of fact and reasoning perpetrated by Senator Frye in his recent speech in the Senate, are almost beyond comprehension. Senator Frye's arguments are as 'sophistical as his figures are absurd and contradictory."

"A protective duty which keeps European manufactures out of the United States is just that much protection to an English merchant in competing with an American in any neutral port. The protective theory is founded on non-intercourse with other nations. Frye's idea that the American people can tax themselves rich and extend foreign trade, while clinging to a theory which, whether correct or not, is based upon non-intercourse in commercial affairs, is a piece of humbuggery delusive and misleading as his distorted statistics."

I have charged over and over again that while "protectionists" advanced the theory that a high tariff was necessary for the protection of the American working man, they were practicing the importation of contract labor from Europe. It was mainly upon this point that the issue of this discussion hinged. And now comes Mr. Hinton and acknowledges the truth of the allegation, but says in extenuation "I am bitterly opposed to it." Just what difference it makes to the working man whether Mr. Hinton, individually, is for or against such importations is a matter of supreme indifference to the general public. It is the tariff law and not individual sentiment that operates on the laborers' ability to get money.

As for authority for my statement that the British miller did not desire protection, the following from the *London Miller* appeared in the UNITED STATES MILLER, of January 1886, page 90:

"If any body is, on protectionist lines, entitled to protection, it is the [British] miller; yet the vast majority of millers are found to be staunch free traders, and the industry which, according to protectionist showing, should be most depressed, is found cheerfully protesting its sound health and ability to stand by itself, without any artificial prop or support."

Still more convincing evidence could be produced, but the above from a representative organ of British millers should suffice.

Let us see; Mr. Hinton started in with the promise to his readers of "An exposure of his [my] sophistries, and a refutation of his [my] erroneous statements!"

But to resume. "Every labor organization in the country is opposed to lowering the tariff, without a single exception," says Mr. Hinton. Labor organizations, as the public just now is aware, at times do some very foolish things. We see the laborer in Pennsylvania one week bearing banners and transparencies laudatory of a high tariff, and the next in wild revolt against imported contract labor!

In the case of the alleged working man, another Englishman, by the way, before the Ways and Means Committee, it would be safe to hazard a guess that he was sent there from Pennsylvania in tariff interests at \$5 per day and expenses, and carefully coached for the occasion.

Until the agent of the "N. W. Tariff Bureau" and *Milling World* are agreed as to whether England is free trade or high tariff, it is hardly worth while to discuss that question here. Mr. Hinton says that to say England is free trade is "such a foolish assertion" and one which no intelligent person would make, and directly himself quotes from the *Milling World* about "Free Trade England!" Funny people these "protectionists."

The matter of compensation paid to the American and English operative, respectively, seems to call for consideration here. About the chief stock in trade of high tariff people, their subsidized press and agents, is to grossly misrepresent.

Did it ever occur to the average American that labor might, possibly, be better paid in England to-day than in the United States? In the first place there being no direct tax there on necessities, these cost him much less than they cost his American competitor. But let us see which of the two receives the most wages for performing the same amount of work.

Manufacturers of textile fabrics who have been making statements as to cost of production, to the Ways and Means Committee, show wages earned by operatives in English mills are considerably less than earned by American operatives. In the absence of complete data, however, such comparison is of but little value. The principal reason why higher wages are paid in cotton and woolen mills here than elsewhere is, that our operatives are more skillful, energetic and constant than those employed in other establishments of a similar kind in any other country in the world. English operatives coming here are compelled to work harder than they ever did before in their lives. Thus, while an American operative frequently attends to eight looms, an English operative would consider himself hard pushed in the care of three or four looms. In manufactories where piece work is carried on—where operatives are paid for what they do—appropriate comparisons are rarely made. The average wages earned by the week are rarely given, though the facts could be readily obtained. Those in the business rarely care to exhibit to Congress, or to the public, the rate of wages paid in the two different countries for performing a specified amount of work. About the only analysis of the kind was made several years ago by a thoroughly informed English manufacturer, who, after careful study of our manufacturing system, and minute classification of costs, of production, figured out:

"That for weaving and printing cloth the Fall River (Mass.) Mills paid 20 and 23 cents for what would call for wage payment in Blackburn and Stockport of 25 and 29 cents. That when gauged by the amount of work performed, the English operatives in those two places were receiving 20 per cent. higher pay than was given the operatives of the Fall River Mills."

And in the past few years Englishmen have been governing themselves accordingly by transferring much capital and plant to this country. There have been many cases of such transfer of British capital to be employed here in manufactures and mining, the latest movement being that of British iron masters to Alabama, to avail themselves of the extraordinary facilities there for pig iron. Thus with rapidly increasing facilities for manufacturing, our manufacturers whether natives or foreigners, will be forced to seek new outlets for their surplus products. So that which ever way one turns he sees on every hand unmistakable signs that the days of high tariff in this country are numbered.

Reference has been made to the great mineral wealth of Alabama. Colorado, we know, has, since the war, turned out of her mines an amount nearly equal to the original national (war) debt.

Wonderful stories are told of the natural wealth of Wyoming Territory. There is said

to be a mountain of solid hematite iron in the heart of the Territory, with 600 feet of it above the ground, more than a mile wide and over two miles in length; a bed of lignite coal big enough to light the world for centuries; eight lakes of solid soda, one of them over 600 acres in extent and not less than thirty feet in depth; and a petroleum basin which contains more oil than Pennsylvania and West Virginia combined.

While recent reports from Alaska sound like tales of far-off Cathay in the olden time.

The hand of the monopolist will soon be powerless to limit production and prevent importation. It cannot much longer hold the rising tide of public sentiment which everywhere throughout the length and breadth of the land is demanding to sell in the dearest and buy in the cheapest markets of the world. We are already past the young flood and shall soon witness the swell and force of the strong incoming current of the full flood tide itself!

PRESERVATION OF FLOUR.

Referring to a recent paragraph concerning the discovery and employment of a new process of preserving flour, being employed with great secrecy at Utrecht, Holland, a correspondent of the *London Miller* writes: "Before the year 1850 I happened to hold a friendly converse with A. Kersey, estate agent to Lord Trollemache, of Helmingham Hall, and as he was then advanced in life, what he alluded to probably took place about the beginning of the present century, and was no doubt kept a profound secret, just as at Utrecht, in Holland. Mr. Kersey said that a friend of his, many years before our conversation, always had flour for his customers 'in short water time,' when all his neighbors were without flour, and they could not imagine how he managed to do it. I said it could only be done by compressing the flour into a tight block, so that it could not stir and so become sour by fermentation. I said, is it not so? He said, 'I promised my friend never to tell, but you can try.' So in November I rammed an American flour barrel as full as I could with English flour, headed it up, and set it aside for 12 months, when it was perfectly fresh and as hard as a stone, just as I left it at first. I then told Mr. Kersey what I had done. He said, 'Yes, that was what my friend did. You have found out; I did not tell, as I promised not to. My friend had chests made, which he rammed full of flour in the winter, and supplied his customers with the flour in the summer; but he was very particular to fill the chests with pure flour, free from germ.' We hear very little of sour American flour, now the improved system of milling is adopted. My reason for saying 'that is the only way it could be done,' was that I read when a boy in the old *Mechanic's Magazine* that someone had pressed a brick mould as full of flour as he could, and placed it in a damp cellar for 12 months, where it remained perfectly sweet."

SPEAKING of the peculiar ideas which children sometimes have, reminds me of the recent experience of a Sunday school superintendent. He was speaking to nearly a hundred little girls and boys, and was telling them about the Christmas customs in different lands. Finally he asked the question:

"Now, children, tell me whose birthday is celebrated at Christmas?"

Instantly there was a chorus of "Santa Claus!"

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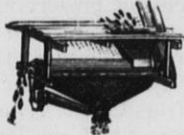
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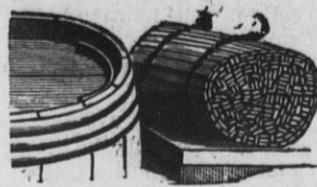
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CHANGED HANDS

THE ST. JAMES HOTEL, at Stevens Point, which is well and favorably known to the traveling public has recently changed hands. The present proprietor, Mr. Warren D. Fox, of the famous Fox House, Portage, has taken charge, and will make it second to none in the State.

PROPER SPEED OF ELEVATORS.

With the owners of many mills it is very desirable to know some of the rules which pertain to the arrangement of the machinery. Some mills are so isolated that it is inconvenient to procure expert millwrights for every little job, and many, as a matter of economy and of choice, would like to do their own repairs or refitting about the mill, or, if they could calculate correctly, could use ordinary mechanics readily available. The writer remembers that he took a great deal of pleasure in his first work of millwrighting, when he made the calculations and put three elevators and some spouting which greatly lightened the manual labor of the mill, and this was done when the mill was idle, and was thus a clear saving in expense of a hundred dollars for millwright work. There is nothing for which we are so much indebted to Oliver Evans as for the elevator, for it is that which has made milling enjoyable, because not so laborious, and has made a possibility of present perfected methods. By a judicious use of elevators the mill can be made in every way convenient and labor saving. Many old mills could be made to avoid much labor by the addition of one or more elevators. Instead of letting your bran and feed run on the floor to be scooped up by hand, elevate it to a bin, where you can draw it from a spout. Instead of running a long spout with not enough pitch, to feed middlings or low grade to a stone having to grind just as it runs, and it all the while bothering you about running, put up an elevator which will carry it up and drop it into a hopper just where you want it.

Elevators with as small as two-inch cups can be used, and rightly put up, there is no need of their requiring any expense for repairs in a generation, except for those handling grain. In the addition of an extra machine a new elevator is often required, and sometimes a machine stands waiting a long time for the coming of a millwright when the work might be done by the miller himself. It used to be thought that it was necessary for an elevator to have an incline in order to empty, and these inclined elevators can be seen in old mills, but that idea is exploded, and it would either be through a cranky mechanic, or some necessary condition, where any but an upright elevator would be put up now. The inclined empties at a slower speed than the upright-elevator, but the belt drags on one side and the cups on the other, thus causing wear and absorbing power. A faster speed, with lighter belt and buckets, and no dragging, is obtained by upright elevators. Properly constructed, elevators are light consumers of power, but they may, by a slight defect, absorb quite an amount. An all important point is the proper speed, so that there is a perfect discharge. To have material thrown down the back leg is to uselessly increase the power required, which would be quite an item in a number of elevators, and would deceive the miller as to the amount of material discharged, which, in the case of returns, or bolting stock, might affect the results. In the handling of middlings it would disintegrate them, and affect their purification.

There was once used a rule among millwrights to have the elevator travel a certain number of feet per minute. This is entirely wrong, because the discharge of the buckets

at a proper tangent depends alone on the revolutions of the pulley; whereas, if it depended on the speed of the belt, the revolutions would vary according to the size of the pulley. Thirty-five revolutions per minute is the proper average speed of elevator pulleys on most kinds of material.

On soft material like millstone chop, returns, etc., thirty revolutions is best, while as high as forty is good for middlings and grain. Soft material will be carried farther around the pulley than grain, and more care must be exercised in arranging the discharge spout to have in low,—a few inches below the centre of the pulleys,—as such stock will not fly off like heavy, sharp material. The buckets that will best discharge soft stock have quite a drop to the front edge, and do not form a full quarter section of an oval, as in the case of the old-fashioned pattern. Of course they do not hold as much, but they are more easily cleaned, and more capacity should be provided for by increasing the number or width of buckets. Buckets can be put sixteen inches apart on twenty-inch pulleys, and twelve inches apart on sixteen-inch pulleys. Sixteen-inch pulleys are just as good as those of larger diameter, except where grain is elevated rapidly, in which case larger pulleys are necessary to give more lap and grip to the belt.

The diameter of elevator pulleys should be adapted to the distance apart of the joist, so as not to require any cutting of the joist for the trunks. Sometimes an elevator has to be put up so close to a beam that a very small pulley must be used, and we have seen a six-inch elevator pulley utilized in such cases. So small a pulley would have to be run faster, as the size of the trunk remains the same, and the stock has to be thrown a little farther in proportion to the size of the pulley. There is no necessity for the elevator trunks being so large as many make them. One inch deeper than the cup is as good as two or three, and saves unnecessary waste of material in the trunks. Elevators should be proportioned to their work.—*The Millers' Review.*

C. H. TOUAILLON, M. E., ON FRENCH MILLING.

On the 2d of March last, Mr. C. H. Touaillon, who has followed in the steps of his father, the late Mr. Charles Touaillon, and is now one of the best-known flour mill engineers of France, read a paper before the Society of French Agriculturists on the present condition of French milling. Mr. Touaillon enunciated views to the full as conservative as those which were held by his father in regard to the new systems of milling. He urged that if French millers were not generally in a flourishing condition, the remedy should rather be sought in a higher duty on flour, calculated to completely exclude foreign flour from the home market, rather than in any wide reaching revolution of the prevailing system of French milling. He regards the present roller system as being quite unsuited to the French milling trade, seeing that the variety of grades of flour it is calculated to produce cannot be turned to good profit in a country like France, in which the quality of bread varies but little from the richer to the poorer class of consumers, as, arguing from a protectionist point of view, he sees another fatal objection to the use of the full roller system in France. This system, he main-

tains, has never been found to give good results except on hard wheat. Now, seeing that, as a rule France will only grow soft wheats, it is evident that the general introduction of the roller system into France would mean the virtual extinction of the wheat growing industry of that country. Moreover, in Mr. Touaillon's judgment, rollers, if used by themselves for the flouring of grain are only apt to injure the glutinous and starchy elements in the wheat kernel, and to produce a flour which bakes a quick-drying loaf. He admitted, however, that rolls might be used to regrind the semolina produced by stones, although he would not allow that the rolls would give a better result than could be obtained from the best class of stones, and he called attention to the fact that, in his opinion, the rolls could only be worked by a more liberal expenditure of force. Proceeding to a more technical treatment of his subject, he said: "As to the centrifugal dressing machines which have been imported by foreign engineers because they are almost indispensable to finish the work of rolls, we cannot advise their use except where there is not sufficient room for the ordinary bolting reels. They (the centrifugals) are costly to keep in order, they take too much power, and they do not effect such a thorough classification of the products as our old bolting reels. Purifying, which had been neglected in many mills, has been much improved. The machines in use even a few years ago were not good. To-day the sieve purifiers made and used in France work well; they are not complicated, are easy to work, and their products are thoroughly well purified. There is now no difficulty in effecting this operation (purification), which is so essential a complement to the grinding. When all is done and said, so far as machinery is concerned, we have no need to envy either foreign millers or engineers. As for the former, we can show machines quite on a level with theirs; and with the latter our own mechanical engineers can compete on favorable terms, not less in respect to excellence of workmanship than of cheap price." Mr. Touaillon concluded by remarking: "But if we wish to profit by these advantages, we ought to make use of the tools at our hand, and not seek to make use of machinery, which to be worked with advantage would require the introduction into France of those hard wheats which are only grown on our soil in small quantity. We shall thus help to raise up our agriculture and its sister industries."

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FOR SALE a 75-barrel Roller Mill with Steam and Water Power. A Rare chance. Located in one of the best wheat counties in the state. Reason for selling, old age and ill health. For particulars address MAT. WOLFE, De Graff, Ohio.

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E. HARRISON CAWKER, EDITOR.

PUBLISHED MONTHLY.

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SUBSCRIPTION PRICE—PER YEAR, IN ADVANCE.

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

MILWAUKEE, MAY, 1886.

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.

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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.

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THE Modern Miller, of Moline, Ill., has removed to Kansas City, Mo., and has consolidated with the *South-western Miller*.

THE condition of the growing wheat crop in the principal grain-growing States is reported very good generally.

It is gratifying to be able to state that at the present date, May 17, nearly all the disagreements on the labor question have been settled and that law and order have prevailed. Boycotting and intimidation may be considered things of the past in this country. The right of every one to work for any number of hours for whatsoever price he may contract, and the right of the employer to employ such persons as he chooses to work for him, are conceded by every liberty-loving, fair-minded citizen.

TYSON & BROS., an old established firm in the grain business in Baltimore, Md., failed May 13, and assigned to Henry A. Parr. The liabilities are placed at \$200,000. No statement yet of assets. The firm has extensive connections in Europe, and does a heavy shipping business.

ITEMS FROM BEYOND THE SEAS.

In reviewing the state and prospects of the wheat and flour trade *The Miller* (London) says: "The Indian shipments during the past month (March) have been small from Calcutta, smaller even than expected at the fog end of the season, but from Karachi and Bombay perhaps a little larger. The new crop is said to be of fair to fine quality, better on the average than last year. But the diminution in the acreage does not seem to be denied, and an exportation of 3,000,000 quarters to the United Kingdom is now spoken of as the probable figure for the export season, May 1st 1886 to April 30th 1887. Australia and New Zealand appear to be needing practically all their own wheat. New Zealand has a good crop, but Australia's deficiency is said to have been under-estimated, so that importations from New Zealand will be required. The price of wheat in Australia has risen 2s to 4s per quarter since harvest, a very significant sign as to what is the result of early threshings. The extreme lowness of freights would tempt exports, if there was the grain to export, but from all we can hear it will be safest to eliminate Australia from present calculations."

FOREIGN ITEMS.

An International Exhibition of milling and baking machinery will be held at Amsterdam in August this year, opening on the 2d of Aug. and closing on the 15th. Foreign exhibitors are invited to take part in this exhibition, which is to be governed by the ordinary rules of such exhibitions. Prizes will be awarded in the shape of diplomas, and special money prizes will be given for the following: For the best complete bakery at work, 500 florins; for the second best 250 florins; for the best oven, not exceeding three meters in length, and two meters in width and height, 300 florins; for the second best 100 florins. There will be four classes in the milling section, viz., raw material; manufactured products; machines and details; and accessories. In

the baking section there are four similar classes. Machinery to be exhibited must be in Amsterdam by July 31, before 4 p. m., and all expenses attending the exhibition are to be borne by the exhibitors. Power also must be provided by the exhibitors themselves. The tariff for space is as follows: 10 florins per square metre (a metre equals 39.38 inches) for a separate stand; 7fl 30 for a space along the walls; 5fl in the galleries; and 25fl 50 in the open air. All particulars are to be obtained of Mr. G. Brongers, the general commissioner, at No. 130, Warmoesstraat, Amsterdam, Holland.

FEDERATED IRON-WORKERS OF ENGLAND.

—A widespread attempt is being made in England to federate the various trades unions in much the same manner as has been, or is sought to be, accomplished through the Knights of Labor in the United States. A cable dispatch states that it was proposed by some of the English leaders to join the American Knights of Labor. The opponents of the proposal combated the scheme because of the great distance which would separate the English workers from the executive head of the organization, and the consequent difficulty of obtaining advice in the event of a sudden strike or lockout. The Knights appointed two delegates to confer with the English representatives, and tried hard to effect an alliance, but failed, and "it has now been resolved to organize a separate federation" in England, "and to trust to future events for a closer connection with the Knights."

The Danish Government has lately enacted a law making important changes in her customs tariff, among which is one relating to maize and barley. These articles, when imported into the country for consumption have to pay an import duty of 75 öre per 100 lbs., and while they may be warehoused at a depot, the minimum quantity that can be warehoused or removed at a time is fixed at 2,500 lbs. corn meal and barley meal are to pay a duty of two crowns per 100 lbs. The new tariff will continue in force for four years from April 1, 1886.

A Tale of Nine Cities

Is the euphonious title of a little book giving a brief description of the points of interest in the nine principal cities of the great North-west and Far West, viz: Chicago, Milwaukee, St. Paul, Minneapolis, Council Bluffs, Omaha, Denver, San Francisco and Portland, Oregon. A correct colored map of each city is made a part of this instructive book, which is being distributed by the Chicago, Milwaukee & St. Paul Railway.

For a free copy, address A. V. H. Carpenter, General Passenger Agent, Milwaukee, Wis.

ON and after May 2d, 1886, the Chicago, Milwaukee and St. Paul Railway will, in addition to its presents excellent through train service, place extra trains on its Short Line between Chicago, Milwaukee, St. Paul and Minneapolis, to be known as "Limited," which will make the run between Chicago and St. Paul in twelve hours and twenty minutes, and between Chicago and Minneapolis in twelve hours and fifty-five minutes. These trains will run daily, except Saturday, and the west bound train will leave Chicago at 7.30 p. m., Milwaukee at 10.05 p. m., and arrive at St. Paul at 7.55 a. m. and Minneapolis at 8.30 a. m. The east bound train will leave Minneapolis at 7.00 p. m., St. Paul at 7.35 p.

m. arriving at Milwaukee at 5.20 a. m. and Chicago 7.55 a. m., thus enabling passengers to get supper at starting point and breakfast at destination. These trains will be a great convenience for business men, commercial travelers and all other first-class passengers. Each train will be made up of Pullman's newest and best sleeping cars, with smoking compartments, elegant day coaches and baggage cars.

No extra passage fare will be charged, and for such as desire sleeping car accommodations the charge for berths will be the same as heretofore. First-class tickets only (including book mileage tickets) will be accepted on the "Limited." For further details passengers are referred to the time-tables and other advertising matter of the Chicago Milwaukee & St. Paul Railway and to the Coupon Ticket Agents throughout America.

NEWS.

ASSIGNED.—B. C. Snyder, Poplar, O.
 SOLD OUT.—Joseph Goaser, Viola, Ore.
 Peshtigo, Wis., wants a good flour mill.
 SOLD OUT.—A. M. Dull, Charlotte, Tenn.
 David Thompson of Deans, Ont. is dead.
 SOLD OUT.—Orwell Simons, Payson, Utah.
 ASSIGNED.—Alex. Cunningham, Augusta, O.
 DISSOLVED.—L. Clark & Co., Westerville, Neb.
 DISSOLVED.—Corson, Lasell & Wright, Lodi, Cal.
 DISSOLVED.—Storris & Crandall, Springville, Utah.
 DISSOLVED.—Hollander & Wehsner, Wautoma, Wis.
 DISSOLVED.—Charron & Frere, Vercheres, Quebec.
 BURNED OUT.—Ainslie & Gannett, Cohasset, Mass.
 Robt. S. Jackson has sold his mill at Alaska, Mich.
 BURNED.—Fouch & Newton's mill at Glawin, Mich.
 CLOSED OUT.—Edward Parker, miller at Frederick, Md.
 ASSIGNED.—Joseph Maphis, miller at Mt. Jackson, Va.
 SOLD OUT.—Northwestern Mill Co., Tower City, Dak.
 CLOSED OUT.—A Gardner & Son, at Taylorville, Utah.
 DISSOLVED.—Johnson & Croft, millers at Moulton, Iowa.
 SOLD OUT.—Chas. Hidden, of Chino, Cal., has sold his mill.
 SOLD OUT.—J. R. Randall, miller, at Vernon Center, Minn.
 O. Moore & Son have started their new mill at Oak Lake, Man.
 DISSOLVED.—Stokes Bros. & Jennison, at Water town, Dak.
 DISSOLVED.—The Rifenburg Milling Co. at Charlevoix, Mich.
 F. Roper, Ashland, Ore., has sold his mill to Geo. B. Landers.
 O. P. Jaycox succeeds Dion Keefe in the mill at Cove, Ore.
 James Howell, of Howell & Sons, Morrisville, Pa., died recently.
 BURNED.—The Brown County Milling Co's mill, at Brownwood, Tex.
 BURNED.—The Farmers' mill owned by R. H. Ross at Mt. Sterling, Ill.
 J. T. Morris succeeds Wharton & Morris in the mill at Henderson, Mo.
 L. O. Ried, miller, of Chattanooga, Tenn., is succeeded by Ried & Hackey.
 At Carmel, Me, April 30, Laurey's steam mill was burned. Loss unknown.
 Mr. Whitehouse, of Durand, Wis., will erect a large cooper shop at Duluth.
 SOLD OUT.—J. J. Reik, of Blissfield, Mich., has sold his mill to J. J. Kefuss.
 DISSOLVED.—The milling firm of Chapman & Goodfellow, at Wroxeter, Ont.

Rogers Bros., millers at Bristol, Pa., have failed with heavy liabilities.

The milling firm of McFarland & Goucher, Uniontown, Mo., have dissolved.

Curtiss & Cowden, millers, of Rochester, Mich., have dissolved partnership.

Wallace Bros. & Wyatt have finished a \$10,000 50-bbl roller mill at Duck Creek, Tex.

BURNED.—April 19th, the Willard mill at Hampshire, Ills. Loss \$2,000, no insurance.

D. C. Taylor & Co., of Trenton, Tenn., have let a contract to build a 50 bbl. roller mill.

The firm of Kell & Co., millers at Terrell, Tex., will hereafter be known as the Terrell Milling Co.

Kramer Bros. mill at Preston, Minn., was destroyed by fire April 28. Loss \$25,000. Insurance \$10,000.

The loss on R. H. Ross' mill at Mt. Sterling, Ill., recently burned, is estimated at \$8,000. No insurance.

Good mills are offered for sale by Proebstel Bros. at Weston, Ore. and David Gunning, at Sprague, W. T.

The Carrollton Roller Mill Co., Carrollton, Ills., has obtained license to incorporate with a capital stock of \$15,000.

C. C. Shelton is putting in new machinery and otherwise increasing the capacity of his mill at Chattanooga, Tenn.

At Port Elgin, Ont., April 30, J. & J. George's large flour mills were destroyed, and a number of other buildings badly damaged by fire. Loss, \$20,000; insurance, \$16,000, as follows: Commercial Union, \$12,000; British American, \$2,000; Royal Canadian, \$2,000.

At Kansas City, Mo., April 30, the Advance elevator, Minton Brothers, proprietors, was burned to the ground at midnight. The loss will reach \$100,000. Forty thousand bushels of wheat and 17,000 bushels of corn were destroyed. Insurance on the building, \$17,000; on the grain, unknown.

John Chapman, miller at Teeswater, Ont., has sold out, and Nixon, Howson & Co. of the same place have dissolved.

BURNED.—At North Thetford, Vt., April 27th, S. M. Ladd's steam grist and saw mill. Loss \$3,000 to \$5,000, no insurance.

J. A. Stanton's mill at Sauk Rapids, Minn., was recently destroyed by a cyclone. Loss estimated at \$30,000 to \$40,000.

The Mandan (Da.) Roller Mill Co. has been awarded a contract for supplying Fort Abraham Lincoln with 30,000 lbs. of flour.

Daniel McCuaig, of Muscotah, Ks., is planning to build a large roller mill, this year, if a certain proposed railroad is built.

Dion Keefe has sold his milling business at Cove, Ore., to Jaycox & Co.; Jos. Goaser, of Viola, same state, has also sold out.

License has been granted to the La Crosse Milling Co., Wis., for the manufacture of oatmeal, feed, etc. The capital stock is \$50,000.

The mill of McGowen & Hubby at Waco, Tex., is to have rolls and other new machinery, increasing the capacity to 75 bbls. per day.

BURNED.—On April 20th fire destroyed the flour mill of Peebles, Foulds & Co., Cor. Race and Court streets, Cincinnati, O. Loss \$50,000.

The Minneapolis mills contributed 25,000, and the St. Paul roller mill 10,000 pounds of flour to the sufferers by the cyclone in Minnesota, April 14.

H. C. Bowers, of the milling firm of Dillon, Bowers & Strook, Rock Falls, Ills., has retired from the firm, which will hereafter be known as Dillon & Strook.

The new railroad flour warehouses at Duluth are nearly completed, and are already well filled with flour from Minneapolis, Fergus Falls and other points.

W. J. Jennison has retired from the milling firm of Stokes Bros. & Jennison, Watertown, Dak., and is succeeded by Frank Stokes. The new style of firm name is Stokes Bros. Mr. Jennison in company with his brother, under the firm name of Jennison Bros., will operate the mill at Janesville, Minn.

BURNED.—April 7, at Quincy, Ill. The Gem City Mills, the largest flouring mills in the city. Total loss nearly \$200,000. The buildings were owned by a stock company of Quincy men, and cost \$125,000. Taylor Bros., the lessees, took possession last winter.

They had 15,000 bushels of wheat and 1,000 barrels of flour in the elevator and warehouse. Their loss is about \$30,000. The Nordyke & Marmon Co., of Indianapolis, had just refitted the mill on contract and the machinery had not been accepted. Their loss will be \$30,000.

On the morning of Apr. 26 the flouring mill of Geo. Dates & Bro., Portage, Wis., was struck by lightning and burned with its contents in about two hours. It had in store about 500 bushels of wheat, and nearly the same amount in ground feed. The total loss is estimated at \$8,500; no insurance. They had carried about \$7,000 insurance for a number of years up to a year ago, when it was discontinued. They will be unable to replace the property destroyed.

The Cummer Engine Co., of Cleveland, O., have recently received orders for a 287 h. p. Cummer automatic engine for Wahl Bros., of Chicago, Ill., and a repeated order for a 215 h. p. engine from the Marshall roller mills, of Marshall, Mich. The Cummer Co. have also received orders for nine of their "Simplex" automatic engines within the past few weeks, six to go to Chicago, two to Milwaukee, and one for Messrs. Taylor & Boggis, of Cleveland, the powers ranging 50 horse and under; they have also received an order for two complete Hoisting Plants for Messrs. H. M. Benjamin & Co., of Milwaukee, Wis.; among the Cummer Engine Co's late shipments are a 50-ton refrigerating plant for the J. Walker Brewing Co., of Cincinnati, O., and a 215 h. p. engine for the Peninsular Car Co., of Detroit, Mich.; they report their sales for the Jonathan Mills Universal Flour Dresser constantly on the increase, having sold double as many since the last of January as for the corresponding period last year.

The following are among the many orders received by The Case Manufacturing Co. of Columbus, O., since our last issue: From Knedler Bros., Long Grove, Ills., for the necessary machinery for a roller corn meal mill on the Case system; from The Superlative Purifier Mfg. Co., Milwaukee, Wis., for one 5-reel scalping chest; from Moore & Dutcher, Douglas, Mich., for a full line of rolls, purifiers, centrifugals, scalping chests, etc., for a complete roller mill on the Case system; from McAllister, Woisleagle & Co., Sterling, Ks., for a full line of rolls, scalpers, centrifugals, bolting reels, etc., for a full roller mill on the Case system; from J. B. Miller, & Co., Ashley, O., for the necessary machinery for a roller corn meal mill on the Case system; from W. E. Bolin, Circleville, O., for the necessary machinery for a roller corn meal mill on the Case system; from Hixon Bros. & Johnson, Granite Falls, Minn., for a complete plant of rolls, purifiers, centrifugals, scalpers, etc., for a full roller mill on the Case system; from Chatburn Bros., Albion, Idaho, for one No. 1 purifier; from Minnick & Strous, Huntington, Ind., for all necessary rolls, purifiers, centrifugals, bolting reels and other machinery for a full roller mill on the Case system; from Barnard & Leas Mfg. Co., Moline, Ills., for two No. 1 single purifiers to be shipped to Samuel Hickman, Claymount, Del.; from E. J. Sweet, Florence, Ks., for all the necessary rolls, purifiers, centrifugals, scalpers, etc., for a full roller mill on the Case system; from S. M. Canan, Richmond, O., for one centrifugal reel; from The A. L. Strang Co., Omaha, Neb., for all the necessary rolls, purifiers, scalping, and bolting reels for the mill they are building at Elwood, Neb., fourteen pairs of rolls with patent automatic feed will be used; from J. T. Burkett, Waterloo, Iowa, for two pairs of rolls with patent automatic feed; from A. L. Strang Co., Omaha, Neb., for all the necessary rolls, purifiers, scalping and bolting reels for the mill they are building for The Bazile Mill Co., Bazile, Neb.; from Dehner & Wuerple Mill Building Co., St. Louis, Mo., for four pairs of rolls with patent automatic feed; from W. O. Smith, Oakland, Ills., for all necessary machinery for a full roller mill on the Case system, using fourteen pairs of rolls; from Carter, Stewart & Co., Peoria, Ills., for all necessary material for a roller corn meal mill on the Case system; from London, England, for 16 pairs of rolls with patent automatic feed; from W. S. & M. Hoke, Parsons, Ks., for all necessary machinery for a roller corn meal mill on the Case system; from W. T. Pyne, Louisville, Ky., for ten pairs of rolls with patent automatic feed, to be placed in the mill of A. Bradley & Co., New Albany, Ind.; from L. Lindsey, Humboldt, Ks., for additional rolls; from William Hisey, West Branch, Mich., for six pairs rolls, one special purifier and three-reel scalping chest; from Heffner & Co., Circleville, O., for additional rolls for their corn meal mill.

GERMAN COMPETITION IN THE MILLING MACHINES.

The *Ironmonger* of April 3 has the following specially-contributed article on this subject:

In our issue of last week we directed attention to the German competition in steel castings. At the meeting of the Newcastle engineers, at which the matter was discussed, considerable difference of opinion prevailed as to the extent or the effect of the German competition in steel castings, but with regard to the phase of German competition to which the title of the present article refers, there is not room for two opinions as to its existence on a large scale, and the Newcastle Association of Engineers may be surprised to learn that one of the largest flour-mills in England has just been erected in Newcastle with German-made machines. Our readers are aware that during the last four years a great revolution has taken place in the flour-mill industry of the United Kingdom, and the old-fashioned millstone system has been almost entirely superseded by the new roller system. It is understood that during the last three years something like £3,000,000 sterling have been expended by the millers of the United Kingdom in having their mills transformed from the old to the new system, and of that large sum at least £1,500,000 have gone into the pockets of German and American engineers, even at a time when the engineering trades of this country were in a very stagnant state. The improved mills of Glasgow and Liverpool are to a large extent filled with German made machines, while the trade in wheat-cleaning machinery is almost entirely supplied by Germans and Americans. This state of matters is not due to the inability of British engineers to turn out a class of machines equal to the superior machines manufactured in all branches of engineering, but is largely owing to the fact that the German machines are of a less substantial description, rougher in finish, and consequently lower in price than the home-made machines. We believe the mills of a large number of the best-known British millers have been fitted up with machines of British manufacture, but we understand, that, almost without exception, the mills owned by limited companies and co-operative societies have been remodelled from the old to the new system by German and American engineers. This might be accounted for by the fact that the managing boards of such bodies are not composed of practical millers like the members of private firms, and therefore they decide to entrust their orders to the cheapest maker, irrespective of the numerous points which would not be overlooked by practical men; and the fact that the trade of the limited and co-operative companies has been placed almost exclusively with the German and Americans, while our home manufacturers have had to be satisfied with the work entrusted to them by private firms, is the most striking proof to us, if such were needed, of the superior design and more substantial construction of British-made machines. During the years 1882, 1883, and 1884 the imports of manufactured goods into this country increased from 6 to 8 per cent of the total imports, and this increase is almost equal to the additional imports of German and American milling machines. During 1885 the imports of manufactured goods declined about £90,000, and this decline is part-

ly traceable to the falling-off in the imports of American milling machines. The Germans, who are represented in this country by four milling engineering firms, still do a pretty large portion of the business; but as one or two of the firms are understood to have made arrangements to get part of their machinery made by English engineers, the German imports may also be expected to show signs of contraction, and we may reasonably expect that the excellent home-made machines will ultimately drive the German ones out of our markets. While our engineering societies have been devoting attention to the imports of German steel castings and Belgian girders, both of which are comparatively small items in the quantity of our total imports, the enormous imports of milling machinery appear to have escaped their notice, and we are sure it is only necessary to lay the matter before them to ensure that the remedy will be quickly forthcoming.

ITEMS OF INTEREST.

OILING WOOD.—Wagon makers or repairers can save their stock from worms by oiling with linseed oil. Singletrees, doubletrees, neck-yokes, spokes and cross-bars that are of white hickory and are kept in stock for a year or more will be eaten by worms if not kept in a dark place or otherwise protected. Coal and kerosene oil are good also, and the expense of applying is but little. Linseed oil is preferable, as it acts to some extent as a wood filler, filling the pores and thus aiding the painting which follows in its proper place. A boy can take a rag dipped in the oil and go over a large number of pieces in a day's time, or a vat can be used long enough to admit of several dozen at a time, and put where they can drip for one or two minutes. The expense of this is much less than those who have not had the experience might imagine, and far less than the loss of stock by worms. Some manufacturers oil all their white hickory stock before shipping.

THE STRENGTH OF GRANITE.—While tests have been made to ascertain the resistance of granite to pressure, too much dependence must not be placed on results given in text-books. Granite has a cleavage the same as sandstones, although this opinion would be condemned by the orthodox geologist, as it touches on the theory of granite being an igneous and not an aqueous rock. I mention this but to reiterate what I have before asserted as to sandstone, namely, that to use granite so as to get the greatest resistance pressure, the stone should be used so that the force should be at right angles to the cleavage or bed of the materials. Granite, like sandstone, laid upon its natural bed will increase in strength in the ratio of its superficies. However, if granite is fairly bedded on an equal and resisting foundation, no load can in ordinary circumstances crush it. It may be safe enough, in dealing with granite, to take from 684 to 848 per square foot as a fair test of its strength.—*James Govans.*

STEAM PIPES are dangerous.—The engineer of the city of Quebec bears the following testimony in the *Scientific American*.—

"I am of opinion, from practical experience, that hot water pipes in contact with woodwork are dangerous, and I only wonder that insurance companies do not refuse to insure where the necessary precautions are not taken

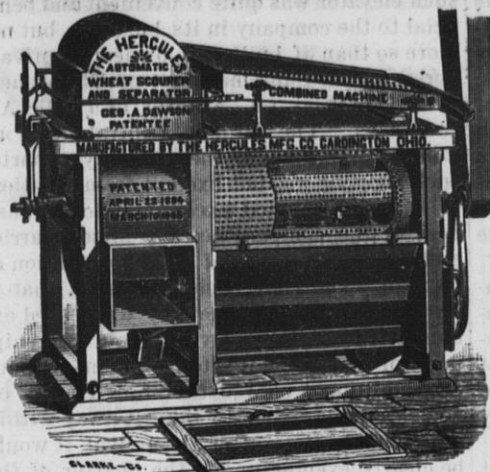
to isolate pipes sufficiently to prevent danger, which, as I shall presently show, it is easy to do. During soft weather steam and hot water pipes become very hot from the surrounding air being too warm to relieve them of or abstract their heat as colder air does. On one occasion this winter, a very soft day, my steam boiler had raised the temperature throughout all the pipes about the house to such a scorching heat that everywhere the woodwork was very hot, and I could not bear my hand on any portion of it without burning it as if I held it on a hot stove. It is only two or three weeks ago that a towel laid across the coil in a room on the third floor of the house was actually scorched as if by a red-hot iron, and this has happened more than once. True, water heated under atmospheric pressure only attains to a heat of 212° F. or 100° C.; but in a five story house, even with an open well or cistern in the garret above, a height, say, of fifty feet, equal to a pressure per square inch of nearly twenty-two pounds, the water of course reaches a much higher temperature, as it does in any closed vessel; and if to this be added the additional pressure or resistance in the rising mains due to the retarding by friction through long stretches of pipe with numerous right-angled bends, it is easy to understand how the temperature required to force the column of water along may be increased so as to become exceedingly dangerous."

A well-posted railway man says that the obligatory tooting of a locomotive on the New York, New Haven and Hartford Railroad in an ordinary day's run involves a waste of steam requiring the consumption of 280 pounds of coal to renew. He estimates the whistling expenses of that particular railway at \$15,000 per year. There is a similar waste in the blowing of the whistles of stationary and steamboat engines. It is a matter worth the serious study of practical railroad men whether they cannot devise a cheaper noise with which to give notice of the approach of trains to stations and grade crossings.

RYE MILLING.—A new process of rye milling has been recently described by the *Hamburg Correspondent*. In this new method the rye is cleaned from sand, etc., slightly moistened, and then the grains are fed into a shelling machine. The friction, under pressure of the rye grains with each other, loosens the outer husk, and after shelling, the rye is brought under an "aspirator," which blows out the moistened woody fibre, and exposes it for a short time to a strong air current that extracts its humidity, and thus after the milling process, lasting only eight minutes, the rye is dryer than at first. It is said that by this method the separation of the kernel is effected; the bran is greatly reduced, while there is practically a reduction in the proteine. Bread made from rye thus treated is said to be lighter and more digestible.

AN UNEXPECTED RESULT.—Nature offers very little encouragement in California. A wide river in Colusa county was recently bridged by a one-hundred-and-seventy-five-thousand-dollar span, which was no sooner completed than the stream split in the centre, and now flows at either end of the structure, which extends over an island in the middle of the water.

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PROPRIETORS OF YOUNG AMERICA ROLLER MILLS,
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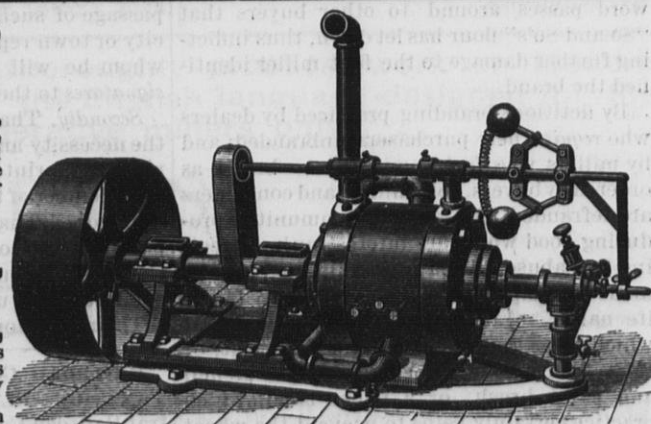
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[Please mention this paper.]

MILL BRANDS.*

Amongst other matters discussed but not concluded at a previous convention, that of a national law requiring each package of flour to bear the maker's name and location, seems worthy of further consideration.

Such a law should not be necessary to millers. They should be proud to display their names and addresses conspicuously on each package, as the most efficient possible advertising. But from various causes, partly beyond the miller's control, probably more than half of the flour made in the whole country leaves the mill unbranded, or under special or fictitious brands, not identifying the maker. Doubtless, millers generally would prefer to sell their product under their own brands, but with a capacity to manufacture, greatly exceeding domestic demand, the competition has been so great that the buyers have been able to dictate whether and how flour shall be branded.

Sales of unbranded or special private brands cannot make either reputation or permanent customers for the miller.

The buyer using his own brands instead of those of the mill, can and does shade the quality to meet competition, unless the miller will lower the prices. After furnishing the first few lots, upon which the buyer makes a good introduction of a new brand, he is offered slightly cheaper flour, perhaps from a different section, when, if the first seller who started the brand cannot come down he loses the trade, and the process is continued, until finally perhaps three or more mills, widely separated, are competing to furnish the same brand of flour, and the trade is worth nothing to any of them; contributing thereby to a general demoralization of prices; and, worse yet, perhaps when the special brand is first put on the market, it may be truly represented as the standard flour of some well known mill, the reputation of which helps to give the brand a start; then after a while the buyer meets closer competition from flour a shade cheaper, which looks well, but which may decidedly lack the working qualities of the standard, when he requires the originator of the brand to reduce his price, or lose the orders. It may be impossible for him to do this and maintain his standard, when the buyer takes the cheaper flour from somewhere else and continues to float it on the reputation of or given to it by the original maker.

It fails to suit the trade as well, and the word passes around to other buyers that "So and So's" flour has let down, thus inflicting further damage to the first miller identified the brand.

By fictitious branding practiced by dealers who require their purchasers unbranded; and by millers who feel compelled to brand as ordered by buyers, both millers and consumers are defrauded. All farming communities producing good wheat are interesting in correcting this abuse. If Minneapolis flour can be made by simply using that deservedly favorite name, regardless of the special wheat which gives that flour its distinctive merit, or if St. Louis flour can be made by a stencil and paint brush, or a paper label, which practice certainly helps to prevent the wheat required for the genuine Minneapolis and St.

Louis flour from bringing as high a price as it would, it certainly casts a shadow on the flours from these milling centers, the reputation for which, perhaps, it has taken many years to establish. Even for that in looks, face, and perhaps dough equal the product of the mills of these cities and vicinities, will not give satisfaction to dealers and bakers who have used the legitimate out-turn of these mills, and unknowingly do incalculable damage to the "honest miller" of these cities.

Let each great milling section of the country stand on its own merits, and develop increased excellence in manufacture and encourage the former to raise the crop best adapted to each, and there will be no occasion to borrow, without leave, the name of any other.

The manufacturer of any food product should not be ashamed to stamp his name and address thereon, and the final buyer, the consumer, has the right to know the name and location of the manufacturer or his daily food and to hold him responsible for its purity and quality.

A law requiring the name and address of the manufacturer of food products to be stamped or marked on each package, is needed for the common protection of manufacturer and consumer, and where any deteriorating mixtures or substitutes are used, such as glucose in syrup or sugar, lard, tallow, or cotton seed oil, in butter or other food products, if they cannot be prohibited or taxed out of market, the constituents and proportions of same should be plainly and truthfully set forth on each package, under severe penalty.

The stomach of the nation is close to its conscience, and should not stand any deterioration of its daily bread and butter.

We should invite the co-operation of the Dairy interest for the passage of such a law. That interest is our customer for mill feed, and this important element in the cost of our flour would bring a good deal more money, if the vile compounds, sold for substitutes for genuine butter were prohibited or branded.

Concluding this too hasty consideration of this important subject, I offer the following resolutions:

First, That the Secretary of the Association shall have a bill prepared to be introduced in Congress as early as possible, embracing the matter under discussion, and that he send a form of petition favoring the passage of such bill to some miller in every city or town represented in the Association, whom he will request to procure as many signatures to the same as possible, and

Secondly, That a memorial, setting forth the necessity and justice of such measure be prepared, printed and mailed to each Senator and Member of the House at Washington, and

Thirdly, That a committee of five be appointed to go to Washington after the matter shall have been referred to its appropriate committee, to urge its passage.

The resolutions were adopted.

RAILROAD COMPANY—EXEMPTION FROM TAXATION—ELEVATORS.—The Illinois Central Railroad Company in 1881 erected on its right of way in Cairo, and near the Ohio river, a grain elevator at a cost of \$200,000 or \$300,000, and leased the same to private parties who received tolls and compensation

for all grain stored therein. It appeared that such elevator was quite convenient and beneficial to the company in its business, but not more so than if built and owned by private persons. The Supreme Court of Illinois held (The People ex rel. Auditor of Public Accounts vs. The Illinois Central Railroad Company) that under the company's charter such elevator was not exempt from taxation, it not being devoted exclusively to the business of the company as a common carrier and not being essential to the operation of its road. The court held, however, that if an elevator of the company were used exclusively by it in receiving grain for shipment or for storing it after shipment without any additional charge therefor, except on neglect of the owner to take it away within a reasonable time after its arrival, it would be clearly exempt under the charter of the company.—Bradstreets.

RAILWAY MILEAGE OF CANADA.—Underneath this will be found a statement of the mileage of the various railways of Canada in operation on the first of January this year, as near as can be ascertained. With few, if any, exceptions, the roads are all standard gauges. As will be seen, the mileage will compare favorably with that of any other country in the world, considering the difference in population. The names of the roads are arranged in alphabetical order and are as follows:

	MILES.
Albert Railway N. B.....	45
Bay of Quinte Railway Navigation Co.....	15
Canada Atlantic Railway.....	135
Canada Pacific Railway.....	3678
Carillon & Grenville.....	13
Central Ontario.....	104
Cochran Railway, N. B.....	9
Cobourg, Peterboro & Marmora Railway.....	15
Cumberland Railways, N. S.....	32
Eastern Extension Railway.....	80
Elgin, Petitoctiac, & Havelock Railway.....	14
Erie & Huron Railway.....	36
Grand Southern Railway, N. B.....	82
Grand Trunk Railway.....	2694
Intercolonial Railway.....	830
International Railway, Quebec.....	69
Kingston & Pembroke Railway.....	61
Manitoba & Northwestern Railway.....	130
Michigan Central, Canada Southern D.v.....	376
Napanee, Tamworth & Quebec.....	28
New Brunswick Railway.....	397
Northern & Northwestern Railway.....	382
Prince Edward Island Railway.....	196
Quebec & Lake St. John Railway.....	46
Quebec Central Railway.....	148
St. Martins & Upham, N. B.....	30
South Eastern.....	185
Western Counties Railway, N. B.....	67
Windsor & Annapolis Railway.....	130
Total.....	10,027

In addition to these roads in operation there is a considerable mileage on which track has been laid, and which will be open for traffic in the course of a few months, and there will be, undoubtedly, at least 11,000 miles of railway in operation in Canada by the first of July 1886.—Railway Life.

A young gentleman was accusing the other of having a big mouth, "yes" replied the other, "but the Lord had to make yours small, so as to give you plenty of cheek."

SOLILOQUY of an inebriate, addressed to his hat which had fallen off. "If I pick you up, I fall; If I fall you will not pick me up—then I leave you;" and he proudly straggled away.

*A paper read by Alex. H. Smith, of St. Louis, Mo., before the Millers' National Association in Chicago, May 13, 1886.

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MILWAUKEE, MAY, 1886.

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ACCORDING to the report of the Bureau of Statistics, there was exported during the month of March, 3,801,339 bush. of wheat and 569,437 bbls. of flour, showing an increase of 159,200 bush. of wheat and a decrease of 236,093 bbls. of flour for the same period in 1885. For the three months ending with March 31st 1886, there was exported 12,878,254 bush. of wheat and 1,732,979 bbls. of flour, showing a decrease of 6,435,797 bush. of wheat and 1,084,380 bbls. of flour from same period 1885.

We will send The Milling World (weekly) and the U. S. Miller for one year for \$2.00.

ANTON KUFKE's latest London circular says:

There is a decided improvement in wheat this week, mainly caused by higher quotations from America, and the substantial reduction in the visible supply. There are not wanting causes for improvement on this side also, as arrivals are exceedingly small, and Indian wheats have now nearly disappeared from the market.

A considerable business has been done in flour, and the values of lower grades continue to improve, though buyers resist to the uttermost. Many of them have, however, been compelled to supply themselves at prices fully 2s. advanced from the lowest.

Higher grades, on the other hand, are somewhat cheaper, and meet with but little demand.

MINNESOTAS are so irregular as to be scarcely quotable, and WINTER WHEAT flours are to be had at 6d. less money.

CALIFORNIAN flours are attracting much more attention and are exceedingly good value at current prices.

The arrivals of wheat and flour are only 181,692 qrs., making the total of imports from Sept. 1st to April 17th, 9,497,988 qrs.

We will send the U. S. Miller and American Miller for one year for \$1.50.

PROCEEDINGS OF THE MILLERS' NATIONAL ASSOCIATION.

The convention of the Millers' National Association met at the Grand Pacific, May 12. Vice President C. H. Seybt, of Highland Ill., presiding. The minutes of the last convention were read and adopted, after which a committee was appointed to draw up a ticket of nominations for officers for the ensuing year. A committee was also appointed to act in conjunction with the executive committee concerning the Downton claims, after which the convention adjourned until 2 P. M.

The afternoon proceedings were opened with the reading of the report of Secretary Seamans, of Milwaukee. The report showed the association to be in a very healthy and prosperous condition. He reported that innumerable patents of milling appliances of greater or less practicability had been inspected and disposed of, mostly without any special attention. The report of the treasurer showed that there was a neat balance of \$2,835 on hand after paying all bills. In the report, however, there was an item of \$236, which had been paid out for traveling expenses for the New York members of the executive committee in attending meetings of that body which caused some discussion. Mr. George Bain, of St. Louis, said he didn't see why the New York delegation should have their bills paid when other delegations had not. Mr. Hines, of New York, said that he had sent in his bill because it was just and right, and he should not be expected to give his time and money for the welfare of the whole association. "Besides," said he, "nearly all you fellows have been getting passes and had no expenses except for hotels. We didn't catch on to any passes."

Chairman Seybt—Brains always get passes. You ought to have looked out for that.

Mr. Hines—Suppose we didn't have any brains. What then?

Mr. Seybt—Oh, in that case I don't suppose there'll be a fight over your bill.

The dialogue was perfectly good natured, and on motion of Mr. Bain it was ordered that in the future the traveling expenses of members of the executive committee to attend meetings be paid by the association when the bills are duly sent in and audited. The reading of papers on the milling interests was then called for. Mr. Seybt read a paper on "Flour Export." He first advocated the taking of great care by the millers to keep up the exportation of flour from this country, for its stoppage for any length of time or its flagging would mean the ruin of thousands of millers in all parts of the United States. The two great enemies of the millers in this country are the elevator men and the unlucky passion for speculation in their ranks, the latter being the more dangerous of the two. Care should be taken to ship abroad the best flour made from the best grain, for the foreign millers and dealers are ever on the alert to detect imperfections, ever so slight, in American flour, and are not slow to expose them for the capital they can make of it, and it is a grave mistake to imagine that the foreign markets will reach out for any sort of American flour that may be ground out.

Mr. C. M. Palmer, editor of *The Northwestern Miller*, of Minneapolis, read a paper on "The Economics of Milling," in which he

dealt at considerable length on the present state of the flour trade. He suggested some means of cheapening wheat, getting reductions in freight, perfecting mill brands, and enlivening the wheat and bran markets. The paper set forth by some recent practical experiments that wheat bran is equal in volume as a food for fattening cattle to corn-meal.

Mr. A. B. Kellog, of Buffalo, read a paper on "Bolting Silk," a commodity that has become indispensable to the milling trade. He charged that the manufactures of the article in this country are and have been for years taking advantage of the situation among the millers, and have been charging them fabulous prices for the article, which the millers have been paying uncomplainingly. He called attention to the fact that the milling trade was not as brisk as it might be, that the profits throughout were small, and that in any event the margins would not permit of paying any such prices as are being paid for bolting silk. He advised the millers to demand a reduction in the price of the article at once.

After deciding to pay a visit to Jackson, Mich., the convention adjourned until 10 o'clock in the morning, of May 13.

SECOND DAY.

The Millers' National Convention was called to order for the second day at 10:10 A. M. at the Grand Pacific Hotel, by Vice-President Seybt. The committee on the alleged general infringements of the Downton roller patent reported a resolution recommending the reference of the whole question to the Sub-Executive Committee of the association. The Chairman advocated its adoption, assuring the convention that the Sub-Executive Committee was a committee of "fighting cocks." Mr. Sparks of Alton spoke emphatically on the subject, maintaining by illustrative arguments that the claims of infringement made by Mr. Downton were not only too numerous and sweeping to be entered into in detail, but also altogether absurd. The resolution was then unanimously adopted.

Mr. Paine of Missouri then offered a resolution expressive of thanks to Mr. Christian, the President of the association, who was too ill to preside, and also reciting the association's appreciation of Mr. Christian's services and character. Several members spoke on the resolution and it was adopted without dissent. Mr. Ellis of Indiana reported a resolution relative to the numbering of bolting silks, and Mr. Smith of Illinois made a motion that all new members, whether representing new or old mills, admitted subject to the approval of the Sub-Executive Committee be taxed \$5 per per unit for every thirty-five barrels capacity. Mr. Smith said that the purpose of his motion was to increase the membership of the association. The motion was passed.

A letter was then read from Mr. W. B. Washburn of Minneapolis, inviting the members of the convention to visit the Industrial Exposition to be held there from Aug. 23 to Oct. 2, of the present year.

Mr. Alex. H. Smith, of St. Louis, Mo. read a paper on "Mill Brands" which is reported elsewhere in this issue of the U. S. MILLER.

Mr. Smith was followed by the Second Vice-President, Mr. Homer Baldwin, of Youngstown, O., who read an interesting paper on

"Purification of Flour," in which he maintained the following three propositions:

1. That the commercial value of flour is fixed by its purity.
2. That so-called patent flour is pure.
3. That flours of equal purity are of equal value.

Following Mr. Baldwin came Mr. George T. Smith of Jackson, Mich., who read the following paper on centrifugal milling, illustrated by large framed diagrams.

GENTLEMEN: Your Committee of Arrangements have honored me by selecting me to read one of the series of papers, which form part of the programme for the present meeting, and have assigned to me the subject of the centrifugal system of bolting. For this compliment I desire to return thanks, and at the same time assure you that it is not my intention to tire you with a paper of undue length or by reference to unimportant details.

My endeavor will be to point out as briefly as possible the chief features in which the centrifugal is superior to other reels in its operation on the stock to be bolted, in the results produced, room occupied, power consumed, cost of machines for a given capacity, expense of placing and connecting them in the mill building, saving of silk surface and wear of cloth, and economy in operation as a complete system; leaving a fuller inquiry into this system of bolting and an examination of its practical operation to yourselves when you visit Jackson on Thursday, as I believe it is your unanimous intention to do. I have had the drawing at my right, which is a vertical cross section of my reel, showing an end view of the working parts, prepared to show the action of the machine; and it is a substantially correct representation of the interior of that reel as you will find it in operation.

And here let me explain that the centrifugal, as we are now building it, is a very different affair from the machine of that name with which I first became acquainted in England, several years ago. That centrifugal was very severe on both stock and silk, drove the material through the cloth by the direct action of beaters, did not bolt clear, ran heavily, and lacked durability. The centrifugal of to-day is exactly the reverse of its predecessor in every one of these features, as I shall try to show you later on.

Referring to the drawing: A A are the hinged elevators attached to the stay-rods of the reel frame for the purpose of carrying up the material as the cloth cylinder revolves, and delivering it to the spreaders or distributors, B B, on the upward moving side of the reel. As these elevators complete the discharge of their load they are arranged to drop automatically away from the silk, so that the material reaches the cloth behind them, and is not obstructed in its travel around the silk cylinder. C is the spider to which the distributors are bolted, and D the distributor or driving shaft. The silk reel makes one revolution to twelve of the distributor shaft, or about eighteen per minute.

In operation the material being bolted is carried up by the elevators and gradually discharged on to the distributors, which, by their centrifugal action, spread it evenly over the entire silk surface.

On the lower quarter of the upward moving side of the reel the bolting is effected somewhat as it would be in a round reel without the distributing cylinder; and the amount of work done on the section of cloth referred to would represent the entire bolting capacity of a round reel without distributors or elevators. From the center of the upper side of our reel, however, around over the top and nearly or quite to the centre at the bottom (this being the portion of the silk covering most directly exposed to the action of distributors), the amount of work done is larger in proportion to cloth surface in the ratio of, at least, two to one, than on the section first mentioned.

The distributors deliver the material to the silk at a very acute angle, the apex of which is in the direction in which the cloth is moving, so that the bolting is effected almost en-

tirely through the sliding movement of the stock over the cloth, and not by the material being forced through the silk, as is the case with the common reel. An examination of the reel at work will show that the material travels at a much higher speed than the silk cylinder, and confirm the statement of the manner in which the bolting is accomplished.

Having thus described in a very general way the operation of the reel, we claim for it that it handles the stock much more gently and with less wear and flouting of the material than the common reel; that the capacity is many times greater on the same silk surface; that it requires very much less power to bolt a given amount of material; that it bolts clearer and gives a sharper flour, dryer and sharper middlings, and cleaner tailings; and that it is much easier on the silk.

It handles the stock more gently than a common reel because it appears from actual experiment that in a hexagon reel sixteen feet in length and running thirty per minute, the same material is carried nearly to the top of the reel and allowed to fall to the bottom—a distance of about twenty-two inches—400 times in its passage through the reel from head to tail; and as it requires three or four common reels to equal the capacity of a centrifugal with like silk surface, it follows that the stock would be carried up and dropped as described at least 1,200 times. The noise made by the stock in striking the silk as it falls from one side of a common reel to the other, can easily be heard a number of feet if the reel doors are removed, and this treatment is certainly the reverse of gentle; while in the centrifugal the stock slides down along the silk and no sound indicating the falling of the material in a body, or its striking the cloth can be detected, even by placing the ear inside the reel frame. The stock is finished much more rapidly and is consequently handled over very many less times. A very large size centrifugal—one having from four to six barrels capacity per hour—would have not more than ten feet length of conveyors. Common reels with like capacity would have at least forty feet of conveyors, and you all know the result of conveying flour ready for the packer, or middlings suitable to go to rolls or purifiers a long distance.

The capacity of the centrifugal is greater than the common reel because it bolts all the time on every square inch of cloth, while the common reel does not utilize more than one-fourth of the silk.

It requires less power because in one elevation of the stock in the cylinder four times as much bolting is effected as in the common reel, and the material therefore requires to be elevated only one-fourth as many times. In the common reel the weight of the material is all on one side, and driving it is something like turning an overshot wheel against the water, while in the centrifugal the friction and weight of the material on the downward moving side of the reel counterbalances to some extent the load being lifted on the opposite side. There is also the saving in distance the material has to be conveyed to get it to the desired spot, and the elevation from one reel to another, where four or more are used instead of one. In a mill using common reels the conveyors, elevators and reels would at all times be handling twice as much stock as in a centrifugal mill, and using additional power proportionately.

The centrifugal bolts clearer than the common reel, because in the last named the stock falling in a body a distance of nearly two feet forces whatever material may happen to strike first through the silk, and because the stock is handled over and over such a great number of times that the impurities are worn into dust as fine as the flour. The flour is sharper for the reason that the stock travels over only a comparatively small silk surface, and is treated so gently in the centrifugal; while in the common reel the length of silk traversed, the number of times it is elevated and let fall, and the distance it afterwards travels in conveyors and elevators, produces a fine dust which softens and darkens the flour.

The explanation given for the sharper flour produced by the centrifugal will apply in support of our claim that it gives sharper and dryer middlings and cleaner tailings.

It is easier on the silk for the reason that the wear is distributed evenly over the whole cloth surface, and that the material does not come in contact with the cloth severely, while in the common reel the whole load falls every moment a distant of nearly two feet, striking on the silk in the same place each time, and wearing it out rapidly at the point of contact while the remainder of the cloth is still good.

If these claims are substantiated by your own investigations I think you will have no difficulty in believing with me that such a machine is adapted for use as a complete bolting system.

In my description of the reel and its manner of operation I have, I think, said all that is necessary in regard to the following named points, to which I promised to confine myself in the beginning: The superiority of the centrifugal to other reels in its operation on the stock to be bolted, in the results produced, amount of power consumed, saving in wear of silk and in silk surface required for a given capacity.

It now remains to compare it with the common reel as regards room occupied, cost of machines, expense of placing and connecting them in the mill building and economy as a complete system.

From such mill plans as we have made for parties whom we supplied with full outfits of centrifugals and scalpers we find that the saving in room required for bolting machinery when a complete centrifugal system is used is about one-half. The saving in first cost of machines, including the difference in bolting silk, pulleys, shafting, gears, etc., etc., required to drive them is fully one-third. And the expense of placing and connecting centrifugals in the mill building, owing to the fact that they go to the purchaser complete and ready for the belt, is only a very small fraction of the cost of erecting common bolting chests.

In stating why the centrifugal bolting system is the most economical I shall be obliged to recapitulate to some extent what I have said about that machine separately, and under this head I may be permitted to mention saving of room, saving of power, saving in amount and wear of silk, the improvement in the flour and the closer finish.

The saving in the wear or flouting of stock by reason of its gentle treatment in centrifugals, the fewer number of times it is handled over and the less distance it travels in reels, conveyors and elevators is a feature, the importance of which can hardly be overestimated, as the flour dust resulting from this handling is unavoidably mixed with the flour, can not possibly be separated from it, and unquestionably damages it to a considerable extent.

In gradual reduction milling a great number of separations is an indispensable part of the system, each one involving the handling of a greater or less portion of the stock, according to the separations being made, and any means by which these separations can be effected with the least reduction of the stock is certainly worth your attention.

You are all aware of the fact that the common hexagon reel must be given a certain load to insure its doing good work. If too lightly loaded, its flour will be dark and specky, and if overloaded its tailings will be too rich. If the proper load can not be otherwise provided, it must be by a return, through long conveyors and elevators, the bad effect of which has already been mentioned. The centrifugal, on the other hand, bolts clear its whole length, and without much reference to how it is loaded. I shall show you centrifugals at Jackson from which we are drawing flour the entire length of the silk, the last slide being clearer and better dressed than the first on a common reel bolting same stock, and tailings absolutely dry, free from flour, and ready to go to rolls or purifiers.

From this action of the centrifugal, it follows that each separate grade of stock can be handled and finished by itself and there is no residue from the different classes of material accumulating towards the finish to be bunched in special reels, thereby increasing the proportion of inferior flour.

The cleanliness of the centrifugal mill is worthy of mention, and this I think is accounted for by the fact that the best class of material is used in the manufacture of the machines, that the lumber is thoroughly kiln-dried, and that being built, finished, and tested in the shop where there is every facility for giving the most careful attention to the details of their construction, they are dust-tight, and free from leakage. The expense of building the required number of such mammoth structures as the old-fashioned bolting chests, in the mill, giving them the finish, and employing the class of material and workmanship in their construction used in the centrifugal, would make them a luxury no miller could afford.

Flour bolted on centrifugals will take more water, is sharper and more granular, and even when made exclusively from soft Michigan wheat, has been pronounced a mixture of spring and winter by the best Boston experts.

I have said a good deal about the damage resulting from wear and flouring of stock through repeated handling in the dressing reels, and it is of course equally important to avoid loss from this cause in the scalpers. The drawing on the left is a full-sized vertical cross section of a scalper which we recommend for use in connection with the centrifugal. The advantages of the machine are: Very gently handling of the stock; large capacity, due to the serrated cylinder carrying over a considerable portion of the material, and discharging it against the silk on the downward-moving side of the reel; and comparatively little wear of the cloth, the stock not being allowed to fall on the silk, as in the common reel, and the wear being equally distributed. It is known as the Holt Inter-Elevator Bolt.

But I am trespassing on your good nature. I have already detained you much longer than I expected to do when I began the preparation of this paper, and in conclusion only beg to explain that our company are engaged in milling for the purpose of educating ourselves in the centrifugal bolting system, demonstrating its superiority, giving our managers the opportunity to make such improvements in our machines as may be suggested by seeing them daily in practical operation, and conducting constant experiments, which we try to have result to the benefit of our customers.

I shall hope to meet you one and all at Jackson on Friday, where you will have every opportunity to examine our works, and the Eldred mill, in which I am interested, and where I trust we may be able to entertain you much more to your pleasure and profit than I have done here.

Mr. Jonathan Mills of Cleveland followed with a very long paper on the dressing and rebolting of flour, which was interrupted towards its conclusion by the announcement of an invitation from the Chicago Board of Trade. The last paper was by Mr. Ranck of Indianapolis, on the milling of corn-meal.

Mr. C. M. Wicker of the Chicago Freight Bureau addressed the convention on the subject of flour sacks. The railroads, he said, had been compelled to give up for the time being the clause in the invoice "at the owners' risk except in case of wreck"; but he assured them that the question would soon arise again if millers did not adopt some uniform standard for the sacks. The roads were unwilling to receive inferior sacks and then enter into litigation to defend themselves against unjust claims for damages resulting from the persistent use of inferior material in sacks. The Chairman, on behalf of the Sub-Executive Committee, promised Mr. Wicker that the committee would carefully look into the matter with a view to meeting his views.

The Committee on Nominations reported: For President, Mr. John Crosby of Minnesota; for First Vice President, Mr. C. H. Seybt

of Illinois; for Second Vice President, Mr. Homer Baldwin of Ohio. On motion, the Secretary cast the vote of the Convention for these three gentlemen, and they were accordingly declared elected. Mr. Crosby was conducted to the chair and made a brief address, after which the convention adjourned *sine die*.

NOTES.

About three hundred millers, milling engineers, mill furnishers and newspaper men left Chicago for Jackson, Mich., on the 4 P. M. and 9 P. M. trains, at the invitation of Mr. Geo. T. Smith of the Geo. T. Smith Middlings Purifier Co.

Among the roller mill manufacturers present were G. N. Bierce, Dayton, O.; David Mills, Dayton; W. W. Allis, Milwaukee; Henry Stanley, St. Louis; O. A. Pray, Minneapolis; W. P. Northway, Col. J. Silas Leas, and Capt. Bennett, Moline, Ill.

The following newspapers were represented at the convention: The UNITED STATES MILLER, Milwaukee, Wis.; *The American Miller*, *The Deutsche-Amerikanische Mueller*; and *The Miller* of Chicago, Ill.; *The North-western Miller*, Minneapolis, Minn.; *The Millstone*, Indianapolis, Ind.; *The Modern Miller*, Kansas City, Mo.; *The Milling World* and *The Roller Mill*, Buffalo, N. Y.; and *The Southern Miller*, Nashville, Tenn.

Many familiar faces at former conventions were missed, and a great many new ones took their places.

The many friends of S. H. Seamans of Milwaukee, will be highly gratified to know that he has been re-elected to the position of Secretary and Treasurer. It would be difficult to find a man so eminently qualified to fill the place.

The familiar face of Hon. Geo. Bain of St. Louis, so many years president of the M. N. A. cheered the hearts of all convention goers.

J. J. Snuffer of Iowa was not there, but many of his friends were, who were disappointed in not seeing him.

Handsome Tom, Miller of St. Louis, and R. L. Downton, the persistent patentee, who is now prodding the millers, with a view to making them disgorge some of their hard-earned riches, were present.

John W. Hinton of Milwaukee, was present and was the center of an enthusiastic group of protectionists. We surmise he was looking for Bates, the Chicago free trader, but Bates was not visible. We saw his tracks, however.

Simeon Howes, Esq., the great manufacturer of grain-cleaning machinery at Silver Creek, N. Y., was present.

Joe. Karnes of Buffalo, N. Y., was busily engaged during the convention with exhibiting an automatic grain scale to interested millers.

A FIELD FOR INVENTORS.—The field for the invention of devices for reducing the losses by fire originating from several common causes is a vast one, and we know of no persons more familiar with the dangers to be guarded against or better qualified to do some useful and profitable thinking on this subject than fire insurance agents. Accordingly, in the hope that some of our readers may make themselves millionaires in this manner, we will proceed to recite a few specifications.

For every dollar of loss on the premises where a fire originates, eighty cents of damage is inflicted through exposure upon contiguous property. Much the larger part of this loss is from external exposure. Wanted, a method to prevent buildings from taking fire from the outside.

Friction in machinery caused the destruction of one million of dollars worth of property in the United States last year. Wanted, a method of lubrication which will do away with inflammable oils.

Matches carelessly handled burned over a half million dollars worth of property in the United States last year. Wanted, a substitute for matches, or a safety match that is as good as its name.

Defective flues burned about two and three quarter millions of dollars worth of property. Wanted, a flue that cannot be defectively constructed.

Defective heating apparatus burned nearly half a million dollars worth of property. Wanted, a heating apparatus that cannot prove defective.

Electric wires and lights, a source of increasing danger, burned over a quarter million dollars worth of property. Wanted, a system of insulation which cannot prove faulty.

Explosions of kerosene lamps burned over one and one-half million dollars worth of property. Wanted, lamps and lanterns that cannot explode.

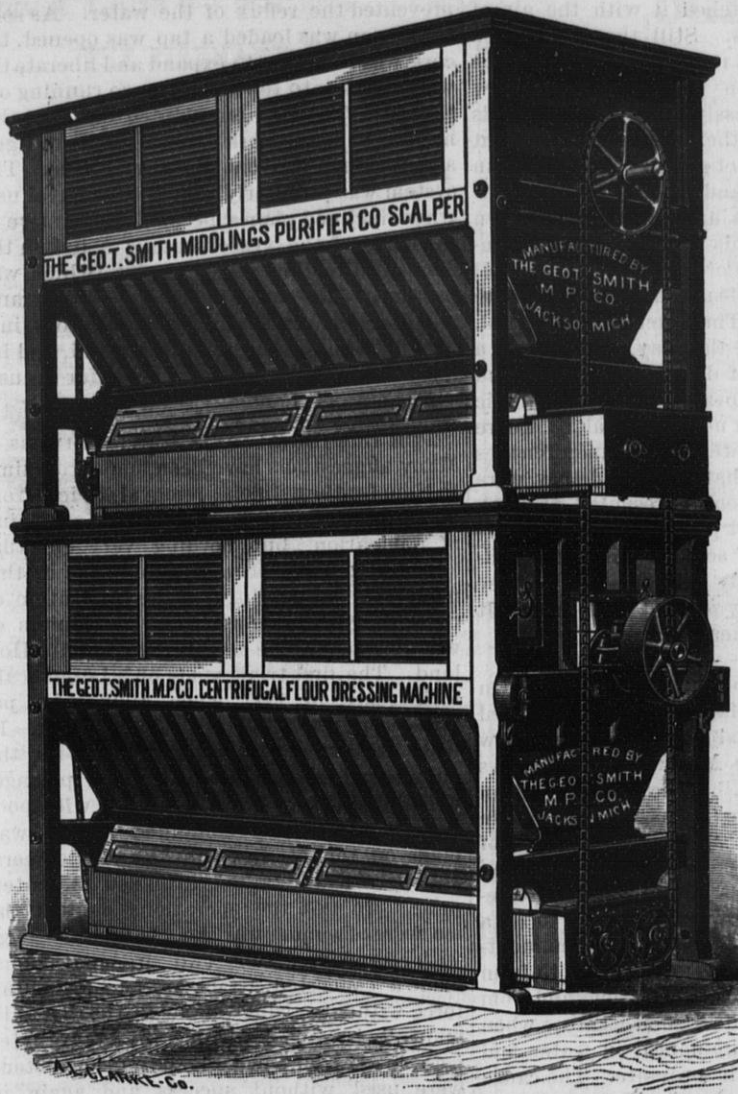
Lightning burned one and one-quarter million dollars worth of property. Wanted, a perfect lightning rod.

Sparks from locomotives and other sources burned two million dollars worth of property. Wanted, a spark arrester of genuine merit, or stoves and furnaces in which combustion is more nearly perfect.

Gas jets burned one and one-quarter million dollars worth of property. Wanted, a device for preventing the contact of goods and curtains with open gas burners.

These are a few of the most necessary inventions. But others are needed, also. For example, there is a demand for a cigar that will extinguish itself before it is thrown away, also a plan for paralyzing incendiaries as soon as they decide to wield the torch. Another required invention is an automatic contrivance to pillory tramps before they enter barns and granaries. Still one more device, perhaps the most necessary of all, should not be forgotten, namely, a device for inoculating careless property owners with the spirit of carefulness, or of trepanning their skulls with the sense of watchfulness.—*The Insurance Chronicle*.

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.



GEO. T. SMITH Scalper AND Centrifugal COMBINED.

Both Driven from Driving Pulley of Centrifugal.

FOR PRICES AND PARTICULARS, ADDRESS

Geo. T. Smith Middlings Purifier Co. JACKSON, MICH.

BRANCH, STRATFORD, ONT.

[Mention this paper when you write.]

PUBLICATIONS RECEIVED.

We have received the "Thirty-Seventh Annual Report of Pork Packing in the West, etc.," by Chas. B. Murray, Esq., editor of *The Cincinnati Price Current*. Price 25 cents. It is invaluable to all interested in the pork trade. It is furnished free with the *Price Current*, a commercial journal of deep interest to all grain and provision dealers.

Decidedly unique and original is the little cycling scrapbook just issued by the Pope Mfg. Co. of Boston, Mass. Upon the covers are fac-similes of the covers or front pages of thirty-seven of the leading American publications, and inside are between two and three hundred newspaper clippings pertaining to the advantages of cycling. By an arrangement of tint and type, the selections have the appearance of genuine pasted scraps, which makes the book worth possessing as a curiosity. The book will be sent by mail to any one interested in cycling.

NONSENSE.

If there ever is a time when a man feels as if he would like to creep into a knot-hole it is when he pulls out his clean white handkerchief in a crowded street car, only to discover that somehow, he has managed to put his wife's night-cap into his pocket and is flaunting it before the passengers.

A JEFFERSON CITY (Mo.) paper thus describes the process of becoming a Colonel in that State: "The rank of Colonel is not acquired anywhere on the face of the earth with so little exertion on the part of the applicant as here in Jefferson City. In St. Louis the applicant must acquire the title by the slow process of absorption—that is, he

must associate with Colonels for a number of years, learn their habits and try to look like them as much as possible. This is very wearisome to impetuous young men, and when we come to consider the expenses incurred through 'setting up the drinks' and the long years of time wasted, it is not to be wondered that St. Louis has only twenty-five or thirty Colonels.

THE legal fraternity gets any amount of chaffing about the big fees that are charged by some of its members under aggravating circumstances. In a group up-town Gen. Casement of Ohio told how a West Virginia attorney had recently attempted to charge him \$1,800 for filing a bill of \$18,000 with a railroad receiver. Ex-Senator J. B. Chaffee said he could tell a larger tale than that: S. B. Elkins and himself were engaged some years ago in a controversy over some land in New Mexico. There was a difference between them and other parties which could have been compromised for \$2,000. On the advice of four attorneys who were their counsel they refused to settle, and went to court. They got badly beaten in court and were presented by the four lawyers with bills aggregating \$25,000. A Minnesota man remarked after hearing these stories that he knew of a case which outran all these: When he first went West he was engaged in a small way in farming. He raised among other things a litter of pigs. One of the shoats was stolen. He traced it to the domicile of a shiftless neighbor, and sued him for the value of the pig.

Of course he hired an attorney. He got a verdict for \$3. The lawyer sent him in a bill for a cool hundred. He said he thought it cheap—for the experience.—*N. Y. Tribune*.

YOUNG WIFE.—There is a gentleman in the parlor, dear, who wishes to see you."

He—"Do you know who it is?"

She—"You must forgive, dear, but that cough of yours has worried me so of late, and you take such poor care of your health, and—and O, if I were to lose you, my darling!"

[Bursts into tears.]

He.—There, there, dear. Your fondness for me has inspired foolish and unnecessary fears. I'm all right; you musn't be alarmed. But I'll see the physician, of course, just to satisfy you. Is it Dr. Pellet?"

She—"N-no, it is not a doctor; it's a—a—life-insurance agent."—*Life*.

WIFE to husband.—You must send me home a barrel of flour. There isn't a spoonful in the house. Knight of Labor—Can't do it; no flour to be had. Wife.—Plenty at the grocer's. K. of L.—All under boycott for keeping open fifteen hours a day. Wife.—Go to the mills then. K. of L.—They're boycotted for buying wheat of farmers who work fourteen hours a day. Wife.—Then patronize the feed store. K. of L.—Can't; he buys his flour at the boycotted mills. Wife.—Then what are we going to live on? K. of L.—Live on the boycott. What do you want with flour, any how? What's the matter with good, plain bread?

THE COMMUNISM OF INSURANCE.—Insurance is communism in the best and broadest sense; it is the great leveler, but it levels up instead of down. Obliterate insurance and the small traders would go to the wall, and only the strong, rich men who could stand the shock of fire would survive; the strong would grow stronger, the weak weaker, the rich richer, the poor poorer. Insurance prevents this; it says to rich and poor alike: "Pay me a small annual stipend, which you can easily afford to do, and if the disaster of fire comes to you I will set you on your feet again." Insurance permeates all society, it ramifies all business, it touches every interest, domestic, mercantile, financial, commercial and its touch is everywhere beneficent, preservative. There are at this moment over ten million fire insurance policies extant in the United States alone and they cover about fifteen billion of values. These figures are stupendous, not many men can think in millions, and as for billions they are mere names to most minds, the actual number required to make a billion being out of the grasp of the average man. Count silver dollars at the rate of three a second, eight hours per day, six days per week, and it will take thirty seven years to go through one billion! The breadth of the insurance mantle which covers all these values may be told in figures, but to be appreciated the mind must run through all the busy marts of commerce; go among the humming spindles of manufacture, pass into the ten thousands of homes, and take in the whole body of the industries, ambitions, and anxieties of the nation. Only a giant can cover such ground as this, and insurance is that giant; on its Atlantean shoulders it bears up the mishaps of a world, and with the fingers of a Fortunatus, scatters its impartial benefits. Over fifty million dollars of losses are paid in the United States by the fire insurance companies annually and through this great balance wheel the business equilibrium is maintained. The rich do not lose their wealth, and the poor do not reach poverty; but possible prosperity is everywhere held out to honest industry through the kindly communism of insurance.—*Insurance Monitor.*

ABOUT HAND FIRE GRENADES.

The statement that test fires, built by the grenade men for the purpose of showing the value of their hand grenades, would go out themselves without burning the wood if left alone, seems to have been pretty thoroughly confirmed at the annual meeting of the National Association of Fire Engineers held at Long Branch last Fall. The hand grenade men were all out in force and were to give a grand display of their ability to extinguish fires for the special delectation of the firemen present. They built a small wooden house and soaked it thoroughly with petroleum. Then they covered it with tar. So thoroughly was the little structure soaked with oil and tar that it dripped constantly, making the white sand under and around it black and greasy. Inside this little house the fire was built and the hand grenade men all stood around with bottles of liquid ready to put it out. The word when to begin throwing the grenades was to be given by a committee of Fire Commissioners who had been appointed at the request of the grenade men. The fire in the little house burned fiercely and the

Commissioners watched it with the air of amused school boys. Still the fire burned and the word to put it out did not come. The grenade men began to get uneasy. They moved about restlessly with uplifted hands anxious to throw their little bottles. But still the word was not given. The fire began to burn lower now and presently it went out altogether and not a hand grenade had been thrown. The boards composing the structure were scarcely scorched. The tar and oil had been burnt off clean, but the boards were in good condition. The beach was lined with thousands of people that day, who sent up a tremendous shout of derision and the hand grenade men disappeared from the public gaze and were 'seen no more at all.' There were thirty-three patents on hand grenades in this country at that time and they were said to have all been represented at Long Branch that day, but judging from the crest-fallen appearance of some of the representatives as they silently left the beach, they were not particularly pleased with the result of the day's experiment.

MECHANICAL PROPERTIES OF CORK.—On Friday last Mr. William Anderson delivered a lecture at the Royal Institution "On New Applications of the Mechanical Properties of Cork to the Arts." The lecturer began by demonstrating experimentally that in solid substances no appreciable change of volume resulted from change of pressure; even india-rubber was shown to be extremely rigid. Cork, however, appeared to be a solitary exception to this law, being eminently capable of cubical compression, both from forces applied in opposite directions and from pressure from all sides, such as arose when the substance was immersed in water and subjected to hydraulic pressure. The cause of this anomalous and valuable property of cork was then investigated, and it was shown to arise from its peculiar structure, which rendered it, in many respects, more like a gas than a solid. Cork was composed exclusively of minute closed cells, the walls of which were readily permeated by gases, but were impervious to liquids. The cells were filled with air, which, when pressure was applied, yielded readily, and expanded again when the pressure was removed. The impermeability of the cells to liquids prevented cork from getting water-logged when exposed to such fluids in bottles and in the new applications devised by the lecturer; and this property, combined with permeability to gases, rendered cork superior to india-rubber in waterproof clothing, because it permitted transpiration while excluding the wet. Mr. Anderson next proceeded to explain some of the practical applications which he had made. The first was the substitution of cork for air in the air-vessels of water-raising machinery. This was illustrated by a hydraulic ram which worked a fountain about 10 ft. high in the lecture room. Another application was the storage of a portion of the energy of the recoil of guns and employing it for the purpose of running them out when ready for firing. The gun-carriage was very much like that commonly in use with hydraulic compressors, but the water in the cylinders was driven by the recoil into a vessel filled with cork, which was thus compressed. The cylinder was separated from the cork vessel by an automatic valve which

prevented the reflux of the water. As soon as the gun was loaded a tap was opened, the cork was then free to expand and liberate the water back into the cylinder, so running out the gun. The lecturer pointed out that this method of using cork would allow of a gun a gun being run out up any incline. The system was peculiarly adapted for naval use, where inclined planes became inoperative in the event of the vessel having a list in the opposite direction. The lecture, which was profusely illustrated by means of diagrams and experiments, certainly placed cork in a new light before the scientific world, and indicated fresh and extensive fields for its use.—*Engineering* (London.)

THE BREAKING UP OF ICE IN RIVERS.—Many suggestions have been made from time to time for the artificial removal of ice from ports and rivers, so as to hasten the opening of navigation, but nothing very effectual appears to have been accomplished in this field. The proceedings of the Institution of Civil Engineers quote some particulars of what has been done in this direction in Holland. The first trials made on a larger scale took place in 1845, when gunpowder petards were used, but with little effect. In 1861, steamers were kept at work for the purpose of maintaining an open passage, but this effort was also crowned with poor success. In 1871 a combined attack was made on the ice by petards and steamers, and here again failure attended the enterprise. In 1876 the operations against the ice were of a most warlike character. Tugs with torpedoes, and two ironclad rams, made a concerted attack on the blockading force without raising the siege, the ice still manfully holding its own. Five years later petards of gunpowder and lithofracteur were used without success, and again in 1885 operations were resumed but without effect, so far as opening the navigation was concerned. The conclusion arrived at is that the most powerful means hitherto employed are of no avail excepting under the most favorable circumstances of weather, and then the natural course of events can only be hastened by a few days.—*Engineering* (London, Eng.).

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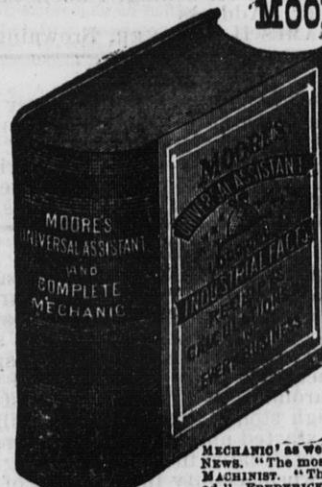
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ISSUE OF APRIL 6, 1886—No. 339,161—Roller grinding mill, W. D. Gray, Milwaukee, Wis.; No. 339,162—Roller grinding mill, W. D. Gray, Milwaukee, Wis.; No. 339,163—Roller grinding mill, W. D. Gray, Milwaukee, Wis.; No. 339,164—Roller grinding mill, W. D. Gray, Milwaukee, Wis.; No. 339,241—Roller grinding mill, F. Wegmann, Zurich, Switzerland.; No. 339,501—Flight tractor for screw conveyors for flour mills, C. H. Stevenson, Hastings, Minn.

ISSUE OF APRIL 13, 1886—No. 339,631—Grain separator, G. H. Ellsbury, Tower City, Dakota; No. 339,723—Flour bolt, F. G. Winkler, Zschopau, Germany; No. 339,874—Grain drier, L. Gathman, Chicago, Ill.; No. 339,824—Grain meter, W. H. Taylor, & Stockwell, Stamford, Conn.; No. 339,927—Roller mill, U. H. Odell, Dayton, Ohio; No. 339,939—Register for grain weighing machines etc., C. Seessle, New York, N. Y.; No. 340,019—Roller grinding mill, P. Van Gelder, Liverpool, Suurby Bridge, England.

ISSUE OF APRIL 20, 1886—No. 340,155—Method of cleaning wheat, E. Reist, Williamsville, N. Y.; No. 340,271—Grinding mill, C. Abeale, New York, N. Y.; No. 340,275—Grain separator, W. E. Howarth, St. Thomas, Canada; No. 340,446—Bolting reel, B. Kniffler, Cleveland, Ohio.

ISSUE OF APRIL 27, 1886—No. 340,752—Grain separator, J. Bachman, Stony Run, Pa.; No. 340,789—Feeding device for grinding mills, M. O. Kasson, Buffalo, N. Y.; No. 340,898—Feed regulator for roller mills, W. St. Mielcarek, Grand Rapids, Mich.

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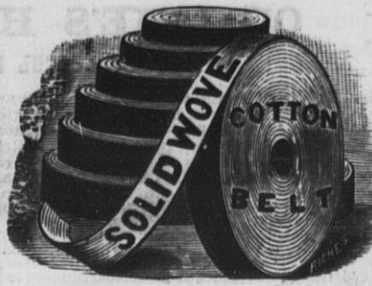
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PLEASANT PARAGRAPHS.

A TYPICAL "knight of the grip sack" was detained at a small town in Western New York awhile ago where a revival meeting was in progress. He had met a party of convivial friends during his stay there, and had what is popularly known as "a load on." Nevertheless he drifted into the revival meeting and took a seat well up in front. It was rather close in the church, and the warm air was conducive to sleep. The drummer yielded to the drowsy god and after nodding a little sank into a profound slumber and slept through the minister's rather long and dry discourse. The audience sang a hymn and the drummer slept on. Then the evangelist began his address, and wound up his fervid appeal with this request: "Will all of you who want to go to Heaven please rise?" Every one in the church except the sleepy drummer arose. When the evangelist asked them to be seated one of the brothers in the same pew as the sleeping drummer accidentally brushed against him as he sat down. The drummer rubbed his eyes, and, partially awake, heard the last portion of the evangelist's request, which was: "Now I want all of you who want to go to hell to stand up." The drummer struggled a little, leaned forward unsteadily and rose from his seat in a dazed sort of way. A sort of suppressed laugh he heard from some of the younger people, and an expression of horror he noticed on the faces of some of the older ones. Steadying himself against the rail, he looked at the evangelist an instant and then said: "Well, Parson, I don't know just exactly what we're voting on, but you and I seem to be in a hopeless minority."

HIS BRILLIANT PROSPECTS.—"So you want my daughter? Well, sir, what are your prospects in life? Have you any definite aim?"

"Aim? I should say I had. I am going to be an alderman one of these days."

"What makes you think so?"

"Why, it's a dead sure thing. I'm tending bar now, an' at the rate I'm knocking down I'll have a saloon of my own before next years election."—*Chicago News.*

WOMAN (to a tramp)—"If you'll shovel off the sidewalk, an' saw that pile of wood, an' pump a tub o' water, an' fill the wood box, I'll give ye a cold bite when you get through."

Tramp (sadly)—"Madam, if I were to put anything cold on my stomach after all that exercise I would have a fit of indigestion that would stagger the whole medical profession. I am not an ostrich, madam, nor an Englishman. Good morning."

REV. HENRY WARD BEECHER has been preaching a sermon to "Men Who Can Not Smile." We have not explicit information, but suppose it must refer to prohibitionists, but even in that case we think H. W. B. is mistaken.—*New Haven News.*

A GERMAN theorist has undertaken to make a microscope of sufficient power to make a bee's sting look like a telegraph pole. We have long wondered why something wasn't done to make that plaguy thing look somewhere near as large as it feels when it gets into a man's neck.—*Binghampton Republican.*

SOMETIMES I've asked everybody that never told a lie to stand up. Every fellow was looking around to see if anybody was goin'

to get up. If anybody had a-got up I'd a-given him the floor and sat down.—*Sam Jones.*

A MAN said to me the other night: "Jones, I wouldn't have missed your sermon for \$10," and yet when the plate was passed around that man put in a copper cent.—*Sam Jones.*

IN a contest between Sullivan, Ryan and an able-bodied pile-driver, it is believed that the country would come off first best.—*Detroit Tribune.*

JUST THE PLACE FOR HIM.—New York Journal: "Well, wife, I'm seriously thinking of moving to Bermuda."

"I'm glad to hear it. I know it will just suit you."

"Why, what do you know about it?"

"Oh, I've heard that a lazy man can make a fortune in Bermuda simply by sitting still and watching things grow."

SHE UNDERSTOOD THE JUDGE.—Judge Peterby came home not long ago pale as a ghost and trembling all over. "What's the matter?" asked his wife. "Mad dog bit me. In less than two weeks I'll be raving mad and snapping at everybody who comes near me." "Judge Peterby," said his wife calmly, "you can't work that little game on me. Ma is going to stay right here in the house and help me to take care of you." "I expect I'll go to Paris and be treated by Pasteur," said Peterby. "Ma and I will go along with you." Up to the time of going to press Peterby has developed no signs of hydrophobia, but to say that he is mad is no exaggeration whatever.—*Texas Siftings.*

A CRUEL DOCTOR.—"Look here, doctor, I don't want you to go to my house and frighten my wife as you did this morning."

"Frighten her? How did I frighten her?"

"Didn't she ask you what the symptoms of hydrophobia are?"

"Yes."

"And didn't you tell her the patient always has a strong aversion to water?"

"Certainly."

"Yes; well, the poor woman is down sick with fright. She thinks I've got the hydrophobia."

POOR ENCOURAGEMENT.—"Come! step up and take something," said a reveler to a solemn-looking man. The latter shook his head.

"Come on. Brace up. My motto is 'Live and let live.' Never say die."

"You are one of those who want to break me up in business."

"What is your business?"

"Undertaker."—*Texas Siftings.*

If the young gentleman who is paying attentions to an H street belle will in the future not sit between the lamp and the window, the shadow pictures will not attract such assemblages as nightly gather in front of the residence, neither will he furnish food for comment for passengers in the street cars.—*Sacramento Record.*

THE snake that warmed itself at the farmer's fireside and afterward put his fangs into the farmer is believed to have been the first freetrader.—*The Judge.*

ONE of the brethren, who had a habit of moaning out "Oh-h, y-e-s!" at regular intervals during the service, was rather broken up on Sunday night. He had just wakened up when the preacher asked the solemn question: "Brother, do you intend to spend eternity in

hell?" "O-h, y-e-s!" sang out the devoted brother.

"MOTHER, what is an angel?" "My dear, it is a little girl with wings, who flies." "But I heard papa telling the governess yesterday that she was an angel; will she fly?" "Yes, my dear, she will fly away the first thing tomorrow."

TO MUCH STYLE.—A prominent New York druggist is spending the winter in San Antonio, for his health.

"What mout your trade be, stranger?" asked the genial clerk of the local hotel.

"I am a pharmacist."

"A what did yer say?"

"A pharmacist."

"Why don't you talk English, and say you are a hoss doctor."

HIS PA WAS A RUNNER.—A Sunday school teacher was telling her children how the devil goeth about like a roaring lion seeking whom he may devour, and after the lesson was through she said that those who wished could ask questions. At once a little boy spoke up and asked how fast the devil could run. "Hush, Johnnie," said the teacher, "such question are very profane." "Well, I don't care," said Johnnie, "he can't outrun my pa anyhow, 'cause I heard pa tell a man down the street the other day that he caught the devil the night he came home from the lodge."

A GOOD ANECDOTE.—The following anecdote is told of Sir William Johnson:

"Do you know, sir," said Sir William angrily to a tenant with whom he differed on some agricultural question, "that I have been at two universities, and at two colleges in each university?"

"Naw," answered the farmer, "I didn't know it. But, what of that? I had a calf that sucked two cows once, and I observed that the more he sucked the greater calf he grew."—*St. Louis Magazine.*

"PRISONER," said his Honor, "the evidence is conflicting, but you were evidently drunk and I fine you \$25."

"Thanks your Honor," replied the prisoner, "May I ask a favor of you?"

"What is it?" said the Judge, good-naturedly.

"I would like some tobacco before I go."

The Judge was taken aback, but said with a smile: "Do you prefer any particular kind?"

"Yes, your Honor," returned the prisoner with a grin. "I would like my fine cut."

His Honor saw the point and made it \$10.—*Pittsburg Telegraph.*

A WOMAN in Bradford, Pa., while sewing a button on her husband's vest, was instantly killed by a lamp explosion. Still we think it is a woman's duty to sew buttons on her husband's vest.—*Norristown Herald.*

JUDGE ROBERT GRINDROD, the Little Rock Englishman who annually celebrates the birthday of the Queen, was recently summoned as a witness to testify in a case of hog stealing.

The 'am and the 'og was sold to me, your honor, and hafterwards when suspicion was hexcited, I noticed that a part of the 'air of the 'og was left on the 'am. Then we got the 'ide of the 'og and saw that the 'air on the 'am fitted into the 'ole of the 'ide."

The evidence was so conclusive that the thief was convicted.—*Arkansas Traveler.*

CAN THE EDITOR TO IT ?

Can he leave all his wrongs to the future, and carry his heart in his cheek?
 Can he do an hour's work in a minute, and live upon sixpence a week?
 Can he courteously talk to an equal, and browbeat an impudent dunce?
 Can he keep things in apple-pie order and do half a dozen at once?
 Can he press all the springs of knowledge with quick and reliable touch,
 And be sure that he knows how much to know, and knows how to not know too much?
 Does he know how to spur up all his virtues, and put a check rein on his pride?
 Can he carry a gentleman's manners within a rhinoceros' hide?
 Can he know all, and do all, and be all, with cheerfulness, courage and vim?
 If so, we perhaps can be making an Editor "outen o' him!"
 And 'tis thus with our noble profession, and thus it will ever be; still
 There are some who appreciate its labors, and some who, perhaps, never will.

—Will Carleton.

SHORTAGE LIABILITIES DEFINED.

Judge Brown, of the United States District Court in Michigan, a short time ago rendered a decision in the case of the schooner *Lizzie A. Law*, which will interest all grain dealers and carriers. Heretofore shippers have held the canal boat or vessel responsible for the amount of grain mentioned in the bill of lading, forcing the vessel to pay for all shortages. Judge Brown's decision does away with this practice, asserting that the vessel is not liable for differences provided the captain can prove that no grain was removed during transit. His decision is set forth in the following summary of the case.

In November, 1884, the schooner *Lizzie A. Law* took on board at Port Huron a cargo of wheat for Buffalo, and received two bills of lading amounting to the sum of 46,047 bushels. The second mate attended to the loading in of the wheat from the elevator at Port Huron, and with the weighman of the elevator tallied the separate bins as they went on board the schooner, and upon completing the lading the master received two bills of lading, signed by the defendants (but as to that no point is made) for this amount. The bills of lading contained the following somewhat extraordinary stipulation:

"It is agreed between the carriers, and shippers and assigns, that in consideration especially of the freight hereon named, the said carriers, having supervised the weighing of said cargo in board, hereby agree that this bill of lading shall be conclusive as between shippers and assigns, and carriers, as to the quantity of cargo to be delivered to consignees at the port of destination (except when grain is heated or heats in transit), and that they will deliver the full quantity hereon named, or pay for any part of the cargo not delivered at the current market price; the value hereof to be deducted from the freight money by consignees, if they shall so elect, and thereupon the carriers shall be subrogated to the shippers and owners' rights of property and action therefor." The address on the margin was as follows: "Order of J. E. & W. F. Botsford, New York. Notify David Dows & Co., care E. B. Wilbur & Co., Buffalo, for trans-shipment only, identity to be preserved."

The vessel proceeded to Buffalo with her cargo, where it was weighed out at the ele-

vators, and, as it not unusual, there was an apparent shortage of some 496 bushels. The elevator at Buffalo conforming to a usage which it said to be well known, and indeed universal, deducted the value of these 496 bushels from the freight and paid the residue to the master of the vessel. This action is brought to recover the amount of this unpaid balance of freight.

It cannot be too well understood that a vessel has discharged her entire duty when she has delivered all she has received. This is not only the dictate of common sense, but it is also the law as laid down in *Shepherd vs. Naylor*, 5 Gray 591, and *Kelly, Bowker*, 11 Gray 428. So that, while the fact that the vessel did not tally as much at Buffalo as at Port Huron, cast upon the master the burden of proving that she delivered all she received, he fully satisfied this requirement, and hence, I think, is exonerated from liability in that particular. In this view it is not necessary for me to solve the question, which in its nature is insoluble, viz: whether the cargo was correctly weighed at Port Huron or at Buffalo. It is impossible for us to tell at this time where the mistake occurred. There was a mistake in measuring this cargo either in-board or out-board. If the mistake occurred at Buffalo, then the vessel is entitled to her freight upon the whole amount of bill of lading. If the mistake occurred at Port Huron she is entitled to her freight upon the Buffalo weight. As this is all that is claimed in this case, I am not obliged to determine whether the mistake was at one point or the other.

In the above case of the schooner *Freeman*, it is said by the Supreme Court that the master has no more an apparent unlimited authority to sign bills of lading than he has to sign bills of the ship. See also *Pollard vs. Vinton*, 105 U. S. 7. His authority is to sign bills of lading of the usual tenor and description, consisting of a receipt for the amount shipped, subject to explanation, and a contract to deliver in the usual form at the port of destination. Such a contract the master has undoubtedly the right to sign, but he has no right to sign that contract before the cargo is laden on board. In this case there is no question of bona fide endorsement, and I think it is very clear that the stipulation, while it may perhaps bind the master personally, is not obligatory upon the vessel.

The libellant is entitled to a decree for the residue of his freight.

The following decision in a similar case a few weeks ago is exactly the reverse of this: The schooner *Montmorency* arrived from Duluth with a cargo of 20,000 bushels of wheat taken on at elevator A. On unloading, an ordinary shortage, about 20 bushels, was found. She returned to Duluth for another cargo of 20,000, loading at the same elevator. After the last draught had been taken on the officers of the vessel declared that they had not received the full amount. The discrepancy between the water draught of the first and second loads was plainly to be seen. The captain, however, signed the bills, and when the cargo was unloaded here it was short 485 bushels. The consignee refused to pay freight unless the shortage was made good, which the agent refused to do. The matter was taken into court and Judge Wallace, at Auburn, gave a decision in favor of the consignee. The judge in this case held that the bill of lading was a contract and

that the signature of the captain as master was binding on the vessel for the delivery of the full amount of grain.

FIRST STEAMSHIP TO CROSS THE ATLANTIC.

The first steam vessel to cross the Atlantic was the *Savannah*, 380 tons burden, ship-rigged, with horizontal engine and paddle wheels, built at Corlear's Hook, New York, by Messrs. Crocker & Flickitt, for a company of gentlemen who proposed to send her across the ocean for sale to the Emperor of Russia. Mr. Albert S. Bolles, in his *Industrial History of the United States*, gives the following interesting account of her history.

She sailed from New York City in 1819 for Savannah, Ga., making the trip in seven days, four of these under steam.

From Savannah she went direct to Liverpool making the voyage in twenty-two days, during fourteen of which she was under steam, making the rest of the time under sail. Her arrival in Great Britain created a great commotion. When about entering St. George's Channel, off the city of Cork, the commander of the British fleet, seeing a huge cloud of smoke rising from the vessel and covering the sky, sent off two cutters immediately to save her passengers and crew from the destruction which he supposed was threatening them. The steamer paid no attention to the cutters, and the Englishmen, exasperated because their benevolence was not accepted, rode furiously alongside several times, and fired several guns across the steamer's bow, and finally hove her to and boarded her. The officer, finding that the steamer was all right, finally let her go, and she bore away. At Liverpool her arrival created a tremendous sensation. As she came up the harbor with sails furled and the American colors flying the piers were thronged with people, who greeted the ship with enthusiastic cheers. A great many persons of distinction visited her. She finally went to St. Petersburg. She was an object of great curiosity at every port at which she touched, but was not sold as expected, and accordingly she set sail for home. The King of Sweden offered \$100,000 for her, payable in hemp and iron delivered in the United States; but the cash was wanted, and the offer was not accepted. The ship ran home from Norway in twenty-two days. Her machinery was then taken out, and she became a sailer. She subsequently went ashore on Long Island, and was completely wrecked. The owners of the vessel are said to have lost \$50,000 by the voyage to Europe. The trouble with the *Savannah* was that her engines were imperfect. They consumed too much coal, and the ship could not carry enough fuel for a voyage, and there was no room whatever for cargo. It was about twenty years before the steam engine was so perfected as to make steam navigation profitable; and, when that time arrived, the English were the first to take advantage of it, the pioneer ships—the *Sirius* and the *Great Western*—entering New York harbor almost together on the 23d of April, 1838. The honor of the first crossing of the Atlantic remains with our own countrymen; but the credit of establishing vessels in trade belongs to the English. The first regular line of steamers—the Royal Mail, or Cunard steamers—began running in 1840, and have continued to run ever since. Other lines were successively established, until to-day the bulk of the world's carrying trade is carried in steam vessels.

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E. HARRISON CAWKER, Publisher.

Sworn to and Subscribed before me at Milwaukee, Wis., this 15th day of March, A. D. 1886.

ISAAC S. CLARK, Notary Public.

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CAUSES OF DECAY IN BRICK WALLS.*

The most powerful natural agent that disintegrates stone and other similar building material is undoubtedly water, especially when it freezes after it has entered into the interstices of the stone, as it then exerts a force that is irresistible. The evidence that water is the most destructive agent can be seen on any building where the exposed stone remains the longest in a wet state, as, for instance, the base of the wall near the ground, the stoops, the stonework under balconies, porticoes, window sills, etc.

But there are also other causes of decay, the chief one in my opinion, based on long and careful observation, being the white salts which are so often seen upon our best buildings, those of brick more particularly. They are especially ruinous to building materials, are most difficult to overcome, and hence deserve extended notice.

These salts exist naturally in the clay from which the bricks, terra cotta, etc., are made; also in the lime used for mortar or cement. It is a well-known fact that many of the salts that are present in clay are insoluble while the clay is in its raw or natural state, but that the action of fire renders them soluble. The same result also follows the admixture of lime with the clay. Hence, agriculturists apply lime to the clay soils to render them more fertile, because the salts are made soluble by the action of the lime, and the plants are then able to assimilate them.

These salts consist of carbonates, sulphates, nitrates, and carbonates of sodium, potassium, calcium, magnesium, etc. Sometimes several of these salts are associated in one sample taken from a building, and in nearly every instance that has come to my notice I have found a difference of constituents and proportions, so much depending upon the clay and how it is burned, and the character of the limestone used for the mortar or cement. Hence arise the apparently contradictory statements and opinions expressed by chemists and others as to what these salts are composed of, some claiming one thing and some another; and I have no doubt that each may have been correct in his analysis, though perhaps widely differing from the others. I have taken two samples from the same building and found them dissimilar. I believe that every kind of brick, cement, and mortar contains soluble saline ingredients.

This is wholly due to moisture, in the masonry. This dissolves the salts, forming a weak brine, which, upon coming to the surface, loses its water by evaporation, and leaves the salt to crystallize and form the objectionable efflorescence. The presence of the moisture may be due to the water used in mixing the mortar or cement, or wetting the bricks; or it may be absorbed from the rain falling against the walls. Hence the drier the walls are kept during the erection of a building (consistent with making the work good), the less chance will there be for the salts to show themselves; and if the walls can afterward be kept perfectly dry, the salts remain inert and do no harm, because water is the agent that renders them active and effective in their resolving powers. It may sometimes be seen which parts of a building were built in dry weather and which in wet,

by the appearance of the mortar joints at different elevations, especially on old brick structures. The attempt to wash the salts off only results in their being dissolved and absorbed by the bricks, to reappear as the bricks dry. Rain does not wash them off, but into the surface of a building.

Salts of lime are produced by acids and alkalis contained in rain water, especially that falling in cities. Some twelve years ago an eminent English scientist estimated the quantity of sulphurous-acid gas given off by the coal consumed in London as 300,000 tons annually. The carbonic acid gas from the same source must have been many times greater. These two gases have a great affinity for moisture, and are readily taken up by the rain which falls against and is absorbed by the brickwork, and are the most active agents in producing soluble salts of lime, and so causing it to dissolve, to appear afterward on the surface as previously described. Nitric acid, and also the alkali ammonia, act similarly. Their destructive effect on the mortar and cement joints is especially noticeable on the brickwork of the tops of chimneys that are in contact with the overflowing gases resulting from the fires beneath.

The alkaline property of some of these salts is very destructive to brick, stone, cement, and mortar, completely disintegrating them, as may be seen by careful examination of the places where they show; nor can linseed oil, paints, or similar composition withstand them, the oil being saponified by the alkali and rendered useless, so that the paint is destroyed and falls away. I have seen these salts in the walls of buildings in England nearly 150 years old, still active and troublesome. In Philadelphia, on October 4, 1882, I noticed the peculiarly white appearance of a great number of the houses, and I asked if they had been whitewashed. I then learned that the whiteness was wholly due to an extraordinary quantity of these salts on the surface of the walls, caused by a three day's rainfall that had occurred a few days before, and had completely saturated the brick work, which upon drying out had produced the efflorescence. It by no means follows that the brick, cement, and lime severally are not good because they contain these salts, however undesirable these salts may be; in fact I have constantly observed them in the very best qualities of each.

Architects and builders are often blamed and held amenable for discolorations on buildings, and most unjustly so, when they are no more responsible for dirt settling upon and staining the walls, or for the salts that appear thereon, than are the shoemakers for our shoes getting soiled when we walk in a muddy street, or glaziers for our windows getting dirty from rain or dust.

Water will penetrate an ordinary brick; it will dissolve the salts in the walls; it will bring the same to the surface and evaporate, and leave the salts to crystallize. Dust will float in the air and settle on exposed surfaces, and, if rain can fall upon them, it will most assuredly penetrate and permanently stain them. These are natural causes and effects, and no one can be justly and reasonably blamed for such things happening.

About a year ago I was requested to examine a large new building in this city; the front was of a light yellow brick. The owner was moving his goods into it. It had become,

as usual, stained, and the owner was retaining a part of the money, refusing to pay either architect or builder because of these stains. After a careful examination I told him that neither of them was responsible; that the front faced the north, had been very wet, vegetable germs had settled upon it and grown, and the rain had washed floating particles of dust into it, and that the architect and the builder ought to have their dues. I asked him if he had withheld payment from the glazier because his windows had become dirty. His reply was: "Well, I will take good care that you don't see those particles." I said: "You asked for my opinion on your building, and I have given you a true and honest one."

Terra cotta shows these salts very much, in some buildings even more than the brickwork. This is noticeable on the new Produce Exchange Building. It is there caused, probably, by the liberal, though, perhaps, necessary backing of cement or mortar used to fill up the hollow spaces behind it, the salts of which come to the surface as before described.

Stone, especially in contact with brick, is damaged by the same cause. The water, no matter how it reaches the cement or mortar in a wall, will permeate through a stone, and bring with it these destructive salts, which quickly eat away the surface.

BOILER MAKING.

In regard to boiler making: "No matter what the quality of material," says a practical man in the *Iron Trade Review*, "it can be, and often is, injured in the process of manufacture by unskilled workmen. This is especially the case when the inferior qualities are used, as excessive labor in manipulation, strains the already weak material in an injurious manner. A stalwart, energetic calker can destroy the utility and safety of a boiler when poor material is used, by the vigor and number of his blows and keenness of the edge of his tools. Even in first-class material this can be done; hence the necessity of intrusting this branch of the business to men of intelligence and experience. So with the drift pin in the hands of the riveters; in poor material a fracture can be, and often is, produced with the grain of the material. Occasionally this is done across the grain; an exposure of the defect would also expose their ignorance and recklessness, resulting probably in their discharge; for this reason the use of tools to hide the defect is resorted to, and the matter (hidden from all eyes) may prove the initial cause of an appalling disaster."

It is proposed to celebrate on the 4th of March 1887, the fiftieth anniversary of the incorporation of Chicago. No city in the United States has attained to such a marvelous growth within the space of fifty years as that of Chicago in respect both of wealth and population. Founded on the site of old Fort Dearborn, on the southwestern shore of Lake Michigan, at a edge of a vast plain stretching far back into the interior, it had in 1837, when it was first incorporated, but 4,170 inhabitants. In 1880, the census reported the population at 503,185, and at the present time it is within the mark to compute it at 650,000.

*From a paper read before the New York Academy of Sciences by R. M. Whafall.

CORNMEAL MILLING IN DIFFERENT SECTIONS.

The customs and habits of people in the different sections of the country have developed a prejudice for special kinds of cornmeal for special localities. In the southern country they require a very soft-ground meal, and are not particular about the quantity of bran they may grind into the meal. I recently constructed a mill in the South in which the offal did not exceed three pounds to the bushel, the bran in this case was very fine and white. The proprietor insisted that this bran should be ground up into meal. I afterward put in additional rolls for this purpose, and ground the entire product into meal, making no offal except the cleanings, which did not amount to one quarter of a pound to the bushel. In this mill we are making 55½ pounds of meal out of 56 pounds of corn.

The evaporation in roller meal milling is but trifling. The baking qualities of the meal were excellent, and in every respect gives perfect satisfaction to the class of trade that demands it throughout the southern country. In that country there is much more meal used than flour. The large planters buy it in large quantities and furnish it to their field hands. I think it is a question with them of weight rather than the quality of the meal, and as a result it is advisable for parties who are operating corn-meal mills at any point south of Chattanooga, Tenn., that they should put in a sufficient amount of rolls to reduce the entire product of corn to meal, at the same time arranging the mill in such a manner that 10, 15 or 20 per cent. of a high grade of meal may be drawn off to supply the better class of trade. In the south no class of meal can be sold except that made from white corn. In the northern country, and especially throughout Pennsylvania and Northern and Central Ohio and Northern New York, the education of the people demands a granulated meal, and the demand is almost equally divided between white and yellow meal, the yellow probably predominating to a certain extent. This is especially true in the more northern sections of the country.

In those sections the demands of the trade are for a high grade of granulated meal, and as a result the millers are not particular as to a close clean up. They are satisfied to get from 40 to 45 pounds of a high grade of meal to a bushel of corn, the offal going into feed which ordinarily brings a price a little in advance of the price of the unground corn, the high grade of granulated meal bringing a price much higher in proportion to the price of corn than it does in the southern country. In some sections of the New England States, and also through Virginia and North Carolina, a fine, soft-ground meal is demanded, similar to that made in the southern country, but they require a much more perfect dressing. It is a matter of considerable difficulty to arrange a mill so that it will suit the demands of the trade in all sections of the country. This can be done, however, by using some surplus bolting capacity and grading the bolting surface in such a manner that the material may be drawn off at any stage of the bolting, thus obtaining a condition of granulation to suit the demand in the different sections.

It has often been remarked that soft meal could not be produced on rolls. This is a very great error. In order to produce soft meal it is only necessary to grind closer, or use finer corrugations, or if desired, to pass

the meal, after it has been finished and bolted through fine scratch rolls and grind sufficiently close to produce the requisite softness and fineness of the material. In order to obtain a high grade of granulated cornmeal, the practice has been to first reduce the corn to hominy, and then to grind this hominy into pearl meal. The power required to operate the hominy mills is fully twice as much as it is to reduce the corn to meal on rolls. Furthermore, in the production of hominy there is a loss of never less than one-third of the weight of the corn in the shape of offal made on the hominy machines, which is scarcely ever anything better than feed or brewers' meal. In the use of rolls without a hominy mill a very much higher per cent. of granulated meal is made, and not to exceed one-third of the power used, while at the same time the break meal made on the rolls is of a quality decidedly superior to the ordinary stone-ground meal, consequently it is preferable to abandon the use of a hominy mill in the production of granulated cornmeal.

In my experience I have found that to produce a high grade of granulated cornmeal without the use of a hominy mill it is necessary to use instead of reels, shaking riddles, provided with suitable aspirating devices for the purpose of thoroughly purifying the grits, otherwise results cannot be made equal to the old system of pearling the corn.

Our company has erected not less than 30 complete cornmeal mills within the last four months and most of these mills have been on our short system, in which we have used only one double set of rolls and one of our combined aspirating and separating machines for producing the entire product. The results have been most satisfactory in all cases. The pearl meal is in no manner inferior to that made by Schumacher, of Akron, upon a more elaborate system, and invariably brings a high price in the market. It is the opinion of the writer that in many of the small mills, where they have a limited amount of power, and are not justified in putting in engines and reconstructing their flour mills to the roller system, they could do a profitable business by putting in this short system of cornmeal milling, making a high grade of meal, and mixing the offal with corn and oats for the production of a standard grade of feed. In this class of milling there can be no possible danger of loss, in view of the fact that the meal always brings an advance over the cost of the corn, and the feed never below that cost. There is quite a demand among brewers for a high grade of granulated meal, which is being used quite extensively as a substitute for malt.

There is one important fact connected with granulated pearl meal, and that is it is scarcely necessary to use a dryer upon it, unless it should be upon quite damp corn, or in case of foreign shipment, the germ being entirely eliminated and the meal being so granular that the air circulates freely through it, so there is scarcely any danger of fermentation. It is the sugar contained in the germ which causes the souring of meal. Nine-tenths of the mills we have built for cornmeal have used no dryers. They have been operated in the South in the hottest parts of the season, upon corn frequently not perfectly dry, and we have never yet known of an instance where a sack of meal has soured or spoiled by fermentation, except in one case, where the

germ and bran were ground up with the meal. A pure granular meal will not ferment much, if any more easily than flour.—By J. M. Case, of Columbus, O.

BRITISH IMPORTS OF WHEAT FROM INDIA AND THE UNITED STATES.

"For some months past," says the London *Economist*, our imports from India have enormously increased, while those from the United States have decreased to a great extent. In fact, so much progress have these two movements made that, if continued, they will before long displace the latter country altogether from its dominant position as a supplier of wheat to this market. In the six months ending March 31 we imported from India 7,486,000 cwts of wheat, as against only 4,024,000 cwts in the same period of the preceding year; while our imports from America were only 5,934,000 cwts, against 10,264,000 cwts. This is shown month by month by the following figures:

	IMPORTS OF WHEAT INTO ENGLAND.			
	From United States		From British India.	
	1885-86.	1884-85.	1885-86.	1884-85.
	Cwts.	Cwts.	Cwts.	Cwts.
March.....	2,217,000	1,995,000	746,000	598,000
February..	792,000	2,485,000	1,043,000	452,000
January....	520,000	2,567,000	1,452,000	681,000
December.	734,000	1,408,000	1,827,000	701,600
November	480,000	774,000	1,101,000	711,000
October.1..	191,000	1,085,000	1,317,000	881,000
	5,934,000	10,264,000	7,486,000	4,024,000

"Of course in addition to wheat, America sends us much flour, but this has also fallen off heavily, our imports in the past six months having been only 6,140,000 cwts, as against 4,478,000 cwts. India at present does not export flour to this country. There are, of course, several reasons to account for the changes we have indicated. Amongst other things, the exports from India have undoubtedly been stimulated by a fall of, say 2½ per cent. since October in the value of the rupee as measured in gold. And on the other hand, the American exports have been restricted by speculation for the rise at Chicago, which has kept prices at an artificially high level, and by an advance in railway rates from the West to the seaboard. But there is one influence that is exercising an effect that is sure to increase, and to prove permanent. We refer to the continued and rapid growth of the system of roller milling. By this system the hard Indian wheats can be used to form an excellent "bottom wheat," which was not the case under the old system, when American wheat was chiefly used for that purpose. And, in fact, the very qualities, that acted to the detriment of Indian wheat a few years ago, viz., its extreme dryness and hardness, are now, under the new system, which will soon be almost universal for large operations, decided factors in its favor."

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Wife—Oh Harry, what will we do if we are attacked in the night?

Husband—Have you got any more of that bread we had for supper?

Wife—Yes.

Husband—Bring me two loaves. I'd rather have them than a pistol.

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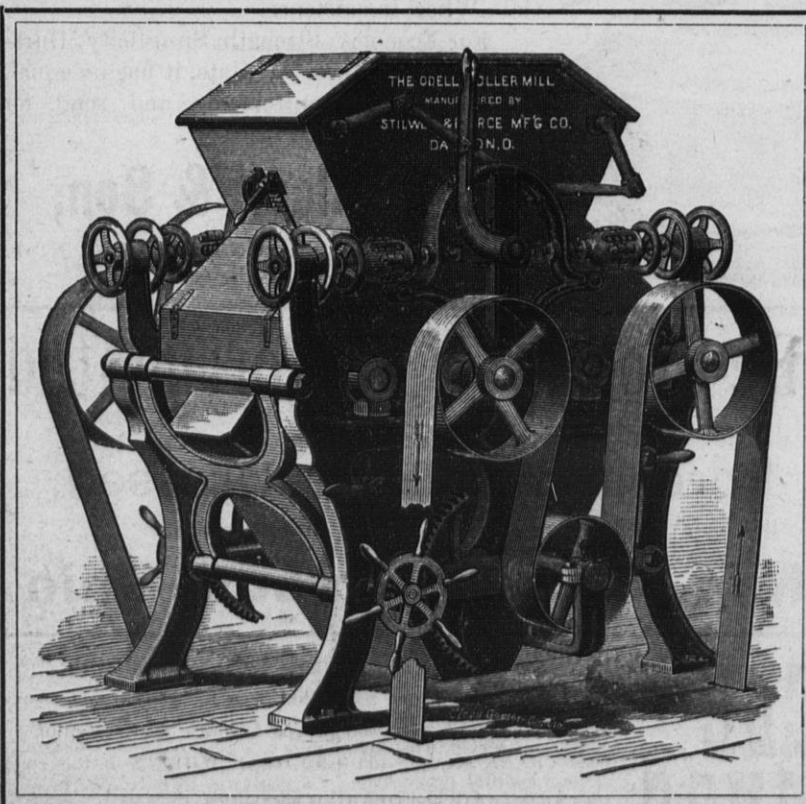
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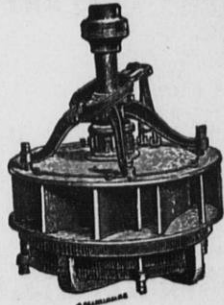
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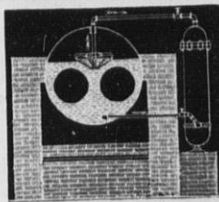
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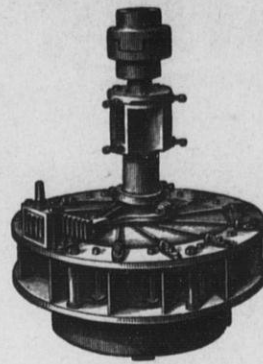
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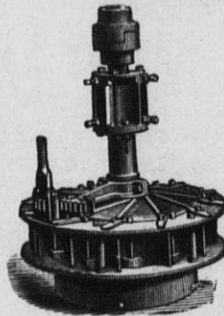
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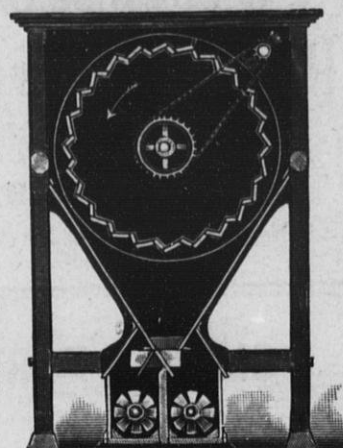
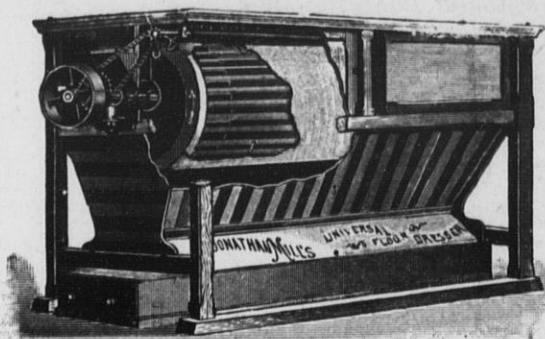
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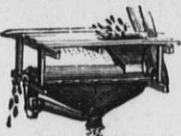
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PURIFICATION OF FLOUR.

A PAPER READ BY HOMER BALDWIN, OF YOUNGSTOWN, O., BEFORE THE MILLERS' NATIONAL ASSOCIATION AT CHICAGO, ILL.

Mr. President and Gentlemen:—In compliance with your request, that I favor the association with my views on the purification of flour, I will endeavor to explain my theory, with my reasons for the same. I hold the following to be well founded.

First. That the commercial value of flour is fixed by the degree of purity it has attained, increasing in value as it approximates absolute purity, and decreasing in proportion to the quantity of impure matter it contains; hence the importance of flour purification.

Second. That so-called patent flour is simply pure flour.

Third. That any flour of equal purity is of equal value, whether it be made from purified middlings or in the reduction of wheat in making such middlings. Holding to the position as above stated, I believe as follows:

First. That as the separation of the pure flour from the impure portions of the wheat is the grand result desired, we should eliminate all the impurities we possibly can at every stage in the process. Commencing, first, with the wheat, removing from it all extraneous matter intermixed therewith, next cleaning it in such manner as to remove from the exterior of the berry the fuzz and adhering dirt impurities before commencing its reduction.

Second. That the interior of the wheat berry contains impurities intermixed with the pure flour portions; hence no amount of cleaning of the exterior of the berry will remove the interior impurities. They will have to be removed after reduction has begun.

Third. That the next step towards purification is the removal of the impurities lodged in the crease between the lobes of the berry, which no cleaning machinery, as the term is ordinarily used, can reach.

Fourth. That in order to make pure flour, we aim to make as large a portion of middlings as possible, that we may free the same from all impure particles before their reduction, thus making that portion of the flour practically pure.

Fifth. That in any system of reduction, for the purpose of making middlings, a certain portion is unavoidably reduced to flour, or middlings, too fine to be purified on purifiers as now used, without committing too much waste; therefore, a portion of the flour, which in winter wheat mills is the

larger portion, receives very little of the benefit of purification by middlings purifiers.

Sixth. Believing that the flour made in the reduction of the wheat and from the fine middlings that were too fine to be economically purified, would, if made equally pure, as the so-called patent flour, be of equal value, the question arises, how can such flour be made equally pure, or its purity be increased, without unnecessary waste or useless expense?

SOLUTION.—In mill products, all separations are made by form, size, or specific gravity. By form, we separate the germ, first flattening it on smooth rolls, thus changing its form. By size, we separate the larger impurities, using for this purpose sieves, reels and centrifugals, which are mainly sizing machines. By purifiers, we separate the impurities that are mixed with the medium and coarse middlings, using both size and specific gravity. Inasmuch as the flour and fine middlings made in the reduction of the wheat are intermixed with impurities of equal fineness, their separation can not be made in sizing machines, such as sieves, reels and centrifugals; but as such fine impurities are of less specific gravity than flour or middlings of equal fineness, their separation must be made by specific gravity alone. The nearer the pure and the impure particles approach each other in size and weight, the more difficult is the separation. As the separation is made by air alone, sufficient space must be used, that flour may be evenly and finely distributed in the air, so that the lighter impure matter may be economically extracted by not committing unnecessary waste, remembering that pure flour is of greater specific gravity than impure flour, and that it requires more power to lift it than is required to lift the fine impurities it contains, and the greater the height it is lifted the more perfect the separation.

Acting on the foregoing theory, I have constructed appliances that have demonstrated the correctness of such theory, and, having passed the experimental stage and entering the practical, every-day working stage, I will say to you flour is, can, and will be, successfully and economically purified, and its value enhanced thereby; and that after the proper construction has been made, the additional expense of operation is merely nominal, and that the number of grades is not necessarily increased, but the purity of each grade is increased, and the percentage of low grade decreased, and the economy of yields maintained.

The next question is a commercial one. Will the flour, in consequence of its increased

purity, be sufficiently enhanced in commercial value to pay the expense of the necessary construction, cost of operation, loss on the impure material extracted, and leave a fair margin for profit? If it will do this, the process is a valuable one; on the other hand, if it will not do this, then it is valueless.

Time will furnish the solution of this problem. Having unlimited faith in the correctness of the theory and its practical working, I have made the necessary construction to fully demonstrate its truth or falsity; and, as it is written, "A good tree will produce good fruit, whereas a corrupt tree will produce corrupt fruit, and is hewn down and cast into the fire," I calmly await the coming harvest, having no fear that the tree I have planted is in any danger.

REVIEW.—The foregoing theory is based on the fact that the interior of the wheat berry contains dark, deleterious matter, intermixed with the pure flour portions, which, as a matter of course, can not be separated before reduction commences, and which, in the course of reduction, becomes pulverized and incorporated with the flour, and being of equal fineness as is the flour, can not be eliminated by any bolting device yet invented. This impurity, together with a portion of the finely pulverized outer coating of the berry, having become incorporated with the break flour, and not having been removed, is the sole reason why the break flour is of less value than the flour made from purified middlings. These fine, impure particles, being of less specific gravity than granules of flour of equal fineness, can be eliminated only by properly applied air currents, and, when eliminated, the resulting flour will be equally pure as the patent flour, consequently of equal value.

VALVE MOTION.—An inherent necessity of a valve motion is that it shall open the valve to the widest limit immediately with the passage of the crank past either center, and that it shall remain open during the admission of steam to the fullest extent possible and close as suddenly as possible at the cut-off, and remain closed during the expansion of steam within the cylinder; that it shall open promptly for exhaust, and remain so to the greatest possible extent during the time of exhaust and close as suddenly as possible; and finally that it shall open and close as nearly alike as possible for each end of cylinder. With a valve properly constructed, the setting of it is an easy matter, if the three points above mentioned are kept clearly and understandingly in mind.

COST OF HANDLING GRAIN.

[From the *N. Y. Commercial Bulletin*.]

Within the past three or four years prominent members of the New York Produce Exchange have often contended that Chicago would eventually lose her reputation and influence as a great grain port. Chicago, through her merchants and her leading journals, has naturally questioned such allegations, and more than once in a retaliatory way has pointed to the voluntary admissions of the business men of this city that New York is hardly able to retain that commerce which her geographical and other facilities should naturally attract and hold against all competitors. Now, however, this contention between the rival cities seems to be practically closed, since within the past few days one of Chicago's leading journals has in effect admitted that the cost of handling grain at that port has driven and is now driving that particular trade to other cities. Though, with characteristic tenacity, Chicago continues to hold much of the commerce for which other ports are making heavy bids, yet it must be admitted that her merchants are just now confronted with some ugly facts. The expenses of handling grain at New York have many times been denounced as onerous and calculated to drive business away to the very city which is now bewailing its inability to keep what it has. According to the *Chicago Tribune*, grain receivers and representative elevator men there have quite recently conferred in regard to this difficulty. The warehousemen, after years of obstinate refusal to reduce their rates, are, it is said, now ready to admit that something must be done, that concessions must be made and that the excessive tolls upon commerce can no longer be tolerated. Stern facts and a few years of experience have taught them a wholesome lesson. Up to 1874 they handled nearly all the grain that reached Chicago. A dozen years ago Chicago merchants felt the necessity for reducing the actual charges on grain, and when the product began to be transferred on track the elevator owners found themselves losing business, for during the two years following 13 per cent. of all the grain that arrived in that city was kept out of the elevators. Six years ago 20 per cent had been lost by them, and in the 12 months ending with last October the elevators handled but 43 per cent of all grain arrivals by rail, 90,404 out of 212,270 carloads being taken in store. The Chicago press gloomily refers to these discouraging features and points to the real cause for their existence. The cost of transferring on track is only one quarter as much as the regular warehouse charge. For 600 bushels of corn, for instance (a carload), the cost of the regular storage and handling is \$11, while on the same quantity handled under the new method of transfer the total is \$2.70.

REDUCTIONS PROPOSED—NEW YORK'S CHARGES.

Right on the heels of this statement that the Chicago warehousemen are now compelled to reduce their fees, comes the more important announcement that the leases of two of the principal elevator systems, which have a nominal aggregate storage capacity of 9,000,000 bushels, will expire in a few months, and will probably not be renewed to the pres-

ent lessees, if released at all. This unfortunate probability will in all likelihood quicken the somewhat dormant spirit of many of the prominent members of the Chicago grain trade; though if these great storage houses are closed the methods of handling grain in that city will be materially changed. It is thought, for instance, that in case the necessity arises the railroads will receive and handle the product in the same manner as they do other kinds of freight, which means that they will deliver the grain without storage charge if removed by the consignee within a reasonable time after its arrival at that port. It is said to be probable, however, that the warehousemen will make some substantial reduction in their charges forthwith, making the fee for the term of first storage half a cent a bushel. This will bring it down to the level of the New York charge, as agreed upon as far back as 1881 by the Grain Warehousing Co., Hazeltine & Co., J. P. & G. C. Robinson, Francis E. Pinto, Woodruff & McLean, Bartlett & Green and the U. S. Warehousing Co.

VIEWS OF PRODUCE EXCHANGE MERCHANTS.

When the above facts were brought to the attention of various members of the grain trade on the produce exchange, there was a natural hesitancy to speak of Chicago's position in this respect.

Mr. E. R. Livermore said, however: "I think Chicago, from this time on, will be less important as the great grain point of the Northwest. Grain is going to be equalized more between the various ports, and going around Chicago as it were, the South and North will hereafter get more. All contract shipments from the wheat-growing country that can go to the seaboard without paying from two to four cents toll are likely to follow the route that pays. In my judgment Chicago has seen her best days in one sense. If the country grows, she will of course retain a good deal of commerce, but compared with the other ports she will most assuredly fall behind. There is this to be said, however: Her system of handling grain is probably the best of any port in the United States, but the expenses attending it are greater than the producing community can stand. Cheaper outlets now present themselves, and Chicago is beginning to feel and realize this."

Edward Annan said the charges for warehousing were double what they were here, and then added: "I cannot say that a reduction in their charges would help New York very much. No one can foretell anything concerning the future grain movement with any degree of certainty. It is like the market. I have been in it for many years, but I, or anybody else, know very little how it will be in a short time hence. The boot-black at the door can give you quite as intelligent an idea on the outlook as an old hand. I find, however, if I put it on a betting basis for example, that to bet on the bright side of the country's capabilities is invariably the safest bet to make."

An old receiver of grain said of Chicago's traders: "They have foisted the system of speculations there, drawing grain from the farmers' hands and putting it in the visible supply until they have speculated themselves well nigh out of house and home. This system of carrying grain is a serious weight on the market. There are reasons

why there should be enough grain out of the farmers' hands to supply demands, but there is no reason why it should be hoarded up for the purpose I have mentioned. I look for more legitimate business during the next few years than there has ever been before, and when that comes you may look for better times in every respect. In my judgment, Chicago's speculative reputation will hereafter receive a set-back, for it is plain that she has seen her best days."

A FEW EPITAPHS

"Here lies John Hill, a man of skill,
His age was five times ten,
He ne'er did good, nor ever would,
Had he lived as long again"

"Here lies Dr. Trollope,
Who made these stones
He took a dose of jalop,
And God took his soul up."

"Here lies one Box within another;
The one of wood
Was very good;

We cannot say so much for t'other."

"Here lies the body of Mary Sexton,
Who pleased many a man, but never vexed one;

Not like the woman who lies under the next stone"

"How sleep the brave who sink to rest,
By all their country's wishes blest?
They sleep not in their regimentals,
Such things being here not deemed essential"

"Poor Martha Sne'l, she's gone away,
She would if she could, but she could not stay;

She'd two bad legs and a baddish cough,
But her legs it was that carried her off."

"Vat is it you vants, Schacob?" asked Mose Shaumburg of his oldest son.

"Give me haluf of a dollar, fodder."

"Vat does you vant ter do mit dose large sums of monish?"

"I vants to make myself some bleasures. I vants to go dot theatre in."

"Choost be a sensible boy, Schacob."

"Vat yer vants me to do, fodder?"

"I dells you how to get all dot bleasures vat you vants midout schpending monish. Ven you goes dot pet in, and dot vetter vash cold, choost stick yer feet outside, and ven dey vash most frozen choost pull dose feet dot varm ped in. I tells you dot vas a bleasure. Vat for, Schacob, yer vants ter make yer olp fodder weep mit dose frivolous bleasures vat vash so expensive."

"SEE hier, fader. Dot celebrated Dr. Hammond says dot in a thousand years all mankind will be bald."

"My gracious, my son, ish dot so? I guess may be den ye better mark our schtock of combs down."

A BAD DAY FOR CABS.—First Cabby—Which way?

Second Cabby—Stock Exchange.

F. C.—Market went all to piec's to-day.

S. C. [turning his horse around]—Then I'll try City Hall.

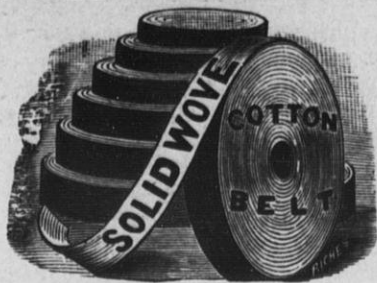
A TIDY VINTAGE.—"What do you think of this wine, Dan?" asked the President.

"Rather tidy vintage, eh?"

"Very dry," replied Dan, smacking his lips.

"Very dry? Well, help yourself to some more of it."

—Wm. Ringre.



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JOSEPH M. GIBBENS, Sec'y.

Did you hear us?

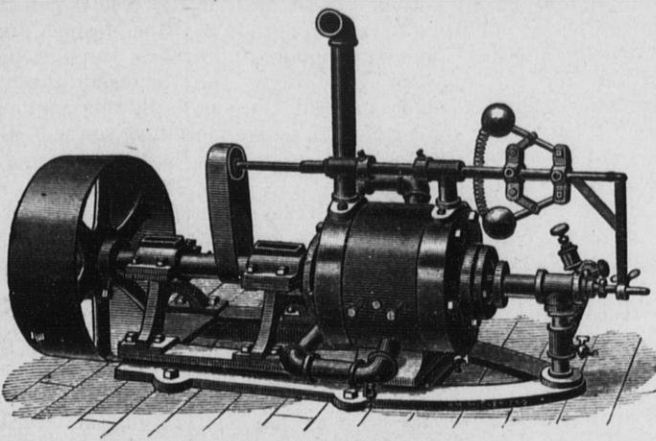
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PAPER ON FLOUR DRESSING.

READ BY JONATHAN MILLS, OF CLEVELAND, OHIO.

To the Honored President, Executive Committee, and Members of the Millers' National Association.

Gentlemen:—On the 8th of April I received the following letter from your Secretary:

MILWAUKEE, WIS., April 6th, 1886.

Mr. JONATHAN MILLS, Cleveland, Ohio.
Dear Sir:—At a meeting of the Executive Committee, Millers' National Association, held in Chicago, April 3d, I was instructed to extend to you an invitation to prepare a paper upon "Flour Dressing and Rebolting in connection with Round Reels as compared with other systems." This paper to be read before the convention to be held at Grand Pacific Hotel, Chicago, May 12th and 13th next.

I trust to receive your early reply of acceptance.

Yours truly,
(Signed) S. H. SEAMANS,
Secretary.

I thank you, gentlemen, for the honor conferred. It was with grave doubts of my ability to properly handle the subject that I accepted the invitation, and now that I stand before you, knowing that I am to read this paper to the most intelligent class of manufacturers in America, makes me still more doubtful of my ability to do the subject the full justice it is entitled to receive.

When we take into account the vast diversity and many different systems now in active operation for reducing a kernel of wheat into flour, you will readily comprehend that it is out of the question to fully treat the subject of "Flour Dressing and Rebolting with Round Reels in comparison with other systems" in one brief article, further than to merely explain the merits and defects existing in the various systems now in use. It is hardly necessary to go back beyond a brief half score of years and give the various modes of dressing flour preceding our generation. I would rather some graphic writer, posted on chronological lore, would write up the history of flour making from the earliest knowledge of the wheat berry. I think we would find that the first bolt was man's stomach, fed by an automatic feeder that gauged the quantity the bolt would properly handle to a nicety, which, by the way, is an essential and important thing to do with any system of bolting.

We will first consider the action of material being handled and bolted through our old friend and stand-by, the six-sided Reel, and will here venture to say that there is at least one hundred and forty thousand six-sided Reels in the mills of the United States, and nine-tenths of all our flour is bolted through them.

In the face of these facts, we had better wait until the king is dead before we bury him or write his obituary, and above all else, be sure his successor is born with a constitution of fundamental principles broad enough to successfully administer his predecessor's estate. The new king must have all the elements necessary to meet the requirements of the new order of things in his dominions.

The hexagon reels were brought into general use through their adaptability of easy construction, and through the general principle of being able, by their rough, tumbling action to act as bran-dusters and at the same time act as flour-bolters, before such a machine as a bran-duster was ever

invented. The moment the bran-duster was brought in as an auxiliary to the six-sided reel, the miller then began to grind higher, and by so doing he made a whiter grade of flour through his hexagon reel. The bran-duster was then the miller's great panacea, and has held favor from that day to the present, and right in this class of machines lies a vast field for improvement: some man must develop a new principle that will clean the flour off without such harsh action. Bran flour should be all gotten off the bran in enough better condition to raise its grade 25 to 50 cents a barrel. There are honors and a fortune for the inventor who solves the problem. I shall attempt it myself the moment I can spare the money, if some one does not solve the problem to my satisfaction in the meantime.

The six-sided reels can be used from cellar to garret for bolting every different grade of material in a mill, although I claim they are not properly constructed to do as good and perfect bolting as should be done, and before I am through, I hope to be able to show you that their work can be done much better by other and more practical methods. The best we can say is, that the six-sided reel has been a lumbering, cumbersome necessity. If they are overloaded they will do clear bolting and send out rich tailings, and if they are not loaded enough they will do specky and dirty bolting. Many millers have been known to return a great portion of the flour right back to the reel to properly load it. They would have been benefitted more by raising the tail of their reel, and even blinding or shortening the cloth to a length that would meet the amount of work required of them.

I do not know of a single instance where the advocates or manufacturers of centrifugal reels claim to have put in full systems of centrifugals, but what all the important and difficult separation are made on hexagon reels. There is probably not a mill in America that reads the milling journals but what has read glowing descriptions of the Eldred Mill at Jackson, Mich., giving its wonderful capacity over what it was built for, and describing its machinery and the elegance of its arrangements and appurtenances, heralding it as a full centrifugal mill. But I notice they were very careful to give no information as to the number of centrifugal reels used. Now, gentlemen, this mill was built under the fostering care and supervision of the champion manufacturers of centrifugal reels, and built as a show mill; and the very best they and their experts could do was to place twelve centrifugals and twenty hexagon reels in it. I call this special mill in solely to substantiate the facts as they exist at the present stage in the art of milling with the so-called full centrifugal system, and not in disparagement of the mill or its owners. Neither do I say that centrifugal reels can not be used to bolt or rebolt certain material in a system of bolting, but I deny that they are any improvement over the hexagon reel, save in the room they occupy. We hear many of the makers of centrifugal reels advocate their use as scalpers on the last or last two reductions of wheat. In this material they are only a short cut for a quick finish at a ruinous expense of the flour. They are disintegrators, and could be used to better advantage by first sending these breaks to a more gentle bolter, and scalp out the

flour in a much purer condition, and then if they want to disintegrate the bran that is sent out of the gentler bolt, let them pass it through a centrifugal reel, and then to a bran-duster as a final finisher, and treat the final finisher of the fine feed in the same manner. Right at this particular step of milling the centrifugal Reel is a useful adjunct, but just as good results can be obtained by passing the stock at this stage through two consecutive bran-dusters, and still better results can be obtained by passing this kind of stock first through one bran-duster, then through high speed smooth rolls, and then again through a bran-duster.

By this manner of treatment at your final finish you will get an absolute clean finish, and if it should not be an absolute clean finish, you have not made your immediately preceding reductions close enough. As rebolters, you are compelled to take the full length of the centrifugal reel, on account of the air currents depositing good flour with the cut-offs. Every bolting device or reel in a mill that is put in for rebolting any grade should do it so perfectly as to make it necessary to cut off a portion of flour that has passed through the cloth at the tail of the machine; and I find in hundred of instances that it is necessary to use frequently as coarse as 8, 9 or 10 cloth for a portion of the way on the tail of the reel to take the middlings out that has been forced through the first bolting reels by the rough treatment it has received, as mostly all flour is first bolted from chop that has previously been scalped through cloth as coarse as from 6 to 10 mesh, and some of the small mills bolt flour right from the stone to the packer, and in many roller mills they bolt much of their smooth-roll chop right from the rolls to the packer. Rebolting from this manner of bolting makes it arbitrary to use a tail cloth on your rebolters of proper mesh to scalp through the fine middlings in order to scalp off the coarse impurities over the tail. Now, a bolt should in every instance be able to dust out the flour clean before it reaches this tail cloth, and have it so completely done that you can use a few cut-off slides before it reaches the tail cloth. If you can not do this you are overloading the bolter, or else it is not clothed to do its work properly: and this is the standard for capacity that should govern all rebolters. If a Bolter has not the above qualities when the atmosphere is in a normal condition, it governs the miller in place of the miller governing the bolter.

You all know how difficult it is to properly control your bolting in a humid atmosphere, and then to strike a damp lot of wheat in addition to the atmosphere being saturated with moisture almost to the point of raining, and this going on for days. These are the conditions that require cut-offs in reels. If they have been loaded to a point requiring every inch of cloth when the atmosphere is dry and the wheat in good condition to mill, when the atmosphere is humid and the wheat damp, you are compelled to cut the capacity of your mill or run ruinously rich tailings. Therefore, any bolting device that is controllable by the cut-offs has great advantage over a centrifugal reel. This one fact is fatal to making a scientific and satisfactory success in rebolting with centrifugal reels.

Even if they should get centrifugals so constructed as to be able to send the tailings

out dry, they can not get over the air currents, and that alone will prevent a defined cut-off.

Gentlemen, I have made the comparison of hexagon reels with the centrifugal in plain language, and have given my reasons for every statement and conclusion. These reasons are incontrovertible facts. The fundamental principles involved in centrifugals are so utterly at variance with common sense and the present stage of the art of milling, that I have no patience to further prove their utter unfitness for a full or even partial system of flour dressing or rebolting, and I deny their right to be classed with round reels.

I will now endeavor to explain the defects and bolting qualities of round reels. I am the inventor of a round reel called a universal flour dresser, but I want you to understand that it also has its bad features, and I shall endeavor to show them up, as I believe I am a more severe critic of my own inventions than my competitors can be, for the reason that I am a closer investigator, or believe I am, than they are. I do not take anything for facts any more unless I can prove them.

Round reels are not new in the art of flour-making, but it is difficult to describe the many differences in their various constructions without drawings or sketches. There are two or more round reels in Mr. Damp's mill at Ashland, Ohio, 14 or 16 feet long and about 20 inches diameter.

These reels have six ribs running lengthwise of the reel, same as a hexagon reel. At intervals of about every four inches along each rib are little pins extending out from the ribs $1\frac{1}{2}$ or two inches long. These pins are so set on each rib that when a heavy stiff wire is wound around the reel from one pin to the next, it forms a spiral from head to tail that supports the cloth. Mr. Damp informs me that these reels have been running for eight years with the same cloths on.

If I remember rightly, these reels were making 14 revolutions per minute when I examined them. They are very slow bolters, and therefore are not practical in a system where capacity is required.

The arms and ribs in a round reel of this type are the only safe-guards it has to prevent its tailing out little flour balls. Any round reel that is not provided with some arrangement of the kind that will disintegrate or burst up the flour balls, can not send out the tailings dustless. Any miller who has used hand sewers understands how these flour balls form.

I have been vindictively assailed in the *American Miller* by one of the advertisers of a round reel, for publicly and privately making this statement. I shall always feel justified in publishing or giving my experience in bolting flour, publicly or privately, and I wish to here repeat in emphatic terms that a smooth round reel with nothing inside of the cylinder of cloth to prevent the flour from balling up, can not be made to bolt soft, sticky flour without sending flour balls over the tail from the size of pin heads to the size of peas or even marbles. They will not handle any kind of stock that is 50 per cent. flour without balling over, unless they are handling a very small quantity of stock; the damper the wheat and atmosphere, the more flour balls they will send over.

My Universal Flour Dresser has a wooden drum cylinder inside a cylinder of bolting

cloth, the cylinder of bolting cloth is supported and carried around with, and at the same speed of the drum cylinder. They revolve at speed not greater than a hexagon reel, which places them, in the matter of motion, their equal. They will scalp wheat breaks as clean as hexagon reels and do it in a more gentle manner, thereby making less scourings in that operation. They will scalp out the flour from the chop from the stock that is scalped through the wheat break scalpings. They will grade the middlings without scouring off a large amount of flour to be sent to your purifier and pulled into your dust rooms. They will make perfect separations of your germ stock without breaking up the flattened germ as much as a six-sided reel will. They are the most perfect rebolters of any device so far invented that I know of. You can cut off as many grades as may be required. The cut-offs are clear cut and defined, as the reel does not create air currents to intermix good material with poor or poor material with good. They have capacity far greater than hexagon reels or any other bolter I know of, and require less power to do the work. The inside cylinder is so constructed as to absolutely prevent the formation of flour balls. They will send out the tailings dustless on any grade of material. The action of the bolt is such that the material is rapidly and gently being delivered from the cylinder to the cloth in the best possible manner to insure rapid bolting.

They require less attention than any other special machinery in a mill. They will handle any and all material in a mill in a far better and more profitable manner than any other system or combination of systems than can be devised from other bolters.

We have a number of these reels in different mills that are bolting the break flour direct from the scalping reels and scalped through No. 8 cloth. I know one of these reels that is taking this kind of chop that formerly required four eighteen-foot reels to do the work. This particular reel is clothed with 12 and 13 cloth, and is bolting and sending from ten to twelve barrels of flour through these numbers of cloth direct to the packer every hour.

In many other places they are doing what required two eighteen-foot reels to do. I mention these facts to show you that their capacity is immense. Now, gentlemen, they require a much less number to do a given amount of work than any other known machine or bolt, and require less space and power, and if any known device is capable of superseding and taking the place of the hexagon reel, this is the machine that will most surely do it. Our trade is rapidly on the increase. They are making their own friends wherever placed. Our orders are largely from those that have tested them. We have a large number of complete or nearly complete and full systems of these bolts in use, and we seldom ever hear a complaint from those who are using them. We keep no traveling agents to represent or misrepresent us. We have placed between six and seven hundred of these machines with hardly a single error.

This is the machine that will gradually and surely supersede the hexagon reel if it ever is to be superseded by any of the present and known devices.

The material in a hexagon reel has a very loggish, sluggish and swashing action. The material is lifted up in part by the centrifugal momentum imparted to the material by the rotation of the reel, and partly by the ribs and angularity of each flat face, traveling from a level plane to almost a perpendicular plane before the weight of the material is sufficient to overcome the centrifugal force imparted to it by the circular travel of the faces of the reel. The speed the reel travels universally governs the point or height which the material reaches before it falls off. The speed of the reel imparts a centrifugal force to the material until it reaches a point where the centrifugal force is overcome by the weight of the material. When it has reached that point, gravity and the motion of the reel impart a centripetal movement, and it is cast downwards and inwardly towards the center of the reel, sometimes under, sometimes over and sometimes square on to the reel shaft. Where it is cast under or over the shaft, it strikes the cloth on the lower face. When it is in a level or partially level position, it strikes the cloth with great force. The material is cast off intermittently in heavy, bulky volumes. If a six-sided reel is running thirty revolutions per minute, there are 180 of these volumes turned loose with a heavy thud back on to the lower part of the reel every minute. A reel will do far better and cleaner bolting where the fall of the material is broken by striking the shaft.

Thirty or thirty-two inch 6-sided reel are run at various speeds, from 25 to 35 revolutions on an average, or probably 75 per cent. are run at about 30 revolutions. At 60 revolutions they would not do any work to speak of, but would swing the material around and hold it tight out against the cloth by centrifugal force.

Wherever a 6-sided reel is running with a very light load, it should be speeded down to a motion that will do the work properly, in place of returning material to give it load enough. You can in every instance make wonderful improvements in your flour where the reel is too lightly loaded, by reducing the speed.

In about all the gradual reduction mills in this country, the hexagon reel is used as scalpings for the different wheat reductions.

These scalpings are covered with wire cloth of various degrees of fineness. There are a few instances where silk gauzes are used on the last two or three reductions, and those that use silk cloths for the purpose know that it pays them to do so by the better results obtained. I wish to say here that the wire-covered scalping reel is also a scouring machine, and is of great detriment to the break flour, from the fact of the scouring action of the chop on the wire, wearing off the enamel of the berry, as well as the fibrous, filmy edges of the bran particles into a fine and almost impalpable powder that imparts a dirty, nasty looking shade to the break flour, for it is as fine as the flour and will bolt through the cloth with the flour. It is the very worst and most contemptible piece of machinery in any mill. Their scouring qualities are so assiduous that they never let up, no difference how badly worn the wire becomes. They knock anywhere from ten to twenty cents per barrel off of your break

UNITED STATES MILLER.

E. HARRISON CAWKER, EDITOR.

PUBLISHED MONTHLY.

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

MILWAUKEE, JUNE, 1886.

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THE Daisy Roller Mill in this city has started up and the machinery runs smoothly throughout. The mill will very soon be running constantly. It is now turning out about 900 barrels per day.

AMONG THE NORTHERN LAKES

of Wisconsin, Minnesota and Iowa, are hundreds of delightful places where one can pass the summer months in quiet rest and enjoyment, and return home at the end of the heated term completely rejuvenated. Each recurring season brings to Oconomowoc, Waukesha, Beaver Dam, Frontenac, Okoboji, Minnetonka, White Bear, and innumeral other charming localities with romantic names, thousands of our best people whose winter homes are on either side of Mason and Dixon's line. Elegance and comfort at a moderate cost can be readily obtained. A list of summer homes with all necessary information pertaining thereto is being distributed by the CHICAGO, MILWAUKEE & ST. PAUL RAILWAY, and will be sent free upon application by letter to A. V. H. Carpenter, General Passenger Agent, Milwaukee, Wis.

RELIGIOUS ASPECTS OF THE AMERICAN PROTECTIVE TARIFF.

NORTHWESTERN TARIFF BUREAU, }
MILWAUKEE, WIS., May 27, 1886. }

Editor of the *United States Miller*:—

I am gratified at the improvement in Mr. Bates' style. His last article contains but two foul splashes—"Government pap to hoary-headed infants," and "Hide bound old blue-bottle protectionists." Another passage or two through the free trade "grain dryer," and he will not "show parch, shrivel or other evidence of artificial drying" and possibly be free from "any slight odor from sweat or heat," and be "in a condition to grade" as a gentleman in discussion.

Mr. Bates says of himself:

"Had I been the paid agent of a Free Trade organization, what changes would have been rung on that circumstance, together with the customary mention of 'British gold.'"

Whether a paid agent or not is of minor importance; but why deny when not accused.—"A guilty conscience needs no accuser," is an old adage.

Mr. Cobden received £200,000 in "British gold" for advocating "free trade" in England, and yet only the assertions and writings of Mr. Cobden are attacked or defended to this day.

I am deeply grateful to Mr. Bates for quoting Mr. Joseph Medill as authority &c., but think he will regret the choice before I get through with him. *Chicago Tribune*, May 23, 1886, Mr. Medill says editorially:

"If the pro-English influences which aided the election of the present administration are too strong for them they had better drop the matter altogether."

Tribune, May 19th, 1886, as to better paid labor in this country, Mr. Medill says:

"The ingratitude of the Bohemian Socialists is shown in strong colors when their condition 'at home' is contrasted with the opportunities open to them in this country, which they seek to subvert. * * * In this country Bohemians work fewer hours and get from twice to three times the wages they could possibly earn at home, and can buy their food much cheaper, and yet they abuse the hospitality offered them and assault the laws and institutions which furnish them such generous opportunities to improve their condition."

Mr. Bates says: "It was mainly upon this point that the issue of this discussion hinged." The *Tribune* shows that the statement of the *Inter-Ocean* was true, that laborers in this country "working fewer hours and getting from twice to three times they could possibly earn at home."

I shall quote Mr. Medill frequently, he being Mr. Bates' chosen witness. Mr. Bates says of the tariff: "While it brazenly proclaims to protect our manufactures, trade and commerce, that tariff severely cripples all these industries. Look, for instance, at commerce and navigation."

In refutation of the above I cite the letter of Alexander McEwan, of England, to Lord Beaconsfield, December 1, 1879:

"The United States have grown from 20,000,000 of population in 1845 to 50,000,000 at the present day; their exports from \$100,000,000 to \$775,000,000 per annum. Their home trade carefully protected, estimated now at more than \$5,000,000,000 exceeds our whole home and foreign trade put together. As far as their relations to us are concerned, they are sending us this year over \$500,000,000 of commodities, and taking from us about \$100,000,000, and while we take from America principally food and cotton, the commodities she takes from us are such as she can produce herself or do without in case of need. In war she would be independent of us, but in our requirements we are absolutely dependent upon her."

Such is the testimony of one of the ablest men in England, furnished by request to the Prime Minister of Great Britain. Comment is unnecessary—the truth speaks for itself.

Mr. Bates continues: "American tonnage was driven out of the foreign trade by the tariff, and that tariff effectually prevents these United States to-day from asserting supremacy upon the seas."

Before the rebellion, which was fought by the South for free trade with England, had we no "American ocean tonnage"? How was it destroyed? By England and not by our tariff. The hostility of England to "American ocean tonnage" is more than a hundred years old. Free traders, like Mr. Bates, claim that the ocean tonnage question is a strong point in their favor, whereas it is absolutely the weakest they can urge. Mr. Bates will find in the celebrated oration of Richard Rush in the House of Representatives July 4th, 1812, what I now quote:

"When the late Col. Henry Laurens left England in the year 1774, he had previously waited on the Earl of Hillsborough, in order to converse with him on American affairs. In the course of conversation Colonel Laurens said, the duty of threepence a pound on tea, and all other taxes were not worth the expense of a war."

(Mr. Bates, please note the answer.)

"You mistake the cause of the controversy," said his lordship, "You spread too much canvas upon the ocean; do you think we will let you go on with your navigation, and your forty thousand seamen?"

Mr. Rush continued:

"The same hostile spirit to our growing commerce has actuated every minister, and every privy council, and every parliament of Great Britain since that time; and it is the spirit she manifests towards other nations. The recent declarations made upon the floor of the House of Commons in debate upon the orders in Council, add a new corroboration to the proofs that this monopolizing spirit, has been one of the steady maxims designed to secure and uphold her absolute dominion upon the waves."

To disprove the statement of Mr. Bates and other free traders, I will quote from one of my lectures to "American Students on the American Protective tariff." I said, to show the different conditions of England and the United States:

"England is a maritime country, America is not in the same sense as is England. British colonies, her Indian and other outlying possessions need her protection through her

naval and mercantile shipping, even for communication apart from defense. The United States is all on one continent. We have no outlying possessions, and we may be thankful that we have not—hence, the cry of "Ships, colonies and foreign commerce," does not apply to the United States as it does to England.

"England must defend herself on the sea. Let an army once land on her shores, and, through the shipping of her enemy be maintained, and the conquest of England would be but a question of time.

"Once blockade her ports and she would die of starvation, for she has not the means, within herself of sustaining herself, that is, of feeding her people from her own resources. If the United States and Russia, and one or two other grain-growing countries should combine, and withhold their food from England she would starve to death. With all her boasted power, she is to-day the most dependant country in the world—she must swap goods for grub or go hungry."

A protective tariff pamphlet, published in England, July 1, 1885, says:

"With recent changes and developments of naval warfare, it would be possible for a foreign power to intercept by armed cruisers, or by torpedo boats, many of the vessels bringing grain to England. Should the enemy obtain even a partial success, bread would be driven up to famine prices, whilst any lengthened stoppage of supplies would place the country at the mercy of its opponents."

"England has always been our superior in naval and mercantile shipping. In 1839 she had sixty-six steam war vessels, while we had but one; she then had 29,777 tons steam war vessels; in construction, 4,649 tons; total, afloat and building, 34,426 tons. We had not to exceed 1,000 tons of steam war vessels for ocean navigation.

"But in the same year, 1839, the tonnage of our steamers engaged in our internal commerce was nearly the equal of Great Britain's, hers being in all 810 vessels, tonnage 157,840, horse power 63,250; the United States had 800 steamers, tonnage 155,473, horse power 57,019.

"We have been developing a continent, several states of which are larger than England. Our railroads span that continent, planting villages, towns, cities, extending from the Atlantic to the Pacific, where millions upon millions from foreign lands have founded homes with permanent independence and prosperity.

"Send a thousand ships across a sea, no trail is left, nothing indicates their course. Extend a railroad, or construct a new one, five hundred or a thousand miles into a new country, and the wilderness is reclaimed to civilization and people. Farms, furnaces and factories spring up as if by magic. Such is the civilizing influence and benefits to mankind in this country of extending railroads. Every mile of new railway is a new artery, renewing and increasing the vital force of the country, imparting fresh vigor and prosperity to the nation. Since the Morrill tariff of 1861 we have built five times as many miles of railway as there are miles in Great Britain.

"When the rebellion broke out, we had a fair mercantile marine. By whom was it destroyed? By the Alabama and other British privateers, carrying the confederate flag manned almost wholly by British sailors.

"England has always fought for her supremacy on the ocean; she has never in the past, and never will in the future, if she can prevent it, permit any single nation to be her equal, much less her superior. Long, long ago, she snatched the brooms from the Dutchmen's mastheads, when Holland was triumphant on every sea, and substituted her "whip," or pennant, in their places; but not until oceans had been reddened with the blood of near a hundred thousand seamen, sacrificed to acquire and maintain British naval and mercantile supremacy. There England must maintain that supremacy over all, or sink to a second rate power.

"No stronger proof of the desire of the British government to break up our Union could be furnished than the fact of nearly twelve hundred blockade runners having been captured by our navy during the rebellion.

"As near as I can learn, from considerable research, every one of those blockade runners was commanded and manned by Englishmen, and without exception were loaded with munitions for the confederacy, carrying cargoes only that were contraband of war. So far as I know, not another nation sent a blockade runner to our coast. Of this conduct I am justified in quoting the language of Richard Cobden, as applied to a former British ministry:

"Why they carried out in its unvarnished selfishness a national British policy; they had no other idea of a policy, but a national British policy, and they carried it out with a degree of selfishness amounting to avarice."

"And as to the Alabama, and other English pirates that swept our merchant marine from the seas, that lit up the sky over nearly every ocean with the flames of our burning merchant-men. Those "corsairs" were the free-trade whelps of the English lion, begotten and born in the Cobden Club den, and turned loose to prey on our "American ocean tonnage." They always found a welcome in every English port, while American naval vessels bearing the "flag of our Union" were vigorously excluded. In the defense of Charleston it was English cannon supplied by England to the Confederacy that crashed against the sides of our iron-clads. Nor was it alone in Charleston, "Blakely" and "Armstrong" were familiar names found on Confederate cannons; hence as the poet had it, addressing John Bull on his neutrality:

"No wonder we got tearing mad John,
For English names were on the guns;
That, you called neutral guns John,
That killed our brothers and our sons.

(From an address "American Students and the American Tariff," by John W. Hinton.)

England leads the world in ocean tonnage. According to Mr. Bates she ought to lead the world in prosperity. Yet the reverse is the fact, for no nation is so depressed or suffering so much to-day as is England. So severe is the depression, that recently a Royal commission was formed to discover the causes. That commission received replies from all the leading Chambers of Commerce, Boards of Trade, and manufacturing associations, asserting that it was the protective tariffs of other countries, excluding English goods and their manufacturing so much for themselves. Mr. Bates should read the report of that "Royal Commission."

To return to the terrible suffering of England's shipping or ocean tonnage.

That free trade organ, the *Chicago Times*, said editorially, Oct. 19, 1884: "Forty ocean steamers lie idle in the docks at Sunderland, England, and most of the shipyards are closed. Subscriptions are being made by the public for the unemployed workmen."

The *Chicago Tribune*, another free trade organ, said editorially, Nov. 26th, 1884: "A hundred fine steel steamers tied up useless along the banks of the Tyne; swarms of stalwart British sailors wandering in the streets taking their chances of living on the bounty of the soup-kitchens; children quarreling with dogs in the alleys for a bite of garbage; lines of tenements inhabited by people who have not a rag to cover them during these wild nights of November, not a bed to lie on, not a place to rest save on the rickety floor, no coverlid to wrap the new born baby in—this is, to-day, one of the sights of Merrie England."

The correspondent of the *Pall Mall Gazette*, visiting the ship-yards, writes: "Your discharged men are badly off?" "Oh, yes! shocking! It won't bear thinking about." "Will you let one of your men go with me for a day to the worst quarters?" "Certainly. But let me earnestly advise you not to go. I assure you the condition of the people is too terribly bad. Let me put it plainly. I mean

that there never was such destitution known, and you'll be sick—physically sick, I mean." The scenes he described are truly revolting.

Noting since it was telegraphed from Glasgow that the ship-building trade on the Clyde is greatly depressed, over 70 per cent. of the workmen being unemployed. Soup-kitchens have been opened to relieve the sufferings of the poor.

Again, a short time ago, a procession of British seamen marched through London, England, to make a demonstration against the government for not relieving the depression, bearing banners, "British workmen are starving that foreigners may live," "British labor is sacrificed in the interest of foreign labor," etc.

Such is English free trade testimony to free trade England's condition, which depends upon foreign commerce and foreign markets. And this while England's merchant marine is greater than ever; while all foreign markets are as open to England as they have been for years, excepting in those countries which have passed tariffs to protect themselves. England is suffering as no other country in the world ever suffered.

THE WOOL TARIFF, WOOLENS, ETC.

Mr. Bates quotes Mr. Medill as authority on the wool-tariff, etc. As I have before said, the authority is not a wise selection, for by no one that I know of have such freetraders, as Mr. Bates, ever been more lashed than by Joseph Medill, of the *Chicago Tribune*.

Mr. Medill said truly:

"There never has been a financial collapse in the United States during the existence of a high tariff. The country has never escaped from one when it had a low tariff, and the lower the tariff the worse the crash, and just as soon as a "free-trade" policy is abandoned, and a protective policy adopted, the country begins to revive and business to prosper, and so continues until the disciples of Smith and Wayland, Calhoun and Jeff Davis are again allowed to make another experiment with their pet humbug. It does seem that the experience of three generations ought to teach the fourth one that a wolf-trap, however baited, is a wolf-trap still."

Mr. Bates says of himself:

"My early home was in Illinois before the advent of railways. My father's log cabin stood in a wilderness of prairie, over which deer bounded freely by day, and wolves prowled and howled by night."

It was for just such free-traders as Mr. Bates that Mr. Medill furnished the simile of the "wolf-trap being still a wolf-trap, however baited."

As to the lowered wool-tariff upon farmers, etc., Mr. Medill is equally forcible when he goes for such free-traders as Mr. Bates. Mr. Medill says:

"The farmers have got back in the shape of "bounties," or protection on raw wool, more than they have paid out in increased cost of their clothes. They would be a good deal worse off with the duty on wool and woolens repealed, than they are now with both duties on, and the government would find itself out of pocket a good many millions of revenue, both from the tariff and tax on the home article. The less the crazy free-trade quacks are allowed to meddle with the tariff the better for the whole country—government and people."

Mr. Medill says, we should

"Multiply manufactories in the West, rather than in England and France, for thereby the West will obtain the true and genuine free trade it needs so badly; but relief will never be found by grasping at the British free-trade humbug * * *. Such free trade

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L. C. WHITNEY,
Gen'l Western Agent.

Detroit, Grand Haven & Milwaukee RAILWAY LINE.

The Shortest, Cheapest and Quickest Route

—BETWEEN THE—

WEST AND EAST

New York, Boston, and all points in Northern and Eastern Michigan.

COMMENCING MAY 17th,

the Palace Side wheel Passenger Steamer "City of Milwaukee," will leave Milwaukee daily, Sundays included, at 11:45 noon and connect at Grand Haven with Limited Express Train which leaves at 6:00 P. M. Time, Milwaukee to New York, 32 hours.

Ticket Office, 99 Wisconsin Street,

SLEEPING CAR BERTHS

can be secured. Dock, foot of West Water Street.

GEORGE B. REEVES, B. C. MEDDAUGH,
Traffic Manager. West. Pass. Agt.
Chicago. Milwaukee.

W. J. SPIOR, Gen'l Manager, Detroit, Mich.

Milwaukee & Northern Railroad.

THE OLD RELIABLE ROUTE.

17 Miles the Shortest Line

—TO—

GREEN BAY,

Fort Howard, Depere, Menasha, Neenah, and Appleton, Marinette, Wis., and Menominee, Mich.

—THE NEW ROUTE TO—

New London, Grand Rapids, and all points in CENTRAL AND NORTHERN WISCONSIN.

The new line to Menominee is now completed, and opens to the public the shortest and best route to all points on the Michigan Peninsula.

CONNECTIONS.

AT PLYMOUTH with the Sheboygan and Fond du Lac Division Chicago & North-Western R'y for Sheboygan and Fond du Lac.

AT FOREST JUNCTION with Milwaukee, Lake Shore and Western Railway.

AT GREEN BAY with Chicago & North Western and Green Bay, Winona & St. Paul Railroads, for all points North and West.

C. F. DUTTON, General Supt.

THE Milwaukee, Lake Shore and Western Railway.

This Railroad is now the acknowledged Fishing and Hunting Line of Wisconsin: Milwaukee to Sheboygan, Sheboygan Falls and Manitowoc.

Through the picturesque scenery of the Fox River Valley, and the cities of Kaukauna and Appleton, noted for their vast water power and manufacturing facilities.

Through Northern Wisconsin and the Michigan Peninsula, the most beautiful Region of Forests, Streams and Lakes in the Great Northwest.

Within its limits are located the best Fishing and Hunting Grounds in the country. The equable climate and the pure air of the Pine Forests, make it a most desirable Sanitarium, especially for sufferers from Hay Fever and Lung Diseases.

Good Hotels, Fleets of Pleasure Boats, and general facilities for comfort and pleasure at Lake Gogebic, the Eagle Waters and Pelican Lake.

Through the most wonderful Mineral Region of the United States; The Gogebic, Montreal and Penokee Iron Ranges. A new and rich field for the Prospector, Speculator and Capitalist. Picturesque scenery and interesting sights for the Tourist. The line terminates at ASHLAND, Lake Superior, well known as a desirable Summer Resort.

The Guide Book for 1886, a book of fifty-six pages, contains full information, Maps and Engravings of the country traversed by the Line, and will be sent on application to the General Passenger Agent.

H. F. WHITCOMB, CHAS. V. MCKINLAY,
Gen'l Manager. Gen'l Pass. Agent.

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UNITED STATES MILLER,
Milwaukee, Wis.

THE MILLERS' EXCURSION TO JACKSON, MICH.

Nearly four hundred gentlemen connected with the milling interests accepted the invitation of Mr. Geo. T. Smith, of the Geo. T. Smith Purifier Co., of Jackson, Mich., to participate in an excursion from Chicago and to enjoy the hospitalities of the company during their sojourn in Jackson. The party was conveyed to Jackson in two special trains, composed of Pullman and private cars, over the Michigan Central railway, in charge of F. T. Whitney, the assistant general passenger agent. The excursionists were not only provided with the handsomest cars to be procured, but with every known facility for making the two hundred miles of iron lying between Chicago and Jackson be forgotten. A stop was made at Marshall, Mich., the well-known "chicken-pie" eating-house, where a neat lunch was provided for and enjoyed by the travelers.

The two special trains, with their thirteen car-loads of "dusty millers," after a rapid run reached the city, and were welcomed at the station by Col. Dickey and many other representatives of the Smith Purifier company. The brass band, composed of operatives of the purifier works, greeted the excursionists with a musical welcome, and, forming into line, the excursionists were conducted to the Hibbard, Hurd, and other first-class hotels, where ample provision had thoughtfully been made for their reception and entertainment. The regular clerks of the hotels, for once, had a "night off," Col. Dickey acting as the room-clerk of the Hibbard, while the other hotels were captured and held by his assistants for the benefit of the rapidly arriving crowds.

Mr. Smith's arrangements for taking care of this large assemblage were made on the same generous scale that is synonymous with whatever this company undertakes. This is the second large excursion party of millers that have been brought to Jackson to inspect the extensive works of the George T. Smith Middlings Purifier company and the Model roller mill, completely furnished with the complete centrifugal bolting system by the company. It is worth any milling man's time to inspect this mill, furnished as it is with the latest and most improved machinery, much of it manufactured by the George T. Smith Middling Purifier company, whose extensive works adjoin the mill.

The opera house, where the grand banquet was held, was a mass of brilliant colors. The decorations by Mr. Winn consisted largely of the national colors, intermingled with happy ideas borrowed from our Japanese friends. The stage represented fairy land from "Undine," while the conservatory of Mr. George T. Smith supplied hundreds of rare plants and flowers. The music was furnished by the handsomely decorated band, composed of a score of employes of the purifier manufactory.

The tables, under the charge of Col. Clark, of the Hibbard house, presented a glittering mass of crystal and china, while beautiful flowers were supplied in lavish profusion. Over four hundred representative millers took part in this grand banquet.

The sight within this vast banquet hall was simply glorious, and was admired from the galleries by a great audience, made up wholly of employes of the purifier company, who had been highly complimented during the

day by the visiting millers for their skill in mechanical work and their fidelity to their business. It was arranged by Mr. Smith to have W. K. Gibson acknowledge their presence in the galleries and express to them the approbation of their employers, but an accident disarranged the programme, and afterwards an opportunity was not presented, an omission which is sincerely regretted by the Purifier company.

The discussion of the eatables and drinkables having been carefully considered, Mr. Crosby, the president of the Millers' association, returned thanks for the many attentions received by the visiting millers. Mayor Bennett, on behalf of the city, threw the gates wide open to the Millers' association, and was repeatedly applauded.

Ex-Gov. Blair, Michigan's war governor, made a ringing speech. Many other speeches were made by members of the association and citizens. The excursion was a most successful one in every respect. A handsome tribute was paid ex-President Christian, who is now in declining health, by the association rising en-masse in response to a toast that he might live a hundred years. At the adjournment repeated cheers were given for George T. Smith and the Purifier company. The party left at midnight on a special train for Chicago.

ITEMS OF INTEREST.

The highest chimney yet built in the world has recently been completed at the Mechernich Lead Works in Germany. The whole height of the structure is approximately 440 feet, 11 feet of which is under ground. The subterranean portion is of block-stone, 37 feet square in plan, all the rest is of brick. The plinth, or lower part of the chimney above ground, is 34 feet square, so that the height of the shaft is nearly thirteen times the lower diameter. For about 34 feet the chimney continues square, then becomes octagonal in plan for a little distance, and finally changes to a circular form, retaining this shape to the top. The exterior diameter of the shaft at the top is about 11½ feet. The flue is 11½ feet in diameter at the bottom and 10 feet at the top. Until the completion of this chimney that of the St. Rollox Chemical Works near Glasgow, which is 434 feet high, was the tallest in the world.

NEARLY all smoke may be consumed without special apparatus, by attending with a little common sense to a few simple rules. Suppose we have a battery of boilers, and "soft coal" is the fuel. Go to the first boiler, shut the damper nearly up, and fire up one-half of the furnace, close the door, open the damper, and go to the next boiler and repeat the firing. By this method, nearly if not quite all the smoke will be consumed.

Gas Engine for Sale

One "OTTO" GAS ENGINE, 10 H.-P., in very good condition, for sale cheap. Address

J. C. SUNDIN,
124 Grand Ave., Milwaukee.

Mills For Sale.**FOR SALE AT A BARGAIN.**

A No. 1 four-run steam mill, located at Browning, Linn Co., Mo., on the C. B. & K. C. R. R. The machinery was furnished by the Nordyke & Marmon Co. Will sell one-half or all at a very low price, and on good terms. Reason for selling, I am not a practical miller. Address

JAMES H. WALKER, Browning, Mo.

FOR SALE.

A first-class 40-barrel water power stone and roller flour mill, situated within forty rods of side track of the C. M. & St. P. R. R. Country all settled up. Last year's grinding 20,000 bushels on custom work. Address

H. F. FISHER, Camp Douglas, Wis.

MILL FOR SALE.

Two runs of stone; one Garden City Purifier; one Victor smutter; one separator; one corn sheller; two reels; one Lefel wheel 48-inch under ten-foot head, and the head can be increased to fifteen feet if required. Plenty of water all the year around. Dam is on solid rock bottom, only 4-6-12 high. Good wheat country. Nearest railroad, 5 miles. Nearest town, 2 miles. Twenty-nine acres land, house and stable for \$3,000. One thousand dollars cash; time to suit the buyer at 6 per cent. interest. Will sell half. Address

F. J. DWARSHAK, Festina, Iowa.

FOR SALE CHEAP.

New all roller mill containing 11 pairs of rolls 9x12, 9x18 and 9x24, 6 reels, 3 purifiers, 1 centrifugal reel, 5 scalping reels, separator, smutter, corn sheller and 4½-foot feed stone. Water power mill driven by a 50-inch special Lefel wheel, 8-foot head and plenty of water the year around. Millhouse 35x50, 2½ stories; 11 feet high stone basement. The mill was built and started up new two years ago last June. It is situated in the best milling town and best wheat county in the State of Wisconsin. Only one mill to compete with in a radius of 10 to 25 miles; all a thick settled country around. The best of reasons for selling. For particulars call on or address

A. F. ORDWAY & SON, mill builders and furnishers, Beaver Dam, Wis.

FOR SALE, EXCHANGE OR RENT.

Four-run Water Mill. Best Water Power in Clinton Co., Ia. Water enough the year round to run 20 run of stones.

JOHN F. MCGUIRE,

Real Estate Agent, Clinton, Iowa.

MILL FOR SALE.

The whole or half interest in a 50-barrel full roller mill, on account of death of partner. Good winter wheat section, climate and location. Will take one-third on the whole value in Western land. Address

"EAGLE ROLLER MILLS," Plymouth, Ill.
or U. S. MILLER, Milwaukee, Wis.

FLOURING MILL AND ELEVATOR FOR SALE.

All or one-half interest in a first-class 75-barrel steam flouring mill and elevator. All new and in good order. Located at Meriden, Jefferson Co., Kan., on the Atchison, Topeka & St. F. and the L. T. & S. W. Railroads; in the best wheat and corn growing county of the state. Building, heavy frame, 36x46, three stories, attic and basement, with stone engine room 22x34; all under iron roof. Capacity of elevator, 15,000 bushels; corn crib, dump and sheller. Side track to mill. Two sets 9x18 Allis Rolls; three burrs on wheat, one on corn; flour packer, scales, etc.; two Smith Purifiers; Barnard & Leas Separator; one 12-foot two-reel chest; one 16-foot four-reel chest; one corn meal bolt; California Brush Finisher; one Western Corn Cleaner. Grain trade more than pays all running expenses. A splendid chance for a good miller. Exchange trade good. Mill cost over \$18,000. Will sell all for \$12,000, half cash, or half interest for \$6,000, half cash, or, if not sold by July 1st, will be leased for a term of years to responsible parties.

J. O. PEEBLES, Sec'y,
MFRIDEN MILL CO., Meriden, Kan.

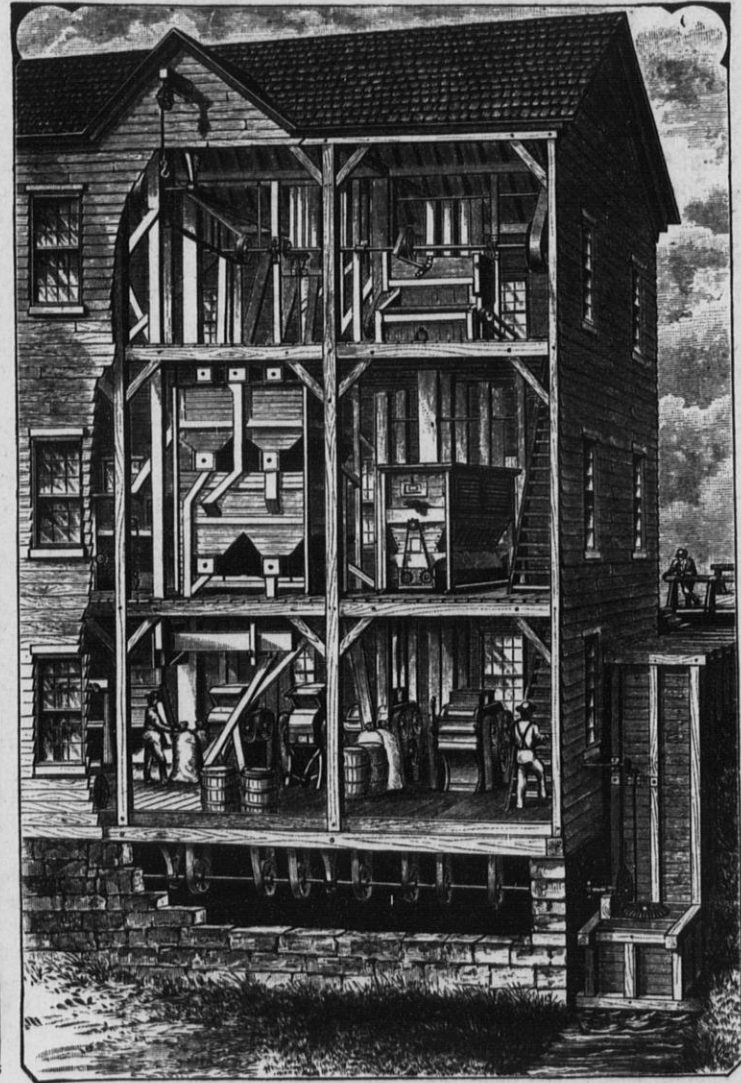
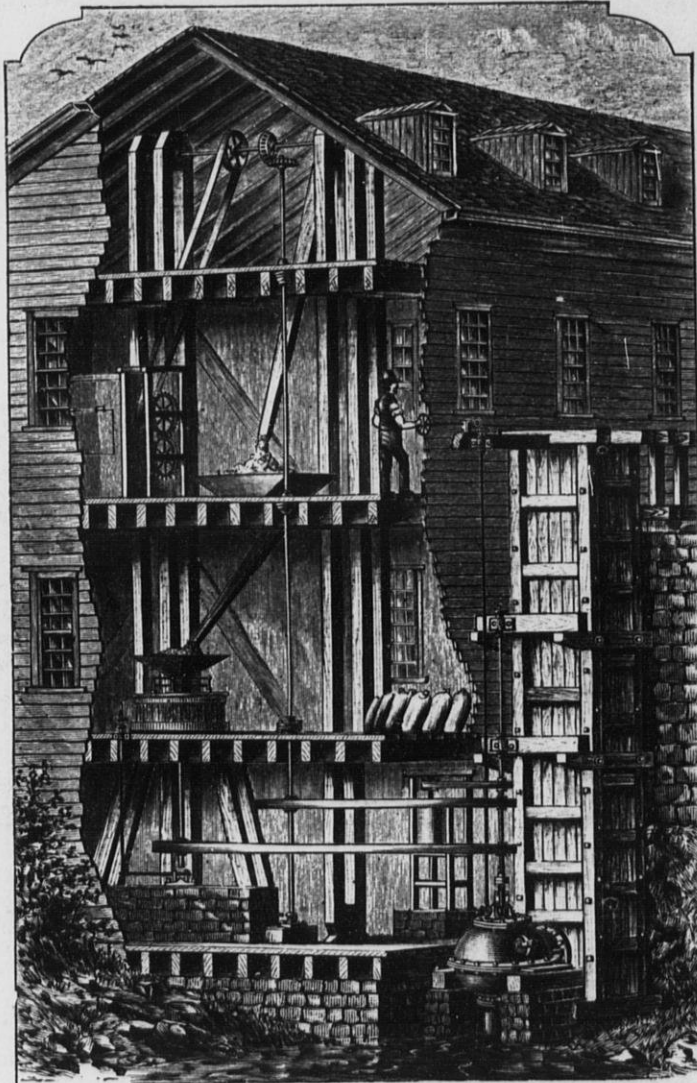
JAMES LEFFEL & CO.'S TURBINES.

We present herewith two illustrations showing the application of the Turbine Water Wheel manufactured by Messrs. James Leffel & Co., of Springfield, O.

Fig. 1, shows the Turbine as attached to the machinery of a flour mill using stones for grinding; and Fig. 2, shows the Turbine driving a roller mill. The Leffel Turbines have a world-wide reputation for transmitting power economically. A catalogue giving full information with numerous illustrations will be sent to interested parties on application.

The Case Mfg. Co., Columbus, O., have received orders since their last report as follows: From Spaulding, Miller & Co., Montpelier, Ind., for 17 pairs of rolls and all necessary machinery for a complete roller flour and corn meal mill on the Case system; from M. Sellhorn, Boonville, Iowa, for one pair of rolls; from the Bennington Steam Flour Mill Co., Bennington, Kansas, for 17 pairs of rolls, and all other machinery necessary for a new complete roller flour and corn meal mill on the Case system; from the Anchor Milling Co., Mt. Gilead, O., for 16 pairs of rolls, and all other machinery necessary to

Wyandott, Kan., for four pairs of rolls; from L. Strong Co., Omaha, Neb., for 19 pairs of rolls, one scalping reel and two purifiers; from J. B. Monning, Ft. Wayne, Ind., for 13 pairs of rolls and all other necessary machinery for a full roller mill on the Case system; from J. P. Felt, Emporium, Pa., for two additional pairs of rolls; from Dehner & Wuerple Mill Building Co., St. Louis, Mo., for four pairs of rolls; from H. Herman & Co., Highland, Ill., for one pair of rolls; from John Heffner, McConnelstown, Pa., for one pair of rolls; from Hoover & Bonham, Halstead, Kansas, for four pairs of rolls;

**NEWS.**

A PART of the Clam River dam, owned by A. M. Chase at Stillwater, Minn., was blown up by a dynamiter on the night of June 7. Damage about \$6,000. The dam will be rebuilt as soon as possible.

A \$3,000 bonus will be given for the erection of a roller mill at Shoal Lake, Man.

CITIZENS of Killarney, Man., are trying to raise a \$5,000 bonus to secure the erection of a large roller mill at that place.

THE erection of a roller mill is contemplated at Lariviere, Man., on the southwestern branch of the C. P. R. R.

450,000 acres have been sown to wheat in Manitoba this year.

BURNED, June 12, the flour mill of the Oconto Co., at Oconto, Wis.

make a complete roller flour and corn meal mill on the Case system; from G. W. Freeman, Mansfield, Mo., for two pairs of rolls, one centrifugal reel and other machinery; from Williamson Bros., Watseka, Ill., for 16 pairs of rolls, and all other necessary machinery and appliances for a full fledged roller flour and corn meal mill on the Case system; from J. W. Grier, Harmonsburg, Pa., for two pairs of rolls and one No. 1 single purifier; from Flenniken Turbine Co., Dubuque, Iowa, for one No. 1 double purifier for A. M. Stratton, Boscobel, Wisconsin; from C. Corbett, West Washington, D. C., for two No. 1 special purifiers for Strecker & Thompson, Marietta, Ohio; from A. L. Strong Co., Omaha, Neb., for 10 pairs of rolls, one special purifier, one-half reel chest, one-fifth reel scalping chest, for W. C. Galloway, Neligh, Neb.; from Northrup Bros.,

from Kidwell & Goode, Ellwood, Ind., for two additional pairs of rolls; from Yaeger Flour Mill Co., Carlinville, Ill., for two No. 1 special purifiers; from J. W. Kirkpatrick, McGregor, Texas, for 10 pairs of rolls and all necessary machines and appliances for a full roller mill on the Case system.

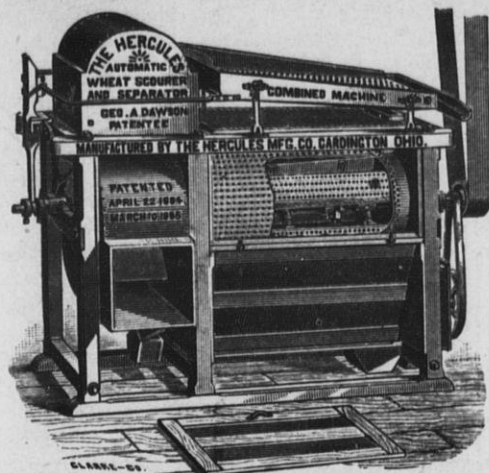
R. COMBER is reported to have purchased the flour mill at Selkirk, N. W. T., and will fit it up at once.

GEN. W. W. Belknap has purchased the Pembina mill at Hokah, Minn.

BURNED, June 9, Peavey & Co.'s elevator at Jordan, Minn. Loss on elevator \$20,000. Thirty-five thousand bushels of wheat were burned or damaged.

THE flouring mills at Fergus Falls, Minn., are running day and night, turning out about 3,000 barrels of flour daily.

Do You Want Clean Wheat?



THE Hercules Automatic Wheat Scourer AND Separator

Warranted to improve the **COLOR** and **VALUE** of flour in any mill. Anti-Frictional, Light Running and the only **AUTOMATIC WHEAT SCOURER** ever invented. Adjusts itself while in motion to the volume of wheat fed to it and requires no attention but oiling. Awarded **GOLD MEDAL** and highest honors at the late **WORLD'S FAIR, NEW ORLEANS**. Machines sent on 60 days trial and satisfaction guaranteed or no pay. Write for Circulars, Testimonials and Samples of Cleaned Wheat and Scourings.

THE HERCULES MFG. CO., Cardington, Ohio.

IT HAS INCREASED OUR TRADE.

THE HERCULES MANUFACTURING CO., Cardington, Ohio.

Gentlemen:—We like the "Hercules" machine very much indeed. It has increased our trade, and we will buy another for our other mill in the Spring. It certainly is the best Scourer we know of.

[Mention this Paper when you write.]

SCHREURS BROS.,
PROPRIETORS OF YOUNG AMERICA ROLLER MILLS,
Muscatine, Iowa, December 9th, 1885.

Yours Respectfully,

SCHREURS BROS.

JUST OUT. The only thoroughly practical work on Modern Milling in the English language designed for the use of operative millers only.

LOUIS H. GIBSONS

Gradual Reduction Milling.

Contains 429 pages, many cuts, and diagrams for a 100-barrel mill, 70-barrel mill, a 50-barrel mill, and a 500-barrel mill. Full of interesting and valuable matter. Publisher's price \$3.00. Will be furnished with the United States Miller for \$3.50, postage prepaid. Send in your orders at once to

E. HARRISON CAWKER,

Publisher UNITED STATES MILLER, Milwaukee, Wis.

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Provisions and Grain
BALTIMORE, MD.

Sell on Track West and to Arrive.
Fine Storage Cellars for Meat and Lard.
Handle all kinds of Grain.
Liberal Advances on Consignments.

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For cash or future delivery, a specialty.

Special information, indicating course of markets, freely furnished upon request.

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We give special attention to the purchase and sale of grain or provisions, for future delivery, here or in other markets.
Information regarding the present condition and future outlook for prices furnished on request.
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WM. GRIFFITHS. JAMES MARSHALL. GEO. E. DODGE.

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MINNEAPOLIS AND DULUTH, MINN.

Orders for Choice Milling Wheat Given Special Attention.

FLOUR :: BROKERS

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Foreign Subscription \$1.25 per year in advance.

MILWAUKEE, JUNE, 1886.

ANNOUNCEMENT:

WM. DUNHAM, Editor of "The Miller," 69 Mark Lane, and HENRY F. GILLIG & Co., 449 Strand, London, England, are authorized to receive subscriptions for the UNITED STATES MILLER.

We send out monthly a large number of sample copies of the UNITED STATES MILLER to millers who are not subscribers. We wish them to consider the receipt of a sample copy as a cordial invitation to them to become regular subscribers. Send us One Dollar in money or stamps, and we will send THE UNITED STATES MILLER to you for one year. SEE COMBINATION OFFER ON OTHER PAGES.

The United States Consuls in various parts of the world who receive this paper, will please oblige the publishers and manufacturers advertising therein, by placing it in their offices, where it can be seen by those parties seeking such information as it may contain. We shall be highly gratified to receive communications for publication from Consuls or Consular Agents everywhere, and we believe that such letters will be read with interest, and will be highly appreciated.

EDWARD ATKINSON, in an article in *Bradstreet's*, calculates that an eight-hour law would only affect one in ten among all the workers of the country, the other nine-tenths being engaged in occupations in which shorter hours are impracticable, as farming, herding, fishing, carrying, including all railroad employment, and so on. He also shows, what is apt to be overlooked, that the gains of capital have decreased, while the wages of labor have advanced and the cost of living has been reduced.

We will send the U. S. Miller and American Miller for one year for \$1.50.

The series of Great American Industries in *Harper's Magazine* is continued in the coming number by an article on sugar. The subject is most thoroughly handled and copiously illustrated. The author, R. R. Bowker, has gathered material from the most eminent and recent authorities. Beginning with a brief history of sugar, he shows its enormous production at present, describes the Louisiana plantations and their work, and the mysterious processes of the great refineries. Beside the sugar-cane, sorghum, beet, maple, and glucose sugar are carefully treated. The wonderful chemistry of sweets is unfolded as well as the secrets of candy-making. The paper is a compendium of valuable information.

The June Century Magazine is particularly rich in illustrations. The frontispiece is a fine engraving from Houdon's bust of Benjamin Franklin, accompanying a most interesting chapter of the unpublished letters of the distinguished philosopher. A fascinating illustrated paper is "A Literary Ramble," by Austin Dobson, descriptive of the Thames from Fulham to Chiswick. Mrs. Van Rensselaer's second paper on "American Country Dwellings" is exquisitely illustrated, and the war

papers on the Antietam campaign are the most interesting that have appeared. There are two or three short and taking stories beside the serials.

We will send The Milling World (weekly) and the U. S. Miller for one year for \$2.00.

ERASTUS WYMAN, President of the Staten Island R. R. Co., says that the result of the passage by the House of the Staten Island Bridge bill will be to lessen terminal charges in New York harbor 25 per cent. on all Western and Southern produce; that the bridge which the bill authorizes will be commenced within sixty days, rendering available ten miles of water front in New York harbor now inaccessible by rail, and that a revolution impends in regard to the shipment and storage of grain, flour, cotton and provisions of a very significant character for the West and South. The Baltimore & Ohio officers are greatly pleased at the result, and grateful to the western and southern members for their hearty support.

We will send the U. S. Miller for one year and Ogilvie's Handy Book for \$1.00.

A DULUTH correspondent says that a leading grain operator of Chicago is about to establish a branch office in Duluth for the handling of wheat and corn, the latter especially. The gentleman (Mr. P. Weare, we believe) thinks that Chicago has lost her supremacy as a grain market forever, and that Duluth will take her place. He seems to fear that the same reasons which have worked against Chicago as a wheat market will eventually kill her as a corn market also. He says that Chicago commission men had for some time seen their legitimate wheat business slipping through their hands and going to other places, and it was likely that, unless they exerted themselves, their corn business would go, too. For himself he did not mean to sit still and see the corn business going to other hands, and for that reason he was disposed to open up a house in Duluth. He has several million bushels of corn in Iowa, a good deal tributary to Duluth via the Omaha railway, and it is his idea that a market can better be found for corn through Duluth than by sending it to Chicago. There is a good demand for corn here, but no commission house to work up the business. Firms here and in Buffalo and Montreal say they are ready to buy corn here for shipment east and to Europe if they could do so, but they are not ready, nor do they desire to send men to Iowa farmers to buy directly from them. What is needed to develop the corn trade here is a number of commission houses to work up the shipment. Prices will range here about the same as to Chicago, with equally good freight rates, while the northern water route is preferable for shipment. The efforts of the Omaha and the St Paul & Duluth, with its connections south and southwest, to start corn this way are hopeful indications of the building up of the market here. The completion of the Minnesota & Northwestern to this city will also materially help this trade.

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.

DULUTH shippers are having more trouble in regard to grain shortages at Buffalo. Several shortages have been reported, the last being one of 750 bushels in the cargo of the propeller R. P. Ranney. The question was taken into the courts last fall at Detroit, and the decision was that the vessel was not liable for shortage if she delivered all she received. The owners of the Ranney will refuse to make good this shortage, and the case will go into the courts but the decision above referred to will save them. The question then comes as to who is liable. From conversation with grain men it is learned that it will be hard to establish the fact that all that was weighed got into the vessel. The elevators are not liable, for the state weighmaster's force weighs the grain into the vessels. The system is that the weighmaster or representative tallies the weighing. In this state of affairs it will be pretty hard to determine who will be held liable for the shortage.

THE Knights of Labor propose some queer ideas. They would have Congress establish a fixed rate of interest for money, and establish offices for loaning money to the people. The rate of interest on money will always be in proportion to the demand for it, and a system of government loan offices is highly impracticable.

FOREIGN ITEMS.

THE Bengal Government will hereafter publish monthly crop reports. The first crop selected for report is jute.

THE review of British and Continental crop prospects from the *London Economist*, deserves attention. The conclusion arrived at is of the highest importance to our own farmers, namely, that on the whole the harvest in Europe is nothing like as good as it was at this time last year, though still moderately hopeful. Not only this; Australia and New Zealand have had the worst harvest on record; and though "India and the River Plate countries have been favored with abundant wheat crops, unless America brings up the average by producing abundantly, the chances are that the world's wheat crop will be smaller than that of last year."

THE Canadian Pacific R. R. Co. will build this season an elevator having a capacity of 250,000 bushels, at Montreal.

GRAIN STORAGE RATES.

The special commission of the Milwaukee Chamber of Commerce on the grain storage question presented their report to the Board of Directors, June 4.

It is one of the most important reports that has been made to the Board for several years. The object of the inquiry was to ascertain whether or not the grain trade of Milwaukee could be materially increased by a reduction in the rates of storage now charged by the elevator companies. A comparative statement is made from official sources showing the rates charged by elevator companies at the principal grain markets of the country. From these comparisons it is shown that Milwaukee, Chicago, St. Louis and Baltimore are the grain markets where the highest rates of storage are charged, amounting to 15 cents per bushel per annum. Detroit, Toledo and Duluth are next in order, with an annual

storage of 10 cents per bushel per annum. New York 9½ cents; Buffalo, 8 cents; and Minneapolis, 7 cents per bushel per annum. The committee report having consulted with nearly all of the receivers of grain in the market and the uniform opinion was that it would materially increase and benefit the grain trade at Milwaukee to have the storage charges lowered and especially for the first ten days, and some of them expressed the opinion that there ought to be no charge for the first five days, in order to facilitate the marketing of the grain brought to market by the railroads.

The committee can see no good reason why higher rates of grain should be charged at Milwaukee than are charged at Minneapolis elevators per annum. The committee regards it as very poor policy to frighten buyers and shippers away from our market, by heavy storage and terminal charges. Milwaukee has not been on even footing with Chicago in relation to her coarse grain trade for years. More than 50 per cent. of all the grain received at Chicago is handled by track delivery, the only charge being for switching, which average only \$2 to \$2.50 per car load, while the average cost on such handling in Milwaukee is \$4 or \$5.

ECONOMICS OF MILLING.

READ BY C. M. PALMER, OF MINNEAPOLIS,
BEFORE THE MILLERS' NATIONAL
ASSOCIATION.

Contrary, perhaps, to expectation, I shall have very little to say about the economics of milling—those small details of manipulation which make a difference one way or the other of a few cents per barrel in the product of the mill. I take it for granted that all who listen to the reading of this paper, or all who may deem it worth their while to read it, are beyond the stage where I am able to instruct them in these matters. If such is not the case, they undoubtedly are out of their element and should seek some other line of business. It is only of the state of the trade in general, its relation to other lines of commercial industry, its domestic and international conditions that I would speak; and what I have to say will not long occupy your attention. It relates principally to the accomplishment of a few things, which may be summarized as follows: The cheapening of wheat, the lowering and equalization of freights, the protection of brands and an improvement in the method of selling flour and offals.

From this outline it will be seen that I propose to address you as business men, and not as craftsmen. The contrary seems to be the rule among contemporary writers in addressing what they term the milling trade, and ten years ago they would probably have been right, for ten years ago milling was looked upon rather as a trade than as a business. Of course there were a few striking exceptions to this state of things, but in the main the miller was a man who made flour with his own hands, by the skill of his own brain and made it in small quantities as compared with the production of the average mill nowadays. His principal thought, when he considered the interests of his mill, was how he could improve the quality of his flour, what machinery was best to use, what numbers of bolting cloth were best adapted to making

separations, and what these new fangled purifiers, which were then first being talked about, amounted to anyway. Of the rolls, he had scarcely begun to think at all. The question with him always was how he could make better flour than somebody else, or better flour than he had been making the year before. Now the situation is changed. The miller is a manufacturer of flour by the aid of skilled help and perfect machinery. He does not necessarily enter his mill once a week, but confines himself to his office and depends upon the best labor obtainable for the technical development of his business. His business is primarily and secondarily the selling of flour and the buying of wheat. (I place the two operations in the reverse order advisedly. For some time past those millers have made the most money who have first sold the flour and then bought the wheat from which to make it.) All that we have to consider now is how to make money—or perhaps I should more correctly say, how to lose as little money as possible. The art of making flour has almost reached the stage of perfection, and in it are engaged many laborers of the highest skill. It is possible to engage a miller of sufficient skill and judgment so that the entire workings of a large and complicated mill may be left entirely to his care, and his work judged by the results from day to day. In no other business has the manufacturer such a satisfactory check on his foreman as has the millowner. From week to week, almost from hour to hour, it is possible to know just what grade and what proportion of the different grades of flour are being turned out, and just how much raw material of a certain cost is being used to produce them. The modern and systematic flour manufacturer therefore, has a complete check upon his miller, and need not be imposed upon for one day, if the miller does not understand his work, or if understanding it, for some reason does not put his knowledge to practical use.

We have first to consider how wheat may be cheapened—for the reason that milling at the present time is not more profitable is not that flour is too low, but that wheat is too high. This is not paradoxical, although it may sound so. Flour, like every other product, has found its level; it is made in thousands of different mills in all parts of this country and in almost all others, and is well and economically made. Naturally its normal cost is that of the value of the raw material plus the cost of manufacturing and a reasonable manufacturer's profit. There are no secrets about it, and even if it were desirable, no adulteration is possible, because of its exceeding cheapness. With the milling capacity of the world greater than any possible demand for flour, it is evident that under all ordinary conditions of trade no fancy profit is possible. The most that can be hoped for is that the trade shall yield a fair profit and be kept from sudden fluctuations, and the periods of great depression that are so enormously expensive to those engaged in it, and which are almost entirely the result of speculative advances. These booms are made possible by the ignorance of the great body of Americans of this country to the markets of the world, and of the size and importance of the competition which it has in the business of wheat growing, and which render it possible for shrewd specula-

tors to persuade ninety-nine out of a hundred that because we have a short crop in a few states, gaunt famine stares Europe in the face, and that to be rich it is only necessary to buy and hold. It is the fashion to laugh at Indian competition, to sneer when the great Russian wheat fields are mentioned, and to gibe derisively at those who have anything to say about the large supplies of wheat and even flour from such far off regions as Australia, Persia, China, Africa and the South American States; but just the same these competitors exist and are growing stronger day by day. The value of wheat as a crop for opening up a new country is beyond that of any other grain, providing it is possible to grow it on the soil of the country. It can be planted on newly broken ground and tended and harvested with less labor, and meets with more ready sale at some price than almost any other cereal that can be mentioned. We have seen the enormous development of our country in the western and northwestern portions and the provinces of the Canadian northwest, not one-tenth of which would have been possible without the use of wheat as a staple crop. In Australia, India and Africa, and the other countries mentioned, there are vast fields either entirely uncultivated at the present time, or if cultivated at all, in such a manner and with such crops as will not long pay the cost of production. It is inevitable that as long as there is a sale for wheat, these places will produce it, unless it can be succeeded by a surer growing and more profitable crop. With all these countries, in many of which labor is exceedingly cheap, America has to compete. She is no longer the main dependence of Great Britain and the continent as a bread producer, but has many rivals. It has been conclusively demonstrated that we do not control the wheat market of the world, and that we cannot get our own price for our crop by holding it back and starving the European consumer. We must, therefore, if we would mill profitably, buy wheat cheaply, and this we cannot do if nine-tenths of the trade are always bulls on the situation, and therefore busily engaged in putting up the price on themselves. This is dangerous ground, however, and I will leave it as I feel it trembling beneath me, only saying as I withdraw my daring foot, that the miller, as the consumer of the raw material, has it in his power to make the price. If he does not take it, who will? Of what value is wheat if not to grind? If the milling trade entirely refuse to buy wheat next season, how many more bushels will be taken for export than have been taken this year?

Next in importance is the great freight question. During the year 1885 the tariff rate on grain and flour between Minneapolis and New York was changed nineteen times, and ranged from 25 to 42½ cents per 100 lbs. This does not take into account innumerable cuts of a more or less private or temporary nature, or any of the complications attendant upon a transit rate. From St. Louis, Milwaukee and Chicago, the changes were quite as numerous, and the fluctuations in some cases even more violent—as they have been from Minneapolis since Jan. 1, 1886. The danger in selling flour ahead at a prospective profit of perhaps 10c per bbl. when freights are liable to be advanced 15 or 20c per bbl. without warning, is obvious. But to

mention the evil without pointing out a remedy is useless, and therefore on this head I shall speak but briefly. Without attempting to discuss the Utopian dream of governmental ownership and control of all railroads, the good effect of which, should it ever be brought about, is problematical, it may be said that millers, as among the very largest producers of freight, can do much to keep rates uniform, which I think is fully as desirable as that they should be low—provided always that the rates are equitable. The disastrous effect of the rate slashing contests which have been so frequently indulged in is well known to you all. The spectacle of markets flooded with consigned flour, of buyers persistently holding off even when rates are at a merely nominal figure in the hope of still further reductions, is too familiar to all merchant millers to make it a pleasant subject to discuss.

The protection of mill brands and their more extended use is a hobby of the writer's, upon which he has probably written several hundred pages, and thus far, he must admit with but small show of practical results. Still, it cannot be denied that millers as a rule pay more attention at the present time to their brands than they did a few years ago. As a gentleman of ability and practical experience is announced to address you on the subject of "Flour Brands," it is unnecessary for me to enlarge here upon this matter, although an essay upon milling at the present day would be incomplete without some reference to the necessity of confining the product of the mill to as few brands as possible, and making sure that those brands will become familiar to the consumers of flour. It is not sufficient that the man who buys the flour at wholesale and sells at retail, or the commission merchant, should know where the flour is made; the end to be sought is that every consumer of a satisfactory package of flour should know exactly where it is made and by whom, in order that if he likes it he may be able to procure more of the same brand, even if the retailer from whom he purchased it is not handling the flour when he goes to obtain another supply. It is this demand from consumers that makes the reputation of the mill of value. I believe I do not place the figures too high when I say there are several brands of flour now made in this country that are worth to their owners from \$100,000 to ten times that sum; that is, that they each year pay in increased sales or in an increased price obtained under the certain brand, a fair rate of interest on the capital mentioned. It will be readily seen that if the miller can create such a valuable piece of property as this without in any way hurting his business or decreasing the amount of business done, and with very slight expenditure, providing it is made in the right direction, it is highly desirable that every miller who makes a satisfactory grade of goods should take a great deal of care to establish himself in the markets under his own name. The miller must select a good brand, one that is not used by any one else, copyright it, and then insist upon putting it upon every barrel of flour of that grade which he sells. Of course he can. The desirability of having as few brands as possible is very great. The business of selling flour is approaching the methods used in disposing of any other manufactured article. Advertising is necessary, and without judicious advertising it is very difficult to create

a brand having any great intrinsic value. I say this not because I am in the advertising business and have that commodity to sell, but because it is obviously true. The leading firms of the trade have found it to be so, and are practicing it and find their profit in it. I know that many large millers are spending from three to five cents in advertising for every barrel of their output, and this expense is being increased rather than diminished. It is thus that great public reputations are made, and in this age when advertising is almost the soul of business, it is useless to attempt to make your brand pay you an income unless you make the public so familiar with it that they call for it instinctively without stopping to consider what to ask for or whether a dozen other makes of flour may not be quite as good—which they undoubtedly are. Therefore I say, confine yourself to but few brands. It costs three times as much to make three of them household words as it does one, and your money or your courage may give out before you get the three established, when you may possess quite enough to establish the one, and in advertising you can not put your hand on the plow and look back. If you stop it before you have accomplished your purpose, ninety per cent. of your expenditure is wasted.

The doctrine that our exports of wheat should be in the form of flour is not new, but is none the less true and it is approaching realization year by year. The necessity for a bran compressor is more and more apparent as this end is more eagerly sought. We cannot afford to mill our whole wheat crop and sell all the offals at lower prices than they are worth in European markets; and to get them into those markets they must be compressed into the same bulk occupied by wheat and flour, and thus be transported at the same low rates of freight. This need was recognized by the Millers' National Association some years ago, and its offer of a reward of \$1,000 to the inventor of a successful bran compressor has been productive of considerable experimenting, some of it showing very good results. But the highest class of inventive talent has not yet undertaken the solution of the problem, and it probably will not until the demand for a device of this kind is more generally expressed by the trade at large. I have recently received a communication from a gentleman sent by one of the leading London newspapers into Ireland to investigate the causes of the great depression in agriculture existing there. He attributes a large portion of the present dullness in stock raising, the chief industry of the country, to the fact that heavy imports of American flour have closed a large number of the mills, and thus deprived stock growers of the cheap food for their cattle which mill offals had formerly furnished them. It is evident, therefore, that if we would keep these mills closed, we must send more of the offals as well as the flour. The demand exists beyond question, and it is only a matter of cheap package and low freight. These the natural tendency of the times must soon bring us, and the American milling trade will have gained a position in advance of that which it now occupies, and a trench nearer the citadel which we must capture.

In this connection is a matter of more immediate importance than the building up of an export trade in bran. I refer to the de-

sirability of our encouraging the use of bran as a food for cattle and horses in this country to a much greater extent than it is at present used; a use which I think will be found upon experiment to be fully justified by the result. About two years ago I was able to bring to the attention of the trade the experience of two prominent millers, one of Illinois and one of Minnesota, in the use of bran as food for working horses, their conclusion being that horses would stand heavy work and gain in flesh when fed only with hay and wheat bran. A few months ago I was able to present some facts regarding the use of bran instead of corn in fattening cattle and the matter has again been called to my attention in that connection by Mr. Crosby, who has just returned from Topeka, Kan., where he is interested in a milling concern. He there met Gilford Dudley, a prominent stock grower of that city, who has been experimenting for three years past with bran as a fattening food for cattle. Mr. Dudley's experience, and I am assured by Mr. Crosby that he is a careful, conservative, close figuring business man, is that, weight for weight, new process wheat bran cleaned as closely as the best milling appliances are capable of doing it, is equal to corn meal for fattening cattle for market. It should be borne in mind in this matter that the bran should be compared with other foods weight for weight, not bulk for bulk. Where 20 lbs of corn meal are given, an equal weight say about a bushel basket, of bran should be fed, which can be done at a saving of from 30 to 50 per cent.

As to the result of such feeding I have here copies of two letters from Mr. Dudley, obtained for me by Mr. Crosby, which I will gladly furnish to all who may desire them and which will appear for the second time in the current issue of the *Northwestern Miller*. Mr. Dudley's testimony (and remember that he is a plain, practical business man, figuring not for fancy results but to make a profit) shows that different lots of steers fed on bran and prairie hay made the highly satisfactory gain of 60 lbs the first month, 78 to 87 lbs the second month and in one case at least the enormous gain of 140 lbs in 30 days. What gives value to Mr. Dudley's experiments is that he uses and prefers the bran from the best class of roller mills, and as free from flour as it is possible to make it. We all know that as a milk producer bran stands high in the estimation of practical dairymen, but what we propose now is to increase its consumption very largely by demonstrating its value as a flesh former. Without going into the chemical features of the question (some of which are indicated in Mr. Dudley's letters), in search of a reason for the value of bran for this purpose, let us practically test it, every miller in his own neighborhood, and see if it is not possible to create a larger demand for it here at home, and still have the great foreign market in reserve. We shall thus increase the material wealth of the country, and if we succeed in increasing the demand for bran only enough to raise the price two dollars per ton, we shall benefit the milling trade to the extent of about \$4,700,000 per annum, a sum sufficient to pay an annual profit of about three and one-fourth per cent. on the entire capital invested in the milling business according to the census of 1880.

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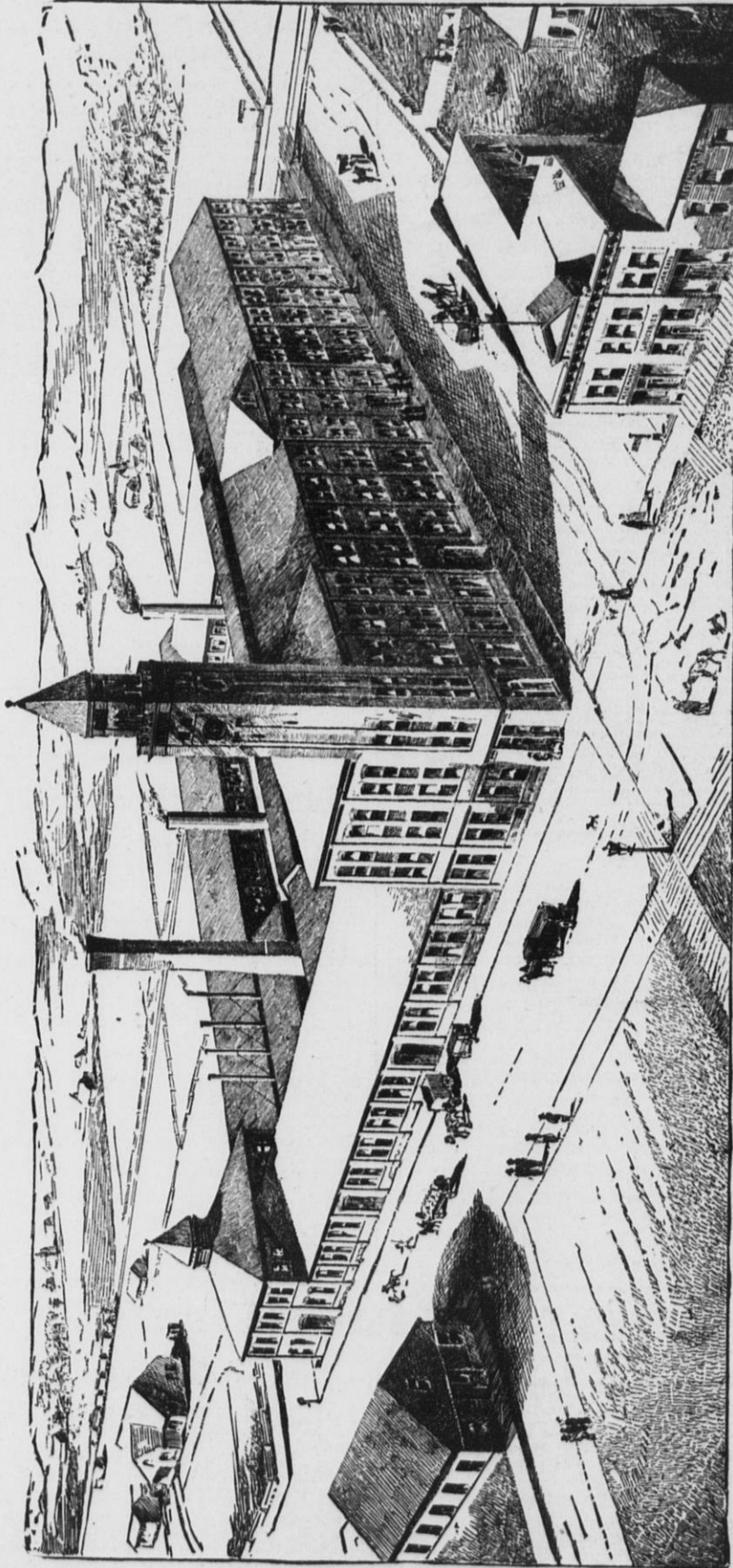
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THE NEW PHENIX IRON WORKS AT ST. CLOUD, MINN.

years at that point, considered favorably a proposition to unite the two plants and join in the erection of a great manufactory, ample in all ways for the business to be expected the first decade, but reserving a site for the erection on the original plans, as shown in the accompanying engraving, of the largest and most complete establishment of the kind in the northwest. The plans embrace the following buildings: One of three stories, 62x280 ft., with a 130 ft. tower, for the wood-working shops, with the main office of the works on its ground floor, one story machine shops with a total length of 548 ft., surmounted by an iron truss roof; one two-story shop and tool room 62x62 ft.; a one story foundry building, 218 ft. long, 20 ft. high, with corrugated iron and truss roof; one story blacksmith shop, 16 ft. high, with same style roof, size 40x60 ft.; a storage building, one story, 40x100 ft., including paint shop, shipping room, iron and coke storage, etc.

The old shops in Minneapolis will be used as the main office of the company, and for storage of finished machinery for convenience in filling orders. The company will continue the manufacture of the Monitor roller mills and other flour mill machinery as its leading feature, and will also turn out a fine line of sawmill machinery, elevator engines and mining machinery of all kinds, employing 600 to 700 men. St. Cloud, the fortunate city which receives this important accession to its industries, is a bright and flourishing town of 9,000 people, located on the Mississippi river some 75 miles north of Minneapolis. The new works will use water power, that now under control at St. Cloud being rated at 40,000 hp. The works will be built alongside the tracks of the Northern Pacific and Manitoba railroads, both of which pass through the city, and will have ample side track and shipping facilities.

MUCHNER & HIGGIN, Indianapolis, Ind., are using The Case Mfg. Co.'s aspirator and purifiers in their new corn meal mill.

A St. Louis party is engaged in the business of expressing oil from Indian corn, and the new industry promises a successful rival to the best vegetable oils. From a bushel of corn, costing 35 cents, a gallon of clear amber oil is obtained, worth 75 cents, and the solid substance remaining is said to be a better article of animal food than any of the oil cakes now on the market. If anticipations in regard to the business are realized, the farmer will be enabled to obtain a good price for his corn and feed it to his stock afterward—to eat his cake and have it, as it were.

“WHITE PRINTS.”—A correspondent of the *Railroad Gazette* gives this process for copying drawings in black lines on a white ground, instead of white lines on blue ground:

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(CONTINUED FROM PAGE 43.)

is like Dead Sea fruit, that turns to ashes on the lips of him who plucks it."

As to wool and its protection. In October, 1885, in response to Secretary Manning's circular the National Association of Wool Manufacturers recommended:

"That there shall be no change at present in the existing wool and woolen tariff, nor a general tariff-revision at the next session of Congress."

This plea, not only for the continued protection of woolsens, but for the protection of the wool-grower, was signed by nine hundred and fifty-four mill owners and corporations, representing four-fifths of the card-wool manufacturing capacity of the United States, and the labor of 116,000 operatives.

At an unusually large meeting of the Executive Committee of the National Association of Wool Manufacturers held in Boston, April 15, 1886, it was resolved:

First. That we are unalterably opposed to the Tariff Bill reported to the United States House of Representatives, April 12, 1886, so far as it relates to wool and woolens.

Second. That the greatly increased importations of worsted suitings and worsted yarns in the last twelve months have displaced the use of many millions of pounds of Ohio and other American wools; that those increased importations were caused by too large a reduction of the duty on these goods by the tariff of 1883, the extent of reduction being strenuously opposed at that time by the officers of this association.

Third. That we regret the substitution of this large amount of foreign wools and woolens in place of those of American production."

G. H. Parker, of Detroit, the leading wool dealer of Michigan and a strong democrat, (see *Chicago Tribune*, May 16, 1886), says:

"I do not believe they will dare to pass the Morrison Bill, because there are so many western congressmen who would be pulverized at home if they should vote for it. There will be no fooling with such men. They will all be left at home, even if democrats have to vote for republicans to do it. I am a democrat, but I cannot stand this sort of thing. There has been a tariff on wool since 1824. Under that tariff the entire industry has been built up. With its removal the industry will be broken down."

I have before cited the case of Sunset Cox, one of the strongest democratic free-traders in the country, who, seeing the evil effects of the reduction in 1883 of the tariff on wool, woolens, etc., introduced a bill in Congress to restore the tariff. A recent number of the *New York Dry Goods Chronicle* says:

"We know of one of the largest houses in cloak manufacture in the United States, formerly employing from 400 to 600 hands the year round, who, in consequence of tariff changes in 1883, gave up this department of their business entirely, and now handle only foreign cloaks. As a result the hands were thrown out of employment and about \$5,000 in weekly wages ceased at once."

What becomes of Mr. Bates' statement, that:

"The manufacturer of woolens does not hesitate to express his ability to hold his own against the world if he can have free wool. Give him free wool and he will be a bigger customer for domestic wool than ever before."

As to Senator Frye, Mr. Medill's own statement in the *Tribune* shall speak for itself:

"Free trade with Europe! It will do to talk about. Men can write whole volumes describing its advantages. The newspapers can be filled, * * * showing what a marvellous contrivance it is, and pointing out its beauties, until we are all enraptured with it. But when we come to try it, when we apply it to American industry, it has the same effect on business that the cholera has upon public health." (Joseph Medill, in *Chicago Tribune*.)

Senator Frye's eulogy on the "beneficence of the principles of the legislation which created the tariff" is not in conflict, but in harmony, with what Mr. Medill said on the same subject in the *Tribune*, headed:

WHAT THE PROTECTIVE TARIFF OF 1861 HAS DONE.

"I might draw a picture of the financial prostration of the country from 1857 to 1861, caused by another embrace of British free-trade, which brought poverty, bankruptcy and wide-spread distress, but it is of so recent occurrence to those who begged for work at 50 cents per day, to keep soul and body together. But, on the other hand, see what the tariff of 1861 has done for the country. It revived business as if by magic, relighted thousands of furnaces, started thousands of idle mill wheels, and infused new life into all kinds of business. In the first year of the war we had hard work to equip our comparatively new army. We could not arm or clothe them properly and were badly beaten. Second year we did better; we improved our blockade, increased our armies, built ships, manufactured cannon, rifles, swords, powder, leather, hemp; set all the people at work; invented new labor-saving machines for the farmers, so that the old men could send all their sons to the war and feed them.

Third year, as we enlarged our mechanism we gained in power prodigiously; met reverses heroically, and quickly repaired them.

Fourth year, perfected our blockade, and sent to the field a million of well-armed, well-fed, clothed and paid soldiers, and crushed the whole rebellion into the earth. Our mechanism triumphed. Our artisans were the vulcans who forged the thunderbolts of victory. The Morrill tariff protected them from a British fire in the rear. Hence the deadly animosity of all copperheads against that "prohibitory" tariff, for it prohibited their rebel friends from destroying the Union and perpetuating slavery."—(Joseph Medill, in the *Chicago Tribune*.)

Mr. Bates asks:

"Did it ever occur to the reader that under the highest tariff the country had ever known, the condition of the laborer is most unsatisfactory?" As the tariff was lowered in 1872, and again in 1883, how abjectly ignorant must be the author of such a question.

I again quote Mr. Medill, in the *Chicago Tribune*, as applying to Mr. Bates' reckless reiteration of false statements, though frequently disproved. Mr. Medill said:

"It is probably useless to follow and refute the statements of a writer who runs round and round in the same circle, repeating an assertion as often as it is proven false or absurd. Facts and reason are lost on such an opponent, for if you show him that the facts are against him, he will coolly turn round and tell you, 'So much the worse for the facts.'"—(Joseph Medill, in the *Chicago Tribune*.)

I particularly commend to Mr. Bates' careful perusal the following extract found in the "Protectionist's Catechism," written by Mr. Medill in the *Chicago Tribune*:

Q. What effect would such a reduction of the tariff have on the wages of labor and business of this country?

A. A most disastrous effect. The scenes and experiences of 1835 and 1857 would again be witnessed and endured. Like causes produce like effects.

Q. What would happen between the manufacturers and their workmen?

A. A desperate struggle would immediately ensue between all employers and employees. The former finding themselves undersold by the foreign capitalist, whose wares were made by cheap labor, would reduce the wages of their hands down to the European standard of compensation or near it. The workmen refusing to accept such wages would 'strike,' and would hold out until starvation drove them to take what they could get. The employers would shut up their shops, and wait for everything to fall to the European level; they would sell off what stock they had on hand to pay their debts, and many of them

would fail, and their establishments would be sold by the sheriffs for what the property would fetch. Meantime foreign goods would pour into the country in increasing quantities, and every dollar of gold that could be raked up would be shipped to England to pay for the "cheap goods." Gold growing scarcer each day, would enhance in value, and currency would depreciate. Thousands of merchants would fail; travel and transportation on the railroads, canals, rivers and lakes would fall off. For a long time multitudes of idle men would be seeking for employment. * * *

Q. How would the price of farm products be affected by the crash in the cities and towns?

A. The home market for farmers products would be all shattered to pieces. The prices of vegetables, poultry, eggs, butter, cheese, hay, fruit, fresh meats, garden-stuff, in short everything that would not bear transportation to Europe would become unsaleable or if saleable, would bring but small prices in "store trade."

The same blow that struck down mechanics' wages would fall with stunning weight upon the heads of farmers. The English demand for their breadstuffs and salt meats would not be increased a particle, unless they undersold the other food-exporting portions of Europe. But as they reduced their prices, so would the Russians, Polanders, Prussians, Irish, French and Canadian farmers, all bidding against each other for the supply of the easily glutted English markets. (Joseph Medill, in the *Chicago Tribune*, Mr. Bates' own witness.)

In conclusion, I quote from a free-trade pamphlet published in England, and widely circulated:

"Let it be understood once for all, that the salvation of England depends upon the destruction of American manufactures, and that THE ONLY POSSIBLE WAY IN WHICH AMERICAN MANUFACTURES CAN BE DESTROYED IS BY FREE TRADE."

JOHN W. HINTON.

[This discussion may now be considered ended, so far as the series of BATES-HINTON letters are concerned.—*Editor*.]

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Issue of May 11, 1886.—No. 341,439 feed regulator for grinding mills, W. P. Allen, Wyoming, Ohio; No. 341,546, grinding mill, F. Beall, Decatur, Ill.; No. 341,814, grain separator, C. C. Murphy, Le Sueur, Minn.; No. 341,818, grinding mill, J. H. Russell and A. W. Phelps, Springfield, Wis.

Issue of May 18, 1886.—No. 341,880, flour bolt, M. W. Clark, Parma, Mich.; No. 342,026, wheat granary, J. W. Marker, Zane, Ohio; No. 342,146, flour bolt, O. H. Titus, Wilmington, Del.; No. 342,158 crushing and grinding mill, J. F. Winchell, Springfield, Ohio; No. 342,163, rolls for grinding mills, J. B. Alfree, Cumberland, Md.; No. 342,230, apparatus for purifying grain, G. T. A. Niederer, Germany; No. 342,283, bolting reel, and No. 342,284, brush for bolting reel, H. P. Cavanaugh, Adrian, Mo.; No. 342,311, crushing and grinding mill, J. F. Winchell, Springfield, Ohio.

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[OVER.]

(CONTINUED FROM PAGE 41.)

flour, and increase the quantity of low grade, as well as lowering its quality.

The action of a 6-sided reel on any material, no matter whether it is covered with a wire or silk cloth, has the same feature of scouring off objectionable matter that a reel of gentler action would not scour off; but a wire covering is far worse than silk.

The time to clean your wheat, gentlemen, is before the reductions commence. The scouring action does not end with the wheat-break scalpings: it is carried on through the other reels in scalping out your flour from the middlings; and even in rebolting flour on a 6-sided reel, the scrubbing action is still going on, caused by the weight of the flour falling in bulky, intermittent masses. Open the doors of your bolting chests, and listen to the thump of the falling flour inside the reel. It falls from the discharge of each rib the entire length of the reel, about three falls per second, with a swash, swash, swash, thump, thump, thump. This action in a reel is all wrong in principle as well as practice, but we have managed to get along with both the action and principle for a long while, the same as we formerly got along with our slow stage coaches. The question is not "whether 6-sided reels will do the work," for we know they will. The question is "what other system will do it better?" Will a system of centrifugal reels do it?

We will look briefly into their fundamental principles, and see whether they are legitimate. It is hardly necessary to describe their construction, further than to say that they contain an open cylinder of flyer blades, rapidly revolving within a slowly revolving hexagon, octagon or round cylinder of bolting cloth that is traveling in the same circumferential direction.

There are probably from 20 to 30 different manufactures of centrifugal reels in this country, all embodying the same general principle of revolving flyer blades, but varying in the number of blades anywhere from 4 to 40, and ranging in revolutions from 100 to 250 per minute, a very liberal range in number of blades and revolutions, we must admit. But, nevertheless, they are facts.

The principle of this invention lies solely in the combination of the flyer blades revolving rapidly within a cylinder of bolting cloth. The man that first applied this combination is the inventor. All others from that day to the present that claim to have invented a centrifugal reel, have only applied well known mechanical devices in some jim-crack manner to make their pretended invention different in its mechanical construction from that of the other fellows, but they have all stuck perniciously to the original noxious flyer blades, simply because it is easier to imitate than to originate. Now, with all these different constructions, what can they do wholly in a system of flour dressing? Can they be used as wheat scalpings from your different reductions? No, their scouring action is too severe: they would make too much break flour and ruin it with the bran scalpings. So these facts kill them in the first step of the system, but bear in mind the hexagon reels will do wheat-break scalping.

Can centrifugals be successfully used as scalpings to scalp the stock from the wheat break scalpings? No, they can not for the reason they would wear out silk bolting cloth

every day, and they can not be made to send the tailings out dustless, as their action is so severe that they are constantly scouring and reducing the middlings to flour clear to the end of the cylinder. So we see they are no good for the second step in the system, but will bear in mind that hexagon reels will do the work.

Can centrifugals be used for grading your middlings? No, they can not. They scuff and scour too much flour off that goes with each grade to the purifier and is pulled into the dust room.

That condemns them for the third step in the system; again don't forget that Hexagon Reels will grade your middlings.

Will they answer for bolting crushed, or sized germ, or coarse middlings from smooth rolls? No, they are too severe on that stock, and break up the partly flattened germ too much. So they are not fit for the fourth step in the system. We again call in the hexagon reels that we know will do it.

Can they take the crushed middlings chop of any grade of middlings from smooth rolls and bolt the flour out, and at the same time make a clear, defined cut-off, and send the tailings out dustless? Or can they use a place of coarse tail cloth of proper mesh to make a separation of fine middlings and even then send one that could do it. A hexagon reel will. The reason why the centrifugal will not, is simply from the following comprehensive and scientific facts:

All flyer cylinders are simply formed with a series of long, narrow fan blades, and the flyer cylinder is simply a long fan. Now it is a well known mechanical law that when you revolve them, they will discharge the air from their center outward in every direction from the axis around which the fan blades revolve.

It is another well known law that all fans discharge their strongest current right at the center of the fan; and it is another well known law that there is nothing gained in volume of air discharged from a fan after it reaches a certain width of face, or in other words, a fan 8 inches wide, running 200 revolutions, the speed of many of the centrifugals, will discharge just as much air as if it were 12, 20, or 80 inches width of face. The air rushes along inside of the open center formed by the flyer blades until it reaches the longitudinal center midway between the ends of the flyer cylinder, until it has a compact volume strong enough to overcome the surrounding atmospheric pressure. It then discharges its air out in volumes according to revolutions and depth of the fan or flyer blades. Now, this discharged air has to be supplied from some source, and as the ends of the reel are closed, where can it get in to fill the vacuum? It is compelled to use its own air, and that air has to be supplied from the discharged air, and that discharged air has got to travel back from the center each way toward head and tail of the reel; and as it can not get into the center around through the ends of the reel, it forces its way in through the flyer blades. As the flour and middlings, or whatever is being bolted by the reel is heavier than air, it is slammed out against the cloth with great force. Now, these return currents of air are carrying fine, light flour back each way from the center, and as it is in a more rarified air at the tail, it is dropped down into the cut-offs. This

very fact of not being able to make a clear and defined cut-off alone condemns them for any spot or place in a scientific system of bolting.

I thank you, gentlemen, for your attention.

FACTS ABOUT THE UNITED STATES.

Some of the facts and figures which Mr. Carnegie cites in his "Triumphant Democracy" are "stunning." For instance (picking up points at random), that the United States contains more English-speaking people than all the rest of the world; that the wealth of the republic exceeds that of Great Britain; and that it also surpasses the mother country not only in agriculture but in manufactures; that for every pauper in the United States there are twenty-one in Holland and Belgium, and six in Great Britain and Ireland; that seven-eighths of our people are native born; that 22 per cent. of them now live in towns of 8,000 or more inhabitants; that if the live stock in our country were marshalled in procession five abreast, in close order, the line would reach around the world and overlap; that Chicago alone makes half as many steel rails in a year as Great Britain, and Minneapolis turns out so much flour that the barrels would form a bridge from New York to Ireland; that we produce sixteen pounds of butter annually for every man, woman and child in the country, and if our crop of cereals were loaded in carts, it would require all the horses in Europe, and a million more, to move it; that more yards of carpetings are manufactured in Philadelphia than in all Great Britain; that a single factory in Massachusetts turns out as many pairs of boots as 35,000 boot-makers in Paris; that our government has given us more land for the support of schools and colleges than the entire area of England, Scotland and Ireland.

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AN IRISH EPITAPH.—

"Here I lies, wid my face to the skies,
And my mind entirely at aise is;
Wid the point of my nose, and the tips o' my toes
Turned up to the roots of the daisies."

LANCELOT ON MECHANICS.—"Lancelot," asked Elaine, looking up from the *Eagle*, "how do strikers 'kill' an engine? I can't understand it at all."

"Easy as lying," replied Lancelot, promptly. "You just climb over the tail-board into the cab, open the blow-off cock, by lowering the connecting-rods until the crank-pin is level with the cross-head of the fulcrum connections, push in the brass throttle-ratchet till it reaches the crown sheet, which lets the water-glasses fall into the fire-box—"

"Oh, now I see," she said, joyously, "and of course that puts out the fire. But, Lancelot, if I knew as much about engines as you do, I wouldn't stand at the ribbon counter another day. I'd just go out where the strike is and be president of a railroad myself."

And Lancelot kissed her and said he would, just as soon as his new tennis suit came home.—*Boston Post*.

"I DON'T see why pennies were invented," said a New York banker, who had received a few in change.

"Oh, that's easily accounted for," remarked a friend from an adjacent city; "pennies were invented to enable New York millionaires to contribute towards the erection of public monuments."—*Boston Globe*.

"No," said the unsalted youth, "I don't intend keeping a regular diary. I only want a book in which to set down my daily thoughts."

"Ah! I understand," replied the intelligent shop-keeper; "then, of course, you want a much smaller book than this."

"WHEN should a young woman marry?" asks a writer. After a careful consideration of this subject we have come to the conclusion that they should marry when they get a chance.—*Burlington Free Press*.

"If spring poets were hens," says an exchange, "even an editor could afford to eat eggs." Doubtful. If spring poets were hens they would not send their lays to the editor.

SURPRISED AT THE BATH.—One of the Bancrofts lives over at San Rafael. Even the terrible loss that he sustained in the big fire cannot make him forget his wife's conduct and the scare she gave him. He had gone across the bay early in the afternoon of the day the fire took place, and reaching home he turned in to take a nice warm bath and fix himself for a comfortable evening. While he was in his bath a telegram came over. His wife opened it. It read:

"The house is on fire."

She rushed to the door and called him in wild excitement. From the interior came amid splashing and dashing:

"What's the matter?"

"The house is on fire!"

"Jerusalem!"

There was a wilder splash, and a figure sprang out of the door and rushed madly out, with a bath towel around him and dripping with water.

"Where? Where?"

"It's the store, my dear, in San Francisco."

The reaction perhaps saved him from imagining the reality until he got to town.—*San Francisco Chronicle*.

BOBBY was very much impressed by the remark of the minister at church that man was made of dust.

"Ma," he said, after a thoughtful silence, "was I made out of dust, too?"

"Yes," she replied.

"Well, how is it, then, that my birthday comes in January? There ain't no dust in January."—*Harper's Bazar*.

MANY times a boy would gladly run away and go fishing Sunday if he could only get his father to thrash him in the morning before he sets out; then, he could enjoy the whole long day without a pang. But when he has to wait till evening for it the dread of that unknown ill that awaits him clouds all his skies and pitches all his songs in minor keys.—*Burdette in Brooklyn Eagle*.

CLOSED HIM OUT.—It is reported that the last murderer swung off in Ohio went to his death feeling that the sheriff had not used him exactly square. The condemned had a deal in wheat through outside parties, and he wanted just one more week to close it out.

"Of course, I'd do anything for you personally," said the sheriff, "but the governor is behind this thing, and he seems to be in a hurry. I'll promise to carry out the deal for you, however, and whatever profits are made shall go into a gravestone for you."

The prisoner had to submit, but he was emphatic in asserting that the sheriff should consider business before pleasure.—*Wall St. News*.

THE SELLER SOLD.—Out in the country a note is a big thing. Country merchants take notes of farmers for supplies of groceries, and implement dealers acquire big boxes full of I O Us. In some sections of the West every thing is done by note, to be paid "after harvest." "Out in Western Iowa the other day," writes a correspondent, "I came across a country storekeeper, a German. I sold him a small bill of goods, and took his note for the amount. That note is as good as wheat. It will be paid on the very day it falls due. While I was there a man came in and said:

"Jake, did you sell your bay horse to that chap who pretended to be a lightning-rod dealer?"

"Yah," replied the storekeeper.

"Did you get cash for him?"

"Not von cent."

"Just as I thought. That lightning-rod peddler is a swindler. He has sold your bay horse for \$80 cash, and has skipped the country. You'll lose every cent of it."

"But Jake didn't seem to be alarmed. He laughed and chuckled, saying:

"Dot vas a good choke. He sell dot horse for eighty tollar, ven he pay me a huntert und vorty."

"But you have been cheated out of your horse; the man is a swindler."

"Sheated! Svindler! I guess not. Ain'd I got his note for a huntert und vorty tollars?"

THE LAWYER'S PRAYER.—A St. Paul clergyman relates the following incident:

"Some time ago, as the story runs, W. W. Erwin, the criminal lawyer, pressed for a little change, dropped into the office of D. W. Ingersoll and asked him for a loan of \$5. Mr. Ingersoll declined to make the advance, but suggested, that, instead, if Irwin would go into the basement with him he would pray for him. Mr. Irwin consented, and the two went into the depths, where on bended knees

Ingersoll prayed long and well for his brother man. When he had concluded, Erwin said: 'Now I'll pray.' Mr. Erwin's prayer was a peculiar one. It was delivered at the top of his voice, and consisted of an exhortation to the Lord to direct Ingersoll how to dispose of his vast wealth wisely. As he warmed up the pitch of his voice raised materially, and Mr. Ingersoll grew nervous and urged him not to pray so loud, as it would bring those up stairs down. It was of no avail. The exhortations grew more fervent, and finally became howls. Then Ingersoll, with a despairing exclamation, sprang to his feet and said: 'Stop praying Erwin, here's your \$5.' The devotions ended at once."

He had a cane, a pair of yellow gloves and eye glass. She had bangs, a bustle and an "English pug." They were married, and commenced house keeping. At the end of the first month the cane, yellow gloves and eye glass had been hypothecated for coal, the "English pug" had been stolen, and nothing left to carry them over another week but an old-style bustle and a dilapidated forelock. She returns to her mother, a sad but wiser woman and he to his pa, with an abundance of cheek.

THE DIFFERENT SPECIES.—

He who carries loads of stocks
In his safe or in his box,
And to hold them has the rocks
—That's a bull.

He who sells what he has not—
Knocks the prices, cold or hot—
Hopes the world will go to pot,
—That's a bear.

He who comes down every day,
Hits the market anyway,
Lies in wait for guileless prey,
—That's a broker.

He of cheek, and quite a fop,
Wages small, high life can't stop,
Blows his dust into bucket shop,
—That's a clerk.

Mr. Fresh (the silly "bloke"),
Who does his cash in Wall street soak,
And goes home later, flat, dead broke,
—That's a lamb.

—*New York Sunday Financial Journal*.

NEW YORK is talking about establishing a "home for weary women." It is just like the impudent assurance of New York to think it can successfully set up opposition to Heaven.

"WHAT are the natural products of Kentucky?" asked the teacher.

"Tobacker," yelled Tommy.

"What else?"

"Whiskey!" yelled Jimmy.

"What else?"

"Kurnels!" yelled Johnnie.

LADY—"Why, how do you do, Master Eugene? You did not forget me, did you?"

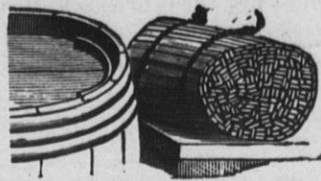
Master Eugene—"Oh, no; 'cause my sisters told me to be sure and call on you, for you'd not have any one else."

"THAT boy of yours is not adapted to the undertaking business," explained an undertaker to the boy's father, who enquired why he had been discharged.

"What's the matter with him?"

"He hasn't a realizing sense of what is due the afflicted. Day before yesterday Mrs. B. buried her fourth husband. I sent the boy up to learn at what hour she wished the ceremony to take place, and he asked her what her regular time of day was for burying husbands. I expect to lose her trade entirely."

HEAD LININGS!



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GANZ & CO

Budapest, Austria-Hungary.

We are the first introducers of the Chilled Iron Rollers for milling purposes, and hold Letters Patent for the United States of America. For full particulars address as above.

[Mention this paper when you write to us.]



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THE BATES CHAMPION

Rapid * Grain * Dryer!

FOR RAPIDITY, SATISFACTORY RESULTS AND THOROUGHNESS

UNEQUALED!

Get the Best; the Best is Cheapest. No Parch, Shrivels, Discoloration or other evidence of Artificial Drying.

The grain is dried at the rate of about 1,000 bushels per hour, the automatic arrangements and low temperature used insuring evenness and uniformity. The capacity, however, can be increased in proportion to power and space afforded, these latter being the only limit. In addition to drying evenly, the operations of the very dry air, peculiar to this machine, remove from the grain any slight odor from sweat or heat, and put it in condition to grade. The air used is a prepared air, and has all the varied degrees of low temperature necessary. Damp grain made as rules of inspection require, or as dry even as old grain. Thus the BATES' DRYER is the most perfect as well as rapid dryer extant. It is beyond question The Champion Grain Dryer. Absolutely safe against fire.

New Corn can be made to grade immediately by the BATES' CHAMPION RAPID GRAIN DRYER. Corn of present crop, all over the country, is too damp to grade, and likely to be thus for months to come and can only be made to grade by artificial means. The BATES' DRYER is the only dryer that can dry the Grain in large quantities at trifling cost, naturally, and not show parch, shrivel, or other evidence of artificial drying; the drying by this method being precisely that accomplished by a natural dry atmosphere, only that the machine accomplishes in a very brief space of time what would ordinarily require months. It is not necessary by this process to dry out any more moisture than will bring the grain up to the desired grade.

Dryers for grains of all kinds, including Brewers' Grains, cotton seed, flax, and grass seeds, glucose refuse. Also for Phosphates, Starch, Glue, Fruit, Lumber, Shingles, and Veneering, Hides, Leather, Hair, Moss, Wool, etc.

THE BATES' FERTILIZER DRYER accomplishes about three times the work accomplished by any of its competitors with about one-quarter of the steam. Besides grinding and drying the offal, this dryer delivers it cold and ready for immediate shipment.

The expense of drying by this method is reduced to smallest possible cost, which is below that of any other. Machines are compact. Experienced workmen will be sent to set them up and instruct as to operating. For further particulars address,

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189 La Salle St., Room 73 Calumet Bld'g. CHICAGO, ILL.

P. O. BOX 585.

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THEY WERE AWARDED FIRST PREMIUM AT THE MILLERS' INTERNATIONAL EXHIBITION CINCINNATI, O 1880.

THOMAS BOURG & SONS, CHICAGO, ILL. GENERAL AGENTS.

W. J. CLARK & SONS, SALEM, OHIO.

[Please mention this paper when you write to us.]

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*** H. P. GRAVES' BOILER PURGER. ***

It has been practically demonstrated that a scale one-sixteenth of an inch thick on a Boiler will require twenty per cent. more fuel than a clean Boiler, while a scale one-fourth of an inch thick will require sixty per cent. more fuel. The scale is a non-conductor of heat, and its formation in Boilers is general through the United States, more especially in the lime and alkali districts, and enough attention has not been paid to keeping Boilers free from accumulations. The cost of fuel for steam purposes is an important item, and any system for economy in this direction should receive due consideration. I am manufacturing a BOILER PURGER which I claim is the best made: *First*.—That it will remove the scale from any Boiler, and, by its continued use, will keep it from forming. *Second*.—That it will not injure the Boiler, Valves or Cylinder, nor injure the water, nor injure the water for drinking purposes. It is easy to use, being in a liquid form, it can be put directly into the Boiler, through the Safety Valve, Whistle Valve, or by Force Pump, or into the Tank. *Third*.—That by its use, from fifteen to forty per cent. can be saved in the cost of fuel, besides the expense of putting in new flues every one or two years. Address, for prices, etc., to

H. P. GRAVES,

CHICAGO, 255 South Canal St. MILWAUKEE, 343 Virginia St.
MINNEAPOLIS, 327 Hennepin Ave. DETROIT, 36 Jefferson Ave.

[Mention this paper when you write to us.]

NEWS.

WEBSTER, Dak., is to have a new roller mill.

A FULL roller mill is being built by J. E. Jackson, at Ladonia, Texas.

J. B. ALLEN & SON have built a 50-barrel roller mill at Wahoo, Neb.

SIMONDS & JOHNSON of Stuart, Iowa, are succeeded by Harvey & Northrop.

HIGH water recently carried away the mill-dam at Jaretta, Minn., causing a heavy loss.

A BONUS of \$2,000 is offered by the citizens of Marcellus, Mich., to a party who will build a good roller mill there.

THE tornado which visited Attica, Ind., on the evening of May 12, caused a damage of \$2,000 to the City Milling Co. The engine house was almost wrecked.

A grist mill is to be built at Beulaville, N. C., by John W. Gresham & Co.

J. J. REIK has sold his grist mill business at Blissfield, Mich., to J. J. Keyfuss.

THE flouring mills at De Smet, Dak., have been purchased by M. E. Gilbert, who will change them to the roller system.

J. W. EGLOFF is building a 75-barrel roller mill at Valley Mills, Tex.

H. C. DUTTON is building a 100-barrel roller mill at Muir, Mich.

THE Advance Flour Mill Co. with a capital stock of \$15,000 has been incorporated at Carrollton, Ill.

FRANK W. REDDEN is building a 60-barrel roller mill at Denton Bridge, Md., and expects to have it in running order during the summer.

G. F. STRAIT & Co., of Shakopee, Minn., are rebuilding their mill. The new building will be 50x70 feet, five stories high, and of brick and stone. It will be an all-roller mill, with a capacity of 400 barrels per day, the motive power is to be furnished by steam, and the mill will be known as the "Shakopee Roller Mill."

BUCK & HOFF, millers at Richmond, Va., have made an assignment.

THE mill of John P. Parkes, at Ripley, O., was burned May 1. Loss, \$25,000; insurance, \$6,500.

THE flour mill at Bagdad, Ky., has been purchased by S. Partee, of Frankfort, Ky., who will convert it into a 500-barrel roller mill.

FLANDREAU, Dak., wants a flour mill, and the citizens are considering the advisability of issuing \$3,000 city bonds for a bonus to some enterprising person who will build it.

THE 500-barrel mill owned by J. A. Stanton, of Sauk Rapids, Minn., which was destroyed by the cyclone, will be rebuilt.

AT Junction City, Kan., the flouring mills owned by C. H. Miller, were recently burned. Loss, \$20,000; insurance, \$12,500.

A COMPANY is being organized at Alvarado, Tex., for the purpose of building a \$15,000 roller mill. A. J. Brown and Mr. Snyder are at the head of the project, and \$10,000 has already been subscribed.

THE Wapella Milling Co., Wapella, Manitoba, with a capital stock of \$100,000, has been organized to build at 100-barrel mill, at estimate cost of \$14,000.

A 60-barrel roller mill is being built at Cannonsburg, Pa., for S. B. McPeak. The mill is expected to be in operation by June 20.

MONTREAL, Canada, has an elevator storage capacity of 1,350,000 bushels. This includes the new 600,000 bushel elevator just completed for the C. P. R. R.

THE contract to supply the File Hills, Qu'Appelle, Blood, Piegan and Sacree Indians with flour for the year, has awarded the Portage Milling Co., of Portage La Prairie, Manitoba.

SMITH & MAGRUDER are building a new roller mill at Cairo, Kan.

REPORT says, the roller mill owned by Hayton & Thornton, at Morning Sun, Iowa, will be moved to Kimball, Dak., where machinery will be added sufficient to increase the daily capacity to 100 barrels. It is to be ready for work by Sept. 1.

A STEAM flouring mill with a daily capacity of from 150 to 200 barrels will be erected at Tracy, Lyon Co., Minn., during the present season.

ON the night of May 12 the large mill of Andrew Eisenmeyer, at Trenton, Ill., together with an elevator were completely destroyed by fire. The mill was erected in 1860, contained modern machinery, and had a capacity of from 300 to 400 barrels. Total value of buildings burned \$60,000; insurance \$17,000.

ARTICLES of incorporation have been filed by the Osage Milling Company, of Pomona, Kansas.

PETER ANDERSON and C. S. Chapman have purchased the mill of Irving H. Chapman, at Oketo, Kan., for \$7,000. They will put in rolls.

A SUDDEN rise in the Pawnee river swept away the mill dam of Mayer & Munger, Brown's Grove, Kan., causing a considerable loss.

THE body of a man was recently taken from the lake at Milwaukee, Wis., and it is supposed to be that of E. H. Gratiot, a millwright of Platteville, Wis.

SOLD OUT. L. F. Randolph, Ovid, Mich.

STACY W. WOOD, Grand Rapids, Mich., has sold his mill.

THE flour mill of Carr & Bracker, at Jamestown, Pa., has been burned. Loss \$40,000.

BURNED, May 12, Elliott's flour mill, situated 4 miles from Mercer, Pa.

BURNED, May 13, the flouring mill of McAnally, Raney & Co., at Brownwood, Tex. Loss \$15,000; no insurance.

BURNED, May 13, Thomas W. Perry's flour mill at North Yamhill, Ore. Loss \$20,000, insured for \$8,000. Origin of fire unknown.

ROBERT MCGOWAN'S grist-mill at Priceville, Ont., was burned May 1. Loss estimated at \$10,000; partially insured.

APRIL 29, the 125-barrel flour mill of J. & J. George, at Port Elgin, Ont., was totally destroyed by fire. Loss, \$18,000; insurance, \$16,000.

THE Hudnut Milling Co., with a capital stock of \$200,000, has been incorporated at Terre Haute, Ind. The directors are Theo. and B. C. Hudnut, A. A. Walker, Frank and Julius Brittebank.

THE contract has been let to rebuild the "Gem City Mills" at Quincy, Ill., recently destroyed by fire. It is to have a capacity of 700 barrels, on the full roller system.

A 100-BARREL roller mill will be built at Moosomin, Manitoba, by A. E. Hughes & Co. It is expected the mill will be in operation by Oct. 1.

MELDRUM, DAVIDSON & Co. have completed a 150-barrel mill at Peterborough, Ont. It is situated on the site of the old "Clegg Mill," and the motive power is had from water wheels.

W. HAGAR, proprietor of a grist mill at Clio, Mich., was drowned April 29 in the mill flume.

THE mills of C. A. Culbertson, at Broad Ripple, Ind., were burned recently. Loss, \$2,500; insurance, \$1,500. Cause of fire, incendiarism.

AT Brevard, N. C., a roller mill is being built for S. E. Lucas. It is to be completed by Aug. 1, and will be run by water power.

A. W. ELLIS & Co. have completed a mill at Farmington, N. C.

THE Magnolia Mills, owned by Stinnett & Rucker, at Sherman, Tex., have been burned. Loss, \$24,000.

J. W. LANDERS & Co. are building a new mill at Morehead City, N. C.

A FLOUR and grist mill is being built at Cairo, W. Va., by Jas. McKinney & Bro.

JOHNSON & DAWSON are building a 50-barrel roller mill at Buffalo, Ky.

A STOCK company formed at Mansfield, Tex., are about to start a roller mill.

KAULL & NASH have purchased the old mill site of Phogley Bros., at Glen Elder, Kan., and will commence at once the erection of a 100-barrel roller mill, to cost not less than \$20,000.

THE contract has been let for building a 75-barrel roller mill for John F. Flessa, at Centertown, Mo.

IT is expected the new flour mill of J. R. Howes & Co., at Duluth, Minn., will soon be in operation. It is very conveniently located on the Dock front, with a railroad track in the rear. The site is 170x150 feet, which will allow for considerable enlargements if necessary.

A \$20,000 MILL will be built at Madison, Dak., this season, by N. B. Smith, of Ortonville.

A MILL is to be built at Will's Point, Tex., by the Farmers' Alliance of Van Zandt county.

A COMPLETE 75-barrel roller mill is being built at Athens, O., by W. Herrold.

MACHINERY for a 50-barrel mill has been contracted for by D. C. Taylor & Co., Trenton, Tenn.

A STOCK company has been formed for the purpose of erecting a roller mill at Mansfield, Tex.

A NEW mill is being built at Martinsville, Ind., by Vansickle & Seiders.

HOWARD, Neb., is to have a 50 to 75-barrel roller mill, to cost between \$12,000 and \$15,000.

ANDREWS & ELSOM, of Charlottesville, Va., have let the contract for building a 0-barrell roller mill.

AT San Angelo, Tex., the Pioneer Roller Mill Co. has been incorporated, with a capital of \$50,000, to build a 100-barrel roller mill, the contract for which has been let. The contract for the machinery has also been let at \$21,000.

ARTICLES of incorporation have been filed by the Houston Milling Co., at Beloit, Wis., with a capital stock of \$40,000.

EARLY on the morning of May 22 the carriage works and flouring mill of Tiffany Bros., at Jonesville, Mich., were burned. Loss about \$5,000; no insurance. The firm had made arrangements to move their works to Newton, Kan., and were about to load their machinery on the cars. The fire is thought to be incendiary.

A CONTRACT has been let for building a 100-barrel mill at Ellendale, Mont., to be completed by Oct. 1.

ON the evening of May 28 the overloaded floors of the Valley City Mills, Grand Rapids, Mich., gave away, and the whole interior of the huge structure fell into the basement, and a large portion of the contents was swept away by the mill race into the Grand river. Between 15,000 and 20,000 bushels of wheat were stored in the building. The damage is estimated at from \$80,000 to \$100,000. The mills were insured for \$50,000, but the insurance is worthless, as it only covers damage by fire. A new mill will be erected at once.

MAY 20 the mill of Earsley & Cook, at Herman, Minn., was destroyed by fire. The firm place their loss at \$15,000; no insurance. They have decided to rebuild, and expect to have a 150-barrel roller mill completed by Oct. 1.

HOWELL & GOODMAN are building a roller mill at Elwood, Neb. The building will be 45x55, three stories. Steam power will be used.

THE Droste Milling Co., with a capital stock of \$50,000, has been incorporated at Cincinnati, O.

THE mill of the Brown County Milling Co., Brownwood, Tex., recently burned, is to be rebuilt.

A NEW 200-barrel mill has just started up at Clear Lake, Dak., and the citizens are feeling quite proud.

THE large mill of John Saxe, at McMinnville, Ore., burned May 7. At the time of the fire there was between 8,000 and 10,000 bushels of wheat stored in the mill and adjoining warehouses. Loss, \$30,000; insurance, \$25,000, of which \$5,500 was on stock. Very little was saved. The fire was incendiary.

E. PIERSON'S mill at Sanford, Arizona, was recently burned. Loss, \$6,000; no insurance.

THE new mill of the City Milling Co., at Attica, Ind., was damaged to the amount of \$2,000 by the destructive cyclone which visited that place May 12.

MAY 13 the mill of Long & Reist, at Hamburg, N. Y., took fire from some unknown cause, and was totally destroyed. Loss, \$50,000; insurance, \$20,000.

THE Oswego Roller Mill Co. has been incorporated at Oswego, Kan., with a capital stock of \$75,000. Julius Lasker, of Oswego, Isaac Heidenheimer and Morris Lasker, of Galveston, Tex., are the directors.

FORMAN, Dak., offers a bonus of \$3,000 in cash and wheat, also a site of four acres, to the first party who will build a mill at that point.

THE Hobart Milling Co., consisting of S. L. Hobart, Harvey Thompson and Frank Kreig, has been organized at Carthage, Ill., for the purpose of building and operating a full roller mill at that place.

B. B. BUCKWORTH will build a \$15,000 flour mill at McCook, Neb., the citizens agreeing to pay him a bonus of \$2,000.

BLACK BROS. & SHRIMPTON, of Blue Springs, Neb., have commenced work on their new mill, and it is expected to be ready for grinding by Sept. 1. It will be run by water power.

THE extensive milling plant formerly owned by Corson, Lasell & Wright, at Lodi, Cal., has been purchased by C. H. Corson and S. D. Rogers, who have formed a copartnership. The mill is being remodeled to the full roller system, will be known as the "Mae Flour Mills," and is to have a capacity of 250 barrels per day.

A 75-BARREL roller mill is being built at Herington, Kan., for Burt, Nelson & Co.

THE Pennsylvania Railroad Company is to erect in Philadelphia a large fire proof warehouse, which will enable the company to which it has been leased to handle 1,500,000 barrels of flour a year. The building will cost \$150,000 and will be finished September 1.

THERE is now in process of construction at the works of the Link Belt Machinery Company a conveyor for transferring cedar posts from a boat to the rear of a dock 350 feet deep, a conveyor for handling boxes of corn for a canning establishment, and an elevator for handling 200,000 cans per day. The company is also building a soap drier for Proctor & Gamble, of Cincinnati, O. The works are running full time and force.

PUGH'S flouring mill, near Indiana, Pa., was burned June 1. Loss, \$6,000; insurance, \$4,000.

A \$25,000 MILL will soon be built at Forman, Dak., by John Lee.

R. B. CARTER & Co. and A. N. Foonman have purchased the mill of S. Eshelman, at Eaton, Ind.

A NEW all roller mill is being built by the Upper Appomattox Co., at Petersburg, Va. The company was incorporated in 1784.

THE head millers of Minneapolis, Minn., have issued invitations for their annual excursion and picnic, to be held June 19 at Minnetonka. The card is of thin celluloid, in the shape of a flour tester, and is handsomely decorated and lettered. The programme includes speeches, base ball, foot ball, sack and barrel races, and other sporting events.

THE Prospect Machine & Engine Co., Cleveland, O., report their sales for the Jonathan Mills Universal Flour Dresser constantly on the increase, the month of May aggregating the greatest number of reels they have sold in any one month since starting, and that this month so far shows a corresponding increase over last month. Their engine business is also very encouraging. They have in process of construction at the present time a pair of Cummer Automatic engines of 2500 h. p. for the Lowell Carpet

Co., Lowell, Mass.; one of 190 h. p. for the Dennison Paper Co., Mechanics Falls, Me.; one of 265 h. p. for the Paige Car Wheel Co., Cleveland, O.; one of the same power for the Johnson Chair Co., Chicago, and several of their Simplex Automatic engines of 50 h. p. and under for Chicago and Cleveland parties. Among their recent shipments are a 449 h. p. engine to Wahl Bros., Chicago; one of 190 h. p. to the Derby Paper Mills, Birmingham, Conn., and one of 449 h. p. to the Nonantum Worsted Co., Newton, Mass.

J. G. SCHAUPP'S Planet roller flouring mill at Grand Island, Neb., was burned June 4, with an adjoining elevator. Loss, \$35,000; insurance, \$13,500.

A RECEIVER of grain in Chicago recently forwarded to a shipper in Nebraska just five cents per bushel as his share on a consignment of corn. The property had been sold in store at twenty-seven cents per bushel, twenty-two cents of which went to pay railroad cost of transportation, the storage and commission. In another case noted by the *Tribune*, the Nebraska shipper received the magnificent sum of \$26.50, being the whole amount coming to him from the sale of a carload of some 550 bushels of corn, the railroad freight on which to Chicago was \$147.50. The average of charges on these two parcels was five times, and the warehouse charges alone one-quarter, the sum remitted to the country shipper of the corn.

AT the recent election of officers of the Minneapolis Board of Trade, Capt. Russell Blakeley was elected president; Thomas Cochran, Jr., vice-president, and W. J. Phelps was re-elected secretary.

SITUATION WANTED.

Short advertisements will be inserted under this head for One Dollar each insertion.

WANTED—A practical Oatmeal Miller, one who understands his business and is willing to attend to it. Can receive additional information by calling on, or addressing CHARLES D. DANA, 10 State St., Chicago, Ills.

SPECIAL BUSINESS NOTICES

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Don't order your Cloth until you have conferred with us; it will pay you both in point of quality and price. We are prepared with special facilities for this work. Write us before you order. Address, CASE MANUFACTURING CO. Office and Factory: Fifth St., North of Waughton, Columbus, Ohio.

THE "HOPEWELL" Turbine Water Wheel

IS THE BEST

For full particulars address:

A. J. HOPEWELL,

Edinburg, Va.



OUR "SPECIAL" PURIFIER,

RECENTLY IMPROVED AND PERFECTED.

THIS machine has some new and very valuable features, and we think we can justly say it is the **PRINCE PURIFIER OF THE WORLD.** It has an enclosed case or sides. It has the lightest Shaker made. It has no conveyors to wear the middlings. It has a complete aspirator at the tail. It has a double shaking spout for a cut-off. It has our perfect Automatic Feed. It has our unequalled Cloth Cleaner. It has brass eccentrics three inches long. It has the most perfect control of the blast. It is guaranteed to run five years without any attention except to oil the bearings, and is beyond any question the most perfect, practical, and complete machine made in the world. We will back this statement up by placing it on trial beside any other Purifier made, and if it does not prove all we claim, it may be removed. We know just what we are talking about, and will enter into public tests, and pay all expenses of same, if others can be induced to do so.

Our Purifiers have no "pockets" to fill up and interfere with the working of the dust collector. They have no subdivided compartments to catch dust and allow it to slide back on the riddle. They have no brush to wear out the cloth, and drop barrels of good middlings each day into the tailings and low grade stock, a waste which costs the millers of this country *hundreds of thousand of dollars annually, but they don't observe it.* They have no roller feed to choke off, or feed half the time only half the width of riddle, thus tailing off rich material and permitting the middlings to be poorly purified. Hundreds of thousands of dollars are lost each year by the millers through *imperfect feed.*

We have none of these imperfections which can be found on the so-called "Standard Purifier," and remember we have not made a statement in this circular about Purifiers but what is **GOSPEL TRUTH.**

During the past year we have settled all disputes with the Consolidated Middlings Purifier Company, so that the Purifiers now made by us are licensed under all patents, about one hundred in number, owned by that Company; besides being protected by our own patents, which embody several most valuable and important features, owned and controlled exclusively by ourselves.

OUR IMPROVED ROLLS

are gaining friends wherever they go. They are the most durable and easily handled of any Roll on the market. They are finely finished in the high of the mechanical arts. Many millers have asked us, "Were not these machines made expressly for some Exposition?" and no wonder, for each one is a model of elegance. Our **PATENT AUTOMATIC FEED** should never be lost sight of when you are buying a Roll or Purifier. It always runs like clock-work, and even better, for it never stops when it should run, neither does it go too FAST or too SLOW. **IT GOES JUST RIGHT.**

A full supply of Bolting Cloths, Belting, Pulleys, Cups, etc., always on hand. Write us for estimates on Flour Mills or our "SPECIAL" Corn Meal System. [MENTION THIS PAPER WHEN YOU WRITE.]

ADDRESS

THE CASE MFG. CO.

GOLUMBUS, OHIO.

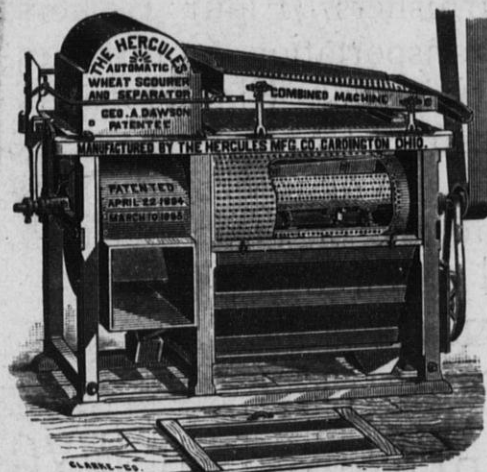
The United States Miller

Published by E. HARRIS & CAWKER { Vol. 21, No. 3.

MILWAUKEE, JULY, 1886.

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Do You Want Clean Wheat?



THE Hercules Automatic Wheat Scourer AND Separator

Warranted to improve the **COLOR** and **VALUE** of flour in any mill. Anti-Frictional, Light Running and the only **AUTOMATIC WHEAT SCOURER** ever invented. Adjusts itself while in motion to the volume of wheat fed to it and requires no attention but oiling. Awarded **GOLD MEDAL** and highest honors at the late **WORLD'S FAIR, NEW ORLEANS**. Machines sent on 60 days trial and satisfaction guaranteed or no pay. Write for Circulars, Testimonials and Samples of Cleaned Wheat and Scourings.

THE HERCULES MFG. CO., Cardington, Ohio.

It Has Increased Our Trade.

THE HERCULES MANUFACTURING CO., Cardington, Ohio.

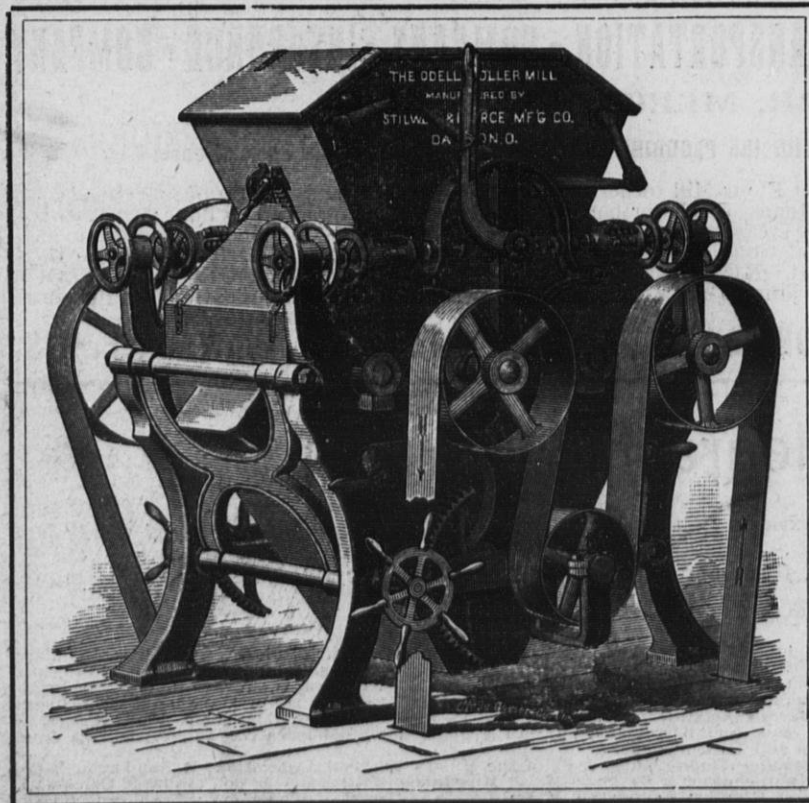
Gentlemen:—We like the "Hercules" machine very much indeed. It has increased our trade, and we will buy another for our other mill in the Spring. It certainly is the best Scourer we know of.

SCHREURS BROS.,
PROPRIETORS OF YOUNG AMERICA ROLLER MILLS,
Muscatine, Iowa, December 9th, 1885.

Yours Respectfully, SCHREURS BROS.

[Mention this Paper when you write.]

ODELL'S ROLLER MILL SYSTEM



Is now in successful operation in a large number of mills, both large and small, on hard and soft wheat, and is meeting with unparalleled success. All the mills now running on this system are doing very fine and close work, and we are in receipt of the most flattering letters from millers. References and letters of introduction to parties using the Odell Roller and System, will be furnished on application to all who desire to investigate.

Odell's Roller Mill

Invented and Patented by U. H. ODELL, the builder of several of the largest and best Gradual Reduction Flour Mills in the country.

AN ESTABLISHED SUCCESS!

We invite particular attention to the following

POINTS OF SUPERIORITY

possessed by the Odell Roller Mill over all competitors, all of which are broadly covered by patents, and cannot be used on any other machine.

1. It is driven entirely with belts, which are so arranged as to be equivalent to giving each of the four rolls a separate driving-belt from the power shaft, thus obtaining a **positive differential motion** which cannot be had with short belts.

2. It is the only Roller Mill in market which can instantly be stopped without throwing off the driving-belt, or that has adequate tightener devices for taking up the stretch of the driving-belts.

3. It is the only Roller Mill in which one movement of a hand lever spreads the rolls apart and shuts off the feed at the same time. The reverse movement of this lever brings the rolls back again exactly into working position and at the same time turns on the feed.

4. It is the only Roller Mill in which the movable roll-bearings may be adjusted to and from the stationary roll-bearings without disturbing the tension-spring.

5. Our Corrugation is a decided advance over all others. It produces a more even granulation, more middlings of uniform shape and size, and cleans the bran better.

WE USE NONE BUT THE BEST ANSONIA ROLLS.

Our Corrugation differs from all others, and produces less Break Flour and Middlings of Better Quality.

Mill owners adopting our Roller Mills will have the benefit of Mr. Odell's advice, and long experience in arranging mills. Can furnish machines on short notice. For further information, apply in person or by letter to the sole manufacturers,

STILWELL & BIERCE MANUFACTURING COMPANY, DAYTON, OHIO, U. S. A.

Agents for DuFour's Bolting Cloth.

If You Want to Extend Your Business among the Mill Owners of America,
 WHY DON'T YOU ADVERTISE IN
THE UNITED STATES MILLER?

ESTABLISHED 1876.

Subscription Price, - - \$1.00 Per Year.

A paper that reaches over 5,000 persons and firms interested in the milling business, every month. Mill Builders, Mill Furnishers, Flour Brokers, Insurance Companies, Ocean, Lake and Rail Transportation Companies, Millers seeking trade with Eastern, Southern and European Flour Dealers, Millwrights, Mill Supply dealers and in short all desiring to reach the trade should not fail to order their advertisement inserted. Will insert advertisements when ordered for six months or one year at the rate of \$1.00 per inch, single column width for each insertion. Address all communications to

E. HARRISON CAWKER,

Publisher "UNITED STATES MILLER," MILWAUKEE, WIS.

CAWKER'S AMERICAN FLOUR MILL DIRECTORY FOR 1886

ISSUED FEBRUARY, 1886. PRICE, \$10.00.

SENT BY MAIL, REGISTERED AND POST-PAID. EVERY

MILL • FURNISHER, • FLOUR • BROKER, • TRANSPORTATION • COMPANY, • INSURANCE • COMPANY
FLOUR IMPORTER, MERCHANT MILLER,

Or anyone desiring to reach those connected with the **FLOURING INDUSTRY**, should order this Book at once.

THIS Directory contains the names and addresses of 18,239 Flour Mill owners in the United States and Dominion of Canada. It further specifies in many thousands of cases whether stones or rolls or both are used in the manufacture of flour; whether rye, buckwheat, cornmeal or oatmeal are specialties; whether steam or water power is used. Names of Millowners estimated to have over \$10,000 invested in the business are marked by a special sign. It also contains a reliable list of **MILLWRIGHTS** in the U. S. and Canada, and a long list of the **PRINCIPAL FLOUR BROKERS** in the U. S. and Canada, and a list of **EUROPEAN FLOUR IMPORTERS**. These last named lists are of immense value to **MILLERS**. Address all communications and make all paper payable to the order of

E. HARRISON CAWKER, No. 124 Grand Avenue, MILWAUKEE, WIS.

• Private • Telegraphic • Cipher •

COMPILED EXPRESSLY FOR THE USE OF

Millers, Flour and Grain Brokers, for Private Telegraphic Correspondence,
 either for Land or Cable Lines.

THIS CODE has been approved and is used by many of the best firms in this country and in Europe. It contains Flour Tables, Bran Tables, Middlings Tables, Flour Grades and Brands, Time of Shipment, Dates, Names of Places, American Currency, Sterling Quotations, Table on Limits, etc., Drawing Credits, etc., Selling, Buying, Orders and Offers, Consignments and Shipments on Joint Account, Miscellaneous, Market Upwards, Market Downwards, Insurance, Shipping and Freight, Shipping by Regular Lines of Steamers, Finance, Bankers' Names, Standing of Firms, Telegraphing, Advices, Commission, Stocks and Crops, Weather, Samples and Quality, Equivalent of Sacks in Barrel Quantities, Commission Tables, Interest Tables, Equivalent Flour Prices in Currency, Sterling, Francs, Guilders, and Marks, Comparative Tables, Sack and Barrel Flour, Ocean Freight Rates (Comparative Table), Sailings from Seaboard (Table) Key to Sailings from Seaboard Table, Foreign Weights and Measures, etc.

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. Name of firm ordering copies printed on title page with cable address, etc., free of charge, making it to all intents and purposes your own *Private Cable Code*. State number of copies desired when writing. Prices furnished on application. Address,

THE RIVERSIDE PRINTING CO., 124 GRAND AVENUE, MILWAUKEE, WIS.

BELLAS, PATTON & CO.
Commission Merchants
 3 INSURANCE EXCHANGE BLDG.,
 218 La Salle St., CHICAGO.
 GRAIN AND PROVISIONS.

Bought or sold for shipment, or carried on margins.
 Market Reports furnished to correspondents.

(ESTABLISHED 1855.)

J. O. MATHEWSON & CO.
 GENERAL
COMMISSION
MERCHANTS,
 AUGUSTA, - GEORGIA.

E. B. OWENS & CO.,
 Provisions and Grain
 BALTIMORE, MD.

Sell on Track West and to Arrive.
 Fine Storage Cellars for Meat and Lard.
 Handle all kinds of Grain.
 Liberal Advances on Consignments.

REFER TO Western National Bank, Baltimore; Citizens' National Bank, Baltimore; Wm. Ryan & Sons, Dubuque, Iowa; Whitmore Bros., Quincy, Ill.; Bloomington Pork Packing Co., Bloomington, Ill.

L. EVERINGHAM & CO.,
 (ESTABLISHED 1865.)

Commission Merchants
 200-201 Royal Insurance Building,
 Opposite New Board of Trade, CHICAGO

THE PURCHASE AND SALE OF
GRAIN AND PROVISIONS
 On the Chicago Board of Trade.
 For cash or future delivery, a specialty.

Special information, indicating course of markets,
 freely furnished upon request.

WM. GRIFFITHS. JAMES MARSHALL. GEO. E. DODGE.

GRIFFITHS, MARSHALL & CO.,
GRAIN :: COMMISSION
 MINNEAPOLIS AND DULUTH, MINN.

Orders for Choice Milling Wheat Given Special Attention.

FLOUR :: BROKER

MILLERS DESIRING TO SELL FLOURS BY SAMPLE in car lots in the cities of Baltimore, Md., or Washington, D. C., should communicate with P. H. HILL, Millers' Agent, WASHINGTON, D. C., and for Philadelphia, Pa., communicate with HILL & SCHAAF, Millers' Agents and Grain Brokers, 219 North Broad St., PHILADELPHIA, PA. Highest references.

SAM'L E. DUNHAM & CO.,
 COMMISSION
Provisions and Grain
 ROOM 83,
 Board of Trade, CHICAGO.

The purchase of grain for shipment to home markets a specialty.

N. S. CLARK. A. C. MARTIN.

CLARK & MARTIN,
Commission Merchants
 FLOUR, GRAIN,
 FEED AND HAY,
 No. 51 West Second St., Cincinnati, O.

PATTERSON BROS. & CO.,
Commission Merchants

FOR SALE OF
WHEAT, CORN, OATS, RYE.
 DEALERS IN

Seeds, Hominy, Grits, Steam Dried Corn Meal.

44 VINE ST., CINCINNATI.
 ORDERS AND CONSIGNMENTS SOLICITED.

ESTABLISHED 1876.

JNO. R. TURRENTINE,
 -GENERAL-

Merchandise and Produce Broker,
 FLOUR, GRAIN, HAY AND RICE.

Dock Street, WILMINGTON, N. C.
 MEMBER OF CHICAGO BOARD OF TRADE.

Refers by permission to A. K. Walker, Esq., cashier First Nat'l Bank, Hall & Pearsall, Adrian & Vollers, Merchants, Wilmington; Robt. Carey & Co., New Orleans, La.; Geo. P. Plant & Co., St. Louis, Mo.; Martin & Bennett, Chicago, Ill.

Solicits Orders for Carolina Rice and Peanuts.

OWEN & BRO.,
Commission Merchants,
 36 Chamber of Commerce, MILWAUKEE.

We give special attention to the purchase and sale of grain or provisions, for future delivery, here or in other markets.

Information regarding the present condition and future outlook for prices furnished on request.

S. S. STOUT. H. G. UNDERWOOD.

STOUT & UNDERWOOD,

(Formerly Examiners U. S. Patent Office.)

SOLICITORS OF

PATENTS

66 Wisconsin Street,
 MILWAUKEE, WIS.

TELEPHONE NO. 502.

Life Insurance.
NEW ENGLAND MUTUAL

LIFE INSURANCE CO.
 OF BOSTON.

Assets, - - - - \$17,846,546.65
 Liabilities, - - - - \$15,288,761.16

Total Surplus, - - - \$ 2,607,785.49

BENJ. F. STEVENS, Pres't.
JOSEPH M. GIBBENS, Sec'y.

BOILER INSURANCE.

AMERICAN
Steam Boiler Insurance Company
 OFFICE, 45 WILLIAM ST., NEW YORK.

Cash Capital, - - - - \$200,000

ASSETS JANUARY 1st, 1885.
 U. S. Gov. Registered Bonds, of which \$100,000 is lodged with the Insurance Department at Albany, N. Y. \$216,138.00
 Cash in bank and in office 10,668.72
 Premiums in course of collection 16,839.35

LIABILITIES. \$243,694.33
 Reinsurance reserve 40,225.00
 All other demands 2,013.27

\$ 43,149.24

WILLIAM K. LOTHROP, President.
 WILLIAM E. MIDGLEY, Vice-Pres.
 VINCENT R. SCHENCK, Secretary.

Fire Insurance.

Every miller and manufacturer having an A 1 risk, should apply for insurance in the Allied Mutual Fire Insurance Companies, of which S. H. Seamans, Milwaukee, Wis., is secretary.

CONNECTICUT
FIRE INSURANCE CO.,

HARTFORD, - CONNECTICUT.

Cash Capital, - - - - \$1,000,000 00
 Reserve for Reinsurance, - - - - 580,669 40
 Outstanding Claims, - - - - 90,396 57
 Net Surplus, - - - - 303,683 78

Total Assets, Jan. 1, 1886, - \$1,974,749 75
 Surplus to Policy-holders, - \$1,303,683 78

J. D. BROWNE, President,
CHARLES R. BURT, Secretary.
L. W. CLARKE, Ass't Secretary.

Attention!
CUSTOM and EXCHANGE MILLERS.

We have made arrangements with Potter & Huntington, whereby we can furnish one of their EXCHANGE TABLES and UNITED STATES MILLER for one year, for \$1.50; the price of the Exchange Table alone is \$1.00. This is probably the best Table ever prepared for Millers doing an Exchange or Custom Business. The range is from 25 to 36 lbs. of flour to each 60 lbs. of wheat, and corresponding amount of bran and middlings. (Toll and waste in milling deducted.) There are twelve Tables each of a different grade of wheat, and each Table a different amount of flour and feed and can be used for any amount of wheat, from two lbs. up to any No. of bushels. There is no guess work about it, but all from actual experience. By it the Miller is always sure of his allowance of Toll. Hundreds of them are being sent to all parts of the United States and Canada. Send us One Dollar and Fifty Cents and we will send the Table and credit you for one year's subscription to the UNITED STATES MILLER. Address, UNITED STATES MILLER, 124 Grand Avenue, Milwaukee, Wis.

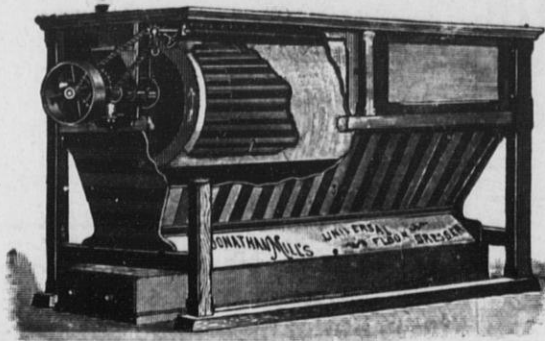
JONATHAN MILLS UNIVERSAL FLOUR DRESSER

GUARANTEED TO BE SUPERIOR TO ANY CLOTH BOLTING DEVICE FOR
CLEAR, CLEAN

Bolting or Re-Bolting

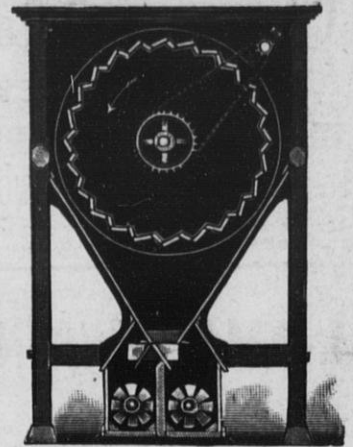
OF ALL GRADES OF FLOUR.

They cannot be beat on any Stock, and are being extensively adopted for the entire Bolting in new mills



Finely Designed and Mechanically Constructed.
Slow Speed
Occupies Small Space, and has Immense Capacity

For Price Lists, Sizes and Dimensions send to the



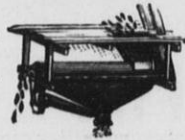
THE PROSPECT MACHINE & ENGINE CO., CLEVELAND, OHIO.

(Formerly THE CUMMER ENGINE CO.)

Send also for 150 Page Catalogue Describing their Engine.

"TRIUMPH" CORN SHELLER

CAPACITY
2000 BUSHELS PER DAY.
Shells wet or dry corn.
CHEAPEST AND BEST SHELLER.
PAIGE MANUF'G CO.,
No. 12 Fourth St., Painesville,



A. BLOEDEL,

Manufacturing

Jeweler and Diamond Setter,

Dealer in

WATCHES, CLOCKS, JEWELRY,

Silver and Plated Ware.

Special Attention Given to Repairing.

No. 106 GRAND AVE.,

Cor. West Water St.,

MILWAUKEE, WIS.

BIRGE & SMITH,

PRACTICAL

Millwrights,

PLANS, SPECIFICATIONS AND ESTIMATES MADE
FOR ALL KINDS OF

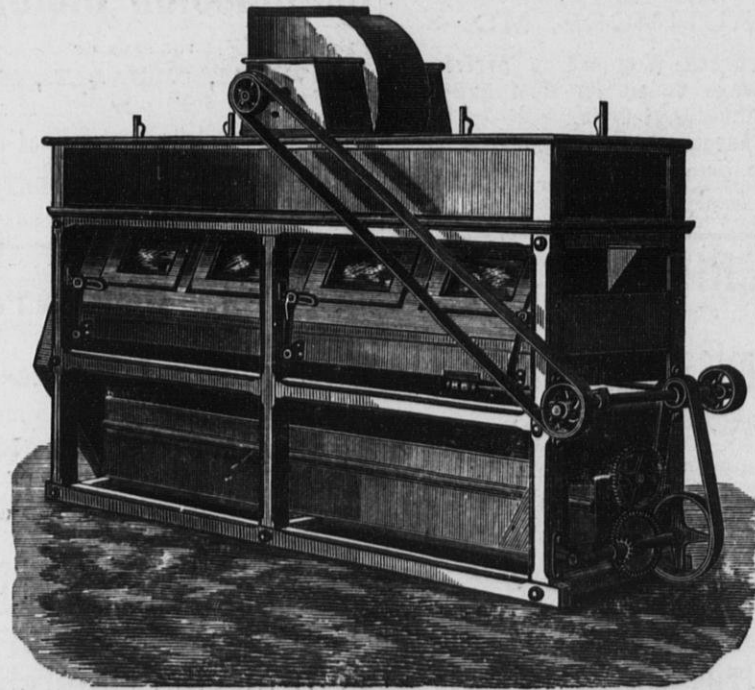
MILLWORK, MACHINERY, &c.

Flour, Sawmill, Tanners' and Brewers' Machinery
AND GENERAL MILL FURNISHERS.

Cor. East Water and Knapp Sts.,
MILWAUKEE, WIS.

Eureka * Middlings * Purifier!

BEST AND SIMPLEST MACHINE IN THE MARKET.



Entirely Original.

One Invention and Manufacture

LEAST SPACE. LEAST POWER. AUTOMATIC FEED.

Best Device for Attaching and Stretching Cloth.

(Cloth can be changed in five minutes.)

Best Controlled and Evenest Air on Cloth, making it of Great Capacity.

Machines Warranted in every Respect.

FOR FURTHER PARTICULARS, ADDRESS,

C. N. SMITH, DAYTON, OHIO.

	Length of Cloth.	Width.	Extreme Height.	Pulley.	Speed.
00	8 ft.	3 ft.	6 ft. 6 in.	5 x 3	500
0	10 ft.	3 ft.	6 ft. 6 in.	5 x 3	500
1	10 ft.	4 ft.	7 ft. 6 in.	6 x 3	500

[Please mention this paper when you write to us.]

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 second-class matter.]

MILWAUKEE, JULY, 1886.

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.

NEW PEOPLE'S THEATRE.—Performances every evening, and Wednesday, Saturday and Sunday matinees.

AMONG THE NORTHERN LAKES

of Wisconsin, Minnesota and Iowa, are hundreds of delightful places where one can pass the summer months in quiet rest and enjoyment, and return home at the end of the heated term completely rejuvenated. Each recurring season brings to Oconomowoc, Waukesha, Beaver Dam, Frontenac, Okoboji, Minnetonka, White Bear, and innumerable other charming localities with romantic names, thousands of our best people whose winter homes are on either side of Mason and Dixon's line. Elegance and comfort at a moderate cost can be readily obtained. A list of summer homes with all necessary information pertaining thereto is being distributed by the CHICAGO, MILWAUKEE & ST. PAUL RAILWAY, and will be sent free upon application by letter to A. V. H. Carpenter, General Passenger Agent, Milwaukee, Wis.

C. F. REIFSNIDER, editor of *The St. Louis Miller*, made us a brief call recently.

CAPT. B. F. RYER, of the Garden City Mill Furnishing Co., Chicago, Ill., made us a brief call June 13.

MILL and elevator men will do well to consult the advertisement in this issue of the MARSHALL AUTOMATIC GRAIN SCALE.

C. N. SMITH, of Dayton, O., advertises his EUREKA MIDDINGS PURIFIER in this number. A large number of these machines are in use, and they are doing good work. Mr. Smith has recently invented a dust collector, which is just about ready to be placed on the market.

THE Sængerfest week, commencing July 19, will be an event in the history of Milwaukee long to be remembered. It is estimated that at least 150,000 visitors will be in the city the greater part of the week. No pains or expense have been spared to make the occasion a success in every way. We hope to see a large number of the milling fraternity in the city on this occasion.

BERNHARD STERN succeeds Stern & Wohlrab as proprietor of the Jupiter Mills in Milwaukee.

HENRY HAMPER, representing Howes & Ewell, of Silver Creek, N. Y., recently made Milwaukee a short visit.

MR. TIETJEN, representing the Nordyke & Marmon Co., Indianapolis, Ind., recently spent a day in the city.

A NUMBER of gentlemen well known in the trade have been in Milwaukee several days during the past month giving testimony in the Dust Collector case.

THE Daisy Roller Mill has started up and is running on full time, and everybody connected with the enterprise express themselves as well pleased.

THE June number of *The American Brewers' Gazette* (New York) is an exceptionally good one, containing much not only of interest to the trade, but to the scientific reader.

A COMMITTEE appointed by the New York Produce Exchange has agreed upon a new form of charter party which it is believed will be acceptable to ship-brokers, vessel owners and all other parties. The *New York Commercial Bulletin* of July 3d prints the form in full.

THE Chicago *Railway Age*, a recognized authority, makes the statement that railway construction in 1886 will "far exceed that of the two preceding years, and, indeed, surpass that of most of the years in the history of the country." This statement is supported by details, derived chiefly from official or semi-official sources, and must therefore be accepted as reliable.

THE bureau of statistics has issued a statement showing that our exports of merchandise continue to decline, while the imports of foreign merchandise show a decided increase over values for the preceding year. For the eleven months closed with May, our exports of merchandise foot up \$624,431,670, a decline of \$70,275,065 compared with the same period of the last fiscal year, and a decline of over \$215,000,000 compared with the eleven months ending May 31, 1881.

OUR old and esteemed contemporary, *Der Deutsch Amerikanische Mueller*, has changed its name to "*German-American Miller*," and, commencing with the June number, is printed in both German and English. We congratulate its publisher, Hon. Eugene A. Sittig, upon this new departure, and have no doubt but what it will meet with the general approval of the trade.

A LICENSE of incorporation was issued by the secretary of state of Illinois June 26 to The Consolidated Roller Mill Co. at Chicago. Capital, \$100,000. The following manufacturers of roller mills are named as incorporators: William W. Allis (of E. P. Allis & Co.), of Milwaukee; Addison H. Nordyke (of The Nordyke & Marmon Co.), of Indianapolis, Ind., and George N. Bierce (of The Stilwell & Bierce Mfg. Co.), of Dayton, O.

The object of the new company, we believe, is to defend against the Downton suits and to stop the cutting of prices and the giving of long credits on millium machinery, which have proved most disastrous to business during the past two years. Other companies than those named above are thought to be interested in the "pool." If so millers may look for higher prices and shorter credits.

FOREIGN ITEMS.

A CORRESPONDENT lately returned from a visit to the Pesth mills, says that most of the Pesth millers still use stones for the production of their patent flour from the best middlings, and that the numbers of silk used for dressing this flour are Nos. 15 and 16; of course the mills are not automatic.

ACCORDING to a French contemporary, *La France*, of the 4th June, wheat is now actually cheaper in the United States than wood in France, the price of the latter commodity being quoted at one sou the livre, or rather less than a penny the pound in France, and that, it is said, is precisely the value of wheat in Kansas. At that rate, says our contemporary, a farmer might use his crops to warm himself with as good a right as the tramp who picks a few dead branches from the edge of a forest.

MR. COMERFORD, of Rathdrum, Ireland, has invented a dust collector in which no cloth is used. The air is drawn through a slowly and continually moving layer of wheat which is elevated to a scalper, where the dust is removed and the wheat returned automatically to the dust collector. The air perfectly pure escapes through perforated zinc, of which the sides of the machine are framed. The operation of this machine was recently witnessed by more than 100 millers attending the Millers Convention in Dublin.

THE Annual Convention of the British and Irish Millers was held in Dublin June 9—12 inclusive. It was in every way a success.

ROUMANIA has approved a tariff bill increasing tariff duties about 30 per cent.

A ROLLER mill has just been completed by an English builder for M. W. Connolly, at Goulbourn, New South Wales.

SCRAFTON BROS., of Bishop Auckland, N.Z., have recently increased the capacity of their roller mill.

QUITE a number of roller mills are being erected in Australia.

THE last crop reports from India indicate a decline of about nine per cent. from last year's crop, and the exports to Europe will undoubtedly show a considerable falling off.

GRAIN STORAGE RATES.

Chicago and Milwaukee elevators have adopted the following reduced storage rates for grain, taking effect July 1:

On all grain received in bulk and inspected in good condition, three-fourths ($\frac{3}{4}$) of 1 cent per bushel for the first ten days or part of same, and one-half ($\frac{1}{2}$) of 1 cent per bushel for each additional ten days or part of same, so long as it remains in good condition.

On and after the 15th day of November next, upon grain in good condition, storage will be at the foregoing rates, until four (4) cents per bushel shall have accrued, after which no additional storage will be charged

until the 15th day of April, 1887, so long as the grain remains in good condition.

On grain damp, or liable to early damage, as indicated by its inspection when received, two (2) cents per bushel for the first ten days or part of same, and one-half ($\frac{1}{2}$) of 1 cent for each additional five days or part thereof. And upon such grain there will be no special rate for winter storage.

No grain will be received in store until it has been inspected and graded by authorized inspectors, unless by special agreement.

NEWS.

The Stilwell & Bierce Mfg. Co. of Columbus, O., have contracted to build a 500-barrel mill at Lockport, N. Y.

The Ypsilanti Machine Co., Ypsilanti, Mich., are building mills at Hastings, Mich., and Goshen, Ind., of capacity of about 100 barrels each.

The Alma City Mill Co. (Minn.) has incorporated, with a capital of \$12,000.

The Walton Mfg. Co., Gallatin, Tenn., contemplates changing its mills to the roller system this season.

Ogilvie & Co. are building a new mill at Montreal, Canada, of 1,500 barrels per day capacity.

The Prospect Machine & Engine Co. (formerly the Cummer Engine Co.), Cleveland, O., have recently transferred their reel and pattern departments into their new wood shops, which they were compelled to build on account of the great increase in their reel trade. They supposed they were building large enough to meet the trade for this year, but have had to put in electric lights and run nights, and now find that it will be necessary to again increase, and are preparing to about double their capacity. Within the past thirty days they have received orders from about every State in the Union, several for full bolting systems for new mills. They state their sales for the month of June are about double those of the previous month and are constantly on the increase.

The largest traffic through St. Mary's Falls ship canal ever recorded was during May, the total amount being 550,965 tons registered.

It is surmised that an American-Chinese railroad syndicate is negotiating with the Chinese government for the purpose of building and operating several thousand miles of railroad in China. It is to be hoped that their efforts will prove successful.

The Northwestern flour shipments continue to go by lake to an extent unprecedented of late years. In the last five weeks reported (ending June 12), out of 1,046,539 barrels shipped, 591,947 barrels, or 56½ per cent., went by lake, and only 463,883 barrels (38½ per cent.) by rail, the other 5 per cent. going down the Mississippi. During the same five weeks the lake shipments of grain were not quite 60 per cent. of the total, and ordinarily the vessels have taken a much larger proportion of the grain than of the flour.

The Milwaukee & Northern Railroad is rapidly being extended from Menominee to Iron Mountain, Mich., and will shortly reach the latter point. A survey has been made from Iron Mountain to Republic, a distance of about forty miles, the company considering the feasibility of building a line to the latter place this season, and from Republic it will probably be pushed through to Marquette, thirty-five miles distant. It would be for the advantage of the Milwaukee & Northern to go to Marquette, as one from the Republic district would have to be hauled from there to Menominee or Marquette, over 100 miles, for shipment, unless the road was run through to Marquette.

A prominent vessel agent at Duluth recently said: "Formerly nearly all the flour which was shipped out of Duluth for the East went to the New York Central road at Buffalo or its controlled lines. Now it is very different. That road gets but a very small percentage of the total amount shipped east from here. The Lackawanna gets the largest proportion of the flour, while the Grand Trunk, Erie, Lehigh Valley and Baltimore & Ohio come in for their share. The breaking up of this monopoly is due to E. F. Dodge, of the St. Paul & Duluth road."

The Baltimore & Ohio is a recent competitor for the flour trade, but a number of cargoes are con-

tracted for the rest of the season. The vessels take the flour to Sandusky, O., whence it goes to Baltimore for export. The flour shipments for June were over 300,000 barrels, which is an average of over 10,000 barrels a day. For the season they have so far amounted to about 530,000 barrels. At this rate the lake shipments will run up to 1,700,000 or 1,800,000 barrels this year, against 1,100,000 last year.

The receipts of flour at Buffalo by lake during June show an increase of 329,664 barrels over the same month last year.

The Tracy Roller Mill Co. of Tracy, Minn., capital stock of \$50,000, has filed articles of incorporation.

W. H. Kerr, Dunham, N. C., will erect a bag factory next fall.

The Duluth Roller Mill Co. has decided to erect an elevator adjoining the mill large enough to hold 50,000 to 100,000 bushels of wheat. Work on the mill is progressing rapidly.

Improvements are being made at Minneapolis in the water power on the East Side in the interests of the Minneapolis Mill Co. There will doubtless be a big litigation over the matter, as the improvements being made will doubtless draw off a large amount of water which has heretofore been used on the west side of the river.

The Manufacturers' Mutual Insurance Co. of Indianapolis, Ind., has been organized, with officers as follows: President, A. H. Nordyke; secretary, Charles D. Funston, and treasurer, Geo. Merritt. The company commenced doing business July 1.

BURNED, June 27, Rossberg & Mieser's elevator at Chilton, Wis., and 4,000 bushels of wheat. Loss on elevator, \$7,000. Insurance, \$3,200. Grain fully insured.

BURNED by incendiaries, June 9, Wm. Marshall's flour mill at East Marlborough, Pa. Loss, \$17,000. Insurance, \$11,000.

BURNED, June 21, the New England Institute Fair Building, in Boston, Mass. It was used as a storehouse and repairing shop by the street railway company. Nine workmen lost their lives. The money loss is estimated to be \$300,000. Insurance, \$110,000. Fire supposed to be incendiary.

DULUTH has a new fire insurance company named "The Northwestern," which issued its first policy June 13.

BURNED, June 24, Funk's Fairview mills, near Waynesborough, Pa. Loss, \$10,000. Insurance, \$6,000. The mill had just been remodeled.

At Tilsonburg, Ont., June 20, Tilson's oat-meal mill and elevator, together with 24,000 bushels of grain and 1,300 barrels of oat-meal, were burned. Loss, \$28,000. Insurance, \$13,000.

ECKHARDT & SWAN'S mill and stock at Chicago, Ill., was damaged by fire July 5, to the extent of about \$40,000. Insured.

At Eau Claire, Wis., June 23, at a joint meeting of the Mutual Fire Association and the Lumbermen and Manufacturers' Fire Insurance Company, of that city, arrangements were made to reorganize and do a general insurance business after September 1, instead of confining their business exclusively to the protection of saw-mills.

At St. Thomas, Ont., June 28, Scott & Co.'s oat-meal mill was burned. Loss, \$10,000; no insurance.

A SYNDICATE appears to have control of the grain-bag market on the Pacific Coast, and the price of bags is continually increasing.

SOLD OUT.—C. H. Merritt & Co., of San Antonio, Tex.

The Baltimore Sun of June 19 says: "Over 300 carloads of Minnesota flour in sacks were on the tracks at Canton yesterday, awaiting export to Europe. The shipments are on through bills of lading, and came by lake and Northern Central Railroad. Two steamships for London and one for Bristol, England, were loading with flour, barreled meat, grain, etc. This movement of flour direct from Minnesota millers to Europe is attracting attention. The steamship Lambert cleared for London with 17,916 sacks of flour of 2,578,40 pounds, and 48,000 bushels of wheat flour for export is now generally sent in sacks of 180 pounds, or, as the English dealers have it, in sacks of nine score pounds.

The mill-dam at Fairhaven, Minn., was damaged about \$2,000 worth by the storm June 15.

An important enterprise in Dixon, Ill., is the flax-bagging mill of Geo. H. Squires. This industry has complete machinery, giving employment to fifty

hands. Its products are in constant demand, and compare favorably with similar establishments situated elsewhere.

ARTICLES of incorporation have been filed of the Christian Brothers' Mill Co., Minneapolis, with a capital stock of \$500,000, the same sum being the limit of indebtedness. The names of the incorporators are J. A. Christian, L. Christian, Charles M. Hardenburg and C. E. French.

The Duluth Board of Trade is to be incorporated.

The new directory of Dubuque, Ia., just issued, shows that the population of the city is over 35,000, a healthy increase during the past year.

At Quincy, Ill., June 27, the Center mill, an old flouring mill, corner of Jersey and Front streets, was burned. It has not been used for several years. It belonged to the First National Bank, and they are supposed to have an insurance of \$5,000. The fire was the work of an incendiary.

PROF. RICHARD T. ELY, the economist of the foremost educational institution in America, Johns Hopkins University, contributes the second of his timely "Social Studies" to the August Harper's. Under the heading of "The Economic Evils in American Railway Methods" he lays bare some glaring abuses which are generally overlooked or underestimated.

The New York Commercial Bulletin of June 2 says: "The New England Mutual Mill companies have made such inroads upon the business of some of the larger stock companies that the latter are devising ways to meet that competition. The Phenix has adopted the mutual plan of large lines upon the stock basis, and is writing \$50,000 lines on first-class risks. The boldness of the New York Mutual in writing large lines, and the exceptional, not to say accidental, success of its daring movement has aroused some of the million dollar fellows to braver action."

MANAGEMENT OF PURIFIERS.—The Geo. T. Smith Middlings Purifier Co. give the following hints on the management of the purifier: Always load a machine as heavily as possible without making the tailings too rich. If necessary let the purifier return to itself sufficiently to accomplish this end. Cut off and return a few inches from the head of the machine to avoid specks. Until the machine is properly adjusted the pockets should be emptied daily, but whenever it is possible to judge closely enough as to waste, no harm will be done if they are not emptied. On extremely close middlings if very strong air currents are desired, increase the speed of the fan by decreasing the diameter of the pulley on fan shaft. As the air is decreased the sifting capacity of the sieve is increased, therefore you can reduce the richness of the tailings by reducing the volume of air on the tail section of the cloth, or vice versa. When dust collectors are used in connection with the purifier, careful examination should be made to see that they do not impede the necessary flow of air through the cloth. Air currents of proper strength can be maintained by suitably increasing the speed of the fan.

At Fort Collins, Colo., July 10, the Lindell Mills, owned by the Colorado Milling and Elevator Co., caught fire, and were completely destroyed. The loss is \$60,000; insurance, \$28,000. The cause of the fire is unknown.

DEATHS AND ACCIDENTS.

W. F. Cahill, of Minneapolis, died June 20, after a long and painful illness. He had been prominently identified with milling interests for over twenty-five years. He was the senior partner of the firm of Cahill, Fletcher & Co., of the Galaxy mill.

We regret to note that Mr. David Van Nostrand, the well-known book importer and publisher of New York, died in that city on the 14th inst., of a complication of disorders.

R. Barden, one of the oldest grain operators in Minnesota and member of the Minneapolis Board of Trade, died July 2, at Minneapolis.

We will send The Milling World (weekly) and the U. S. Miller for one year for \$2.00.

We will send the U. S. Miller and American Miller for one year for \$1.50.

JOHN A. CHRISTIAN.

John A. Christian, the well-known Minneapolis miller, died at his country home on Lake Minnetonka, July 2. The *Northwestern Miller* of Minneapolis, in recording his death, gives the following brief sketch of his life:

John Augustus Christian was born at Wilmington, N. C., Sept. 12, 1832, and lived there until his parents removed to Wetumka, Ala., in 1836. Shortly afterward they moved up the country a dozen miles to a plantation on the Coosa river, where they resided for five years. During that time Mr. Christian was sent to school at Columbus, Miss., where he remained about two years. Then he returned with his family to Wilmington, and resided there and attended school until 1847, when the family moved to Walworth County, Wisconsin, and opened up a new farm upon what was then considered one of the most promising sections of the State. He remained on the farm, performing the hardest manual labor, until 1852, when at the age of twenty years he started out for himself, and went to the then young city of Chicago, where he worked in various mercantile establishments for two or three years, when he entered a grain commission house and remained there for some time, learning the rudiments of the business which he was destined to follow for so many years of his active business life. In 1857 he removed to Caledonia, Ill., and embarked as a stock and grain buyer on his own account. Two years afterward he failed in business, through a complication of circumstances which he was unable to control, but succeeded in a few years in paying the claims of his creditors in full. After his failure he decided to go to California, but owing to the inability of his traveling companion to get started as soon as expected, he did not leave Illinois until 1860, when he started alone with money enough in his pocket to pay his fare to Hannibal, Mo. Upon arriving there he applied for a position in the office of the Hannibal & St. Joseph Railway, and was sent to Hannibal, where he remained six weeks and earned enough to pay his fare to Denver, Colo. By driving cattle alternately with his companion, and paying \$20 for the privilege, with the understanding that he was to travel without cost, he succeeded in arriving at Denver with \$50 in his pocket. There he and his companion formed a partnership with two other young men, who were endeavoring to make their fortunes in the new mining country just opened, and started for the Pike's Peak country. The four had two ponies and \$100 in money with which to begin their operations.

One of his comrades, W. E. Grinnell, now a commission merchant in Minneapolis, was taken sick and had a severe siege of mountain fever. This broke up the mining scheme, the party camping and nursing the sick man carefully until he recovered. Before this time their provisions and money were exhausted and it became necessary to hunt for something to eat. At a ranch near by they got flour and bacon on credit, but the merchant would not trust them for tobacco, telling them that they could live without that, "but flour and bacon they must have." The boys finally found work on a big placer mining ditch, and managed to pull through until spring, but none of them, so far as heard from, ever made much out of the mines. Mr.

Christian was more fortunate than the others, and they often depended on him for a living. It was the hard life, the bitter sufferings, the severe privations, the reckless exposure to mountain weather, that made an old man of John A. Christian before his time. Not but that he would have worked hard, no matter where his lot was cast, for there was not a lazy bone in his body.

After several years of hard work, with the ups and downs incident to the life of a prospector, finally accumulating a few thousand dollars, Mr. Christian left Colorado and came to Minnesota in 1869, and ran the Zenith mill for two years. He entered the firm of Geo. H. Christian & Co. in 1872, and a year later Geo. H. retired, and the firm name was changed to J. A. Christian & Co. C. C. Washburn was a member of this firm, which had been operating the Washburn A mill, and continued to do so until the great explosion in May, 1878. In November, 1873, the firm bought the Pettit mill, the old owners becoming his partners, with Mr. Christian as managing partner. About the same time he

only boy and youngest child is five years old, and the eldest of the three girls is about eleven. Since the death of Mrs. Christian, which occurred five years ago, her sister, Mrs. Hall, has kept house and cared for Mr. Christian's family. His possessions will probably aggregate \$300,000, though a less liberal and generous man, with his opportunities, might have amassed a million.

HEATED FLOUR.

We note that in an important communication made to the French Agricultural Society, M. Grandvoimet observes: In the struggle for supremacy between rolls and stones for the manufacture of flour, one question, which has been decided rather too superficially, is the bad effect which may be produced on the quality, or, more properly speaking, the strength of the resulting flour by heat—generated by the grinding process

by stones and by rolls.

The partisans of rolls affirm

that the long time which

the grain remains subject

to the action of the stones,

so heats the product as

often to kill the flour, that

is to say, it causes the glu-

ten to lose its elastic prop-

erties. The advocates of

stones however, attribute

the same results to the

pressure of the rolls on

the middlings. When flour

is heated up to more than

100 deg. (Cent.) the well-

known experience of M.

Peligot goes to prove that

the gluten loses the precious

property necessary to suc-

cessful panification. The

heating of the meal be-

tween stones probably

never reaches 100 deg., and

we have considered it use-

less to discover whether a

heat of less than 100 deg.

would suffice to destroy

the elasticity of the gluten.

Mr. Colomb-Pradel, late

pupil of the Agronomical

Society, has kindly charged

himself with the trouble of

making experiments ac-

ording to the plan which

we laid down for him, viz.,

to submit samples of the

same flour to a gradually-

increasing heat, in order to

decide at what point the bad effect of such

heat commences. We asked Messrs. Barre &

Proirer Jeune, of Dreux, two of the most

practical millers in the neighborhood of Paris,

to supply some flour made under the best

conditions; the following are the results of

experiments, communicated by Mr. Colomb-

Pradel:

The flour submitted to the test was roller-

made, which had not been subjected to any

abnormal increase of heat in the manufac-

ture; the average quantity of gluten in the

three samples analyzed was 1.70 per cent.

After submitting the samples of flour up to

51 deg. of heat during seven hours, and to 61

deg. for the same period, the same quantity

of gluten was extracted as before the heat

was applied; up to 65 deg. the yield of glu-

ten was likewise not materially changed. A



JOHN A. CHRISTIAN.

went into the firm of Christian, Bro. & Co., which built and still operates the Crown Roller mill, though lately incorporating as the Christian Bro. Mill Co.

Mr. Christian has always been foremost in all schemes for the good of the city, and associated in most of the great enterprises undertaken here, so that at his death he was a director in the Northwestern National Bank, and in the Minnesota Loan and Trust Co., president of the Minneapolis Millers' Association, vice-president of the Northern Pacific Elevator Co., vice-president of the Red River Valley Elevator Co., and a director in the Minneapolis Elevator Co. He was elected president of the Millers' National Association in June, 1883, and held the office with great credit until May, 1886, when failing health compelled him to refuse a re-election.

Mr. Christian's disease was cancer of the bowels, from which he has suffered severely for the past year, though in poor health for three years. His family consists of four children, who were with him to the last. The

decide at what point the bad effect of such heat commences. We asked Messrs. Barre & Proirer Jeune, of Dreux, two of the most practical millers in the neighborhood of Paris, to supply some flour made under the best conditions; the following are the results of experiments, communicated by Mr. Colomb-Pradel:

The flour submitted to the test was roller-made, which had not been subjected to any abnormal increase of heat in the manufacture; the average quantity of gluten in the three samples analyzed was 1.70 per cent.

After submitting the samples of flour up to 51 deg. of heat during seven hours, and to 61 deg. for the same period, the same quantity of gluten was extracted as before the heat was applied; up to 65 deg. the yield of gluten was likewise not materially changed. A sample of flour submitted to 71 deg. of heat

during seven hours did not yield any extractable gluten during the washing-out or levigating process; all the mass was carried away, and a sieve of $\frac{1}{4}$ millimetre did not retain any gluten.

Flour heated by the same temperature of 71 deg. during three hours gave no agglomerated gluten, but the sieve retained fragments, which, however, had lost all cohesion and all its elastic properties.

Heating up to 90 deg. during one hour, as well as that up to 100 deg. during twenty minutes, entirely prevented the separation of gluten by levigation.

All these tests were made three times over on samples of flour of 50 grammes each, enclosed in tubes hermetically sealed, so that no evaporation could take place.

To sum up, it is found that the heating of flour up to 70 deg. does not seem to have any sensible effect upon the gluten; but if this temperature be exceeded the yield of gluten diminishes in proportion as the heat increases.

These tests were made at the laboratory of the Agronomical Institute. The result is that, whether reduced by stones or rolls, if the temperature during the process does not exceed 70 deg. (Cent.), or about 150 deg. (Fah.), the gluten preserves the properties, supposing that the prevailing atmosphere maintains in the flour its normal proportion of moisture.

The question is whether the meal between millstones can reach a temperature of over 70 deg. We do not think so. In the meal-discharge spout from stones properly set we have never found the temperature of the meal more than 33 deg. above that of the ambient air. If the stones are not properly hung, or the feed is too heavy, it is possible that the meal or flour may occasionally reach a heat of 60 deg.; but it is impossible in the case of ordinary working, with either rolls or stones, that the product can be so heated as to destroy the characteristic properties of the gluten. This conclusion of course presupposes that whether between stones or rolls, at the point of contact the temperature of the meal does not materially exceed that when the meal is discharged.—*British Miller and Baker.*

GRADING CORN IN WINTER.

The Chief Inspector of Grain in Chicago recently issued a circular recommending a change in the manner of inspecting corn that is received there during the winter. He proposes to designate as "new" all of it that appears to be dry enough to pass as No. 2. The Grain Receivers' Association at a subsequent meeting adopted resolutions which disapprove the recommendation of the Inspector. Thereupon the *Chicago Tribune* is moved to remark:

"The whole question—and it is an important one to the trade—hinges upon the fact that corn may seem to be dry when frozen, but develop a considerable quantity of dampness on thawing out in the spring. It is then very liable to heat and spoil. Hence arises a danger of passing corn into the speculative grade when it really belongs to a lower one which cannot be trusted to keep in store till the germinating season comes. As the owners and receivers of the corn are always on the lookout for cause of complaint about the

rating of their property lower than it will bear, there is a constant pressure on the working inspectors to rate it too high and let the buyer take the consequences if he allow it to stay in store till the arrival of the risky season. Sometimes these consequences have been very serious. About a dozen years ago nearly all the corn in store in this city—and there was a big lot of it—was black, and much of it became so mushy that it would not run down the elevator spouts when the owners tried to take it out of store. That taught the trade a lesson, and a good many operators looked with favor upon the old-fashioned idea that unless the corn was wanted for immediate use it ought to pass the winter on the cob, while in no event should it be graded as No. 2 till the May succeeding the year of its growth.

THE BUSINESS OUTLOOK.

We take the following extract from the semi-annual circular of the R. G. Dun & Co. Commercial Agency, which we think of interest to our readers:

"The very marked decrease in the number of failures indicates that the trade of the country is in a state of surprising prosperity, when we consider the strain which the commercial body politic has been called upon to undergo from the loss of confidence incident to the widely extended labor troubles of the last few months.

"Following a season of depression and absence of profit, the adverse conditions encountered during the half-year might have resulted most disastrously, but fortunately there was a condition of preparedness for even an almost total cessation of business in large areas of country, and the half year has closed with disasters far less serious, and far less numerous than might have been anticipated. In some respects the six months under review have been fruitful of good results. The conflict between labor and capital, which seemed at all times impending, and which, it was feared, would in the end result ruinously for both interests, has been, in a measure, decided. The result is, that a serious doubt has been weighed and measured, and the extent of an evil heretofore unknown, pretty well ascertained. The extensive labor organizations, and the supposed large revenues which would sustain strikes, and resistance generally to the ordinary laws of trade, are not so seriously estimated now as they were six months ago. There is therefore a greater disposition to extend business operations in the full knowledge of the last six months than at any time for some years past. There is a sense of relief in the minds of merchants, bankers and capitalists, arising more or less out of the events of the past six months, in the belief that the worst that could be expected from the unfavorable conditions has occurred, and, further, that for the future there is a much better and clearer prospect for the commerce of the country. The miracle is that under such a strain mercantile disasters so few and insignificant have occurred. It shows how solid are the foundations of the business fabric, that shocks so severe could be borne with so little damage. It is true that the profits realized have been very slight in many sections of the country, and that, notwithstanding an extremely favorable opening of the season and a steady increase in the volume of business in the last few weeks, the

results of the first six months of the year in the shape of returns are not at all satisfactory. For the remainder of the year, however, the prospect is more than usually good. There seem to be fewer disturbing elements than ever before, confidence is almost universally restored, and the promise of an abundant harvest is well assured, and the autumn season is now looked forward to as likely to yield very liberal returns in trade and banking circles.

There appears to be a better adjustment of values prevalent than for some years past, offering surer opportunities for a profit in the transaction of business. A certain settled standard has succeeded the shifting, unknown basis which has hitherto prevailed, and is a powerful aid to the establishment of the confidence now being gradually restored. The earning power of large corporations, whose securities are held widely throughout the country, such as railroads, manufacturing concerns, banking, and other representative institutions, is now apparently more assured than at this time last year. The steady improvement in the railroad situation is the best indication in this direction, reports showing, not only an increased tonnage, but at rates that yield fair returns. A more certain income for a large class of security holders may therefore be relied upon, and a more settled condition of trade among this class is thereby rendered possible. There is a great increase in the class of security holders, and the number of people in the United States who now live upon the interest of their investments and of loans has of late years enormously increased. Whatever contributes to permanency and certainty of income for this class helps general trade now to a greater extent than ever before. Hence the cessation of the great railroad wars, which, last year, were so destructive of values, is of importance as indicating that the immense capital invested in this means of communication, is now likely to earn a fair return, a matter of great importance to the general trade of the country.

The growth of wealth and money earning capacity of this vast country in the last few years is illustrated by the gradual decline in the rate of interest, the consequences of which are likely to be very important. The rates now prevalent of four and five per cent are almost as universal as five years ago were six and seven per cent. This cheapness of money, while on the one hand it indicates a great abundance and an approach to the monetary conditions which prevail in the wealthiest countries of the old world, is likely on this new continent to have the most important consequences in the extension of undertakings impossible in countries less in size and with restricted resources. This cheapness of money, with confidence restored, and a fairly prosperous condition of affairs existing throughout the country, is likely to stimulate all new enterprises, while the economy with which business can now be transacted, owing to the low rates which prevail, is full of encouragement for the future.

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.

We will send the U. S. Miller for one year and Ogilvie's Handy Book for \$1.00.

Superlative Machines take the Lead!

BLUE EARTH CITY, MINN., JUNE 28, 1886.

SUPERLATIVE PURIFIER MFG. CO., MILWAUKEE, WIS.

GENTLEMEN:—You wrote us sometime ago enquiring how we liked the American Bolters and the Superlative Purifiers.

The **American Bolter** has worked very satisfactorily in every respect, under all conditions, and we believe it to be **one of the best Bolting devices ever put on the market**, as we have seen many and tried many, but **have never found its equal**.

The **Superlative Purifiers** are a complete success in every respect. **Purifies without waste, and has the most perfect working brush ever used on a Purifier.**

Yours very truly,

FRANCISCO, PRIDE & WING.

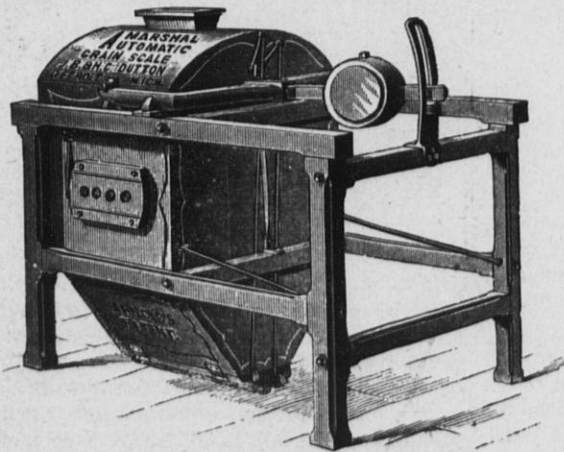
Homer C. Wing, Miller.

ADDRESS FOR PRICES, ETC.,

SUPERLATIVE PURIFIER MFG. COMPANY,

MILWAUKEE, WIS.

Marshall Automatic Grain Scale



FOR USE IN

**FLOUR MILLS,
BREWERIES,**

Malt Houses,

ELEVATORS,

Distilleries & Rice & Mills,

OIL MILLS,

Starch Factories, &c.

This Scale is designed for weighing and registering the amount of grain transferred from one point to another. The weighing and recording is absolutely correct, and the machines are sold with a guarantee to that effect. By their use the miller can tell at any time how much wheat he is using to make a barrel of flour and know at once whether he is milling at a profit or loss. This scale can be used with equal advantage by shippers of grain or others who desire to know how much grain, flour feed, bran, shorts, screenings, coal (or any other thing that can be spouted), is being transferred, with a perfect record made of same.

J. B. & H. C. DUTTON, Detroit, Mich.

Gentlemen: We have used the Marshall Automatic Grain Scale in our mill for six months, and it has proved entirely satisfactory.

Yours truly,

ELDRED MILLING CO.

J. B. DUTTON & CO., DETROIT, MICH.

No. 52 WOODWARD AVE.

SOLE OWNERS OF THE PATENT.

Also handle a full line of Flouring Mill Machinery.

ELEVATOR BARN.

The vast change that has taken place in our farming operations in late years has necessitated a corresponding change in the means employed in successfully conducting a farmer's business. The great farms of the West and Northwest, the stock and dairy farms, cannot be conducted on the same happy-go-lucky basis as an eighty-acre patch. The big farmer must be a business man and pursue business methods.

Some of the barns on the big farms resemble elevators much more than the barns of olden time. Many of them have grain dumps, conveyors, elevators and fanning mills; in fact anything that will tend to lighten labor by requiring a minimum of hands, or render the final returns the largest. Many farmers imagine a fanning-mill, for instance, will only take out stuff that otherwise the grain man will pay for. This is fallacious. The grain man saves himself and the farmer makes money by taking the dirt out himself, rather than by letting the elevator man dock him for it.

All such machinery as dumps, fanning mills, etc., are a positive gain to the farmer both in time and money, and we are glad to see that the better class of farmers are so rapidly adopting such devices. Almost all the furnishers of elevator machinery have more or less trade with farmers of this class, and the trade appears to be growing rapidly. —*American Elevator.*

PLEASANT PARAGRAPHS.

"Now, James," he said to his new son-in-law, when the couple had returned from their bridal tour. "You have money, and you will probably want to speculate more or less. You of course know that I am a broker?"

"Yes, sir."

"And in case you make any deals—"

"Certainly, sir; but you should remember that while circumstances make a father-in-law, choosing your broker is a matter of business.—*Wall Street News*.

TEMPORARILY Embarrassed Thespian—"What, only, \$5?"

Cautious Uncle—"Oh! te vatch het petter chewels I would give you more."

T. E. T.—"Look here, Levi! I believe that if I brought you the Kohinoor you'd find some fault with it."

Cautious Uncle—"Vell, you know dere ain't much market now for dem larch diamonds."

"SAY, old man, I'll have to recall that invitation I gave you for a dinner next Saturday." "Certainly; but, old fellow, I hope there's nothing wrong." "O, nothing at all; but, we've suddenly taken a notion to observe Lent at our house." "Indeed?" "Yes. You see, I dropped a cool \$50,000 in stocks, and my w fe has discharged her cook; I'm beginning to take an interest in religious matters."

A COUPLE of Dresdeners were promenading on the Bruhl Terrace one night watching the meteors. Said one of them: "Do you know that if you happen to wish anything when you see a shooting star, that wish is certain to be fulfilled?" "Is that a fact?" "Undoubtedly." "Well, then, I wish you to lend me fifty marks on the spot."—*Der Zeitgeist*.

A GENTLEMEN once asked a little girl, an only child, how many sisters she had, and was told "three or four." Her mother asked Mary, when they were alone, what induced her to tell an untruth. "Why, mamma," cried Mary, "I did not want him to think you were so poor that you hadn't but one child. Wouldn't he have thought we were drefful poor?"

"THERE'S nothing like honesty," said the Indiana inn-keeper, "and I am proud to say every one of my children is carrying out the noble precepts that I infused into their minds when they were young." "By the way, Mr. Husher, what has become of your children?" "Well, Harry and Dick are manufacturing oleomargarine in New York; George is running a policy shop in Chicago and Lizzie and Ella are just now Circassian girls in a Buffalo dime museum."—*Tid Bits*.

HARD TIMES.—First Dutchman—"Jake, vat you going to gif. your son for a birt-day bresent?"

Second do.—"I don'd know; it's putty hard times. "I guess I haf some buddons sewed on his clothes."

First do.—Yes, dat's so. I guess I haf my boy's hair cut."—*The Judge*.

A MINISTER may, occasionally, be carried away with the inspiration of his theme, but he generally gets back in time to take up the collection.

A FAMILY SURPRISE.—Mr. T., of a prominent banking house, reached home at 3 o'clock one morning this week. "William, is

that you?" asked his wife. "W-w-why!" said William, with profound surprise, "w-who else d-d-did y-you ex-p-ect?"

IN the Peshawur cemetery in India is the following amusing epitaph: "Sacred to the memory of Rev. —, missionary, aged —, murdered by his chowkidar. 'Well done, thou good and faithful servant.'"

THE Tri-State Construction Company is no more. It was organized by a broken-down wheat speculator in Chicago, and he admitted a grocery clerk as a silent partner. The nominal capital was \$3,000,000, and the object was to erect bridges, railroads, steamboats and wheat elevators. The paid-up capital was 75 cents, 70 of which was contributed by the clerk, and is a dead loss. The cause of the failure is attributed to the refusal of the Green Front saloon longer to carry the President on its slate without old accounts being squared up.—*Wall Street News*.

THEY tell a good story on a lawyer of Wooster, Ohio. A client charged with stealing a hog admitted his guilt to his counsel. The latter was noted for his honesty in private life. After thinking the matter over, he said: "John, cut that hog exactly in half and bring one half to me." John obeyed. The evidence for the prosecution was weak, and when the counsel for the defense arose he won the case by saying to the jury: "Gentlemen, I can hold up my hand to heaven and say that the defendant has no more of that hog than I have."—*Pittsburg Telegraph*.

A HEROIC HUSBAND.—"So you have given up smoking to accommodate your wife," said Judge Pennybunker to Kosciusko Murphy.

"Oh, yes, she wanted me to give it up, and I did so."

"Didn't you find it pretty hard to give it up?"

"Yes, I suffered a good deal during the first week, but after that I felt all right."

"What did you do to allay the craving for tobacco?"

"I took to smoking again. That allayed the craving right off."

SCOTCHMAN—"What'll ye hae?"

Frenchman—"I vill take a drop of contradiction."

Scotchman—"What's that?"

Frenchman—"Vell, you put in de whiskey to make it strong, de water to make it weak, de lemon to make it sour, and de sugar to make it sweet. Den you say: 'Here's to you!' and you take it yourself."

A CONNECTICUT man is usually sharp at a bargain when he gives his mind to it. A Waterbury weekly newspaper made an invariable rule to charge \$1 down for a year's subscription, and \$1.25 when the subscriber was in arrears. One subscriber was three weeks behind when he went to renew his subscription the other day. He offered his dollar and was told that \$1.25 was the price. "I'll stop my paper," said the subscriber. "Here are the 12 cents I owe you for the three papers." After the editor had pocketed the 12 cents the subscriber handed out the same dollar and said he guessed he'd subscribe for a year. He saved just 13 cents by the operation. He is 75 years old.

THE striking mania reached a colored preacher in a town in Mississippi the other day, and he arose before his congregation and said: "Chil'en, I'se bin tryin' hard to

preach de gospel on \$2 a week, an' I'ze got discouraged. You has either got to raise the salary to \$3 or I'ze gwine to go out an' skirmish fur hogs an' chickens 'long wid de res' of you an' take my chances of gwine to Heaven." By a unanimous vote of the congregation it was decided to continue the salary at \$2 and let him skirmish.

"CAN I take a risk on your life?" asked an insurance agent as he entered a Montgomery street lawyer's office. "No, thank you. I am going to be married next week," replied the lawyer with a far-away look in his eyes. "What has your marriage to do with it?" asked the insurance agent with surprise. "A good deal, sir. One risk is all I wish to carry."—*California Maverick*.

PROFESSOR, looking at his watch—"As we have a few more minutes, I shall be glad to answer any question that any one may wish to ask." Student—"What time is it, please?"—*Troy Times*.

IT has become fashionable for girls to have their hair cut short. Let us all heartily support this move, for if there is hair in the hash it will not be too long to swallow.—*Philadelphia Chronicle*.

FAMILY PHYSICIAN "I'm afraid that you have been eating too much cake and candy. Let me see your tongue?"

Little girl—"Oh, you can look at it, but it won't t ll."

AN intelligent bull always charges at a red flag. There are some really good points in a bull.

A BANK cashier seldom goes off until he is loaded, and then he makes no report.

MR. HOYT SHERMAN, JR., the U. P. passenger agent was intercepted the other day by a man who boldly announced:

"I want you to give me a pass to Oxford, Idaho, and return."

"Indeed; on what grounds?" asked the agent.

"On these grounds; that, if I don't get the pass I'll walk every foot of the way with my hob-nail boots and wear out your infernal ties for you."

"What's your name, stranger?"

"Joe Rich, of Idaho."

The pass was granted without further ado.—*Salt Lake Herald*.

MILLING IN GERMANY.

IN the course of an address delivered a short time since, Herr J. J. Van den Wyngaert, the much respected President of the Association of German Millers, made the following remarks on the present condition and future prospects of milling in Germany. Referring to the fact that for the moment no very essential changes are proposed in milling methods, he expressed the opinion that the fresh mechanical departure of a few years since had indirectly been the means of causing much loss to German millers, inasmuch as many persons had rushed to reconstruct their mills with insufficient means. Now what had happened? After the heavy costs of refitting had been met, the miller had found himself without the necessary working capital, and in too many cases, the eventual result had been bankruptcy. The new methods had brought other disadvantages in their train. A door had been opened to excessive production, in that the new machines absorbed less power

than the old. He was inclined to believe that the difference in productive capacity between two mills of equal capacity—nay, he might almost say, of equal horse power, the one being on the old and the other on the modern system—might be reckoned at from 33 to 50 per cent. in favor of the latter. Again it must not be forgotten that while production increased, the outlets for their products had been most seriously narrowed. Whereas formerly the German millers had controlled the markets of Norway, Sweden and Holland, as well as to a lesser extent those of Belgium and England, they could now only find customers in Norway and Sweden for some of the coarser milling products used in preparing the black bread consumed by the peasantry of those lands.

The effect of the recent changes in the German tariff system must not be overlooked. It could not be denied that German had been placed by that measure at a disadvantage with their competitors abroad. It was true that the increased import dues on grain had been supplemented by an adequate duty on flour, and that by this means the market had been kept free from being flooded with American and Austro-Hungarian flour. On the other hand bran paid no duty, and in consequence of this many mills had suffered severely. Still it must be remembered that the inconveniences to which he had referred were, after all, inevitable in a time of economical revolution, such as they had been undergoing. To look at the bright side, he felt that as regarded the mechanical conditions, the mills of Germany were quite on a level with those of any other country, and that, given raw material of equal quality, they were capable of competing with the best Hungarian mills in the manufacture of flour. It was precisely in the supply of raw material that their weakness lay. Although Germany could raise quite enough wheat to feed her mills, yet the millers were obliged to look abroad if they wanted wheat to make sound, strong flour. Now this was owing to the fact that during the past ten or fifteen years German farmers had more and more cultivated a wheat of rich yield indeed, but of indifferent quality, being poor in gluten and altogether unsuited for the production of a flour possessed of any panificatory value. If the farmers persisted in growing this wheat it was for no want of warning. The German Millers' Association had been untiring in its efforts to convince the agriculturists that it would be to their own interest to meet the miller's needs by growing the most glutinous wheat that the climate would permit, and by thus removing the necessity for foreign importations. These well-meant efforts had all and each, however, been fruitless. He believed the time would come when the farmers would have cause to regret their present policy. Their ultimate support was the Berlin grain market, and if that support were withdrawn, where would they be then? The market required for the class of business known as "futures" a common and poor kind of wheat, which was likely to remain in stock and be a sort of shuttlecock for the battledores of speculators.

Some 12 years ago the delivery of the wheat known as Rivetts or English "Grannen-wheat" was sanctioned, and the result had been the permanent flooding of the market with this kind of grain. The mean quantity in permanent stock might be estimated at

40,000 tons, which could not be moved, because millers had come to know the worthlessness of its quality. It was probable that this situation would eventuate in some decisive measures on the part of the market committee. No doubt the fact that Berlin had not a single wheat mill was explicable by the difficulty of procuring good grain in that city. On the other hand, there were five mills occupied in rye milling, possessing a collective grinding capacity of 550 tons a day. Of course this enormous amount was far more than sufficient for the needs of Berlin, and as a matter of fact, those mills supplied a very large area, and the North might be said to control the rye flour market of South Germany.—*The Miller* (London.)

ITEMS OF INTEREST.

A METHOD of preventing the incrustation of boilers that is little used here, though quite common in Germany, is as follows: The feed water is forced through one of the usual feed contrivances into the steam dome in which it is mixed by a jet of steam entering concentrically, in order that it may, during the mixing, be cast violently against the cover of the dome. The effect of this movement is that all the water receives the full temperature of the surrounding steam. By this sudden heating air and carbonic acid are withdrawn from the water, and not only the carbonate of lime, but the sulphate of lime and magnesium are extracted, and the precipitate occasioned is periodically removed.

To ETCH your name on steel tools proceed as follows: Clean thoroughly of grease, and then spread a thin coat of beeswax, or paraffine, on it at the place where the name is to be. This must be as thin as possible. Then, with a sharp needle point, write through the wax to the steel. Paint this over with a mixture of nitric and muriatic acid, in the proportion of six to one respectively, and, when bubbles cease to rise, the work is done. Wash in strong soda water.

THE consumption of cotton seed oil has reached a surprising magnitude within the past few years. It stands to-day the great competitor of lard and tallow. In fact, its use in the arts has depressed the price of tallow to less than four cents a pound, which is not more than 60 per cent. of the average price of many years past. Enormous quantities of cotton seed oil are sold to European buyers as a stearine grease at about 2½ cents per pound in New York. Nearly all the soap manufactured in this country now is made from cotton seed oil. The oil is cheaper than tallow or grease even at their reduced prices, and hence, as the result of its introduction, the price of common soaps is 10 to 15 per cent. less than three years ago.

THERMOMETERS FOR WHITE HEAT.—There have recently been devised in Europe some new thermometers with platinum or porcelain bulbs by which very high temperatures, even those of a white heat, can be measured without having to resort to an expensive and troublesome pyrometer. The reading is taken in precisely the same way as at present with an ordinary thermometer, but the result is obtained by the pressure of air inclosed in the tube, which is exposed to the heat. This pressure acts directly on a vertical column of mercury. The bulb is

hermetically sealed and the instrument is unaffected by changes in the height of the barometer.

TO CURE DAMP CELLAR WALLS.—The following, it is said, will accomplish an admirable result: Boil two ounces of grease with two quarts of tar for nearly twenty minutes in an iron vessel, and having ready-pounded glass one pound, slaked lime two pounds, well dried in an iron pot, and sifted through a flour sieve. Add some of the lime to the tar and glass, to form a thin paste only sufficient to cover a square foot at a time, about an eighth of an inch thick.

PRESERVING FLOUR.—The following process of preserving flour is being carried on near Utrecht, Holland: The flour is placed in a large vat or chest and heated to a certain temperature by the use of steam pipes. It is then subjected to a hydraulic pressure, which reduces it to brick form. In water-tight packages flour thus preserved is said to keep fresh for years.

A FEW PROPOSITIONS FOR YOUR CONSIDERATION.

In order to add to our list of regular subscribers to the UNITED STATES MILLER, (established May, 1876.) we submit the following propositions, one of which we trust you will accept by return mail. The subscription price of the U. S. Miller alone is \$1.00 per year, but if you will send us your order within 30 days from receipt of this we will send you for one year

For \$1.00 "The U. S. Miller" and "Ropp's Calculator" or "Ogilvie's Handy Book" or "The Fireman's Guide" or "Fifty Complete Stories" or "High and Low Life in New York."

For \$1.50 "The U. S. Miller" and "Everybody's Paint Book" or "Webster's Practical Dictionary" or Potter and Huntington's "Millers' Exchange Tables."

For \$2.50 "The U. S. Miller" and "Moore's Universal Assistant and Complete Mechanic." (The price of the book alone is \$2.50.)

For \$3.00 "The U. S. Miller" and "Dr. Cowan's Science of a New Life," an invaluable work for all married people or those contemplating marriage. Fully illustrated.

For \$3.50 "The U. S. Miller" and "Gibson's Gradual Reduction Milling," the best work for the use of operative millers published.

For \$4.00 we will send you for one year all the following milling papers, "The U. S. Miller," "The American Miller," "The Northwestern Miller," "The Millstone," and the Corn Miller." If you are now a subscriber for any of these papers you will be credited for another year, or if preferred will send papers to any other address desired.

For \$5.00 we will send you the papers named in our four-dollars offer and "The Milling Engineer," a two-dollar paper.

Address all orders to

E. HARRISON CAWKER,

Publisher,

No. 124 Grand Ave., Milwaukee, Wis.

"Mill for Sale," "Mill for Rent," or "Machinery for Sale," short advertisements, \$1.00 each insertion.

NEW PUBLICATIONS.

"The Annual Report for 1885 of the Wisconsin Agricultural Experiment Station" is at hand, and forms a tasty volume of useful information to all directly interested in agricultural pursuits.

We acknowledge with thanks the receipt of a very handsomely bound copy of the proceedings of the Millers' National Association, from S. H. Seamans, Esq., secretary of the association.

"The Chronicle Fire Tables for 1886," published by The Chronicle Co. Lt. 33 Pine street, New York, have been received. The work has been compiled with great care. It is an invaluable compilation of fire statistics, and fills an important place in the library of the editor as well as the insurance man. The thinking public will find much food for thought in this handy volume.

Messrs. H. V. and H. W. Poor, No. 70 Wall street, New York, publishers of "Poor's Manual of Railroads," announce that they now have ready for delivery the first number of "Poor's Directory of Railway Officials and Railway Directors," a new work, which hereafter will be published annually in March, and which contains: (1) A list of the officials of every railroad in the United States, Canada, Mexico, Central America, South America, West Indies, Great Britain and Ireland. (2) A list of the officials of street railroads in the same countries. (3) A list of the directors of all railroad companies in North America, alphabetically arranged, with their addresses. (4) A list of the officials of organizations auxiliary to the railway system—such as fast freight lines and transportation companies; bridge and union depot companies; packet, steamboat and steamship companies; parlor, sleeping car, equipment, express and telegraph companies, etc. (5) A list of the officials of industrial establishments dependent on the railway system—such as locomotive, car and bridge works, rail mills, etc., etc. (6) A list of the officials of the leading exchanges and commercial associations throughout the country. (7) A list of the leading contractors throughout the country whose specialty is the construction of railroads and works connected therewith. (8) A list of the officials of new railroads now in progress in the country. (9) An alphabetical list of the officials of all the American railroads, with a convenient system of reference showing the lines with which they are connected.

BUFFALO ELEVATORS.

Following is a list of the elevators in Buffalo, N. Y., with their capacity:

Bus.	Bus.
Bennett..... 600,000	Niagara B..... 1,200,000
Brown..... 250,000	National Mills... 100,000
City..... 600,000	N. Y., L. E. & W.
C. J. Wells... 350,000	R. R..... 650,000
Connecting Terminal R. R. Co. 1,200,000	Richmond..... 550,000
Coatsworth... 40,000	Schreck..... 50,000
Erie Basin..... 200,000	Sternberg..... 150,000
Evans..... 250,000	Sturgis..... 300,000
Exchange..... 250,000	Swiftsure..... 150,000
Kellogg & McDougal..... 65,000	Tift..... 350,000
Lyons..... 100,000	Union..... 70,000
Marine..... 125,000	Watson..... 600,000
Niagara A..... 800,000	Wilkeson..... 250,000
	Wheeler..... 200,000
	Wm. Wells..... 200,000
Total.....	9,350,000

The British Baker for July says: "American millers must not forget the fact that all the brain and all the skill in the milling world are not west of the Atlantic. British millers have pluck and skill and intelligence, and are pushing on in flour milling. American wheat has its advantages, but English markets offer a fine selection of wheats, and when sufficient skill has been developed among our millers then the tug of war will come, and America will have all her energy and intellect fully occupied to keep in the front. Milling here is passing into larger and larger hands, and all that money can do is being done to make the battle rage with fury, for the old Anglo-Saxon blood can brook no defeat."

We will send the United States Miller, The American Miller, and The Northwestern Miller, The Millstone and The Corn Miller, for one year, to any address in the United States or Canada for \$4.00, or to any Foreign Country for £1. 3s.

STANDARD FLOUR SACKS.

The Chicago Flour-Dealers' Association held an adjourned meeting June 21. The special committee appointed at a previous meeting to select a standard for export flour sacks made a report, in which they say: "The committee wish it distinctly understood that this standard does not undertake to limit the miller who wishes to furnish a better sack, but fixes a limit below which, in quality, heft and strength, sacks cannot be used without liability of loss to millers. Half-barrel, 140-pound jute export sacks shall be from the best material, double stitched, not using less than an equivalent to 40x49 mangled or crape finished material, weighing not less than twelve ounces per yard of forty inches in width, or sixteen ounces for the complete bag. If from starched or sized material, the complete bag should not weigh less than seventeen ounces. Barrel, 280-pound jute export sacks shall be made from the best material, double stitched, not using less than an equivalent to 50x63-inch mangled or crape-finished material, weighing not less than eighteen ounces per yard of fifty inches in width or twenty-five ounces for the complete bag; if from starched or sized material, the complete bag weighing not less than 26½ ounces. Seamless jute sacks must be from the same heft and quality of material, etc., but require 4 per cent. less material and may weigh 4 per cent. less. Half-barrel, 140-pound cotton export sacks shall be double-stitched best drill or Osnaburg, free from starch or sizing, being of drill not less than an equivalent to 40x47 inches, or, if Osnaburg, not less than 37½x51½-inch material; the complete bag weighing not less than 9½ ounces." The report was adopted and ordered printed and sent to all millers and flour dealers.

Now is your time to send in your subscriptions for milling papers and other periodicals. Read our propositions on another page.

THE DIFFERENCE.

JULY.

Mr. Champignon—"In making out your invitations, my dear, don't forget Mr. Corncomer. He is an immensely successful and highly honorable member of the Board of Trade. Why, they say he cleared a cool hundred thousand last week."

Mrs. Champignon—"Certainly; we must have him by all means. We all like him so much."

DECEMBER.

Mrs. Champignon—"Isn't that young Corncomer coming up the street?"

Mr. Champignon—"Yes; don't recognize him. He lost fifty thousand on the Board last week. This speculating is nothing but gambling, anyway."—*Rambler.*

Gas Engine for Sale

One "OTTO" GAS ENGINE, 10 H-P., in very good condition, for sale cheap. Address

J. C. SUNDIN,

124 Grand Ave., Milwaukee.

Mills For Sale.

Short advertisements will be inserted under this head for One Dollar each insertion.

FOR SALE AT A BARGAIN.

A No. 1 four-run steam mill, located at Browning, Linn Co., Mo., on the C. B. & K. C. R. R. The machinery was furnished by the Nordyke & Marmon Co. Will sell one-half or all at a very low price, and on good terms. Reason for selling, I am not a practical miller. Address

JAMES H. WALKER, Browning, Mo.

FOR SALE.

A first-class 40-barrel water power stone and roller flour mill, situated within forty rods of side track of the C. M. & St. P. R. R. Country all settled up. Last year's grinding 20,000 bushels on custom work. Address

H. F. FISHER, Camp Douglas, Wis.

MILL FOR SALE.

Two runs of stone; one Garden City Purifier; one Victorsmutter; one separator; one corn sheller; two reels; one Lefel wheel 48-inch under ten-foot head, and the head can be increased to fifteen feet if required. Plenty of water all the year around. Dam is on solid rock bottom, only 4-6-12 high. Good wheat country. Nearest railroad, 5 miles. Nearest town, 2 miles. Twenty-nine acres land, house and stable for \$3,000. One thousand dollars cash; time to suit the buyer at 6 per cent. interest. Will sell half. Address

F. J. DWARSHAK, Festina, Iowa.

MILL FOR SALE.

The whole or half interest in a 50-barrel full roller mill, on account of death of partner. Good winter wheat section, climate and location. Will take one-third on the whole value in Western land. Address

"EAGLE ROLLER MILLS," Plymouth, Ill.
or U. S. MILLER, Milwaukee, Wis.

FLOURING MILL AND ELEVATOR FOR SALE.

All or one-half interest in a first-class 75-barrel steam flouring mill and elevator. All new and in good order. Located at Meriden, Jefferson Co., Kan., on the Atchison, Topeka & St. F. and the L. T. & S. W. Railroads; in the best wheat and corn growing county of the state. Building, heavy frame, 36x46, three stories, attic and basement, with stone engine room 22x34; all under iron roof. Capacity of elevator, 15,000 bushels; corn crib, dump and sheller. Side track to mill. Two sets 9x18 Allis Rolls; three burrs on wheat, one on corn; flour packer, scales, etc.; two Smith Purifiers; Barnard & Leas Separator; one 12-foot two-reel chest; one 16-foot four-reel chest; corn meal bolt; California Brush Finisher; one Western Corn Cleaner. Grain trade more than pays all running expenses. A splendid chance for a good miller. Exchange trade good. Mill cost over \$16,000. Will sell for \$12,000, half cash, or half interest for \$6,000, half cash, or, if not sold by July 1st, will be leased for a term of years to responsible parties.

J. O. PEEBLES, Sec'y,
MERIDEN MILL CO., Meriden, Kan.

FOR SALE CHEAP.

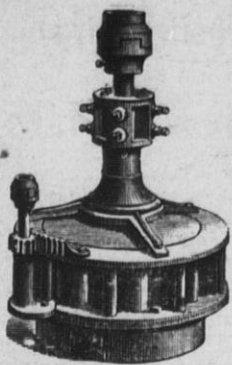
New all roller mill containing 11 pairs of rolls 9x12, 9x18 and 9x24, 6 reels, 3 purifiers, 1 centrifugal reel, 5 scalping reels, separator, smutter, corn sheller and 4½-foot feed stone. Water power mill driven by a 50-inch special Lefel wheel, 8-foot head and plenty of water the year around. Millhouse 35x50, 2½ stories; 11 feet high stone basement. The mill was built and started up new two years ago last June. It is situated in the best milling town and best wheat county in the State of Wisconsin. Only one mill to compete with in a radius of 10 to 25 miles; all a thick settled country around. The best of reasons for selling. For particulars call on or address

A. F. ORDWAY & SON, mill builders
and furnishers, Beaver Dam, Wis.

SITUATION WANTED.

Short advertisements will be inserted under this head for One Dollar each insertion.

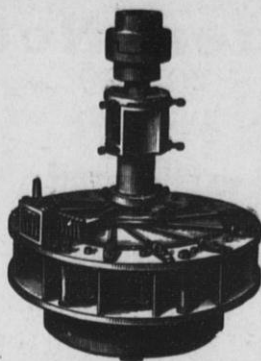
WANTED—A practical Oatmeal Miller, one who understands his business and is willing to attend to it. Can receive additional information by calling on, or addressing CHARLES D. DANA, 10 State St., Chicago, Ills.



The "HOPEWELL"
TURBINE
Water Wheel

IS THE BEST.

For full particulars address
A. J. HOPEWELL,
EDINBURG, VA.



**JAMES LEFFEL'S IMPROVED
WATER WHEEL,**

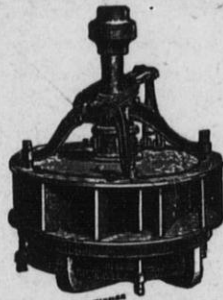
Fine New Pamphlet for 1885.

The "OLD RELIABLE" with Improvements, making it the Most Perfect Turbine now in use, comprising the Largest and the Smallest Wheels, under both the Highest and Lowest Heads in this country. Our new Pocket Wheel Book sent free. Address,

JAMES LEFFEL & CO., Springfield, Ohio,
and 110 Liberty St., New York City.

[Please mention this paper when you write to us.]

Improved + Walsh + Double + Turbine



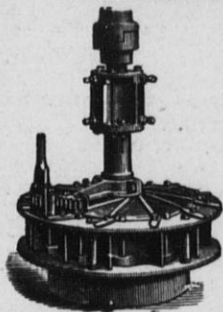
This wheel has a perfect fitting cylinder gate and draft tube combined, and allows no water to escape when closed.

POWER GUARANTEED

equal to any wheel on the market using equal amount of water. Address for particulars,

B. H. & I. SANFORD,

Phoenix Iron Works,
Sheboygan Falls, Wis.



**POOLE & HUNT'S
Leffel Turbine Water Wheel**

Made of best material and in best style of workmanship.

Machine Molded Mill Gearing

From 1 to 20 feet diameter, of any desired face or pitch, molded by our own SPECIAL MACHINERY. Shafing, Pulleys, and Hangers, of the latest and most improved designs.

Mixers and General Outfit for Fertilizer Works.

Shipping Facilities the Best in all Directions.

POOLE & HUNT, Baltimore, Md.

N. B.—Special attention given to Heavy Gearing for Pulp and Paper Mills.

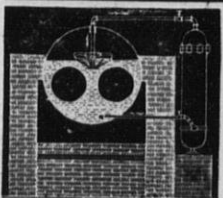
[Mention this paper when you write to us.]

**STEEL
CAR
PUSHER**

Made entirely of STEEL ONE MAN with it can easily move a loaded car. Will not slip on ice or grease.

Manufactured by
E. P. DWIGHT.
Dealer in Railroad Supplies, 407 Library St., Philadelphia, Pa.

[Please mention this paper when you write to us.]



**VAN DUZEN'S
Mechanical Boiler Cleaner**

Takes out all mud and scale forming properties from the water of Steam Boilers, keeping it clean and free from all impurities. Send for circulars. Manufactured by

E. W. VAN DUZEN, Cincinnati O.

Preserve your Copies of the
UNITED STATES MILLER

—IN AN—

ULLRICH BINDER

This binder is suitable for binding your copies of the UNITED STATES MILLER for two or more years, any required number can be taken out without disturbing its contents. Binders made for all Publications, for binding Music, etc.

ITS EQUAL CANNOT BE FOUND.

Send post paid for \$1.10. Address

UNITED STATES MILLER,
MILWAUKEE, WIS.

Did you hear us?

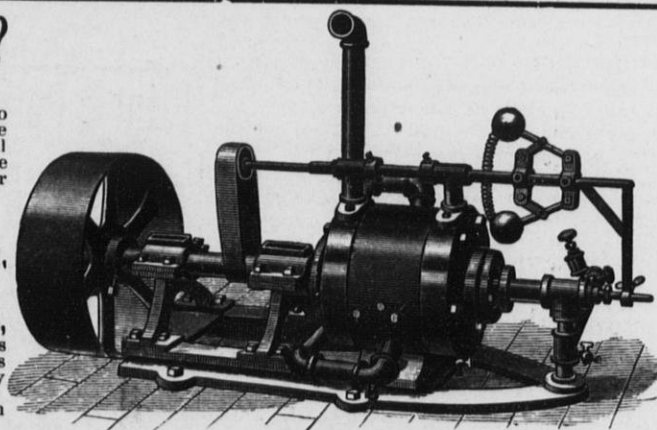
We told you over a year ago that our Engine was 'on the market to stay.' We now tell you it is the best Engine in the world, and is gaining favor every day and everywhere.

Highest Economy,
Closest Regulation,
Finest Automatic Cut-off,
Most Durable,

THE BEST in all respects and for all uses, and on prices we can double discount any engine maker in the U. S. Yes, it's a rotary, and we can prove all we claim.

If you want to know more about it send for Circulars and References.

[Please mention this paper.]



WADE & WARDELL,
Cadillac, Wexford Co. Michigan.

FROM 1-4 to 15,000 LBS. WEIGHT.

True to Pattern, sound, solid, free from blow-holes, and of unequalled strength. Stronger, and more durable than iron forgings in any position or for any service whatever.

40,000 CRANK SHAFTS and 30,000 GEAR WHEELS of this steel now running prove this.

CRANK SHAFTS and GEARING specialties. STEEL CASTINGS of every description

Send for Circulars and Prices to

CHESTER STEEL CASTINGS CO.

Works, CHESTER, PA.

[Mention this paper when you write to us.]

Office, 407 LIBRARY ST., PHILADELPHIA, PA.

JUST OUT.

The only thoroughly practical work on Modern Milling in the English language designed for the use of operative millers only.

LOUIS H. GIBSONS

Gradual Reduction Milling.

Contains 429 pages, many cuts, and diagrams for a 100-barrel mill, 70-barrel mill, a 50-barrel mill, and a 500-barrel mill. Full of interesting and valuable matter. Publisher's price \$3.00. Will be furnished with the United States Miller for \$3.50, postage prepaid. Send in your orders at once to

E. HARRISON CAWKER,

Publisher UNITED STATES MILLER, Milwaukee, Wis.

GOODRICH PASSENGER STEAMERS

TWICE DAILY EACH WAY

Milwaukee & Chicago.

Fare to Chicago \$1 less than by railroad.

Chicago and Racine Line.

Leave Milwaukee.	FOR	Arrive Milwaukee.
7:00 P. M.	Chicago	5:00 P. M.
*7:30 A. M.	Chicago	5:00 A. M.
7:00 P. M.	Racine	5:00 P. M.

Fare to Chicago Only \$2.

Round Trips, \$3.50. meals and berths included on first-class tickets.

Sure connections at Chicago with all morning trains for all points East, South and Southwest.

Sheboygan & Manitowoc Line.

Daily. Leave Milwaukee 7:00 a. m. | At Milwaukee 4:00 p. m. Arrive Milwaukee.

Manistee & Ludington Line.

Daily, leave 7 p. m., except Sunday.

Saginaw & Bay City Line. Daily except Sundays.

Leave Milwaukee 7:00 p. m. | At Milwaukee 6:00 a. m. Arrive Milwaukee. Making close connections at Ludington with F & P. M. R. R. for Saginaw, Bay City, Detroit, and all points in Northern Michigan and all points East.

Pierport & Frankfort Line.

Leave Milwaukee daily at 7:00 P. M., except Sunday.

Kewaunee & Ahnapee Line.

Leave Milwaukee Tuesdays, Thursdays and Saturdays, at 7 A. M.

Menominee & Sturgeon Bay Line.

Tuesdays, Thursdays and Saturdays at 7 A. M.

Green Bay & Escanaba Line.

Leave Milwaukee Tuesdays, Thursdays and Saturdays at 7 A. M., touching at Oconto, Menominee, Nahma, Fayette, Depere, and making close connections with railroad at Escanaba for Nezaunee, Ishpeming, Quinnesec, Norway, and all Lake Superior points.

*Mondays. †Sundays.

G. HURSON, Secretary and Agent.
THOS. FORBES, Passenger Agent.

Green Bay, Winona & St. Paul

RAILROAD

IS THE **SHORTEST ROUTE** FROM

GREEN BAY

and all points in

EASTERN WISCONSIN

-TO-

- NEW LONDON,
- STEVENS POINT,
- GRAND RAPIDS,
- WAUSAU,
- MERRILL,
- WINONA,
- LA CROSSE,
- CHIPPEWA FALLS,
- STILLWATER,
- HUDSON,
- EAU CLAIRE.

ST. PAUL, MINNEAPOLIS,

and all points in MINNESOTA, DAKOTA, and all points on the

NORTHERN PACIFIC RAILROAD and ST. PAUL, MINNEAPOLIS & MANITOBA RAILROAD.

Passengers from all points on the CHICAGO & NORTHWESTERN R'Y, south of Green Bay and Fort Howard, connect with the

G. B. W. & St. P. R. R.

-AT-

FORT HOWARD JUNCTION.

They will find it

THE SHORT LINE

to all the above points.

THE PASSENGER EQUIPMENT

of this Road embraces all the modern improvements and conveniences that tend to make traveling by rail safe and comfortable.

Be sure your tickets read via the

Green Bay, Winona & St. Paul Railroad.

S. W. CHAMPION, General Pass. Agent.
GAVIN CAMPBELL, General Manager.
GREEN BAY, WIS.

It Matters Not WHERE YOU GO



United States Fast Mail Route and Short Line,

Constructed and Equipped in the most Perfect Manner, ensuring Safety, Comfort, Convenience and Speed. It traverses the most important portion of Wisconsin, reaching with its immediate connections, nearly every town and city in the State. Located on its main line are the cities of

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- STEVENS POINT, CHIPPEWA FALLS,
- EAU CLAIRE,
- NEW RICHMOND, ST. PAUL,
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Its trains start from Union Depots in CHICAGO, MILWAUKEE and ST. PAUL, and its equipment consists of NEW AND MAGNIFICENT PALACE SLEEPING AND PARLOR CARS,

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Freight Contracted on through Bills Lading to all points in

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All freight insured across Lake Michigan. Passengers save \$2.75 to all points East.

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The Shortest, Cheapest and Quickest Route

-BETWEEN THE-

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COMMENCING MAY 17th,

the Palace Side-wheel Passenger Steamer "City of Milwaukee," will leave Milwaukee daily, Sundays included, at 11:45 noon and connect at Grand Haven with Limited Express Train which leaves at 6:00 P. M. Time, Milwaukee to New York, 32 hours.

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THE OLD RELIABLE ROUTE.

17 Miles the Shortest Line

-TO- GREEN BAY,

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-THE NEW ROUTE TO-

CENTRAL AND NORTHERN WISCONSIN.

The new line to Menominee is now completed, and opens to the public the shortest and best route to all points on the Michigan Peninsula.

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AT PLYMOUTH with the Sheboygan and Fond du Lac Division Chicago & North-Western R'y for Sheboygan and Fond du Lac.

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AT GREEN BAY with Chicago & North Western and Green Bay, Winona & St. Paul Railroads, for all points North and West.

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The Milwaukee, Lake Shore and Western Railway.

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Through the most wonderful Mineral Region of the United States; The Gogebic, Montreal and Penoque Iron Ranges. A new and rich field for the Prospector, Speculator and Capitalist. Picturesque scenery and interesting sights for the Tourist. The line terminates at ASHLAND, Lake Superior, well known as a desirable Summer Resort.

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THE BEST ROUTE AND **SHORT LINE** BETWEEN

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SHORT LINE

Between Chicago, Milwaukee and ST. PAUL OR MINNEAPOLIS, and the best route to Madison, La Crosse, Ashland, Duluth, Winona, Huron, Aberdeen, Pierre and all points in the Northwest.

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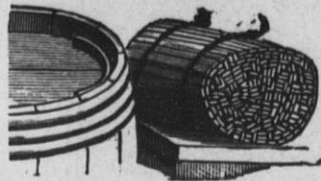
Chicago and Milwaukee, Chicago and St. Paul, Chicago and Council Bluffs, And Chicago and Winona.

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Rapid * Grain * Dryer!

FOR RAPIDITY, SATISFACTORY RESULTS AND THOROUGHNESS

UNEQUALED!

Get the Best; the Best is Cheapest. No Parch, Shrivell, Discoloration or other evidence of Artificial Drying.

The grain is dried at the rate of about 1,000 bushels per hour, the automatic arrangements and low temperature used insuring evenness and uniformity. The capacity, however, can be increased in proportion to power and space afforded, these latter being the only limit. In addition to drying evenly, the operations of the very dry air, peculiar to this machine, remove from the grain any slight odor from sweat or heat, and put it in condition to grade. The air used is a prepared air, and has all the varied degrees of low temperature necessary. Damp grain made as rules of inspection require, or as dry even as old grain. Thus the BATES' DRYER is the most perfect as well as rapid dryer extant. It is beyond question The Champion Grain Dryer. Absolutely safe against fire.

New Corn can be made to grade immediately by the BATES' CHAMPION RAPID GRAIN DRYER. Corn of present crop, all over the country, is too damp to grade, and likely to be thus for months to come and can only be made to grade by artificial means. The BATES' DRYER is the only dryer that can dry the Grain in large quantities at trifling cost, naturally, and not show parch, shrivel, or other evidence of artificial drying; the drying by this method being precisely that accomplished by a natural dry atmosphere, only that the machine accomplishes in a very brief space of time what would ordinarily require months. It is not necessary by this process to dry out any more moisture than will bring the grain up to the desired grade.

Dryers for grains of all kinds, including Brewers' Grains, cotton seed, flax, and grass seeds, glucose refuse. Also for Phosphates, Starch, Glue, Fruit, Lumber, Shingles, and Veneering, Hides, Leather, Hair, Moss, Wool, etc.

THE BATES' FERTILIZER DRYER, accomplishes about three times the work accomplished by any of its competitors with about one-quarter of the steam. Besides grinding and drying the offal, this dryer delivers it cold and ready for immediate shipment.

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To Preserve Iron and Keep Boilers and Flues from Scaling, use

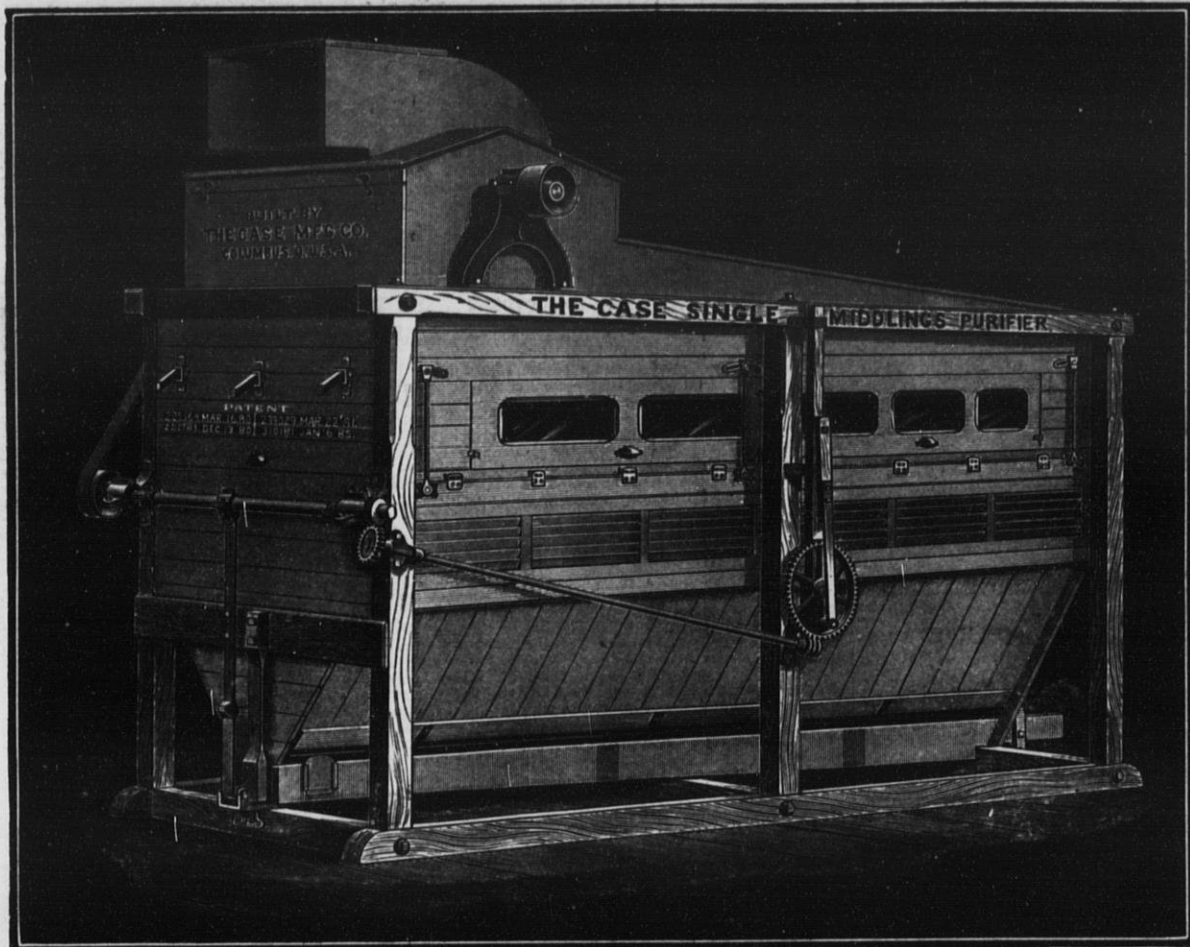
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It has been practically demonstrated that a scale one-sixteenth of an inch thick on a Boiler will require twenty per cent. more fuel than a clean Boiler, while a scale one-fourth of an inch thick will require sixty per cent. more fuel. The scale is a non-conductor of heat, and its formation in Boilers is general through the United States, more especially in the lime and alkali districts, and enough attention has not been paid to keeping Boilers free from accumulations. The cost of fuel for steam purposes is an important item, and any system for economy in this direction should receive due consideration. I am manufacturing a **BOILER PURGER** which I claim is the best made: *First*.—That it will remove the scale from any Boiler, and, by its continued use, will keep it from forming. *Second*.—That it will not injure the Boiler, Valves or Cylinder, nor foam the water, nor injure the water for drinking purposes. It is easy to use, being in a liquid form, it can be put directly into the Boiler, through the Safety Valve, Whistle Valve, or by Force Pump, or into the Tank. *Third*.—That by its use, from fifteen to forty per cent. can be saved in the cost of fuel, besides the expense of putting in new flues every one or two years. Address, for prices, etc., to

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CHICAGO, 255 South Canal St. MILWAUKEE, 343 Virginia St.
MINNEAPOLIS, 327 Hennepin Ave. DETROIT, 36 Jefferson Ave.

[Mention this paper when you write to us.]



OUR "SPECIAL" PURIFIER,

RECENTLY IMPROVED AND PERFECTED.

THIS machine has some new and very valuable features, and we think we can justly say it is the **PRINCE PURIFIER OF THE WORLD.** It has an enclosed case or sides. It has the lightest Shaker made. It has no conveyors to wear the middlings. It has a complete aspirator at the tail. It has a double shaking spout for a cut-off. It has our perfect Automatic Feed. It has our unequalled Cloth Cleaner. It has brass eccentrics three inches long. It has the most perfect control of the blast. It is guaranteed to run five years without any attention except to oil the bearings, and is beyond any question the most perfect, practical, and complete machine made in the world. We will back this statement up by placing it on trial beside any other Purifier made, and if it does not prove all we claim, it may be removed. We know just what we are talking about, and will enter into public tests, and pay all expenses of same, if others can be induced to do so.

Our Purifiers have no "pockets" to fill up and interfere with the working of the dust collector. They have no subdivided compartments to catch dust and allow it to slide back on the riddle. They have no brush to wear out the cloth, and drop barrels of good middlings each day into the tailings and low grade stock, a waste which costs the millers of this country *hundreds of thousand of dollars annually, but they don't observe it.* They have no roller feed to choke off, or feed half the time only half the width of riddle, thus tailing off rich material and permitting the middlings to be poorly purified. Hundreds of thousands of dollars are lost each year by the miller through *imperfect feed.*

We have none of these imperfections which can be found on the so-called "Standard Purifier," and remember we have not made a statement in this circular about Purifiers but what is **GOSPEL TRUTH.**

During the past year we have settled all disputes with the Consolidated Middlings Purifier Company, so that the Purifiers now made by us are licensed under all patents, about one hundred in number, owned by that Company; besides being protected by our own patents, which embody several most valuable and important features, owned and controlled exclusively by ourselves.

OUR IMPROVED ROLLS

are gaining friends wherever they go. They are the most durable and easily handled of any Roll on the market. They are finely finished in the light of the mechanical arts. Many millers have asked us, "Were not these machines made expressly for some Exposition?" and no wonder, for each one is a model of elegance. Our **PATENT AUTOMATIC FEED** should never be lost sight of when you are buying a Roll or Purifier. It always runs like clock-work, and even better, for it never stops when it should run, neither does it go too FAST or too SLOW. **IT GOES JUST RIGHT.**

A full supply of Bolting Cloths, Belting, Pulleys, Cups, etc., always on hand. Write us for estimates on Flour Mills or our "SPECIAL" Corn Meal System. [MENTION THIS PAPER WHEN YOU WRITE.]

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The United States Miller

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MILWAUKEE, AUGUST, 1886.

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BEFORE TRIAL!

Lamar, Mo., July 7, 1886.

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Gentlemen:—Please send us one Feeder 9 x 18 Allis Roll (double). If satisfactory we will want two more of the same kind and one for 9 x 14 style B.

Respectfully,

Brand, Dunwoody & Co.

SPERRY FEEDER CO.

MINNEAPOLIS, MINN.

Increase Capacity, Increase Yields, Better Grades, Reduce Running Expenses, by using our Feeders.

Refer to the following mills in which our Feeders have been adopted:

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Washburn A,
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Northwestern,
Pettit,
Columbia,
Crown Roller,
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Galaxy,
R. D. Hubbard & Co.,*

Minneapolis, Minn.

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*H. S. Klinger & Co., Butler.
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*Schumacher Milling Co., Akron
R. D. Hubbard & Co., Mankato, Minn.; Austin Herr,*

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*Sperry & Co., Stockton.
Pioneer, Sacramento.
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The Only Force Feed Made for Feeding Mill Stock.

AFTER TRIAL!

Lamar, Mo., Jul 29, 1886.

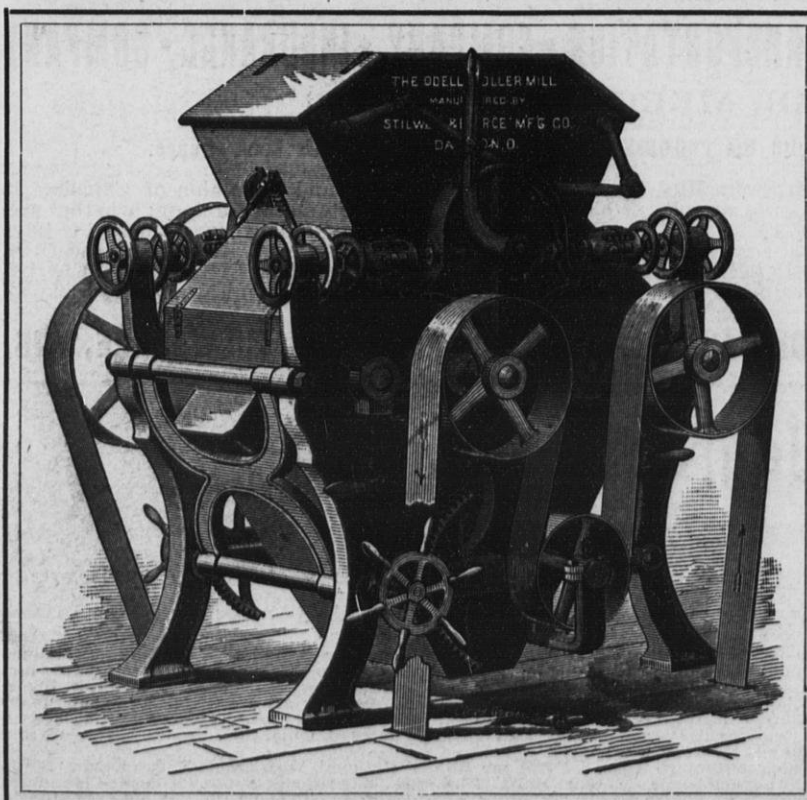
J. A. McANULTY.

Dear Sir:—Please send us two more Feeders for 9 x 18 Allis double rolls, and one for 9 x 14 style B. We are convinced from our experience with the one sent us that they will increase our capacity and yield materially. Ship as soon as possible and send bill.

Yours Respectfully,

Brand, Dunwoody & Co.

ODELL'S ROLLER MILL SYSTEM



Is now in successful operation in a large number of mills, both large and small, on hard and soft wheat, and is meeting with unparalleled success. All the mills now running on this system are doing very fine and close work, and we are in receipt of the most flattering letters from millers. References and letters of introduction to parties using the Odell Rolls and System, will be furnished on application to all who desire to investigate.

Odell's Roller Mill

Invented and Patented by U. H. ODELL, the builder of several of the largest and best Gradual Reduction Flour Mills in the country.

AN ESTABLISHED SUCCESS!

We invite particular attention to the following

POINTS OF SUPERIORITY

possessed by the Odell Roller Mill over all competitors, all of which are broadly covered by patents, and cannot be used on any other machine.

1. It is driven entirely with belts, which are so arranged as to be equivalent to giving each of the four rolls a separate driving-belt from the power shaft, thus obtaining a positive differential motion which cannot be had with short belts.
2. It is the only Roller Mill in market which can instantly be stopped without throwing off the driving-belt, or that has adequate tightener devices for taking up the stretch of the driving-belts.
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5. Our Corrugation is a decided advance over all others. It produces a more even granulation, more middlings of uniform shape and size, and cleans the bran better.

WE USE NONE BUT THE BEST ANSONIA ROLLS.

Our Corrugation differs from all others, and produces less Break Flour and Middlings of Better Quality.

Mill owners adopting our Roller Mills will have the benefit of Mr. Odell's advice, and long experience in arranging mills. Can furnish machines on short notice. For further information, apply in person or by letter to the sole manufacturers,

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 For cash or future delivery, a specialty.

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Orders for Choice Milling Wheat Given Special Attention.

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The purchase of grain for shipment to home markets a specialty.

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LIFE INSURANCE CO.
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AMERICAN

Steam Boiler Insurance Company

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- - - - - \$ 43,149.24

WILLIAM K. LOTHROP, President.
 WILLIAM E. MIDGLEY, Vice-Pres.
 VINCENT R. SCHENCK, Secretary.

Fire Insurance.

Every miller and manufacturer having an A 1 risk, should apply for insurance in the Allied Mutual Fire Insurance Companies, of which S. H. Seamans, Milwaukee, Wis., is secretary.

CONNECTICUT

FIRE INSURANCE CO.,

HARTFORD, - CONNECTICUT.

Cash Capital, - - - - - \$1,000,000 00

Reserve for Reinsurance, - - - - - 580,669 40

Outstanding Claims, - - - - - 90,396 57

Net Surplus, - - - - - 303,683 78

Total Assets, Jan. 1, 1886, - \$1,974,749 75

Surplus to Policy-holders, - \$1,303,683 78

J. D. BROWNE, President,
CHARLES R. BURT, Secretary.
L. W. CLARKE, Ass't Secretary.

Attention!

CUSTOM and EXCHANGE MILLERS.

We have made arrangements with Potter & Huntington, whereby we can furnish one of their EXCHANGE TABLES and UNITED STATES MILLER for one year, for \$1.50; the price of the Exchange Table alone is \$1.00. This is probably the best Table ever prepared for Millers doing an Exchange or Custom Business. The range is from 25 to 36 lbs. of flour to each 60 lbs. of wheat, and corresponding amount of bran and middlings. (Toll and waste in milling deducted.) There are twelve Tables each of a different grade of wheat, and each Table a different amount of flour and feed and can be used for any amount of wheat, from two lbs. up to any No. of bushels. There is no guess work about it, but all from actual experience. By it the Miller is always sure of his allowance of Toll. Hundreds of them are being sent to all parts of the United States and Canada.

Send us One Dollar and Fifty Cents and we will send the Table and credit you for one year's subscription to the UNITED STATES MILLER. Address, UNITED STATES MILLER, 124 Grand Avenue, Milwaukee, Wis.

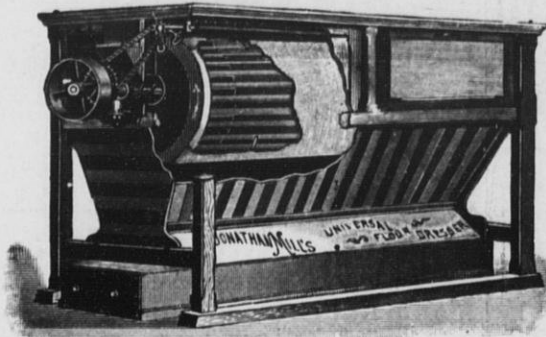
JONATHAN MILLS UNIVERSAL FLOUR DRESSER

GUARANTEED TO BE SUPERIOR TO ANY CLOTH BOLTING DEVICE FOR
CLEAR, CLEAN

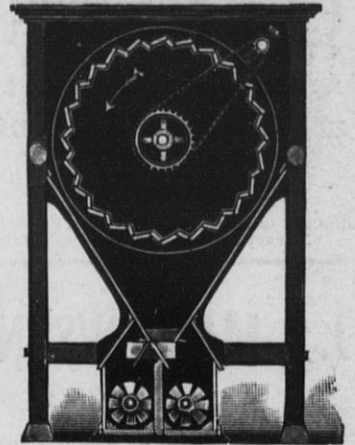
Bolting or Re-Bolting

OF ALL GRADES OF FLOUR.

They cannot be beat on any Stock, and are being extensively adopted for the entire Bolting in new mills.



Finely Designed and Mechanically Constructed.
Slow Speed
Occupies Small Space, and has Immense Capacity



For Price Lists, Sizes and Dimensions send to the

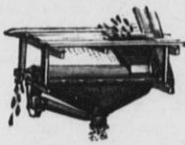
THE PROSPECT MACHINE & ENGINE CO., CLEVELAND, OHIO.

(Formerly THE CUMMER ENGINE CO.)

Send also for 150 Page Catalogue Describing their Engine.

"TRIUMPH" CORN SHELLER

CAPACITY
2000 BUSHELS PER DAY.
Shells wet or dry corn.
CHEAPEST AND BEST SHELLER.
PAIGE MANUF'G CO.,
No. 12 Fourth St., Painesville.



A. BLOEDEL,

Manufacturing

Jeweler & Diamond Setter,

Dealer in

WATCHES, CLOCKS, JEWELRY,
Silver and Plated Ware.

Special Attention Given to Repairing.

No. 106 GRAND AVE.,

Cor. West Water St.,

MILWAUKEE, WIS.

BIRGE & SMITH,

PRACTICAL

Millwrights,

PLANS, SPECIFICATIONS AND ESTIMATES MADE
FOR ALL KINDS OF

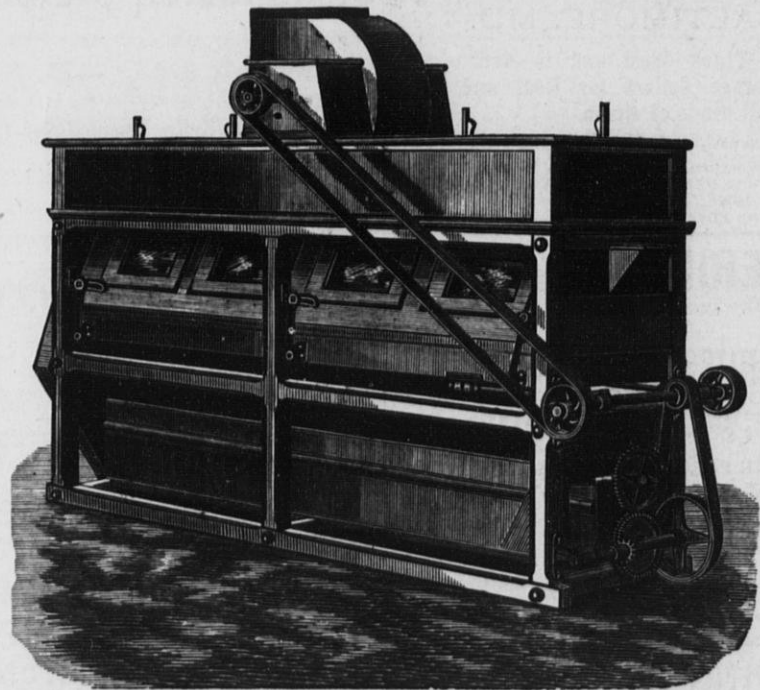
MILLWORK, MACHINERY, &c.

Flour, Sawmill, Tanners' and Brewers' Machinery
AND GENERAL MILL FURNISHERS.

Cor. East Water and Knapp Sts.,
MILWAUKEE, WIS.

Eureka * Middlings * Purifier!

BEST AND SIMPLEST MACHINE IN THE MARKET.



Entirely Original.

One Invention and Manufacture

LEAST SPACE. LEAST POWER. AUTOMATIC FEED.

Best Device for Attaching and Stretching Cloth.

(Cloth can be changed in five minutes.)

Bets Controlled and Evenest Air on Cloth, making it of Great Capacity.

Machines Warranted in every Respect.

FOR FURTHER PARTICULARS, ADDRESS,

C. N. SMITH, DAYTON, OHIO.

	Length of Cloth.	Width.	Extreme Height.	Pulley.	Speed.
00	8 ft.	3 ft.	6 ft. 6 in.	5 x 3	500
0	10 ft.	3 ft.	6 ft. 6 in.	5 x 3	500
1	10 ft.	4 ft.	7 ft. 6 in.	6 x 3	500

[Please mention this paper when you write to us.]

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 second-class matter.]

MILWAUKEE, AUGUST, 1886.

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.

NEW PEOPLE'S THEATRE.—Performances every evening, and Wednesday, Saturday and Sunday matinees.

AMONG THE NORTHERN LAKES

of Wisconsin, Minnesota and Iowa, are hundreds of delightful places where one can pass the summer months in quiet rest and enjoyment, and return home at the end of the heated term completely rejuvenated. Each recurring season brings to Oconomowoc, Waukesha, Beaver Dam, Frontenac, Okoboji, Minnetonka, White Bear, and innumerable other charming localities with romantic names, thousands of our best people whose winter homes are on either side of Mason and Dixon's line. Elegance and comfort at a moderate cost can be readily obtained. A list of summer homes with all necessary information pertaining thereto is being distributed by the CHICAGO, MILWAUKEE & ST. PAUL RAILWAY, and will be sent free upon application by letter to A. V. H. Carpenter, General Passenger Agent, Milwaukee, Wis.

A VERY comprehensive article from A. B. Wood, U. S. Consul at Dundee, Scotland, shows that British and Scotch investment companies have £59,812,268 in American investments, principally in railway bonds, mining, cattle, land and mortgages, and municipal bonds.

CONGRESS has extended the special post-office delivery system to third and fourth class matter. As soon as the department is prepared for the change, small packages of merchandise will often be sent by mail instead of by express.

THE July number of the Austro-Hungarian Miller (Vienna) contains a lengthy closing article by Eugene Kreiss, the Continental agent of the Geo. T. Smith Purifier Co., in the discussion which has been carried on for some time in relation to the "Smith" purifier and the "Reform" purifier, manufactured by Seck Brothers, of Dresden, Germany.

PROF. DODGE, Statistician of the Agricultural Department, in his official report on crop conditions on the 1st of July, reports an estimated yield of winter and spring wheat of 80,000,000 bushels in excess of the yield of

1885. The average exportation of wheat and flour in the last five years has been 116,000,000 per year. During the present year the visible supply of wheat has been decreased 13,000,000 bushels, leaving 46,000,000 bushels in farmers' hands of the crop of 1885.

MR. WILLIAM H. TRUDGEON, representative of the Richmond Manufacturing Company in Indiana, Ohio and Kentucky, was married at Evansville, Ind., July 13th, to Miss Mellaine Stockton, a charming lady of that place. We tender the young couple our hearty congratulations and wish them a long and happy life. Mr Trudgeon has, we understand, purchased a handsome residence property at Dayton View, across the river from Dayton, O., where he will reside after a while. We are just a little bit disappointed in this, as we more than half believed that we had persuaded Mr. Trudgeon to locate in Milwaukee, the "Athens of America."

THE Dust Collector case still drags on. The testimony, we believe, has all been taken and the chances seem good for a decision sometime this fall.

GEO. T. SMITH, Esq., and M. W. Clark, Esq., of the Geo. T. Smith Middlings Purifier Co., Jackson, Mich., recently paid a flying visit to Milwaukee.

JOHN M. CASE, Esq., and Col. Watson of the Case M'fg Co., Columbus, Ohio, spent a day in Milwaukee, recently. Col. Watson is on his way to the lakes about Minneapolis for a brief vacation.

THE long drouth experienced throughout the Northwest, together with the low prices offered for wheat, are anything but encouraging to farmers. The barley crop, however, will be the handsomest that has been harvested for many a year.

A SAUCY St. Paul paper says: "The disconsolate Minneapolis mill owners when short of water sit on the banks, like Israel of old and wail, 'You can never turn the mill with the water that is past,' and then they go to figuring what it will cost to put in steam, which will reduce them to the level of St. Paul, and then they will wail the more.

BISMARCK ON SOCIALISM.

Prince Bismarck, in a recent speech in the Reichstag, alluding to the growth of Socialism, said that in the time of the French Revolution, Socialism proved a powerful spiritual lever of French victories, and that history might be repeated, though he thought the present French army was opposed to workingmen's movements. "It is impossible," he continued, "to tell which party would be victorious. If great European troubles should again rise, they would be far more complicated than those we have already passed through, because they would be partly of an international nature. When these movements come I will have Germany oppose them to her utmost."

We will send The Milling World (weekly) and the U. S. Miller for one year for \$2.00.

FOREIGN ITEMS.

ABOUT forty miles from Peking in China the emperor has had a summer palace which was built 300 years ago at a cost of about \$10,000,000. The news comes of its total destruction by fire. No insurance.

THE Russian thistle, introduced by Menonite immigrants from Russia with their first importation of spring wheat, is reported to be spreading rapidly on new lands of Dakota and Minnesota and threatens to become a troublesome intruder.

ACCORDING to the special correspondent of *The Standard* at Berlin, the railroad locomotive works of Herr Borsig at Berlin, which are the oldest on the Continent, having been in existence forty-eight years, are shortly to be closed, owing to the fact that through the low prices prevailing of late. The establishment has for some time been carried on at a constant loss.

LATE reports from France indicate that the Panama Canal Loan is being rapidly taken. The majority of French people appear to have unbounded confidence in the success of De Lessep's canal scheme.

WINNIPEG citizens are making arrangements for the reception and entertainment of the members of the Minneapolis Millers' Association during the latter part of August.

NEWS.

ASSIGNED—O. C. Pierce, Hamburg, N. Y. A NEW mill is being built at Madison, Dak. L. ROUSH is erecting a 50-bbl. mill at Hale, Mo.

AARON RISE is building a mill at Newberry, Pa.

A ROLLER mill is being built at Rock Valley, Iowa.

DISSOLVED.—McGinty & Wahl, at Marinette, Wis.

BURNED—Wm. H. Long & Co.'s mill at Howard, Pa.

DISSOLVED—Hubbard Bros. & Cameron, Mobile, Ala.

H. W. VOGEL, at Wilton, Wis., is remodeling his mill.

G. G. FARRANCE is building a mill at Fairmount, W. Va.

REMODELING—The Los Gatos Mill Co., at Los Gatos, Cal.

THE Huntsville (Mo.) "Valley Mills" are being remodeled.

PLAINVIEW, Minn., offers a bonus for a 100-bbl. roller mill.

W. B. McCLURE is rebuilding his mill at Oceana, W. Virginia.

H. P. WESTWEYER is building a 100-bbl. mill at Sullivan, Mo.

NEWHARTS' hominy mill will be ready to start up next month.

WORK on the mill at San Juan Island, W.T., is progressing rapidly.

CHARLESTON, S. C., will probably have a large flouring mill soon.

MATHEWSON & Co., of Norfolk, Neb., have sold the Norfolk mill.

A 500 bbl. roller mill is being built by Geo. Wilson at Rochester, N. Y.

CHAS. TYLER has bought the Bridgewater mills at Fredericksburg, Va.

E. D. KINCHELOE has ordered machinery for a new mill at Delaplane, Va.

BURNED—Bulk & Hoff's mill, near Manchester, Va. Loss about \$7,500.

THE mill of Caddis & Thomas, at Uniontown, Pa., was recently burned.

LUCE & MURRAY, millers at Louisiana, Mo., are succeeded by J. W. Palmer.

ASSIGNED—W. Townsend & Co., wholesale flour dealers, Des Moines, Iowa.

THE St. Paul Roller Mill Co., will erect a roller mill at Hastings, Neb., soon.

INCORPORATED—The Crowell Milling Co., Edwardsville, Ill. Capital \$25,000.

OTTO TROOST & SON are improving the old "Forbush Mill," at Winona, Minn.

OLSON & RAMSETT, millers at Purdy, Wis., are succeeded by Ramsett & Sons.

KERR & TROBERT, at Griswold, Ia., have been succeeded by Trobert & Prather.

BURNED—The Lindell mill at Ft. Collins, Col. Loss \$60,000; insurance \$28,000.

WM. FITZGERALD'S mill at Hamilton, Ont., Canada, was recently burned; insured.

THE FARMERS MILL AND ELEV. CO. are about to build a mill at Loveland, Col.

THE WEBSTER ROLLER MILL CO., at Webster, Dak., will soon be ready to start up.

HALTEMAN & TALLEY, of St. Louis, have gone out of the mill-furnishing business.

THE Nappanee Milling Co., Nappanee, Ind., are building a 100-bbl. steam roller mill.

DISSOLVED—Wheeler & Rogers, Wycena, Wis. A. B. Wheeler continues business.

P. M. WIERT'S mill at Piney Creek, Md., has been entirely remodeled and started up.

THE SAMOTH MILL CO., with a capital stock of \$10,000 has been incorporated at Samoth, Ill.

A CHANGE.—Askew & Miller will change their flour mill to a planing mill in Albion, Ind.

MENTZER BROS., Frankstown, Pa., are contemplating extensive changes in their mill.

THE mill at Enon Grove, Ga., owned by T. F. Shackelford, and recently burned, will be rebuilt.

A new roller mill of 30 bbl. capacity has been completed at Glen Cove, Md., by B. G. & J. C. Smith.

GEO. W. PHILLIPS & SONS have bought the "Summit Mills" at Apulia, N. Y., and will remodel them.

THE MILFORD WATER POWER IMP. CO. have a neat 50 bbl. roller mill in operation at Milford, Iowa.

RUSH & SPRAGUE'S mill, at Leavenworth, Ks., will start up with 1,000 bbl. capacity on or before Sept. 1.

A. W. OGILVIE & Co. are considering plans for a new 1,500 bbl. roller mill to be erected at Montreal, Canada.

AT Newell, Iowa, the mills of the Newell Roller Mill Co., were recently burned, causing a loss of \$12,000.

The Herdman Harrison Milling Co. has been incorporated at Morrisonville, Ill., with \$30,000 capital stock.

THE EDWARD HARRISON MILL CO., of New Haven, Ct., have established a branch factory at Columbus, O.

THE mills of Applegate & Hamilton, at Falmouth, Ky., were recently destroyed by fire. Loss about \$20,000.

THE GREENVILLE EXPORT MILLING CO., of Greenville, Ill., have started up their new mill. C. H. Seybt is manager.

THE mill of A. G. & J. A. Ham, at Woburn, Mass., was recently damaged by fire to the extent of \$15,000; insurance \$9,000.

THE TRACY ROLLER MILL CO., is the name of a newly incorporated firm at Tracy, Minn. with a capital stock of \$50,000.

E. SCHRAUDENBACH & Co., formerly of Okauchee, Wis., are building a 200 bbl. roller mill at Frederick, Brown, Co., Dakota.

THE mill at Alpowa, W. T., owned by Ray Woodworth, was burned July 7th. Loss \$9,000; fully insured. Origin of fire unknown.

MUTCHNER & HIGGINS Co. have incorporated with \$50,000 capital to carry on the grain and milling business in Indianapolis, Ind.

THE stone mill at Dayton, W. T., has been fitted up as a complete roller mill. It is known as the Portland Flouring Mill Co.'s Dayton mill.

COLLAPSED—July 18, the flour warehouse of N. T. Sweezy, Sons & Co., in New York, owing to too great weight of flour. Damage about \$15,000.

THE Wing mill at Litchfield, has been sold by a Master in Chancery for \$157,500 the purchaser being J. B. M. Kehlor, of St. Louis, who was one of the largest creditors.

Howard Dempsey, an employe at Mahoney's mill, La Crosse, Wis., got his left hand caught in the feed rollers of the bolter, and his thumb and three first fingers were horribly crushed.

ABOUT 100 Iowa grain dealers met July 29, at Mason City, and authorized the organization of a mutual fire insurance company. D. D. Cutler, of Rockwell, Ia., is secretary and treasurer.

JUDGE LOOMIS has returned to St. Louis, after having spent several months in New Mexico and California for the benefit of his health. We are glad to learn that he is again quite well.

THE TEXAS STAR FLOUR MILL CO., Galveston, Tex., are about to build an additional mill, with a daily capacity of 400 bbls. Also an elevator of 150,000 bushels capacity. The contract has been let.

IN sinking an artesian well for the North Dakota roller mill, at Hillsboro, a vein of natural gas was struck at a depth of 108 feet. When lighted the flame shoots to a height of three feet. Mr. Green, the proprietor, will run his 125 horse-power engine with it.

THE Bardett Milling Company, San Francisco, has filed articles of incorporation in the County Clerk's office. The capital stock is \$25,000. The directors are as follows: Jay Deming, Leon Maison, M. T. Freitas, John J. Wall and A. Bardett, all of San Francisco.

AN Exhibition of the Arts, Inventions, Manufactures, Products and Resources of the United States of America will be opened at 3 p. m., on Monday, May 2, 1887, at Earl's Court, Kensington, London, England, by the President of the United States, from the White House, Washington.

ON July 12, the boiler in the National mill at Parsons, Kan., exploded, killing David Drumrine (white), engineer, and Anthony Story (colored), fireman. The engine room was totally destroyed, and but for the prompt action of the fire department the entire mill would have been destroyed. Damage \$2,000 to \$5,000; fully insured.

ARTICLES of incorporation were filed July 27th, by the American Cracker Company, San Francisco. The Directors are: Leon Sloss, James H. Jennings, John Proctor, Jas. Dunn and Geo. H. Garthorne. The Company has issued 2,000 shares of stock, at \$100 each, and the total amount of \$200,000 stock capital has been subscribed.

VERY often spontaneous combustion is but another name for incendiarism. It is a curious fact that spontaneous combustion, most cases, gets in its work in the night time, when no one is around, and seldom occurs in daylight. More than this, it appears to be able to judge of the best time to put in its deadly work and chooses Saturday night for its purpose.—*Cincinnati Price Current.*

THE PROSPECT MACHINE & ENGINE CO., of Cleveland, O., are adding another building to their wood-working shops. They expect to have the new building completed about the 12th of August. This will about double their capacity in that department. They report their reel trade marvelously on the increase, every month showing a large advance over the preceding one. They also state that within the past two weeks several new mills have ordered these reels, some putting them in exclusively, and others, for the greater part of the bolting. Among their recent engine shipments are two aggregating 276 h.p. for the Hadley Thread Co., Holyoke, Mass.; one of 139 h.p. for the Joshua Hendy Mach. Works, San Francisco; one of 190 h.p. for the Dennison Paper Co., Mechanic Falls, Me., and four engines of 50 h.p. and under, to the Boden Condensed Milk Co., Northville, Mich., and C. F. Wardwell, of Chicago.

Now is your time to send in your subscriptions for milling papers and other periodicals. Read our propositions on another page.

PUBLICATIONS RECEIVED.

OGILVIE'S POPULAR READING, No. 33, published by J. S. Ogilvie & Co, 31, Rose st., New York, has been received. It contains ten excellent stories by popular authors. Price 30 cents.

THE GRAPHIC NEWS, Cincinnati, contains some excellent articles and illustrations. Some sketches of the Grand Rapids Boat Club are very interesting.

"THE ART AMATEUR" for August contains a great variety of articles and illustrations of interest to all lovers of art and fancy work of various kinds. M. Marks, Publisher, Price 35 cents per number.

"A ROMANCE OF MILLING REVOLUTIONS" is the title of a neat little book issued by Mr. F. Hall, publisher of "The Modern Miller" of Kansas City. The story was originally published in the *Modern Miller* and is now issued book shape. It is an ingenious dissertation on a floury subject and will doubtless prove quite palatable to the milling fraternity.

"FIRE DOORS AND FIRE-PROOFING WOODWORK" is the title of a good essay sent us by Col. W. L. Barnum, Secretary of the Millers National Insurance Co., 205 La Salle st., Chicago.

RECENT MILLING PATENTS.

The following list of Patents relating to milling interests, granted by the U. S. Patent Office during the past month, is specially reported by Stout & Underwood, Solicitors of Patents, 66 Wisconsin st., Milwaukee, Wis., who will send a copy of any patent named to any address for 50 cents:

Issue of June 1, 1886. No. 342,854—Automatic grain meter, E. N. Williamson, Lodge, Ill.; No. 342,857—Scalper, R. Bing, May's Landing, N. J.; No. 342,902—Automatic grain weigher, E. Dickson, Kewaunee, Ill.

Issue of June 8, 1886. No. 343,324—Grain separator, C. Casper, Cleveland, Ohio; No. 343,364—Grain separator and elevator-feeder, B. D. Crocker, Walla Walla, Wash.; No. 343,400—Dust collector, W. Richardson, Milwaukee, Wis.; No. 343,402—Grain scourer, C. B. Slater, Blanchester, Ohio; No. 343,514—Hullng mill, J. F. Winchell, Springfield, Ohio; No. 343,548—Attachment for dust collectors, W. Richardson, Milwaukee, Wis.

Issue of June 15, 1886—No. 343,624—Method of cleaning grain, B. D. Crocker, Walla Walla, Wash.; No. 343,649—Grain and middlings separator, C. Ripplin, St. Louis, Mo.; No. 343,761—Flour bolt, K. Dougan, Calwood, Mo.; No. 343,763—Automatic grain weighing and registering machine, R. S. Gabbey, Rossville, Kas.; No. 343,882—Grain Separator, M. Lavinger and E. H. Anspaugh, Columbia City, Ind.; No. 343,844—Grain weighing and registering scale, W. M. Perkins, La Fontaine, Ind.; No. 343,891—Apparatus for cleaning grain, B. D. Crocker, Walla Walla, Wash.

Issue of June 22, 1886. No. 343,999—Grain separating machine, J. Lucas, Hastings, Minn.; No. 344,013—Grain register, F. Stanton, Stillwater, Min.; No. 344,148—Grain weighing apparatus, A. E. Wade, Parkville, Ill.; No. 344,192—Automatic grain weighing apparatus, J. F. Milligan, St. Louis, Mo.; No. 344,246—Process of manufacturing cornmeal, J. M. Case, Columbus, Ohio.

Issue of June 29, 1886—No. 344,395—Grain tally, J. Miller, Canton, Ohio; No. 344,490—Grinding mill, R. Morrell, Summit, N. J.; No. 344,518—Process of Manufacturing corn meal and buckwheat flour, J. M. Case, Columbus, Ohio; No. 344,663—Automatic grain weigher, M. K. & F. S. Lewis, Hastings, Neb.

Issue of July 6, 1886. No. 344,902—Artificial millstone or buhr, E. I. Heller, Hungary; No. 345,163—Feed grinder, M. L. Metzger and A. Cooper, Harrisburg, Penn.; No. 345,177, Middlings purifier, R. A. Rew, Pomeroy, Wash.

Issue of July 13, 1886. No. 345,353—Automatic apparatus for measuring and weighing grain, E. Witt, Germany; No. 345,452—Flour packer, C. W. Roth, Evansville, Ind.; No. 345,493—Grinding mill, N. T. Fitch, Wilmington, Del.; No. 345,508—Dust collector, J. B. Holgate, Burnley, England.

Issue of July 20, 1886. No. 345,725—Cockle machine, F. Prinz, Milwaukee, Wis.; No. 345,997—Machine for cleaning grain, L. M. Smith, Canandaigua, N. Y.; No. 346,015—Millstone dress, D. T. Atkins, Worsham, Va.

Issue of July 27, 1886. No. 346,272—Grain weighing and registering apparatus, W. R. Dunkel, Macon, Ill.; No. 346,326—Middlings purifier, W. M. Shook, Canton, Ohio; No. 346,449—Grain drier, A. Wolcott, Wolcott, Ind.

GRADUAL REDUCTION BY ROLLER MILLING, APPLIED TO SOFT WHEATS.

BY T. W. HIBBARD.

[A paper read before the convention of British and Irish millers at Dublin.]

It is most likely the subject I have to bring before you to-day may not be interesting to many, but to some who have not had experience in working soft wheats by roller milling the paper I am about to read may possess some value. I am sure if I shall be instrumental in giving rise to a discussion of practical utility I shall not have read in vain. My apology for reading the paper at all, now that foreign and generally hard, dry, brittle wheats are mainly used, is that if we can utilize our native growths, which are, as a rule, shillings per quarter lower in price than American—our chief competitor in the flour market—thereby giving our customers a sweet, well flavored, well-keeping flour at a lower price, we shall perhaps be better able to hold our own, particularly those millers living at some distance from a seaport town, and to whom the railway carriage on wheats of foreign growth is a material consideration.

Wheats known as hard or semi-hard are of a more or less flinty nature, and when broken down by the break rolls give us a break meal consisting of a small percentage of flour and large of middlings and semolina. The middlings and semolina are very easy to grade and purify, and as easily pulverized by the smooth rolls. Ghirkas, Saxonskas, Spring, American, Indian, etc., are examples of this class.

Soft wheats, like Oregon, New Zealand, some American winters, and all of British and Irish growth, are more liable to be influenced by variations of humidity of the atmosphere, but more particularly native growths. The particles of endosperm when broken up are of a soft, friable nature, and can not be handled without making flour, consequently require different treatment in grading for purification.

The bran also holds the endosperm more tenaciously, is thus more difficult to clean, and requires more break rolls for a given quantity of wheat. The rolled semolina and middlings do not dress as freely, and are more inclined to cake than crush. Taking all these things into consideration, I think a case is made out why soft wheats should have special treatment. The word soft wheat must not be construed to mean damp. These latter can only be milled economically after the excess of moisture has been extracted.

FIRST BREAK.—There is a prevalent notion that the crease of the berry holds the black flour which is generally obtained from the first break, and various have been the devices for splitting wheats and at once liberating the black flour. We have had before the milling public, discs, rolls of different groovings and speeds, no grooves, etc., etc., and as I think, to no purpose. I will, however, except discs, these machines being very good wheat cleaners. The first break in most mills is really a wheat cleaning process, and very imperfect as generally used. My reasons for opposing the generally accepted theory of crease-dirt elimination by first break rolls I will now give you.

Some time ago I experimented with a machine for splitting wheats, and succeeded, by thoroughly grading my experimental lots,

in getting almost every berry split at one operation down the crease, the quantity and quality of flour, dust and tails from the split wheats after dressing being carefully noted. The splits were again put through the same process, and results noted. The reduced splits were again and again reduced down to five reductions; as a matter of fact, I had dark flour at the fifth reduction. The total flour from the five reductions was from eight to ten per cent. of the wheat. My deductions from these experiments were, either the husk holds dirt very tightly, or else the flour, coming in contact with the husk, is dyed. If my deductions are correct, it follows that by milling, as generally practiced, some dark flour is left to be mixed with the other flours, and lower their value. I will now submit the process I would advocate to meet this difficulty. Put your cleaned wheat through a polisher and brush, then aspirate thence to first break roll, with as little friction as possible. Your wheat is then as clean as it is possible to have it; then on your first break open out every berry of wheat. You will get by dressing the product about two per cent. of flour, low grade, not good enough to join your other flours, but you will find the two per cent. of flour has done for you something that you can not accomplish by any other method. It has acted upon the broken berries in a similar manner to soap and water on your hands, taking away all the fine particles of dust and dirt, which have a greater affinity for the flour than the berries, and, in consequence, you will find even your sixth break flour will be some shillings better in color, in fact all around you will be the gainer. A centrifugal scalper should be used on the product of first break roll, covered with zinc, its tail to second break roll, and its product to a centrifugal silk, arranged to give flour, dust and tails.

II., III., IV. AND V. BREAKS.—The 2d, 3d and 4th break rolls should be used to detach the particles of endosperm from the husk in the form of middlings and semolinas. The 5th break is the first bran cleaning roll, and, if worked properly, should give, after scalping, a broad, nearly clean bran in good order for the last or 6th break roll to finish. If the whole of the rolls have done their fair share of the work, the bran should be broad from the 6th break roll; and when scalped by a centrifugal of small diameter, zinc covered, running 500 to the minute, give a clean bran, scarcely showing the marks of the grooves of the roll.

BREAKS MEAL.—I would put the breaks meal through ordinary hexagon reels with sliding action, taking off the tail over 56 Gries gauze to go on the grader. This we name ungraded semolinas. Product of reels to centrifugal silks. These centrifugals must be above their work and driven above the usual speed. It is better to have some middlings made into flour than flour going to middlings purifiers, and then to dust collectors. This extra speed will insure sharp, round middlings, in good condition for purification. My experience is, that for this work the centrifugal should be driven 300 to 400 revolutions to the minute.

MIDDLING PURIFICATION.—Soft wheat middlings do not run as well as those from hard wheat, therefore you will require more silk surface. Be sure you have a stretching device, by means of which you can, while the

machine is running, make your cover quite tight, otherwise you will be troubled with middlings forming themselves into heaps on the sieve, and the purification will be only partial. Provide for repurification of cut offs on another machine.

GRADING SEMOLINAS.—You will require a dust sheet at the head of semolina grader, the other part of the grader to be covered with three sizes of Gries gauze. Tail of grader returns to third break roll. The three sizes of semolina go to aspirating purifiers, having four divisions and a sieve on the top of each to make four sizes for the divisions. The air currents on each division will make firsts, seconds and thirds. Have your air currents on each division and sufficiently strong to make the firsts quite pure; the seconds and thirds will require repurification. The result will be twelve sizes firsts, quite pure, four sizes seconds from re-purifier, and four sizes thirds from re-purifiers.

SEMOLINA REDUCTION.—The twelve sizes of pure semolina should be divided over a double smooth roll, according to size; scalped and product of scalper go to centrifugal silk or silks making flour, dust, small tails and large tails. This will be the first reduction. The second reduction by double smooth roll, taking dust from first reduction, one side; small tails from first roll, after purification, and large middlings on the other, and dressed by centrifugal.

The third reduction will embrace dust from second and fine middlings. Great care should be taken not to cake the semolinas on the first and second reductions, therefore the roll should be set to thoroughly crush, with out caking. If hard cakes are formed, some will get through to the dust sheet, meaning a loss in roller power, and some will get to the tail, to be rolled with a class of stuff different in size and quality. Upon the third reduction you will have to go down hard, and here it will be impossible to avoid some caking, but there is nothing gained by squeezing too hard.

TAILINGS REDUCTION.—The mode of treatment I consider the best for this part of the process is this: For first reduction take your large tailing from first and second reduction of semolinas and roll together with the large seconds from purifiers; do the same with the small tails and seconds; pass through a scalper, the product of scalper to be dressed with rolled dust. The second reduction of tailings will be similar. You get a finished product from both reductions from tail of scalpers.

DUST AND FINE TAILS REDUCTION.—Fine tails rolled separately, dust rolled separately, but dressed together, this insures a regular product. It has been found, when rolling soft wheat dust—the dust toward the latter reductions is very soft—it is difficult to dress, and, in fact, gives so much trouble in separation as to induce many millers to sell it at the best price obtainable, as a low grade flour. The amount of money received for this unfinished product, now that feeding stuffs and flour are near together in price, does not render the loss by selling it unfinished so apparent, but there is a liability to make a very heavy loss at this point. To meet this case, at the point in the system where the tendency to softness is noticed put the rolled dust, etc., through a centrifugal of small diameter running 350 to 400 to the minute. The dust sheet will give a product surpris-

ingly sharp and in good condition for the succeeding roll. Send the tail to sieve purifier. You would then, at the tail of your purifiers, have a finished light fluff and good middlings for next roll. The last roll in the system operating upon dunst should go to centrifugal, with centrifugal to take its dunst; this last centrifugal to run 400 to minute, and give a finished production over its tail. The product of this dunst sheet will be the barometer of the whole reduction. This product should be inspected frequently, and its disposal determined. And here, I should say, it is my experience that this last product varies with every mixture of wheat and every change of temperature and weather, and no automatic arrangement will quite meet the case; in fact, this part of the system must be watched most carefully.

I would suggest and, indeed, consider it imperative, an exact account of each day's wheat consumption and products should be taken, every day would then show its weakness if any existed. You will perhaps have noticed I prefer zinc covers for scalpings; my reason for so doing is, the zinc keeps cleaner than wire; wire cloth is frequently clogged, zinc rarely so. Gries gauze is best suited for grading semolinas for purification, the numbers of Gries gauze being much nearer together than zinc, as now made. It is very important we should have all the runs arranged to give a good angle, especially where dunst and flour are concerned, and if possible run direct, without any turnings, over a smooth surface without any obstruction; by seeing to this you will avoid many stoppages from blocks. I have given a diagram showing the runs accurately in accordance with my paper. The principle of the diagram will hold good for plants of any capacity, the only difference being the sizes and numbers of machines.

I now sum up the points which are in my opinion, essential to successful milling on soft wheats, viz:

Special cleaning before first break; heavy first break; six breaks on grooved rolls; nine reductions on smooth rolls; good purification; use of high speed centrifugals at certain stages; frequent inspection by competent man of dunst from last centrifugal.

DULUTH FLOUR TRAFFIC.

For several years past Ward's line of steamers, among which are the Hodge, Osceola, and St. Paul, have been carrying flour from Duluth in connection with the Delaware and Lackawanna road. Lately there has been some disagreement between the companies in regard to division of rates, and the Lackawanna is evidently endeavoring to freeze out the steamboat line. It is understood that the road has not settled with the boat line for the flour carried this season, and the fact that the line has in the past few days taken grain charters here, shows the truth of the statement that something is the matter. The railroad company has of late been chartering vessels to carry its flour, and the Cuba and Nebraska have been running in this track nearly all the season. Other boats have taken occasional trips for the Lackawanna, notably the Russia and Colorado and those of Wilson's boats that are fitted for handling flour, all big carriers. Having these boats at command, the road is naturally independent and intends to dictate rates.

Until a few years ago the Lake Superior Transit Company had a monopoly of the flour carrying trade from Duluth, and upon signs of rebellion by the St. Paul & Duluth road, attempted to divert flour business to Washburn. Through the efforts of Messrs. Dodge and Fisher, of the St. Paul and Duluth, ably seconded by Duluth people, this monopoly was broken and the flour traffic from Duluth increased four-fold. The shipments of flour so far this season are not far from three-quarters of a million barrels, and it is thought will aggregate a million more before the season closes.—*Duluth News*, July 28.

WHAT DOES IT ALL MEAN ANYHOW?

In our July number we noticed the incorporation of THE CONSOLIDATED ROLLER MILL CO. in Chicago, the incorporators of which were leading manufacturers of roller mills and general mill-builders and furnishers. The announcement has stirred up quite a breeze among millers and mill furnishers, for the reason that no special particulars were given as to the objects of the new corporation. On being appealed to for some specific information "one who knows" has furnished the following, which has recently first appeared in print in the *Northwestern Miller*. The communication reads as follows:

During the recent National Millers' convention in Chicago a number of mill-furnishers who were present held a meeting for the purpose of talking over the Downton patents. In the course of this informal talk, considerable was said regarding the state of the mill-furnishing trade and the very serious abuses that had crept into it. It was universally admitted that the mill-furnishing business had been in a lamentable condition for over a year, and in the hope of forming an organization to take concerted action looking toward the betterment of the condition of the business, a meeting of those interested was held at Chicago on the 23d of June. Eleven of the leading mill-furnishing firms had representatives present, who took part in the discussion.

The meeting unanimously agreed upon the following points: First, that no bonus, gift or commission should be paid to head millers or other employes for the purpose of securing orders. Second, that owing to the great difficulty in making correct estimates in remodeling old mills, the mill-furnishers will no longer do the millwright work in such mills by contract. Third, no plans will be made in advance of the contract, except for pay at a price to be agreed upon. Fourth, that no guarantee should be given beyond the quality of the machinery and its suitability for the purpose. Fifth, that the limit of credit should be 12 months on the final payment.

The matter of insurance and freights was also discussed, and it was unanimously agreed that an earnest and determined effort should be made to advance prices on all mill-furnishings at least 10 per cent. It is probable that another meeting of the mill-furnishers will be held in the near future.

From the above it will be seen that most of the largest and best firms engaged in this business in the country, have wisely determined that the continued existence of themselves and the trade demand an immediate correction of the present decidedly abnormal state of trade. It is either an amelioration or the total extinction of the capital invested in this line. It may as well be understood, first as last, that the end has been reached in the matter of long time. Mill-furnishers have about made up their minds to go out of the banking business. When a man can have his mill put up for him at close prices, its workings guaranteed, and pay for it in three, four or five years, the mill-furnisher has stepped out of his legitimate business and

has become a banker, on the riskiest line of banking ever done, for he guarantees not only his own work, but the miller's work, his honesty, the crop and the entire financial status of the country three to five years hence. It is to the mutual interest of everyone concerned that this kind of business be stopped at once and forever. If the mill-furnishers can accomplish this result they are entitled to the thanks of every intelligent miller in the country.

Notwithstanding this explanation a good many millers and mill-furnishers with whom we have talked during the past fortnight, seem to be considerably muddled. Some maintain that the whole affair is simply a consolidation of owners of roller-mill patents, with a view to squeezing certain manufacturers out of business and to collect royalties from millers for infringement of some one or other of the numerous patents now controlled by the Consolidated Roller Mill Co. of Chicago.

Some believe that all of the "eleven of the leading mill-furnishing firms" represented at that meeting "to take concerted action looking towards the betterment of the condition of business" are interested in the CONSOLIDATED ROLLER MILL CO. If this is so, the millers would like to know as soon as it may be convenient for the company to inform them, so that they may be saving up the glittering gold they are just now accumulating so rapidly (?) to pay for infringing on some roller mill patents of some kind, which doubtless every mother's son of them that uses a roller mill has done. If not so, it would be well for the "eleven leading mill-furnishing houses" to speak out individually and let the milling public know whether there is a "pool" among mill-furnishers on roller mill patents; on prices of milling machinery generally; on credits, etc., and especially whether the CONSOLIDATED ROLLER MILL CO. of Chicago, is a separate and distinct institution, organized for the benefit of roller-mill patentees only.

Some mill-furnishers with whom we have talked do not seem to believe much in a pool of mill-furnishers for any purpose anyhow. They say, if the biggest railroad corporations in the country cannot maintain a pool for any considerable length of time, that it is quite useless for mill-furnishers to try it.

All that is needed is for mill-furnishers to use common sense and sound business judgment in conducting their individual business and not to go to wild extremes just because some one else has. It requires no organization to do this. The moment an organization in any line of business of those who supply, is made, those who consume immediately suspect that some one is trying to get the best of them. Numerous flagrant abuses have crept into the business, and the only way to stop them is for all concerned to stop. One of the worst abuses perhaps is the giving of long credits. Mill-furnishers like other business men find it unprofitable to give long credit and millers should not ask it. In these times of close margins the miller who is paying interest will find it a hard job to save himself from financial ruin.

We will send the United States Miller, The American Miller, and The Northwestern Miller, (weekly), and The Milling World, (weekly), for one year, to any address in the United States or Canada for \$4.00, or to any Foreign Country for £1. 3s.

EVERY MILLER MUST COME TO IT.

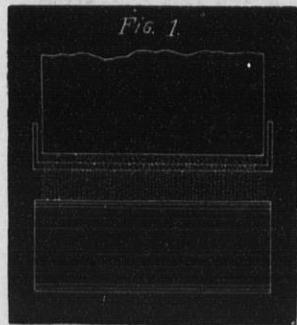
"What?" You ask.

There can be no doubt that the average miller longs to have a rest from making any new ventures. Especially he who has not been parsimonious in the equipment of his mill. However, no one can deny that competition makes it obligatory for every one to be on the alert, least they are outstripped in the race by their rivals. At no time in the history of the milling industry has the miller more earnestly asked himself: "How can I hold my own in this warfare of prices and goods?"

Many have satisfactorily and practically solved the problem. They have at all times been wide awake to the importance of perfecting every detail of their facilities. They have kept their eyes open to ascertain the weak points about their mills, and have thus been always ready for any addition or change that would fortify their position and make them masters of the situation. It was these millers who soon discovered that nothing impeded more the attainment of good results upon the gradual reduction system, than the imperfect feeding arrangements in vogue upon the rolls. Recognizing the necessity of a full and uniform feed upon the rolls, they were ready to adopt the device that possessed the features affording these advantages.

It is to this that all millers must come, and that very soon. The utter impossibility of doing good work with an uneven, irregular feed must become patent to all intelligent inquirers, and there is no one who can fail to see that with such a manifest drawback, successful competition will be impossible. The day is at hand when imperfect work in the mill entails financial ruin, and while some may be tardy in realizing this fact, they must, in the end, feel its truthfulness and adopt the methods which will permit an escape from disaster.

The illustrations herewith presented contrast the work of the Sperry Automatic Force Feeder with the feed of rolls having only the



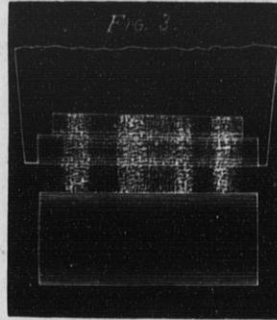
ordinary feed roll. Figure 1 shows the even flow and the unbroken sheet delivered by the Sperry Automatic Feeder to rolls. As this Feeder has no feed roll and no hopper in which

lumpy material, or any obstructions whatsoever can lodge, there is never any cessation in the flow of the stock. As long as the belt is kept on the pulley, the operative can be positive that the feeder is doing its work. Unlike automatic feeders which utilize the old feed roll and have a separate hopper of their own, it needs not to be tickled in the back, done on such feeders to prevent an accumulation in the rear from wedging the hopper and shutting off the feed. The Sperry Feeder is as well positive as automatic, and after it is once started, will spread the feed, without attention from the miller, the full length of the rolls, with no variation at any point in the sheet falling to the rolls. The thickness of the sheet will vary with the

volume of the stream delivered to the feed box. That rolls can work under such conditions millers need not be told.

A mill with a full complement of these Feeders can show results so perfect and uniform, at all times, that it is surprising to those who have never witnessed anything of the kind. The mill will run with the precision of clock-work, and the pleasure will be as great as the profit in operating it.

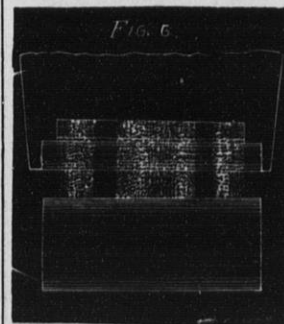
In figure 3 is shown the manner in which the ordinary feed rolls deliver break or soft stock and bran to rolls. This kind of material is liable to pack in the hopper, and for that reason the feed roll can not turn out an even stream its full length.



Where the stock is loose, it will feed heavily, and where tight, it feeds lightly, as is plainly exhibited in the cuts.

The remaining figure 6 is designed to represent sharp stock-feeding over feed-rolls, which are clogged at places by little chunks of dough and other foreign matter that finds its way out of reels, elevators and conveyors into the feed-box of rolls. The operative in such cases is expected to have a small piece of tin in readiness, and as soon as he discovers these obstructions (sometimes late in the day), he must ply his sheet of tin, and cut or wear them out.

These comparisons are by no means overdrawn. It very frequently happens that feed rolls quit feeding entirely on soft stock from accumulations in the hopper. Even some automatic feeders, with feed roll and hopper, stop from the latter cause. What an endless trouble is experienced with such feeders,



and what poor chances has the mill to do justice to the product. Rolls running on the stream and jumping at each arrival of a mass of feed; rolls running empty and becoming burning hot; boxes heating from uneven feed; choke-ups arising from a discharged surplus, which had accumulated in a closed or partly closed feed-hopper; specky flour and rich offal, as a result of irregularly fed reels and unevenly reduced product; crusty millers and dissatisfied proprietors, occasioned by a demoralized mill; lean pocket-books and slim bank accounts, brought about by a wholly unnatural course of events. These are some of the casualties which may be traced to illy constructed and poorly devised feeding appliances in use.

The manufacturers assure the milling public that they make no claims for their machine and no assertions of any kind which they are not at any time ready to substantiate. Having an invention of unusual merit, they feel no timidity in presenting its advantages. They have some of the most flattering testimonials in their possession, and can

refer to some of the most prominent and most reliable millers who are using the Feeders throughout the entire mill. The Feeders are shipped to all parts of the country on trial, and if not found as represented, or better, can be returned at the expense of the manufacturers. Prices and further information can be obtained from the SPERRY FEEDER CO., Minneapolis, Minn.

We will send the U. S. Miller and American Miller for one year for \$1.50.

FIRING STEAM BOILERS.

There is a very simple way of firing, which answers very well, and which does not require complicated constructions and appliances, always more or less objectionable.

It depends upon the following considerations: When fresh coal is charged upon incandescent fuel, as is the case in the usual mode of firing boilers, the volatile gases of the fresh fuel are rapidly evolved, filling the fire-box to such an extent as to prevent the ingress of air through the grate, and this occurs at the very time the air supply should be considerably increased. The result is imperfect combustion and consequent waste of the very best combustible gases, viz., the hydro-carbons, which cannot burn for want of air to combine with; free carbon is thus liberated from these gases, and smoke is produced. In order to avoid smoke, and consequent loss of fuel, any sudden production of volatile gases, either during or after firing, must be prevented; and sufficient air should always be introduced, and so distributed, as to burn those gases as quickly as they are produced. This can be done in the following manner:

Before putting on fresh coal, the burning fuel should be pushed back from the front part of the grate, and distributed on the incandescent fuel behind, care being taken that this portion of the grate is entirely free from hot fuel. When the front part of the grate has become comparatively cool, owing to the cold air passing through it, fresh coal is distributed thereon. The freshly-charged fuel lying on the cool grate, with cold air passing through it, will be heated by radiation only, partly the flame from its own gases, and partly by the surrounding hot brick-work. The volatile gases will consequently be liberated at a comparatively slow rate, and will combine with the air, which, entering through the interstices in the fuel on the cool part of the grate, will be evenly distributed over its surface.

Gas and air will thus be supplied in nearly the proper proportions for complete combustion of the fuel, and as the production of volatile gases diminishes, the air passing through the front part of the grate will enter into combustion with the fuel thereon, which has been deprived of nearly all its volatile constituents.

By means of this simple method the sudden production of a large volume of volatile gases is avoided, and air in a well divided state is always present to consume the gases liberated; thus smokless combustion and saving of fuel are realized. Care must be taken that the fresh fuel is charged at regular intervals of time and in equal quantities.—*Extracts from a letter written by Dr. Frederic Siemens, of Dresden, Saxony, to Dr. Geo. H. Benjamin, of N. Y.*

BOILER EXPLOSIONS.

An old friend accosted us at the Club recently with this question: "Why don't they stop blowing up boilers and killing people? You say there is no occasion for it, and are talking about stopping it in every number of your journal; seems to me if the remedy you suggest will stop it, why don't we get the laws, and stop this murdering people?" We invited the old gentlemen to take a seat; this done, we inquired of him if he did not at one time conduct a large manufacturing establishment? He replied: "Of course I did, and used steam for power, but there never was anything like a 'blow up' in my mill!"

"Of course you exercised great care, and took every precaution to prevent damage or danger to your plant," we replied.

"No (he said), never bothered my head about, it had enough else to attend to; tell ye how I did it! My engineer in charge was the highest salaried man in my mill. I always looked around for the best engineer I could find, paid him more than anyone on the plant, engaged him by the year, and held him responsible for sufficiency and regularity of power, also for safety of boilers, supplied him with everything he called for without question, and never had my mill stop one minute during working time, made money every year, and when I quit business and had a little money to enjoy myself with, my engineer had not only my respect but my gratitude. He is now the largest stockholder in the company that acquired the plant and business."

We informed our old friend that if all who use steam would take his plan we would never hear of a boiler explosion; but the majority of boilers that explode, as a rule, are found to be in charge of cheap men, not the best paid men, but too often ignorant laborers, boys, without skill or experience, and all from a mistaken notion of economy.

Where steam users prefer chances to absolute safety, the State should interfere in the interest of the public, and such interference is legitimate clearly in the line of duty. What is wanted is legislation that will not abridge or hamper the use of steam as a motor, but regulate the conditions of its use, and when the subject is fully understood, those who complain most will find that their interests are better served by such laws than by the system which allows all who set up a boiler to run it regardless of the conditions which insure its safety.—*Stationary Engineer.*

ITEMS OF INTEREST.

THE WORLD'S COPPER PRODUCTION.—The production of copper throughout the world last year is estimated at 221,715 tons, as compared with a corresponding production of 217,483 tons in 1884, and 153,057 tons in 1880. The largest copper producing countries last year were Australia, 11,400 tons; Chili, 38,800 tons; Germany, 15,250 tons; Japan, 2000 tons; Spain and Portugal, 49,949 tons; and the United States, 74,050 tons.

ALUMINIUM.—London "*Engineering*" of July 9, contains a highly interesting article on the use and manufacture of aluminium, prefaced as follows:

If the modern metallurgist ever indulges in day-dreams like those of his predecessor, the alchemist, and pictures himself possessed of a spell powerful enough to subdue the

most stubborn chemical affinities, surely it must be on aluminium that his mental gaze fixes itself at such times. An ample supply of that metal would utterly transform all engineering, and might even remodel the conditions of our life. The mind might dwell for days upon the changes which would be effected by the introduction of a tenacious structural material of one-third the specific gravity of iron, without being able to grasp them fully. What a revolution it would effect in naval architecture; how the spans of our bridges would increase, and what a growth there would be in the power of the engineer to attack difficulties which now seem impossibilities! But the qualities of strength and lightness are not all that aluminium has to recommend it. It has a low melting point, about 1000 deg., and not only can be cast with facility, but it works well under the hammer. It will not oxidize even at a red heat, and will resist all acids, except hydrochloric. It will alloy with most metals, and in so doing lends them a large share of its characteristics. It is a capital conductor of electricity, and, indeed, seems to combine in itself all the good qualities of all other metals.

At present an unlimited supply of pure aluminium at a low price is still a dream, but as events march we might any morning awake to find it a reality.

THE BEST WAY TO UTILIZE WATER-POWER and get the benefit of its cheapness is to have a steam engine ready to start when the water gets low. The *Boston Commercial Bulletin* says:

"It is often argued that the water power of Holyoke, her chief dependence, is exhausted. During eight months of the year there is water enough pouring over the big dam, which is not utilized, to run a dozen additional mills; during the other two there is enough to supply what are already there, and in July and August there is some trouble in dry seasons, but even this will in a measure be overcome, it is thought, as the water-power company has expended over \$100,000 inside of a year to make the dam water-tight. Admitting for the sake of the argument that there will be a shortage of water during two months of the year, even the mills can be run by steam—nearly every mill having its steam engine—and pay less for the power than is paid in places where steam is used all the year around."

STEEL RAILS FOR THE WEST.—Five shiploads of railroad iron arrived in Duluth, Minn., July 13th, with 6500 tons of rails, and seven more cargoes are near. Steel rails enough to build 700 miles of railroad will be landed at the head of Lake Superior during the navigable season of 1886. Among the railroads receiving these are the St. Paul, Minneapolis & Manitoba, 27,000 tons; Northern Pacific and its branches, 23,000 tons; Duluth & Manitoba, 13,000 tons; Minneapolis & Pacific, 6000 tons; Duluth & Iron Range, 4000 tons; Sault Ste. Marie & Minneapolis (to Washburn), 8000 tons.

INCREASED USE OF ASPHALTUM IN BUILDING.—The use of asphaltum in building is said to be largely on the increase, principally employed as a prevention against damp cellar walls and masonry work under ground, also for water-tight cellar floors, coating for rain-water cisterns, covering for underground vaults, etc. The usual method of applying it

is to reduce to a semi-liquid state, in a large iron pot, over a good fire, care being taken that the flame does not rise over the top of the pot and ignite the asphaltum. The wall is made as nearly dry as possible, and the joints somewhat rough, to admit of the asphalt penetrating the pores and securing a hold; the wall is then covered with asphalt, applied with a long-handled brush, while the material is hot and brushed in well—a coating one-half inch thick being as perfect a protective as a thicker one. A barrel of asphalt, as found in the market, heated and applied to vertical walls of brick, will ordinarily cover about 250 square feet of surface, and produces most lasting results.

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For \$5.00 we will send you the papers named in our four-dollar offer and "The Millers' Review," (Phila.), or "The Modern Miller," (Kansas City), or "The St. Louis Miller."

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"Mill for Sale," "Mill for Rent," or "Machinery for Sale," short advertisements, \$1.00 each insertion.

HIGH-PRICED ART—"My, but those ere works do run into money," remarked a passenger whose breath smelled like the south side of the Ohio river. "It beats all what fools some folk make over pictures. When I was in Chicago I saw a little painting about a foot square that was held at \$500. 'Spect some simpleton will come along and buy it. If I had a million of money you'd never catch me paying \$500 for a little painting like that."

"That's the way you talk," spoke up a bashful drummer, "but I'll bet you paid four times as much money for a painting not a tenth part as big."

"What, me?"

"Yes, you."

"What kind of a painting?"

"The one on the end of your nose,"

Gas Engine for Sale

One "OTTO" GAS ENGINE, 10 H.-P., in very good condition, for sale cheap. Address

J. C. SUNDIN,

124 Grand Ave., Milwaukee.

WANTED.

A situation by a good practical Roller Miller. Have worked in a Mill of 66 Rolls. References can be given.

P. BERGER,

184 Reed St., Milwaukee, Wis.

FOR SALE Mills • For • Sale.

10,000 acres of Hardwood and Agricultural Lands near Lake Superior, AT \$3.00 TO \$5.00 PER ACRE. 4,000 acres in the Iron River Country, at low rates.

A RARE OPPORTUNITY FOR A GOOD FIND.

IF YOU WISH TO BUY

CITY PROPERTY IN DULUTH, OR PINE, IRON OR FARMING LANDS,

(ADDRESS)

LUCIEN * J. * BARNES,

Room No. 2, Exchange Building.

DULUTH, MINN.



Do Your Own PRINTING.

Card Press, \$3.00
Circular Size, 8.00
Newspaper " 44.00

TYPE SETTING etc. is Easy by our printed instructions. For home or business use old or young. Send 2 stamps for Catalogue of Presses, Type, Cards, &c., to factory. **KELSEY PRESS CO.** Meriden, Conn.

AGENTS WANTED. SAMPLES Goods SELL everywhere, to Everybody. **BIG PAY!** A pocket case of EIGHT Lovely SAMPLES, with our terms, FREE TO ALL. Send your address, and 3 stamps for mailing. Address **THE HOLLEY WORKS, Meriden, Conn.**

Short advertisements will be inserted under this head for One Dollar each insertion.

FOR SALE AT A BARGAIN.

A No. 1 four-run steam mill, located at Browning, Linn Co., Mo., on the C. B. & K. C. R. R. The machinery was furnished by the Nordyke & Marmon Co. Will sell one-half or all at a very low price, and on good terms. Reason for selling, I am not a practical miller. Address

JAMES H. WALKER, Browning, Mo.

FOR SALE.

A first-class 40-barrel water power stone and roller flour mill, situated within forty rods of side track of the C. M. & St. P. R. R. Country all settled up. Last year's grinding 20,000 bushels on custom work. Address

H. F. FISHER, Camp Douglas, Wis.

MILL FOR SALE.

Two runs of stone; one Garden City Purifier; one Victor smutter; one separator; one corn sheller; two reels; one Leffel wheel 48-inch under ten-foot head, and the head can be increased to fifteen feet if required. Plenty of water all the year around. Dam is on solid rock bottom, only 4-6-12 high. Good wheat country. Nearest railroad, 5 miles. Nearest town, 2 miles. Twenty-nine acres land, house and stable for \$3,000. One thousand dollars cash; time to suit the buyer at 6 per cent. interest. Will sell half. Address

F. J. DWARSHAK, Festina, Iowa.

MILL FOR SALE.

The whole or half interest in a 50-barrel full roller mill, on account of death of partner. Good winter wheat section, climate and location. Will take one-third on the whole value in Western land. Address "EAGLE ROLLER MILLS," Plymouth, Ill. or U. S. MILLER, Milwaukee, Wis.

FLOURING MILL AND ELEVATOR FOR SALE.

All or one-half interest in a first-class 75-barrel steam flouring mill and elevator. All new and in good order. Located at Meriden, Jefferson Co., Kan., on the Atchison, Topeka & St. F. and the L. T. & S. W. Railroads; in the best wheat and corn growing county of the state. Building, heavy frame, 36x46, three stories, attic and basement, with stone engine room 22x34; all under iron roof. Capacity of elevator, 15,000 bushels; corn crib, dump and sheller. Side track to mill. Two sets 9x18 Allis Rolls; three burrs on wheat, one on corn; flour packer, scales, etc.; two Smith Purifiers; Barnard & Leas Separator; one 12-foot two-reel chest; one 16-foot four-reel chest; corn meal bolt; California Brush Finisher; one Western Corn Cleaner. Grain trade more than pays all running expenses. A splendid chance for a good miller. Exchange trade good. Mill cost over \$16,000. Will sell all for \$12,000, half cash, or half interest for \$6,000, half cash, or, if not sold by July 1st, will be leased for a term of years to responsible parties.

J. O. PEEBLES, Sec'y, MERIDEN MILL CO., Meriden, Kan.

FOR SALE CHEAP.

New all roller mill containing 11 pairs of rolls 9x12, 9x18 and 9x24, 6 reels, 3 purifiers, 1 centrifugal reel, 5 scalping reels, separator, smutter, corn sheller and 4 1/2-foot feed stone. Water power mill driven by a 50-inch special Leffel wheel, 8-foot head and plenty of water the year around. Millhouse 35x50, 2 1/2 stories; 11 feet high stone basement. The mill was built and started up new two years ago last June. It is situated in the best milling town and best wheat county in the State of Wisconsin. Only one mill to compete with in a radius of 10 to 25 miles; all a thick settled country around. The best of reasons for selling. For particulars call on or address

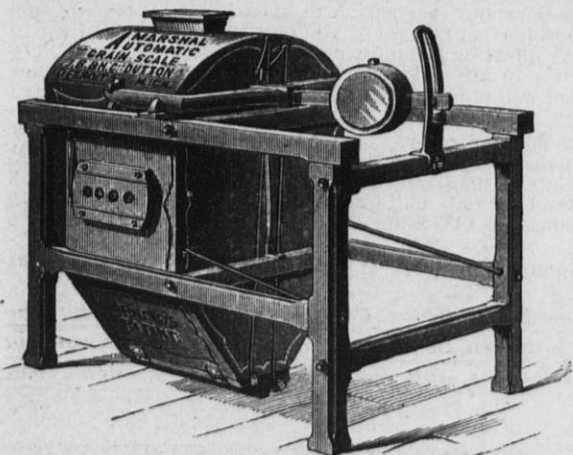
A. F. ORDWAY & SON, mill builders and furnishers, Beaver Dam, Wis.

SITUATION WANTED.

Short advertisements will be inserted under this head for One Dollar each insertion.

WANTED—A practical Oatmeal Miller, one who understands his business and is willing to attend to it. Can receive additional information by calling on, or addressing CHARLES D. DANA, 10 State St., Chicago, Ills.

Marshall Automatic Grain Scale



FOR USE IN

FLOUR MILLS,

BREWERIES,

Malt Houses,

ELEVATORS,

Distilleries, * Rice * Mills,

OIL MILLS,

Starch Factories, &c.

This Scale is designed for weighing and registering the amount of grain transferred from one point to another. The weighing and recording is absolutely correct, and the machines are sold with a guarantee to that effect. By their use the miller can tell at any time how much wheat he is using to make a barrel of flour and know at once whether he is milling at a profit or loss. This scale can be used with equal advantage by shippers of grain or others who desire to know how much grain, flour, feed, bran, shorts, screenings, coal (or any other thing that can be spouted), is being transferred, with a perfect record made of same.

J. B. & H. C. DUTTON, Detroit, Mich.

Gentlemen: We have used the Marshall Automatic Grain Scale in our mill for six months, and it has proved entirely satisfactory.

Yours truly,

ELDRED MILLING CO.

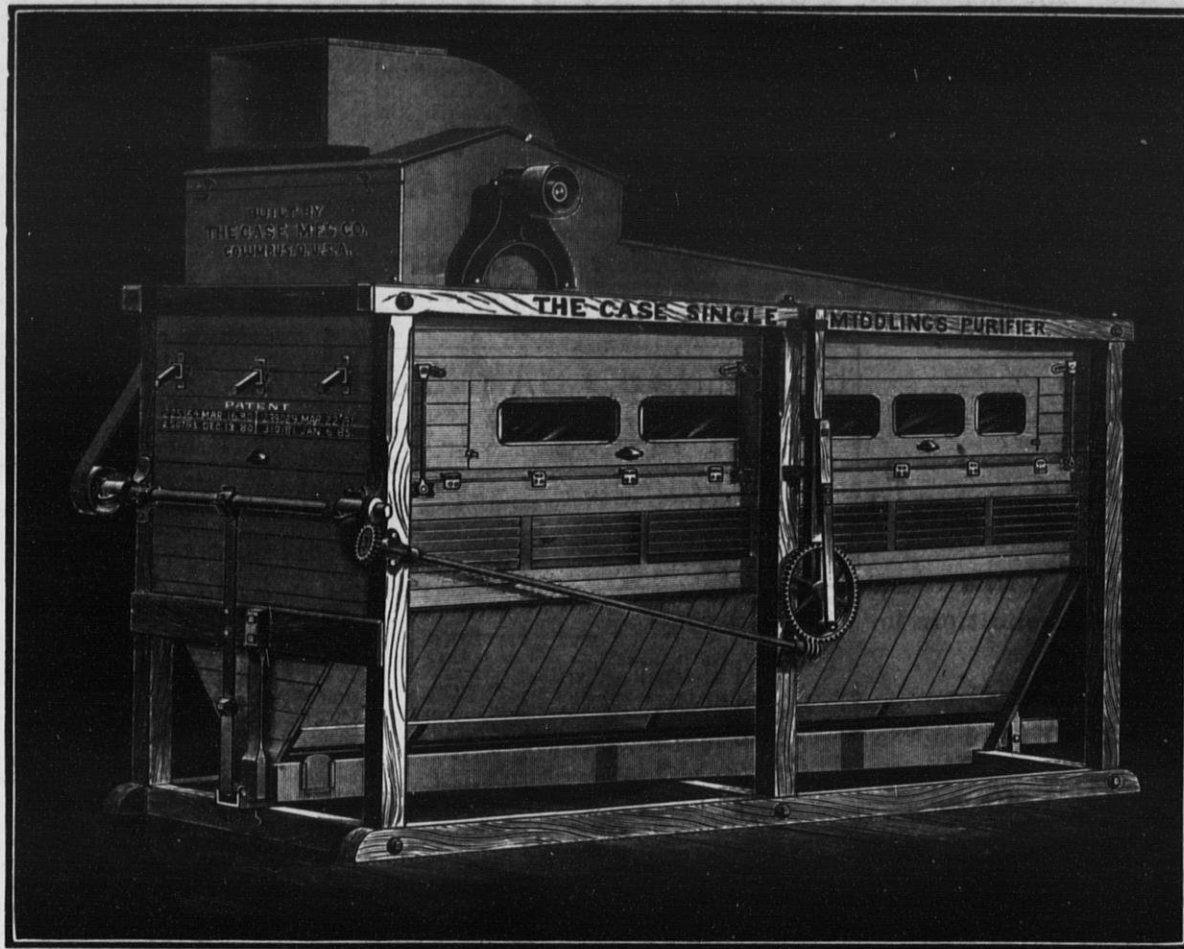
JACKSON, MICH., Nov. 13, 1885.

J. B. DUTTON & CO., DETROIT, MICH.

No. 52 WOODWARD AVE.

SOLE OWNERS OF THE PATENT.

Also handle a full line of Flouring Mill Machinery.



OUR "SPECIAL" PURIFIER,

RECENTLY IMPROVED AND PERFECTED.

THIS machine has some new and very valuable features, and we think we can justly say it is the **PRINCE PURIFIER OF THE WORLD.** It has an enclosed case or sides. It has the lightest Shaker made. It has no conveyors to wear the middlings. It has a complete aspirator at the tail. It has a double shaking spout for a cut-off. It has our perfect Automatic Feed. It has our unequalled Cloth Cleaner. It has brass eccentrics three inches long. It has the most perfect control of the blast. It is guaranteed to run five years without any attention except to oil the bearings, and is beyond any question the most perfect, practical, and complete machine made in the world. We will back this statement up by placing it on trial beside any other Purifier made, and if it does not prove all we claim, it may be removed. We know just what we are talking about, and will enter into public tests, and pay all expenses of same, if others can be induced to do so.

Our Purifiers have no "pockets" to fill up and interfere with the working of the dust collector. They have no subdivided compartments to catch dust and allow it to slide back on the riddle. They have no brush to wear out the cloth, and drop barrels of good middlings each day into the tailings and low grade stock, a waste which costs the millers of this country *hundreds of thousand of dollars annually, but they don't observe it.* They have no roller feed to choke off, or feed half the time only half the width of riddle, thus tailing off rich material and permitting the middlings to be poorly purified. Hundreds of thousands of dollars are lost each year by the millers through *imperfect feed.*

We have none of these imperfections which can be found on the so-called "Standard Purifier," and remember we have not made a statement in this circular about Purifiers but what is **GOSPEL TRUTH.**

During the past year we have settled all disputes with the Consolidated Middlings Purifier Company, so that the Purifiers now made by us are licensed under all patents, about one hundred in number, owned by that Company; besides being protected by our own patents, which embody several most valuable and important features, owned and controlled exclusively by ourselves.

OUR IMPROVED ROLLS

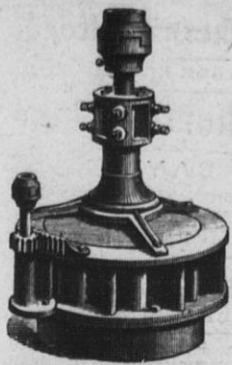
are gaining friends wherever they go. They are the most durable and easily handled of any Roll on the market. They are finely finished in the light of the mechanical arts. Many millers have asked us, "Were not these machines made expressly for some Exposition?" and no wonder, for each one is a model of elegance. Our **PATENT AUTOMATIC FEED** should never be lost sight of when you are buying a Roll or Purifier. It always runs like clock-work, and even better, for it never stops when it should run, neither does it go too fast or too slow. **IT GOES JUST RIGHT.**

A full supply of Bolting Cloths, Belting, Pulleys, Cups, etc. always on hand. Write us for estimates on Flour Mills or our "SPECIAL" Corn Meal System. [MENTION THIS PAPER WHEN YOU WRITE.]

ADDRESS

THE CASE MFG. CO.

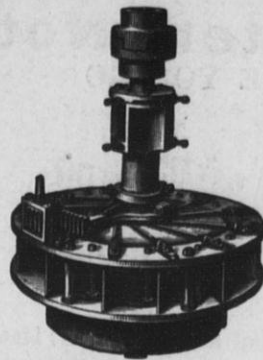
COLUMBUS, OHIO.



The "HOPEWELL"
TURBINE
Water Wheel

IS THE BEST.

For full particulars address
A. J. HOPEWELL,
EDINBURG, VA.



**JAMES LEFFEL'S IMPROVED
WATER WHEEL,**

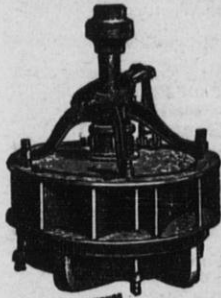
Fine New Pamphlet for 1885.

The "OLD RELIABLE" with Improvements, making it the **Most Perfect Turbine** now in use, comprising the **Largest** and the **Smallest** Wheels, under both the **Highest** and **Lowest** Heads in this country. Our new Pocket Wheel Book sent free. Address,

JAMES LEFFEL & CO., Springfield, Ohio,
and 110 Liberty St., New York City.

[Please mention this paper when you write to us.]

Improved + Walsh + Double + Turbine



This wheel has a perfect fitting cylinder gate and draft tube combined, and allows no water to escape when closed.

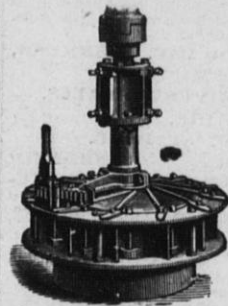
POWER GUARANTEED

equal to any wheel on the market using equal amount of water. Address for particulars,

B. H. & J. SANFORD,

Phoenix Iron Works,

Sheboygan Falls, Wis.



**POOLE & HUNT'S
Leffel Turbine Water Wheel**

Made of best material and in best style of workmanship.

Machine Molded Mill Gearing

From 1 to 20 feet diameter, of any desired face or pitch, molded by our own **SPECIAL MACHINERY. Shafting, Pulleys, and Hangers,** of the latest and most improved designs.

Mixers and General Outfit for Fertilizer Works.

Shipping Facilities the Best in all Directions.

POOLE & HUNT, Baltimore, Md.

N. B.—Special attention given to Heavy Gearing for Pulp and Paper Mills.

[Mention this paper when you write to us.]

**STEEL
CAR
PUSHER**

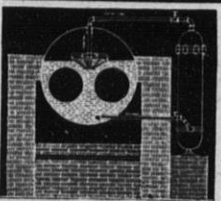
Made entirely of **STEEL. ONE MAN** with it can easily move a loaded car. Will not slip on ice or grease.

Manufactured by

E. P. DWIGHT,

Dealer in Railroad Supplies, 407 Library St., Philadelphia, Pa.

[Please mention this paper when you write to us.]



**VAN DUZEN'S
Mechanical Boiler Cleaner**

Takes out all mud and scale forming properties from the water of Steam Boilers, keeping it clean and free from all impurities. Send for circulars. Manufactured by

E. W. VAN DUZEN, Cincinnati, O.

Preserve your Copies of the
UNITED STATES MILLER

—IN AN—

ULLRICH BINDER

This binder is suitable for binding your copies of the **UNITED STATES MILLER** for two or more years, any required number can be taken out without disturbing its contents. Binders made for all Publications, for binding Music, etc.

ITS EQUAL CANNOT BE FOUND.

Send post paid for \$1.10. Address

UNITED STATES MILLER,
MILWAUKEE, WIS.

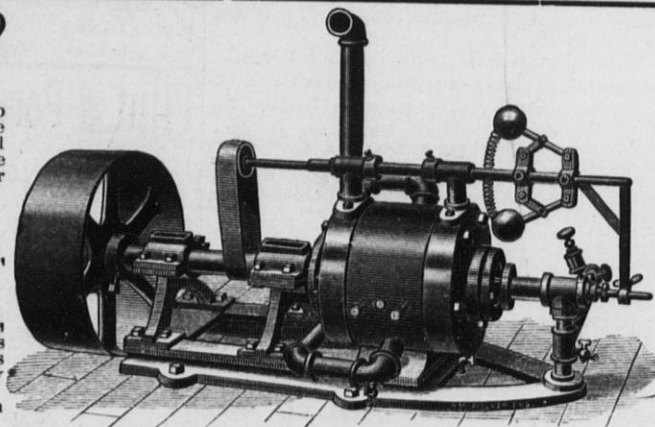
Did you hear us?

We told you over a year ago that our Engine was "on the market to stay." We now tell you it is the best Engine in the world, and is gaining favor every day and everywhere.

**Highest Economy,
Closest Regulation,
Finest Automatic Cut-off,
Most Durable,**

THE BEST in all respects and for all uses, and on prices we can double discount any engine maker in the U. S. Yes, it's a rotary, and we can prove all we claim.

If you want to know more about it send for Circulars and References.



WADE & WARDELL,
Cadillac, Wexford Co. Michigan.

[Please mention this paper.]

**STEEL
CASTINGS**

Works, CHESTER, PA.

[Mention this paper when you write to us.]

FROM 1-4 to 15,000 LBS. WEIGHT.

True to Pattern, sound, solid, free from blow-holes, and of unequal strength. Stronger, and more durable than iron forgings in any position or for any service whatever.

40,000 **CRANK SHAFTS** and 30,000 **GEAR WHEELS** of this steel now running prove this.

CRANK SHAFTS and **GEARING** specialties. **STEEL CASTINGS** of every description

Send for Circulars and Prices to

CHESTER STEEL CASTINGS CO.

Office, 407 LIBRARY ST., PHILADELPHIA, PA

JUST OUT.

The only thoroughly practical work on Modern Milling in the English language designed for the use of operative millers only.

LOUIS H. GIBSON'S

Gradual Reduction Milling.

Contains 429 pages, many cuts, and diagrams for a 100-barrel mill, 70-barrel mill, a 50-barrel mill, and a 500-barrel mill. Full of interesting and valuable matter. Publisher's price \$3.00. Will be furnished with the **United States Miller** for \$3.50, postage prepaid. Send in your orders at once to

E. HARRISON CAWKER,

Publisher **UNITED STATES MILLER, Milwaukee, Wis.**

GOODRICH PASSENGER STEAMERS

TWICE DAILY EACH WAY

Milwaukee & Chicago.

Fare to Chicago \$1 less than by railroad.

Chicago and Racine Line.

Leave Milwaukee.	FOR	Arrive at Milwaukee.
7:00 P. M.	Chicago	5:00 P. M.
7:30 A. M.	Chicago	5:00 A. M.
7:00 P. M.	Racine	5:00 P. M.

Fare to Chicago Only \$2.

Round Trips, \$3.50. meals and berths included on first-class tickets.

Sure connections at Chicago with all morning trains for all points East, South and Southwest.

Sheboygan & Manitowoc Line.

Daily.*	Leave.	At Milwaukee	Arrive.
Milwaukee	7:00 a. m.	4:00 p. m.	

Manistee & Ludington Line.

Daily, leave 7 P. M., except Sunday.

Saginaw & Bay City Line. Daily except Sundays.

Milwaukee	Leave	At Milwaukee	Arrive
7:00 p. m.	7:00 p. m.	6:00 a. m.	

Pierport & Frankfort Line.

Leave Milwaukee daily at 7:00 P. M., except Sunday.

Kewaunee & Ahnapee Line.

Leave Milwaukee Tuesdays, Thursdays and Saturdays, at 7 A. M.

Menominee & Sturgeon Bay Line.

Tuesdays, Thursdays and Saturdays at 7 A. M.

Green Bay & Escanaba Line.

Leave Milwaukee Tuesdays, Thursdays and Saturdays at 7 A. M., touching at Oconto, Menominee, Nahma, Fayette, Depere, and making close connections with railroad at Escanaba for Negaunee, Ishpeming, Quinnesec, Norway, and all Lake Superior points.

*Mondays. †Sundays.

G. HURSON, Secretary and Agent.
THOS. FORBES, Passenger Agent.

Green Bay, Winona & St. Paul

RAILROAD

IS THE **SHORTEST ROUTE FROM GREEN BAY**

and all points in

EASTERN WISCONSIN

—TO—

- NEW LONDON,
- STEVENS POINT,
- GRAND RAPIDS,
- WAUSAU,
- MERRILL,
- WINONA,
- LA CROSSE,
- CHIPPEWA FALLS,
- STILLWATER,
- HUDSON,
- EAU CLAIRE.

ST. PAUL, MINNEAPOLIS,

and all points in MINNESOTA, DAKOTA, and all points on the

NORTHERN PACIFIC RAILROAD and ST. PAUL, MINNEAPOLIS & MANITOBA RAILROAD.

Passengers from all points on the CHICAGO & NORTHWESTERN R'Y, south of Green Bay and Fort Howard, connect with the

G. B., W. & St. P. R. R.

—AT—

FORT HOWARD JUNCTION.

They will find it

THE SHORTEST LINE

to all the above points.

THE PASSENGER EQUIPMENT

of this Road embraces all the modern improvements and conveniences that tend to make traveling by rail safe and comfortable.

Be sure your tickets read via the

Green Bay, Winona & St. Paul Railroad.

S. W. CHAMPION, General Pass. Agent.
GAVIN CAMPBELL, General Manager.
GREEN BAY, WIS.

It Matters Not WHERE YOU GO



—IS THE—

United States Fast Mail Route and Short Line,

Constructed and Equipped in the most Perfect Manner, ensuring Safety, Comfort, Convenience and Speed. It traverses the most important portion of Wisconsin, reaching with its immediate connections, nearly every town and city in the State. Located on its main line are the cities of

- MILWAUKEE, FOND DU LAC, OSHKOSH,
- NEENAH, MENASHA,
- STEVENS POINT, CHIPPEWA FALLS,
- EAU CLAIRE,
- NEW RICHMOND, ST. PAUL,
- MINNEAPOLIS and ASHLAND.

Its trains start from Union Depots in CHICAGO, MILWAUKEE and ST. PAUL, and its equipment consists of NEW AND MAGNIFICENT PALACE SLEEPING AND PARLOR CARS,

ELEGANT DAY COACHES.

Superior Facilities make it the best route to and from the East, West, North or South.

BE SURE YOU START RIGHT,

by asking for tickets via this Line. For Maps, Circulars, Folders, or other information not obtainable at your local ticket office, apply to

F. N. FINNEY, General Manager. JAMES BARKER, Gen. Pass. Agt.

Flint & Pere Marquette R. R.

LUDINGTON ROUTE.

Fast Freight & Passenger Line.

Freight Contracted on through Bills Lading to all points in

- Michigan, Indiana, Ohio,
- New York, Pennsylvania,
- New England & Canada.

AT LOWEST RATES.

All freight insured across Lake Michigan. Passengers save \$2.75 to all points East.

Dock and Offices, No. 50 West Water St., one block from Union Depot.

L. C. WHITNEY,

Gen'l Western Agent.

Detroit, Grand Haven & Milwaukee RAILWAY LINE.

The Shortest, Cheapest and Quickest Route

—BETWEEN THE—

WEST AND EAST

New York, Boston, and all points in Northern and Eastern Michigan.

COMMENCING MAY 17th,

the Palace Side-wheel Passenger Steamer "City of Milwaukee" will leave Milwaukee daily, Sundays included, at 11:45 noon and connect at Grand Haven with Limited Express Train which leaves at 6:00 P. M. Time, Milwaukee to New York, 32 hours.

Ticket Office, 99 Wisconsin Street,

—WHERE—

SLEEPING CAR BERTHS

can be secured. Dock, foot of West Water Street.

GEORGE B. REEVES, Traffic Manager, Chicago.

B. C. MEDDAUGH, West. Pass. Agt. Milwaukee.

W. J. SPIORR, Gen'l Manager, Detroit, Mich.

Milwaukee & Northern Railroad.

THE OLD RELIABLE ROUTE.

17 Miles the Shortest Line

—TO— GREEN BAY,

Fort Howard, Depere, Menasha, Neenah, and Appleton, Marinette, Wis., and Menominee, Mich.

—THE NEW ROUTE TO—

New London, Grand Rapids, and all points in CENTRAL AND NORTHERN WISCONSIN.

The new line to Menominee is now completed, and opens to the public the shortest and best route to all points on the Michigan Peninsula.

CONNECTIONS.

AT PLYMOUTH with the Sheboygan and Fond du Lac Division Chicago & North-Western R'y for Sheboygan and Fond du Lac.

AT FOREST JUNCTION with Milwaukee, Lake Shore and Western Railway.

AT GREEN BAY with Chicago & North Western and Green Bay, Winona & St. Paul Railroads, for all points North and West.

C. F. DUTTON, General Supt.

The Milwaukee, Lake Shore and Western Railway.

This Railroad is now the acknowledged Fishing and Hunting Line of Wisconsin: Milwaukee to Sheboygan, Sheboygan Falls and Manitowoc.

Through the picturesque scenery of the Fox River Valley, and the cities of Kaukauna and Appleton, noted for their vast water power and manufacturing facilities.

Through Northern Wisconsin and the Michigan Peninsula, the most beautiful Region of Forests, Streams and Lakes in the Great Northwest.

Within its limits are located the best Fishing and Hunting Grounds in the country. The equable climate and the pure air of the Pine Forests, make it a most desirable Sanitarium, especially for sufferers from Hay Fever and Lung Diseases.

Good Hotels, Fleets of Pleasure Boats, and general facilities for comfort and pleasure at Lake Gogebic, the Eagle Waters and Pelican Lake.

Through the most wonderful Mineral Region of the United States; The Gogebic, Montreal and Penokee Iron Ranges. A new and rich field for the Prospector, Speculator and Capitalist. Picturesque scenery and interesting sights for the Tourist. The line terminates at ASHLAND, Lake Superior, well known as a desirable Summer Resort.

The Guide Book for 1886, a book of fifty-six pages, contains full information, Maps and Engravings of the country traversed by the Line, and will be sent on application to the General Passenger Agent.

H. F. WHITCOMB, Gen'l Manager.

CHAS. V. MCKINLAY, Gen'l Pass. Agent.

THE CHICAGO AND

NORTH-WESTERN RAILWAY.

THE BEST ROUTE AND **SHORT LINE** BETWEEN

Milwaukee, Chicago, Council Bluffs, and Omaha.

The only line to take from Chicago or Milwaukee to Freeport, Clinton, Cedar Rapids, Marshalltown, Des Moines, Sioux City, Council Bluffs, Omaha and all points West. It is also the

SHORT LINE

Between Chicago, Milwaukee and ST. PAUL OR MINNEAPOLIS, and the best route to Madison, La Crosse, Ashland, Duluth, Winona, Huron, Aberdeen, Pierre and all points in the Northwest.

It is the direct route to Oshkosh, Fond du Lac, Green Bay, Ishpeming, Marquette and the mining regions of Lake Superior.

It is the LAKE SHORE and PARLOR CAR ROUTE between

CHICAGO and MILWAUKEE, PALACE SLEEPING CARS on night trains. PALATIAL DINING CARS on through trains between

Chicago and Milwaukee, Chicago and St. Paul, Chicago and Council Bluffs, And Chicago and Winona.

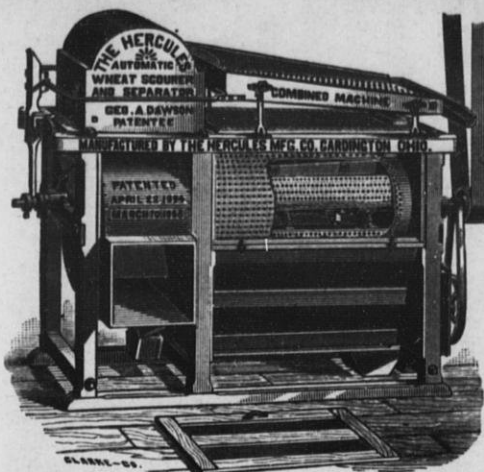
If you are going to Denver, Ogden, Sacramento, San Francisco, Helena, Portland, or any point in the West or Northwest, ask the ticket agent for tickets via the "NORTHWESTERN" if you wish the best accommodations. All ticket agents sell tickets via this line.

M. HUGHITT, General Manager.

R. S. HAIR, Gen'l Passenger Agent, CHICAGO.

Milwaukee Office, 102 Wisconsin St.

Do You Want Clean Wheat?



THE Hercules Automatic Wheat Scourer AND Separator

Warranted to improve the COLOR and VALUE of flour in any mill. Anti-Frictional, Light Running and the only AUTOMATIC WHEAT SCOURER ever invented. Adjusts itself while in motion to the volume of wheat fed to it and requires no attention but oiling. Awarded GOLD MEDAL and highest honors at the late WORLD'S FAIR, NEW ORLEANS. Machines sent on 60 days trial and satisfaction guaranteed or no pay. Write for Circulars, Testimonials and Samples of Cleaned Wheat and Scourings.

THE HERCULES MFG. CO., Cardington, Ohio.

IT HAS INCREASED OUR TRADE.

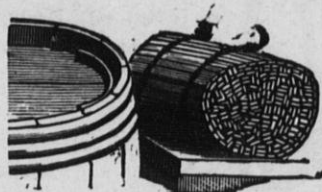
THE HERCULES MANUFACTURING CO., Cardington, Ohio.

Gentlemen:—We like the "Hercules" machine very much indeed. It has increased our trade, and we will buy another for our other mill in the Spring. It certainly is the best Scourer we know of.
Yours Respectfully,
SCHREURS BROS.

SCHREURS BROS.,
PROPRIETORS OF YOUNG AMERICA ROLLER MILLS,
Muscatine, Iowa, December 9th, 1885.

[Mention this Paper when you write.]

HEAD LININGS!



Quality Guaranteed Strictly First-Class.

Having superior facilities, we can always offer satisfactory prices, either in small amounts or car lots. Price list sent on application.

W. A. & A. M. BRADFORD,
Goshen, Ind.

GANZ & CO.,

Budapest, Austria-Hungary.

We are the first introducers of the Chilled Iron Rollers for milling purposes, and hold Letters Patent for the United States of America. For full particulars address as above.

[Mention this paper when you write to us.]

ARE YOU GOING TO NEW ORLEANS OR FLORIDA?

If so, you can go via the MONON ROUTE via Louisville or Cincinnati, and see the Mammoth Cave, Nashville, Blount Springs, Birmingham, Montgomery, Mobile, and the Gulf coast for the same money that will take you through the dreary, uninhabited Mississippi swamps; we are confident you cannot select a line to the South enjoying half the advantages that are possessed by the MONON ROUTE and its Southern connections.

No one should think of going South without visiting the Mammoth Cave, the great natural wonder of this continent. So much has been written of this world-famous wonder, that it is impossible to say anything new in regard to it—it cannot be described; its beauties seen, to be appreciated or realized. It is the greatest natural curiosity—Niagara not excepted—and he whose expectations are not satisfied by its marvelous avenues, domes and starry grottos must either be a fool or a demi-god. From Mobile to New Orleans (141 miles) the ride along the Gulf coast is alone worth the entire cost of the whole trip. In full sight of the Gulf all the way, past Ocean Springs, Mississippi City, Pass Christian, Bay St. Louis, and Beauvoir, the home of Jeff Davis.

When you decide to go South, make up your mind to travel over the line that passes through the best country, and gives you the best places to stop over. This is emphatically the MONON ROUTE, in connection with the Louisville and Nashville and the Cincinnati Southern Railways, Pullman Palace Sleepers, Palace Coaches, double daily trains. The best to Cincinnati, Louisville, New Orleans or Florida. For full information, descriptive books, pamphlets, etc., address E. O. MCCORMICK, Gen'l Northern Passenger Agent Monon Route, 78 Clark street, Chicago, or Wm. S. BALDWIN, Gen'l Passenger Agent, 183 Dearborn Street, Chicago.

THE BATES CHAMPION

Rapid * Grain * Dryer!

FOR RAPIDITY, SATISFACTORY RESULTS AND THOROUGHNESS

UNEQUALED!

Get the Best; the Best is Cheapest. No Parch, Shrivel, Discoloration or other evidence of Artificial Drying.

The grain is dried at the rate of about 1,000 bushels per hour, the automatic arrangements and low temperature used insuring evenness and uniformity. The capacity, however, can be increased in proportion to power and space afforded, these latter being the only limit. In addition to drying evenly, the operations of the very dry air, peculiar to this machine, remove from the grain any slight odor from sweat or heat, and put it in condition to grade. The air used is a prepared air, and has all the varied degrees of low temperature necessary. Damp grain made as rules of inspection require, or as dry even, as old grain. Thus the BATES' DRYER is the most perfect as well as rapid dryer extant. It is beyond question The Champion Grain Dryer. Absolutely safe against fire.

New Corn can be made to grade immediately by the BATES' CHAMPION RAPID GRAIN DRYER. Corn of present crop, all over the country, is too damp to grade, and likely to be thus for months to come and can only be made to grade by artificial means. The BATES' DRYER is the only dryer that can dry the Grain in large quantities at trifling cost, naturally, and not show parch, shrivel, or other evidence of artificial drying; the drying by this method being precisely that accomplished by a natural dry atmosphere, only that the machine accomplishes in a very brief space of time what would ordinarily require months. It is not necessary by this process to dry out any more moisture than will bring the grain up to the desired grade.

Dryers for grains of all kinds, including Brewers' Grains, cotton seed, flax, and grass seeds, glucose refuse. Also for Phosphates, Starch, Glue, Fruit, Lumber, Shingles, and Veneering, Hides, Leather, Hair, Moss, Wool, etc.

THE BATES' FERTILIZER DRYER, accomplishes about three times the work accomplished by any of its competitors with about one-quarter of the steam. Besides grinding and drying the offal, this dryer delivers it bold and ready for immediate shipment.

The expense of drying by this method is reduced to smallest possible cost, which is below that of any other. Machines are compact. Experienced workmen will be sent to set them up and instruct as to operating. For further particulars address,

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P. O. BOX 585.

189 La Salle St., Room 73 Calumet Bd'g. CHICAGO, ILL.

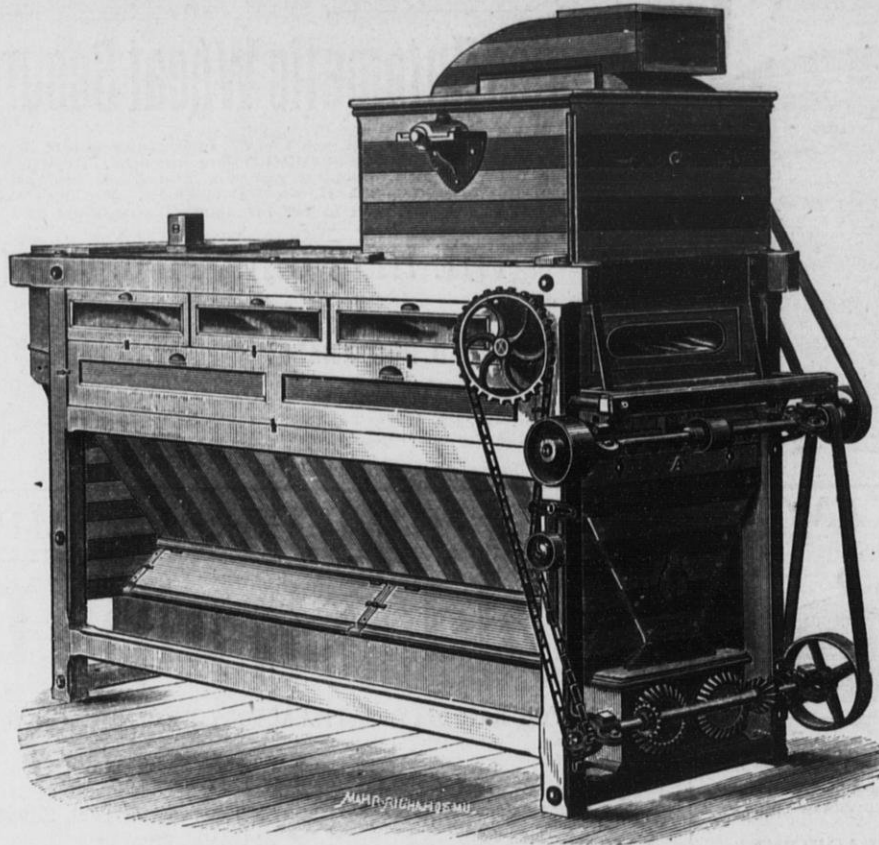
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FIRST CLASS
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W. J. CLARK & CO.
SALEM, OHIO

[Please mention this paper when you write to us.]



BLUE EARTH CITY, MINN., JUNE 28, 1886.

SUPERLATIVE PURIFIER MFG. CO., Milwaukee, Wis.

GENTLEMEN:--You wrote us sometime ago enquiring how we liked the American Bolters and the Superlative Purifiers.

The **American Bolter** has worked very satisfactorily in every respect, under all conditions, and we believe it to be **one of the best Bolting devices every put on the market**, as we have seen many and tried many, but have **never found its equal**.

The **Superlative Purifiers** are a complete success in every respect. Purifies without waste, and has the most perfect working brush ever used on a Purifier.

Yours Very Truly,

FRANCISCO, PRIDE & WING.

HOMER C. WING, (MILLER.)

ADDRESS FOR PRICES, ETC.,

SUPERLATIVE PURIFIER MFG. COMPANY,

MILWAUKEE, WIS.

The United States Miller

Published by
E. HARRISON CAWKER.

Vol. 21, No. 5. MILWAUKEE, SEPTEMBER, 1886.

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

BEFORE TRIAL!

Lamar, Mo., July 7, 1886.

SPERRY FEEDER CO.

Gentlemen:—Please send us one Feeder 9 x 18 Allis Roll (double). If satisfactory we will want two more of the same kind and one for 9 x 14 style B.

Respectfully,

Brand, Dunwoody & Co.

SPERRY FEEDER CO.

MINNEAPOLIS, MINN.

Increase Capacity, Increase Yields, Better Grades, Reduce Running Expenses, by using our Feeders.

Refer to the following mills in which our Feeders have been adopted:

Pillsbury A,
Pillsbury B,
Anchor,
Washburn A,
Washburn C,
Northwestern,
Pettit,
Columbia,
Crown Roller,
Dakota,
Galaxy,
R. D. Hubbard & Co.,
Minneapolis, Minn.

PENNSYLVANIA.

H. S. Klinger & Co., Butler.
D. & A. Lukenbach, Bethlehem.
Melbourne Mills, Philadelphia.

NEW YORK.

Jewell Milling Co., Brooklyn.
Jones & Co., New York City.
Kings Co. Mill Co., Brooklyn.

OHIO.

Schumacher Milling Co., Akron
Mankato, Minn.; Austin Herr,

CALIFORNIA.

Sperry & Co., Stockton.
Pioneer, Sacramento.
McGrady & Bro., Sacramento.
Horace Davis, San Francisco
Golden Age,
Del Monte,
General Bidwell, Chico.
Grialey Mills, Gridley.
Victor Mills, Hollister.
Washington, D. C., and others.

AFTER TRIAL!

Lamar, Mo., Jul 29, 1886.

J. A. McANULTY.

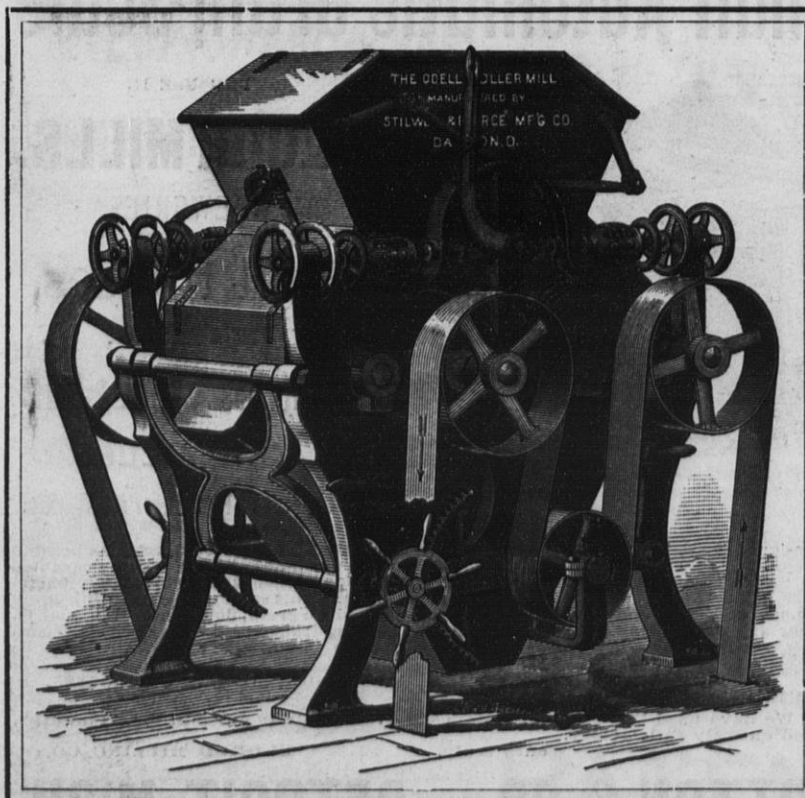
Dear Sir:—Please send us two more Feeders for 9 x 18 Allis double rolls, and one for 9 x 14 style B. We are convinced from our experience with the one sent us that they will increase our capacity and yield materially. Ship as soon as possible and send bill.

Yours Respectfully,

Brand, Dunwoody & Co.

The only Force Feed Made for Feeding Mill Stock

ODELL'S ROLLER MILL SYSTEM



Is now in successful operation in a large number of mills, both large and small, on hard and soft wheat, and is meeting with unparalleled success. All the mills now running on this system are doing very fine and close work, and we are in receipt of the most flattering letters from millers. References and letters of introduction to parties using the Odell Rolls and System, will be furnished on application to all who desire to investigate.

Odell's Roller Mill

Invented and Patented by U. H. ODELL, the builder of several of the largest and best Gradual Reduction Flour Mills in the country.

AN ESTABLISHED SUCCESS!

We invite particular attention to the following

POINTS OF SUPERIORITY

possessed by the Odell Roller Mill over all competitors, all of which are broadly covered by patents, and cannot be used on any other machine.

1. It is driven entirely with belts, which are so arranged as to be equivalent to giving each of the four rolls a separate driving-belt from the power shaft, thus obtaining a positive differential motion which cannot be had with short belts.

2. It is the only Roller Mill in market which can instantly be stopped without throwing off the driving-belt, or that has adequate tightener devices for taking up the stretch of the driving-belts.

3. It is the only Roller Mill in which one movement of a hand lever spreads the rolls apart and shuts off the feed at the same time. The reverse movement of this lever brings the rolls back again exactly into working position and at the same time turns on the feed.

4. It is the only Roller Mill in which the movable roll-bearings may be adjusted to and from the stationary roll-bearings without disturbing the tension-spring.

5. Our Corrugation is a decided advance over all others. It produces a more even granulation, more middlings of uniform shape and size, and cleans the bran better.

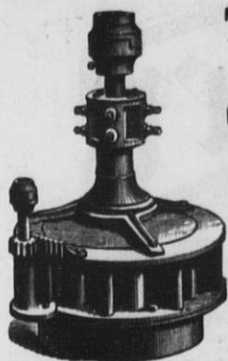
WE USE NONE BUT THE BEST ANSONIA ROLLS.

Our Corrugation differs from all others, and produces less Break Flour and Middlings of Better Quality.

Mill owners adopting our Roller Mills will have the benefit of Mr. Odell's advice, and long experience in arranging mills. Can furnish machines on short notice. For further information, apply in person or by letter to the sole manufacturers,

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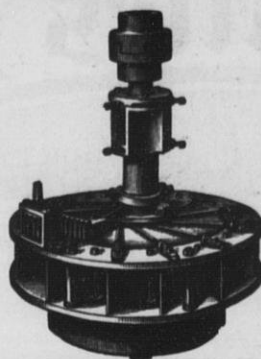
Agents for Du Four's Bolting Cloth.



The "HOPEWELL"
TURBINE
Water Wheel

IS THE BEST.

For full particulars address
A. J. HOPEWELL,
EDINBURG, VA.



**JAMES LEFFEL'S IMPROVED
WATER WHEEL,**

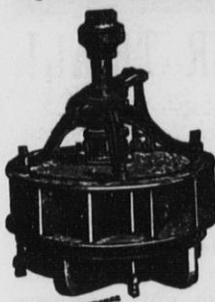
Fine New Pamphlet for 1885.

The "OLD RELIABLE" with Improvements, making it the Most Perfect Turbine now in use, comprising the Largest and the Smallest Wheels, under both the Highest and Lowest Heads in this country. Our new Pocket Wheel Book sent free. Address,

JAMES LEFFEL & CO., Springfield, Ohio,
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[Please mention this paper when you write to us.]

Improved + Walsh + Double + Turbine

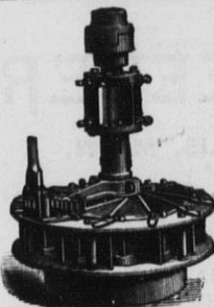


This wheel has a perfect fitting cylinder gate and draft tube combined, and allows no water to escape when closed.

POWER GUARANTEED

equal to any wheel on the market using equal amount of water. Address for particulars,

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**POOLE & HUNT'S
Leffel Turbine Water Wheel**

Made of best material and in best style of workmanship.

Machine Molded Mill Gearing

From 1 to 20 feet diameter, of any desired face or pitch, molded by our own SPECIAL MACHINERY. Shafting, Pulleys, and Hangers, of the latest and most improved designs.

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N. B.—Special attention given to Heavy Gearing for Pulp and Paper Mills.

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CAR
PUSHER**

Made entirely of STEEL. ONE MAN with it can easily move a loaded car. Will not slip on ice or grease.

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FROM 1-4 to 15,000 LBS. WEIGHT.

True to Pattern, sound, solid, free from blow-holes, and of unequalled strength. Stronger, and more durable than iron forgings in any position or for any service whatever.

40,000 CRANK SHAFTS and 30,000 GEAR WHEELS of this steel now running prove this.

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Marshall Automatic Grain Scale

FOR USE IN

FLOUR MILLS,

BREWERIES,

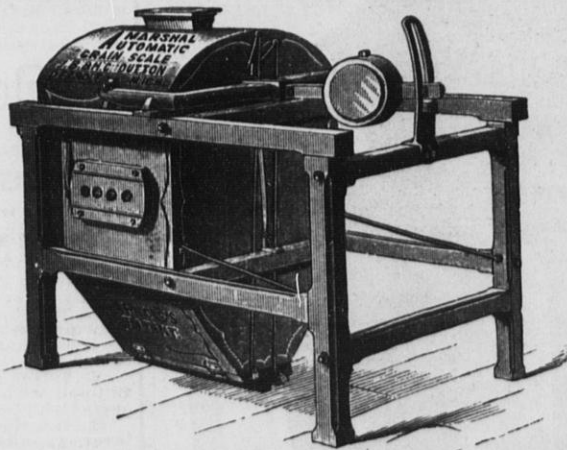
Malt Houses,

ELEVATORS,

Distilleries, * Rice * Mills,

OIL MILLS,

Starch Factories, &c.



This Scale is designed for weighing and registering the amount of grain transferred from one point to another. The weighing and recording is absolutely correct, and the machines are sold with a guarantee to that effect. By their use the miller can tell at any time how much wheat he is using to make a barrel of flour and know at once whether he is milling at a profit or loss. This scale can be used with equal advantage by shippers of grain or others who desire to know how much grain, flour feed, bran, shorts, screenings, coal (or any other thing that can be spouted), is being transferred, with a perfect record made of same.

JACKSON, MICH., Nov. 13, 1885.

J. B. & H. C. DUTTON, Detroit, Mich.

Gentlemen: We have used the Marshall Automatic Grain Scale in our mill for six months, and it has proved entirely satisfactory.

Yours truly,

ELDRED MILLING CO.

J. B. DUTTON & CO., DETROIT, MICH.

No. 52 WOODWARD AVE.

SOLE OWNERS OF THE PATENT.

Also handle a full line of Flouring Mill Machinery.

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 GRAIN AND PROVISIONS.
 Bought or sold for shipment, or carried on margins.
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MERCHANTS,
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 Provisions and Grain
 BALTIMORE, MD.
 Sell on Track West and to Arrive.
 Fine Storage Cellars for Meat and Lard.
 Handle all kinds of Grain.
 Liberal Advances on Consignments.
 REFER TO Western National Bank, Baltimore; Citizens' National Bank, Baltimore; Wm. Ryan & Sons, Dubuque, Iowa; Whitmore Bros., Quincy, Ill.; Bloomington Pork Packing Co., Bloomington, Ill.

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 200-201 Royal Insurance Building,
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 THE PURCHASE AND SALE OF
GRAIN AND PROVISIONS
 On the Chicago Board of Trade.
 For cash or future delivery, a specialty.
 Special information, indicating course of markets,
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GRAIN :: COMMISSION
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Orders for Choice Milling Wheat Given Special Attention.

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 MILLERS DESIRING TO SELL FLOURS BY SAMPLE in car lots in the cities of Baltimore, Md., or Washington, D. C., should communicate with P. H. HILL, Millers' Agent, WASHINGTON, D. C., and for Philadelphia, Pa., communicate with HILL & SCHAFF, Millers' Agents and Grain Brokers, 219 North Broad St., PHILADELPHIA, PA. Highest references.

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Provisions and Grain
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 The purchase of grain for shipment to home markets a specialty.

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 FLOUR, GRAIN,
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 FOR SALE OF
WHEAT, CORN, OATS, RYE.
 DEALERS IN
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 We give special attention to the purchase and sale of grain or provisions, for future delivery, here or in other markets
 Information regarding the present condition and future outlook for prices furnished on request.
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NEW ENGLAND MUTUAL
 LIFE INSURANCE CO.
 OF BOSTON.
 Assets, - - - - - \$17,846,546.65
 Liabilities, - - - - - \$15,288,761.16
 Total Surplus, - - - - - \$ 2,607,785.49
 BENJ. F. STEVENS, Pres't.
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BOILER INSURANCE.
AMERICAN
Steam Boiler Insurance Company
 OFFICE, 45 WILLIAM ST., NEW YORK.
 Cash Capital, - - - - - \$200,000
 ASSETS JANUARY 1st, 1885.
 U. S. Gov. Registered Bonds, of which \$100,000 is lodged with the Insurance Department at Albany, N. Y. \$216,138.00
 Cash in bank and in office 10,668.72
 Premiums in course of collection 16,839.35
 LIABILITIES. \$243,694.33
 Reinsurance reserve 40,225.00
 All other demands 2,013.27
 \$ 43,149.24
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Fire Insurance.
 Every miller and manufacturer having an A 1 risk, should apply for insurance in the Allied Mutual Fire Insurance Companies, of which S. H. Seamans, Milwaukee, Wis., is secretary.

CONNECTICUT
FIRE INSURANCE CO.,
 HARTFORD, - CONNECTICUT.
 Cash Capital, - - - - - \$1,000,000 00
 Reserve for Reinsurance, - - - - - 580,669 40
 Outstanding Claims, - - - - - 90,396 57
 Net Surplus, - - - - - 303,683 78
 Total Assets, Jan. 1, 1886, - \$1,974,749 75
 Surplus to Policy-holders, - \$1,303,683 78
 J. D. BROWNE, President,
 CHARLES R. BURT, Secretary.
 L. W. CLARKE, Ass't Secretary.

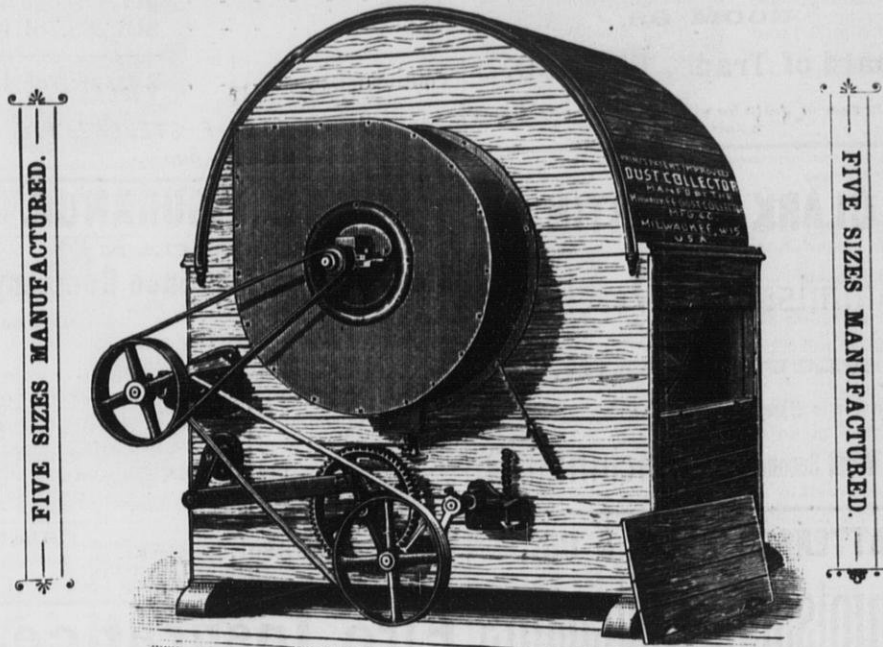
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CUSTOM and EXCHANGE MILLERS.

We have made arrangements with Potter & Huntington, whereby we can furnish one of their EXCHANGE TABLES and UNITED STATES MILLER for one year, for \$1.50; the price of the Exchange Table alone is \$1.00. This is probably the best Table ever prepared for Millers doing an Exchange or Custom Business. The range is from 25 to 36 lbs. of flour to each 60 lbs. of wheat, and corresponding amount of bran and middlings. (Toll and waste in milling deducted.) There are twelve Tables each of a different grade of wheat, and each Table a different amount of flour and feed and can be used for any amount of wheat, from two lbs. up to any No. of bushels. There is no guess work about it, but all from actual experience. By it the Miller is always sure of his allowance of Toll. Hundreds of them are being sent to all parts of the United States and Canada. Send us One Dollar and Fifty Cents and we will send the Table and credit you for one year's subscription to the UNITED STATES MILLER. Address, UNITED STATES MILLER, 124 Grand Avenue, Milwaukee, Wis.

IMPROVED

PRINZ PATENT DUST COLLECTOR.

6000 IN SUCCESSFUL OPERATION.



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"Treatise on Dust Collection," containing 50 pages of testimonials,

Milwaukee Dust Collector Mfg. Co.,

MILWAUKEE, WIS.



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— AND —

HARRISON CONVEYOR

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GENERAL AGENTS,

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GRAIN TESTERS, FLAX TESTERS,
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etc. is Easy
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For home or
business use
old or young
Send 2 stamps
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Goods SELL everywhere, to Everybody.
BIG PAY! A pocket case of EIGHT Lovely
SAMPLES, with our terms, FREE TO ALL.
Send your address, and 2 stamps for mailing. Address
THE HOLLEY WORKS, Meriden, Conn.

FOR SALE

10,000 acres of Hardwood and Agricultural
Lands near Lake Superior, AT \$3.00 TO
\$5.00 PER ACRE. 4,000 acres in the
Iron River Country, at low rates.

A RARE OPPORTUNITY FOR A GOOD FIND.

IF YOU WISH TO BUY

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DULUTH, MINN.

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Short advertisements will be inserted under this head
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FOR SALE.

A first-class 40-barrel water power stone
and roller flour mill, situated within forty
rods of side track of the C. M. & St. P. R. R.
Country all settled up. Last year's grinding
20,000 bushels on custom work. Address
H. F. FISHER, Camp Douglas, Wis.

FOR SALE.

A Flour Mill in a good wheat section on
D. R. G. R. R., Colorado. Finest of Water
Power. Three runs of Burrs, Centrifugals
and Cleaning Machine, all in best conditions.
Good reasons for selling, and special induce-
ments given to purchasers. For terms, etc.,
address FRED. PISCHEL, La Veta, Col.

MILL FOR SALE.

The whole or half interest in a 50-barrel
full roller mill, on account of death of part-
ner. Good winter wheat section, climate
and location. Will take one-third on the
whole value in Western land. Address
"EAGLE ROLLER MILLS," Plymouth, Ill.
or U. S. MILLER, Milwaukee, Wis.

FLOURING MILL AND ELEVATOR FOR SALE.

All or one-half interest in a first-class 75-barrel
steam flouring mill and elevator. All new and in
good order. Located at Meriden, Jefferson Co., Kan.,
on the Atchison, Topeka & St. F. and the L. T. & S. W.
Railroads; in the best wheat and corn growing
county of the state. Building, heavy frame, 86x46,
three stories, attic and basement, with stone engine
room 22x34; all under iron roof. Capacity of
elevator, 15,000 bushels; corn crib, dump and sheller.
Side track to mill. Two sets 9x18. Allis Rolls; three
burrs on wheat, one on corn; flour packer, scales,
etc.; two Smith Purifiers; Barnard & Leas Separator;
one 12-foot two-reel chest; one 18-foot four-reel chest;
corn meal bolt; California Brush Finisher; one
Western Corn Cleaner. Grain trade more than pays
all running expenses. A splendid chance for a good
miller. Exchange trade good. Mill cost over \$18,000.
Will sell all for \$12,000, half cash, or half interest for
\$6,000, half cash, or, if not sold by July 1st, will be
leased for a term of years to responsible parties.

J. O. PEBBLES, Sec'y,
MERIDEN MILL CO., Meriden, Kan.

FOR SALE CHEAP.

New all roller mill containing 11 pairs of
rolls 9x12, 9x18 and 9x24, 6 reels, 3 purifiers,
1 centrifugal reel, 5 scapling reels, separator,
smutter, corn sheller and 4½-foot feed stone.
Water power mill driven by a 50-inch special
Leffel wheel, 8-foot head and plenty of water
the year around. Millhouse 35x50, 2½ stories;
11 feet high stone basement. The mill was
built and started up new two years ago last
June. It is situated in the best milling town
and best wheat county in the State of Wis-
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radius of 10 to 25 miles; all a thick settled
country around. The best of reasons for sell-
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A. F. ORDWAY & SON, mill builders
and furnisiers, Beaver Dam, Wis

SITUATION WANTED.

Short advertisements will be inserted under this head for
One Dollar each insertion.

WANTED—A practical Oatmeal Miller, one
who understands his business and is willing
to attend to it. Can receive additional
information by calling on, or addressing
CHARLES D. DANA, 10 State St., Chi-
cago, Ills.

WANTED.

A situation by a good practical Roller
Miller. Have worked in a Mill of 66
Rolls. References can be given.

P. BERGER,

184 Reed St., Milwaukee, Wis.

PATENTS

THOS. P. SIMPSON, Washington, D.
C. No Pay asked for patents until ob-
tained. Write for Inventor's Guide.

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

MILWAUKEE, SEPTEMBER, 1886.

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.

NEW PEOPLE'S THEATRE—Performances every evening, and Wednesday, Saturday and Sunday matinees.

SHOULD any of our readers want a good and cheap purifier, they will do well to correspond with C. N. Smith, of Dayton, O.

We are gratified to note that our new brother, *The American Millwright*, of West Middlesex, Pa., is increasing in size and value with each number. It is well worth the patronage of millers, millwrights and mill-furnishers. The subscription price is \$1.00 per year. Send for it.

THE *Boston Herald* claims that since the extensive introduction of kerosene oil stoves, grocers have been in the habit of keeping in stock dangerous qualities of oil. It suggests that all oils sold by grocers should first be subjected to a rigid test by an inspector.

Now is the time for Expositions. They are in full blast in Chicago, Minneapolis, Cincinnati, Milwaukee and in many other places. They are useful to the public, if not as a rule financially successful. Our Milwaukee Exposition is probably as good as any of the others and we trust the citizens of this state especially will all visit it. It is worth the trouble and expense.

THE Postoffice Department has put on sale at the principal post offices, the United States letter sheet envelope—a combination in one of a letter sheet, envelope and the new postage stamp of the denomination of two cents, bearing the military portrait of General Grant. They will be sold at the rate of \$23 per thousand in any desired quantities.

THE Consolidated Roller Mill Company of Chicago, Ill., still causes considerable talk among the milling fraternity. Consolidated

companies are not at all popular and it is a question whether they are generally profitable to the promoters. As the Consolidated Co. has so far neglected to furnish the press with any particulars, we must leave our readers in Egyptian darkness on the subject for the present.

THE *N. Y. Commercial Bulletin* says: Another of the multiplying signs of business prosperity at the Southwest is the fact, that "this is the biggest railroad year Kansas has ever witnessed."—the total construction being estimated at 1,500 miles. As one writer puts it, "the Titans have invaded the State and are struggling for the mastery." There is a great deal of Eastern and European capital in these enterprises, but the West itself now is financially strong enough to identify itself with them.

SAN FRANCISCO PRODUCE EXCHANGE.—The annual report of the San Francisco Produce Exchange, under date of July 21, brings out the fact that the exchange has this year, for the first time, begun the work of gathering grain crop reports. The hope is expressed that at no distant day this work will prove of some value to the members and to the public. The fact is noted that the grain shipments from San Francisco to China and Japan and Central America are constantly increasing. By adding the Oregon movement it is found that the exports of grain from the Pacific coast lead those of India.

THE Postmaster-General has taken an important step in his late order designating all the post-offices in the United States and territories as special delivery offices, beginning with October 1. On and after that date every postmaster will be held responsible for the immediate delivery of every article of mailable matter properly stamped with a special delivery stamp directed to a place within a mile of the post-office. The issuance of this order, and the tenor of the instructions accompanying it, go to show that the government intends to make every effort to make the special delivery system a success. It will be interesting to notice what effect, if any, the new move will have on the local messenger and telegraph services.

A DULUTH exchange of Sept. 1, says: The millers' union will begin active operations tomorrow by withdrawing individual buyers from the sample wheat market and purchase through the union buyers exclusively. Cash wheat in large lots will also be bought through the union agents. Purchases for future delivery will be made, if at all, by individual millers without being in any way accountable to the union. Under the old millers' association rules that could not be done. The union purposes buying mainly in the chamber, from any party having wheat for sale and without any favors to any special class of sellers, whether they be elevator companies, commission men, farmers or wheat dealers. The plan, if carried out in that spirit, seems to be broad enough to satisfy everybody.

MR. J. M. CASE, of the Case Mfg. Co., Columbus, O., has just perfected a new bolting machine which he will soon place on the

market, that for simpleness of construction and capacity is, to say the least, wonderful. We hope to be able to give our readers a description of this machine in our October number. We may also mention that Mr. Case is now developing a small concentrated roller mill for mills of from 20 to 30 bbls. capacity, which will occupy a space of 2 ft. sq. on the floor and 4 ft. in height, and in this machine he uses his peculiar bolting device in combination with the rolls for making several separations on the breaks. He is now building a small experimental mill in which these new machines will be employed.

IT MAY not be known generally to millers that pearl cornmeal is being used very extensively by brewers instead of rice which was formerly used, consequently millers who have adopted the latest improved cornmeal systems are running their mills to their full capacity and are coining money thereby. This may be an important suggestion to small millers who have not the money to put in a roller plant for wheat, as by adopting the short roller system for manufacturing cornmeal they will be able to utilize their power and plant to profitable advantage. The cost of a complete system for cornmeal milling does not exceed \$800 for a capacity of 50 bbls. in 24 hours.

FLOUR MILL DIRECTORY FOR 1886.

All persons desiring to reach the milling trade should invest at once in a copy of Cawker's American Flour Mill Directory for 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., or any of the principal milling papers.

A PICNIC FOR MILLERS SURE.

To the Members of the Millers' National Association:

At the annual convention, held in Chicago, it was arranged to call a meeting of the Executive Committee to convene at Minneapolis some time in September, to take cognizance of any business that might require attention.

Since that time the Committee have been importuned to issue a call for a general reunion of millers at Minneapolis, during the holding of their exposition. The President and Chairman of the Executive Committee, having duly considered the matter, direct a call to be issued for a general gathering of millers, members of the association and others, to meet at Minneapolis Monday and Tuesday, September 13th and 14th. We have arranged with the Chicago, Milwaukee & St. Paul and Chicago & Northwestern Railroads for transportation from Chicago and intermediate points, to and return, at full fare going and one-fifth returning, and presume other roads will give the same commutation.

A large gathering and a good time may be expected.
S. H. SEAMANS, Sec'y.

WISCONSIN PRESS ASSOCIATION.

This Association met at Marinette, Aug. 16th. As previously arranged, a good representation of the press assembled at Milwaukee on Monday at 2:30 P. M. and boarded a special train over the Milwaukee & Northern R. R. and made the run to Marinette in about five hours. On their arrival the citizens by a committee took them under their wings and tendered them the hospitalities of their beautiful homes and hotels free of charge.

Tuesday morning the business meeting was called to order by President Hoard and the retiring officers re-elected for the ensuing year. It was shown in the Secretary's report that the membership was 165, which is the largest press association in the United States.

After dinner carriages were provided and the editors and their wives were driven around the beautiful cities of Marinette and Menominee, viewing the huge saw mills and various manufacturing interests. The business outlook for Marinette is hopeful.

The literary exercises held at the Opera House in the evening was largely attended by the citizens, and were opened by the Ladies Quartette of Sparta (who accompanied the party), by singing the "Harvest Moon" charmingly; after which an address of welcome was delivered by Hon. H. O. Fairchild, followed by Mr. Noyes, which were very cordial and eloquent. They were responded to in a pleasing manner by Judge Ryan of Appleton. The quartette then sang, "What dost thou wish to see," and Mrs. Louise Phillips of Madison was introduced and read a poem. President Hoard then delivered the annual address. Rev. S. D. Peet of Clinton made some interesting remarks regarding the early history of that part of the State. Judge Ryan then read a short biographical sketch of the late Albert G. Ellis, of Green Bay, the first editor west of Lake Michigan, and the evening's exercises were closed by the Ladies Quartette singing, "Sleep, Dreamer, Sleep."

Wednesday dawned bright and clear and members of the press and invited citizens repaired to the Ludington dock and boarded the steamer "Welcome" for an excursion to Sturgeon Bay, accompanied by the Marinette Band. Arriving about eleven o'clock, were met by citizens with carriages and the party conveyed to Hahn's Opera House, where tables were loaded with good things that delighteth the heart of an editor. The hall was tastily decorated, A. D. Thorp, on behalf of citizens, welcomed the party and M. H. Barnum, of Wausau, responded with thanks. Many of the visitors enjoyed a drive around the village, and may we never see the day when we forget our cordial welcome at the picturesque village of Sturgeon Bay. At two o'clock they again embarked and steamed out through Sturgeon Bay Canal into Lake Michigan and back to Marinette. In the evening the good people of Marinette prepared a magnificent banquet at the Opera House; five long tables were spread with the choicest viands, fruits and flowers, and 300 guests partook of the splendid repast interspersed with music from the Ladies Quartette, Marinette Cornet Band, and Italian Band of Milwaukee, after which the following toasts were read and responded to:

"The city of Marinette heart and soul to the Wisconsin Press Association, greeting."

Response by Hon. H. O. Fairchild, of Marinette.

"The Wisconsin Press Association to the people of Marinette: We came, we saw, and we were conquered."

Response by M. H. Barnum, of Wausau.

"The ladies of Marinette, lovely in heart and person, as this occasion witnesseth."

Response by Hon. J. C. Bartholf, of Milton.

"The grand trinity of this occasion: The Marinette, the Wisconsin, and the North Michigan Press."

Response by Jas. Russell, of Marquette Mining Journal.

After the banquet the young people repaired to Wilson's Hall and enjoyed the mazy until one o'clock, and thus ended the festivities of a day long to be remembered by those present.

Thursday morning the party shook hands with old and new found friends in Marinette and started on an excursion to Ishpeming, arriving about one o'clock, they spent the afternoon in visiting the iron mines and other objects of interest.

Friday morning the cars occupied were hauled by the M., H. & O. R'y Co. to Marquette, a distance of eighteen miles. At this charming city all were most heartily received and carriages were in readiness for a drive about the city, which was greatly enjoyed. The huge ore docks were interesting to many from the southern part of the State. At 12:50 we again took to our sleepers and started homeward over the Northwestern Railway, arriving in Milwaukee at 3 A. M.

This meeting and excursion was one of the most enjoyable the Association has ever had; the courtesies received of railroads over which we passed and of the people where we tarried were the most generous and merit the gratitude of all who participated.

The success of this meeting and excursion in contributing to our amusement and comfort is largely due to the untiring labor of our honored president, W. D. Hoard, worthy secretary, J. E. Heg, E. D. Coe and A. J. Cheeney.

ITEMS OF INTEREST.

WHEAT RAISING IN CALIFORNIA—According to Daniel Spangler, a Californian, the question of growing wheat at figures that shall defy competition throughout the world has been solved by himself and the "glorious climate of Califawnee." He says he can grow his wheat, harvest and put it in the granary at a cost of less than 20 cents a bushel. His figures for putting in 5,000 acres of wheat are as follows: Seed and feed, 200 tons at \$24 per ton, \$4,800; 100 tons of hay, \$400; six teamsters five months at \$30 a month, \$900; two roustabouts at \$25 a month, \$250; one blacksmith five months at \$2 a day, \$250; one cook, \$125; coal, iron and steel, \$100; provisions for five months, \$500; interest on sixty head of mules and horses, \$300; wear and tear on same, \$300; wear and tear on plows and harness, \$100; total, \$8,025; interest on \$8,025 for four months, \$602; total cost, \$8,627. Large saving could be made over these figures by keeping the seed and feed stored on the farm, thus saving two haulings, sacks and storage, which cost about \$4.50 a ton. On the two hundred tons this saving would amount to \$900, which, taken from the above total, would leave \$7,727 as the total cost of planting the five thousand acres. On

a yield of ten bushels to the acre this would bring the cost to 15 cents a bushel, on twelve bushels to the acre to 13 cents a bushel, and on fourteen bushels to the acre to 11 cents a bushel.

HINT TO HOUSEKEEPERS.—Persons purchasing flour should be particularly careful to get it in air tight packages if possible. Flour is a great absorbant of gases and vapors, and when not in air tight sacks or barrels will be permeated by deleterious odors and deteriorated to a certain extent, no matter how pure and sweet when leaving the mill. Especially is this the case in stores where there is an accumulation of goods and merchandise, such as coal oil, fruit, groceries, vegetables, etc., from which a vapor and odor arises which fills the room and is absorbed by the flour, deteriorating the flavor and impairing its purity. Cotton sacks should be particularly avoided, inasmuch as they are porous and therefore no protection against absorption. Sacks made of paper are air tight and therefore impenetrable by insects, gases and odors, retaining the flavor of the flour, keeping it sweet and pure, and therefore should be used exclusively for household purposes.—*Harrisburg, Pa., Independent.*

THE calculations of E. H. Walker of New York imply that this country can spare for export 125,000,000 bushels of wheat during the year now opened, of which he reckons that 100,000,000 will be available for Europe and 25,000,000 for other countries. He says: "The importing countries of Europe will probably require, in case consumption shall be normal, with present prospects for the output of the European wheat crop of 1886, at least 300,000,000 to 310,000,000 bushels, of which about 121,000,000 bushels will be obtained from the exporting countries of Europe, leaving 179,000,000 to 189,000,000 bushels to be obtained from exporting countries outside of Europe, of which 100,000,000 bushels will be obtainable from the United States, Atlantic and Pacific coasts. India, Chili, Argentine Republic, Australia, Canada, Egypt and Persia will contribute to the supply of the remainder."

UNIVERSAL VERDICT.

During the few weeks in which the new route of the Wisconsin Central Line between Chicago and St. Paul and Minneapolis has been in operation, it has acquired a popularity almost unknown in the history of railroads. Nor is this surprising if we investigate the cause of its success. The road-bed, rolling stock and entire equipment of the new line are equal to any in the country. It runs the fastest trains with the least restrictions and it spares no endeavor to secure comfort and ease for the traveling public. The fast train between Chicago and St. Paul leaves Chicago at 4:49 P. M. and Milwaukee at 7:40 P. M., daily, and arrives in St. Paul at 7:15 and in Minneapolis at 7:50 the next morning. All classes of tickets are accepted on this train, which is unlimited in this respect. Two trains are run daily in each direction between Chicago and St. Paul and Minneapolis, and three trains daily in each direction between Chicago and Fond du Lac, Oshkosh, Chippewa Falls and Eau Claire. It is the only line running a daylight train through the State of Wisconsin. The dining, sleeping, and parlor cars are the exclusive property of the road, and noted for their elegance and comfort, and last but not least, the employes are, without exception, courteous and obliging, perfectly disciplined, and attentive to the wants of the public. We predict for the new route a large business and a warm spot in the heart of every traveler.

PETROLEUM AS A BOILER SCALE RESOLVENT AND PREVENTIVE.

The use of crude petroleum in steam boilers for the purpose of preventing scale formations has prevailed for many years, with more or less success. The fact that 85 per cent of the material used vaporizes at a lower temperature than that of the boiler (350° F.) leaving little less than the tar or residuum behind, has been the greatest drawback to its complete success.

The possibility of the tar going over with the steam and obstructing valves has been a further objection to its use. A heavy natural oil, free from tar, reduced by distillation until a fire test of 600° F. is reached, and compounded with elements having valuable solvent properties, has received the highest commendation by the leading steam engineers of Pittsburgh.

The insignificant cost of from 7c. to 10c. per week for the largest-sized boilers is a great item in its favor.

A quart per week, placed in the boiler after washing out and before filling, is all that is required. The action of the oil is more of a mechanical than chemical nature.

As the water rises the oil coats the shell of the boiler, as also the flues or tubes, and the impurities in the water, whether they consist of sulphates, carbonates or mud, make a greasy emulsion that will not cake or crystallize on the iron.

In from three to eight weeks after using, all old scale will disintegrate and pass away, leaving the iron in perfect condition, and no new scale will form, no matter what the character of the water. After a few weeks' use the mud drums, legs and parts of the boiler not subjected to the greatest heat will be found literally *smear*ed with oil, while such parts of the boiler as receive the greatest heat will be as clear and bright as new iron. As petroleum is proof against acids, this coating of oil is absolute proof against sulphurous water.

A large establishment in Pittsburgh has been using petroleum solvent in its boilers for three years without spending a cent for repairs, while previously the boilermaker's gang were at work on them every Saturday night in the year.

Worse scale could scarcely be found before the use of the solvent, while now their condition is pronounced by the inspectors as the cleanest boilers in the county.—*American Manufacturer*.

CARP IN MILL PONDS—We have numerous inquiries regarding the stocking of mill ponds with carp. Our invariable reply is that most mill ponds are too large and deep, contain other varieties of fish and cannot be readily drained twice a year, which is absolutely necessary in systematic culture, and unsystematic culture is sure to be unprofitable. The only proper way to utilize mill ponds for carp is to make them the receptacle for surplus young stock from regular carp ponds of the neighborhood. In this way a mill pond would soon receive thousands of young carp. A large majority of these would be destroyed by predatory varieties of fish already in the pond, but a goodly number would escape their enemies and soon outgrow them and thus become safe from intrusion until disturbed by their human enemies. In placing young carp in mill ponds

they should be planted in grassy places where they can readily hide from their enemies. Another difficulty in mill ponds will be the presence there of some of the common members of the family Cyprinidæ to which the carp belong and with which they will hybridize. This hybridized progeny is nearly worthless as food fish.—*Journal of Fish Culture (Phila., Pa.)*

OPERATION OF THE MARSHALL AUTOMATIC SCALE.—The weighing chamber is divided centrally and arranged on knife edges, being supported and suspended by scale beam.

The chamber receives the material from the spout above the scale, alternately on each side of its central partition, as soon as the required weight has been received (which is determined by a counterpoising weight suspended from the opposite end of beam). The chamber descends bringing V (that operates cut off) in contact with stationary spring, which reverses the *flow* alternately from side to side, at the same time and by same movement a valve at the lower part of the loaded side of the receptacle opens and the material discharges from that side before the other side is filled. Each bottom of the receptacle has a valve of this kind, which is held closed by upright rods, connected and operated by V while the side is filling, but which, when the chamber descends, opens and closes alternately.

To adjust scale.—Let a full stream of material into spout above scale, catch a few dumps (separately) as it comes from scale and weigh on ordinary scale. If draft weighs less than amount desired, slide the adjusting "ball" (which is held fast by set screw) towards the end of the beam. If more than desired amount, slide it in the opposite direction. Thus regulate until the weight corresponds with the scale you have in use, and from this standpoint you secure corresponding accuracy.

By means of regulating lever motion is transmitted to the register at each discharge of the weighing chamber, and the amount of material having been weighed is accurately recorded.

To reset the register begin at the lower end of register and turn each dial alternately in opposite directions to the figure 9 until last dial is reached, which being turned to "O" will turn all dials to O.

If at any time scale fails to perform its work entirely satisfactory, the manufacturers will give it their personal attention. For further particulars address J. B. Dutton & Co., 52 Woodward Avenue, 2d Floor, Detroit, Mich.

UTILIZING NIAGARA AS A WATER POWER.—Engineers pronounce the project of tapping Niagara river by means of a canal and bringing the water to Lockport entirely practicable, and experts have declared that not elsewhere in the known world are there such natural advantages for the creation of a gigantic water-power, and that it can be delivered at Lockport to the extent of 300,000 horse-power if so much shall be wanted, at a minimum of expense. Lake Erie and all the great upper lakes would be the mill pond for this power—the Niagara river the head race, and Lake Ontario its tail race. The supply of water can never be diminished by drought, no spring floods nor freshets will tear away

the dams—for there will be no dams. The supply of water will be uniform, uninterrupted and practically unlimited. The Lockport Water Supply Co. have commenced work preliminary to the erection of extensive manufacturing establishments.—*Iron Age*.

TAKING CARE OF HIS BOILERS.—The *Locomotive* gives an account of the behavior of an engineer at a fire in a manufacturing establishment that might well be posted up in every engine room in the country.

This man, when the fire broke out, instead of taking to his heels, stood by his boiler long enough to take precautions which saved it from any sort of damage. He filled the boiler with water, drew the fire, closed the fire doors, saw that the safety-valve was perfectly free, and in addition blocked up the valves of his engine and left the throttle wide open, so that there should be no obstruction to the free escape of the steam which might be generated in case the safety-valve should stick from the effect of the intense heat, or through the timbers of the boiler-house falling on it. As soon as the ruins had cooled off sufficiently to permit it, he drew the water remaining in the boiler from it in order that no damage should result from freezing. As a consequence of this exercise of intelligence and forethought, the boiler remains uninjured, although the heat was sufficient to destroy all the fittings and attachments.

A NEW TRAIN.

On and after August 23rd the Green Bay, Winona & St. Paul Railroad will run a daily train (except Sundays) from Grand Rapids and Stevens Point to Green Bay and return, leaving Grand Rapids at 7:40 A. M., arriving at Green Bay at 11:40 A. M. Returning, leaves Green Bay at 3:55 P. M., arriving at Grand Rapids at 8:00 P. M.

This train going east connects with the Milwaukee, Lake Shore & Western Railway, at New London Junction, for all points south, and at Green Bay with the Chicago & North-Western Railway for points north and south, and Milwaukee & Northern Railway for all points south.

The west bound train, leaving Green Bay at 3:55 P. M., connects at New London Junction with the Milwaukee, Lake Shore & Western Railway for Clintonville, Wausau, Antigo and Rhinelander. Also, at Amherst Junction with the Wisconsin Central Line for all points south.

See local time table. Important changes in all trains.

THE N. Y. *Commercial Bulletin* has posted up the fire loss account for the first half of the current year, and finds a footing of \$53,900,000, in which are embraced 999 losses of \$10,000 and upward. The *Bulletin's* record of the fires for the first-half of 1885 showed a loss of 50,750,000. The excess for the same period this year is \$3,150,000. Is it not strange that with such facts constantly spread before the public, that nothing can be done to prevent such waste? That a large amount of this waste could be prevented by proper legislation cannot be doubted, and yet so simple an act as one to prevent the frequency of fires in this country of legislative enactments cannot be secured. Municipal, state and national legislatures have been appealed to in vain for a system of inquests upon the occurrence of fires. We cannot get any good building law or laws against the reckless handling of materials tending to produce fires. On all other subjects we have a surfeit of legislative enactments. On this important subject no legislation of any value can be had.

PROPOSITION FOR A PURIFIER TEST.

We have recently displaced a large number of the so-called "Standard Purifiers," and have made numerous tests, running the machines side by side on the same stock, and have in every instance demonstrated the superiority of our "IMPROVED SPECIAL PURIFIER" over all others, and having faith that we are building the best purifier made in this country, we propose to enter into a public test with any well known standard purifier, the expense of such test to be borne equally by those entering into the same. The judges shall be selected by lot from fifty expert millers and shall perform their duties under oath.

We make another proposition to the millers. We will send our *Improved Special Purifier* on trial to be tested against any machine made, and if it does not prove not only equal but superior in its aggregate merits to any purifier made, it may be returned at our expense.

We know absolutely beyond the least possibility of doubt that we are making the best Purifier made in the world, and can prove it if any firm dare meet us in public test.

CASE MANUFACTURING CO.,
Columbus, Ohio.

THE prominence of English working-men in British politics is aptly illustrated by the position of the stone-mason, Henry Broadhurst, in Gladstone's recent cabinet. This aspect of political reform in Great Britain is not generally appreciated, and just now the article on "Working-men in the British Parliament," which appears in the September *Harper's*, is exceedingly interesting. The writer, Edward Brown, describes the operations of trades-unions by which the laborers' representatives are sustained in the House of Commons; and the rapid progress of their influence is most encouraging. The record of Mr. Broadhurst during his five years of parliamentary work is certainly remarkable; also the career of Joseph Arch, the famous president of the Agricultural Laborers' Union, who numbers the Prince of Wales among his constituents. The article is enriched with twelve portraits of working-men members of Parliament.

AND now the Pennsylvania millers have organized a mutual insurance company. Is not this mutual insurance business among millers being slightly run into the ground? We think it is and predict that there will be a grand smash among several of the new and weak companies, unless great care is taken. There are more millers' mutual insurance companies in the field now than circumstances warrant. It is far better for millers to build up, say two good strong companies, than to try to maintain a half a dozen companies, in which latter case some or all are sure to be weak and unable to stand a succession of heavy losses.

THE MILWAUKEE INDUSTRIAL EXPOSITION.

This Exposition was opened to the public Sept. 1, and it is gratifying to the management to be able to say at this date (Sept. 11,) that so far it has been more successful than any of its predecessors. The exhibits are very numerous and attractive in nearly all branches of trade, and the attendance has

been very large. The first special attraction is the Japanese village, which is indeed interesting. While in the department devoted to this display, one can almost imagine himself in Japan. Numerous other special attractions will be provided as time passes on, all of which will be of great merit. We trust all that can do so will visit the Exposition and inspect its many excellencies. Mr. Paul Bechtner, the manager, and Mr. Treat, his worthy lieutenant, are to be congratulated on the unparalleled success their efforts have met with.

OUR DULUTH LETTER.

DULUTH, MINN., Sept. 10, 1886.

The growth of the carrying trade between this city and the rapidly growing communities of the great and boundless West and Southwest, is exhibited in wheat receipts at this point this year, as compared with those for similar periods in 1885.

The wheat receipts for the first four days of this week have been as follows:

	CAR-LOADS.
No. 1 hard.....	1,304
No. 1 Northern.....	174
No. 2 Northern.....	15
Rejected.....	3
No grade.....	26
Winter.....	1
Total.....	1,523
Corn.....	29
Oats.....	1
Barley.....	2
Total grain.....	1,555

Equaling about 822,000 bushels of wheat and 17,000 bushels of corn. Shipments during the week to date have been 318,320 bushels, with about 50,000 to go out to-day and 30,000 to-morrow. The increase in stock during the week will therefore be in the neighborhood of 650,000 bushels, giving Duluth considerably over 4,000,000 in store next Monday morning, nearly half the city's storage room. The elevator companies expect soon to begin repairs on the two large wheat sheds near elevators F and G, and will shortly erect at least one additional shed. From present appearances, with an increase of six or seven hundred thousand bushels a week, the capacity will soon be needed.

Several of our Duluth grain commission houses are more or less intimately connected with Milwaukee dealers.

The Van Dusen-Eliot Co. is now receiving consignments of over 100 car-loads of wheat daily. Robert Eliot & Co., are the correspondents of this company in Milwaukee. The millers of Wisconsin frequently find it advantageous to come to Duluth for our unequaled No. 1 Hard or No. 1 Northern Spring Wheat, to mix with wheat of local production, as is usually done by the great flour producers of Minneapolis, and cities of the East as well as those of the West.

The increase of business in Duluth is made very evident by the rapidly increasing railroad facilities. The Omaha had all the work that was planned to be done here this season completed some time ago, but business has been so much better than was expected that it became necessary for more yard room. The new yard is situated on the east side of Third street, Rice's Point, between Oak and Elm street. When completed it will be 2,000 feet in length and of sufficient width to accommodate thirteen tracks. But five of these, however, will be laid this fall. The yard

will have many conveniences. At the north end is the round house. Near to this on the south a water tank is to be placed, and not far from these will be located a coal shed, a convenience as yet possessed by none of the roads at Duluth. A grade is nearly finished for a double track from the Madison school to elevator G. At the rate tracks have been laid during the past year it will require but a very short time to cover the entire point with a complete net-work of rails.

The Omaha line, as it is here called, is controlled and operated by the C. & N. W. R'y.

The time is rapidly approaching when three more roads now running westward and north-westward from Milwaukee, will seek an entrance to Duluth over their own lines.

The new steamer Vernon arrived here yesterday morning bringing through eight passengers from Chicago and a light freight. Captain Bussey reports a fine trip. During a head wind and sea off Manistique, the vessel averaged twelve and one-half miles an hour. She has license to carry ninety-two passengers.

The Vernon is to make two round trips each week, from Duluth to Bayfield, Ashland, Port Arthur and return.

The Vernon left on her first regular trip last night, she will prove a great acquisition to the Duluth fleet, and her owners are much pleased with her performance on her first trip. Booth & Sons will use her almost entirely as a deep water passenger boat, and she will keep as far as possible, outside the islands. Her depth of water and beauty, both inside and out, render her too fine for a fish cruiser. The Camp will do nearly all the firm's fish business.

One new elevator is now being erected on the south side of the bay, of a capacity of 1,500,000 bushels. Two others will be built at Duluth early the coming winter, and it is now probable that still another large terminal elevator will be erected here within this year. This elevator will be located on the Duluth Improvement Company's property, and will be of large capacity. Appearances indicate an increase of at least 3,500,000 bushels in the storage capacity of Duluth during the coming winter.

Building operations are in progress in every part of our city. There is a notable increase in the number of dwellings in process of erection. Real estate is moderately active and transfers indicate a healthy growth without the characteristics of wild speculation common to some of the extreme western cities.

There has been considerable activity in, and inquiry for, iron lands in northeastern Minnesota recently, and several important transactions are pending between L. J. Barnes, a prominent land agent of this city, and eastern capitalists.

More anon.

ZENITH.

AMONG THE NORTHERN LAKES

of Wisconsin, Minnesota and Iowa, are hundreds of delightful places where one can pass the summer months in quiet rest and enjoyment, and return home at the end of the heated term completely rejuvenated. Each recurring season brings to Oconomowoc, Waukesha, Beaver Dam, Frontenac, Okoboji, Minnetonka, White Bear, and innumeral other charming localities with romantic names, thousands of our best people whose winter homes are on either side of Mason and Dixon's line. Elegance and comfort at a moderate cost can be readily obtained. A list of summer homes with all necessary information pertaining thereto is being distributed by the CHICAGO, MILWAUKEE & ST. PAUL RAILWAY, and will be sent free upon application by letter to A. V. H. Carpenter, General Passenger Agent, Milwaukee, Wis.

NEWS.

J. K. FELLOWS, miller of Nanticoke, Pa., is dead.

A NEW roller mill is being built at Glen Elder, Kan.

BURNED—Montgomery & Co.'s mill, at Opdyke, Ill.

A 500-BARREL mill is being built at Rochester, N. Y.

J. E. JACKSON is building a roller mill at Ladonia, Tex.

C. H. NUTTER & BRO., of Brighton, Ill., have assigned.

M. ACKERMAN & Co., of Lincoln, Neb., have dissolved.

THE Atlanta Milling Co., of Atlanta, Ga., have dissolved.

J. C. GINTER & Co., millers at Perryville, Kan., have sold out.

HILLSBURG, Ind., offers a liberal bonus for a steam flour mill.

HIRAM WILKERS, a miller at Boonsboro, Mo., is reported dead.

DISSOLVED—Walker & Whittaker, millers, at Carthage, Mo.

THE mill of Jos. Clark & Co., Ogden, Utah, was burned Aug. 23.

A GRIST MILL has been built at Mayesville, S. C., by S. M. Graham.

S. A. WHITE has started up his new 75-barrel mill at Batohtown, Ill.

THE new 50-barrel roller mill, at Thompsonville, Ill., is now running.

OTTO BUCHEL & BRO.'s mill and gin at Cuero, Tex., was burned out lately.

A GRIST MILL is about to be built at Williamsburgh, W. Va., by Jos. Griffee.

AT Kings, Cal., a 100-barrel roller mill is building for Ellis & Shackelford.

E. C. ALLENDER, miller at Morgantown, W. Va., has made an assignment.

MARTENSTEIN & Co. are building a 100-barrel roller mill at San Francisco, Cal.

THE Fairview Milling Co., of Fairview, Utah, are building a 50-barrel roller mill.

W. J. MATHE's flour mill at Kenton, Tenn., was recently burned. Loss, \$7,000.

P. P. McLEAN's flour mill at West's Mills, N. C., was recently burned. Loss, \$8,000.

M. PUTZ has purchased the flouring mill at Mitchell, O., formerly owned by Stewart & Pett.

THE contract has been let for machinery for a new flour mill to be built at Delaplane, Va.

EFFORTS are being made to form a stock company to erect a large mill at New Hampton, Ia.

ROCK VALLEY, Iowa, is to have a roller mill ready for operation about the first of next year.

AT Bloomingdale, N. Y., Milo B. Miller's grist mill was destroyed by fire. Insurance, \$4,000.

THE firm name of M. C. Dow & Co., of Cleveland, O., has been changed to Dow, Clark & Gardner.

THE steam mill now being built at Kimball, Pa., will be ready for business about December 1.

THE ground has been purchased and the contract let for building a \$7,500 mill at Rosedale, Kan.

HOBART & KRIEG have let a contract for the erection of a complete 50-barrel mill at Carthage, Ill.

WOODWARD BROS.' mills, at Lapel, Ind., were burned Aug. 17. Loss, \$15,000; insurance, \$3,000.

CHASE, Kan., offers a bonus of \$1,000 and building site to party who will build a 50-barrel mill there.

THE Hope flouring mill, owned by Josiah McJunkin, near Mercer, Pa., was burned Sept. 2. Loss, \$8,000.

MESSRS HUGHES & FLETCHER are erecting a grist mill at Moosomin, Man. It will be completed Oct. 1.

MORGAN BROS.' flour mill at Hamilton, Ont., was damaged by fire Aug. 12. Loss, \$3,000; fully insured.

THE steam flour mill at Ogden City, Utah, has been burned. Estimated loss, \$20,000; insurance, \$10,000.

THE steam flour mill of W. B. Norman, 14 miles from Washington, Ga., was recently burned. Loss, \$5,000.

KEYNES & WELLMAN's flouring mill, at Logan, O., burned down Aug. 12. Loss, \$50,000; insurance, \$16,000.

THE contract has been let for building a stone mill, 40x80 and 30 ft. high, for Markley Bros., of Bennington, Kan.

A COMPANY has been organized for the purpose of erecting and operating a new mill and elevator at Teller, Dak.

THE mill of James Bollinger, of Piedmont, Kan., is reported as being totally destroyed by a sudden rise in the Elk river.

ENCOURAGEMENT of a substantial nature will be given the right party who will build a flouring mill at Corydon, Ind.

HANCOCK's elevator, containing 8,000 bushels of grain, burned Aug. 14, at Oakland, Iowa. Loss on building, \$5,000.

THE Vergennes, Ill., Milling Co. have just completed and put into operation a full roller mill of 75 barrels capacity.

ARTICLES of incorporation have been issued to the Herdman-Harrison Milling Co., of Morrisonville, Ill. Capital stock, \$30,000.

THE Esmond Milling Co., with a capital stock of \$60,000, has been incorporated, and will conduct business at Fort Wayne, Ind.

THE flouring mill at Falmouth, Ky., owned by Applegate & Hamilton, was recently destroyed by fire. Loss about \$20,000.

THE Kearney flouring mills, owned by W. C. Tillson at Kearney, Neb., were recently burned. Loss, \$15,000; insurance, \$3,000.

FIRE destroyed the roller mill of Lee & Brown, Saranac, Mich., on the afternoon of Aug. 27. Loss, \$25,000; insurance, \$8,000.

THE contract for building the new 1,000-barrel mill at Fostoria, O., has been awarded to the Stilwell & Bierce Mfg. Co., Dayton, O.

THE Lembi Milling Co., of Salmon City, Idaho, are building a 50-barrel, water power, combined roller and stone mill at that place.

WILLIAM FRANCIS, mill owner at Cassville, N. J., lately committed suicide. No cause is known for the commission of the deed.

A STOCK company has been organized at Burnet, Tex., with a capital stock of \$50,000, for the purpose of building a 100 bbl. roller mill.

A FLOUR dust explosion occurred at Bellows' flour mill, New York City, on Aug. 19, causing a loss of about \$1,300. No one was injured.

AUG. 31, at Turner's Falls, Mass., Southworth Bros.' grist mill was burned, causing a loss of \$5,000, on which there was an insurance of \$3,000.

THE mill of Cooper & Son, at Wesleyville, Pa., together with four other buildings, were destroyed by fire Aug. 12. Loss, \$15,000; insurance, \$8,000.

THE mill being built at Longmont, Col., by the Longmont Farmers' Milling & Elevator Co., will be a full roller, with a capacity of 250 barrels per day.

A 100-BARREL flouring mill is wanted at Plainview, Minn., and a material bonus will be given to any enterprising party who will undertake its erection and operation.

THE Eagle Corn Mill Co., with a capital stock of \$50,000, has been incorporated at Dallas, Tex. The interested parties are J. N. Hughes, W. J. Betterton and G. E. Felton.

THE Ponca Mill Co., consisting of John Stough, Jacob Stough, S. K. Bittenbender and S. Mikesell, has been incorporated at Ponca, Neb., with a capital stock of \$50,000.

THE Cameron Roller Mill Co. are building a 250-barrel, eight break roller mill, a 2,000 bushel roller process meal and grits mill, and a 100,000 bushel elevator at Waco, Tex.

DUNN & THOMPSON have leased the elevator at Wahpeton, Dak., and the line of warehouses at Milnor and other places, of the defunct Wahpeton Mill and Elevator Company.

AT Easthampton, Mass., Sept. 3, the Manham grist mills, recently bought by J. E. Clark, Dr. S. T. Seelye and E. R. Bosworth, were burned with a loss of over \$3,000; insurance, \$1,500.

THE large flouring mills of Buck & Hoff, in Manchester, Va., were totally destroyed by fire, July 30. Loss, \$75,000; insurance, \$65,000. The fire was caused by friction of the elevator machinery.

THE large flouring mill, located on Tiffin river at Brunersburg, O., owned by Brice Hilton, was on

Aug. 21, completely destroyed by fire. Loss, \$12,000; insurance, \$6,000. Cause of fire, incendiarism.

THE Hough Mills, owned by David Pierson, at Carrollton, Ill., was burned on the night of Aug. 19 with its total contents. The mills were the oldest in the city, having been built in 1853. Loss, \$20,000; insurance, \$5,000.

A NEW mill and elevator are to be built at Monte Vista, Col. The mill is to be of stone, four stories high, and of the most approved pattern. The machinery has been ordered, and will include all the latest improvements.

ARTICLES of incorporation were filed Aug. 21 by The Avery Elevator Bucket Co., of Cleveland, O. Capital stock, \$50,000. The company consists of Henry W. Avery, M. C. Dow, E. H. Williams, B. A. Bruce and F. W. Judd.

LOW water has been the cause of much anxiety among the Minneapolis millers during a considerable portion of August. The owners of the flouring mills that are not already supplied will no doubt soon equip themselves with engines.

THE Eagle Mills, owned by the Eagle Milling Co., at Quincy, Ill., was destroyed by fire on Monday, Aug. 30. Loss, \$60,000; insurance, \$27,000. The mill had not been in operation since March. This makes the fourth flouring mill destroyed by fire in that city within the past four months.

THE Ohio Valley Roller Mill, at Gallipolis, O., owned by L. Comstock, Jr., & Co., was on Aug. 8 entirely destroyed by fire, supposed to have originated on the third floor from a hot box. The mill was valued at from \$25,000 to \$30,000. There was an insurance on the mill, machinery and stock of \$18,000.

THE Minneapolis Millers' Union the organization which will take the place of the Millers' Association on Sept. 7, met Aug. 13, and elected the following officers: C. A. Pillsbury, president; E. Zeidler, vice-president; F. L. Greenleaf, secretary and treasurer. Every miller in Minneapolis has signed the articles of agreement.

THE large three-story frame flouring mill, near the Lake Shore depot, at Laporte, Ind., owned by S. S. Bosserman, was on Aug. 22 discovered to be on fire. Although the building did not burn down entirely, it is a total loss. The fire was of incendiary origin. Loss between \$3,000 and \$4,000; no insurance.

GEORGE M. BRUSH has just been made general manager of the Winona Mill Company, of Winona, Minn., and their line of warehouses and elevators. This company, in addition to their Winona property, own thirty-two elevators and warehouses in Minnesota and Dakota. Mr. Brush takes immediate charge, but will not move his family to Winona for several months to come.

IN consequence of the death of J. A. Christian, of J. A. Christian & Co., Minneapolis, Minn., the firm, consisting of L. Christian, C. H. Pettit, Wm. Pettit, J. M. Robinson and F. R. Pettit, on Sept. 1 assumed the style of Pettit, Christian & Co., and will operate under the management of F. R. Pettit, using the same brands and trade marks as were used by the firm under the old style.

IN consequence of the heavy rains throughout the state of Kansas, the Saline river rose 15 feet in six hours. The flour mill of Merriman & Masterson, at Sylvan Grove, was entirely destroyed. The mill, which was one of the best in western Kansas, was swept from its foundation, and it went to pieces. A considerable portion of the machinery and milling effects were removed from the mill previous to its destruction, but what remained was lost in the bottom of the river. The property was valued at \$12,000. It is the intention of the owners to rebuild.

THE crop returns to the Department of Agriculture indicates a slight improvement in spring wheat throughout the country, with the exception of Dakota, where there has been quite a reduction, owing to drought and chinch bugs. European reports indicate that the general outlook is for a crop rather under medium. In England the harvest is a fortnight late, owing to cool, wet weather, and the output is placed at 25,000,000 bushels less than in 1885. In France rains have delayed the harvest and beaten down some grain; in Germany a good crop is indicated, also in Roumania; in Southern Russia it was estimated that there would be but half a crop.

We will send the U. S. Miller and American Miller for one year for \$1.50.

PLEASANT PARAGRAPHS.

A MILD PURGATIVE.—A respectable looking female, the other day, called at the office of one of our leading physicians complaining of a very severe pain in her bowels. The doctor gave her a cathartic, and told the female sufferer to call again in a day or two, which she did. To the inquiry, if she had taken the prescription, as ordered, she replied in the affirmative. The doctor then inquired if she had passed anything since taking the medicine. After a momentary reflection, she said she had passed a couple of mules and a drove of hogs!! The smiling son of Esculapius hoped she felt relieved. She said she did "very much so."

"PAPA," said the daughter of a large employer of labor, "are you in favor of the eight-hour system?"

"Well, daughter," he answered, "under certain circumstances, I am."

"O, I'm so glad," she rapturously exclaimed.

"Why, my dear, why are you so interested?"

"Because, papa, George has been only staying four hours every evening, and he told me last night if you favored the eight-hour system he needn't go home nearly so early. You dear old papa. I'm so glad you are in favor of it," and she threw her soft, white arms about his neck and choked off all explanations.—*Washington Critic.*

FATHER FINNIGAN is of a forgetful temperament, and long custom has made him dependent upon lead pencil notes and the assistance of Pat., the sexton. It is time to read the list of the dear departed for whom prayers are to be offered, and Father Finnigan has forgotten their names and lost the list. Above the hushed and kneeling congregation floats the following holy whisper:

"Patrick! where are the souls of the dear departed?"

"They're undher a silvher candleshtick, yer riverence, at the ixtreme lift av the Vurgin Mary!—*San Francisco News-Letter.*

"Ah, good morning; nice morning," was the salutation of a Hartford gentleman to his friend. "How are all the folk?"

"O, nicely. As well as could be expected."

"Why, what is the matter?"

"O, nothing much. I've been boycotted, that's all."

"Boycotted?"

"Yes. My third girl was born yesterday."

PLUMBER was looking over a dictionary in a lawyer's office the other day. Looked so long that the lawyer inquired:

"What word are you after?"

"I want to find 'sanitary plumber' and see what it means. So many of our craft are hanging up the sign that I've got to follow suit, but I don't want to be caught silly when anybody asks the meaning."

Lawyer convinced him that it meant charging up three pounds of solder in the bill for stopping a pin-hole leak.

FLORENCE, aged four, demanded as her perquisite the wishbone of every fowl brought into the house. One day she was carefully arranging her collection, when her father came into the room. She said,

"Fader, is you doin' to die?"

"Why, yes, Florence, we must all die some time," he said, touched by her earnest look.

"Fader, when you does die, may I have your wishbone?"—*Rome Sentinel.*

HE MADE A SALE.—Saloonkeeper (to his little boy who has been left in charge for a few minutes)—"Vell, Heinrich, haf you sold noddings vile I was out?"

Little Boy—Ya, fadder, I sold dot old slate for 50 cents. Der shentlemans said ve could buy a new von for 10 cents. Dot was a great bargain, fadder.—*Life.*

"Yes, I'm in the lecture business," said the long-haired passenger, "and I'm making money. I've got a scheme, I have, and it works to a charm. Big houses wherever I go."

"A scheme?"

"Yes. I always advertise that my lectures are specially for women under thirty years of age and for men who are out of debt. You just ought to see the way the people come trooping in.—*Chicago Herald.*

"GRAN'MA," said a boy of nine years, "how old are you?"

"About 60," said the grandmother.

"You'll die soon, won't you, gran'ma."

"Yes, dear, I expect to."

"And when I die, gran'ma, can I be buried side of you?"

"Yes, dear," said she, as her heart warmed toward the little one, whom she folded in her arms.

"Gran'ma," softly whispered the little rogue, "gimme 10 cents.—*Clinton (Mass.) Bugle.*

JOHNNY (just after Sunday-school)—"Say, Jack, what is a sockdolager?"

Jack—"Why, don't you know? That's what they sing in church when they get ready to go home. The minister gets up and says: 'Let us now sing the sockdolager.'—*Boston Beacon.*

Miss Carrie Damm, of Cincinnati, was married the other day. Her name is known wherever the English language is spoken.—*Atlanta Constitution.*

A LOUISVILLE man disturbed in his sleep by a large company of cats, crawled out on the roof, and instead of firing off his pistol, thus addressed the gathering: "If eight cats kill eight rats in eight minutes, how long will it take 100 cats to kill 200 rats?" Before he had uttered the last word every cat had disappeared, and he has never seen one of them since.—*Louisville Courier-Journal.*

A RATIONAL CHANGE.—"Arkansas!" exclaimed an ardent man, "why it is the best State in the Union, a State above all others in resources and the exactness with which the criminal laws are enforced."

"I am astonished to hear you speak so well of the State," some one replied.

"Why so?"

"Because, several years ago, during an exciting campaign in Indiana, you avowed that there was no such thing as justice in Arkansas, a State where a man carried his life in his hand."

"That is very true, my dear sir, but I was a politician then."

"And what are you now?"

"A land agent."—*Arkansas Traveler.*

"HAVE you got any stale bread?" asked Johnnie Fizzletop, sticking his head into a baker's shop.

"Yes, I have five or six loaves."

"Serves you right. Why didn't you sell 'em while they were fresh."

A PRIESTLY JOKE.—Some people who are not acquainted with priests have an idea that

they are solemn, stern men who can't appreciate a joke and never think of telling one. Yesterday it was the good fortune of a reporter of this paper to meet a priest who is frequently called to the Charity Hospital and who has accomplished much good in reforming the unfortunate people so often found in that institution. During the conversation the reverend father told numerous amusing anecdotes of his personal experiences, and wound up a very pleasing evening by telling a funny story about a priest in Ireland, who was laboring to get a number of convicts to join the Catholic Church. It seems seven men were sentenced to be transported, and among the number was an Irishman convicted of counterfeiting. According to the custom of the country, the convicts were allowed to choose any religion they desired to adopt, and the Irishman made up his mind that they should all become Catholics. Accordingly, when they assembled in the prison-yard the subject of religion was brought up by the Irishman, who said:

"Boys, we have all been bad together, we have made lots of money and spent it, and now, since we all have to join the church, there is no reason why we should be separated. I now propose we toss a ha'penny and shape our course on the result. If a harp comes up we will be Catholics, and if a queen shows on top we will be Protestants."

"Agreed," said the convicts.

And Pat. tossed the ha'penny, and the harp won. Accordingly they all became Catholics. Just before their departure the parish priest approached Pat. and asked him how he managed to convert his fellow-convicts.

"Oh, easy enough," replied Pat, and then he told the story of the ha'penny.

"Did you risk your immortal soul on the turning of a penny?" exclaimed the priest, in holy horror.

"Indeed I did not," replied Pat.; "that ha'penny had a harp on both sides. I made it myself."—*New Orleans Times-Democrat.*

A TRUTHFUL HOMILY.—"The system of treating practised so extensively in this country," remarked Dumley, "is senseless, and has brought untold misery and disgrace to thousands of happy homes. A man meets a party of friends at a bar, is invited to drink, and the result is everybody treats and everybody has drunk more liquor and spent more money than he ought. It's an absurd custom and should be done away with."

"It should indeed. What'll you have, Dumley?"

"A little straight whiskey."

A little story brings to mind with renewed force the old proverb, "Truth is stranger than fiction." We were talking of what disposition to make of a kicking cow, when our hired man said: "I guess I can find a customer for her. There's an Irishman up in R—who bought a cow of one of our neighbors. He told the Irishman he must tell him one thing about the cow before he closed the bargain, that the cow would sometimes kick." The tender, "God-ordained protector" of our sex replied: "That makes no difference; my wife does the milking." I have often heard such things told, and have sometimes thought they must have been made up "to point a moral or adorn a tale." But this is a fact, for I questioned the man about it, and he said he knew it was true.—*Woman's Journal.*

A CALIFORNIA widow who put her all into a deal in stocks and was shrunk out, called upon her broker and said: "When will this thing probably come out in the papers?"

"To-morrow, doubtless."

"How long can you suppress it?"

"Why, I might keep it out two days, but not longer."

"Only two days! That's pretty short notice; but I'm a hustler when I get my bonnet on. I'll depend on the two days."

On the third day the papers chronicled her loss and her wedding on the same page.

"PA, does the sausage come out of his hole on Candlemas-day and look around for his shadow so as to make an early spring? Ma says it does."

"What are you talking about?" says the papa to the little boy. "It is the ground-hog that comes out of its hole, not the sausage."

"Well, ain't the sausage ground hog?"—*New York Telegram.*

POLICEMAN—"Have you a permit to play here?"

Organ-grinder—"No, but it amuses the little ones so much."

Policeman—"Then you will have the goodness to accompany me."

Organ-grinder—"Very well, sir; what do you wish to sing."

THE politeness of New York waiters is illustrated by the following incident: Customer in Park Row (late Chatham street) coffee and cake saloon—"Aw, waitah, a napkin, please."

Waiter—"Yes, sah. Wid or widout fringe, sah?"

Two colored brothers fell out in the church about a small matter. The offending brother went to the offended one and said: "Brudder, the Lord has forgiven me, and won't you?"

The offended brother replied: "You go and bring de Lord's certificate that he has forgiven you, den I will see about the matter. John the Baptist required the Jews to bring a certificate of dere repentance 'fore he would baptize um."

AH HA! OH HO!—Mary Ann! Phat's that trill-le-la-loo nonsense yer jiggin' away at in thayre, I want to know? Put down that fut!"

"Don't bother me now; it's practising me calisthenics, I am."

"Calisthenics is it! Is that what what ye learn at the semineries? Calisthenics, ah ha! Lapin' around on the wan fut wid yer toes turned in? Well, do yez calisthenic around here to the toob and warm the j'int's av yer elbows be roobin' the durt out ov these hickory shirts an overalls, or I'll tache yez a fancy

step wid de broom that'll make ye raise the two feet av yez higher than the spine o' yer back wid no more effort than the how'll ye'll set up for 'em to catch on. Calisthenics, ha! I'll have no more of this jig-jaggin' around like a hin on a s'ove lid. The foorst thing ye know it's joinin' the bally ye'll be, an' be spendin' all yer money for clothes an' wearin' none of 'em. Calisthenics, oh ho!

PROFESSOR KICK ON THE CONSTRUCTION AND FITTING OF FLOUR MILLS.

Professor Kick closes his most recent work, "Neuerungen im Mühlenwesen," with the following remarks on the construction and fitting of modern flour mills, which may be translated thus:

"We have already remarked that the tendency of modern millwrighting is to so construct mills as to reduce human labor to a minimum. And, as a matter of fact, much can be done in this direction by means of cup elevators, grain and flour worms, and spouts. The screen-house, or wheat cleaning department, may be completely automatic, with the exception of the necessary watchman. But so far as regards the mill proper, here, as Millot rightly remarks in his description of a mill, there is much more to be done; for in high grinding, be the process but half carried out, the co-operation of hand labor for the grading of the products is necessary, and for this reason, that from the different wheats, middlings varying in quantity and quality are obtained by the different breaks, and that for the grading and further distribution of those products the co-operation of human and intelligent labor is, to a certain extent, indispensable, unless good and inferior materials are to be mingled together with the result of injuring the quality of the product. A complete automatic plant can only be recommended where the quality of the products is of less account than their quantity and cheapness. The same remark applies to those mills in which rolls are exclusively used for the process of reduction. Such mills will require more power for the grinding of fine middlings (dunst) than plants in which millstones or dismembrators are also brought into use, and the bran will be less thoroughly cleaned. Where country folk do not object to branny flour, and where power is cheap, the miller may, from a commercial point, get along well enough with a pure roller plant; but if these conditions are not altogether fulfilled, as will happen in the great majority of cases, then such plants are to be rejected, however much they may be admired and praised."

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GUARANTEEING RESULTS.

We take following suggestive paragraph from *The Millers' Gazette*, (London.)

The practice of guaranteeing results under any circumstances, which at one time was so popular amongst milling engineers, is to be deplored and discountenanced, except within certain limits. No milling engineer, for instance, should guarantee a certain quality of flour except he designate the quality of wheat, and unless he has full control of the mill himself; a miller, too, who orders a new plant should not insist upon its being erected against time; in most cases he would suffer in one way or another; a little more liberty granted to the engineer, and a little less stint of machinery, would insure the miller a much more satisfactory plant than if he tied the engineer down to certain hard and fast lines and conditions. The practice of blindly guaranteeing anything and everything appears to be popular in France and Belgium, and a case recently decided at Brussels shows what disastrous results occasionally follow. A certain milling engineer agreed to build a mill at a given price, to produce a certain number of sacks per hour, of a specified quality; when the mill was finished, disputes arose, and a fresh agreement was entered into by which the engineer was to furnish more machinery to obtain better results. More disputes arose, and two experts are called in to arbitrate, the result being that the matter is brought before the Brussels Tribunal, the engineer being the plaintiff, and the millers (in this case a company,) the defendants. The award of the arbitrators was that the plaintiff should reimburse to the defendants the sum of 199,740fr. (£7,990) with interest at 6 per cent. from the time that the payment was made. The engineer, too, is condemned to take all his machinery back within two months, and pay the cost of transport, as well as the cost of arbitration. In another case before a Belgian Tribunal recently, the milling engineer guaranteed 70 per cent. of flour, equal to the Paris Nine Marks flour, but the agreement failed to mention whether this was on the cleaned or unclean wheat, therefore the Court has to decide the question.

The following two items we take from *Bradstreet's*:

WAGERING CONTRACTS—VALIDITY—LEX LOCI.—In a recent case decided by the Maryland Court of Appeals, it appeared that a principal and brokers employed by him to make purchases of stocks, bonds and grains, resided in Pennsylvania, where deliveries and settlements were to be made. Many of the negotiations made by the brokers, however, were conducted in the markets of New York, Baltimore and Chicago as well as in Philadelphia. The question arose in the case under which law the validity or the invalidity of the contracts between the parties (as being wagering contracts or not) was to be determined. The Maryland Court held (*Stewart vs. Schall et al.*) that the contracts between the parties was to be governed by the law of Pennsylvania.

PURCHASE OF MACHINE—BREACH OF WARRANTY. Where a purchaser of a machine used it for eight months and then gave his notes for the full price, the Maryland Court of Appeals held (*Adler vs. The Robert Porter Brewing Company*) that he could not

afterwards in good faith set up the defense of a breach of warranty to an action for the price. The court took the view that the purchaser had ample opportunity to ascertain whether or not there had been a breach of warranty.

RECENT MILLING PATENTS.

The following list of Patents relating to milling interests, granted by the U. S. Patent Office during the past month, is specially reported by Stout & Underwood, Solicitors of Patents, 66 Wisconsin st., Milwaukee, Wis., who will send a copy of any patent named to any address for 50 cents:

Issue of August 3, 1886: No. 346,511—Grinding mill, L. B. & C. H. Sprout, Muncy, Pa.; No. 346,738—Grain huller, A. Dewey & J. Short, Canalton, Ind.; No. 346,815—Cockle separator, F. W. Howell, Buffalo, N. Y.; No. 346,821—Elevator spout, W. L. Mock, Woodlawn, Kan.; No. 346,854—Grinding mill, B. S. Lawson, Brooklyn, N. Y.

Issue of August 10, 1886: No. 346,133—Oat hulling machine, W. Mathias & C. E. Rudolph, Colfax, Dak.; No. 346,934—Oatmeal machine, W. Mathias & C. E. Rudolph, Colfax, Dak.; No. 347,232—Grinding mill, W. T. Dougan, Salem, Mo.; No. 347,243—Dust collector, N. W. Holt, Jackson, Mich.

Issue of August 17, 1886: No. 347,326—Process of bolting and purifying flour, J. V. Davis, Huntington, W. Va.; No. 347,391—Grain separator, J. T. & A. E. Smith, Scotland, Dak.; No. 347,531—Grinding mill, D. C. Stover, Freeport, Ill.; No. 347,540—Machine for pearling barley, wheat, etc., C. O. Webb, Moravia, N. Y.; No. 347,667—Roller mill, J. Walker, Cleveland, Ohio; No. 347,706—Fanning mill, G. & J. W. Gray, Sauk Centre, Minn.

Issue of Aug. 24, 1886: No. 347,790—Machine for making sheets of ground cereals, J. F. Gent, Columbus, Ind.; No. 347,848—Eccentric for operating screens of middlings purifiers, J. T. Walter, Easton, Pa.; No. 346,906—Automatic grain scale, A. F. Sparks, Dayton, Ohio; No. 347,908—Grinding mill, G. F. Simpson, Brooklyn, N. Y.; No. 348,121—Magnetic separator, G. A. Gilbert, Milwaukee, Wis.; No. 348,153—Grinding mill, J. F. Custard, Slatington, Pa.

Issue of August 31, 1886: No. 348,199—Flour bolt, J. J. & E. T. Faulkner, McMinnville, Tenn.; No. 348,205—Feed mechanism for grinding mills, H. Halre, Grand Rapids, Mich.; No. 348,384—Grinding mill, H. Cutler, Wilbraham, Mass.; No. 348,515—Grain separator, G. A. Dawson, Cardington, Ohio.

PUBLICATIONS RECEIVED.

Now that so many persons are returning from the country to the city, the excellent series of practical articles begun in the September number of *The Art Amateur*. "Hints on the Decoration of Unadorned City Apartments," ought to be very valuable. The colored plate in this issue is a charming landscape by Leonard Ochtman; the number is particularly rich in figure sketches by Boucher, De Beaumont and Edith Scannell, and there is the usual liberal array of choice original designs for china decorations, embroidery and brass hammering. An interesting "Note Book," some capital hints for collectors of bric-a-brac, and a suggestive article on color, supplement most agreeably the severely practical text relating to flower painting in oils, sketching from nature, water color painting, embroidery and other art topics. Price, 35 cents. Montague Marks, Publisher, 23 Union Square, New York.

We have received from Thos. Gray, a prominent dealer in scientific and miscellaneous books at No. 104 Wisconsin street, Milwaukee, a copy of "The History of the Present Tariff," by F. W. Taussig, Ph. D., of Harvard University. This work treats the subject exhaustively, especially during the period from 1860 to 1883. All interested in this important question of the day (and what American citizen is not) should send for a copy.

Mr. Gray has also favored us with a valuable work entitled, "Railroad Transportation," by Arthur T. Hadley, Commissioner of Labor Statistics and Professor of Political Science in Yale College. This is a very carefully prepared work, full of annotations, references and statistics to support the text. The question of Railway transportation is discussed from a fair standpoint, and the essay is pregnant with ideas new to most readers.

USEFUL RECIPES.

WOOD PRESERVATIVE.—Introduce into the pores of the wood the following solution: Mix two parts of gutta-percha, with one part of paraffine, heat to liquefy the mixture and apply while hot.

A FINE LUBRICANT.—A good lubricant for fine machinery and one which will not gum or corrode, may be obtained by putting pure olive oil into a clear glass bottle with strips of sheet lead; expose to the sun for two or three weeks and then pour off the clear oil for use.

TO POLISH GLASS.—To polish plate glass and remove slight scratches, rub the surface gently, first with a clean pad of fine cotton wool, and afterward with a similar pad covered over with cotton velvet which has been charged with fine rouge. The surface will acquire a polish of great brilliancy, quite free from any scratches.

TO REMOVE OLD PAINT FROM GLASS.—Ten cents' worth of oxalic acid dissolved in a pint hot water, will remove paint spots from the windows. Pour a little into a cup and apply to the spots with a swab, but be sure not to allow the acid to touch the hands. Brasses may be quickly cleaned with it. Great care must be exercised in labeling the bottle and putting it out of the reach of children, as it is a deadly poison.

SEVEN COLORS FOR STAINING MARBLE.—It is necessary to heat the marble hot, but not so as to injure it, the proper heat being that at which the colors nearly boil. Blue—alkaline indigo dye, or turnsole with alkali. Red—dragon's blood in spirits of wine. Yellow—gamboge in spirits of wine. Gold color—sal ammoniac, sulphate of zinc and verdigris, equal parts. Green—sap green in spirits with potash. Brown—tincture of logwood. Crimson—alkanet root in turpentine. Marble may be veined according to taste. To stain marble well is a difficult operation.

TO RESTORE DISCOLORED IVORY.—Wash well in soap and water, cleaning out any carving with a small brush, and place while wet in full sunshine. Wet for two or three days several times a day, with soapy water, still keeping the article in the sun with a glass shade over; then wash again and the article will be beautifully white.

ACID PROOF CEMENT.—A cement for resisting sulphuric acid even at a boiling heat may be made by melting caoutchouc at a gentle heat, and adding with constant stirring, from six to eight per cent. of tallow. Then mix therewith enough dry slacked lime to make the whole the consistency of soft paste, finally add thereto about twenty per cent. of red lead whereby the mass immediately sets hard and dry. A solution of caoutchouc in twice its weight in linseed oil, aided by heating and the addition of an equal weight of pipe clay, yields a plastic mass which will likewise resist most acids.

Gas Engine for Sale

One "OTTO" GAS ENGINE, 10 H.-P., in very good condition, for sale cheap. Address

J. C. SUNDIN,
124 Grand Ave., Milwaukee.



Proposition * for * a * Purifier * Test.

We have recently displaced a large number of the so-called "Standard Purifiers," and have made numerous tests, running the machines side by side on the same stock, and have in every instance demonstrated the superiority of our

"IMPROVED SPECIAL PURIFIER"

over all others, and having faith that we are building the best purifier made in this country, we propose to enter into PUBLIC TEST with any well known standard purifier, the expense of such test to be born equally by those entering into the same. The judges shall be selected by lot from fifty expert millers and shall perform their duties under oath.

We make another proposition to the millers. We will send our IMPROVED SPECIAL PURIFIER on trial to be tested against any machine made, and if it does not prove not only equal but SUPERIOR in its AGGREGATE MERITS to any purifier made, it may be returned at our expense.

We know absolutely beyond the least possibility of doubt that we are making the BEST PURIFIER MADE IN THE WORLD, and can prove it if any firm dare meet us in public test.

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Fare to Chicago \$1 less than by railroad.

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Leave Milwaukee Tuesdays, Thursdays and Saturdays, at 7 A. M.

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Leave Milwaukee Tuesdays, Thursdays and Saturdays at 7 A. M., touching at Oconto, Menominee, Nahma, Fayette, Depere, and making close connections with railroad at Escanaba for Ne-aunee, Ishpeming, Quinn-sec, Norway, and all Lake Superior points.
*Mondays. †Sundays.

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New York, Boston, and all points in Northern and Eastern Michigan.

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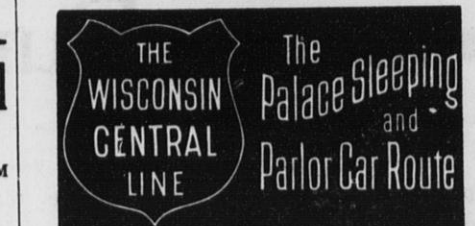
the Palace Side-wheel Passenger Steamer "City of Milwaukee," will leave Milwaukee daily, Sundays included, at 11:45 noon and connect at Grand Haven with Limited Express Train which leaves at 6:00 P. M. Time, Milwaukee to New York, 32 hours

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	—AND—	
2	FOND DU LAC, OSHKOSH,	2
	CHIPPEWA FALLS and EAU CLAIRE.	
	TRAINS EACH WAY DAILY	
	—BETWEEN—	
1	CHICAGO AND MILWAUKEE,	1
	—AND—	
	ST. PAUL AND MINNEAPOLIS.	
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This Railroad is now the acknowledged Fishing and Hunting Line of Wisconsin: Milwaukee to Sheboygan, Sheboygan Falls and Manitowoc.

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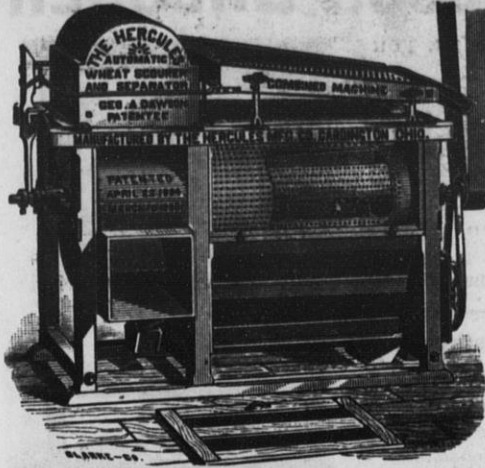
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PROPRIETORS OF YOUNG AMERICA ROLLER MILLS,
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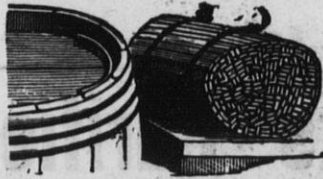
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The grain is dried at the rate of about 1,000 bushels per hour, the automatic arrangements and low temperature used insuring evenness and uniformity. The capacity, however, can be increased in proportion to power and space afforded, these latter being the only limit. In addition to drying evenly, the operations of the very dry air, peculiar to this machine, remove from the grain any slight odor from sweat or heat, and put it in condition to grade. The air used is a prepared air, and has all the varied degrees of low temperature necessary. Damp grain made as rules of inspection require, or as dry even as old grain. Thus the BATES' DRYER is the most perfect as well as rapid dryer extant. It is beyond question The Champion Grain Dryer. Absolutely safe against fire.

New Corn can be made to grade immediately by the BATES' CHAMPION RAPID GRAIN DRYER. Corn of present crop, all over the country, is too damp to grade, and likely to be thus for months to come and can only be made to grade by artificial means. The BATES' DRYER is the only dryer that can dry the Grain in large quantities at trifling cost, naturally, and not show parch, shrivel, or other evidence of artificial drying; the drying by this method being precisely that accomplished by a natural dry atmosphere, only that the machine accomplishes in a very brief space of time what would ordinarily require months. It is not necessary by this process to dry out any more moisture than will bring the grain up to the desired grade.

Dryers for grains of all kinds, including Brewers' Grains, cotton seed, flax, and grass seeds, glucose refuse. Also for Phosphates, Starch, Glue, Fruit, Lumber, Shingles, and Veneering, hides, Leather, Hair, Moss, Wool, etc.

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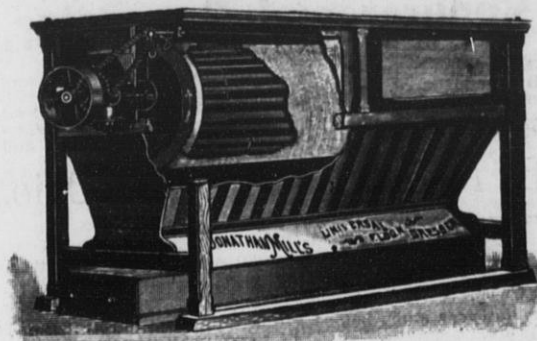
JONATHAN MILLS UNIVERSAL FLOUR DRESSER

GUARANTEED TO BE SUPERIOR TO ANY CLOTH BOLTING DEVICE FOR
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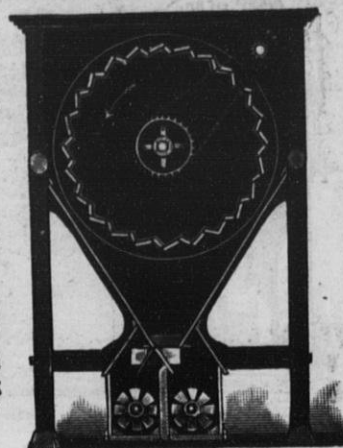
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OF ALL GRADES OF FLOUR, AND IS THE
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They cannot be beat on any Stock, and are being extensively adopted for the entire Bolting in new mills.



Finely Designed and Mechanically Constructed.
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Occupies Small Space, and has Immense Capacity



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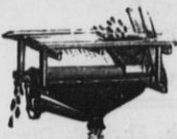
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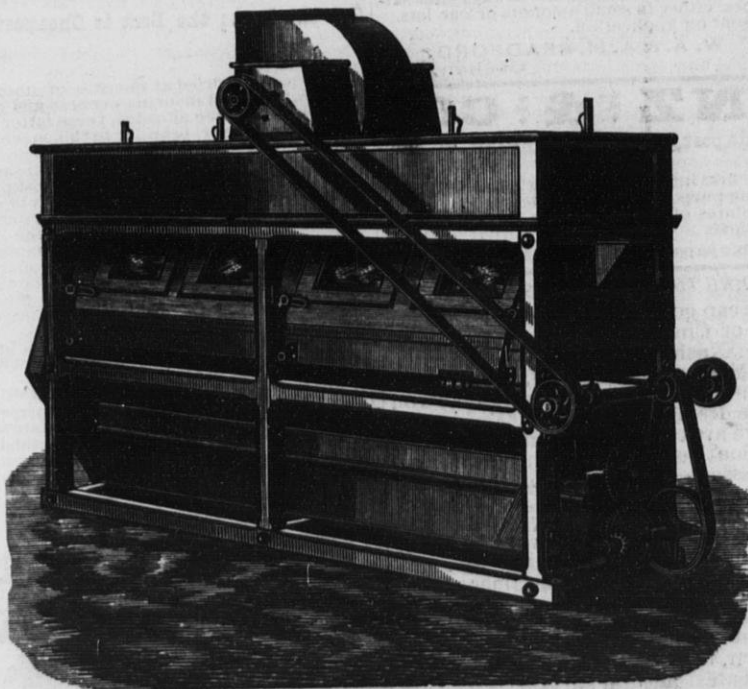
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Eureka * Middlings * Purifier!

BEST AND SIMPLEST MACHINE IN THE MARKET.



Entirely Original.

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LEAST SPACE. LEAST POWER. AUTOMATIC FEED.

Best Device for Attaching and Stretching Cloth.

(Cloth can be changed in five minutes.)

Best Controlled and Evenest Air on Cloth, making it of Great Capacity.

Machines Warranted in every Respect.

FOR FURTHER PARTICULARS, ADDRESS,

C. N. SMITH, DAYTON, OHIO.

	Length of Cloth.	Width.	Extreme Height.	Pulley.	Speed.
00	8 ft.	3 ft.	6 ft. 6 in.	5 x 3	500
0	10 ft.	3 ft.	6 ft. 6 in.	5 x 3	500
1	10 ft.	4 ft.	7 ft. 6 in.	6 x 3	500

[Please mention this paper when you write to us.]

The United States Miller



Published by E. HARRISON CAWKER. } Vol. 21, No. 6.

MILWAUKEE, OCTOBER, 1886.

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

BEFORE TRIAL!

SPERRY FEEDER CO.

MINNEAPOLIS, MINN.

Increase Capacity, Increase Yields, Better Grades, Reduce Running Expenses, by using our Feeders.

Refer to the following mills in which our Feeders have been adopted:

MINNEAPOLIS, MINN.
Pillsbury A,
Pillsbury B,
Anchor,
Washburn A,
Washburn C,
Northwestern,
Pettit,
Columbia,
Crown Roller,
Dakota,
Galaxy,
R. D. Hubbard & Co.,

PENNSYLVANIA.
H. S. Klinger & Co., Butler.
D. & A. Lukenbach, Bethlehem.
Melbourne Mills, Philadelphia.
NEW YORK.
Jewell Milling Co., Brooklyn.
Jones & Co., New York City.
Kings Co. Mill Co., Brooklyn.

OHIO.
Schumacher Milling Co., Akron
Washington, D. C., and others.

CALIFORNIA.
Sperry & Co., Stockton.
Pioneer, Sacramento.
McGrary & Bro., Sacramento.
Horace Davis, San Francisco.
Golden Age,
Del Monte,
General Bidwell, Chico.
Gridley Mills, Gridley.
Victor Mills, Hollister.

Lamar, Mo., July 7, 1886.
SPERRY FEEDER CO.

Gentlemen:—Please send us one Feeder 9 x 18 Allis Roll (double). If satisfactory we will want two more of the same kind and one for 9 x 14 style B.

Respectfully,
Brand, Dunwoody & Co.

AFTER TRIAL!

Lamar, Mo., July 29, 1886.

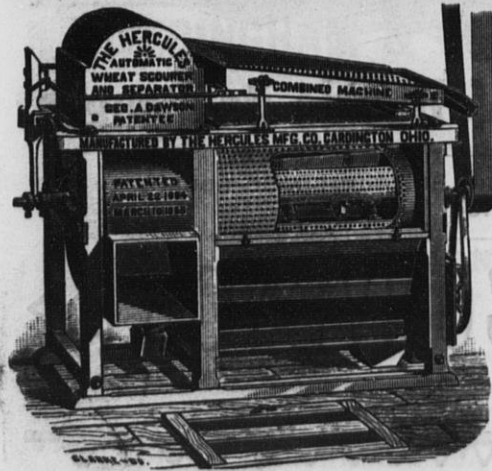
J. A. MCANULTY.

Dear Sir:—Please send us two more Feeders for 9 x 18 Allis double rolls, and one for 9 x 14 style B. We are convinced from our experience with the one sent us that they will increase our capacity and yield materially. Ship as soon as possible and send bill.

Yours Respectfully,
Brand, Dunwoody & Co.

The only Force Feed Made for Feeding Mill Stock

Do You Want Clean Wheat?



THE HERCULES Automatic Wheat Scourer and Separator.

Warranted to improve the COLOR and VALUE of flour in any mill. Anti-Frictional, Light Running and the only AUTOMATIC WHEAT SCOURER ever invented. Adjusts itself while in motion to the volume of wheat fed to it and requires no attention but oiling. Awarded GOLD MEDAL and highest honors at the late WORLD'S FAIR, NEW ORLEANS. Machines sent on 60 days trial and satisfaction guaranteed or no pay. Write for Circulars, Testimonials and Samples of Cleaned Wheat and Scorings.

THE HERCULES MFG. CO., Cardington, Ohio.

IT HAS INCREASED OUR TRADE.

THE HERCULES MANUFACTURING CO., Cardington, Ohio.

Gentlemen:—We like the "Hercules" machine very much indeed. It has increased our trade, and we will buy another for our other mill in the Spring. It certainly is the best Scourer we know of.

[Mention this Paper when you write.]

SCHREURS BROS.,
PROPRIETORS OF YOUNG AMERICA ROLLER MILLS,
Muscatine, Iowa, December 9th, 1885.

CAWKER'S AMERICAN FLOUR MILL DIRECTORY FOR 1886

ISSUED FEBRUARY, 1886. PRICE, \$10.00.

SENT BY MAIL, REGISTERED AND POST-PAID. EVERY

Mill Furnisher, Flour Broker, Transportation Company, Insurance Company,
FLOUR IMPORTER, MERCHANT MILLER,

Or anyone desiring to reach those connected with the FLOURING INDUSTRY, should order this Book at once.

E. HARRISON CAWKER, NO. 124 GRAND AVENUE, MILWAUKEE, WIS.

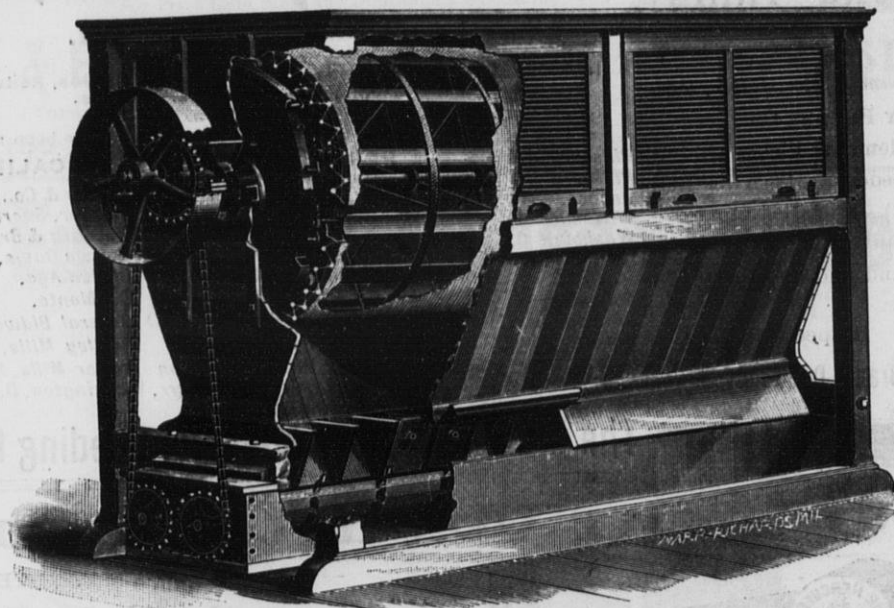
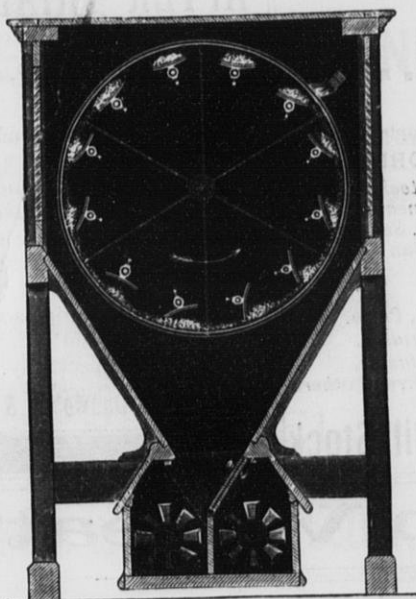
The Gilbert Flour Dresser!

FULLY GUARANTEED IN EVERY RESPECT.

Slowest Running Reel on the Market, and the Most Perfect Bolting Device ever known.

ONLY 16 TO 18 REVOLUTIONS A MINUTE.

SEVEN DIFFERENT SIZES BUILT.



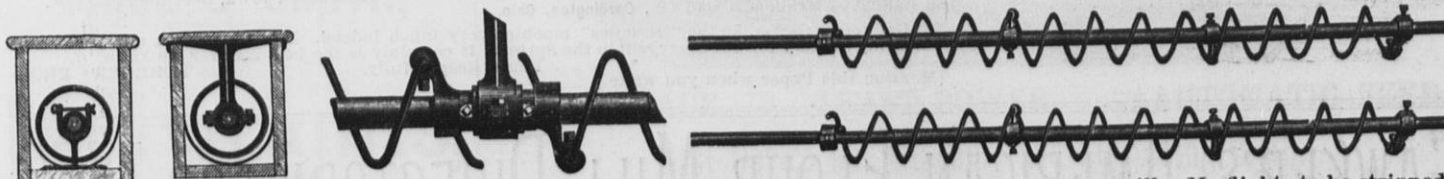
SEVEN DIFFERENT SIZES BUILT.

Greater Capacity than any Six Sided Reel of Double its Length.

In building New Mills this Bolting System can be placed in about half the space usually required, thereby saving room and expense.

MILWAUKEE SPIRAL CONVEYOR

(PATENT GRANTED JUNE 10th, 1886.)



It is light running, delivers the stock in a steady stream. Will carry anything any other Conveyor will. No flights to be stripped. Capacity unlimited. Can be run at any speed.

FOR FURTHER PARTICULARS, ADDRESS

COCKLE SEPARATOR MFG. CO.,

MILWAUKEE, WIS.

Manufacturers also of Kurth's Patent Improved Cockle Separator, Wilcox Tailings Cleaner, Milwaukee Spiral Conveyor, and Gilbert Magnetic Separator.

BELLAS, PATTON & CO.,
Commission Merchants
 3 INSURANCE EXCHANGE BLDG.,
 218 La Salle St., CHICAGO.
GRAIN AND PROVISIONS.
 Bought or sold for shipment, or carried on margins.
 Market Reports furnished to correspondents.

(ESTABLISHED 1855.)

J. O. Mathewson & Co.,
 GENERAL
COMMISSION
MERCHANTS,
AUGUSTA, - GEORGIA.

E. B. OWENS & CO.,
Provisions and Grain
BALTIMORE, MD.

Sell on Track West and to Arrive.
 Fine Storage Cellars for Meat and Lard.
 Handle all kinds of Grain.
 Liberal Advances on Consignments.

REFER TO Western National Bank, Baltimore; Citizens' National Bank, Baltimore; Wm. Ryan & Sons, Dubuque, Iowa; Whitmore Bros., Quincy, Ill.; Bloomington Pork Packing Co., Bloomington, Ill.

L. EVERINGHAM & CO.,
 (ESTABLISHED 1865.)

Commission Merchants
 200-201 Royal Insurance Building,
 Opposite New Board of Trade, CHICAGO

THE PURCHASE AND SALE OF
GRAIN AND PROVISIONS
 On the Chicago Board of Trade.
 For cash or future delivery, a specialty.

Special information, indicating course of markets,
 freely furnished upon request.

WM. GRIFFITHS. JAMES MARSHALL. GEO. E. DODGE

GRIFFITHS, MARSHALL & CO.,
GRAIN :: COMMISSION
MINNEAPOLIS AND DULUTH, MINN.

Orders for Choice Milling Wheat Given Special
 Attention.

FLOUR :: BROKERS

MILLERS DESIRING TO SELL FLOURS BY SAMPLE in car lots in the cities of Baltimore, Md., or Washington, D. C., should communicate with P. H. HILL, Millers' Agent, WASHINGTON, D. C., and for Philadelphia, Pa., communicate with HILL & SCHAAF, Millers' Agents and Grain Brokers, 219 North Broad St., PHILADELPHIA, PA. Highest references.

SAM'L E. DUNHAM & CO.,
 COMMISSION
Provisions and Grain
ROOM 83,
Board of Trade, CHICAGO.
 The purchase of grain for shipment to home markets
 a specialty.

N. S. CLARK. A. C. MARTIN.

CLARK & MARTIN,
Commission Merchants
FLOUR, GRAIN,
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No. 51 West Second St., Cincinnati, O.

PATTERSON BROS. & CO.,
Commission Merchants

FOR SALE OF
WHEAT, CORN, OATS, RYE.
 DEALERS IN
Seeds, Hominy, Grits, Steam Dried Corn Meal.
44 VINE ST., CINCINNATI.
 ORDERS AND CONSIGNMENTS SOLICITED.

ESTABLISHED 1876.

JNO. R. TURRENTINE,
 -GENERAL-
Merchandise and Produce Broker,
FLOUR, GRAIN, HAY AND RICE.
Dock Street, WILMINGTON, N. C.
 MEMBER OF CHICAGO BOARD OF TRADE.

Refers by permission to A. K. Walker, Esq., cashier First Nat'l Bank, Hall & Pearsall, Adrian & Vollers, Merchants, Wilmington; Robt. Carey & Co., New Orleans, La.; Geo. P. Plant & Co., St. Louis, Mo.; Martin & Bennett, Chicago, Ill.

Solicits Orders for Carolina Rice and Peanuts.

OWEN & BRO.,
Commission Merchants,
 36 Chamber of Commerce, MILWAUKEE.

We give special attention to the purchase and sale of grain or provisions, for future delivery, here or in other markets

Information regarding the present condition and future outlook for prices furnished on request.
 OWEN & BRO.

S. S. STOUT. H. G. UNDERWOOD.

STOUT & UNDERWOOD,
 (Formerly Examiners U. S. Patent Office.)
 SOLICITORS OF

PATENTS
 66 Wisconsin Street,
MILWAUKEE, WIS.
 TELEPHONE NO. 502.

Life Insurance.
New England Mutual

LIFE INSURANCE CO.
 OF BOSTON.

Assets, - - - - - \$17,846,546.65
 Liabilities, - - - - - \$15,288,761.16

Total Surplus, - - - \$ 2,607,785.49

BENJ. F. STEVENS, Pres't.
JOSEPH M. GIBBENS, Sec'y.

BOILER INSURANCE.

AMERICAN
Steam Boiler Insurance Company
 OFFICE, 45 WILLIAM ST., NEW YORK.
 Cash Capital, \$200,000

ASSETS JANUARY 1st, 1885.
 U. S. Gov. Registered Bonds, of which \$100,000 is lodged with the Insurance Department at Albany, N. Y. \$216,138.00
 Cash in bank and in office 10,668.72
 Premiums in course of collection 16,839.35

LIABILITIES.
 Reinsurance reserve 40,225.00
 All other demands 2,013.27

\$ 43,149.24

WILLIAM K. LOTHROP, President.
WILLIAM E. MIDGLEY, Vice-Pres.
VINCENT R. SCHENCK, Secretary.

Fire Insurance.

Every miller and manufacturer having an A 1 risk, should apply for insurance in the Allied Mutual Fire Insurance Companies, of which S. H. Seamans, Milwaukee, Wis., is secretary.

CONNECTICUT

FIRE INSURANCE CO.,
HARTFORD, - CONNECTICUT.

Cash Capital, - - - - - \$1,000,000 00
 Reserve for Reinsurance, - - - 580,669 40
 Outstanding Claims, - - - 90,396 57
 Net Surplus, - - - - - 303,683 78

Total Assets, Jan. 1, 1886, - \$1,974,749 75
 Surplus to Policy-holders, - \$1,303,683 78

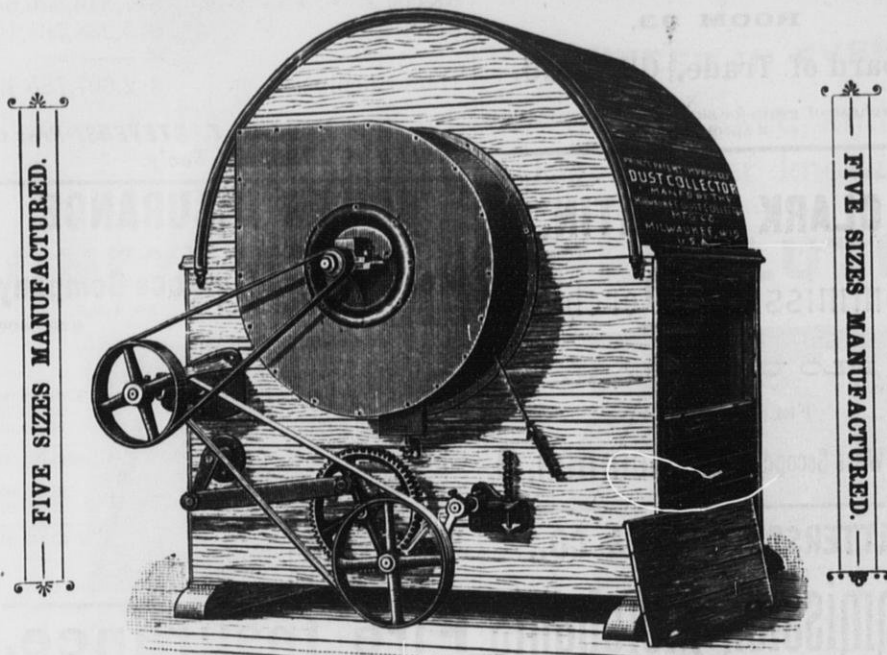
J. D. BROWNE, President,
CHARLES R. BURT, Secretary.
L. W. CLARKE, Ass't Secretary.

Attention!
CUSTOM and EXCHANGE MILLERS.

We have made arrangements with Potter & Huntington, whereby we can furnish one of their EXCHANGE TABLES and UNITED STATES MILLER for one year, for \$1.50; the price of the Exchange Table alone is \$1.00. This is probably the best Table ever prepared for Millers doing an Exchange or Custom Business. The range is from 25 to 36 lbs. of flour to each 60 lbs. of wheat, and corresponding amount of bran and middlings. (Toll and waste in milling deducted.) There are twelve Tables each of a different grade of wheat, and each Table a different amount of flour and feed and can be used for any amount of wheat, from two lbs. up to any No. of bushels. There is no guess work about it, but all from actual experience. By it the Miller is always sure of his allowance of Toll. Hundreds of them are being sent to all parts of the United States and Canada. Send us One Dollar and Fifty Cents and we will send the Table and credit you for one year's subscription to the UNITED STATES MILLER. Address, UNITED STATES MILLER, 124 Grand Avenue, Milwaukee, Wis.

IMPROVED
PRINZ PATENT DUST COLLECTOR.

6000 IN SUCCESSFUL OPERATION.



ADDRESS FOR
 "Treatise on Dust Collection," containing 50 pages of testimonials,

Milwaukee Dust Collector Mfg. Co.,
 MILWAUKEE, WIS.



Howe Scales

AND
HARRISON CONVEYOR

Borden, Selleck & Co.,

GENERAL AGENTS,

CHICAGO, ST. LOUIS, CLEVELAND, CINCINNATI,
 48-50 LAKE ST., 612 N. 3d STREET, 114 WATER ST., 116 MAIN STREET.

Howe Scales—Over 350 Modifications.

- GRAIN TESTERS, FLAX TESTERS,
- CAR MOVERS,
- BARBED WIRE STRETCHERS,
- TRUCKS, BAGGAGE BARROWS,
- COFFEE AND DRUG MILLS,
- STEEL GRAIN SCOOPS,
- OIL TANKS, LETTER PRESSES,
- STANDARD, LIQUID AND DRY MEASURES.

Do Your Own PRINTING.

Card Press, \$3.00
 Circular Size, 8.00
 Newspaper " 44.00

TYPE SETTING
 etc. is Easy by our printed instructions. For home or business use old or young. Send 2 stamps for Catalogue of Presses, Type, Cards, &c., to factory.
KELSEY PRESS CO.
 Meriden, Conn.

AGENTS WANTED. SAMPLES FREE!
 Goods SELL everywhere, to Everybody. BIG PAY! A pocket case of EIGHT Lively SAMPLES, with our terms, FREE TO ALL. Send your address, and 2 stamps for mailing. Address **THE HOLLEY WORKS, Meriden, Conn.**

FOR SALE

10,000 acres of Hardwood and Agricultural Lands near Lake Superior, AT \$3.00 TO \$5.00 PER ACRE. 4,000 acres in the Iron River Country, at low rates.

A RARE OPPORTUNITY FOR A GOOD FIND.

IF YOU WISH TO BUY
 CITY PROPERTY IN DULUTH,
 OR PINE, IRON OR FARM-
 ING LANDS,

(ADDRESS)
LUCIEN * J. * BARNES,
 Room No. 2, Exchange Building,
 DULUTH, MINN.

Mills • For • Sale.

Short advertisements will be inserted under this head for One Dollar each insertion.

FOR SALE.

A first-class 40-barrel water power stone and roller flour mill, situated within forty rods of side track of the C. M. & St. P. R. R. Country all settled up. Last year's grinding 20,000 bushels on custom work. Address **H. F. FISHER, Camp Douglas, Wis.**

FOR SALE.

A Flour Mill in a good wheat section on D. R. G. R. R., Colorado. Finest of Water Power. Three runs of Burrs, Centrifugals and Cleaning Machine, all in best conditions. Good reasons for selling, and special inducements given to purchasers. For terms, etc., address **FRED. PISCHEL, La Veta, Col.**

MILL FOR SALE.

The whole or half interest in a 50-barrel full roller mill, on account of death of partner. Good winter wheat section, climate and location. Will take one-third on the whole value in Western land. Address "EAGLE ROLLER MILLS," Plymouth, Ill. or **U. S. MILLER, Milwaukee, Wis.**

FLOURING MILL AND ELEVATOR FOR SALE.

All or one-half interest in a first-class 75-barrel steam flouring mill and elevator. All new and in good order. Located at Meriden, Jefferson Co., Kan., on the Atchison, Topeka & St. F. and the L. T. & S. W. Railroads; in the best wheat and corn growing county of the state. Building, heavy frame, 36x46, three stories, attic and basement, with stone engine room 22x34; all under iron roof. Capacity of elevator, 15,000 bushels; corn crib, dump and sheller. Side track to mill. Two sets 9x18 Allis Rolls; three burrs on wheat, one on corn; flour packer, scales, etc.; two Smith Purifiers; Barnard & Leas Separator; one 12-foot two-reel chest; one 16-foot four-reel chest; corn meal bolt; California Brush Finisher; one Western Corn Cleaner. Grain trade more than pays all running expenses. A splendid chance for a good miller. Exchange trade good. Mill cost over \$16,000. Will sell all for \$12,000; half cash, or half interest for \$6,000, half cash, or, if not sold by July 1st, will be leased for a term of years to responsible parties.
J. O. PEEBLES, Sec'y,
MERIDEN MILL CO., Meriden, Kan.

FOR SALE.

Half interest in 2-run Custom Water Power Flouring Mill. Dwelling house of 9 rooms and Ferry across Wisconsin river. Situated eight miles North of Kibourn City, Wis. Price, \$1600.00. The other interest may be bought at about same price. For particulars address **M. F. WALTON, 584 Washington Street, Milwaukee.**

FOR SALE OR RENT

THE ELEGANT

STONE GRIST AND FLOURING MILL,

—IN THE—

VILLAGE OF DELAFIELD, WAUKESHA CO., WIS.

Water Power, unfailing. All in A 1 condition for business. Also two good Residences with Barn and Out-buildings. A bargain for the right man. Address,

M. H. BUCK, WAUSAU, WIS.

WANTED.

A situation by a good practical Roller Miller. Have worked in a Mill of 66 Rolls. References can be given.

P. BERGER,
 134 Reed St., Milwaukee, Wis.

PATENTS THOS. P. SIMPSON, Washington, D. C. No Pay asked for patents until obtained. Write for Inventor's Guide.

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 subscribers..... 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, OCTOBER, 1886.

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.

NEW PEOPLE'S THEATRE.—Performances every evening, and Wednesday, Saturday and Sunday matinees.

MILWAUKEE INDUSTRIAL EXPOSITION closes Oct. 17
 PALACE THEATRE—Every evening, Wednesday, Saturday and Sunday Matinees.

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

THE October estimate of the U. S. Department of Agriculture indicates a total corn crop of about 1,600,000,000 bushels.

H. P. YALE & Co., one of the oldest machinery and supply houses in Milwaukee, have their card in this paper. Read it. They can supply your wants at bottom prices.

THE production of flour in Minneapolis mills for the year ending August 31, 1886, was 5,936,530 barrels, and the exports for the same period was 2,408,590 barrels.

JUDGES in Detroit and Baltimore have recently decided that lying to sell goods does not constitute false pretense. The liars may now proceed to prevaricate and tergiversate, until these decisions are reversed.

THE *Weekly Underwriter*, a well known New York insurance paper, believes "that on the whole, fire underwriting is as secure an occupation as farming," and we may add, a plaguesight less laborious.

THE "irrepressible Yankee" is never behind time. Since the recent earthquakes an Earthquake Insurance Company has been started, and it is thought a lively business will be done, especially in the neighborhood of Charleston, S. C.

IT is said by good English authority that the home crop of wheat in Austria-Hungary will not be sufficient for home consumption, consequently there will be little exported excepting of high grade flour.

THE *Cincinnati Price Current* says: When one goes through the manufacturing establishments of the country generally, and sees

the careless, not to say filthy, condition in which most of them are kept, he is never surprised at hearing of one burning. His surprise is rather that they do not all burn.

IT is strange to note, that this country, so full of iron, should be importing at the present time large quantities of that ore. Since January 1, no less than 667,000 tons of iron have been imported at the ports of Baltimore and Philadelphia, against about 250,000 tons during the corresponding period last year.

JOHN D. PUTNAM, the Democratic nominee for Lieutenant Governor of Wisconsin, is a great-great-grandson of Gen. Putnam of revolutionary fame, and is forty-nine years old. He was born in Brooklyn, Conn., and came to Wisconsin many years ago. He was a Democratic member of the legislature in 1882, and is now mayor of River Falls. He is a prosperous miller.

AND now comes the report that another one of those "high moral cusses" has "gone to the bad." This time it is Wm. F. Gould, of Portland, Me., son-in-law of Neal Dow, the celebrated Maine Prohibitionist, and the amount of "boodle" taken is reported to be not less than \$87,000. He attended church regularly, preached moral sermons to young men, was sought for advice on financial matters, etc.

A DELEGATION of Minnesota and Dakota farmers recently visited the Minneapolis Chamber of Commerce, with a view to making arrangements to sell their own wheat. They propose to have one of their own number on the board to sell their wheat as a commission man, and thus save the percentage for handling heretofore paid to the local dealer. Theoretically the scheme is good; practically it won't work. It will end in a grand row among the grangers.

TWO hundred carloads of barley have been bought in California for brewing firms in Milwaukee, and fifty carloads are now on the way here. They were shipped from San Francisco by the Southern Pacific Railway to New Orleans; to New York City by water; thence to Buffalo by the Hudson River and the Erie Canal, and thence to Milwaukee by the Anchor Line. This round-about way is taken because freights are cheaper than by other routes.

MACHINERY ON TRIAL.—Buyers of machinery on trial, subject to their approval after operation for a stated period, should remember that they can be held legally responsible for the price of the machinery if they fail to signify their rejection of the same within the specified time. Usually there is a well-understood agreement in these matters; but sometimes there is not, and in such cases it is only just that if the machine purchased is not satisfactory the user should notify the seller as soon as the fact becomes apparent.

IT is a true saying that Waukesha Mineral Rock Spring water beats all other waters in purity and quick action upon the kidneys and urinary organs. For daily use as a beverage, without exception, it is the best water in the known world. Its keeping qualities

are perfect in galvanized iron cans, there being nothing in it to decompose or be affected by warm weather. If any of our readers want a good thing in the way of pure, wholesome water, send to C. C. Olin, Manager of Mineral Rock Spring at Waukesha, and your want will be supplied at once. Analysis and price list furnished to all enquirers for this celebrated water.

THE Sperry Feeder, manufactured by the Sperry Feeder Co. of Minneapolis, seems to be one of the most popular special devices introduced on the market for years. The demand has been so great that the company has been compelled to move to larger and better quarters.

ABRAHAM LINCOLN, many years ago, in an address delivered in the city of New York, gave the following advice to workmen, which is pertinent at this time. He said: "That some should be rich, shows that others may be rich, and hence is but encouragement to industry and enterprise. Let not him who is homeless pull down the house of another, but let him labor diligently and build one for himself, thus by example assuring that his own shall be safe when built."

WE have the pleasure to announce the marriage, Oct. 5, 1886, of Mr. S. H. Seamans of Milwaukee to Miss Martha L. Edgerton of Oconomowoc, Wis. Mr. Seamans' thousands of friends, especially among millers throughout the United States, we know will join us in wishing the newly wedded pair a long and happy life. On their return from a short tour Mr. and Mrs. Seamans will be at home, in Wauwatosa, Wis., a charming suburb of Milwaukee.

THE GILBERT FLOUR DRESSER.

THE Cockle Separator Mfg. Co. of Milwaukee have placed the GILBERT FLOUR DRESSER on the market. They have done this after satisfying themselves by long and carefully conducted experiments that the machine is a good one. The machine is built in a very substantial manner, and it will doubtless meet with a large sale. Full description of the machine will be sent by addressing this company as above noted.

THE Minneapolis Exposition for 1886 has just closed amid a blaze of glory. The writer has long known that the people of Minneapolis were enterprising, but we must confess we were very much surprised to see such a large and attractive exhibition as the one just closed. It has been a complete success in every way. The milling interests were well represented. A larger assortment of milling machinery has not been seen together in this country since the Miller's Exhibition in Cincinnati in 1880. The contrast in the machines exhibited then and now is indeed great. We are gratified to learn that Mr. C. M. Palmer, publisher of the *Northwestern Miller*, has been elected manager for the next year, and it goes without saying that all milling interests will be most faithfully looked after.

DURING the year ending March 31, 1886, the great packing house of Armour & Co., sold \$43,000,000 worth of goods. They killed during that year, 1,133,479 hogs, 330,652 cattle,

and 635,262 sheep, and produced 55,142,952 lbs. of lard, 85,918,460 lbs. salted meats, 51,508,386 lbs. pickled meats, 4,062,459 lbs. spiced meats, 8,219,630 lbs. green hams and shoulders, 54,008,729 lbs. smoked meats, 33,696,460 lbs. canned meats, and 22,461,522 lbs. fertilizers. Armour & Co.'s buildings cover thirty acres of ground, and furnish a floor area of eighty-eight acres. Their chill-room and storage area is stated at twenty acres, and their storage capacity at 90,000 tons. During the summer season they employ 4,000 men and during the winter season 5,000. Their annual pay roll exceeds \$4,000,000. In short it is by all odds the greatest packing establishment in the world.

OAT-MEAL MILLING.

It is claimed by many oat-meal millers, and by some now out of the business, that the manufacture of oat-meal at the present time is, for most mills, not profitable. It takes from 10 to 12 bushels of good oats to make a barrel of good oat-meal, to the cost of which must be added cooperage, etc. The residuum from the oats, after the meal is made, is not in good demand, and seldom brings a good price. The consumption of oat-meal in this country is comparatively small, and only low grades are suitable for export, as there is little demand in Europe for high grade. Small oat-meal mills, as a rule, do not pay, and large ones must be run with the greatest economy. A great many oat-meal mills constructed during the last few years are now idle.

THE *New Orleans Picayune* predicts a boom in the rice trade. In its issue of Sept. 15 it says:

Already the clean article is being taken up as fast as the mills can turn it out, and prices have advanced, but are still below the parity of the "rough," which clearly necessitates a further improvement. The marketing of last year's large crop pushed Louisiana rice into every market in the country and created a universal demand for it; hence it seems plausible that as soon as it is generally known that the crop is so superior in quality and safe to handle a demand will spring up on all sides.

A very favorable feature is the decrease in the stocks of foreign rice held in Europe and the advance of prices in London. In India, the greatest producing country, rice has advanced 30 per cent. during the past twelve months, which advance must be felt in all consuming countries. These facts, beside stimulating prices in the United States, remove still farther all possibility of foreign competition.

FLOUR MILL DIRECTORY FOR 1886.

All persons desiring to reach the milling trade should invest at once in a copy of Cawker's American Flour Mill Directory for 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., or any of the

A WORD TO SALESMEN.

From our point of observation we believe the essential point with a salesman is to be truthful. Misrepresentation of any kind will prove fatal in the long run. Good, square, honorable treatment is absolutely necessary to keep trade. A certain degree of faith is absolutely essential in trade, and when it is

once lost the inevitable consequence will be that the customer will stop dealing with the one by whom he feels that he has once been cheated. A salesman should take as thorough an interest in the business as if it were his own. He should take special pains to learn everything possible about the articles he tries to dispose of. Industrious young men, whose minds are on their business, possessed of average ability, are pretty sure of reasonable success. There is always room in the front ranks for all who have the energy to get to them.

MILWAUKEE ITEMS.

DURING the last fiscal year the Milwaukee post-office handled 71,151,679 pieces of mail matter.

THE spur track from the mills of E. Sanderson & Co. to the railway track on the opposite side of Commerce Street has been completed. All the mills on Commerce St. have now the best of railway as well as water transportation facilities. The roadway between the tracks is now paved with granite blocks.

ASMUTH & Co. have commenced the erection of a malt house on Florida Street, south of the Davis Boiler Works, that will be one of the largest in the city. The building will be 53x140 feet, five stories in height, of brick and iron, and will cost \$45,000. The house will have a capacity for malting 400,000 bushels annually. Birge & Smith of this city, do the work.

F. H. MAGDEBURG, president of The Gem Milling Co., Milwaukee, who has been on a visit to Europe, has returned.

C. K. REIFSNIDER, managing editor of the *St. Louis Miller*, recently favored us with a pleasant call.

MR. J. M. CASE, of the Case Mfg Co., Columbus, O., made us a call recently.

IN an interview, Angus Smith, the well-known grain elevator man, gives some interesting facts in connection with the controversy about extortionate elevator charges. In relation to the statement that the falling off in Milwaukee grain business is due to excessive railroad and elevator charges and the want of proper facilities for doing the business in Milwaukee, Mr. Smith said:

The railroads have increased their capacity ten times over since 1873, and have very largely reduced their transportation charges. The elevator facilities have been more than doubled and the charge is only three-quarters of a cent per bushel for handling, while in 1873 we received two cents per bushel. Still the cry of Mr. Bacon is for a further increase of storage capacity and further reduction of prices for storing grain. He tries to convince the public that the elevators are paying an enormous profit and illustrates it by saying that the storing of 4,000,000 bushels at 2½ cents would pay 15 per cent on the money invested in elevators in Milwaukee. Let us see. Two and a half cents per bushel on 4,000,000 bushels would give \$100,000 gross income. A low estimate of value of the elevators, grounds and docks would be \$2,000,000, and the interest on that at 6 per cent, \$120,000. The actual cost for running these elevators is not less than \$80,000. This shows that it is necessary to earn \$210,000 before there is any profit over and above a moderate interest on the money invested. I would like to see Mr. Bacon show some appreciation of what is necessary to bring the business back to Milwaukee by a reduction of his charges as a receiver and commission merchant, which remain the same as when we charged two cents for handling.

October 6, Angus Smith & Co. posted the subjoined notice:

The following list of receipts represents wheat that requires frequent handling to prevent becoming warm, and we fear beyond our power to prevent actual damage, and this is to notify the owners of wheat represented by the receipts above named that we will not be hereafter responsible for its condition. We will make a charge of ¼ per cent. per bushel for handling over and airing the same as often as it is handled. And, further, that we will pay the owners of this wheat 2 cents per bushel on any part or all that they will remove from the elevators within the next five days. This list includes all our receipts out dated prior to 1886, and is about 252,000 bushels. All other wheat in our warehouses has been taken into store in 1886.

FOREIGN ITEMS.

Great damage has been caused by floods in the Argentine Republic to grain and stock.

English and Continental milling engineers are commencing to complain of dull times.

The eighth annual report of the British and Irish Millers Association has recently been distributed. It is a volume of 185 pages, containing a full report of the Dublin convention and other matters of importance.

Messrs. Higginbottom & Stuart, English milling engineers, say that the American "Short" system, recently so much talked of, is nothing new; that they have built mills on that system, one of which has been working two years, doing very good work. They find the best results, however, where disks are used for the breaks.

The French millers are about to organize a National Association of Millers.

A considerable number of roller mills have been erected in France during the past year by English builders. A large quantity of American milling machinery has been used.

Mr. H. Lloyd Snapes has started a technical school in Manchester, England, in which a specialty is made of teaching the chemistry of wheat, flour and bread.

The electric light is being placed in a great number of European mills. It is undoubtedly, when properly arranged, the safest light for a flour mill.

An English firm has received an order for a 125 bbl. roller mill to be erected in the Orange Free State, South Africa.

The *Sydney Morning Herald* estimates that New South Wales will require 89,500 tons of wheat; Queensland, 20,000 tons, and Tasmania, 5,000 tons, between this and the end of the year, and that this will absorb the present estimated surpluses of South Australia and Victoria (17,500 tons) and thus the colonies will be obliged to import 97,000 tons from abroad, New Zealand having already over-exported. Victoria, however, now appears to be out of the field as a source of supply. Indian wheat is not looked for with favor in Australia, and it seems probable that California will be called upon to make good any deficit there may be.

MONTREAL'S EXPORT BUSINESS. — The amount of grain carried from the west to Montreal for export this year has largely exceeded the quantities of the last three years. The Montreal Transportation Company, naturally enough, desires the government to free the St. Lawrence canals. If this were done, President McLennan says, and the channel of the river deepened in certain

places, "the St. Lawrence route would command not only the carrying trade of Canada, but of the western states as well." Much more important, however, is the prospect of direct rail connection with Minneapolis. A short route, via the Minneapolis, Sault Ste. Marie & Atlantic and Canadian Pacific roads, is assured, and it is just now reported that the Grand Trunk is likewise about to reach out for a northwest connection by means of a line from Gravenhurst along the northern shore of Georgian bay to Sault Ste. Marie. The distance from Minneapolis to Montreal by the Canadian Pacific route is stated at 1,090 miles, or 250 less than from Minneapolis to New York via Chicago.—*Bradstreets.*

A communication from U. S. Consular Agent, A. C. McDowall at Piræus, Greece, says:

There are thirteen steam flour-mills in Piræus. Two of these are on the roller system, but have proved too large and too expensive for their owners, who have failed, and the mills are consequently standing idle. The other eleven mills have an aggregate of 55 pairs of stones, the largest having 12 pairs, and the smallest 3 pairs.

Consequent upon the number of small steam mills erected in the provinces and islands of late, the large mills in Piræus are suffering from want of trade, and lately four mill owners have failed, their mills being sold to pay mortgages, but no one came forward as buyers, so they remain in the hands of the banks which had advanced the money to build them. These mills are all standing idle.

The machinery in these mills is pretty equally divided between English, French, German, and that made in local workshops. The only American machine used in these mills is the "Eureka" grain-cleaner. These are imported through Liverpool and London, England.

Flour-milling, like most other industries here, has been overdone, so that most of the large and expensively got up mills that have not already failed find it difficult to keep running, there being no sale for their flour.

Stone-dressers' wages run from \$30 to \$50 per month, and ordinary hands about mills get from \$10 to \$15 per month.

Russia is going to have a railroad tunnel three miles long, at a cost of \$3,500,000. She has 15,000 miles of railway, but her only tunnel is 700 yards long. More great works of this kind are contemplated, and as Russian engineers are ignorant of tunnel making there is a demand for foreign skill.

The passage of the Suez Canal is ordinarily made in thirty-six to forty hours, but vessels fitted with the electric-light apparatus can go through in sixteen hours.

Dynamite has been used for driving piles in Pesth. A cast-iron plate is put on top of the pile and a charge of seventeen and a half ounces of dynamite exploded on it. The effect is equal to five blows of a pile engine having a weight of fourteen and three-quarter Vienna cwt. and a stroke of ten feet.

Even Patagonia, South America, is to have a railway, a vessel being now on its way from England with rails and other material for the new road, which is to be built at the Welsh colony of Chubut, in that portion of Patagonia belonging to the Argentine Republic.

ITEMS OF INTEREST.

A CURIOUS OPTICAL ILLUSION.—M. de Parville has called the attention of the French Academy of Sciences to a curious illusion of the vision which may account for

the apparent oscillation or swinging of stars sometimes observed, and called by the Germans *Sternschwanken*. When the eye looks for some time at a small feebly lighted body, itself being in complete darkness, the body appears to oscillate or describe certain curves. It is a phenomenon of the subjective order; and appears to be of the same nature as the movement of a star observed when a person leans the head against a wall, and fixes his eye upon the star. The star appears to be agitated in its place and to oscillate rapidly. In order that the motion may be noticed there should be no moon, and the sky should be clear. A lunette takes away the apparent motion.

THE St. Louis *Railway Register* says: "When the people on the Pacific Coast learn to use elevators instead of sacking their grain, they will reap a larger profit. The construction of elevators in Oregon and Washington must soon be followed by similar construction through California."

SHINING BLACK INK.—The best shining black ink, used for mourning paper, and the manufacture of which has up to the present time been kept a secret by the makers, may be prepared, according to the *Papier Zeitung*, of lamp-black, borax and shellac. The ink is made as follows: In one liter of hot water sixty grains of borax are dissolved, and to this solution three times the quantity of shellac is added. After this mixture has been properly dissolved, the necessary quantity of lamp-black is added, the whole being constantly stirred. Should the luster not be satisfactory, more shellac is added.

AN ENGLISH MILLWRIGHT'S BOYHOOD.—Smeaton, the great mechanic, when a boy, disdained the ordinary playthings of boyhood. He collected the tools of workmen and bothered them with questions. One day, after having watched some millwrights, he was discovered, to the great distress of his family, in a situation of extreme danger, fixing a windmill on the top of the barn. His father sent him to London to study law, but he declared that law did not suit the bent of his genius, and addressed a memorial to his father to show his utter incompetency for legal pursuits. His father finally allowed him to do as he wished, and he became one of the foremost of English millwrights.—*Mechanical Progress.*

It is estimated that the wheat crop of California will be worth \$54,000,000 this year, as against \$28,000,000 last year; and that the barley crop will fetch \$16,000,000, a gain of \$7,000,000 over last year. The area sown is said to be but a fraction larger than in 1885. Recent estimates place the wine crop at \$18,000,000, instead of the \$25,000,000 estimated earlier in the season. Last year's crop was \$15,000,000.

The regular life insurance companies in the United States have assets amounting to \$523,664,678. In 1885 their income from all sources was \$105,000,000; and during that year they paid out for death claims alone \$28,194,000. Large disbursements were also made for surrendered policies and in paying matured endowments and dividends.

ONE HUNDRED and five thousand nine hundred and eighty-two persons are employed in the breweries and distilleries of the United States. They earn in wages each month about \$12,250,000.

THE FLY FISHERMAN.

And now the Boston fisherman
His tackle getteth out,
And goeth down to distant Maine
To woo the fleckle trout.

He hireth him a stalwart guide
His camping kit to lug,
And takes a heap of grub along
With something in a jug.

Within the light birch-bark canoe
The guide doth take him out,
His fly he casteth skillfully,
And soon you hear him shout:

"By jinks! old man, how'll this trout do
To send home to the Hub?"
The guide responded with a sigh:
"You've got a two-pound chub."

But soon the speckled beauties rise,
And he has lots of sport,
And goes back home bewailing that
The two weeks were so short.

And since in camp on balsam boughs
He lies and sleeps his fill,
Is it not strange when he comes home
He keeps on lying still?

—"Sarkastic" Boston Ex.

SIMON W. SPERRY, of the firm of Sperry & Co., Stockton, Cal., died of heart disease at his home, Sept. 13, aged 64 years. He had been a resident of Stockton since 1856 and continuously engaged in the milling business. The corporation of Sperry & Co was formed about two years ago, with S. W. Sperry as President, his three sons being associated with him in the business. Mr. Sperry was the controlling spirit of the firm until about a year ago, when his health broke down, since which time he has traveled considerably in an endeavor to conquer his disease, but steadily failed until, after great suffering death came to his relief. Mr. Sperry is very highly spoken of by all who knew him. The Stockton city council in a series of resolutions of regret, said: "By his death this city has lost one of its most valued and upright citizens, and the business interests of Stockton will long suffer from his death." He leaves a wife, two daughters and three sons.

LEGAL DECISIONS FROM BRADSTREETS'.

FAILURE TO TRANSMIT TELEGRAPH MESSAGE—RECOVERY—PROOF.—In the case of Western Union Telegraph Company vs. Brown the Supreme Court of Indiana held that in an action to recover a penalty for failing to transmit a telegraph message it was necessary for the plaintiff to show affirmatively that he was the sender of the message.

GRANT OF WATER-POWER — RESERVATION.—A grant of a right to build a mill and the privilege to draw and use the water from a mill-pond, the grantor reserving the right "to the use of sufficient water from said pond to carry a fulling mill and three breast wheels," was construed as not restricting the grantor to the use of breast wheels, but as limiting him to the quantity of water sufficient to carry three breast wheels. Coburn vs. Middlesex, decided by the Supreme Judicial Court of Massachusetts.

A TWO CENT STAMP

Sent with your full address to A. V. H. Carpenter, General Passenger Agent, Milwaukee, Wis., will bring you ONE of the following named publications, issued for free distribution by the Chicago, Milwaukee & St. Paul Railway:

Gems of the Northwest.
A Tale of Ten Cities.
Uncle Sam's Journey.
Guide to Summer Homes.
The Overland Journey.
The Northwest and Far West.
Plain Facts about Dakota.

All of these publications are finely illustrated and contain valuable information which can be obtained in no other way.

THE OLD MILL.

Here from the brow of the hill I look
Through a lattice of boughs and leaves
On the old gray mill, with its gambrel roof,
And the moss on its rotting eaves,
I hear the clatter that jars its walls,
And the rushing waters sound;
And I see the black floats rise and fall
As the wheel goes slowly round.

I rode there often when I was young,
With my grist on the horse before,
And talked with Nellie, the miller's girl,
As I waited my turn at the door.
And while she tossed her ringlets brown,
And flirted and chatted so free,
The wheel might stop or the wheel might go—
It was all the same to me.

'Tis twenty years since last I stood
On the spot where I stand to-day,
And Nelly is wed and the miller is dead,
And the mill and I are gray.
But both, till we fall into ruin and wreck,
To our fortune of toil are bound,
And the man goes and the stream flows,
And the wheel moves slowly round.

—Thomas Dunn English.

We will send the U. S. Miller and American Miller for one year for \$1.50.

LIEBIG ON THE BEST PROCESS FOR MAKING BREAD.

BY W. A. THOMS.

The "Letters on Chemistry" of Liebig are a mine of wealth to the student of bread-making; that is, if the student has already a little knowledge, and after reading is prepared to select his facts from reason and experiment and not from faith. Liebig says of fermentation, "We recognize no other cause than the decomposition of a sulphur and nitrogen compounds." This view is now altogether abandoned, and the credit for this is due to Pasteur. Fermentation is due to vital organisms satisfying their necessities from the organic matter in the medium where they are functioning. The organism, or yeast cells, first change the organic matter, so that it can pass through their cellulose skins to the interior; it is there in the inside of the cells that true fermentation takes place, and is, first, a splitting up of compounds for the assimilation of a part; and, second, the expulsion of the rest as carbonic acid, alcohol and waste cell-products. These processes are the reverse of decomposition—they are the building up of organism rather than the breaking down, beyond the ordinary breaking down accompanying all vitality. The cells ferment in order to live and multiply, just as we breathe and take in food in order to do the same. Indeed, there is a very close analogy between what takes place in our own bodies and what takes place in a ferment tub. But it was not to explain unicellular and multi-cellular physiology, even if able, that I began this, but to give a few notes from Liebig's "Chemistry." The book is out of print and difficult to get, yet it contains much that is of great value to bakers.

"Many chemists are of opinion that flour, by the fermentation in the dough, loses somewhat of its nutritious constituents, from a decomposition of the gluten; and it has been proposed to render the dough porous without fermentation, by means of substances which, when brought into contact, yield carbonic acid. But on a closer investigation of the process, this view appears to have little foundation.

"When flour is made into dough with water, and allowed to stand at a gentle warmth, a change takes place in the gluten of the dough, similar to that which occurs after the steeping of barley, in the commencement of germination in the seeds, in the preparation of malt; and in consequence of this change, the starch (the greater part of it in malting, in dough only a small percentage) is converted into sugar. A small portion of the gluten passes into the soluble state, in which it acquires the properties of albumen, but by this change it loses nothing whatever of its digestibility or of its nutritive value.

"We cannot bring flour and water together without the formation of sugar from the starch, and it is this sugar and not the gluten, of which a part enters into the fermentation, and is resolved into alcohol and carbonic acid.

"We know that malt is not inferior in nutritive power to barley from which it is derived, although the gluten contained in it has undergone a much more profound alteration than that of flour in the dough and experience has taught us, that in distilleries where spirits are made from potatoes, the plastic constituents of the potatoes and of the malt which is added, after having gone through the entire course of the processes of the formation, and the fermentation of the sugar have lost little or nothing of their nutritive value. It is certain, therefore, that in the making of bread there is no loss of gluten. Only a small part of the starch of the flour is consumed in the production of sugar, and the fermentative process is not only the simplest and best, but also the cheapest of all the methods which have been recommended for rendering bread porous. Besides, chemical preparations ought never, as a general rule, to be recommended by chemists for culinary purposes,—since they hardly ever are found pure in ordinary commerce. For example, the commercial crude muriatic acid, which it is recommended to add to the dough along with bicarbonate of soda, is always most impure, and often contains arsenic, so that the chemist never uses it, without a tedious process of purification for his purposes, which are of far less importance," than making bread light and porous.

On the use of potatoes Liebig has this to say, "To make bread cheaper it has been proposed to add to dough, potato starch or dextrine, rice, the pressed pulp of turnips, pressed raw potatoes, or boiled potatoes; but all these additions only diminish the nutritive value of bread. Potato starch, dextrine, or the pressed pulp of turnips and beet-root, when added to flour, yield a mixture, the nutritive value of which is equal to that of the entire potato or lower still, but no one can consider the change of grain or flour into a food of equal value with potatoes or rice an improvement. The true problem is to render the potatoes or rice similar or equal to wheat in their effects, and not *vice versa*. It is better under all circumstances to boil the potatoes and eat them as such, than to add potatoes or potato starch to flour before it is made into bread, which should be strictly prohibited by police regulation, on account of the cheating to which it would inevitably give rise."

I agree with Liebig in this. Potatoes in bread are unnecessary, are a fraud and should be regarded in law as such. Pure bread should consist of wheaten flour, water, yeast

and salt, how much water I do not undertake to say, but am prepared to keep within the percentage when authorities have fixed them. —British Confectioner and Baker (London).

PLEASANT PARAGRAPHS.

WITH money, come poor relations; with property, taxes; with the winter, pneumonia; and with the summer, cholera and base ball. —Peoria Journal.

"WHAT do you go to Florida for, Denims?" "Well, we have a variety of reasons. The girls go for the orange groves, wife goes for her lungs, the boys go for the alligator-shooting, and I go for about \$950 for the season."

THE Irish patriots should not be so discouraged. Married men have struggled for home rule for twenty centuries, and have not yet succeeded in getting it.

A GRINDSTONE, says an agricultural contemporary, is one of the worst used implements on the farm. The other is the boy who has to turn the blasted thing.

"MAMMA," she said, "I don't like the way this bustle sets."

"Neither do I," was the prompt reply. "And, besides, your father is swearing about the rat-trap being lost, so you must really take it off."

MOTHER—You naughty boy if you keep on this way you'll never go to heaven. Naughty Boy (after a whipping)—Bo-ho! I don't want to go if angels wear golden slippers. Leather ones are hard enough for me—bo-ho!

"DID you ever see anything like this?" said a young lady at a church fair, when raffling was in progress. "Only once" replied he. "When was that, dear?" "Once on a train out west, when it was robbed by bandits," was the gentle response.

"THERE's mighty few troubles us men have that a woman isn't at the bottom of," said a precocious small boy, after his mother had punished him by sending him to bed without his supper.

THE inhabitants of the South Sea Islands never bury their dead, they lay them out on a high platform supported by poles. Thus it would be wholly impossible for a South Sea Islander to drop a tear on his angel mother's grave. He would have to throw it up.

A PHILADELPHIA gentleman, after being shown about Boston by a citizen of the Hub, said to his cicerone: "Boston isn't laid out so well as Philadelphia." "No," replied the latter, "but it will be when it is as dead."

A BEAUTIFUL woman, with artificially lightened color, once said to Gen. Shields: "How is it that, having obtained so much glory, you will seek for more?" "Ah, madam," he said with more force than politeness, "how is it that you, who have so much beauty, should still put on paint?"

"PA," said little Jack Jinson, who always had his ears open, but sometimes got things slightly mixed, "does a 'whisker cocktail' make your mustache grow?" "No, my son; it makes your hair curl," was the solemn response.

A YOUNG man generally falls in love with a woman five or ten years older than himself. This is his first experience. But when he gets to be between 45 and 50 he evens up by trying to make himself believe that all the young women are dead in love with him.

Mott street Sunday-school teacher (to Wun Lung, a new recruit): "Do you understand, Wun Lung, the beautiful song we have just finished, 'Where, O where, are the Hebrew children?' Wun Lung: Yep, me undlestand." Teacher: "Where are the Hebrew children?" Wun Lung: "Heblew children down on Blaxter stleet."

MOODY never neglected any opportunity in preaching. He went into the city to insure his life. Having done so, he said: I have insured my wretched body, but who is to insure my miserable soul? A matter-of-fact clerk answered: "Our Mr. Thompson, of the fire department, will see after that."

"LAMBIE DEAR," "Yes, dovey darling," "Is he going down to the horrid club to-night, duckie?" "Yes, ownest ownie." "No, to-nightie." "Yessie." "No, sweetie." "Yes, dearie." "Bet him a dollar, lovey." "Why ain't I, birdie?" "Because, sugar plum, as you go out into the front hall you'll see mamma, my own dear mamma, who dotes on you, sitting on a trunk; she's just arrived. Won't you please stay home, sweetie?" He stayed.

THEY had just been married. He seized her hand and said in a low, tremulous voice: "It was your innate modesty and apparent indifference, dearest Sallie, that made me register a vow to marry you at all hazards." "Yes," she sighed, "but I slipped up on three or four of the most eligible young men in Austin before I found that the only way to rope in a galoot was to come the innate modesty and total indifference racket on him."

IN court: "What pretext did your husband have for beating you?" "It wa-n't a pretext, your honor, it was a club."—*Burlington Free Press.*

FOGG—What are you doing now? Boggs—I am now on the boards. Fogg—What! Acting! Boggs—No; driving a lumber wagon.—*The Rambler.*

"WHAT a delightful existence it is, Farmer Robinson," said his city guest, "out here in the country. How crisp and beautiful the air, and the fragrance of new mown hay pervades all. I should think you would feel like chanting pœans of praise to the Creator the year 'round." "It is sort o' nice, miss I giant. But I never feel quite as much like thanking heaven as I do when I've scrimmaged about an' got money enough together to pay the taxes."

GERMAN BULLS.—The Irish have not got a monopoly for the manufacture of bulls. The German papers abound in them. Here are a few specimen bricks:

"After the door was closed a soft, female footstep slipped into the room, and with her own hand extinguished the taper."

"Both doctors were unable to restore the deceased once more to life and health."

"A man living at Freudenstadt tried to shoot his wife, but missed her, for which offense he was promptly locked up."

"The chariot of revolution is rolling onward and gnashing its teeth as it rolls," was what a revolutionary leader told the Vienna students in 1843 in his speech.

"The Ladies' Benevolent Association has distributed 20 pairs of shoes which will dry up many tears."

"I was sitting at the table enjoying a cup of coffee when a gentle voice tapped me on the shoulder. I looked around and saw my old friend."

"Among the emigrants was an old blind woman who came to America to see her only son once more before she died."—*Texas Siftings.*

"Gentlemen of the jury," said an Irish barrister, "It will be for you to say whether this defendant shall be allowed to come into court with unblushing footsteps, with the cloak of hypocrisy in his mouth, and draw three bullets out of my client's pocket with impunity."

"TRADE must be rushing," he said as he halted and pointed to a half dozen boxes of clothing on the sidewalk ready to be shipped.

"On der contrary, trade vhas werry poor," answered Moses.

"But you are shipping lots of goods."

"Oh, dose goods vhas going to mine brudder Shacob in Cincinnati. I got my insurance on stock two days ago, and now it vhas his turn. When he gets his insurance he ships them to Abraham in Chicago. Trade vhas poor—very poor."

"Jimmy, what's a clearin house?" asked one street laborer of another as he leaned wearily on his broom waiting for a reply.

"I'm not exactly on to it" was the reply.

"It can't be a sugar refinery?"

"I think not. I think I had a bad case of it once, myself, but I may not be right. I put a little mortgage on my place, and when it came due that fellow cleared me of the house so fast that we entirely forgot one of the children and had to go back for him."

USEFUL RECIPES.

A VERY good cement to fasten on lamp tops is melted alum. Use as soon as melted, and the lamp is ready for use as soon as the cement is cold.

REMEDIES FOR BURNS.—Cover the burn thickly with vaseline, and dust plenty of corn starch over it. If you have no vaseline, use linseed or sweet oil, or warm mutton tallow; and if you haven't corn-starch, substitute wheat flour. Wrap in a soft linen or cotton cloth. Don't break the blisters, or disturb the burn except to put on more vaseline and corn-starch, until the soreness is entirely gone. Then wash and dry it, rubbing with glycerine to make the new skin less tender and more firm. The air must be kept from a burn. The oil and flour accomplish this, and form a soothing, healing paste or salve.

Every family should have a preparation of flaxseed oil, chalk and vinegar, about the consistency of thick paint, constantly on hand for burns and scalds. The best application in cases of burns and scalds is a mixture of one part of carbolic acid to eight parts of olive oil. Lint or linen rags are to be saturated in the lotion, and spread smoothly over the burned part, which should then be covered with oil silk or gutta-percha tissue to exclude air.

A GOOD paint for sheet iron is made as follows: Good varnish, one-half gallon; boiled linseed oil, one-half gallon; add red lead sufficient to bring to the consistency of common paint. Apply with a brush. Applicable to any kind of iron work exposed to weather.

BURNT COFFEE FOR WOUNDS—Dr. Oppler, of Strasburg, has discovered in burnt coffee

a new antiseptic dressing for wounds. The action appears to be two-fold; first, that produced by burnt coffee as a form of charcoal, and secondly, that which is due to the pungent aromatic odors, which are fatal to the lower organisms. As coffee is always on hand in military expeditions, it will be especially serviceable as a dressing during war times.

FIRES resulting from burning oil are inextinguishable with water, but may readily be smothered by throwing flour on the burning oil. If clothing be set on fire by spilling oil or by the bursting of a lamp, a handful of flour thrown on immediately may be the means of quenching the flames and thus saving life.

TO MELT old rubber, such as old rubber car springs, scraps, etc., so as to be able to run it into molds for new work: Heat the india rubber with steam; the sulphur then discharges, and india rubber melts, runs into the hot water and collects at the bottom of the pot, while the vapor prevents it burning. The properties of the india rubber are thus sensibly modified; it becomes a blackish mass, liquid at the ordinary temperature, but drying in the air, and becoming then impervious to water. The material loses its elasticity, but is suitable for the preparation of gums or special varnishes for certain articles.

SYMPATHETIC INK.—An ordinary solution of gum camphor in whisky is said to be a permanent and excellent sympathetic ink. The writing must be done very rapidly, as the first letters of a word have disappeared by the time the last are written. Dipping the paper in water brings it out distinctly, and it becomes invisible again when the paper is dried. It can be brought out repeatedly without affecting its vividness.

A SENSIBLE PARAGRAPH.

The *Manufacturers' Gazette* of Boston is now stuck on Edwin Atkinson's economic wisdom. It says of his recent attempt to demonstrate how cheaply life can be sustained in this country: "The economists who are helping to solve the labor issues by demonstrating that a 'well-conditioned life can be lived in Boston for \$172 a year,' and that a yearly income of \$500 will comfortably care for a family of six, are feeding the flames of communism. On this theory nine per cent of the \$700,000,000 of Boston's valuation would lift every soul in its 370,000 people to a life of luxury. And if such a small, widespread contribution would abolish the blighting poverty that abounds in our streets, there is really no humanitarian reason why the dividend and distribution should not be made. It is to be regretted that men of business and social prominence, and papers of large support, father such nonsense. The man living on such an income would be continuously clothed in rags, and his children be tabooed from schools, churches, libraries and places of enjoyment. A manufacturer who expected to average his labor at fifty-five cents a day would be publicly flayed. It is very well for men enjoying a \$10,000 salary, with an income of \$2,000 or more for disseminating political economies, to write what others can do, but let the leader in this doctrine come down to the level of his philosophy, and let us have a living example of a \$172 existence."

SONG OF THE ANTI-SALOONIST.

I.
Most of us have a falling or two
We'd like to hide from all others.
Which is the course we'd better pursue
Is the only thing that bothers.
But there is a way, if you will but see—
Society, you can scorn her—
Excuse yourself; take carefully
A quiet drink in the corner.

II.
You wake in the morning feeling queer;
The dear wife's bound to be thinking,
If rather thirsty you should appear,
Last night you were out a drinking,
Put into your shoe a little flask,
Where you put your shoes, don't warn her,
Then take—she will no questions ask—
A quiet drink in the corner.

III.
We know that many who prudish seem
Don't need their faults to be telling;
And thousands there are who'd never dream
Their sins out loud to be yelling.
But it is no sin to carefully act
Or there'd be many a mourner.
Be satisfied to take with tact
A quiet drink in the corner.

IV.
So never drink at a public bar;
Some one might say: "What was it?"
You'll find it better to keep, by far,
A bottle in the closet.
No one can charge you with being then
A sly political fawner;
It will not influence votes or men,
A quiet drink in the corner.

[Nat Childs, in the Boston News.]

NEWS.

GEISS & GIBBS, of Salina, Kan., have dissolved.

GEO. A. KLINGER, miller at St. Charles, Mo., is dead.

COLE & RUTLEDGE, of Conway, Dak., have dissolved.

A STEAM flouring mill has been completed at Ness City, Kan.

A STEAM flouring mill is being built at Melrose, O., by J. A. Boyd.

SARGENT & Co. millers at Centralia, Wash. Ter., have sold out.

A STORM, Sept. 24, blew down Woodward's flour mill at Urbano, O.

A 30-BARREL mill is being built by A. & E. Copley, at Antwerp, N. Y.

J. C. RODGERS is building a 60-barrel roller mill at Campbellsburg, Ky.

J. I. CLAYTON has completed a 75 barrel full roller mill at Logansport, Ind.

It is rumored that a new 1,000 bbl. mill is to be built at Nashville, Tenn.

A STEAM roller mill will soon be erected at Ebensburg, Pa., by Glenn & Driggs.

THE roller mill at Bennington, Kan., has started up. It has a capacity of 100 barrels.

THE Rogers Milling Co., of Rogers, Ark., are building a 75-barrel steam roller mill.

THE Abilene Steam Mill, at Denton, Tex. has started up. Capacity 150 barrels per day.

AT Oakland, Iowa, Hancock's grain elevator was burned. Loss on building, \$6,000.

LEAK & SMITH have built and put in operation a 75-barrel roller mill at Franklin, Ky.

A STEAM flour and feed mill is being built by Decker & Hann at Swedesboro, N. J.

THE Wharton Flouring Mill at Birmingham, Ala., are now completed and in operation.

J. W. PICKLE succeeds Pickle & Cameron in the Cambridge Roller Mills at Cambridge, Neb.

THE flour mill of Keyns & Wellman, at Logan, O., recently destroyed by fire, will be rebuilt.

THE Birmingham Warehouse, Mill and Elevator Co. has been incorporated at Birmingham, Ala.

AT Kenton, Tenn., the flouring mill of W. J. Mathes was destroyed by fire, Aug. 23. Loss, \$7,000.

SWANSON & FORSBLOM, of Hydestown, Pa., will rebuild their mill recently destroyed by fire.

AT West's Mills, N. C., the flour mill owned by P. P. McLain, was recently burned. Loss, \$8,000.

THE Iowa Mill & Elevator Co. has been incorporated at Indianola, Ia., with a capital stock of \$60,000.

THE Florence Milling Co., with a capital stock of \$50,000, has been incorporated at N. w York city.

THE Spokane Mill Co. has been incorporated at Spokane Falls, W. T., with a capital stock of \$250,000.

AT Spencerport, N. Y., Blackwell's flouring mill was destroyed by fire. Loss, \$8,000; insurance, \$5,000.

M. E. BURKE & Co., millers at Mount Victory, O., were burned out Sept. 9. Loss \$15,000; insurance \$4,000.

A STEAMER in Baltimore was recently loaded with 88,000 bushels of wheat in six hours and forty minutes.

THE Northwestern Elevator & Mill Co. has been incorporated at Toledo, O., with a capital stock of \$350,000.

THE new Farmers Alliance Mill at Denton, T. x., which started up Sept. 15, has a capacity of 150 barrels per day.

C. H. NUTTER & BROTHER, millers at Brighton, Ill., have made an assignment. The mill was valued at about \$10,000.

RUTHERFORD & TOOMBS, of Stone-wall, Man., ask for a bonus of \$4,000 to assist them in establishing a roller flour mill.

A MILL building at Latham, Kan., owned by S. T. Morgan, is awaiting machinery, which is being negotiated for.

AN oat-meal mill is about to be started at Fergus Falls, Minn., by John Valentine, with an invested capital of \$8,000.

THE Ogilvie Milling Co. and the Portage Milling Co. have commenced buying wheat at the Portage. No. 1 hard started at 57c.

A \$10,000 BONUS is offered by the people about Santa Ana, Tex., for the erection of a first-class roller mill at that place.

A 150-BARREL roller mill is to be built at Oxford, Mich., by the Craig Wheat Cleaner Co., of Detroit, Mich., at a cost of \$20,000.

THE municipality of Wolseley, Assiniboia, offers a bonus of \$6,000 for the erection of a 75-barrel mill and 20,000 bushel elevator.

THE Bridgewater Mills at Fredericksburg, Va., have been purchased by Charles Tyler of Baltimore, Md., who will make improvements.

THE Clark-Warder Co., of Glasgow, Ky., are about to adopt the roller system, and have contracted for machinery for a 100-barrel mill.

\$1,500 WILL be paid, as a bonus, to any party who will build and keep in operation a 50-barrel mill at Wisner, Neb., by the merchants of that place.

CHAS. F. SMITH, Henry T. Smith and E. B. McCann have incorporated under the style of The Monticello Milling Co., at Chicago, Ill. Capital stock, \$15,000.

SAMUEL F. CHENOT, Nelson G. Ziebold and Geo. W. Ziebold constitute the incorporated firm, The Waterloo Milling Co., of Waterloo, Ill. Capital stock, \$25,000.

A FINE roller mill of 100 barrel capacity is being built at Alvaredo, Tex., by the Alvaredo Roller Mill & Elevator Co., who expect to have it in operation Oct. 15.

THE Kearney Milling Co., of Kearney, Neb., are building a steam roller mill, with a capacity of 150 barrels, to replace the Tillson mills recently destroyed by fire.

THE Crescent mill at Eau Claire, Wis., has been purchased by the Eau Claire Roller Mill Co., which has been lately organized at that place. The price paid was \$25,000.

JOSEPH LOBRANO, an employe in the Crescent Rice Mill, New Orleans, was on Sept. 22 caught by a belt and thrown against some machinery, quite severely injuring him.

THE firm of Joseph & Anderson, millers at Montgomery, Ala., will hereafter be known as the Montgomery Mill Co., a company having been incorporated under that name.

THE flour mills of Jones & Ellis, on Walnut Creek, near Raleigh, N. C., were swept away by the water on Sept. 9. The flood was caused by the breaking of

Yates' dam. Loss, \$6,250. Farnman's mill, further down the river, was also destroyed, causing a loss of \$8,000.

AT Austin, Tex., the Harris County Mills were chartered, Sept. 20, with a capital stock of \$50,000. The incorporators are D. P. Shepherd, M. C. Willborn and R. Lockhart.

THE Hawesville Roller Mill Co., of Hawesville, Ky., have purchased the burr flour mill of Shelby & Co., and have refitted it to the roller system, with a daily capacity of 50 bbls.

THE Winnipeg (Man.) Commercial says: The new elevator in connection with the Hudson's Bay Co.'s flour mill in Winnipeg, will be completed October 1. The capacity will be 50,000 bushels.

C. W. HOWARD, of Neenah, Wis., will build a 200-barrel mill on his fine water power at that place, at an estimated cost of from \$25,000 to \$30,000. The mill will be of brick and four stories high.

THE Springfield Mill Co., is the name of a newly organized firm at Springfield, Tenn., who have purchased an old mill at that place which they are refitting with new roller process machinery.

ON THE night of Sept. 18 the Hunt mill at Richmond, Ind., was burned. It was owned by the First National Bank and was one of the oldest in the State, having been built about 1824. Loss \$7,000; insurance \$4,500.

A NEW flour mill is in contemplation at Fergus Falls, Minn., and a considerable amount of stock has already been subscribed for. It is proposed to have a building 40x40, four stories high, with a capacity of 100 barrels.

THE farmers in the neighborhood of Charlestown, Ind., have organized a union and propose to build a mill for their own convenience. This is in consequence of the Millers' Union of that place having raised the toll for grinding wheat.

AT Greenville, Tex., Sept. 30, the flouring-mill and cotton-gin of Henry Wall, situated in the western portion of the town, was totally destroyed by fire. The fire is supposed to have originated from the boiler. Loss, \$8,000; no insurance.

W. ROBINSON, the Duluth representative of C. C. Wolcott & Co., has just been elected general manager of the Minneapolis and Pacific elevator line, a new institution on the new Minneapolis & Pacific road. The company will have about twenty-five houses.

RAPID CITY will vote on a bonus by-law to grant \$3,000 to aid Geo. McCulloch in the erection of a flour mill and woolen factory in that place. The municipality of Saskatchewan, within whose limits the corporation of Rapid City is located, has already voted a bonus of \$10,000 to this enterprise.

THE largest saw mill in the world was destroyed by fire Sept. 16, at Chippewa Falls, Wis. It was owned and operated by the Chippewa Lumber and Boom Co. The company employed about 1,200 men. The annual capacity was 65,000,000 feet of lumber, 16,000,000 laths and 16,000,000 shingle.

SMITH, who undertook to build a flour mill at Shoal Lake Station, Man., with the aid of a bonus, has, it is said, thrown up the undertaking. The municipality offer a bonus of \$5,000 to aid in the erection of a mill and elevator, and communications from parties who are willing to undertake the same are desired.

WORK began Sept. 21, on the consort warehouse to Elevator Q by the St. Paul and Duluth Elevator company, at Duluth. The warehouse will be just in the rear of Q, and wheat will be handled through that elevator by means of belts, as in other double elevators there. The capacity of the house will be 500,000 bushels. The house will be completed by Jan. 1 or so. It is probable also that two other elevators will be commenced there at an early date.

AMONG the recent engine orders of the Prospect Machine and Engine Co., Cleveland, O., are one of 575 horse-power, for the A. H. Hart Co. of New York city; one of the same size for the Mahoning Valley Iron Co., Youngstown, O.; one of 300 horse-power for the Bohn Manufacturing Co., St. Paul, Minn. Their reel trade is constantly on the increase, and they are also exceedingly busy in that department.

THE Nordyke & Marmon Co. have secured the contract for the erection of a 500-barrel steam roller mill for J. C. Firth, of Auckland, New Zealand. The Case Purifiers and the Milwaukee Dust Collector have been selected for this mill. English mill-builders had better look to their laurels in their own colonies.

PUBLICATIONS RECEIVED.

St. NICHOLAS for October contains an engraving, by Closson, from George Washington, from a portrait by Gilbert Stuart; Edith Thomas contributes one of her best poems, "Autumn to Spring;" "Some Curious Mariners," by C. F. Holder, describes and illustrates insect methods of navigation; "The Crew of the Captain's Gig" is a charming story by Rev. Charles R. Talbot; Horace Scudder continues his delightful illustrated biography of George Washington, and E. S. Brooks gives a very readable account of "Old Time Armes and Armor."

THE CENTURY for October contains a very fine engraving of Bjornstjerne Bjornson, the Norwegian poet, with a delightful illustrated description of his home. Interesting articles are "Gloucester Fishers;" "American Explorers at Assos;" Common Schools Abroad," by Matthew Arnold. The war articles are "Corinth," by Gen. Rosecrans; "Stonewall Jackson's Last Battle," by Capt. J. P. Smith, and "Personal Reminiscences of Stonewall Jackson," by Margaret J. Preston. The illustrations in the Century are unusually fine.

A very handsomely illustrated catalogue from the WATERTOWN STEAM ENGINE CO., of Watertown, N. Y.

OGILVIE'S POPULAR READING.—We have just received a copy of Number Thirty-four of Ogilvie's Popular Reading, price, only 30 cents, sent by mail, post paid, on receipt of price, by J. S. Ogilvie & Co., Publishers, 31 Rose Street, New York.

POOR'S MANUAL OF RAILROADS FOR 1886.—We are in receipt of a copy of this valuable work which we find to be a whole encyclopaedia of Railroad information. It is very neatly compiled and handsomely bound. From its pages it appears that 3,131 miles of railroad were constructed in the United States during 1885, and that at the year's close there were throughout the country 128,967 miles of railroad completed for traffic. The gross earnings of 123,110 miles of road, as reported, were \$765,310,519; operating expenses were \$498,821,526; leaving as net earnings \$266,488,993. There were other receipts amounting to \$86,393,477, and thus a total net revenue of \$352,881,470. From this were paid as interest on bonds \$179,813,323; other interest, \$6,571,848; dividends, \$17,672,105; and sundries, \$86,138,976; a total of \$350,064,252; leaving a balance of \$2,817,218, or about 3 1/2 per cent. of the entire capital of over \$3,500,000,000. If half the stock is water, the earnings upon the solid part amounted to about 7 per cent.

RECENT MILLING PATENTS.

The following list of Patents relating to milling interests, granted by the U. S. Patent Office during the past month, is specially reported by Stout & Underwood, Solicitors of Patents, 66 Wisconsin st., Milwaukee, Wis., who will send a copy of any patent named to any address for 50 cents:

Issue of September 7, 1886. No. 348,585—Grinding mill, G. and A. Raymond, Chicago, Ill.; No. 348,607—Grinding mill, H. A. Adams, Sandwich, Ill.; No. 348,637—Grinding disk for mills, G. & A. Raymond, Chicago, Ill.; No. 348,650—Grain drier, R. Weisbrock, New York, N. Y.; No. 348,826—Grain cleaning and scouring machine, M. Crawford, Chicago, Ill.; No. 348,890, grain cleaning machine, M. Crawford, Brooklyn, N. Y.

Issue of September 14, 1886. No. 349,155—Screw conveyor for grain, J. A. Gowans, Stratford, Canada; No. 349,233—Grain conveyor, J. Nelson, Titusville, Pa.; No. 349,235—Fanning mill, E. F. Reynolds, Bruce, Dak.

Issue of September 21, 1886. No. 349,390—Conveyor for grain &c., G. A. Gilbert and Ralph Wilcox, Milwaukee, Wis.; No. 349,418—Machine for hulling and grinding corn, J. U. Aebi and J. Muhlethaler, Burgdorf, Switzerland; No. 349,457—Grain scale, K. H. Schaper, Linn's Mill, Mo.; No. 349,628—Grinding mill, J. Burns, Brooklyn, N. Y.

Issue of September 28, 1886. No. 350,059—Dust Collector, W. Ince, Hayle, England; No. 350,064—Crushing and grinding mill, J. G. Kirker, Louisville, Ky.; No. 349,971—Grain weighing and registering apparatus, G. E. Baird, Urbana, Ill.

A PULLEY 63 feet in diameter and weighing 83 tons, has just been made in England. It has grooves for 32 ropes, which together will transmit 1,280 horse power; and the rim will have a velocity of more than a mile a minute.

"DON'T FEEL TOO BIG!"

A frog vas a singing von day, in der brook
(Id vas beddher, mine friends, you don'd feel too big!)

Und he shvelled mit pride, und he say, "Shust look,
Don't I sing dose peautiful songs like a book?"
(Id vas beddher, mine friends, you don'd feel too big!)

A fish came a-shvimming along dot vay
(Id vas beddher, mine friends, you don'd feel too big!)

"I'll dake you oudt off der ve'." he say;
Und der leedle froggie vas shtowed away.
(Id vas beddher, mine friends, you don'd feel too big!)

A hawk flew down, und der fish dook in
(Id vas beddher, mine friends, you don'd feel too big!)

Und der hawk he dink dot der shmardest vin
Ven he shtuck his claws in dot fish's shkin.
(Id vas beddher, mine friends, you don'd feel too big!)

A hunter vas oudt mit his gun aroundt
(Id vas beddher, mine friends, you don'd feel too big!)

Und he say, ven der hawk vas brought to der groundt,

Und der fish und der little frog vas f undt.
"Id vas beddher, miae fr'ends, you con'd feel too big!"

TO ADVERTISERS.

Office of THE UNITED STATES MILLER,
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MILWAUKEE, October, 1886.

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If you have not already done so, buy Cawker's Flour Mill Directory for 1886. Price, \$10.00 per copy.

It Took The Premium.

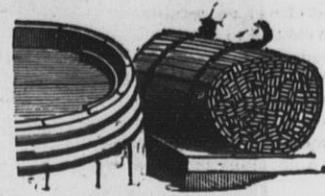
St. Louis, Mo., Oct. 5, 1886.

Jonathan Mills, Prospect Machine and Engine Co., Cleveland, O.

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No one should think of going South without visiting the Mammoth Cave, the great natural wonder of this continent. So much has been written of this world-famous wonder, that it is impossible to say anything new in regard to it—it cannot be described; its caverns must be explored, its darkness felt, its beauties seen, to be appreciated or realized. It is the greatest natural curiosity—Niagara not excepted—and he whose expectations are not satisfied by its marvelous avenues, domes and starry grottos must either be a fool or a demi-god. From Mobile to New Orleans (141 miles) the ride along the Gulf coast is alone worth the entire cost of the whole trip. In full sight of the Gulf all the way, past Ocean Springs, Mississippi City, Pass Christian, Bay St. Louis, and Beauvoir, the home of Jeff Davis.

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"IMPROVED SPECIAL PURIFIER"

over all others, and having faith that we are building the best purifier made in this country, we propose to enter into PUBLIC TEST with any well known standard purifier, the expense of such test to be born equally by those entering into the same. The judges shall be selected by lot from fifty expert millers and shall perform their duties under oath.

We make another proposition to the millers. We will send our IMPROVED SPECIAL PURIFIER on trial to be tested against any machine made, and if it does not prove not only equal but SUPERIOR in its AGGREGATE MERITS to any purifier made, it may be returned at our expense.

We know absolutely beyond the least possibility of doubt that we are making the BEST PURIFIER MADE IN THE WORLD, and can prove it if any firm dare meet us in public test.

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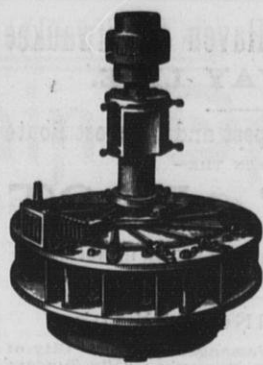


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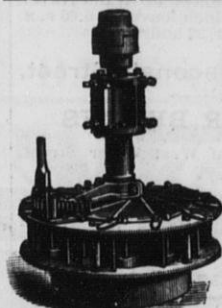


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Marshall Automatic Grain Scale

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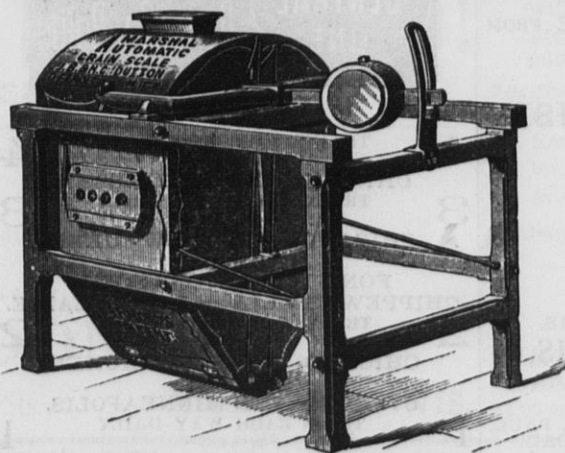
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Milwaukee	7:00 a. m.		4:00 p. m.

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Daily, leave 7 P. M., except Sunday.

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Menominee & Sturgeon Bay Line.

Tuesdays, Thursdays and Saturdays at 7 A. M.

Green Bay & Escanaba Line.

Leave Milwaukee Tuesdays, Thursdays and Saturdays at 7 A. M., touching at Oconto, Menominee, Nahma, Fayette, Depere, and making close connections with railroad at Escanaba for Ne-aunee, Ishpeming, Quinn sec, Norway, and all Lake Superior points.

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- WAUSAU,
- MERRILL,
- WINONA,
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- STILLWATER,
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1 CHICAGO AND MILWAUKEE, 1

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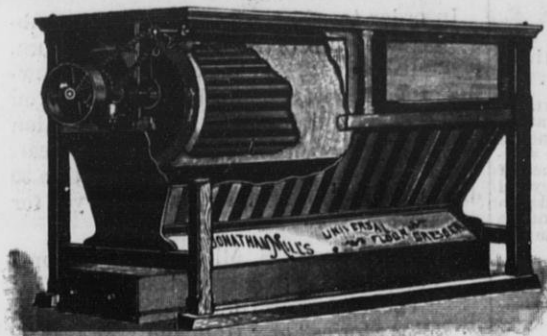
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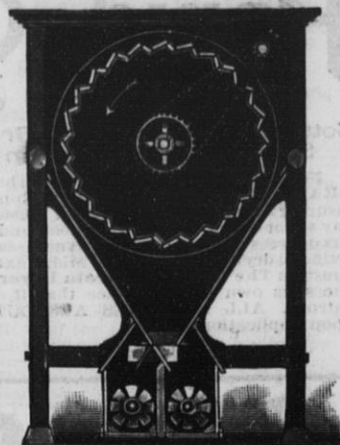
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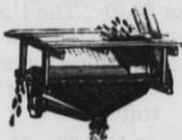
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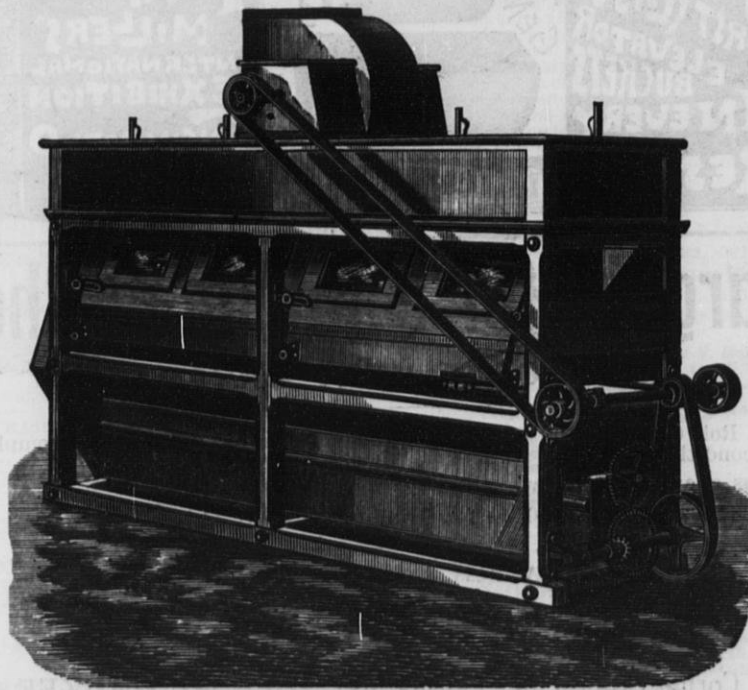
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