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CANADIAN MILLER

GRAIN TRADE REVIEW

NEW SERIES "MECHANICAL AND MILLING NEWS"

TORONTO, ONT., MAY, 1893

OLD SERIES, VOL. XI } NUMBER 5
NEW SERIES, VOL. III }

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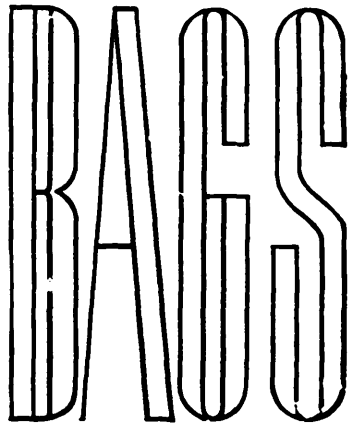
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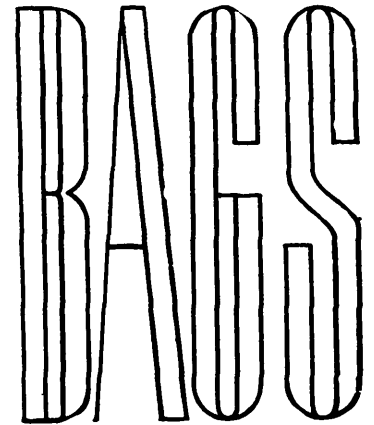
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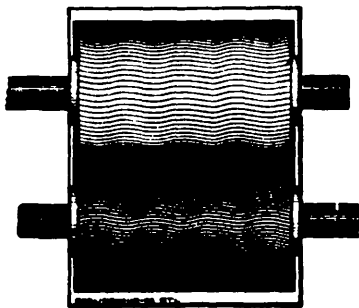
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according to the well-known system we have made so popular in the States. Send fifteen cents for catalogue and treatise on the subject. Address

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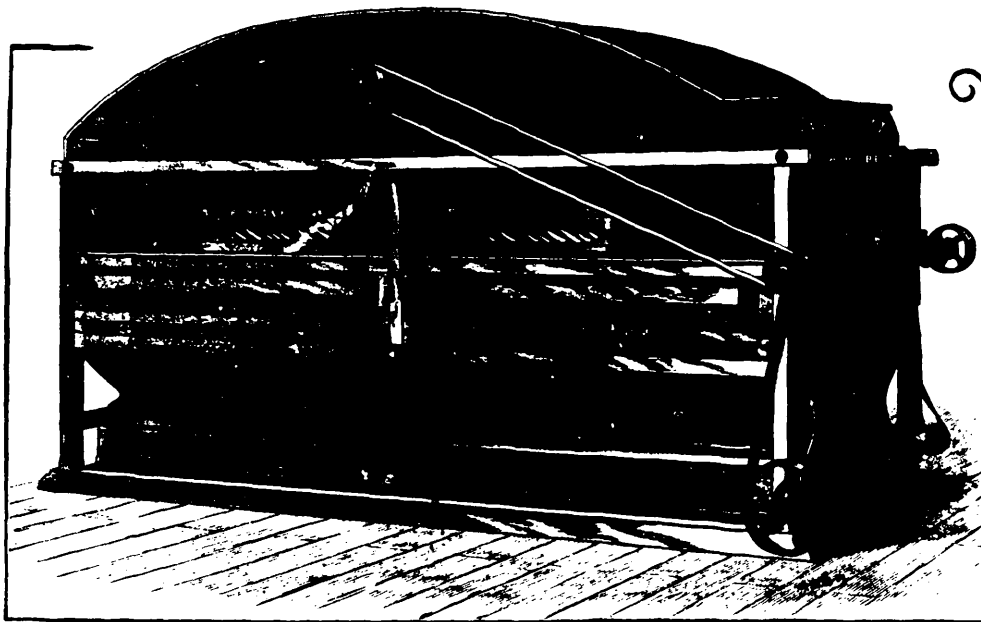
Aspirator at head of Sieve.

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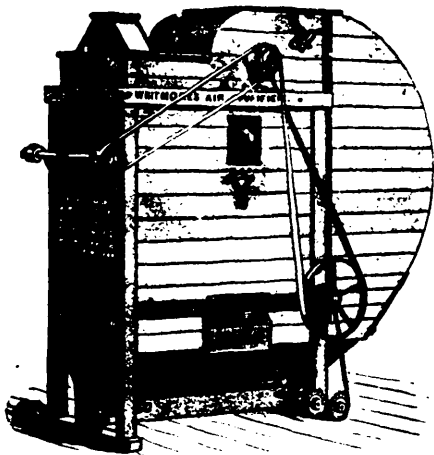
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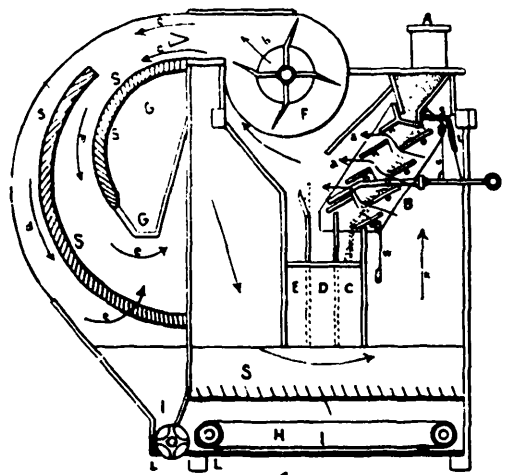


Fig. 2.

SOLE MANUFACTURERS FOR CANADA:

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THE CANADIAN MILLER

OLD SERIES, VOL. XI. } NUMBER 5.
NEW SERIES, VOL. III }

TORONTO, ONT., MAY, 1893

TERMS, \$1.00 PER YEAR
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MODERN USES OF THE WINDMILL.

IN this hurly-burly age we do not give much concern to the history of the past. The mill, we are given to say, cannot grind with the water that is past, and we deal with most affairs of life on this principle. The ever-living present is with us on all occasions and it is the things of the present that chiefly engage our attention. Illustrations are not few, however, that show the importance that may be profitably attached to a study of the past. To-day is only a step that we had not taken yesterday, and to-morrow, when it arrives, will leave to-day in the past. Everything has at some time existed in embryo. Of the progress of plant life, animal life, mechanism, even that creature man, this is true.

In an age when the wondrous powers of electricity are becoming more wonderful every day few have any other thought of the windmill than of a very primitive method of creating power that has long since become obsolete. But the windmill has done much for the past and as we shall have occasion to point out further in these remarks, it has a future.

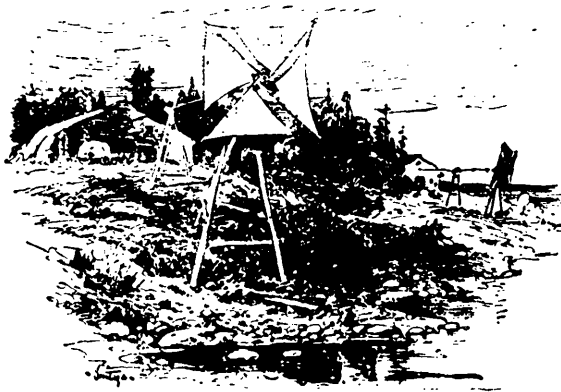
"The windmill," remarks Mr. Robert H. Thurston in an article in the *Engineering News*, "has helped to make a nation, has aided in the construction of the foundations of prosperity of more than one great country, and has lent picturesqueness to many a landscape which has a more serious interest for the historian and the statesman than for the artist. The "Rise of the Dutch Republic" was due to it, and the wonderful wealth and prosperity of that remarkable people came hardly less through the operation of windmills than through the exertion of their talent for commerce and manufactures. The Holland of the Middle Ages, comprised within an area of millions of acres captured from the fields of ocean and preserved against the assaults of the sea by windmills. Without the windmill, there would have been neither country nor people to set such example to the rising nations. During the last fifty years or more this wonderful race has continued its "impoldering," and has ravished from the ocean nearly a thousand square miles of territory per year, and it has held it, largely by the aid of windmills."

In many parts of the world, as we approach the dawn of another century the windmill is an important factor in material progress. Mr. Thurston says: "Throughout Europe the windmill is still in extensive use, especially in the low countries adjacent to the mouth of the Rhine, where the writer once counted, from the car window, as the train swept rapidly across the fens, seventeen in sight at one time. In the United States, also, these inexpensive "prime motors" are used in immense numbers, especially for raising water and the minor tasks of the country districts. Mr. Alfred R. Wolff, in his excellent treatise on this subject published several years ago, gave the number which had been manufactured in a single city as above 5,000, and stated that there were hundreds of thousands in operation in this country, doing many kinds of work that may, without serious loss, be performed intelligently, such as pumping and storing water, and grinding grain on a small scale in rural districts.

"It is not known when the windmill was first invented. It is claimed by some early writers that it was known to the ancients, but it certainly was not mentioned in the famous work of Hero, in which the first steam engine is described as made two thousand years ago—the prototype of the modern steam turbine and in which is

illustrated the steam fountain, the progenitor of all the steam engines, so-called, up to the time of Newcomen. Beckmann points to the fact that windmills were not mentioned by such observing and minute chroniclers as Vitruvius, Seneca and Chrysostom. They were used in Northern Europe at the very commencement of the Middle Ages, and probably some time before. The first of the Dutch mills seem to have been mounted on floats, so that they might be turned to the wind and adjusted as required. Later, and especially in Germany, mills were mounted on posts, upon which they could swivel; and still later Dutch mills were built like those employed by our own fathers and grandfathers in America, with a movable top, which could be turned toward and away from the wind as desired, carrying the sails and shaft with it, turning about its central spindle, through which the motion of the machinery of transmission was carried down into the mill below.

"There are, according to Mr. Wolff, two principal modern types in successful use, with a number of less well-known variations upon the standard constructions. These two classes are the "side-vane" and the centrifugal



WINDMILL USED FOR THRESHING GRAIN.

[This mill is on the St. Lawrence River between Pt. Lévesque and Rivière du Loup. Wheels and sails can be turned in any direction to suit the wind. Power is transmitted along the shaft (the direction of which is stationary) by means of a universal joint.]

governor mills. The first had its vanes set permanently at their best angles for the best states of the weather; while their positions relatively to the thread of the current is determined by a "side-vane" which relieves the pressure of the wind in such a manner as to throw the whole wheel around and away from the wind, if that should become too strong. In the other form, the blades are pivoted on axes running lengthwise, and are turned, as their speed varies, by a governor, in such manner as to have, at every instant, just that inclination to the wind which will give the desired speed of rotation. In moderate winds they are held at an angle of 60 to 80 degrees with the wind; in very high winds they fall almost into the line of its motion. Of these one is a simple and peculiarly durable machine; the other excels somewhat in excellence of regulation, though costing more for wear and tear. As compared with the steam engine and other heat motors, the power of the wind mill is small and its volume large, but it is the most economical of all known motors for many locations, and, in the aggregate, it is doing an enormous amount of work for the world, and is destined to do vastly more, we may be sure, in the future."

A modern use of wind power, the development of which we are likely to hear more of in the future is that

proposed by Sir William Thompson years ago—its employment to store electric energy in "storage batteries," intermittently working with the variable winds, laying in a stock of energy to be afterward regularly and steadily given out in supplying light and power, and possibly heat as well—in short, for all the thousand and one purposes to which electricity is constantly finding application. For such work the fitfulness of the winds is a matter of little importance, and their variable efforts employed night and day, yield, later, a large and inexpensive store of power for transportation, as may be found desirable, and which may find use in every operation of the home and farm, or of the small industries of the cities.

A GREAT MASONRY DAM.

IN Dejeune's engineering work he says there is but one perfect great dam in the world, and he locates that in France. From his standpoint of excellence the second one has been built. It is, too, the largest masonry dam in the world. It is in India, and was built for the purpose of supplying water to Bombay.

The dam is about seventy miles distant, in a northerly direction from the city, and is constructed straight across the valley of the Tansa. The length of the dam is two miles, the greatest depth 118 feet, its thickness at the bottom 100 feet, narrowing to 16 feet at the top. The two faces of the dam are of cut stone, the space between being filled with rubble stone and cement, so that the whole form one solid mass throughout. Great care was taken to reach a solid foundation that would be proof against settling and consequently dangerous strains and cracking. For this one it was found necessary to excavate nearly 7,000,000 cubic feet of rock. The true masonry work amounted to about 11,000,000 cubic feet, the sand, lime and cement to 6,000,000 cubic feet or more; so that the entire contents of the dam reaches the enormous total of 32,000,000 cubic feet. From 10,000 to 12,000 men, with a proportionate number of animals, were employed six working seasons of seven months each, so that the whole time was forty-two months, or just three and one-half years. When the basin formed by the dam is filled, it will cover an area of eight square miles, and is calculated to contain about 100,000,000 gallons, and to be capable of supplying 100,000,000 gallons a day the year round.

MONEY.

JOHN Stuart Mill defines it as "a mere contrivance for facilitating exchanges," a definition followed by another British writer, Jevons, in his book, "Money and the Mechanism of Exchange." Money is defined usually as a "measure of value," it is something by the possession or surrender of which we measure the value to us of other articles. It need not be gold or silver. In Homer's time even were money, the Abyssinians used salt; the natives of the west coast of Africa used sea-shells; the early settlers in Virginia used tobacco. Marco Polo says that the Chinese used paper—not paper redeemable in coin, but paper made valuable by the Great Khan's orders. So really money is anything that is generally accepted as of value, which serves to do away with trading "in kind" or barter. It makes no difference what its nature is, so long as it is something which is of value to the people at large.

Coal was first used in England as fuel in 1350.



IN the judgment of Mr. Charles Smith, proprietor of Campbellford mills, Campbellford, Ont., a correct account of the origin of fine wheat has not yet been given by any of our correspondents. "Fine" wheat was brought into Canada, Mr. Smith says, "in the year 1852 or 1853 by one David Fife, of Otonabee. He was one of the old settlers of that township and about the above date he went home to the land of his birth, Scotland, on a visit. On his return he brought a little of the wheat in question. He sowed it with good results and it went by the name of Fife or Scotch wheat from that time up to the present. I knew the man well. He lived in Otonabee, near Allendale, what is now called Lang, and further particulars can no doubt be had from his son now living on the old homestead. His name is Sylvester Fife, and address Lang P.O., Otonabee. He is a son of the Davy Fife who first brought the fine wheat to Canada. The Director of Peterboro, named in your paper, is a nephew. All this I know to be a fact as I was living at Allendale, going to school with Sylvester Fife when his father was cultivating the wheat and we were then boys of 12 summers." William McDonald, of Sandfield, Ont., says on the question "Fine wheat owes its introduction in Canada to the following circumstance. A quantity was shipped from a warehouse in Glasgow, sewn up in a Scotch bonnet and addressed with other goods to David Fife, township of Otonabee, county of Peterborough, Ontario, and the label thereon was marked Russian wheat or "Danisic." The shipper's name was William Struthers. I cannot give the exact date when the wheat came over to Canada, but this I know that in 1845 David Fife sold a bushel of it to a man named Henderson and in 1846 I and others got wheat from the first mentioned man Fife. Since then the Americans have had plenty of time to take it over there and grow straw large enough to play "Yankee Doodle" on. If necessary I can furnish a more minute account of it at any time."

IN the April MILLER, it will be remembered, there was published an illustration of a defective water cock with a brief description of the same. A few days after the distribution of the paper I was shown by Mr. A. Fraser, secretary of the Boiler Inspection and Insurance Company, of Canada, a water cock of similar kind, that the Company's inspector had removed from one of our Canadian mills. "We not unfrequently find these defective cocks in various mills in the country," said Mr. Fraser, "and of course, always remove them. More than one man has lost his life because of carelessly allowing one of these cocks to constitute part of the make-up of the mill."

It was my pleasure a fortnight ago to have a chat with Mr. D. B. Bowerman, of Bloomfield, Ont. Mr. Bowerman runs a successful mill in that locality and takes a lively interest in the development among the farmers of his district, of the growth of good milling grades of wheat. I thought, as I talked with this Prince Edward county miller of the importance of millers everywhere interesting themselves in the class of wheat sown in their various localities. The relationship between farmer and miller is so intimate that they should never do else than work harmoniously one with the other. That this is not a new subject, I am well aware, millers seldom meeting in convention without discussing the question. And yet they don't all "get there" nor do the farmers "get there." It is a subject where line upon line, here a little and there a little, a good many times will do no harm.

Wheat bread, says Dr. Colville, drove out the only other staple food oatmeal cakes just as the latter superceded the still older barley, here and peas, from

the meal of which scones and cakes were baked. Wheat loaves, according to Ramsay of Ochertyre, became commoner than oat cakes had formerly been. In every house in Burns' time there was an iron girdle or circular iron plate for baking cakes, and the manufacture of the girdles was for many years a monopoly of the little town of Culross, which lies on the northern shores of the Forth, near Stirling. Burns says that the "Jolly Beggars" were so merry that "wi' jumpin' and thumpin' the very girdle rang." So far as many parts of Scotland are concerned, the baker is a modern institution, not being known in the latter half of the eighteenth century. About the year 1770 only two wheaten loaves per week found their way to two families in Auchterarder from the city of Perth, but by the year 1794 a baker in that town sold £200 worth of bread per annum.

"It pays to raise buckwheat," remarked a local grain dealer at the board of trade. "I have a farm down east and have raised a considerable quantity of it at a good profit. A good crop of buckwheat yields 60 bushels to the acre, while the average is about 40 bushels. This year we have been paying from 40c. to 50c. a bushel for it, while wheat, averaging about 15 bushels to the acre, is bringing only 65c. to 70c. Put the average yield of buckwheat at 40 bushels to the acre and the average price at 40c. per bushel, we find that an acre yields \$16, while wheat, averaging at 15 bushels and selling at 80c. only yields \$12. Besides this, buckwheat is a convenient crop to handle. It is sown in July and reaped late in the fall. If fall or spring wheat, oats, peas or barley turn out poor the land can be made to produce a crop by putting in buckwheat. I have frequently put in buckwheat after taking off a hay crop, and have thus had two crops in the year. Buckwheat leaves the land in good condition for other grain, as the growth is so rapid as to crowd out all sorts of weeds. The land is usually quite clean after a good crop of buckwheat has been taken off."



JOHN L. SPINK.

The men who pillar up our splendid town,
Are men who do the level best they can,
No town can run the risk of going down,
Whose people love the wheat and scorn the bran.

A man who loves the wheat is like the wheat,
And just as good as wheat where'er he's found;
He fills with busy sound the noisy street,
And shakes with commerce all the grateful ground.

He holds the purse of that strong coterie
Who makes the future of our town complete;
They put their trust in him because that he
Is like the wheat—as sure as wheat, and just as good as wheat.

—THE KHAN, in the Evening Star.

The opinion is held very strongly by Mr. John Dyke, Canadian government agent at Liverpool, Eng., that Canadian export trade would receive a remarkable stimulus by the completion of the Manchester ship canal. "You want to know," said he in a recent interview, "why I believe Canada will be benefited more than any other country outside the United Kingdom by this canal. The reason is very simple. Manchester is the centre of the densest mass of consumers in the whole world, and by means of this canal you bring Canadian produce right up to the very doors of these consumers. Take the one commodity of butter. Of the twelve million sterling's worth of butter imported into the United Kingdom, probably at least five millions' worth comes from Denmark and Scandinavia to Manchester and vicinity. The result is that Manchester merchants virtually control the trade, and make the prices for butter and also margarine not only for Great Britain, but for the Continent. Nearly half the import comes to Manchester and district. Consider that within a radius of twelve miles of the Manchester wharves of the Canal there are no fewer than two millions of people. That is to say that Canadian produce can be brought in transatlantic steamers right into the midst of this immense population; while, taking a further radius, you find Manchester the centre of seven millions of people—a greater population than is attached to any other seaport in the world. Holland and Belgium are considered the most densely populated countries in Europe. They have 416 persons to the square mile. The United Kingdom has 310. But the density of population in the district Manchester serves is thirteen times as great as Holland and Belgium, and nineteen times as great as that of the rest of the United Kingdom. Canadian products are not now shut out from these people, but the freight rates from Liverpool to Manchester greatly retard their expansion."

Mr. Robert Meighen, of Montreal, president of the Lake of the Woods Milling Company, has recently paid a visit to Winnipeg, Man. Interrogated by the interviewer, he said that the object of his visit was business and pleasure. "I am," said he, "on a trip of inspection of the company's properties. Since I have become acutely connected with the Lake of the Woods company we have purchased the Portage mill, and I wish particularly to look over the establishment. I have now seen for the first time the Keewatin mills, and I am thoroughly well satisfied with the management and that of the Winnipeg office." "What has been the result of the advance in the price of wheat which your company inaugurated last winter?" "Very satisfactory. We thought the time had come for an advance in prices, and we did advance them. If at present our action is not publicly sustained, we have little fear but that future events will do so. The combined capacity of our mills is as follows: At the Portage and Keewatin we manufacture daily 2,700 barrels of flour. Every day, on an average, we ship sixteen carloads of flour and feed, so that I think we will be justified in saying that the Keewatin is not doing Winnipeg any harm, as it is from this city the greater portion of our supplies are sent." "There is some talk of your company erecting a mill at Montreal. What truth is there in it?" "It is one of the possibilities of the near future. We are figuring on it at present. If erected it will have a greater capacity than even the Keewatin mill. Our object in building it in Montreal would be on account of the excellent shipping facilities to be had in that city. The products of our mills would then be distributed as follows: Portage mills, the country to the west of the town; Keewatin mill, all the district east to Montreal, including Ontario, the balance not required would be exported; Montreal mill, Quebec, Maritime provinces and Great Britain." Mr. Meighen gave it as his opinion that the Manitoba No. 2 hard wheat of last year was the finest in the world. It is in great demand all over Ontario. The bakers in the east, after using Manitoba flour, prefer it to all others. It is twelve years since Mr. Meighen visited Winnipeg and he expressed the marked change in the appearance of the city by the word, "Wonderful!" He is accompanied by Mrs. Meighen, who is a sister of Lord Mount Stephen.

COOPERAGE D'PT.

There is a close affinity between the work of the cooper and the business of milling. The miller is either his own cooper, having a cooperage as an adjunct to his mill, or else he buys his supplies on an outside cooperage. The cooper in any case finds one of his best customers in the miller. The object of this department is to bring each in close touch with the other and to materially advance the interests of both trades.

TRADE REVIEW.

THERE has not been any great change in the situation of the cooperage market during the month. The weather has continued very wet and there is hardly enough stock in shipping condition to supply the immediate wants of the millers and coopers. This is especially the case in heading, which continues very scarce indeed; while at all the mills there is a large quantity of heading boards, still they do not dry out and kilns are only run under great difficulties. There are not a great many heading mills which run a first class dry kiln, and those who do run a first class dry kiln are taxed to their utmost capacity to supply the demand for heading.

Of course, there is no air dried heading on the market; the apple crop last year cleared out all the dry boards that were on hand at mills where they turned air dried heading, and there are not sufficient mills in the country with first-class kilns that can run during the winter months to supply the requirements of the trade.

Hoops are now being manufactured freely, and while there is no surplus as yet, still there are enough to supply the trade. We only want two weeks' drying weather when there will be ample staves to meet all requirements, and while we do not expect there will be a surplus of heading before July or August, still we think there will be in the course of another month enough to go round.

The following are the prices of cooperage stock at present, free on board cars at the mills

	Per net 1,000
No. 1 30" jointed or unjointed elm staves	\$5 00
" 2 30" " " " "	3 00
" 1 24" " " " "	4 00
M. R. 30" " " " "	4 65
No. 1 17 1/2" basswood or hardwood heading	4 3/4 c.
" 2 17 1/2" " " " "	3 3/4 c.
No. 1 5 1/2 ft. patent coiled hoops	\$5 40
" 1 6 1/2 ft. " " " "	6 00
" 1 4 1/2 ft. " " " "	4 00

The apple crop in the western peninsula looks very promising, and should there be no frost, we expect a large demand for apple barrel stock this fall; it is almost a little early yet to build on this, but the next two weeks will virtually decide the fate of the apple crop.

MINNEAPOLIS CONDITIONS.

More than an average dullness has prevailed among the cooper shops during the past month. This has been due in part to the temporary closing down of the several leading mills during the month. This slack would not be unwelcome to the coopers were it not that on top of this idle season comes a deluge of barrel stock. All the accumulated stock of the winter that has hitherto been unfit for shipment is now coming into the city, blocking up the team tracks and running up demurrage bills. The shippers of some of this surplus elm stave stock are offering it at \$6.50 to get it off the tracks. Much as the shops would be pleased to take up the bargain, few are in condition to receive more stock at present. The warehouses are full and stock is stored in places really unfit for its reception. One of the causes of this blockade is that one shop had been idle because of fire for over a month. Elm staves, bought at \$6.75, are being received, as are also some on contract made at \$7.50. The former figure will rule on the bulk of stock used during the summer. Certain factories are offering oak staves at 13 cents a set, but there is no call for them. Heading contracts are being made as low as 4 1/2 cents, though 5 cents has been paid for delivered lots. Some is coming in at 4 1/4 cents, but this is on contracts made last season. Coiled elm hoops are in good supply and are to be had for from \$6.90 to \$7.50. On May 1st, according to a previous understanding, the price of finished flour barrels was reduced from 37 1/2 to 36 1/2 cents. One shop still furnishes on an old contract at 36 cents.

FOREIGN TRADE NOTES.

Staves in Amsterdam are only sold there by consignment.

Trade in American staves in the Netherlands is steadily expanding.

The cholera scare last year seriously affected the import of staves from America to Germany, most industrial operations being at a standstill.

White oak staves are in greatest demand for the shipment and storing of wines in Italy. The market for wine cask staves is controlled entirely by the American product, except as to the Italian chestnut, the cost, dimensions, and requirements of the latter being given for the benefit of American manufacturers.

The number of staves produced yearly in the Kingdom of Poland is about 6,000,000, and their value amounts to nearly 1,000,000 roubles. The kind in greatest demand are oak staves. Staves are made at Warsaw and in the larger towns of Poland. Three score, or 60 pieces cost up to 10 roubles. The staves most used are those cleft or split according to the grain of wood, which must be white and elastic oak, without any knots or knags.

Staves can be imported into Russia free of duty. Staves are sold here for home consumption, as well as for the export trade, in bundles of sixty pieces each, ranging in price from 30 cents to \$5 per bundle according to size and quality. This is a prominent industry in Poland and the Baltic provinces, and also in Finland as well as in the Caucasus and other provinces of the Empire where this species of oak is common. There is but one kind of timber valued in Russia for staves, namely, the *Quercus pendiculata*. The oak forests of Russia will be able to supply the demand for many years to come. Probably one-half of the stave product is exported, largely to Spain, Portugal, Germany, France, and England, although, for some reason not understood here, the export trade in staves has greatly declined in the last few years.

COOPERS' CHIPS.

Manufacturers of staves and heading will be interested in the advertisement of the Dominion Dry Kiln Co., of Toronto, on another page.

Stuart Long & Co., Chesaning, Mich., start out with \$12,000 capital stock to carry on a lumber and stave business. The members are H. Stuart, E. T. Long and F. A. Greenfelder.

F. C. Heal, a lumberman and stave manufacturer of Yorktown, Ark., was recently murdered and robbed, while travelling, with considerable money, from the above place to Pine Bluff.

D. A. Gordon, of Steinhoff & Gordon, Chatham, Ont., paid a visit to Minneapolis recently. This firm, with a view to giving more particular attention to northwestern business, has established an agency in Minneapolis, with D. H. Sill in charge.

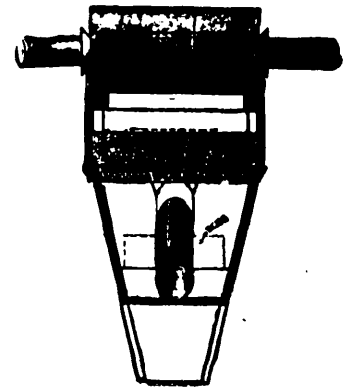
The Chicago market is dull with not much doing. Receipts of cooperage and coopers' stock are light, there not being much inducement for shippers to try the market. Lard tierces are selling at 87 1/2 to 90 cents, and pork barrels at 67 1/2 cents. Dealers cannot give much encouragement to shippers, either in respect to cooperage or stock. The market seems to have gone into prolonged quietude.

Louis Fritz, of St. Louis, is the patentee of a barrel on which the claims are: 1. In a bilge barrel the combination with the wooden section with the grain running circularly and formed with grooves near the meeting edges and with grooves at the top and bottom forming annular shoulders, and the metallic cleats, of the pivoted semi-circular heads. 2. A bilge barrel comprising two or more superimposed wooden sections, with dovetailed top and bottom edges, and tongue and grooved meeting edges, and formed with tapering vertical grooves, the metallic cleats engaging in said grooves, and the pivoted semi-circular heads.

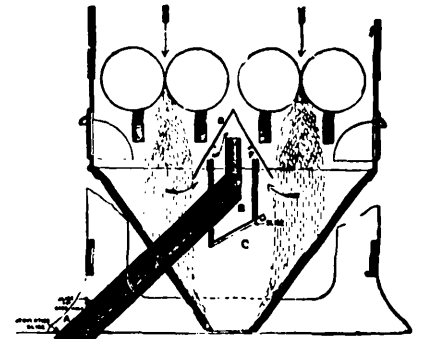
When a man borrows his wife's knife, he loses it; and when he wants it again, he asks to borrow it again, believing that she can find it.

PATENT EXHAUST FOR ROLLS.

An English mill furnisher has recently equipped several mills in Great Britain with rolls having the



exhaust from below, as shown in the illustrations given herewith. They claim that this is the best position



PATENT EXHAUST ARRANGEMENT.

for its perfect action, and that with a gentle suction, the hot air generated in grinding can be taken away without any waste of products.

THE ENGINE ROOM.

It is as great a mistake to paint an engine room floor as it is to whitewash the ceiling, writes M. Cable in Power. It has been said that the moisture from steam will cause whitewash to flake off, and where it falls on the working parts of machinery it will act as will so much emery. As to painting of floors, it had been my practice for a number of years to have the floor of my engine room given a coat of paint twice yearly. The place would look sleek and bright for a few weeks, and then begin to show uneven wear. Parts of machinery moved on the floor would leave their tracks, and the use of soda for washing the boards would cause shading not at all artistic. Planed tongue and grooved lumber without paint may be washed once a week with potash or lye water, and will soon bleach out, and will always present a good appearance.

TOO BUSY TO READ

"TOO busy to read!" Well I'm sorry for you;

You're busier far than occasion demands,
I'm afraid you just bring that objection to view,
To rescue yourself from the canvasser's hands.

If you are too busy to look at the page
That tells of the methods that others pursue,
That shows you are lagging in this busy age
You don't drive your business - it seems to drive you.

The plans and ideas, the systems and schemes
That other men find it pays them to employ,
Are just what will help you to live out your dreams
Of plenty, prosperity, honor and joy.

If you would but take time to read and reflect,
Your business would yield you the time that you need,
For those who have tried it have found this effect

By reading they've learned to have more time to read.
—Business.



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J. S. ROBERTSON, EDITOR

THE CANADIAN MILLER AND GRAIN TRADE REVIEW caters to the Miller and all his associations, and to the Grain Dealer with all his allied interests.

The only paper of the kind in Canada containing full and reliable information on all topics touching our trade, and unconnected as an organ with any manufacturing company, we will always be found honestly and earnestly endeavoring to promote the interests of our subscribers.

Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trade.

RECIPROCAL ARBITRATION.

THE arbitration clauses in the constitution and by-laws of the Toronto board of trade are among the most useful that legislation has granted that body. Similar clauses were adopted by the Dominion Millers' Association at the time of their incorporation less than a year ago. The Montreal Trade Bulletin suggests that not only might disputes between individual members of the same board of trade be settled by arbitration, but that the disputes between members of different boards of trade be settled in a like manner.

Of the suggested reciprocal arbitration the Bulletin says: "A case has been brought to our attention in which a Toronto firm sold 2,000 bushels of grain to a Montreal house early last winter, when prices were lower than they are to-day. After a good deal of delay the Toronto firm fulfilled part of the contract by delivering 5,000 bushels at the stipulated price, since which time it has been repeatedly requested to complete the contract; but as it refused to answer the letters of the Montreal firm, the latter communicated with the Toronto board of trade with a view to having the matter heard and adjusted before that body, the reply to which was as follows: "In reply to yours of 14th inst., I regret to say that our by-laws provide only for the settlement of disputes between members. There is no reciprocity between the board of trade of the Dominion in the matter of arbitration. This was quite a surprise to the firm here, which thought the above case was just such a one as the Toronto board of trade would have recognized as within its jurisdiction, but it seems that it can only arbitrate in disputes between its own members, and if the same rule applies to the Montreal board of trade it is high time that steps be taken to bring about reciprocal action in matters of this kind, so that members of the Montreal board of trade are allowed to arbitrate with members of the Toronto board of trade, and vice versa. Another case has been brought to our notice recently, regarding a member of the Winnipeg board of trade, who sold options in Duluth and Minneapolis, and refused to settle his deals; but upon the authorities at Duluth and Minneapolis representing the case to the Winnipeg board, the latter took prompt action on it and decided that he must settle his claims, and upon his refusal to do so he was sold out and expelled from the board. If reciprocity exists in such matters between Winnipeg, Duluth and Minneapolis, how much more important it is that a similar understanding should be arrived at between the boards of trade of the Dominion."

OVERCROWDING THE MILLER.

We are hearing continually about overcrowding the mill with machinery, until, as is the case in some mills, workmen are tumbling over one another in the performance of their daily duties. Work is ever done at a dis-

advantage, and an increase in cost when these conditions exist. But we do not hear so much about the overcrowded miller, and yet a mistake of management is made in this particular perhaps as frequently as in the other. A temptation to keep down expenses is of course a primary cause of such management. Crowd the man, however, whose place it is to see that everything is running smoothly, and with the least waste of force and labor, with numberless unnecessary details and something will be neglected, and in the end it is often that which proves most disastrous and expensive to the mill owner.

Mr C. R. Tompkins, the well-known writer on mill topics, in discussing this question some time ago attributes this tendency to overcrowd the miller with work to a misconception of the place he is required to fill in the modern mill. The principle requirements of the stone miller, in the days of the old system, consisted in being able to dress a run of stones in a skilful manner and adjusting the "to the different material to be converted into flour or meal, and when this was accomplished the balance of the work was simple as compared with the modern mill, and previous to the introduction of improved machinery in the process of flour-making. He was then able to look after not a few matters connected with the business of the mill. In the modern mill more is required of him. The additional machines spouts and elevators that go to make up the outfit of the modern mill all require attention and must be carefully looked after and kept in working order and adjustment, while each spout and elevator must be watched to see that no chokes or breakdowns occur. The neglect of anyone of these matters and many others for which he is responsible, may be productive of an expensive and an awkward accident.

Profits are cut so desperately low in flour-milling these days that every mill owner is striving to conduct his mill at as little expense as the size and requirements of the business will permit. And if he is a careful man he cannot watch too minutely the out-go of every dollar of expense. Wherever he can save he should save, always providing that in economizing at one end he is not giving rise to an increased expenditure, by the very act of economy, in another direction. We may take it as a safe business principle that the workman who has his employers' interest conscientiously at heart will shirk no work that he believes will advance the interests of the business. But the same spirit of conscientiousness that causes him to take this deep interest in his work will influence him to assume extra duties that he cannot efficiently perform along with those that already rest upon his shoulders. The place of the mill owner is to see that the willing horse is not, unconsciously, overburdened; he will do this in his own interest and for the behoof of his miller.

EDITORIAL NOTES.

In any enterprise the greatest progress is only possible with the least friction. This is the natural law in the business world, and its bearing is strongly against all violent or revolutionary methods.

BEFORE sowing his wheat, says a correspondent of the American Agriculturist, the Hindoo farmer consults a Brahmin to fix the auspicious time. This being determined, he appoints a man to do the first sowing, after which any one can dribble the seed, but not before. The farmer's wife, on giving out the seed, reserves a little, to which she adds more grain, and then distributes it to the officiating Brahmin, the plowman and laborers. The average amount of seed for an acre is 150 pounds. The wheat is carefully weeded, the weeds serving as food for the people, and the grass as fodder for the cattle. In most places the fields have to be watered, and this has to be done, usually, about three times, first, after the seed germinates, next when the wheat is about to blossom, and the last when the wheat is in the ear. The average cost of watering, which is by different processes, is about \$2.25 per acre.

JUST what will be the effect of backward weather on the growing crop, as well as on the work of the spring

season, it is a little difficult to say. Everywhere the season is unusually backward. With present residents of Manitoba the backwardness is a revelation, for whatever the oldest inhabitant may have to say those who have been the active residents of the province in later years can draw no parallel with any year in their experience. Seeding in Manitoba last year was later than the average, being general about April 14. This year it is running considerably later. What the result will be will depend a good deal on climatic conditions when the end of the season comes in sight, and with the Northwest this is rather precarious. A season cut off short at both ends could hardly be else than unfavorable in its ultimate termination. The lateness that marks Manitoba has a relative application in Ontario and the other provinces, affecting the outlook, measurably, throughout the entire Dominion.

It is well understood by stock-breeders that close inter-breeding of animals, begets various physical imperfections. The vigorous is sacrificed for the fancy, and from the practical point of view the animals so used become of very little value. Nature rebels against this practice outside of the animal kingdom. We have taken occasion to remark elsewhere that recuperation is a law of nature and even the soil itself enters its protest when worked too hard. An application of the same rule to the vegetable kingdom is told in the experiments carried on for ten years past at Newton-le-Willows, Lancashire, Eng., by Messrs. Garton, the well-known seedsmen. They claim to have arrived at some remarkable results by the process of "cross-breeding" in cereals. After a decade of experiments their net conclusion seems to be that with cereals disease is in a large measure due to constitutional weakness. They hold that as cereals are self-fertilizing and are provided with reproductive organs so placed as to render impossible fertilization by insect or atmospheric aid, it is inevitable that the close inter-breeding which has resulted from these conditions should, by sapping the natural vigor of the plant, invite disease. They say that experience has taught them that rust is a disease peculiar to the constitution of certain wheats, and that it may be removed or rendered much less acute by judicious cross breeding.

It is not all gold that glitters even with so exact an institution as an established mercantile agency. The Shareholder, of Montreal, a journal that closely watches financial affairs, draws attention to the serious discrepancies that exist frequently in the usual quarterly reports of the Bradstreet's and Dun & Co's. mercantile agencies. For the past quarter Bradstreet's gives the number of failures in Canada, in which are included 5 in Newfoundland, at 526, while R. G. Dun & Co., show the total at 474—a difference of 52. The former agency gives the total liabilities at \$4,788,824, while the latter places them at \$4,664,319—a difference of \$124,505. It thus appears that Bradstreet's reports 52 failures and \$124,505 liabilities more than R. G. Dun & Co. Both cannot be right. Both may be wrong. "Statistics of this kind to be of any value," remarks our contemporary, "must be reliable. If they are not reliable they are useless and worthless." Inaccuracies are shown not only in the general reports but also in the reports of individuals and firms. One needs only to compare the published ratings of these two concerns, or ask for a detailed report of some individual firm to learn how wide apart they may be in the particulars furnished. Recent difficulties of Mr. Erastus Wiman, an active partner in one of these agencies, show that it is quite possible for a mercantile agency to require a standard of business ethics for the general business public, but stray away some from these in their own practice. The irony of Fate, remarks the Montreal Journal of Commerce, could not have a more cruel pulse than the name of "Erastus Wiman" appearing in Mercantile Agency books as an insolvent.

"I have dealt," says Jeremy Granule, "with cross men, meek men, finicky men, slack men, cold men, hot men, stingy men, and cranks generally, but by none of these have my peace and serenity been so deeply disturbed as by the unpunctual, and for none of the unpunctual have I so little forgiveness as the shamelessly unpunctual."

VIEWS AND INTERVIEWS.

France Commercially. "In 1874," remarks a writer on milling topics, "France led the world in wheat production. She will never do so again." The prediction is likely true. The commercial history of France, like her political history, has in many respects been a checkered one, and it has not been wanting in variety. But it has ever lacked stability. Her statesmen have been the most brilliant. Her Napoleons of finance, like Colbert, Minister of Finance, under Louis XIV; her students of political economy, like Sully and Bastiat, have had few peers in the world's history, but in the language of the day, France has not had the "get there" faculty. She will ever be interesting; admiration for her many excellent parts will not be wanting; her supremacy commercially among the nations of Europe is one of the miracles that is never likely to materialize.

What We Eat. "What becomes of the steel worn from smooth rolls by the scrapers?" asks a writer in the Milling World. "Evidently, it must go into the flour," is his answer. "It finds its way into the bread made of the flour, and it is finally eaten. What is the effect of such diet on the eater? The amount of metal thus driven into flour is very small, and there is no record of any trouble arising from the consumption of bread in which steel is to be found. All rolls wear away, and all the worn-off metal must find its way into the flour. For that matter, purifiers wear out, too, and some of the worn-off silk probably goes into regular consumption with bread. It would be interesting to know just how much and what sorts of 'foreign matter' are to be found in wheat flour, even the finest, the best and the purest. Investigation should yield some very instructive results. Investigation would reveal many strange things regarding all we eat and drink, though, perhaps, the flour goes from the miller to the baker with as few impurities as any of the various articles that go to make up the bill of fare of the average table.

The Real and Unreal. Don't rely on the label on the bag, someone has said. Why not? The label is the outward mark of the contents inside. At least it is so intended—so supposed to be. Does it not speak sincerely? That's where the point of the admonition comes in. We live in an age of substitution. Patent medicine men have organized against the practice, so far as their wares are concerned. The false is constantly substituted for the true: the real for the unreal. Things are no longer what they seem. Spurious seed is substituted for the genuine, and a disappointing crop is the result. We have had oleomargerine in place of butter, and someone proposes to manufacture eggs by a chemical process, and these are to be served up for breakfast in the stead of the new-laid eggs fresh from barn or loft. All this and much more meets us on every hand. But above all things else the flour we grind should be pure in product, as we are disposed to view it as pure and white in color—not a mere whitened sepulchre. Tradition not only paints the miller as an ensign of placidity and contentment, but on his countenance are supposed to have been written the evidences of the man of simple and genuine honesty. It would be a pity to know that his contact with the business methods of the nineteenth century had in any way altered the favorable record that comes to us from the past.

A Broader View. It is not alone men who are lost in the desert or the forest, who walk in a circle. Some men, as the saying goes, trot around from day to day the one little cabbage leaf and imagine that its circumference is the circumference of the world. They see nothing beyond it but darkness. Other worlds may have an existence, but to them these are as mysterious as the planet Mars. There are business men built on this plan. It is needless to say that they have no use for a trade paper dealing with matters connected with their calling. Nothing is to be learned outside of the knowledge they already possess. They know it all. But somehow, just as with the tree whose roots receive no water, a process

of general decay gradually sets in. Or, like the farmer who works the same soil from year to year, constantly cropping it, and never feeding it with needed nutrition, the powers of giving forth finally weaken and are eventually lost. One cannot constantly give out and never take in. The system of reciprocal recuperation and feeding exists all through nature. The man of business, who expects to rise to the heights in the world of commerce, must widen his horizon, broaden his vision, dig deep, look up and beyond, be ready and expectant of learning something new and valuable every day. There is no such thing in the world of business as lying like the oyster, closed up in one's shell. There are worlds beyond.

Walking in a Circle. Everyone, and especially those whose work takes them over long distances through woods and forest or across the barren plain, have doubtless noticed that it is impossible to walk in a straight line unless some observable objective point is ahead of them for which they are making. The invariable tendency is to walk in a circle, and thus it is that many people are lost on a desert or in a forest. A writer in Pearson's Weekly says that this circumstance is due to a slight inequality in the length of the legs. Careful measurements of a series of skeletons have shown that only 10 per cent. had the lower limbs equal in length. 35 per cent. had the right limb longer than the left, while in the other 55 per cent. the left leg was the longer. The result of one leg being longer than the other will naturally be that a person will, unconsciously, take a longer step with the longer limb, and consequently will tend to the right or to the left, according as the left or right leg is the longer, unless the tendency to deviation is corrected by the eye. The left leg being more frequently the longer, as evidenced by measurement of the skeleton, the inclination should take place more frequently to the right than to the left, and this conclusion is quite borne out by observations made by a number of persons when walking blindfolded. Further, on measurement of the arms, it is found that in 72 per cent. the right arm is longer, showing that a considerable majority of persons are right handed and left handed. The inequality in the length of the limbs is not confined to any particular sex or race, but seems to be universal in all respects.

LOSS FROM THE USE OF WORN-OUT MACHINERY.

It is poor economy, says the Scientific Machinist, to continue a tool or machine in use after it has served its time and is ready for the scrap pile. Yet we see it done every day. Machines that will turn out less than half the work that new ones would are being run in many shops and many manufacturing establishments. The slow operation is not the only loss. Inferior work, stock spoiled and time spent in rigging and fixing up are to be added, and important additions they make. Often labor less skilled can do with a good machine what can be done only with much more costly help on an old tool.

Nor is the machine shop the only place where great loss is entailed by the use of worn-out machines. Some plants are even more in need of attention. The possibilities of waste at the source of power are very great. Badly designed furnaces, boilers venerable with age and in execrable condition, defective chimneys, bad steam conditions and appliances, worn-out, shaky engines and incompetent engineers and firemen, are costing manufacturers enough every year to cut down very materially the aggregate net earnings of all concerns using power. Manufacturers who will go out of their way to save a piece of material worth ten cents and scold their workmen for not looking carefully to economy in this direction will listen complacently to the complaints of their foremen condemning used-up tools, and the recommendations of their engineers that repairs, or new purchases of engines, boilers, pumps, injectors, packing, lubricators, etc., be made, and pass them by with the mental comment that "guess if they have served so long, they can a little longer," or something of that kind, seemingly blind to the fact that the worn out machinery is eating up earnings enough to buy new in a short time.

If they looked more to the performance of machinery there would be less complaint of small margins.

HIGH STEAM PRESSURE.

It is well settled that engines can be worked with less consumption of steam if run at high boiler pressure, on either the compound or other multiple expansion system, than at low pressure, and the present tendency in steam engineering circles is toward an increase of pressure rather than a decrease. What the exact ratio of gain is as the pressure is increased has not been absolutely determined by any experiments of which we have knowledge, says the Engineering Record, but there are sufficient data which may be obtained here and there to make the fact of the increased saving certain. For example, there have been experiments showing that a compound engine of the Corliss type, working under 80 pounds pressure, will use from 16 to 17 pounds of steam per horse power per hour. There are other cases where a similar engine at 110 pounds pressure uses from 13 to 15 pounds of steam per horse power. Other data are available which show that at 150 pounds pressure the consumption of steam is reduced by triple-expansion engines to 13 pounds, or, perhaps, as low as 12.5 pounds. Making allowances for differences in the type and condition of different engines from which data have been obtained, there is ground for the belief that with an increase of pressure from, say, 100 pounds to 150 pounds in the compound engine, with suitable change of proportion to realize the full advantage due to expansion of the steam, there is at least 10 per cent., and, perhaps, 15 per cent. saving in the engine carrying the highest pressure. Without going into refinements there is further reason to believe that between a compound engine running at 100 pounds, and a triple-expansion engine running at 150 pounds, both suitably proportioned and loaded, there is a similar gain of at least 10 per cent., and perhaps, 15 per cent., due to the engine working under the higher pressure and greater expansion. These figures are given to show the general feeling among those who are well informed, rather than to define exactly the relative economies; and it may further be added that they are intended to indicate the relation which exists in engines which are in good order and well maintained, and the relative economy only in the consumption of steam.

To secure the benefits of high pressure it is necessary to provide extra strength in the boilers, in the steam piping and in the engine itself, or at least in the high-pressure cylinder to withstand the increased strains. It is necessary to employ more stable joints, besides a better class of packing, and the whole equipment must be adapted, in its various details, to resist the stronger forces which are brought to bear upon it. When the plant has been well designed for these special duties, it must, when set to work, be watched with increased care, and by a more skillful class of attendants, to keep it properly maintained, than one designed for low pressure. The breaking out of packings, and the increased wear of steam valves and pistons in the engine, introduce waste where high pressures are carried, which may be entirely absent where the pressures are limited to those which have been common in the past. Extra wear and tear and depreciation, and the losses of steam and fuel which they cause, are the accompaniments of excessive pressure even when the construction is of the best class, and these, so far as they act, offset the intrinsic advantage which might otherwise be obtained. The interest and depreciation charges on the more complicated and expensive plant, the waste of steam referred to, the extra cost of attendance, and the increased cost of repairs and supplies, use up at best a large part of the saving of fuel, which can be made by the more economical engine, and these may become, with careless management, even larger in quantity than the entire amount of saving, so that the use of high pressure produces a net loss rather than a gain.

Unless those who are intending to profit by employing excessive steam pressures and a properly proportioned engine, either of the compound or triple expansion class, are prepared to combat the difficulties in handling the increased forces here briefly alluded to, and make proper allowance for the waste of fuel and current expenditures incident thereto, it is almost folly to expect in the end satisfactory results.



The particular purpose of this department is to create an increased market for Canadian mill products—flour, oatmeal, cornmeal, rolled oats, pot barley, horse meal, split peas, etc.—at home and abroad. The interests of the miller who grinds the grain will have thoughtful consideration. Any matter that is likely to lead to an improvement of conditions in the local market of any of the various provinces of the Dominion will be carefully considered in this department. A close study will be made of the foreign markets with the aim of further developing the Canadian export trade. The MILLER each month covers very effectively the field of flour-handlers and buyers of mill products, not only within the borders of the Canadian Confederation, but in Newfoundland, the West Indies, Great Britain and other far-jean centres. This department will be made valuable to them in discussions of the conditions of the market in this country, reliable market data, the manufacture of mill products, methods of transportation and shipping intelligence in its bearings and relationship to the milling industries. We try to be correspondents from millers, shippers and buyers on any matter touching these important questions.

CREATING A MARKET FOR FLOUR.

A PRIME, and perhaps, the first essential in the manufacture of an article of merchandise is that it shall be well made. The spurious will not unfrequently outstrip the genuine in popular favor, but its success is seldom enduring. Whatever the article of manufacture may be let it be the best that skill and experience can produce.

Some manufacturers stop here. More is required. The next step is distribution. The consumer must be reached. The something made is not for one's self, but for others' use. How can the others be reached? Various avenues of distribution are open. One may carry the goods to their doors. The ubiquitous peddler has proven the pioneer in the introduction of many of the best articles before an appreciative public to-day. Don't despise the peddler or canvassing agent. The commercial traveller, the much despised agent graduated, can introduce ones wares to a wider range of territory and in this manner help to enlarge the manufacturer's output.

These are methods which, if to be successful, must have good business backing from inside. The orders secured by the traveller must be carefully and promptly filled by the manufacturer. Customers must be treated with courtesy and in a straightforward business manner. Their particular wants, and the wants of particular localities, must be studied; sometimes what may seem to be only a foolish whim of the customer cannot have other than considerate treatment.

But every matter of importance having had practical and active consideration we come back again to what was hinted at in one of the early sentences of this article—without a market for the product of mill or factory all other efforts of the manufacturer, however perfect they may be, count for naught.

There is one method of pushing business, that has, in the present day, attained almost to the perfection of a science, and that has been resultant in some cases of very remarkable success. We refer to the matter of advertising. The very fact that it has become so important a factor in business success lends to it a significance that will not all of it to be treated with nonchalance by any shrewd business man.

It is not our purpose here to pursue the question outside of its relations to the business of the flour miller. Will it pay the miller to advertise? This question is not asked of the advertising manager. He might be disposed to turn the reply in one particular direction. The special purpose of the Mill Product Department of the CANADIAN MILLER is to help to create enlarged and profitable markets for the millers of this country. Will advertising help? Unless it will we want none of it. We have lately read an article on the question by Mr. T. S. Blish, manager of a flour mill in the country to the south of us. He discusses the question purely from the point of view of the miller. Ten years ago, he tells us, his company owned a small mill, capable of a very limited output. At this time a progressive policy was adopted; advertising on a considerable scale was made part of this policy, maintained at an expense of oftentimes a heavy percentage of the annual profits. The business was extended into new adjoining fields, increasing the demand so as to make it necessary that the capacity of the plant should be further increased. The advertising

policy was continuously pursued, until inside of ten years the output of the mill had increased from a few barrels daily, doing a small local trade, to a mill the output of which is now one thousand barrels a day.

No doubt the "progressive policy" that had borne these results included more than intelligent and vigorous advertising. Mr. Blish is prepared, however, to give to advertising credit for a large share of the growth of the business within these ten years. He points to the trade of his concern in the various cities of the United Kingdom as an evidence of his contention. We quote his own words on this point:

"In appointing our agents in the different cities of the United Kingdom for our foreign trade, we selected one in Glasgow, who was just starting in business, and who had, from observations made in America, decided on a vigorous advertising policy. The result of that policy has been, that during the three years his business with us has each year increased one hundred per cent. We leave to him full discretion as to what medium he employs for the advertising, and have found them all beneficial, which does not, of necessity, go to show that our agent's judgment is exceptionally good, but that advertising, however done, reaps its own reward. With our foreign agents who refuse to advertise, claiming there is no room for it in their business, each year's sales stand at about the same as that of the preceding year. To illustrate the position taken by some of the latter named, I quote from a letter from our Liverpool correspondent, written in reply to our several communications urging him to adopt the policy of our Glasgow agent in the matter of advertising: "Although I consider that advertising certain articles is advantageous, I feel that all the advertising in the world would not assist the sale of flour on this market. . . . The best flour at the lowest market price will always command the trade here, no matter how much advertising be done. . . .

I do not wish to throw cold water on your ideas of keeping your flours before the public, and I consider it shows the right and proper spirit of enterprise on your part; at the same time I feel it is my duty, in reply to your inquiries, to give you my ideas as nearly as I can. You can take my word for it that, as the old adage has it, "Good wine needs no bush," so good flour needs no advertising in this particular part of the world." Our business with the writer of this for the present fiscal year will fall some short of that of last year and about equal that of the preceding year. Several months ago we addressed letters to all of our foreign correspondents, offering to forward to them, for distribution among their customers, books of photographs of the World's Fair buildings, and asked them to advise us how many they thought they could use to advantage. Our Glasgow agent immediately made request for several hundred, while from one of the others we received a letter saying we "might send on a dozen," while from another in far off Christiania came the discouraging information, "I do not think it suitable to send the mentioned books to the customers in Christiania, such arrangements often causing the opposite of that for which intended." Now, what do you suppose would have happened if we had forwarded them? Do you think the falling off in the demand for our flours would have been immediate or gradual, as the beauty of the books became more familiar to the eye? Such ideas as are advanced by these unbelievers are difficult to believe or follow by us fellows, who like to believe we are in the "push," and the climax, as the result of such a policy, is as hard to conjecture as that of Frank Stockton's "The Lady and the Tiger."

Advertising, of course, to be successful, like everything else needs to be done correctly. It cannot be gone about in a slap-dash manner, no thought or care being given to the question, any more than good flour can be made by like careless methods. But done right, according to Mr. Blish's view—the view of a practical miller—flour mill advertising pays.

CURRENT COMMENT.

We lately had the opportunity of handling a sample of flour made in Japan from native wheat, in a Japanese roller mill, and shipped to this country as an experiment. The flour, which was of a beautiful color, realized just 215. on Mark Lane market, and as the shipper must

have lost 10s. on each sack he consigned, it is probable that not much of this flour will be seen in England yet awhile, at any rate.—The Miller, London, Eng.

What's in a name? Sometimes a pretty name like a pretty face counts for a good deal. Shakespeare has told us: "A rose by any other name would smell as sweet." In the business world a pat, happy, catchy name given to an article of merchandise or manufacture has often had a good deal to do with the successful sale of an article. An English writer calls the millers of Great Britain to account for not being more rhythmical in the choice of names for their brands of flour. "Our home millers," he says, "are far behind their trans-atlantic cousins in giving names to their flours. Just look at A, B and C compared with Superlative, Minerva and Iron Duke, or Suppers, Extras and Whites compared with Perfection, Ideal and Invincible, and you will see there is a mighty difference in the outward appearance."

The statement is made that the great Pillsbury-Washburn Flour Mills Co., of Minneapolis, are unable to declare an interim dividend for the past half-year. The directors say: "We have decided not to pay any interim dividend on the preference and ordinary shares this half-year, but we have every reason to hope that at the end of the financial year they will be able to pay a dividend of 8 per cent. on the preference shares. The debenture interest due on May 1 will be paid in due course." The Millers Gazette, of London, Eng., says that this concern, in common with other export millers, has been flogging a dead horse by persistently consigning flour to overburdened markets like those in England. Prices have thus given way 2s. 6d. to 3s. 6d. per sack during the past six months. The present quotation for the ordinary £10 shares on the Stock Exchange is £2 15s. to £3 5s.

The spirit of protection is showing itself among British millers and bakers. Discussing the question in the British Baker, Mr. Hugh Kerr says: "Why do we bakers use so much foreign-made flour, while our home millers are as well qualified, and, I doubt, not far more anxious to suit our requirements? If we would only consider how many extra mills we could keep working, how many extra men we could employ, how, in fact, we would benefit the country and, of course, ourselves, we would surely hesitate sometimes before buying foreign-made flour. I am afraid we are just a little selfish and that a supposed difference of, say threepence or sixpence a sack would make us either free-traders or protectionists. Before our home millers introduced the roller system into their mills, I have no doubt but that other countries were ahead of them, but since they have now without exception gone in for rollers instead of stones, it will be hard indeed to prove them a whit behind any other country. One thing in favor of home-made flour is that it is the only single flour that will make good bread, that is to say, if we use foreign flour, we have to blend it so as to produce a good loaf. Some of these flours are too strong, some of them are too weak, some too dark, and some too dear, and unless we are all the more experienced in the blending of flours, it goes without saying that we are a deal safer to use brands of home-made flour. Our home millers have also this advantage over almost any other country, that they have greater choice of wheats, for, should one district or country be short or inferior, they can easily supply the deficiency from some other source. We can also rely upon our own millers as to condition. We may get foreign flour out from the ship-side damp and lifeless, and, again, it may have been in a flour dealer's warehouse only he knows how long. Our home-made flour is also uniform in quality, and except in very exceptional circumstances varies very little; while it appears to me that the first lot of any foreign brand you get is almost always the best you will get, and that from time to time it gets worse and worse, till finally it disappears altogether, and some other brand like a newly discovered comet appears to take its place."

THE FLOUR MARKET.

A rather better feeling prevails in flour both in Ontario and at Montreal. There has been more demand and the outlook would seem to be improving. Prices, however, remain about the same. Export trade continues

well and unsatisfactory. British millers are puzzling their heads more than enough over the conditions of the market, which continues glutted with undesirable flour from America. Newfoundland trade is still inactive, the market holding an abundance of United States flour. A fair trade, however, with this colony is anticipated this spring.

PRICES OF FLOUR AND MEALS

TORONTO. Car prices are—Flour—Toronto freights, Manitoba patents, \$4.30 to \$4.50; Manitoba strong bak ers, \$3.90 to \$4.25; Ontario patents, \$3.25 to \$3.50; straight roller, \$3 to \$3.20; extra, \$2.65 to \$2.80; low grades, per bag, \$1 to \$1.25; Bran \$1.20 to \$1.35. Shorts \$1.4 to \$1.75. The Flour and Grain Trade Bulletin, of the Dominion Millers Association reports: "Sales straight grades at \$3.15; patents at \$3.15 to \$3.30 per barrel, 60 lb. for Lower Provinces. Bran \$1.50 to \$1.35; shorts \$1.5 per ton."

MONTREAL. Patent spring, \$4.25 to \$4.35; patent winter, \$4 to \$4.25; straight roller, \$3.50 to \$3.65; extra, \$3.10 to \$3.25; superfine, \$2.70 to \$2.90; strong bakers Man., \$4 to \$4.10. Meal. The demand is unimportant and prices are unchanged. We quote Granulated in bbl., \$4.10 to \$4.30; granulated, in bag, \$2.05 to \$2.15; standard, in bbl., \$3.95 to \$4; standard, in bag, \$1.85 to \$1.90. Feed. There is a fairly good demand for feed at steady prices. We quote Bran, per ton, \$15 to \$15.50; shorts, per ton, \$16.50 to \$17; moullie, per ton, \$21 to \$23.

MANITOBA. Winnipeg: prices to local trade. Patents, \$1.95; strong bakers', \$1.75; ANXX, 75c. to 95c. superfine, 60c. to 70c. Bran has been very scarce. Prices are unchanged at \$12 for bran and \$14 for shorts in broken lots delivered in the city, or about \$1 less in car lots, on track here. Oatmeal held at \$1.95 to \$2.10 per sack, according to brand, for rolled and granulated and standard meal, 5c. to 10c. lower, these being prices to retail traders. Cornmeal, \$1.65 to \$1.70 per 100 pounds. Split peas, \$2.60 to \$2.65 per 100 lbs. Beans, \$2 to \$2.10 per bushel. Pot barley, \$2.50 per 100 lbs. Pearl barley, \$4.

"DONT'S" FOR STEAM USERS.

DO not condemn any appliance introduced ostensibly for the purpose of securing economy or safety without giving it a fair trial, as some of the most valuable inventions now in use were ridiculed and rejected when first introduced. Many excellent "devices" have been condemned by those having the care of boilers and engines.

Do not discountenance any device, invention, adjunct, or arrangement that will lessen your labor, induce economy, and at the same time give a guaranty of safety. Give everything placed in your charge by your employer a fair, impartial trial.

Do not allow the boiler front to become filthy or the gauge-cocks to leak and become covered with mud and the salts resulting from impurities in the water, as this would furnish strong evidence of slovenliness.

Do not let anything connected with the boiler in your charge run from bad to worse, with the idea that at some certain time you will have a general overhauling and repairing, because an accident may occur at any moment, involving serious loss of life and property.

Do not neglect to have a boiler insured when practicable, as insurance is generally accompanied by intelligent inspection, which furnishes a guaranty of safety to the engineer, owner, or steam user.

Do not reject the advice or suggestions of intelligent boiler inspectors, as their experience enables them to discriminate in cases which never come under the observation of persons of a different calling or pursuit.

EXHAUSTION AND ACCIDENTS.

IN investigations made as to the causes of industrial accidents, not a few of these are traceable to exhausted and overworked labor. Men as yet are not cast iron automatons, nor is there that metallic fidelity in bones and sinews that we find in locomotives and clocks. There is a limit to the vigilance and endurance of the strongest of men, and imposition in that direction is not only a claim on a humane society but an occasional subpoena of the coroner. In many cases of accident the cause is not so much due to carelessness as to helplessness. Age of Steel.



Office of the CANADIAN MILLER,
MAY 15, 1893.

THE GENERAL SURVEY.

THERE is the usual conjuncture of the present time of the year concerning the future crop. The condition of the winter wheat, and the prospects for spring wheat, are two leading factors of the situation. The damage done winter wheat by reason of the unusual severity of the past winter has probably been exaggerated some, but that there has been more than average injury from this cause, both in the States and Ontario, and to some extent in Manitoba, all the information get at a file makes clear.

The latest bulletin of the Ontario Bureau of Industries brings us reports of the province up to April 17, and is more replete than later information from various districts would justify. The summary of Secretary James is in these words: "Taking the province as a whole, the fall wheat crop has come out of the winter in good shape, very little damage has been done, very little will be plowed up, and the prospects are very promising and above the average. It is known, however, that a re-examination of the crops in not a few sections within the past thirty days has shown the necessity of plowing up many fields of grain that had been winter killed. This is the case in important strips of country in western Ontario, where re-plowing has been done and spring wheat planted. Barley has been made the substitute in other cases, the hope being held out that the duty imposed by the McKinley tariff will be annulled by a Democratic Congress, and that a large demand, as no doubt would be the case were the change to take place, would spring up in New York state for Canadian barley."

Those who have an opportunity of learning accurately of the progress of seeding in Ontario say that it is not as backward as had been supposed would be the case from the general lateness of the season, and if no set backs appear later the crop will show up a good average. Reports from Manitoba are somewhat conflicting. Seeding is undoubtedly late, but the delightfully warm weather of the past fortnight is said to have helped the farmers to a much greater extent than would generally be expected. Besides the very lateness of the season has caused farmers to push work as it has seldom been pushed before, and in this way they have overcome considerable lost ground. But what the future will be no one can tell, and on the future hangs the wheat situation of both to-day and to-morrow.

Everything is in just that state of unsettledness that arises from ignorance of what is ahead of one in any undertaking, and it is a condition that plays a large part in the buying and selling of grain. Prices of the present will vary according as the opinion is formed of what the crop in another six months will be. Prices for later purchase will be influenced in the same manner. And what the probabilities are, taking the wider range of this continent and foreign lands, is about as uncertain as when we come to consider only isolated districts or individual countries. When, however, we take the situation as it exists to-day with an undoubtedly large surplus still in hand on this continent, for as the New York Commercial Bulletin remarks, it is no longer possible to doubt that the estimate of the yield of 1892 was far below the actual facts, and carefully calculate from the data of crop conditions the world over, as far as available now, there is nothing to give very strong hope of any material increase in prices in the very immediate present, nor yet the near future.

A Chicago report to John J. Dixon, Toronto, as we close this writing, intimates that the local wheat market is seriously demoralized by reason of the uncertainty and apprehension that prevails in financial circles, and any fresh failure reported undermines legitimate influence. Of conditions abroad the same authority says cables are contradictory, some reporting continued drought while one reports rain.

CURRENT PRICES OF WHEAT.

WHEAT. Toronto. (West and north points) White, 67 to 68c.; spring, 63 to 64c.; red winter, 67 to 68c.; green, 62 to 64c.; spring, Midland, 67 to 68c.; No. 1 hard North Bay, 87 to 88c.; No. 2 hard, 85 to 86c.; No. 3 hard, 79 to 80c.; No. 1 mixed, 79 to 71c. Montreal. No. 2 hard Manitoba, 85 to 86c.; No. 3 hard, 82 to 83c. Chicago. 73½ to 73¾c.; July 76½ to 76¾c.; September, 79½ to 79¾c. St. Louis. Cash, 70½ to 71½c.; for June, 73½ to 74c.; for July, 75c.; for August, Duluth. No. 1 hard 72½c.; for May, 75½c.; for July, No. 1 northern, 69½c.; for May, 72½c.; for July. London, Eng. Heerlholm says: Floating cargoes. Wheat steadily held; maize

ml. cargoes on passage. Wheat, steadier; maize, very firm. Weather in England very hot. Liverpool. Spot wheat firm, but not active; maize, not much demand. Liverpool. Futures

Wheat, firm; maize, steady; red winter, 5s. 11d. for May; 5s. 11½d. for June; 6s. 0½d. for July; 6s. 1½d. for August; 6s. 2½d. for September; 6s. 1½d. for October. Paris. Wheat, 211.00c. was 211.70c. for June; 221.60c. was 221.50c. for July; and August; flour, 481.10c. was 471.60c. for June; 49c. was 481.70c. for July.

BARLEY. Toronto. No. 1, 41 to 42c.; No. 2, 37 to 37½c.; No. 3 extra, 34 to 35c.; No. 4, 30 to 32c.; two rowed, 54 lbs., averaging about No. 3 extra in color (outside) 32 to 37c. Montreal. Feed barley, 42 to 43c. American barley markets are practically nil. Oswego says: Canada barley market quotations not procurable in the presence of a nominal market, no arrivals.

OATS. Toronto. Held firm, but few sales. White sold last at 34c. and on spot 37c. was bid; 38c. asked. Montreal. Per 34 lbs., 38c. to 39c. Buffalo. No. 2 white, 30½c. clipped, 41c. Oswego. Spot, extra No. 1 white, 42c.

PEAS. Toronto. Not very active; some sales at 59c. north and west.

RYE. Toronto. Nominal 55c. outside. Montreal. 57 to 58c. BUCKWHEAT. Toronto. No movement; 50c. outside.

NEWS AND NOTES.

Wm. Paul, of Toronto, having passed a successful examination for grain inspector, has been granted a certificate. He was the only candidate to appear before the Board of Arbitrators in Toronto, the members of which are: George A. Chapman, H. N. Baird, Thomas Flynn, W. D. Matthews, J. C. Carruthers and L. A. Tilley.

Geo. A. Dickson, of Toronto, who died at the age of 82 years on the 13th inst., was in his early years engaged in grain and milling in and about Richmond Hill. He was for several years collector of inland revenue and for nineteen years chief officer of weights and measures.

Secretary C. B. Watts, of the Dominion Millers' Association, reports through the last weekly Bulletin, "One thousand sacks of choice 90 per cent. patent flour sold at equal to \$3.50 per bbl. in wool, 60 lb.

FIRE APPARATUS FOR A MILL

IT may be handy to know, says a contemporary that about 65 pounds water pressure at a nozzle will be required to throw a one-inch stream 150 feet horizontally with a single length of hose, 70 pounds pump pressure at the nozzle. Seven to nine pounds must be for each 100 feet of hose, and the diameter of the hose used has considerable to do with the result. To maintain 50 pounds pressure at the nozzle and throw water 125 feet horizontally or 70 feet vertically through 100 feet of hose will require 67 pounds pressure at the pump. For 200 feet of hose 84 pounds pressure; 300 feet, 101 pounds; 400 feet, 118 pounds; 500 feet, 135 pounds; 600 feet, 152 pounds; 700 feet, 169 pounds; 800 feet, 186 pounds; 900 feet, 203 pounds; 1,000 feet of hose, 220 pounds pressure will be required. By using the above data when setting up a fire pump, the reader will not be in the predicament a mill owner recently found himself. The pump and connections were erected and upon testing the stream through 300 feet of hose, it was found that sufficient power could not be had at the pump to throw the water 20 feet beyond the nozzle.

MONOPOLIES

IT would seem that modern monopolies are not without their historic ancestors. They have simply evolved in dimensions and faded in their original modesty. The first concepts were local and limited, every pea having its rink in a special thimble; the latter edition has no such waistband, but has all the planet on which to live and move and have its spurs. The difference between the sixteenth and nineteenth centuries in their monopolistic histories is simply a matter of degree. The cockatrice is still in the egg. In the days of the Tudors patents to deal exclusively in particular articles were so lavishly bestowed on courtiers and royal sycophants that scarcely a commodity remained free. They extended to salt, leather and coal, and only made a respectable halt by the bread basket of the people. Even Lord Bacon, the legal luminary of the times, handed over to a pair of fortunate barons the exclusive manufacture of gold and silver lace, giving the dainty patentees the right to search houses and also to arrest any person alleged to be an interloper in the trade. Is the modern coach traveling the same road?

NOTES AND QUERIES

Questions and answers are inserted under this head free of charge, and all are invited to avail themselves of this column. Correspondents need not give their own name for publication, but it must be made known to the editor. Anonymous communications will find space in the waste basket.

No. 37. **BUYING A BOILER.** The advice of the MILLER is not infrequently asked concerning the buying of a new boiler. Consult a firm of known ability and character is advice we never fail to give. There is no economy in the simplest purchases of life in trying to save a few cents in buying the cheap and nasty. But the disaster that may befall unwise buying is not the same in all cases. Where a boiler is needed is a case where it is difficult to say what may be the outcome of "a penny wise and pound foolish" policy. A writer in the Safety-Valve puts the matter tersely in these words: "If you want a brick wall built or a well dug, it's a good plan to advertise for bids and let every mason and well digger in town compete. The most irresponsible and conscienceless boiler maker is sure to get the contract, and you'll have no end of trouble with your new boiler. A little consideration will assure you that boilers can not be made for less money than is asked by those who make boilers of standard quality, and who could not afford to deliver a boiler of poor material and faulty construction, because it would injure the reputation of their work and workmanship."

No. 38. **CHALK AND GREASY BELTS.** There are many places where leather belts are used so greasy from drippings that can not be well prevented, from flying oil and spray, or from other unavoidable causes, that they become thoroughly saturated with grease, so much so that they become very inefficient and practically useless unless the grease is washed off or otherwise removed. It is said that a belt so disabled can be best renovated by the use of common chalk. Take a large piece of chalk that will cover the width of the belt, and hold it against it while running. The chalk takes up the grease as it is worn off by the friction of the belt. After chalking awhile, take a scraper and hold it against the belt in such a manner as will scrape the accumulated mixture of chalk and grease all off, and then renew the chalking operation, and keep repeating until the belt is in good working condition, when the cleaning process can be discontinued until it becomes dirty again. This is a simple remedy, and is by some considered the best way for keeping greasy belts clean and in good working condition.

No. 39. **THINK BEFORE YOU ACT.** Not a month goes by that we are not reminded, as we worry through some hundred of newspapers, from all parts of the country, of the many accidents occurring in mill and factory solely through carelessness. Scores of these are so serious that we are surprised that the carelessness continues, but no wonder is warning sounded on one hand than an accident occurs on the other from almost a like cause. We are moved to write in this strain by a letter from a correspondent detailing and lamenting, as well he might, an accident, the result of simple carelessness, that had come immediately before his notice. To further illustrate what we have been saying, we shall quote here from a forceful paragraph that has come to our notice in a technical exchange. It is this: "Prompt action may avert a catastrophe, but thought as to cause and effect must come a little ahead of action, otherwise more damage than good may follow. I have in mind a young order in an electric light plant, who, being in a hurry to fill his oil cups, that he might be relieved for supper, grabbed an oil can in each hand and inserted the spouts on cups with different bearings at the same time. He immediately lost all appetite for supper. Another case, in which a poor fellow lost his life. A heavy belt commenced to slip. He grabbed a can of resin, and, running under the belt threw a great quantity of the dry resin, some of it in large lumps on the belt, which resulted in throwing the belt from the pulley, which struck him on the head and threw him into the fly wheel of the engine." Care, care, constant care, that eternal vigilance that we sometimes talk about, is the only recipe against a continuance of these sad casualties.

LINKING BELT FOR SLOW MOTION.

AS is well-known by all practical men, beltmg in general use is not well adapted to slow motion uses, or for driving any machine or piece of machinery that has a very slow motion. Nor is it always convenient to drive such with gear wheels, even if it were desirable to do so, which, as a rule, it is not. As a substitute for both no better can be found than chain, or what is commonly called "link beltmg." It is well adapted to the purpose and as reliable as gear wheels, there being no possible chance to slip or run off the wheels.

FOREIGN LETTER BOX.

ENGLAND.

GRAIN men and millers on this side of the water are discussing the probabilities of the wheat crop in America, and an impression is quite general that the crop will be lighter than that of a year ago. It is not thought, however, that even with a lighter crop the situation will be much, if any, improved. The quantity of wheat afloat, and the large supply that, it is believed, is still in hands in America, is thought to be sufficient to keep prices down to a low average. The flour market is as lifeless as ever, with supplies of low-grade American flour on hand that is depressing to the trade.

BUDAPEST.

An improved tone is to be remarked of milling matters at the Pest. No remarkable activity can be noted, but a more settled feeling prevails. Wheat is firmer, and this condition is having a favorable influence on the flour market. Considerable exports are going forward to Brazil. 93,135 bbls. of flour have been shipped from Budapest for week ending April 26th.

RUSSIA.

A spell of cold weather has had an injurious effect on the crops in some sections, and this has a tendency to increase prices. And yet the stiffening is not very noticeable, so far at least as wheat and maize is concerned.

DULUTH.

The general growth of flour production at Duluth and Superior continue, as encouraging as ever. The output of the mills is large. Compared with the output of a year ago they stand something like this: 40,000 to 45,000 bbls. per week has been the output of the past few weeks, where only about 16,000 bbls. a week is the record of the same period a year ago. Nothing very hopeful, however, can be written of values. They are desperately low, and there does not seem to be any visible signs of immediate improvement. Competition is keen, and no one appears to be in position to hold stocks for any length of time, a circumstance that has a tendency to continually keep prices down to a low level.

MINNEAPOLIS.

Conditions jog along as they have been doing for some time now. A fairly large output is the record of the mills each week, and yet the past week has shown a decrease as the result of several of the mills being closed down. The output was 134,615 bbls., where for the week before the figures were 179,240 bbls., 178,450 bbls. the result of the corresponding week in 1892, and 125,190 bbls. in 1891. Not since the last week in December has so small an amount of flour been made by Minneapolis mills. A fair export trade is being done, but with the glut of flour in the European markets prices are not very profitable.

BOSTON.

Millers at the Hub are disposed to grasp the situation with a vigorous hand. They see neither sense or fun in selling flour at the unprofitable prices that have been prevailing lately, and have put prices up. They are not doing any business at the advanced rates, but they have the satisfaction of knowing that they are not putting in a lot of labor and receiving nothing in return.

STEAM CEMENT.

MANY times little occurrences come up in an engineer's practice where some kind of cement which will stand the heat and pressure of steam can be used to excellent advantage. Perhaps a blow hole in the casting opens up and a stream of steam or water escapes. In such a case it would be most desirable if there was some cement handy which could be put upon the defective spot and would set within a few moments and afterwards remain tight. Many other circumstances often come up where a good cement that would set solid and strong would be found most useful. To be sure, one of the best ways of fixing such things when they occur is to replace the defective by new material, but as this cannot always be done without the expenditure of more time and trouble than is convenient to give it, something that will serve a good purpose instead is desired. A contemporary gives the following recipe for a preparation which, we think, will be found quite useful, as we have often used a cement of similar composition to this: Five pounds Paris white, five pounds red lead, four pounds black oxide of manganese. The whole is to be well mixed and a little asbestos and boiled oil added. This cement will set hard in from two to five hours, and it is not subject to expansion and contraction to such an extent as to cause leakage afterwards. Leaks that occur in places which are difficult to get at and remedy, may often be stopped by the application of a little cement composed of the above materials in about the proportions specified. Tradesman.

WHAT COMES NEXT?

BY C. A. SMITH OF "MILLING."

WHAT will be our next improvement in methods of milling? is a question that has often suggested itself to our progressive millers. There has been practically nothing new developed during the last decade. We have simply made some minor improvements on the acknowledged methods, and for a time a little going backward among the short system millers, which seems to have spent its force wherever a high standard of excellence is sought. There has been, of late, more attention paid to a greater thoroughness in the matter of wheat scouring. This has been in the right direction and seems to be the first step to what I think will be the coming change, namely: The decorticating of the wheat berry before any attempt at reduction is made. The decorticating of wheat is not, of course, a new idea. It was tried and discarded more than twenty years ago, but under conditions very different from those now prevailing. At that time the machines used were very cumbersome and required a large expenditure of power, the waste was large, wheat was high, \$1.50 to \$2 per bushel, there was but little or no demand for feed, it would not bear the cost of transportation and could be used only locally. The grinding was done on buhrs, and purifiers were unknown and, while the quality of the flour was vastly improved on the whole, it proved a failure. But the conditions have very materially changed, and confidently look for the introduction of decortication within the next two years perhaps within a short time. Cleaning machines are already in the market that successfully remove the outer coating of the berry, the so-called "beeswing bran," without waste and with little power, and a slight improvement on the cases of these machines, which is entirely feasible, will remove the inner coating. We shall then have only the crease bran to contend with. This from its nature, being a long thin strip, I believe can readily be removed after the first reduction and afterwards treated by itself. It seems to me that after decortication, the first break should be made under a slight pressure of the rolls with corrugations of about sixteen to the inch and with but very little differential, say one and one-eighth to one, so that the crease bran may be as little disturbed as possible. The other manipulations would be practically the same as those now followed, except that the low grade would be made at the head of the mill out of the scouring of the last decorticating machine. Under such a process, as above indicated, we may look for an increased per cent. of first-class flour and a yield of from 80 to 85 per cent. of a true patent, made of purified middlings, and I further believe that the porcelain rolls for middlings reduction will again come into use, taking their old place instead of the smooth iron roll. In my experience I have yet to see the production of the iron roll that would equal in quality the flour made on the porcelain roll when rightly handled. It must be remembered that in the day of the porcelain rolls they were necessarily in very green hands, our millers were not used to rolls of any kind, and they had from the inexperienced hands a terrible banging and overcrowding. This they could not stand as well as the iron roll, hence their apparent failure—or rather say impracticability. Few millers today could hold their positions long if they treated their iron rolls in the manner in which the porcelain rolls were served. There is a peculiar granulation made on the porcelain roll, that while very fine still seems to keep its individuality and give a fine character to the flour.

DRY STEAM.

IT is probably only a question of another 10 or 15 years before engineers generally will again be using slightly superheated or dry steam, not only in land engines, but at sea and in locomotives. Modern ideas favor the change, and the economy which will be obtained by preventing the large amount of condensation now going on in steam cylinders. The presence of water is acknowledged to be uneconomical and injurious. A steam jacket is only a simple means of raising the temperature of the cylinder metal touched by the steam. For the maximum economy it is important to increase the temperature of our cylinders, and this is precisely the effect of superheated steam, the result being that there is much less condensation.



CANADA.

Loux & Co., of Duncansville, Que., will build a new grist mill this summer.

Routhwaite, on the Northern Pacific Railway, in Manitoba, is agitating for a grist mill.

McKay & Co., of Toronto, have recently shipped 5,000 bushels of oats to the Island of Barbadoes.

Manitoba wheat is being shipped to different points in Dakota and Minnesota for seed purposes.

Prof. Shaw, of the Ontario Agricultural College, Guelph, Ont., says that the demand for seed grain is enormous.

D. McLean, miller, for some time past at Fraser's mill, Minn., will establish a pump business at Plum Creek.

A by-law granting \$4,000 for the erection of a roller grist mill at Marquette, Man., has been carried by a large majority.

The sheriff is in possession of the assets of Wm. Parrish, miller, at Rockwood, Ont., who was believed to be in a good position.

Fenwick's elevator at Alexander, Man., was destroyed by fire on 4th inst. It contained 30,000 bushels of wheat. Total loss about \$25,000.

Robert Clarke, of Ottawa, who has purchased the grist mill at Shawville, Que., intends overhauling the mill and putting it in first-class shape.

Millwrights are busily engaged on the large mill of the Ogilvie Milling Co., at Winnipeg, Man., enlarging and making important improvements.

Geo. Dow will open a flour and oatmeal store at Pilot Mound, Man. He is a practical miller, formerly connected with the Pilot Mound mill.

The body of a man named Joseph Bower, a hostler, about 50 years of age, was found below the mill dam of Sadler, Dundas & Co., Lindsay, Ont.

Large quantities of grain are coming down the Lachine canal for export to the old country. 353,755 bushels represented one day's totals a week ago.

The large grain warehouse of Jacob Retzner, of Beeslan, Ont., was destroyed by fire on 3rd inst. It contained about 1,200 bushels of barley and 400 bushels of oats.

The new flour mill to be erected at St. Jean Baptiste, Man., is to have a capacity of 200 barrels per day, and an elevator of 90,000 bushels is also to be constructed.

The assets of Campbell & Green, grain commission dealers, Portage la Prairie, Man., are said to be all held, under mortgage, as security, by the Commercial Bank. Liabilities are \$18,000 to \$20,000, according to last advices.

J. W. Cochrane, of the Crystal City flour mill, has sold out his business to the Hon. Thos. Greenway, and intends constructing a mill this season of 150 bbls. capacity at Glenora, Man., which he will operate when completed.

The Pioneer Oatmeal mill, of Portage la Prairie, Man., is shipping considerable of its product to Liverpool, Eng. The Pioneer Company say they could regularly dispose of large shipments if the proper kind of oats could be secured in the vicinity.

John Williamson, of Hawkestone, Ont., was drowned a fortnight ago. He went out to his mill dam, and whilst raising the flood gate a lever struck him, stunning him and knocking him into the flame. His body was found some three hours afterwards.

A Lindsay, Ont., grain dealer, has returned from Winnipeg, where he has been operating during the past winter. He says that the fine weather of last autumn was favorable for farm work and that 90 per cent. more land has been prepared for wheat. If there is a good harvest this year he expects the production to be 30,000,000 bushels.

On the 6th inst. a partially successful attempt was made to blow up the grist mill at Lyndhurst, Ont., by dynamite. The wing walls which guide the water into the flumes were entirely blown away, and will cause a suspension of business. It will cost about \$2,000 to repair the damage. No clue of the dynamiters has been found.

In November, 1891, Mr. F. B. McKenzie shipped 1,000 bushels of No. 2 hard wheat by the Northwest Transportation Co. from Duluth to Sarnia for orders. In transit this wheat was mixed with 10,000 bushels of rejected and no grade wheat, and the Transportation Co. refused to indemnify Mr. McKenzie

for his loss. Since that time the matter has been in the courts, Mr. McKenzie this month receiving judgment for full liabilities.

GENERAL.

Last year 8,000,000 bushels of grain were handled at Ogdenburg's single elevator.

The average cost of water power for flour making in Minneapolis is from 20c. to 24c. per barrel, and of steam power from 6c. to 9c.

Corn, cereals, meats and flour, of all kinds, are now virtually excluded from all parts of Mexico, since the narrow strip of country called the free zone, on account of a prohibitory tariff.

PERSONAL.

Mr. A. Atkinson, president of the grain exchange, of Winnipeg, Man., has received an invitation from the World's congress auxiliary to act as one of the advisory committee in the department of commerce and finance.

One of the enterprising millers of the province is Mr. Jas. Hamilton, of Glen Huron, Ont. He became a resident of the Glen in 1873. Noting the natural advantages of the place in the way of water power he erected a grist mill. Later finding this a success he built a saw and shingle mill, a stove factory and a cheese factory. Mr. Hamilton has always taken an active interest in the affairs of the Dominion Millers' Association, being a member of the executive.

TRADE NOTES.

The MILLER has received from Dick, Ridout & Co., the well-known manufacturers of jute and cotton bags, a sample scrap bag, which they are presenting to their friends, and which placed in a convenient spot serves as a useful office adjunct. Printed on the bag are these words: "If you want satisfaction in quality, price, prompt and careful shipment send to Dick, Ridout & Co., for all your bags." The faithful daily practice of these important business principles has had a considerable share in giving to this firm the gratifying success they have for years enjoyed.

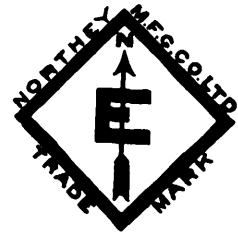
The following letter speaks for itself: "Fall River Line, between New York and Boston, on board steamer 'Plymouth,' New York, April 29th, 1893, Magnolia Anti-Friction Metal Co., New York. Dear sirs—In answer to your enquiry as to our experience with the Magnolia Metal, we desire to say that we have it in the intermediate crank pin brasses of the Plymouth, and it has given us every satisfaction, and from our experience with it we cheerfully recommend it for such work. Yours very truly, B. J. Henson, Chief Engineer, S.S. Plymouth."

CHAFF FOR THE DUSTIES.

- To prevent tools from rusting, use "em.
- At many deals in corn there are signs of a maize-ment.
- A depression in the market generally "goes against the grain."
- It is a philosophical fact that bad flour makes people ill-bred.
- The "flower of the family" is not necessarily household flour.
- When a miller does not give oats to his horse he generally "makes a meal of it" himself.
- Treat your competitor's customer cordially. He may come your way later on.
- The strongest man in the world is the one who can best control himself.
- Cogswell wants to know if a load of flour can be said to be properly discharged when it gets the sack?
- However "fresh" an overdressed miller may be, some people are sure to say he is mill-stale.
- The farmer who managed to scare all the crows from his fields, now alludes to the birds as "the lost crows."
- Whenever a miller gets it into his head that he is destined to make a mark in the world, he at once goes to market.
- "Dapn," said a talkative girl, "am I made of dust?" "No, my child. If you were you would dry up once in a while."
- It is strange, but true, that some men will not learn to do things by reading the experience of others, seeming to have a horror of printed milling information as experience.
- When Polly saw a little colored baby for the first time, a week or two ago, she ran into the house, and called to her mother: "Oh, mamma, come quick!" she cried. "Here's a live baby all made out of chocolate."

In a cornfield tell no secrets,
For remember, corn has ears,
And 'tis also shocked no easy,
That 'twere best it nothing bears!

STEAM PUMPS



Duplex AND SINGLE Steam AND POWER Pumps

If you require a pump for any duty, of the latest and most improved pattern, and at close prices,

WRITE US

NORTHHEY

M'FG CO.

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FLOUR, GRAIN AND COMMISSION MERCHANTS AND BROKERS

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C. GOODE
 GRAIN and
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 +
 ONTARIO AND MANITOBA
 WHEATS IN CAR LOTS
 Consignments promptly attended to
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J. F. McLaughlin Peer & Company
 FLOUR, GRAIN
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 WHOLESALE
 Send large samples and
 quote prices
MANITOBA WHEAT FOR SALE
 Rooms 511 and 512
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Flour, Bran
 — AND Shorts
 WANTED
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WHEAT
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ESTABLISHED 1859
WM. GALBRAITH
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 48 Front Street E.
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GRAIN DEALERS
 Specialties:
 MANITOBA WHEAT
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LAWRENCE COFFEE THOMAS FINN
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L. Coffee & Co.
 Grain and
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 38 Church Street
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Cooperage Stock

If you want **Staves, Hoops, Heading or Liners**
 For Flour Barrels, Meal Barrels, Apple Barrels, Salt Barrels, Bean Barrels
 or any other kind of Barrels, write to

... THEY MAKE THE BEST STOCK ...

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USE
MYERS' ROYAL CATTLE SPICE
 PATRIOTICAL
 DEPARTMENT OF AGRICULTURE,
 ONTARIO,
 Toronto, March 17th, 1903.
 Gentlemen, I have used Myers' Royal Cattle Spice during the present winter with both cattle and sheep. It seems to be equally valuable for both. I noted especially the benefit on a lot of yearling rams. The change in their appetite and appearance was easily perceived after the first week or ten days feeding, and they have stood up rapidly gained since. Yours very truly,
 Messrs. Myers & Co., Toronto.

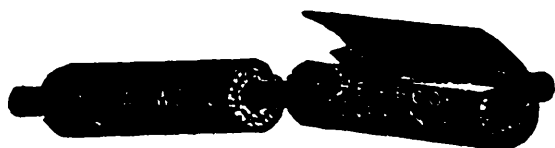
EMBRO OATMEAL MILLS
 ROLLED OATS
 STANDARD
 — AND —
 GRANULATED
 OATMEAL
 MADE FROM SELECTED WHITE OATS.

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 Glib's Patent Dust Precipitator
 protects the nose and mouth from
 inhalations of poisonous dust. In-
 valuable to operators in every in-
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 Perfect protection with perfect ventilation.
 Metal plated precipitator by mail, \$5.00; package \$2. Circu-
 lar free. Specify number.
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Special terms made with Flour Millers for
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MINERAL WOOL
STEAM PIPE AND BOILER COVERING
 Saves enough fuel to pay for itself in one season.

Is Fire-proof, Frost-proof, Vermin-proof and Indestructible

CANADIAN MINERAL WOOL CO. LTD. + 122 BAY ST. TORONTO

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TO MILLERS AND GRAIN EXPORTERS... Advertiser wishes to represent a good miller or grain merchant in the London market on commission; references exchanged. J. H. BARRY, Sr., Brentford, London, England.

GRIST MILL FOR SALE... STONE PROCESS; DOING A FAIR BUSINESS; ample water power. Will be sold cheap. Particulars apply to G. M. SHEPLEY, Falkirk, Ont.

FOR SALE... 33 IN GIANT WATER WHEEL, RUNS AGAINST THE SUN, HAS DIVISION PLATE; GOOD AS NEW; ALSO LOT OF HEAVY IRON SPUR AND BEVEL GEARING. TORONTO RUBBER CO. OF CANADA, LTD., 28 King Street W.

TO MILLERS... FOR SALE... NATIONAL ROLLER MILLS, BRUSSELS, Ont.; capacity 200 barrels per day. Cheap, easy terms of payment. Address: "B.C.," P.O. Box 566, Toronto.

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Fine Color Work AND Engraving OF ALL KINDS

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ESTABLISHED - 1885

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The President, James Goldie, Esq., in moving the adoption of the report on the business of 1892, said: I have much pleasure in drawing your attention to the fact that this company has verified, in a marked degree, every expectation set forth in the original prospectus when organized in 1885.

Up to the present time the insurers with this company have made a saving, when compared with the current exacted rates, of \$91,004.50. And in addition thereto bonus dividends have been declared to continuing members amounting to \$21,525.75.

Besides achieving such result, we now also have, over all liabilities - including a re-insurance reserved (based on the Government standard of 50 per cent - 50%), a cash surplus of 1.50 per cent. to the amount of risk in force.

Such results emphasize more strongly than any words I could add the very gratifying position this company has attained. I therefore, with this concise statement of facts, have much pleasure in moving the adoption of the report.

The report was adopted, and the retiring Directors unanimously re-elected. The Board of Directors is now constituted as follows: James Goldie, Guelph, president; W. H. Howland, Toronto, vice-president; H. N. Baird, Toronto; Wm. Bell, Guelph; Hugh McCulloch, Galt; S. Neelon, St. Catharines; George Pattinson, Preston; W. H. Story, Acton; J. L. Spink, Toronto; A. Watts, Brantford; W. Wilson, Toronto.

HUGH SCOTT, Mgr. and Secy. THOS. WALMSLEY, Treasurer.

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... THE ... FLINT & PERE MARQUETTE RAILROAD FROM Port Huron and Detroit

Is the Short Line to SAGINAW AND BAY CITY (centres of the vast lumber interests of Michigan) MT. PLEASANT, CLARE, REED CITY BALDWIN, LUDINGTON, MANISTEE AND MILWAUKEE AND MANITOWOC, WIS.

The last two named are reached by the Company line of Steamships across Lake Michigan. The line thus formed is a short and direct route from NEW YORK BUFFALO MONTREAL TORONTO to ST. PAUL, DULUTH and Pacific Coast points. Write either of the undersigned for Folders, which contain Maps, Train Schedules and much information of value to those contemplating a trip to any of the above-mentioned points.

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35 CENTS BUYS FISHER'S GRAIN TABLES

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KENT MILLS CHATHAM, ONT. FYLMER MILLS FYLMER, ONT.

"KENT MILLS" "THAMES" "ELGIN" "SWEET HOME" "BUDGET" High Grade Flour Second Grade Flour Low Grade Flour

CORNMEAL (Straight Kila-Dried, Granulated Sunrise, Kila-Dried) BEANS (Prime Medium, Hand-Picked Medium) Middlings, Bran, Corn, Chopped Feed

SEND FOR SAMPLES AND PRICES N. H. STEVENS, Chatham, Ont.

CANADIAN LUMBERMAN'S DIRECTORY

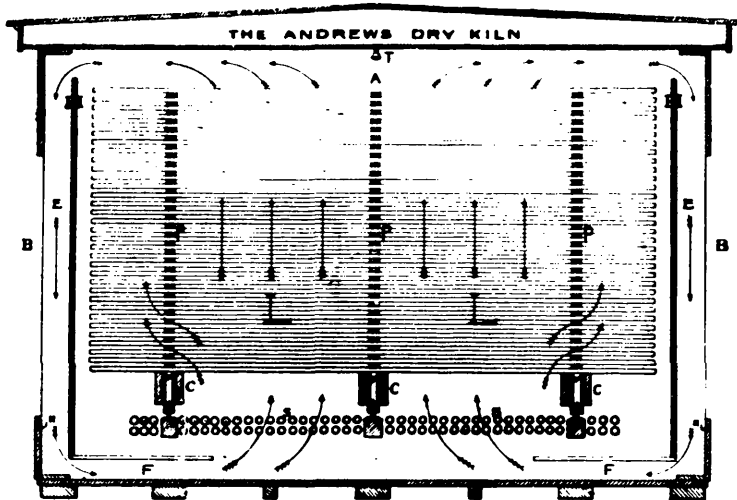
AND INDEX TO THE PLANING MILLS AND SASH AND DOOR FACTORIES OF CANADA.

THE Publisher is now open to receive subscriptions for the above Directory of the lumber trades. No effort is being spared to make this publication thoroughly complete and reliable in every detail, and it is hoped that all MILLER subscribers interested in the manufacture of lumber, staves, heading, etc., will write at once for particulars. It will cost nothing to have name and business inserted in Directory. Blanks and all particulars sent on application.

Address all communications to DIRECTORY DEPARTMENT, CANADA LUMBERMAN, TORONTO, ONT.

THE ANDREWS DRYER

For Lumber, Shingles, Staves, Heading, etc.



This system and apparatus covered by letters patent

A - Dryer Room B - Lumber Cars C - Lumber
 D - Inlet Air Flues E - Bottom Air Flue
 F - Brass Condensing Walls G - Brass Gutter for receiving condensed moisture
 H - Sticks between lumber I - Double Steam coils J - Auto-matic Steam Fire Extinguishers
 K - Brass Walls, protecting metal from heat L - Lumber
 Arrows show direction of currents of air

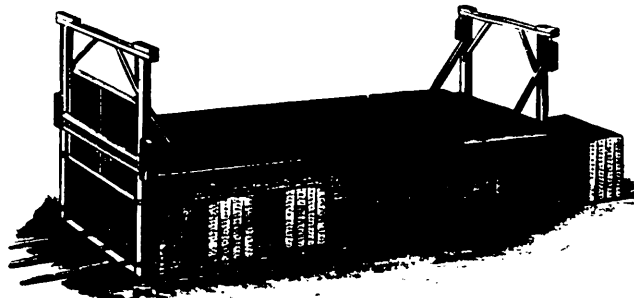
THIS DRYER

HAS PROVED TO PURCHASERS TO DO WHAT IS GUARANTEED IN SAVING THEM MONEY IN

Freight, Insurance, Time, Interest, Expense, Capital, Yard Room, Labor

There may be persons who do not appreciate the advantages of the artificial drying of lumber. But the shrewd men, in the manufacture of furniture and other woodwork where reputation would be sacrificed by a lack of proper material for good gluing and finishing, recognize a good system of drying as an important element of their success. High scientific authorities and thoroughly practical men are now agreed that the hot-blast and rapid-current systems ARE WASTEFUL, and that steam heat is the only safe means for artificial drying. The mode of applying steam heat most efficiently and economically is therefore now the essential point. The Andrews Dryer accomplishes this result more surely than any other known system.

- NO FAN NO ENGINE
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- NO RISK OF FIRE
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- ... NO EQUAL ...



Outside View of the Andrews Progressive Kiln, showing Lumber placed crosswise the building, on cars.

' WE PUT GREEN SPRUCE IN DRIPPING WITH WATER, AND IN EIGHTEEN HOURS IT WAS DRYER THAN LUMBER THAT HAD BEEN STUCK UP IN THE YARD ALL SUMMER.'

This is the verdict of a Quebec lumber firm, and we can give equal results every time.

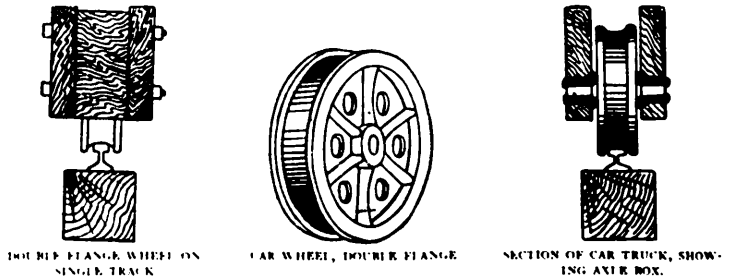
The Andrews Lumber Dryer

Has been proved to possess the following points of excellence:

- 1st That its drying is rapid and perfect
- 2nd That external and internal checking and discoloration are entirely avoided by this method
- 3rd That the drying is done by a CONTINUOUS system and the temperature of the kiln is under absolute control at all times.
- 4th That our Dryer is free from the varying air currents (always wasteful incident to all fan and open-draft kilns.
- 5th That our drying is done by the slow continuous movement of a large body of slightly moistened air
- 6th That our condensing surface is so very large as to be adequate to precipitating the moisture of the saturated air with the least amount of movement
- 7th That our piping is tested by high pressure and every outfit is fully guaranteed
- 8th That by our improved system of drainage the freezing of pipes becomes impossible



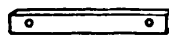
SIDE VIEW OF CAR AND TRACK.



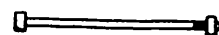
DOUBLE FLANGE WHEEL ON SINGLE TRACK

CAR WHEEL, DOUBLE FLANGE

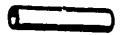
SECTION OF CAR TRUCK, SHOWING AXLE BOX.



STRAP WASHER



BOLT



AXLE

SEND FOR CIRCULARS

DOMINION DRY KILN COMPANY

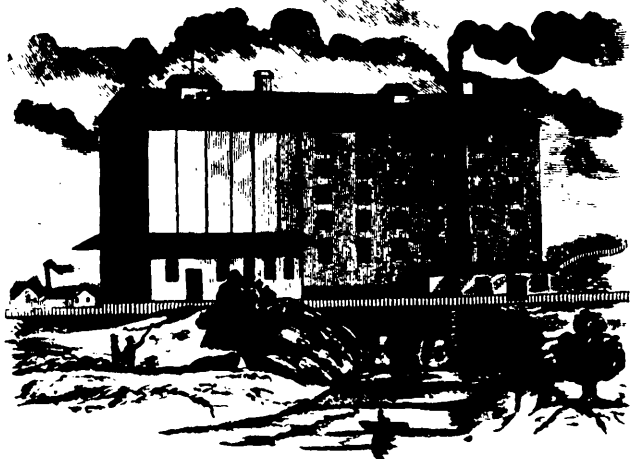
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CLYDE MILLS
SPARKLING RIVER



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GREENFIELD MILLS + AYR. ONT.
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Daily Capacity 500 Barrels

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Royal Dominion Mills
TORONTO

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STRONG BAKERS
LOW GRADE

From No. 1 Hard
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PATENT
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From : :
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In car loads or mixed cars, delivered at any
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Send for samples and quotations



Royal Mills, capacity 1,000 bbls
City Mills, 1,100 bbls.
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DAILY CAPACITY
7,100 BBLs.

HIGHEST QUALITY

Hungarian Patents
AND
Strong Bakers'

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FIRST PRIZE, DIPLOMA AND
GOLD MEDAL, EXHIBITION,
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W. W. OGILVIE
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HEAD OFFICE :
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THE NORTH AMERICAN MILL BUILDING CO.

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FLOUR MILL MACHINERY

On both Smith and Allis Systems

THIS engraving shows a Reliance (sieve) Middlings Purifier surmounted on the front by Reliance Air Purifier and on the rear by a Reliance Dust Catcher, making three machines in one, all driven by one belt and using only the floor space required for the Sieve Purifier alone. The middlings, as they issue from the Grader, are introduced to the Air Purifier which removes the loose bran particles, fuz and dust, and the middlings then pass to the Sieve Purifier, where they are graded and re-purified, and the bran specs of equal gravity to the middlings which were not removed by the Air Purifier are now removed by the combined aid of the cloth and the graduated air suction of the Sieve Purifier. The impurities from the Air Purifier and from the Sieve Purifier are discharged separately. The Air Purifier returns its own air, and draws none from the outside. The Reliance Dust Catcher discharges its own air into the room. The removal of the impurities from the middlings by the action of the Air Purifier, relieves the Sieve Purifier of the hardest work and gives it greatly increased capacity.



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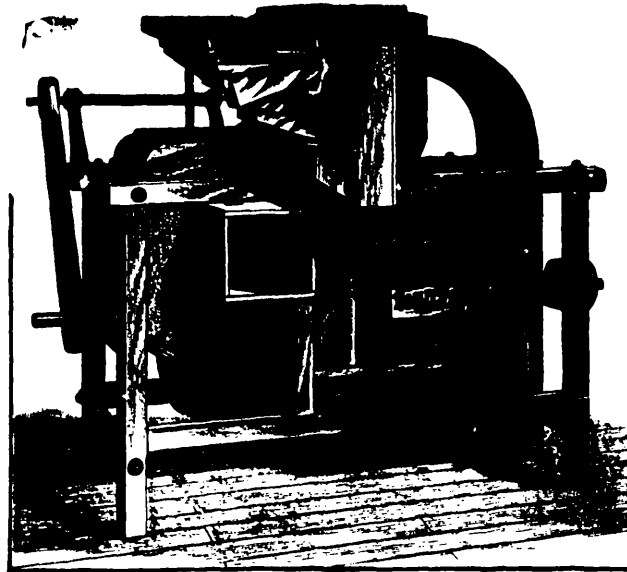
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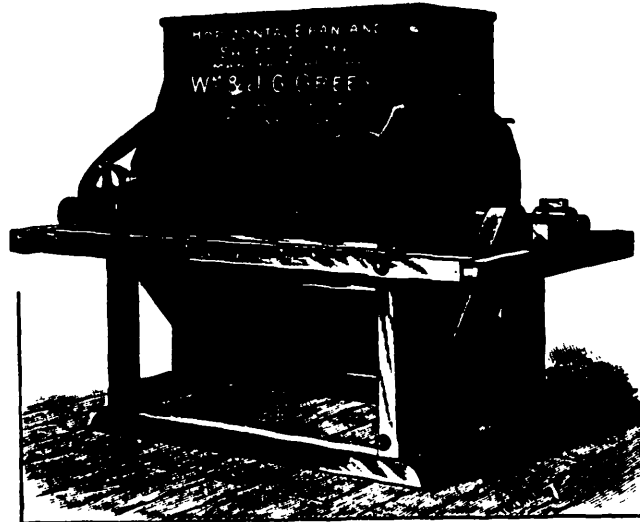


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1873	20.57	1873	12.11
1874	20.57	1874	12.11
1875	20.57	1875	12.11
1876	20.57	1876	12.11
1877	20.57	1877	12.11
1878	20.57	1878	12.11
1879	20.57	1879	12.11
1880	20.57	1880	12.11
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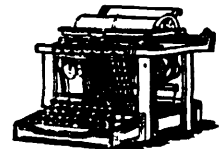
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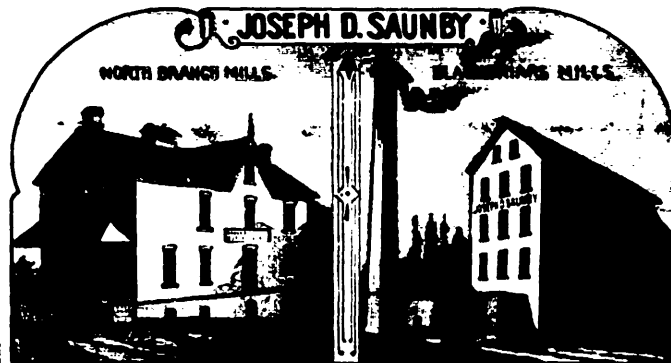
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