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# CANADIAN MILLER

## GRAIN TRADE REVIEW

NEW SERIES "MECHANICAL AND MILLING NEWS"

OLD SERIES, VOL. XI NUMBER 1  
NEW SERIES, VOL. III

TORONTO, ONT., MARCH, 1893

TERMS \$1.00 PER YEAR  
(INCL. POSTAGE)



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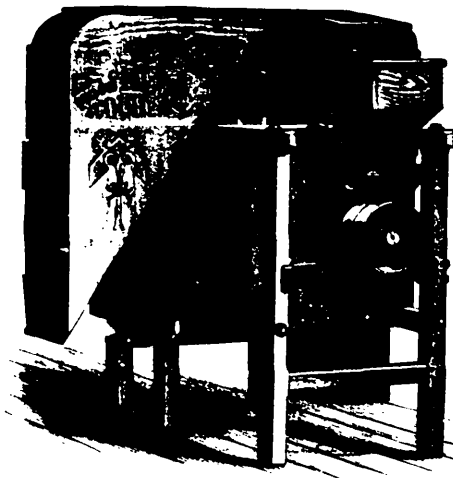
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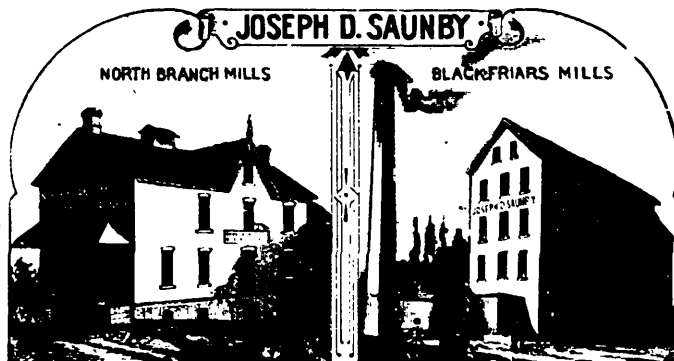
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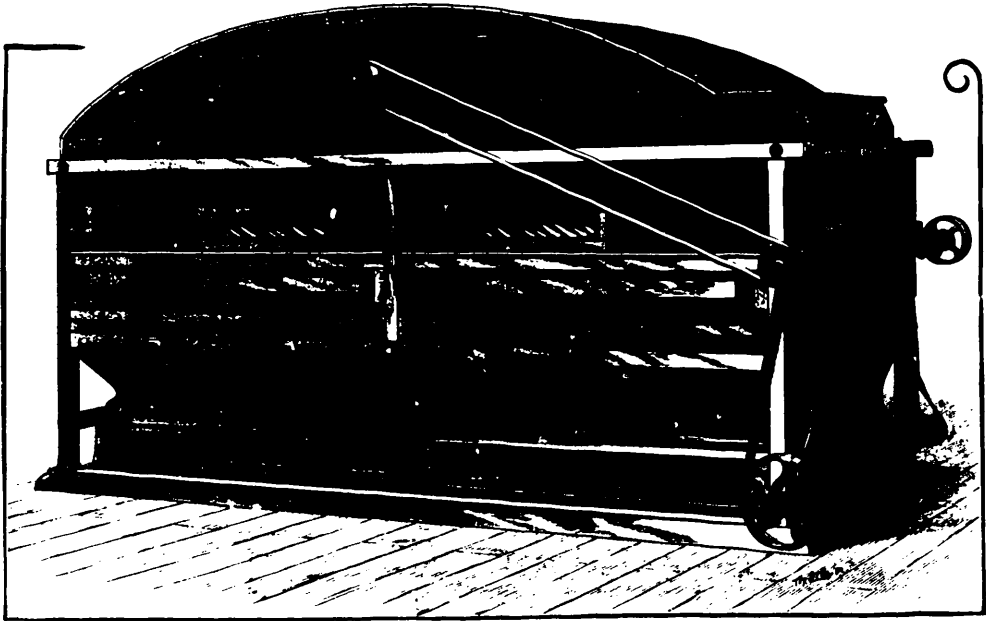
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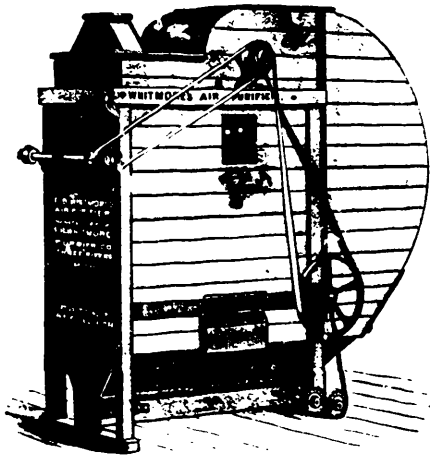
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+  
Aspirator  
at tail  
of Sieve.  
+  
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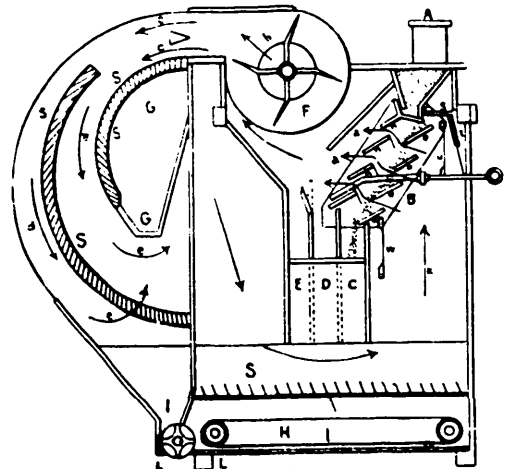


Fig. 2.

SOLE MANUFACTURERS FOR CANADA:

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# THE CANADIAN MILLER

OLD SERIES, VOL. XI, NUMBER 1  
NEW SERIES, VOL. III

TORONTO, ONT., MARCH, 1893

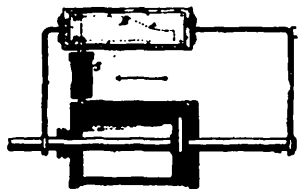
PRICE, 75 CENTS PER YEAR  
IN ADVANCE, 6 CENTS

## THE INDICATOR.

IN a reply to an inquiry from several of our readers as to the action of the "Indicator" as used on the steam engine, says the *Northwestern Mechanic*, we have prepared the following cut and explanation, hoping that thereby the principle may be shown, although it must not be thought that the instrument used is anything like the one here shown; this merely shows the principle. In the cut will be seen the cylinder of an engine, showing the sectional view, and the piston being at the right hand end of the stroke.

The piston rod is extended out of the cylinder each way in order to make clear that the board above moves with the piston, in fact in this case is moved by it.

The board is shown supported by the arms which run up from the piston rod, and on the board is a sheet of paper tacked on to receive the card or tracing of the pencil, which is held in the place marked P at the upper end of the rod in the cylinder. It will be seen that a small pipe runs from the right hand end of the cylinder to the small cylinder and there is free connection between the small cylinder and the main cylinder of the engine.



THE INDICATOR.

The piston in the small cylinder is a neat working fit and is forced down by the spiral spring as shown at S. Now we will suppose that steam is admitted at the right end of the cylinder (the steam chest and valve being on the side in this case) and we see that the steam having free access to the small cylinder as well as the large one, will force the small piston up; and supposing this takes place before the piston of the engine has moved at all, the line that is drawn by the pencil will be perfectly straight as shown by the dotted line on the paper tacked to the board. Now that the piston has commenced to move, and the board moving with it, it will be seen that so long as the steam pressure in the cylinder (and indicator also) remains the same, the indicator pencil remains at the same height, and the line traced will be a perfectly straight line as from A to B. Now if we let the steam follow full stroke, the line will remain straight to the end of the stroke, but as this is not good practice, we cut off at half stroke. This means that when the engine piston has travelled half of its stroke the live steam is cut off, and the steam then in the cylinder expands, forcing the piston along but of course reducing the pressure as it advances.

As the pressure begins to fall, the spring in the indicator piston forces down the pencil arm, and remembering that the board is continually moving, we can readily see that the pencil will trace a curved line somewhat as shown. When the exhaust opens (we will suppose it to open and free the cylinder instantly) the pencil falls back to the original position, and on the back stroke traces a perfectly straight line. The dotted outline is called the card, and if we study it we can see that it represents the work the engine has done during the stroke, the height to which the pencil went as soon as steam was admitted, represents the pressure of steam in the cylinder at the beginning of the stroke. We also see that this pressure was maintained until the piston had made half its stroke, then the gradually falling line shows that the steam pressure was becoming less, owing

to the volume of steam contained in the cylinder being expanded to twice its normal volume, and finally we see the pressure line drop, showing that the exhaust was opened and the free escape of steam allowed. Then we see that the height of the diagram represents the steam pressure, the point where it begins to fall represents the point of "cut off;" and the height before the final drop, the terminal pressure, or pressure still existing when the exhaust is opened and discharged it into the atmosphere.

These exact conditions do not exist in practice, but this will serve to show the manner in which they indicate the performance of the engine.

If we know the steam pressure as it is admitted to the cylinder, we can easily read the card intelligently, but if we do not, the card has much less meaning to us.

This is arranged in practice by having the springs "S," very nicely adjusted in the following manner. A spring is made that will be compressed exactly 1 inch with a pressure of 20 pounds, this is called a "number 20 spring," another is made that will be compressed exactly 1 inch with forty pounds, and called a "number forty spring" so that you can remember that the number of an indicator spring means the pressure required to compress it exactly 1 inch.

Now if we know that a forty spring was used in taking a card, and the card measures 2 inches in height, we know that the steam pressure, when admitted to the cylinder was exactly 80 pounds, and if the height of the line at the other end of the card is  $\frac{1}{4}$  of an inch, we know that the terminal or exhaust pressure must be  $\frac{1}{4}$  of 40 or 30 pounds. This makes the measurement of cards entirely practical if we but know the spring employed. Revising this operation we can see if we wish to indicate an engine whose boiler pressure is 90 pounds, and we do not want our card to exceed 2 inches in height, we use either 45 or 50 spring, usually the latter, as it is best to keep the cards reasonably small.

Of course with the primitive indicator as shown in our cut, we can only indicate the right hand of the engine, and would require two of this type to fully indicate the engine, but of the commercial kind in use to-day, it is possible to indicate both ends with the same instrument, by only changing the connection at the different ends of the cylinders. Now tracing the evolution from this crude indicator of ours to the finely finished one of the present day, we will see that the board as large as the cylinder is replaced by a very light cylinder or drum, and instead of taking the paper for the cards to a board, we simply fasten them around this drum. This drum is revolved at the proper time to be in unison with the engine piston, by being attached by means of a cord wound around the base of the drum, to some moving part of the engine, that gives the correct motion.

The movement of the piston in the instrument of to-day is usually multiplied by a very light arm carrying the pencil over the paper and otherwise being much more simple and compact than our crude instrument, but otherwise it might be called similar.

We will at some future time enlarge upon this subject, still in a very elementary way, for we believe that this is the part to be explained and that any who is desirous of learning in this any other branch has got the principle so that he can thoroughly understand it, he will need little further help in this way.

## ANOTHER SIDE.

A TRADE contemporary says "It is the fashion to boast of the benefits that have come to the race through the extension of transportation facilities all over the world. Who has reaped those benefits? Plainly, the producers have not benefited. Large cities in all countries have got cheaper food through the extension of steamships and railroad lines, but the producers of

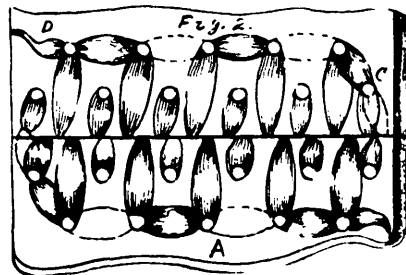
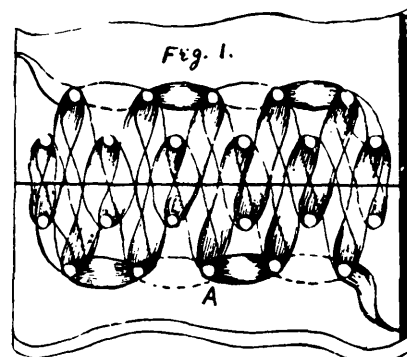
that food have been forced lower and lower, until now the one indispensable, food, offers to its producers the smallest margin of profit of any industry on earth. The city communities thrive at the expense of the rural communities, and the latter may be pardoned for questioning the so-called benefits of the present situation.

## BELT LACING AGAIN.

By J. H. MILES.

THE following sketches show styles of lacing that I illustrated about four years ago. Some asserted that Fig. 1 could not be laced as per cut, and appear exactly alike on both sides, without crossing. My only way out of this was to mail a sample to all who were interested; the result was that my postage bill greatly increased for some time.

Fig. 2 illustrates the celebrated hinge lace, which every practical man ought to be conversant with. I have run this lace for four years on a line-shaft belt without replacing it. The cross stitch, A, was replaced several times, but the lace proper was not removed, as if it was not necessary.



This cross stitch will not make the lace any thicker, as it should be well hammered down after being put on the pulleys. If laced too "scattered," it does not last well. The best results are obtained by punching not over  $\frac{1}{4}$  apart, using a full  $\frac{1}{2}$ -inch lace, and if the lace is very thin, and a small punch is used,  $\frac{1}{2}$  apart; for the holes is better, drawing the lace as tight as possible at C. If the lace is drawn in twice through each outside hole, it will add greatly to the life of shifting belts, as it completely covers or incloses the outside edge or end of the belt.

Fig. 1 I termed the "puzzler" lace. It is quite difficult to those not familiar with it. The hinge lace is superior to it for small pulleys; the only advantage of it is that it can be applied quicker. If the users of the hinge lace will adopt the cross stitch, they will be surprised at the result. In all cases I hammer the lace as flat as possible. Time will flatten it, but a nice smooth joint from the start is preferable.

# COOPERAGE D'PT.

## PRELIMINARY

PURSUANT to announcement in the CANADIAN MILLER of last month, we now open a Cooperage department as a permanent feature of this journal. The growing importance of cooperage interests in Canada will make this department of value to a large circle of MILLER readers. A feature of the department, and one that will alone, no doubt, be highly prized by all interested in the trade, is the monthly review of trade conditions. No man can hope to succeed in business in these days of small margins in manufacturing and selling who does not keep himself in close touch with the market situation. Sources of information are such that readers may place every dependence in the quotations made under that heading.

Readers can help to give interest to the department, and we shall always be glad to hear from them with information and suggestions bearing on cooperage affairs.

## TRADE REVIEW

The present winter has been exceptional for getting out all kinds of elm, basswood and other timbers suitable for the production of cooperage stock. We have had all through the timber belt good sleighing which has enabled manufacturers of cooperage stock to put in their supplies of bolts, logs, etc. In many cases this year the manufacturers of cooperage stock have been compelled to pay higher prices for timber than they have done in former years, for the reason that the timber in immediate vicinity of mills has been cut off in previous years and bolts and logs have had to be hauled long distances. Many mills will run this year that will not be able to run or put in a supply for another season, as all the timber within available distance of their factories has been hauled in this winter, and on account of the shortage of stock carried over last season present prices are ruling high. Many of the milling concerns all over the country find considerable difficulty in being able to get dry staves and dry heading; patent hoops have also been scarce, and prices have been fully maintained. For later deliveries, however, this year it is anticipated that prices will not remain so strong.

The heavy demand for cooperage stock from Minneapolis and all parts of Minnesota at the present time is exceptional, very high figures are being offered for anything that can be shipped out of Canada, with the result that the Canadian market is left perfectly bare and manufacturers have great trouble in saving enough stock to take care of their regular trade.

The weather we have had has been very much against manufacturers of cooperage, the weather being too cold and stock that was carried over last year that was not jointed but shedded up, is not yet in condition to go forward for present use.

Heading has been exceptionally scarce with the result that mills in Ontario have found great trouble in being able to get sufficient to keep them going from week to week and in many cases small lots had to be shipped by local freight to prevent a complete shut down.

There has been a very good demand for patent hoops and all hoops manufactured have gone forward as quickly as made, in fact, to take care of the trade and till orders coming in, hoops had to be shipped out a week or ten days in the knife.

We have very little doubt that with the increased demand for cooperage stock all over the country, fairly good prices will rule during the year and that all mills will have a ready sale for their product, while possibly not at the high figures that have ruled in the past.

The following are present prices on cooperage stock in Ontario

	PER 100
No. 1 32' STAVES	\$5.50
" 2 "	3.25
" 1 28 1/2 and 30' STAVES	5.00
" 2 "	3.00
" 1 24' STAVES	3.75
A No. 1 1 1/2 9' PATENT COOKED HOOPS	6.10
" 1 1/2 6' "	6.00
" 1 1/2 6' "	5.25
" 1 1/2 4' "	3.50
Headlines	35

No.	120 1/2' heading
" 10'	"
" 18 1/2'	"
" 17 1/2'	"
" 16 1/2'	"
" 14 1/2'	"

PER SET
6c.
5c.
4 1/2 c.
4 1/4 c.
4c.
3 1/2 c.

It is estimated on the present stock of logs taken out that the production of cooperage stock this year in Canada will exceed two hundred million staves, thirty-five million hoops and three and one-half million sets of heading, which, with raked hoops, liners, etc., will aggregate about \$2,300,000 to \$2,350,000. Of course, a very large quantity of staves manufactured in Canada is shipped into the United States, over one hundred million staves of Canada stock have been already placed on contract with United States concerns. The duty on hoops and heading, which is 35 per cent, makes it prohibitory for shipment into the United States and all of the hoops and heading produced in Canada are either used for Canadian trade or for export to foreign countries. A very large amount annually is exported.

## SCARCITY OF STAVES.

What is suggested in our trade review of the heavy demand in Minneapolis for cooperage stocks is confirmed by the following from the Northwestern Miller of that city: "The cry of Minneapolis shops now is 'elm staves.' There probably is not a concern in the city that has not practically run out, or been forced to largely curtail its operations in order to avoid reaching that point. Everybody has had more than enough due on old orders or contracts, but the stuff has not materialized. The snow blockade has, no doubt, prevented the arrival of a good deal that was on the way, but coopers are outspoken in the conviction that dealers have neglected old orders and filled fresher ones for parties willing to pay higher prices for prompt delivery. In one instance one shop paid \$7.80 to \$7.85 per M. for five cars, but it had to have them at any price. Others whose cases were urgent, have paid somewhat above \$7.25. But it is the common opinion that the present scarcity will very soon be relieved. Nearly all of the shops have a good deal of elm on the way, and, as soon as this begins to arrive, the shortage is expected, at least in a measure, to disappear. About all the shops are much better supplied with heading than with staves, and the season is getting so far advanced that factories are reported to be starting or increasing their production. There is, however, no surplus available, and it would be hard to go on the market and buy much. Quotations are as difficult to give as ever. To buy on the market for quick delivery, it would probably be necessary to pay over 5c per set. Oak staves are easy, being quotable at 13 1/2 to 14c per set. Some shops are still on the lookout for a limited number of shaved hoops with which to round out their season's supply, but dealers have stopped cutting and no great quantity is available. On this account, it is barely possible that one big concern here, at least, will feel constrained to make the magwump barrel, the same as is already done by two other companies. This barrel is hooped at the bilge with patent hoops and on the ends with round hoops. The Pillsbury company is using this barrel exclusively for its highest grade of flour."

## CHICAGO MARKET.

The Lumberman, of Chicago, of current date, says: "The demand for pork barrels and lard tierces is dull and light, owing to the meagre receipt of hogs and the dull state of the market for hog products. Tierces are selling at 82 1/2 to 85 cents, and barrels at 67 1/2 to 70 cents. The demand for flour and whiskey barrels is fair. Coopers' stock in general is in moderate request, commission men feeling averse to urge shipment of supplies to the market in the present state of demand. The trade is depressed by the unsettled state of the speculative markets."

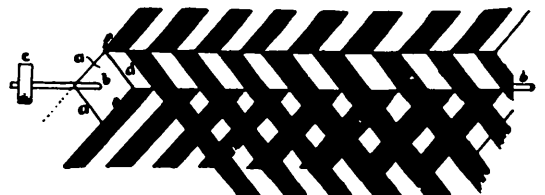
The mills of the Detroit Hoop and Stave Company at Wyandotte, Mich., began the season's work March 10. The company has a license to manufacture the patent hoop grooved for wire.

## VALUABLE REFERENCE BOOK.

READERS of the CANADIAN MILLER will be interested in the announcement made in our advertising pages of the intended publication of a Canadian Lumberman's Directory and Index to the planing mills, sash and door factories, and stave and heading mills of Canada. Many enquiries have come to this office for such a work and to meet the call which we believe is general to the lumbermen of the Dominion, the publisher of the Canada Lumberman now undertakes its publication. Necessarily it involves a large amount of labor and every possible care. Such a book can only properly serve its purpose by being correct and complete in every detail. Subscribers to the MILLER can lend substantial aid in this direction by forwarding to the publisher the information asked for in the announcement on page 15 of this month's MILLER. It is to be understood that the Directory will be much more than a directory of the names and nature of the business carried on by Canadian lumbermen, though this feature will hardly be too highly prized by the trade. The rules and regulations for the measurement and inspection of lumber at the leading lumber centres of Canada and those of the United States where Canadian lumbermen do business, will be embodied in the work, together with information of a practical and useful character to lumbermen and wood-workers not obtainable in collected form in any other book.

## BOLTING CLOTH CLEANER.

A CLEANER for the cloths and round reels as shown in the cut given herewith is described as follows by a writer in the American Miller. The letters A A show a



square piece of pine wood perfectly straight, about 1 1/2 inches square; B B are gudgeons on which the cleaner revolves; C is the driving pulley. Cut out of soft pliable sheepskin pieces 1 x 3 or 4 inches and nail them with small tacks on the pine shaft so that the strap marked E will strike the cloth in the same place as F, so that in every revolution the cleaner makes it will tap the bolt twice gently. It may easily be driven from the reel shaft.

When putting the straps on start say at E which comes out on one end of shaft; then you leave a space of one inch between this and the next one for the strap D, and so on; and, as I know by experience, you will get a cleaner that cannot be beaten, by brushes, cloth or even a broom, which latter instrument is sometimes used as a cloth cleaner. The same device can be adapted to a purifier.

## SAVE THE MILLER'S STEPS.

THE placing of a convenient passenger elevator in large mills can not be too strongly commended. A person who never took the pains to figure up the distance would be astonished at the number of miles an operative miller will cover in a 12-hour track. Especially is this the case in mills of medium capacity where one man has charge of all the machinery. Aside from the question of convenience and comfort for the operators, the result would undoubtedly be a saving on the score of economy. Machinery would be more closely attended, choaks less frequent and the results of the entire mill bettered by reason of closer adjustments.

## ORIGIN OF WINDMILLS.

WINDMILLS are of great antiquity, and are stated to be of Roman or Saracen invention. They are said to have been originally introduced into Europe by the Knights of St. John, who took the hint from what they had seen in the crusades. Windmills were first known in Spain, France and Germany in 1299.



FROM an envelope that has been placed in my hand one might be led to suppose that the old mother England was preparing to let her young child Canada cut away from her leading strings. The envelope was the covering of a letter received from a publishing house in London, Eng., and addressed "The Canadian Miller, 46 King St. West, Toronto, Canada, U.S.A." Let me say to our English friend that we have not got there yet, nor are we a bit anxious. The people of the U.S.A. (United States of America) the parenthesis part for the information of the British correspondent are very nice folk, and taking them altogether we think a good deal of them, but when it is a question of seeking more intimate relationship, Miss Canada is not in the matrimonial market. Canadians are Britishers, and our love, attachment and loyalty are true to the old flag and the old mother.

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A local broker expressed himself thus on 'Change a day or two ago "There is very little trading for local operators on the Chicago market the past few days, and if the market does not get into better shape soon the prospects are that there will be little done this month. The market is lifeless, and any movement of the bulls fails to have the effect of causing a boom market. The bears have the best of it just now, and I think that they will control the wheat market for some time to come."

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Mr. James E. Steen, of the Winnipeg Commercial, who has been visiting Montreal and other eastern parts, speaks hopefully regarding the business prospects of the prairie province. "I believe," said Mr. Steen, "that this year will see the largest area under wheat ever known in the history of the province. There has never been so much ploughing as was the case last fall. In 1891 there were about 960,000 acres under wheat in the province of Manitoba. The year following it decreased to 890,000 acres, but as last fall was such a good one I have no hesitation in saying that the acreage of wheat this year will be 1,250,000, and if you include all grains the figures will reach one and three-quarter millions. The population is constantly increasing all over, and there is, no doubt, a half million acres in all grains beyond the limits of the province."

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"A flour factor of considerable experience," says the London (Eng.) Miller, "remarked not long ago that London millers were to a great extent responsible for the heavy importations of American flour. He held that the British flour manufacturer showed an excess of good nature in giving such liberal credit, while his American competitor invariably exacted payment for his goods within a fortnight of their arrival in port. There is no doubt that many millers, especially in this district, are at times over-liberal with their credit. It is more than eight years since, at a dinner of the London Flour Millers' Association, Mr. Richard J. Duck observed 'that English millers should take a lesson from the foreign importer, who requires payment within a fortnight of delivery . . . no London miller receives an equally prompt payment of his flour . . . it is therefore clear that the millers give their customers the use of their own money, wherewith to buy the goods of their foreign competitors.' Those words are as true to-day as ever."

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A short time since information came into my possession from a well-known and highly esteemed miller who, whilst interested in the prosperity of milling and grain operations in Ontario, has a more direct interest, probably, in the success of Manitoba and Northwest affairs. It was this fact that gave special significance to what he

told me. He had been referring to the heavy rains that visited Manitoba last October a rain fall quite unusual for that country. "When these big rain storms came," said he, "not more than one-half of the wheat was threshed. The greater part of the unthreshed wheat, owing to careless stacking, was more or less damp, some of it wet; this was nearly all marketed during the hard, frosty weather. To an inexperienced buyer it was not detected, but if detected and bought at a few cents below the sound wheat price it was in many instances put with the sound wheat. When you remember that a great proportion of the wheat buyers are inexperienced and do not realize the amount of injury such grading will do, you will have some idea of the consequences when the hot weather comes on. Last year it was only the inferior grades that were affected. This year I fear the whole range of grades will be in trouble."

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A sixteenth century donation was recently in France the cause of a curious lawsuit. In the year 1634 the famous soldier, Marshal Boufflers, undertook on behalf of himself, his heirs or the occupiers of his mansion at Crillon, to give three measures of corn (the capacity is not stated) to the village clerk in return for certain teaching to be imparted by that functionary to the children of the parish. This instruction was to consist of the catechism and of a hymn, "Qui Lazarum," to be chanted by the choir in the chapel of Crillon in memory of the donor's wife. The Marshal's mansion, after passing through many different hands, is now the property of the Duc de Levis-Mirepoix. This nobleman lately discontinued the tribute of corn on the not unreasonable ground that the municipality no longer fulfilled its share of the contract, the parish clerk having been replaced by a lay teacher, who taught the children neither hymns nor catechism. Thereupon the Mayor of Crillon sued the proprietor of the mansion for the donation, and gained the day, though it is not said in what kind of a court. The tribunal held that the present owner of Crillon, not being of the blood of Marshall Boufflers, had no power to cancel the gift. Seeing that the municipality had repudiated its own part of what was virtually a contract, this decision is surely hard measure to the defendant.

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A single sentence in a letter received from Mr. Jos. W. Warder, of Bobcaygeon, Ont., when remitting his subscription account to the publisher, has occurred to me as very sententious and practical. It is this: "Would like to see Canadian millers discuss subjects of interest in milling similar to Americans." I can say with the Hoosier poet, Will Carlton: "Dem are my sentiments, too." I have hammered on this text, I was going to say, for ages. But if I put it in that way, you would guess my years, and though I am not a woman, I might rather that you knew less of my personal affairs. All the same, I have done some years of tall talking on the question. We have a splendid lot of Canadian millers - bright, intelligent, sensible, practical men. They know their business. No one knows it better. They are as full of ideas, to use a very aged simile, as an egg is full of meat. But they are the hardest men in this world to get started on giving out of their knowledge. I would almost recommend them to read a short article, which appears in another part of the MILLER, on "Powers of Absorption." You remember a wise saying of the Autocrat of the Breakfast Table that I once quoted on this page: "What would be the state of the highways of life if we did not drive our 'thought sprinklers' through them with the valves open sometimes." I would be ready to say a good deal more, if Canadian dusties might only be influenced to open their mouths, and, pen in hand, transmit their thoughts to paper and forward them to the CANADIAN MILLER that others might be benefited. I need say no more, but I will hope that Mr. Warder's hint may not fall on stony ground.

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An article in the February MILLER on the "Origin of Fine Wheat" has brought me several letters on the question. Mr. G. Leith, of the Nileston Mills, London, Ont., says: "I came from Aberdeen, Scotland, in 1841, locating then in the township of Hellen, Prince Edward Co. The same year an emigrant came from Scotland,

and brought a bag of spring wheat. This was disposed of to some farmers, who sowed the wheat, and in 1842 I ground the product. When the farmer brought the grist to the mill I asked him what kind of wheat he called it. I was told it was Fine wheat. It was a hard, flinty wheat, and difficult to grind. I used to sprinkle the wheat with water and let it lie in a heap for two days. What I claim is that the Fine wheat of Manitoba is none other than this Fine wheat of Scotland, some of which was grown in Prince Edward Co. as early as 1841. The Leith family have been oatmeal millers and millwrights in Scotland some hundreds of years, so my grandfather told me sixty years ago." The earliest date hitherto given of the introduction of Fine wheat into Canada or the United States has been 1850 and 1857. Mr. Leith's story antedates the period some sixteen years, and ought to be sufficient evidence to the Buffalo Milling World that Fine wheat had its origin in Canada and not the States, so far as this continent is concerned. An old and esteemed correspondent, who resided for many years in Peterboro county says "In 1853 the writer lived in the township of Ottonabee, Co. of Peterboro. My father was running a mill then and knew Mr. David Fine. I bought his wheat, or it was sent to him from Scotland, and for years it was known as Scotch wheat. We had great difficulty grinding it owing to its hardness, and under the old process the bran cut up. Club wheat was thus preferred to it until the purifiers and rolls came in. By this time it had spread over the whole of the northern part of this continent under the name of Fine. All accounts of this wheat seem to agree as regards its extreme hardness."

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Everyone, I suppose, has experienced in one way or another how far out an apparently cleverly-constructed theory may be when put to the test of actual practice. Things do not then dovetail in as snugly as they seemed to do when the theory had got no further than an elaboration on paper. A correspondent of the Modern Miller seems to have had this thought in mind when he remarked "Often I wonder what becomes of millers who accept as gospel all the advice recognized by technical writers have to offer them in the milling journals of this and other countries. Judging from what I am told, it is not an uncommon thing for millers to gain valuable ideas from the technical writers and not much more uncommon for them to be misled by the same agency. At a glance it would seem that writers should be more careful and avoid giving publicity to any plan or idea that might bring injury to the fortunes of any one adopting it. A second inquiry discloses the fact that it is not possible to advance an idea beneficial to every one even in the same trade. The reasons why this is and should be so are many, but one is sufficient to make it apparent to all in this connection. A writer may know a great deal about milling in two, three, five or many more states and in addition may have had experience in other countries and still be ignorant of the peculiar conditions prevailing in certain other sections of the country. This being true he can neither say that his advice holds good there nor that it does not. He doesn't know and doesn't say, leaving millers to use their own judgment in the application or rejection of his plans. This is as it should be. Millers should be able to know whether a milling system that will yield a profit in one section of the country is fit to adopt in another. They can not all know this in the start but they can learn it, and learning to rely upon their own judgment will do them good. It is not well to accept any rule as absolutely reliable without a test. It may be argued in some instances that no apparent loss or damage could result, but that is not good reasoning. A feature that is unimportant is not worth considering and all important matters should be investigated thoroughly before accepted, and as largely as possible before any expense is incurred. As a general thing the technical writers of to-day announce advanced ideas and are of inestimable value to the trade. They could, doubtless, be more explicit as a class, but it is impossible for them to do diagram and explain every new feature as to convey a practical knowledge to the miller who will not investigate for himself. If the average miller was as tireless as the average writer on milling subjects in seeking new and valuable ideas the business of milling would go forward with a whoop."





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EDITOR

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THE CANADIAN MILLER AND GRAIN TRADE REVIEW is published for 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 unobtainable as an organ with any manufacturing company, we will always be for all honestly and cordially 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.

### A TALK WITH WORKING MILLERS.

ONE of the arguments sometimes used for a reduction in the hours of labor is that workmen may have more time for self-improvement and education. It is by no means certain that this spare time, if secured, would go to any large extent, be used in this manner. The men who are to-day improving their opportunities, despite the hours given to manual occupation, would appreciate, and no doubt wisely use, these additional hours. The men who spend their time now in ways that are neither healthful nor improving from a moral or intellectual point of view would in many cases only extend the dissipation of valuable time as a result of extra time on their hands. This, however, opens an interesting field of labor discussion, that we shall not follow further at the present time.

This much will be agreed to by all thoughtful men, whether the end is accomplished in eight hours or ten hours, or under even less favorable circumstances, that the workman who expects to attain success in his work must read and study at least on the lines of his particular vocation. If one is satisfied to drift with the tide and be a nobody among the multitude of nobodies in his calling, he need not trouble himself about books or opportunities for intellectual culture. The many enquiries, however, that come to a journal of the character of the MILLER, asking what books one may read with most profit to a working mechanic anxious to become a better mechanic, makes clear that there are scores of workmen sincerely desirous of self-improvement. Nothing in the work of an editor gives him greater pleasure than the opportunity to answer such enquiries and perhaps give a word of counsel that will prove a stimulus and inspiration to some worthy seeker after knowledge.

Of course there are those ready with objections to suggestions such as we have here given expression to. But the lion and the adder are ever in the way of the man who does not want to do a thing. Some remarks on this point have recently appeared in the columns of the Roller Miller and we give them a place here as part of the subject under discussion, and exceedingly practical. "With many of us, reading is largely a matter of opportunity, some think they lack the means of procuring books, or more frequently still, imagine that they have not the time necessary for the mastery of the helpful volumes. If one would stop to consider but for a moment, however, the amount of money we spend for cigars, amusements, etc., we would soon find that we could easily accumulate in a year's time a sufficient amount to be able to invest in a nice little library. But we are inclined to stop and consider that after working incessantly day after day we are entitled to a certain amount of amusement of some kind. This is very true, but we are liable to carry the matter too far. I do not mean to deprive oneself entirely of amusements, because

it is easy to realize that "all work and no play makes Jack a dull boy." If we would, nevertheless, stop to consider the great benefit derived from a mechanical library, and the possible increase in salary by reason of intelligent use, or, at least, the being able to accomplish a day's work with a greater amount of ease, we would certainly profit by it far more in the end.

"It frequently happens that the taste or appreciation for what is advancing and ennobling in literature of this kind is lacking. This is the heaviest bolt on the gate of knowledge; for no amount of recommendation can give one interest in a book, and in mental as well as in physical food we are profited only by what we assimilate. But it is just for those who feel both longing and limitation that this article is written simply to act as a finger-post indicating in what direction mental culture may be reached. Bear in mind also that there are "passing" books and "lasting" books. This we have more or less all of us experienced in books written in the form of romance, fiction, novels, etc. The same thing holds good on mechanical literature. One cannot expect to find the same amount of help in the books of the day as in the books for all time. Again, the manner of reading will differ. The one kind furnishes comparatively easy reading, because more on the level of our own knowledge and experience but the latest book should not occupy the time to the exclusion of the older authors, who often give you their thought more by way of reward than of help, just as nature does not spread her gold upon the surface, but let's us search and dig, or crush the rock to get the precious ore. We must do some reading that requires thought and labor."

### LADOGA WHEAT.

A RECENT Bulletin of the Department of Agriculture, Ottawa, deals exhaustively with the question of Ladoga wheat. Recognizing the necessity of securing the earliest varieties of grain to meet the climatic conditions of the Canadian North-West, samples of Ladoga were secured in 1887 from near Lake Ladoga, north of St. Petersburg, Russia, where the climatic conditions are supposed to be very similar to those of our North-West. This variety is said to be highly esteemed in Russia both for its quality and earliness. About one hundred bushels of the Russian Ladoga were secured and widely distributed in different parts of Manitoba and the North-west.

A thorough enquiry was entered into in order to obtain a correct judgment of the quality of this wheat. The most prominent among Dominion grain inspectors, the largest millers, and the Boards of Trade at Montreal, Toronto and Winnipeg were all consulted, and every precaution exercised to make the investigation complete and impartial. The opinions given on these samples were very varied. Some declared the wheat "hard," others "soft," a third "extra hard" opinions were decidedly conflicting.

The milling test was applied in 1888 when sixteen bushels of Ladoga, which had been grown at the Experimental Farm at Indian Head, were ground at the Qu'Appelle mill with a similar quantity of Red Fife, which had been grown in an adjacent field. The flour of the Ladoga, when compared with the Red Fife was found to have a yellow shade. Several sacks of flour from both varieties were forwarded to Ottawa and bread carefully made from each under the supervision of Director Saunders of the Experimental Farm. The Ladoga was found to produce a drier flour than the Red Fife, and 100 lbs. of the Ladoga flour produced 2 pounds more of bread than the same quantity of the other. The bread made from both samples had a yellowish tint, but the yellow color was more pronounced in the bread made from the Ladoga flour. Two leading bakers in Ottawa also made tests from the same flours, and with the same result that the color from the Ladoga was not as good as from Red Fife.

Throughout 1889, 1890 and 1891 this wheat was put to various tests, all going to show that the quality of early ripening had been maintained throughout. That a more complete test of the milling qualities of Ladoga might be obtained, arrangements were made with M. McLaughlin & Co., of the Royal Dominion Mills, Toronto, to grind a car load of this wheat. Mr. McLaugh-

lin's first report of the test was in these words "Compared with Red Fife it grinds 'tough' reducing the capacity of the mill thus the output per hour was:

Ladoga	10.3 barrels
Red Fife	18.1 "

These results, however, would not have been so adverse to Ladoga, if the mill were run with it, say for a week. The present trial was for nine hours only. The cleaning process or separation of bran is more difficult in the case of Ladoga, though in this respect as well as in the grinding it ranks ahead of goose wheat. It would yield about the same quantity of flour per bushel as No. 1 Hard, in which also the percentages of "Bakers Strong" and Low grade are similar to those from No. 1 Hard. It contains about the same percentage of gluten as No. 1 Hard. The flour is yellow compared with that from No. 1 Hard. Doubtless the flour would give better results after being allowed to age.

Baking tests from the flour ground by McLaughlin & Co., were made by Mr. J. D. Nasmith. He is of the opinion that Ladoga is a strong flour, and that the yellow color may be dissipated to a great extent by allowing fermentation to proceed longer than usual. The sponge of Ladoga works quicker than that of Red Fife. In a comparative test Mr. Nasmith obtained from 100 lbs. of "Queen" flour 143 lbs. of bread; from 100 lbs. of "Ladoga" flour, 152 pounds of bread.

Later Mr. McLaughlin wrote as follows to Prof. Saunders at Ottawa "We have now had sufficient experience of the Ladoga flour to satisfy us that it is never going to be a favorite with bakers. Nasmith has not been able to repeat the loaf he sent you, and Coleman condemns it in unstated terms, a third man, B. Woodman, of Parkdale, to whom we sent some, had quite as bad experience as Coleman. Certainly the bread all but that one sample of Nasmith's was unfit for Toronto trade."

Ladoga has proven the subject of a fairly active discussion with agriculturalists, grain men and millers, in Canada and the North-West sections of the States for several years. But so far as Canada is concerned the investigation of Prof. Saunders would appear to be fatal to the profitable growth of this wheat for milling purposes. It undoubtedly has the advantage over Red Fife of ripening ten days earlier, but it is condemned by the milling test. Mr. Saunders summarizes the situation in these terms: "From the facts submitted it would appear that while it is possible to make good bread from Ladoga flour it is much easier to make bread of an inferior quality, and unless the proper methods for treating this flour to procure uniformly good results could be ascertained it is not likely that Ladoga will be acceptable to either millers or bakers, as long as the flour of the Red Fife is obtainable. Hence when Red Fife can be ripened, the efforts of those settlers engaged in wheat growing in the North-West should be directed to its production in the greatest perfection by early sowing and a proper preparation of the soil. Give Red Fife every chance of maturing since no other wheat is yet to be had which will give the same satisfactory returns, both for home and foreign trade."

### PURE SEED.

THE following resolution was carried by the grain section of the Toronto Board of Trade on the open board on 13th inst. The grain section of the Board of Trade desires to call the attention of the agricultural community to the necessity which exists for greater attention being given to the purity of seed used in the production of black-eyed and white-eyed marrowfat peas. Several markets which have heretofore bought Canadian marrowfat peas have not taken them this year on account of the inferior quality, caused by the mixture of black eyes with white eyes or mummy or other white peas. With restricted markets the price of the whole crop necessarily declines, and the trade can only be restored to its former position by the three kinds of peas, black eyes, white eyes and mummies, being each cultivated and marketed separately. The section would also urge upon the farmers the importance of thoroughly cleansing their fall and spring wheat seed by picking or other process, so as to effectually destroy all smut germs, and thus avoid the great loss which has been occasioned in recent years by smutty wheat.

**VIEWS AND INTERVIEWS.**

**An Ancient Scythe.**

An Egyptian scythe, dug up on the banks of the Nile in 1890, and said to be as old as Moses, is exhibited among the antiquities in the private museum of Flinders Petrie, London. The shaft of the instrument is wood, set with a row of fine flint saws which are securely cemented in a groove. This discovery answers the oft-asked question, "How did the stone-age man harvest his crops?"

**Business Use of Slang.**

In business, and especially in trade advertisements and announcements, increased force, and the kind of force that sticks, will be given to the whole ad., sometimes, by the use of an expressive colloquialism, which is often only another term for slang. "Ah' yer trolley's off," contemptuously sneered a scrubby little newsboy on King street the other day to a companion with whom he was endeavoring to straighten out a difference of some kind; "and 'your trolley's off," remarks a writer in a daily paper, "is getting to be pretty generally used to express what has been indicated by 'You're off your base' If Macaulay or Charles Lamb offers anything more terse or pithy that would express to every one just what every one understands by 'You're trolley's off, it would be worth quoting. Slang is perhaps richer in the history that touches the life and experience of all the people closely than most other words. Future generations may know the exact date when the trolley was first used, but if they could discover just when 'Your trolley's off' came into vogue they would know better when electric trolley cars began to be in general use and common to the people."

**Powers of Absorption.**

The captains of ships which carry bricks, we are told, have to be very careful. An ordinary brick is capable of absorbing a pint of water. So with a cargo of brick in the hold serious leakage may quite well go on undetected, for the water that enters is sucked up as fast as it gets in. Where the danger comes from absorption by the brick is the possibility of the shipowner not knowing that the absorption has taken place and therefore, not being prepared soon enough to stop the leak. The power of absorption, if dangerous in some respects, has its strong points. The man who has the faculty of absorption, whether of means or knowledge, is building up strength. But if he does not give out to some extent that which he has absorbed, his strength will be a source of weakness and injury both to himself and others. It is the old story of the talents. Only those which are put to use add other talents to those already possessed. The talent that is tied in the napkin gains nothing and rebounds upon the owner. The sponge is useful in absorbing water only as it gives it out again for some useful purpose, to take in a fresh supply to be again made use of. We may wreck ourselves and wreck others, if like bricks in the ship hold, our policy is one of individual selfish absorption.

**Hot Heads in Business Hats.**

Many an important commercial transaction has been brought to an abrupt and unfortunate termination by a hasty word spoken. One writer has said: "A good temper is better than a legacy or a public pension." In the handling of the affairs of business there is hardly any calculating how far a persuasive and politic tongue counts. And the shrewd man of business is not infrequently outwitted by his less capable rival simply because the one differs from the other in knowing how to keep his temper. Fred. Woodrow, in Age of Steel, has put the case in this way: "A business man with no bridle on his tongue or his temper, is as much out of place in commercial or industrial life as a mouse is in a street car, or a match in a powder house. No business can be run on hysterics and sulphur except that of a publisher of dime novels or a politician, or a demagogue on a platform or in a pulpit. Whoever heard of spasms in arithmetic, or of bile in percentages, or of a hot head in a business hat being the better for a stoker in his brain? It is true that had tempered men often succeed in business, but in most cases it will be discovered that there is

a cool head and a calm hand between the match and the straw. Anger is one thing, and irritability is another. No man can be blamed for making a protest against an employe who makes an easy chair of his work bench or a botch of his workmanship, or who boils over occasionally when immoderately demands a salary, but as a rule it serves its purpose best when wisely controlled and decently exhibited."

**Cheapening Production.**

As indicating the trend of the age it is doubtless true, as some one has said, "That never before has mechanical genius applied itself in this country as now to the solution of the question, how shall the cost of production be further decreased by the introduction of more efficient machinery? This is the keynote of the manufacturers who are now most successful. The search for specialties is not alluring, as specialty competes with specialty, and consumption is perforce limited. In staple articles, however, there is a constant trade. The manufacturer, therefore, who surpasses his fellows in the cheapness with which he can turn out staple articles of equal quality surpasses them also in securing a large share of the trade and better profits." Perhaps there is no use in kicking against the pricks, and necessity, the mother of invention, having driven trade to this resort, it will remain there until ejected by some more potent force. This force, it may be, will be the revulsion of sentiment that is already brewing, against the substitution of the imperfect, the nasty, the slipshod, that in many cases is accompanying this cheapening of production. Or it may be a labor revulsion; for the demand of the consumer for cheapness and bargains in everything is forcing down prices of certain kinds of labor and the parent of the sweating system in many large cities is not the so-called sweater, but really the great mass of individual consumers, who insist on having cheap goods regardless of who suffers, even though it be their own neighbors and relatives. Perhaps the milling trades are as free from this class of methods as any commercial or manufacturing business. The average man will not, if he can in any way avoid it, sacrifice his stomach for that which is unpalatable and nauseous.

**TWO BELTS BETTER THAN ONE.**

ROLLER machines used in flour mills for reducing wheat are best driven with two belts instead of one as is much in vogue. So says a writer in the Mechanical News. They should be driven on both sides direct from the main driving shaft without the use of a counter-shaft. Neither belt should be crossed. Crossing belts is more or less a vicious practice at all times and under all circumstances, and should not, as a rule, be resorted to except under compulsion. However, cross-belts may be tolerated and endured in many places and for many purposes, but driving rolls with cross-belts is not among them. Very many use cross-belts on rolls as a matter of fact because they suppose it has to be done, knowing no way in which a cross-belt can be run open without reversing the motion.

It is just like standing an egg on end—simple enough if you know how. To open a cross-belt on a double stand of rolls requires two carrying pulleys, both of which can be used as tighteners, while doing away with the common tightners used on such mills. In all five pulleys are used for the open belt against four for the cross-belt. The best arrangement for carrying the extra pulleys is to procure four pieces of timber, say 4x6 when very long, and then 5x8, that will reach from basement floor to ceiling.

These timbers should be placed on the end, two of them on each side of the drafting pulley to allow for ample clearance, and securely fastened both at top and bottom. Journal boxes for the carrying pulleys, or rather adjustable tightening frames for supporting and moving the pulleys up and down, should be fastened to the posts near the floor, or at least far enough below the driving pulleys for belt clearance at all times. It will of course be understood that the four posts will be so arranged as to bring all the pulleys, drivers, machine pulleys and carrying pulleys in line in the ordinary way.

To get the belt on we start from the floor by passing the belt under one of the carrying pulleys, then up and over the machine pulley on that side, thence down and

under the driving pulley and then up over the other machine pulley, thence down again and under the other carrying pulley from the outside, when the two ends of the belt will come together, then they can be fastened together and the job is completed. Care should be taken to run the carrying pulleys up to full height before fastening the belt. Each belt on a roller machine should drive one fast and one slow roll, as in that way the work is more effective and makes the strain equal on both belts.

It was a brilliant conception worthy the master minds engaged upon it and the labor bestowed upon it, and as a result we have the planifier, a machine that is going to revolutionize backwards the process of flour bolting. A sifter no longer dexterously manipulated by the arm muscles of ye ancient housewives, but by water, steam, electricity, et al., yet an ancient sifter in a new form all the same.

**MILLERS. CENTRIFUGALS AND REELS.**

It is too much the disposition of millers, says a writer in the South Western Miller, when flour issuing from a centrifugal or round reel is speck, and off-color, to put on a finer cloth. This is not a modern fallacy it was prevalent in the days of the old style system of bolting, before centrifugals and round reels were in general use. But the plan, as a method of making flour purer, was made more popular and seemingly more effective by the introduction of centrifugal and round reel systems of bolting.

Observe. With the centrifugal or round reel a finer cloth may be employed than with a hexagonal reel and more granular flour produced, while more acute separations may be made and the stock better cleaned. But it must be remembered that perfect in operation as the best class of centrifugals and round reels are, they will not atone, in purification of flour, for imperfectly purified stock, either wheat or middlings, or improper ginding on either rolls or millstones; or in other words, the centrifugal and round reel systems have accomplished nothing towards doing away with the scientific clothing of bolting reels or scientific milling on general principles. The operative must understand and fully appreciate, that because flour is specky, issuing from a reel making correct separations according to the criterion of right percentages of products and desirably worked stock that the reel is necessarily either imperfect or improperly clothed. For the fault may be with some operation prior to the reel.

While it may be said of the centrifugal or round reel that they are not easy of serious interruption by ordinary inproprieties so far as execution in work is concerned, it must be remembered that to be a constant success and reliably durable it must be in the hands of skillful and attentive millers and grinding operations should be as carefully performed as with the old hexagonal reel. For, among the advantages of the centrifugal or round reel over the hexagonal reel may be named, that as it employs all of the cloth, constantly in a uniform manner the cloth will last much longer while turning out a certain amount of flour than if—as is the case with hexagonal reels—only a portion of the cloth is employed in passing the flour through its meshes. Reducing practices to a consideration of minimum effects it will not do to estimate that the wear on cloth is caused as much from passing soft stock through its meshes as from the resistance of material, thrown against the cloth by the action of the beaters, which will not pass through it. Hence it is plain that stock which has been properly ground not consisting of a part of heavy, rough or sharp material is easier on a centrifugal or round reel cloth than irregularly ground stock. And hence we say that material ground on a roller mill in proper condition by an understanding operative contributes fully as much to the centrifugal or round reel's successful operation as it ever did to the success of the hexagonal reel. And it does not only seem, but is a positive fact demonstrated in every-day milling, that no matter how perfect systems and machines may be made, the skillful, attentive operator is still a necessity.

Many a man in a cooper's shop has found that even a barrel hoop will turn if trodden on.



The particular purpose of this department is to create an increased market for Canadian mill products. It is concerned, generally, with the export of barley, brewer's malt, split pea, oats, etc., at home and abroad. The interests of the miller who grinds the grain will have the careful consideration of any matter that is likely to lead to an improved account of business in the local market of any of the various provinces of the Dominion will be cordially 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 Manitoba branch covers very effectively the field of flour handlers and buyers of mill products, not only within the borders of the Canadian confederation, but in New and old, the West Indies, Central America and other European 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, the methods of transportation and shipping intelligence, market prices and relative value of the mill and mill industries. We will also furnish advice from millers, shippers and buyers on any matter that may be of interest to them.

#### FLOUR SHIPPING TO THE WEST INDIES

CONTINUED interest is manifested in trade with the West Indies. The CANADIAN MILLER has published considerable on the question lately, but no more than the importance of this field to the Canadian miller warrants.

A recent visitor from these colonies is Mr. James E. Riley, of Montreal. As a business man he took occasion to make an investigation of business conditions in the Indies and has since given his views to the public. Complaint, he tells us, is made of the character of our flour packages. The barrels are flimsily made and cannot stand the rough handling they receive in the West Indian trade. We have on another occasion published similar testimony from other sources. Reform in the character of barrels used in this trade is quite essential, and as the matter has been plainly brought before Canadian millers, no doubt the requirements of the West India trade in this particular will be met.

Mr. Riley places some emphasis on the complaint that Canadian flour makes too white a bread. The people of the Indies have become accustomed to a dark loaf and in their view color and strength necessarily go together. Reform in this direction we may expect to find come from the people of the Indies. A little further use of the white loaf and a better knowledge of its constituent parts will show them its superiority over what custom only has made popular with them.

Some useful particulars regarding methods of handling flour are furnished in a letter from Delos J. Martin, of Antigua, W. I., which is on file in the Montreal Board of Trade rooms. "Flour," Mr. Martin says, "is sold for cash and on credit, 30 days or more. Duty is 84c. per barrel, and an additional tax of 90c. on every 100 barrels, 94c. per barrel, say. Government landing warehouse charge for storing is 10c. per barrel for first month, and 5c. per barrel per month afterwards. Portage is a small charge, 12c. per five barrels. I regret to say that Canadian flour is in disrepute among bakers here, owing to its making too white bread, the masses being accustomed to a darker bread made from American flour, which now brings a higher price, now \$6 to \$6.24. It is also complained, I learn, by buyers of Canadian flour that barrels are not as closely made as American and contents escape."

J. Fleuret & Co., Pointe a Pitre, Gaudaloupe, whose letter is also on file with the Montreal Board of Trade, writing on the flour question, say: "We are in good position to handle your consignments of flour; are already agents for several Canadian shippers, but up to now their goods have not given satisfaction. What we require here is something similar to New York city mills flours, principally the brands called Hungarian 00, and St. Lawrence, which are manufactured by Messrs Jones & Co. If you could ship us similar goods, no doubt we could work up a good business for you. We advise you to ship one hundred barrels as a trial, and to ship round hoop barrels in preference to the flat hoop ones, which are not liked here; in fact, the former are preferred for packing coffee, cocoa, etc., for shipment to France, whilst the others cannot be sold for same purposes. We do not buy for our account, we receive on consignment. We can give you the best references. Flour

is sold in notes payable at four months; we discount them at 6 per annum, and remit net proceeds of account sales in 90 days. Gaudaloupe bank bills on Paris at a cost of 2 1/2 per cent. premium. No exchange on London or New York. Just now the article is in full supply and selling at 30 and 31 francs per barrel. We look for an improvement very shortly. The equivalent value of a dollar is 50 2/5c., that is 5 francs and 25 centimes."

#### THAT "GIGANTIC FLOUR TRUST."

There is enough general interest evinced in the subject of combines and trusts in the present day to cause the daily and weekly press to sensationalize any news in that line that may come in their way. We have seen an illustration of this within the past few weeks in the large headlines that have been given to a dispatch widely circulated in all parts of the continent announcing the formation by the spring wheat millers of the United States of a "Gigantic Flour Trust" which included ninety per cent of the spring wheat millers and "all the large mills at Minneapolis, Duluth, Buffalo and Boston."

It is to be expected that no one would be more interested in a combine of this character than the millers themselves, but few millers in the localities mentioned appear to know anything about the matter. The meeting where the big combine was supposed to have had its inception was held in Chicago, but the most trustworthy reports from those interested in milling, and likely to know, shows that whilst a meeting of millers was held in Chicago, it was a very small meeting and carried no significance in the direction stated.

The leading milling journals of the United States with one voice ridicule the scheme as impracticable and chimerical in the extreme. Says the American Miller: "No miller need be told the utter uselessness of endeavoring to bring several thousand mills under one management or even into a close union. The most that could be done, perhaps the most that any one is sanguine enough to expect, is that a general agreement should be made not to sell flour below a certain price. And the minimum price would have to be pretty close to the cost of production if the agreement would hold, for millers within the combine, were one formed, as well as millers outside it, would be tempted to cut prices a little but if the minimum price left even a fair degree of profit. So neither millers outside a combine nor consumers need fear the operations of any sort of combination that may be effected. Nor could any combination be made large enough and wide enough to raise prices to an offensive figure. There is too much milling capacity in this country for that."

The Buffalo Milling World says: "The number of mills in this country is estimated to be anywhere from 21,000 to 28,000. The production of flour in the country ranges probably from 70,000,000 to 78,000,000 barrels. If there are 21,000 mills they average only 3,333 barrels a year, or only 9 or 10 barrels a day, to grind 70,000,000 barrels of flour, and 3,714 barrels a year, or a little over 10 barrels a day, to grind 78,000,000 barrels of flour. If there are 28,000 mills they average only 2,500 barrels a year, or only 6 or 7 barrels a day, to grind 70,000,000 barrels, and 2,786 barrels a year, or 7 to 8 barrels a day, to grind 78,000,000 barrels of flour. All of these totals and averages are below the smallest capacities of the smallest mills in the United States. There are a few mills built to grind 15 barrels a day, a few to grind 25 barrels, many to grind 50 barrels, and the rest grind from that figure up to the highest figures of the few great plants. Now suppose a trust to be formed by spring wheat millers, who run half the mills of the country, what would happen? The other half would simply have to increase their capacity from an average of 6 or 7 to 12 or 14 barrels a day to supply the demand for flour. Could it be done? Why not? At the present 6 or 7 barrel average output the plants run only 8 to 10 hours a day in many cases. All these plants would have to do to keep up to the demand would be to run 16 to 20 hours a day. If the winter wheat mills attempted a trust the same thing would follow. If one mill shuts down or restricts, a score or more others that 1,000 shut down or restrict, there are 20,000 others that will go on and increase their output. The truth is that there are too few great and too many small mills in the

country to allow a trust to succeed." It might be a good thing for Canadian millers if such a trust were formed, but it is hardly likely that any relief in prices in the Dominion is to be looked for from this source.

#### TRANSPORTATION TOPICS.

Mr. S. A. Thompson, of Duluth, has a hobby that a fleet of largest lake steamers may leave Duluth, with a full cargo of grain and flour, and making its way through the chain of lakes to the Welland canal, the St. Lawrence, and out into the ocean, may land at Liverpool without breaking bulk. This in the opinion of the United States Miller is all in Mr. Thompson's mind's eye. "The ship canal scheme," our contemporary goes on to say, "is a piece of the same chimerical grandeur. By the time the ship canal between the lakes and tide water could be completed there would be no necessity for such a water way. If Mr. Thompson will take a look over the ground of his proposed canal and consider the Canadian route with all its drawbacks he will take a tumble to himself in great shape."

"I do not look for ocean rates to advance materially, nor do I think they will go much lower," was the way a well known foreign freight agent sized up the situation. "You see," said he, "flour is only one of the various commodities that go to make up the tonnage of steamships, and when there is a deficit in any one and nothing to take its place, rates are affected and made weaker. This year hogs are scarce, and the tonnage of provisions is greatly reduced. The tonnage of grain is also under the average. This has left a surplus of room, and, in steamship lines bidding for traffic, rates have gone down to a pretty low point, and since the cause is likely to remain through the season, it is hardly probable that a very much higher range will prevail."

#### THE FLOUR MARKET.

Weakness, rather than strength, has marked the flour market at home and abroad during the month. Wheat has been depressed and flour in sympathy with it has been dull. The output of the large mills of the United States, though below the average, has proven in excess of orders, and middlemen having blocks of flour booked are reported to be slow in giving shipping instructions. At the leading British centres London, Liverpool and Glasgow extreme dullness prevails. The demand is light enough to cause little or no alteration in quotations or values. Canadian markets maintain their share of the depression. Local trade holds, perhaps, an average, but nothing more. Export orders count very small. An improved demand exists for millstuffs, and this is the only strong feature of the market.

#### PRICES OF FLOUR AND MEALS.

Toronto. Car prices are: Flour Toronto freights), Manitoba patents, \$4.30 to \$4.50; Manitoba strong bakers', \$3.90 to \$4.25; Ontario patents, \$3.25 to \$3.50; straight roller, \$3 to \$3.20; extra, \$2.90 to \$3; low grades, per bag, \$1 to \$1.25. Bran, \$1.50 to \$1.75. Shorts, \$1.70 to \$1.8. The Flour and Grain Trade Bulletin, of the Dominion Millers' Association, reports Ontario mill products as follows: Straight grades at \$3.15 to \$3.20; patents at \$3.25 to \$3.50; 85c. patent, \$3.65 per barrel, f.o.b. for Lower Provinces. Bran, \$1.4 and \$1.45; shorts, \$1.5 and \$1.75 per ton f.o.b. Bran and shorts in good demand, and scarce, especially bran.

Montreal: Patent spring, \$4.20 to \$4.35; patent winter, \$4.15 to \$4.30; straight roller, \$3.45 to \$3.70; extra, \$3.15 to \$3.25; superfine, \$3.70 to \$3.90; strong bakers', \$4 to \$4.15. Meal moves in small probing lots for retail trade requirements, at prices within the following range: Granulated and rolled, per barrel, \$4 to \$4.20; do. do. per bag, \$2 to \$2.05; standard, per barrel, \$3.90 to \$4; do. per bag, \$1.95 to \$2. The feed market is fairly firm under light stocks and good local demand.

Manitoba. Prices to the local trade in small lots per hundred pounds are: Patents, \$1.95; strong bakers', \$1.75; XXXX, 75 to 95c.; superfine, 60 to 70c. Bran, \$8 to \$9 per ton; shorts, \$10 to \$11. Meals. Rolled and granulated oatmeal held at \$1.80 to \$1.90 per sack, according to brand, and standard meal 5c. lower, these being prices to retail traders. Cornmeal \$1.65 to \$1.70 per 100 lbs. Split peas, \$2.60 to \$2.65 per 100 lbs. Beans, \$1.75 to \$1.90 per bushel. Pot barley, \$2.50 per 100 lbs. Pearl barley, \$4.



Office of the CANADIAN MILLER,  
March 15, 1893.

**THE GENERAL SURVEY.**

HE would be a prophet of genuine prophetic build who would undertake to say with any measure of accuracy just what shape the wheat market is likely to assume in the near future. It seems all conjecture among even the wisest heads. Estimates that are made on what ought to be good authority are promptly broken to pieces by those who are supposed to possess equal authority for anything they may say.

Many have been waiting for the United States government report of March 10, which it was expected would give a pretty correct estimate of wheat in farmers' hands. This is now forthcoming and has had a disappointing influence on the bulls, who's bearish effect on the market has been quite apparent.

According to this report the estimated stocks of wheat in farmers' hands are 135,000,000 bushels, which is at least an even 35,000,000 bushels in excess of the highest estimate and nearly double the volume held in the estimate of those who take an opposite view. The estimate by the agricultural department at Washington of stocks in hands for the past eight years is given as follows.

Year	Bushels	Percent	Price
1893	135,000,000	26.2	76
1892	171,000,000	28.0	87 1/2
1891	112,000,000	28.0	94
1890	156,000,000	31.9	77 1/2
1889	112,000,000	27.9	\$1.04 1/2
1888	132,000,000	29.0	78 1/2
1887	123,000,000	27.0	75
1886	107,000,000	30.1	80 1/2
1885	106,000,000	33.1	75 1/2

Statistician Dodge, of Washington, who is held responsible for these figures, is being severely criticised in some circles and his figures challenged. This much at least is clear that the conviction has been growing for some time that there is a much larger quantity of wheat in farmers' hands than was supposed from many recent reports. And this conviction is having a depressing influence on prices. The Minneapolis Market Record has remarked on this point: "It is a very common notion that the stocks of wheat on the farms are small. That was a notion formed a month after the crop began to move, when it was declared the farms would be exhausted in a month more. It has been more than four months since then, and careful calculation leaves in the hands of farmers more than 25 per cent of the last crop, against 28 per cent of the former crop, at this time, as estimated at Washington. The same causes that make a large "visible" also make a large available warehouse supply and a large stock in farmers' hands. Commercial channels are choked with wheat, and much of the time wheat could scarcely be taken from farmers, for the reason that there was no place to put it. Instead of markets attracting farmers, the markets have repelled them."

Another uncertain element in any estimate of future prices is the condition of the winter wheat. It is feared that in some sections of the country less or more injury has occurred. But just to what extent is not known yet. March usually develops more trouble than February and until the month is well over we cannot say what this trouble will amount to. The most that can be done is to closely watch conditions and for the present no one need be greatly influenced by any sharp turn the market may take in one direction or the other. Any changes are likely to be of the day only and to be lacking altogether in permanency and real stability.

**WHEAT.**

An effort has been made by the Montreal Board of Trade to arrive at the quantity of wheat still remaining in Manitoba. Mr. George Olds, general traffic manager of the C.P.R., who has interested himself in the matter says that there are somewhere near 3,500,000 bushels of wheat in the company's elevators at Fort William and

about 400,000 bushels at Port Arthur, all of which will be moved as soon as navigation opens on the lakes. This view is confirmed by others, together with the statement that there are about 1,000,000 bushels of good wheat still in the hands of the farmers or in the elevators at the different points of storage along the line of the Canadian Pacific. From this it will be seen that there will be some 5,000,000 bushels of last season's crop to move eastward during the coming spring and early summer. The quantity at Fort William is much in excess of last year, owing to the fact that the demand was not heavy and people were willing to wait for cheap transportation. It is estimated that half of the quantity of grain now stored at Port Arthur and Fort William will come to Montreal and the lake ports of Ontario and the other half will be shipped to Buffalo. The Winnipeg Commercial of late date says: "Winnipeg inspection shows considerably under one half what it was a year ago. Prices show a sagging tendency once more, and range from 45 to 54c to farmers, in Manitoba country markets, for best samples of hard wheat. Stocks in store at Fort William, February 25, were 3084-373 bushels, being an increase of 38,383 for the week. Toronto markets: White, 60c., No. 2 spring, 61c.; Manitoba, No. 1 hard at North Bay, 84c.; No. 2 hard, same point, 81c.; No. 1 frosted, 68c.; Montreal: No. 2 hard Manitoba wheat, 83 to 84c.; No. 3 do, 76 to 78c.; Chicago: March 23 1/2c.; May 70 1/2 to 70 1/2c.; July 72 1/2c.; St. Louis: 63 1/2c. for Cash; 66c. for May; 68 1/2c. for July. British: Beerholm says: Floating cargoes: Wheat, easier. No. 3 California wheat, off coast, 3d. lower. Mark Lane Spot No. 2 Calcutta wheat, 3d. lower; present and following month, 3d. lower. Australian, off coast and present and following month, 3d. lower; Walla, off coast, 6d. lower; present and following month, 3d. lower. London: No. 1 California, prompt sail, unchanged; red winter, prompt steamer, 3d. lower; present and following month, 3d. lower. Liverpool: Spot wheat, very little demand; wheat all 1/2d. cheaper; flour, 6d. cheaper. On passage to United Kingdom: Wheat, 3,443,000 qrs. To Continent: Wheat, 805,000 qrs.

**BARLEY.**

The shipment of 100,000 bushels of barley to Russia is a compliment to Canadian barley that ought to possess significance to those interested in the production of this cereal. The shipper was Mr. A. Campbell, of Colborne and Toronto, who received the order from the Russian government, the barley to be used as seed by the poor farmers of Haugo, Finland, who lost all their barley crops last fall. The last lot of the order went forward during the past month.

Current demand for barley is fair. At Oswego Canada extra No. 2 is quoted at 79c.; No. 2 71c. New York: State 64 to 80c.; western 60 to 80c.; No. 2 Toronto 92 to 93c.; No. 2 84 to 85c. The Toronto market is fairly steady. No. 1 f.o.b. at Lake Ontario port in May at 47c., and No. 2 eastward at 40c.

**PEAS.**

Toronto: Little demand and values weak. 36 to 37c. for cars lying outside.

**OATS.**

Toronto: Sales of white to arrive 35c., white lying westward at 32 to 32 1/2c. Buffalo: Good No. 2 white are wanted, and for the right weight buyers are willing to pay a premium; ordinary are slow, and mixed dull. Sales: 4 cars No. 2 white, 39c.; 2 cars choice, 39 1/2c.; 3 cars No. 3 white, 38c.; 1 car No. 2 mixed, 31 1/2c.; 1 car choice, 35 1/2c. Inspection: No. 2 white, 1, No. 3 white, 1; No. 2, 4; No. 3, 4.

**RYE.**

Toronto: Quiet; offering at 55c. Buffalo: No. 2 60c.; No. 3 55c.

**BUCKWHEAT.**

Toronto: Bought outside at 50c.

A Kingston despatch says: It is understood that if the trade demands the step a floating elevator will be placed at Prescott by the M. T. Co. to compete with Ogdensburg. Whether cargoes can be carried from the west to Montreal cheaper than via Kingston remains to be seen. There will be considerable risk in large vessels going down the river, which would affect insurance and in many cases pilots would have to be engaged.

**NOTES AND NEWS.**

William Watson, oatmeal miller, Mitchell, Ont., has assigned.

It is reported from Chicago that the condition of the new wheat crop in the western states is far from encouraging.

James & John Humphries have bought the mills at Allandale, Ont., and intend to put in a full roller process of fifty barrels capacity.

A joint stock company is being formed at Morris, Man., for the erection of a flouring mill. The farmers' institute of the locality is active in the matter.

The flour mill of W. H. Hill, Saranac, Ont., was destroyed by fire a few nights ago. The building was a three storey brick, and the loss suffered is about \$7,000; fully covered by insurance.

The wall of our sanctum is just now prettily adorned with a handsome lithographed banner in colors bearing the business announcement of R. C. Scott, proprietor of the Cumberland Mills, Highgate, Ont.

It is said that a "dusty March portends a plenteous season, while on the contrary, a "wet" March frequently proves disastrous to both wheat and rye. Hence the weather this month is watched with considerable interest.

According to the Adelaide Milling Co.'s calculations, the exports during the past calendar year from South Australia amounted to 432,000 sacks of flour and 180,000 qrs. of wheat, or a total of 540,000 qrs. expressed in wheat, of which only 110,000 qrs. came to Europe, the chief colonial customers being New South Wales, 86,000 qrs.; Queensland, 143,000 qrs.; South Africa, 120,000 qrs. Compared with this total of 540,000 qrs. for the exports of 1892, we have 1,120,000 qrs. in 1891 and 440,000 qrs. in 1890. The biggest exportation took place in the year 1884 and 1885, when 1,500,000 were shipped in each twelve months.

The step taken by the Dominion Millers' Association in securing a barrel of each of the most popular brands of flour used in the West Indies will be appreciated by all millers anxious for an extension of the export trade in Canadian flour. The barrels can be seen and samples of the flour secured on application to Secretary Watts at his office in the Board of Trade building. In the Mill Product page of this MILLER readers will find published some suggestions concerning shipping of flour from Canada to the West Indies that will be useful to those interested. This West India trade rightly belongs to Canada and can be made ours with a little care and management.

The approximate stocks of flour and wheat in Europe and about on March 1, says the Chicago Trade Bulletin, were equal to 86,000,000 bus., showing an increase of 1,000,000 bus. during February, and being 11,900,000 bus. less than reported on March 1, 1892. Stocks of flour and wheat in the United States and Canada on March 1 were equal to about 143,283,000 bus., against 142,223,300 bus. Feb. 2, and 86,000,000 bus. March 1, 1892. There has been quite a marked decrease in wheat supplies in the interior and at seaboard points, which has been partly offset by a large increase at Chicago. Supplies in the United States and Canada decreased equal to 5,040,700 bus., and the aggregate decrease in this country and Europe was equal to 4,840,000 bus.

**MILL BUILDING IN CANADA.**

Considerable activity is shown in the country at the present time in the remodeling of many well-established flour mills and the building of new mills. The Goldie & McCulloch Co., of Galt, Ont., have recently completed work on the mill of E. D. Tillson, of Tillsonburg, Ont., which, as reconstructed, possesses a capacity of from 250 to 300 barrels daily. They have also put in improved shape the 50 barrel mill of A. A. S. E. Davidson, Jarvis, and Abner J. Buge, Eramosa, which is also 50 barrels capacity. This firm have in hand orders from James Goldie, Galt, who will increase his mill to 800 barrels; R. C. Scott, Highgate, to be increased to 250 barrels, and R. Pineo, Stratroy, who will enlarge to 150 barrels. They have also instructions from Rollins & Williams to build for them a 100 barrel mill at Foster, Ont. The Ogilvie Milling Co., Winnipeg, have just had shipped to them from Galt, 6 Holt Patents. The record is not a bad one for the Goldie & McCulloch Co., and may fairly be taken as a compliment to the high character of work they perform.

## DER VATER MILL.

By GUY F. ADAMS.

READTS about dot vater mill dot runs der lifelong day,  
Und how der vater don d' count pack ven voice id floss  
away:

Und off der mill shstream dot glides on so beautifully and shill,  
But don't vas putting in more work on dot same water mill.  
Der boet says, 'Tvas bolder dot you holdt dis lowerb fast,  
'Der mill id don d' could grind some more mit vater dot vas  
past.'

Dot boem id vas peaceful to read about; dot's so?  
Budt ed dot vater vasn't how could dot mill veel go?  
Und why make drouble mit dot mill, when id vas been inclined  
To dake each obdoudinty dot's given id to grind?  
Und fler vater cooms along in splendish so vas it  
Id lets some oder mill dake oup der vater dot vas past.

Dhen der boet change der subject und she dells us vonce again:  
'Der seekle neffer more shall reap der yellow garnered grain.'  
Vell vas vas blently, and id id. Id wouldn't peen so nice  
To haf dot seekle reaping oup der same grain oder twice?  
Why 'vots der use off cutting oup der grass dot vonce vas  
mown?

Id vas pest, mine moder doid me, to left vell enough alone.  
'Der summer vinds reife no more leafs strewn over earth und  
main.'

Vell 'who vants to reife them? There vas blently more again?  
Der summer vinds dney sh'ep right oup in goat dime to bre-  
jare

Dhose plants und trees for oder leafs, dhese soon vas green  
vons dhese.

Shust bear dis adv'rt on your mindt, mine frendts, und holdt  
id fast.

Der new leafs don't vas been aroundt uadill der oldt vas past.

Dhen neffer mind der leafs dots dead, der grain dots in der bun;  
Dhey push off dhem haf had dhese day, und shust vas gath-  
ered in.

Und neffer mindt der vater when id vonce goes dros der mill;  
Id's vork vas don't. There's blently more dot vants id's blace  
to fill.

Let each von dake dis moral, vrom der king down to der  
peasant:

Don't mindt der vater dot vas past, budt der vater dot vas  
present.

## DEPENDS ON HIS MEMORY.

"Sir, can I occupy a few minutes of your valuable  
time in which to elucidate the —"

"Excuse me, said the careworn gentleman, looking  
up from a blank of paper whereon he had been indus-  
triously figuring. "I am very busy this morning.

"But, sir, I feel convinced, more, I am absolutely pos-  
sitive, that the article to which I desire to call your atten-  
tion, not necessarily with a view to purchasing, but rather  
to have you appreciate its merits, is something that will  
at once commend itself to one in your line of —"

"No, I —"

"Excuse me, here I have a chart which shows the  
exact course of the wheat market for the last five years.  
This line, as a gentleman of your keen faculties will  
readily perceive, marks the variations in the fluctuating  
cereal from time to time and enables you to see at a  
single glance just when the market was at its lowest and  
when it began to move upward. Besides these features  
this chart, which is published by subscription only, pos-  
sesses —"

"You have a few left, have you? Shows the course of  
the market, hey? Well, my friend, you just roll 'em up  
and skip 'Quirk' 'Get' I don't want any old red lined  
map to give me the course of the grain market for the  
last year. That dogs eared bank book's got red lines  
enough in it to show me all I want to know about the  
pestiferous thing and more too. You just move on.  
Fluctuations? Why, I'm a living chart of the wheat  
market myself, and don't you forget it; and I've got  
more lines around my eyes and under my bang than all  
the charts in your bundle. Run along, young feller!  
No black coated canvasser can work me on that lay and  
I don't intend to hang a red lined record of my mistakes  
on my office wall for flies to travel over. This is flat,  
net 'c. r. f. f. o. b.' seat."

Daily News, Truro, N.S. Canadian millers should be  
proud of the CANADIAN MILLER. It is a well gotten  
up magazine and is calculated to be a great benefit to  
the milling fraternity and the grain dealers.

## 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. 28. CAN'T DO IT. Can you get up a good device  
which will automatically and instantly stop the engine and all  
moving parts connected therewith in case any one gets caught  
in the machinery? Robert Grimshaw's Tips to Inventors.  
No, Robert, we can't; nor can anybody else.

No. 29. SETTING A SLIDE VALVE. D. H. Welch, in  
Master Steam Fitter, says: Suppose you are called upon to  
adjust a slide valve on an upright engine 1 3/4 inch lead on top  
and 1 1/4 inch lead on bottom; after ascertaining by the usual  
means that the eccentric rod connection is the right length, ad-  
just the valve so as to equi-lize the lead on both ends, then in-  
crease the lead 1/4 inch on the bottom, revolve the eccentric  
around on the shaft until you decrease the lead on the bottom  
to 1 1/4 inch; you will then find you have 1 3/4 inch on top.  
For instance, you have 1/4 inch on both ends; you increase the  
bottom 1/4 inch by lengthening the rod; you then have 9/16  
inch lead on the bottom and have increased the top to 7/16  
inch. If you now revolve the eccentric on the shaft, away  
from the crank enough to decrease the lead on the bottom to  
6/16 inch, you will find 2/16 inch or 1/8 inch on top and  
1 1/4 inch on the bottom. If this rule is strictly adhered to it  
will simplify the setting of valves, requiring more lead in the  
bottom than on the top.

No. 30. CONCERNING WEAK BOILERS. A correspondent,  
N.Y.Z., takes no stock in the theory that old and weak boilers  
give way easily. This is risky doctrine, as risky as the weak  
boiler. If he wanted a bomb-shell that would explode with  
great violence he would not take the shell of an egg nor a  
scraped-out pumpkin shell to serve as a covering for his dynamite;  
he would take the strongest material he could get, so  
that when the break should come it would come all at once. A  
few grains of powder in his gun-barrel behind a leaden ball  
makes a great explosion and may cause sad destruction; but he  
may hold the same amount of powder on the palm of his open  
hand and touch it off with a coal, producing only a splash  
and no damage at all. A weak boiler is like the famous buzz  
saw and the advice is applicable. "Don't fool with a buzz  
saw." Don't fool with a weak boiler.

No. 31. A FOAMING BOILER. We would like very much  
to know the cause of a "foaming boiler," as we are nearly  
handicapped with ours. We have tried everything we can  
think of, such as "blowing off" the boiler, changing river  
water for well water, putting fat pork and potatoes in the boiler,  
but the last state seems worse than the first. Perhaps some  
of your subscribers can help us out of the difficulty. We  
should be everlastingly grateful to those who can name a cure  
for it. T. A. J. Gibson, Wrocteter, Ont.

No. 32. ECONOMY IN FUEL. Could you or some of your  
subscribers who use steam for motive power give the writer  
some information about improvements in building up boilers  
with a view to economy of fuel. I understand there are several  
patents held for improved boiler settings, but do not know  
where to obtain information regarding them; also where any of  
them are in use successfully. This is a question which I pre-  
sume a good many millers are interested in, and the informa-  
tion may be of general use to all. G., Richmond, Ont.

## MANITOBA LETTER.

Special Correspondence CANADIAN MILLER.

SOME idea of the grain producing resources of Manitoba  
may be learned from the statistics collected of the elevators  
and flour mills erected in Manitoba within the last decade.  
It may be that Mr. C. Wood Davis, the Kansas statistician, is  
not far out in his predictions that the Canadian Northwest ter-  
ritories will, within the next decade, become to a large extent  
the wheat growing Eldorado for a considerable portion of the  
world.

On the main line of the Canadian Pacific, within the pro-  
vince of Manitoba, there are 113 elevators and warehouses  
with a total capacity of 7,415,700 bushels. On the Deloraine  
branch are 68 elevators possessing a total capacity of  
1,166,000 bushels. The Glenora branch has 30 elevators of  
1,000 bushels capacity; the Emerson branch 10, with 147,-  
500 capacity; the Swifts branch 30, with 642,500 capacity; and  
on other branches are seven elevators of 58,000 capacity.  
Total capacity on all branches of the Canadian Pacific of 10,  
050,000 bushels. Then on the Manitoba and Northwestern  
railway are 53 elevators having a capacity of 651,000 bushels;  
on the Great Northwest Central, 5 with 94,000 capacity; and  
the Northern Pacific 27, of 661,500 capacity. The whole  
makes a grand total of 343 elevators, possessing an aggregate

capacity of 11,467,100 bush.; and the work of building goes  
on. The flour mills number 43 with a daily capacity of 8,270  
barrels; the oatmeal mills 3, with an aggregate of 190 barrels.  
A number of additional mills are under construction at this  
writing and the outlook is bright for many more.

## SEED GRAIN FREE OF FERTIGHT.

The following joint circular has been issued by the Canadian  
Pacific and Manitoba & Northwestern Railway Companies in  
respect to free transportation of seed grain: "The prevalence  
of smutted wheat and poor quality of oats and barley obtained  
throughout the grain district last year, and a belief that a change  
of seed will to some extent eradicate the evil, the companies,  
parties hereto, in order to assist the farmers to procure suitable  
seed at moderate cost, will, between the 1st March and 15th  
April next transport free of charge No. 1 and 2 red fyle wheat,  
No. 1 and 2 white oats, and 2 and 6 rowed barley (equal to  
sample in possession of station agents, prepared by D. Horn,  
Dominion Government inspector, Winnipeg), between stations  
on our respective lines. This arrangement, so far as the Canadian  
Pacific railway is concerned, is confined to shipments between  
stations on the main line, Whitemouth to Calgary inclusive,  
and branch lines in Manitoba and the Northwest Territories.  
Seed grain offered for shipment must be carefully examined by  
the shipping agent, and if equal to the official sample will bill  
the shipment "For Seed," charges to collect at destination.  
The grain on arrival at destination to be delivered free on ex-  
ecution of a satisfactory bond from consignee that the grain  
will be sown by him on his farm, and used for no other purpose.  
This bond, when properly executed with consignee's receipt  
for free delivery on the form prescribed by the delivering com-  
pany's accounting department, will be authority for clearance  
voucher. Carload lots passing through Winnipeg to destina-  
tion to be subject to inspection; waybill for such shipments to  
be endorsed, "To be inspected at Winnipeg, and held to order  
Robt. Kerr. Shipments intended for delivery at flag stations  
must be covered by special order from the traffic department  
of the initial line."

WINNIPEG, Man., March 10, 1893.

## SEED TESTING.

By PROF. W. S. SWEENEY, OTTAWA, ONT.

THE work of testing the germinating power of grain  
and other agricultural seeds is now in active pro-  
gress at the Central Experimental Farm in Ottawa. Up  
to the present over 1,600 samples have been tested and  
reported on this season and on the whole with very  
gratifying results, showing a good percentage of vitality.  
There are, however, some districts in the Dominion  
from which samples have been received of very poor  
quality and quite unfit for seed. In some parts of Man-  
itoba the harvest season of 1891 was very unfavorable  
and considerable quantities of grain were left out in  
stook or stack all winter and threshed in the spring of  
1892. A number of samples of such grain have been  
tested and they show a very low percentage of vitality,  
many of them ranging from 15 to 40 per cent. only, and  
are quite unfit for seed. In some other parts of the  
Dominion, and especially in some sections of Ontario  
and Quebec, the weather during the last harvest period  
was very wet and the grain in the stook was subject to  
repeated wettings before it could be housed, and in the  
meantime some of it sprouted. A large proportion of  
such samples also show a low degree of germinating  
power and if sown as seed will be likely to result in poor  
crops.

Last year 16,005 sample bags of promising sorts of  
grain, weighing three pounds each, were sent free through  
the mail to 9,114 farmers residing in different parts of  
the Dominion. This large quantity of grain, over 25  
tons, was all of first quality and consisted of the most  
promising sorts which have been tested on the several  
experimental farms. By instruction of the Hon. Minis-  
ter of Agriculture a similar distribution is now in pro-  
gress for this year, and already over 3,000 samples have  
been sent out, and a large number have been mailed  
daily. The object of this distribution is to place in the  
hands of good farmers in all parts of the country sam-  
ples of the best varieties of oats, barley, wheat, peas,  
etc., so that they may shortly be available for seed in  
every district in the country, and eventually result in  
the displacing of poor, mixed and enfeebled sorts, with  
varieties possessed of greater fertility. The number of  
samples sent to one applicant is limited to two in each  
case, and on this basis a very large number can still be  
supplied.



CANADA.

A bonus of \$5,000 has been granted to erect a flour mill at Hartney, Man.

The local mill at Schonberg, Ont., under the management of Miller Dennis, is doing a brisk trade.

The flouring mills of Cook Bros., at Hensall, Ont., are doing a large amount of gristing and chopping.

The machinery is being placed in position in the new flour mill of Mr. Campbell, at West Toronto Junction.

A by-law to grant \$3,000 by way of bonus in aid of a flour mill has been adopted at Prince Albert, Sask.

The Winnipeg Grain and Produce Exchange will raise its annual membership fee to \$30 after 1st January, 1894.

Woodside Bros., of Fort Arthur, Ont., have received the contract for fitting up the Fort William elevator with steam grain shovels.

John McTavish, a North Gower farmer aged 65, fell dead in the office of the McKay Milling Co., Ottawa, Ont., while waiting for his pay.

John McLaren & Co., Renfrew, Ont., have installed an electric light plant in their flour mill, supplied from the Kay Electric Works, Hamilton.

The Hudson Hay Co.'s mill at Prince Albert, Sask. will be enlarged and improved. An elevator will be built and a railway switch will be put into the mill.

Messrs. Norris & Carruthers, of Toronto, are suing the Canadian Pacific Railway for \$21,600 for alleged delay in shipping 16,000 bushels of grain, thereby losing a sale.

The Board of Trade, Kingston, Ont., intends asking the government for Tete Dupont barracks for a site for an elevator to be built this spring if possible at a cost of \$150,000. The elevator will be built by private enterprise.

Master George Long, son of Rev. Geo. H. Long, of Ibis-savain, Man., a fortnight ago, met with a misfortune. As he was passing a fly-wheel of a grain crusher, which was in motion, the mitten on his right hand was caught by the shaft, and the arm bent and the bone splintered.

Commissioner Awrey has the grain exhibit for the World's Fair about ready for shipment. He is now in Chicago arranging details of work.

Superintendent Whyte, says the C.P.R. will certainly build a large flour shed at Fort William during the coming summer, and that there is every reason to believe a new elevator also will be built, as well as some other projects carried out which are now under consideration.

The Ogilvie Milling Co., Winnipeg, Man., has placed fifty bags of their patent flour, ninety-eight pounds each, at the disposal of the city relief committee for distribution among the deserving poor of the city. They donate this as a basis for a fund by citizens for the relief of the poor.

The new mill of Sutherland, Innes & Co., at Coatsworth, Ont., will soon be in running shape. The manager, Mr. McGrath says: "It will be one of the most complete mills in the Province, with three boilers, and stave, hoop and heading machinery, and when run to full capacity will employ 75 men.

The town authorities at Minnedosa, Man., invite correspondence from parties willing to undertake the construction of a dam and working of water power on the Little Saskatchewan river. A competent civil engineer's report provides for a reservoir or power canal 600 feet long, 150 to 200 feet wide, and of a minimum depth of 13 feet, with four good mill sites adjacent thereto. The engineer states that there is a good opportunity for the utilization of a splendid water power, and estimates that the revenue derived therefrom will probably repay the whole outlay in three or four years.

The flour mill and store-house of N. Wenger & Sons, Ayton, Ont., was destroyed by fire on 26th ult. The fire started about 8.20 in the evening, in the store-house in which a chopper was run, and although strenuous efforts were made by the villagers to save the mill, which stood about forty feet distant, owing to absence of fire protection, they were unable to do so. The mill, which had a capacity of 200 barrels per day, was one of the best equipped roller mills north of Guelph, and was full of wheat and flour. The loss is heavy, being in the neighborhood of \$40,000, on which there is an insurance of \$18,000.

Work on McDonald's oatmeal mill, Woodstock, Ont., is being pushed ahead rapidly. The immense mass of debris, which accumulated within the walls after the recent fire, has all been cleared up, and the just in the first and second floors are laid. The capacity of the new mill will be about 300 barrels a day, 150 barrels in the pea mill, and about the same in the oatmeal mill. The building when finished will be fully as

large as the old one. No flour will be manufactured. What was formerly the flour mill will be used as a store-house. Building operations in this town are also being helped in the erection of the Last End Flour mill of Mr. McClay. The mill will have a capacity of 150 barrels daily, and will have the complete roller system. All the machinery and fittings of the mill will be put in by W. & J. G. Gray, of Toronto, while Goble & McCallish, Galt, will supply the engines. His trade will be both custom and shipping, and he intends to have the mill in running operation about the middle of May.

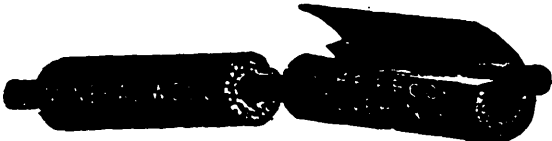
Mr. Geo. T. Marks, president of the Ft. Arthur Board of Trade, in his annual address, said: "The town is as yet without a flouring mill, and I am more than ever convinced that there is no better place on the continent of America for the building up of this industry than here. When in Montreal in December last, a prominent grain and flour firm told me they would erect here a flouring mill of a capacity of 200 to 500 barrels per day if they could get reasonable terms and a guarantee that their flour and surplus wheat could be forwarded upon a through rate, as is now done with wheat from the elevators here and at Fort William. I think this matter could be arranged with the railway company very easily, and it should be done, so that we could be in a position to continue these negotiations without delay, or intricate others. The elevator storage capacity at Fort Arthur and Fort William is now about 4,000,000 bushels, and the Canadian Pacific Co. proposes to erect during the coming season another elevator of at least 1,000,000 bushels capacity. The establishment here a year ago, in connection with the Fort Arthur elevator, of a system of improved grain cleaning machinery has been successful, and during the year 1892 more than 1,000,000 bushels of the Manitoba crops of 1891 and 1892 were handled at this point. This means a great deal of money paid out for wages, besides adding largely to our lake tonnage and exports."

PERSONAL.

Mr. John Askew, miller, Leamington, Ont., has been appointed License Commissioner for South Essex.

The death of Mr. Wm. Sunderson, of Milwaukee, Wis., took place last month. Deceased was a prominent member of the Executive of the Millers' National Association of the United States.

Mr. James K. Cameron, secretary of the Monetary Times Company, died suddenly, whilst taking his evening meal, on Sunday, 12th inst. Deceased had been connected with the Monetary Times for 20 years. Heart failure was the cause of death. Aged 36. He leaves a widow and one child.



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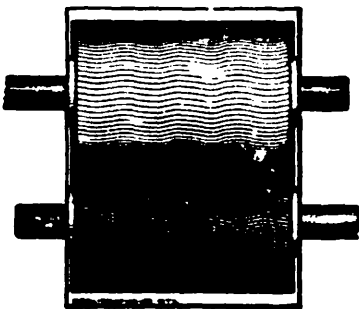
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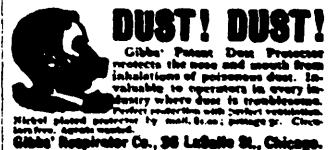
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"I have, however, much pleasure in drawing your attention to the fact that the commission in issue above, as you will see by referring to the Revenue Account, exceeded the total claims for fire losses, a record, I believe, unprecedented in the history of any other fire insurance company either here or in the mother country."

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CANADIAN

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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 will fill in the following subscription blank and return to this office at as early a date as possible.

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THE LUMBERMAN'S DIRECTORY

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

1893

Please supply.....with.....copies of the above Directory as soon as issued, for which.....agree to pay Two Dollars per copy.

All owners of saw and planing mills, wholesale and retail lumbermen, coopers, etc., are earnestly requested to furnish information asked for in following blank and mail same as soon as possible:

Card of Enquiry to Lumbermen.

Manufacturers of lumber, shingles, lath, staves, headings, etc., will please fill in this blank:

Power, style and capacity of mill:
Class of manufacture:
Post Office: Shipping Point:

Dealers in lumber, shingles, lath, etc., will please fill in following blank

Wholesale or Retail: Class of stock handled
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Owners of planing mills, sash, door and blind factories, will please fill in following blank.

Power and style:
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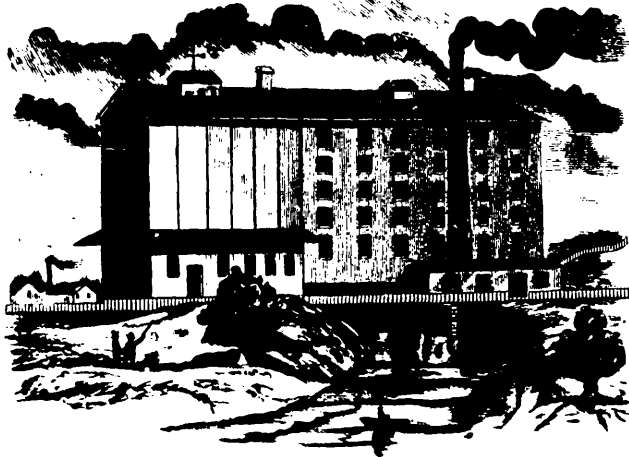
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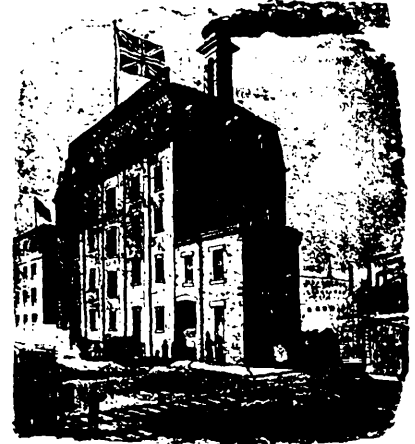
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GOLD MEDAL, EXHIBITION,  
JAMAICA

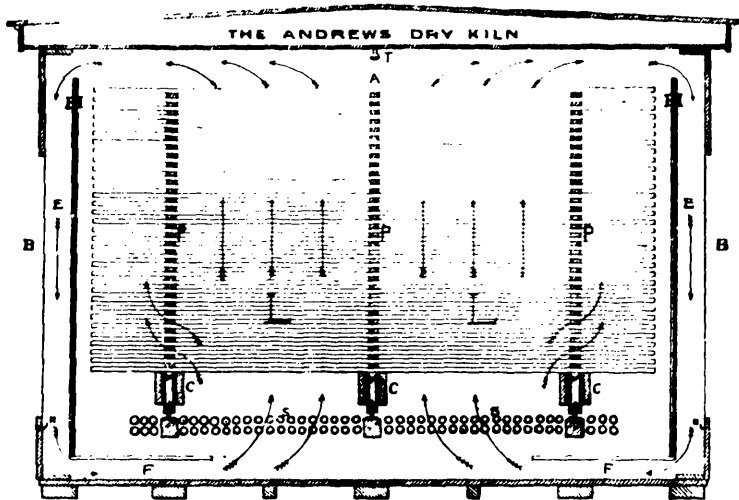
## FLOUR

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MONTREAL, QUE.

# THE ANDREWS DRYER

## For Lumber, Shingles, Staves, Heading, etc.



This design and operation is said to be the most perfect and economical ever devised for the purpose.

**A** Drying Room **BB** Brass Condensing Walls **CCC** Lumber car **EE** Down Air Flues **FF** Bottom Air Flues **HH** Inside Walls, protecting metal from heat **LL** Lumber **MM** Brass Gutters for receiving condensed moisture **PPP** Steam Connections for **RR** Fuel Boiler **TT** Automatic Steam Trap **UU** Fuel Valve **VV** Fuel Valve **WW** Fuel Valve **XX** Fuel Valve **YY** Fuel Valve **ZZ** Fuel Valve

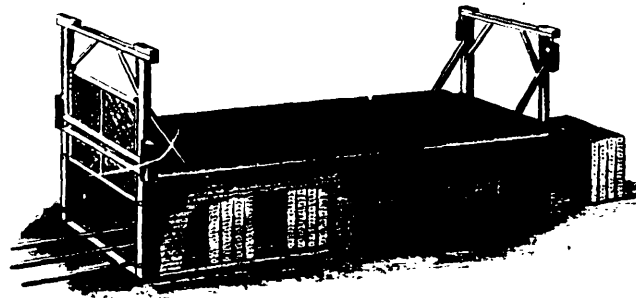
## THIS DRYER

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
- NO SMOKE
- NO CHIMNEY
- NO SPECIAL FIREMAN OR FUEL.
- NO EXPENSIVE BRICKWORK
- NO RISK OF FIRE
- NO CHECKING OR WARPING
- NO CASE-HARDENING
- ... NO EQUAL ...



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

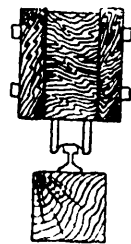
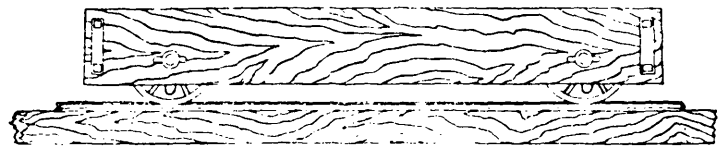
'WE PUT GREEN SPRUCE IN DRIPPING WITH WATER, AND IN EIGHTEEN HOURS IT WAS DRYER THAN LUMBER THAT HAD BEEN STUCK UP IN THE YARD ALL SUMMER.'

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

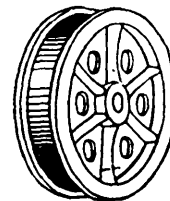
## The Andrews Lumber Dryer

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.



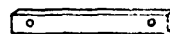
DOUBLE FLANGE WHEEL ON SINGLE TRACK



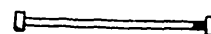
CAR WHEEL, DOUBLE FLANGE



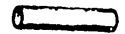
SECTION OF CAR TRUCK, SHOWING AXLE BOX



SLEEVE WASHER



BOLT



AXLE

SEND FOR CIRCULARS

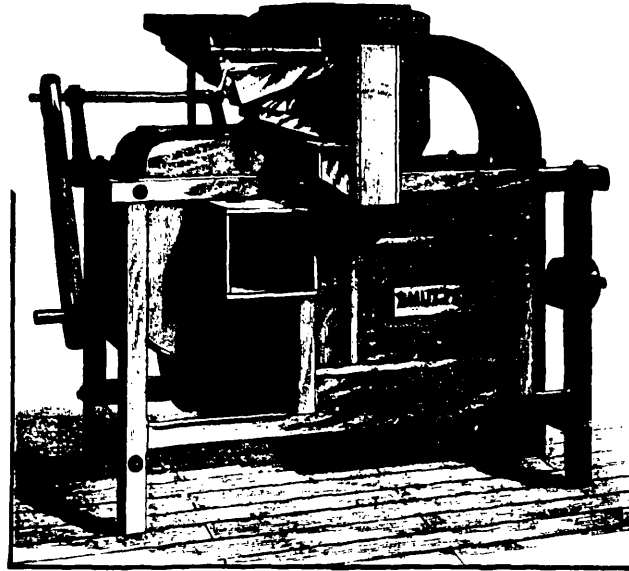
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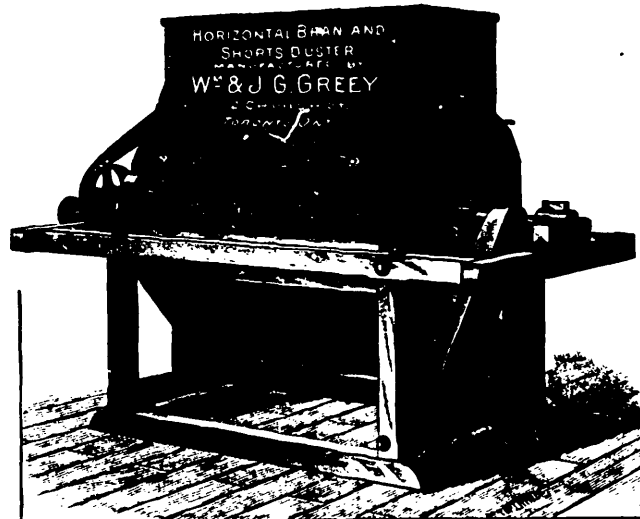


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ADJUSTABLE  
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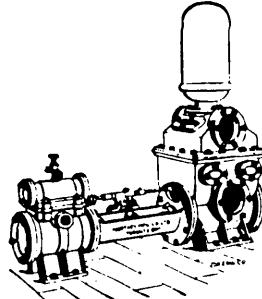
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