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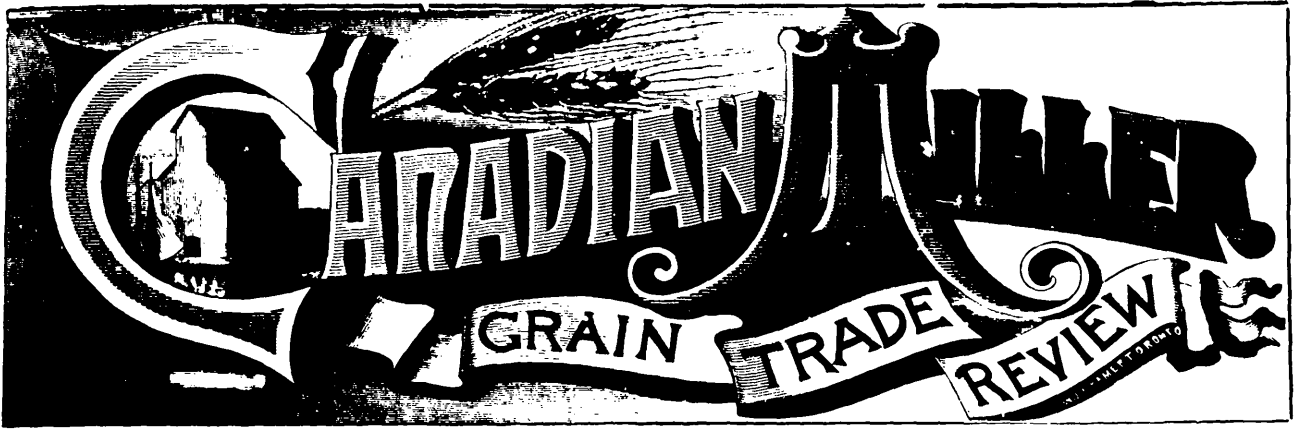
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OLD SERIES, Vol. XI } NUMBER 1
NEW SERIES, Vol. III }

TORONTO, ONT., JUNE, 1893

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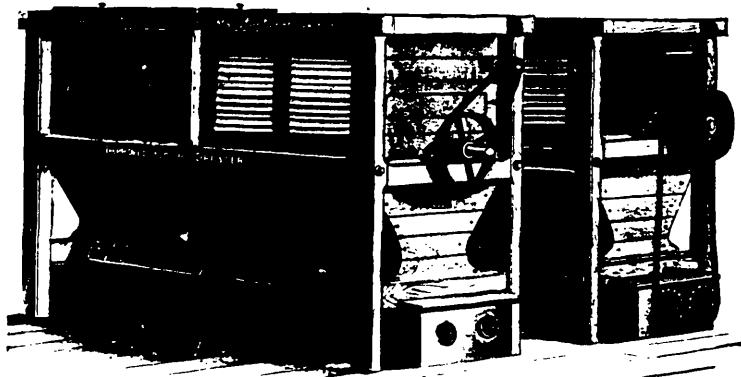
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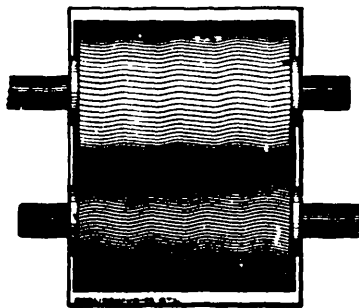
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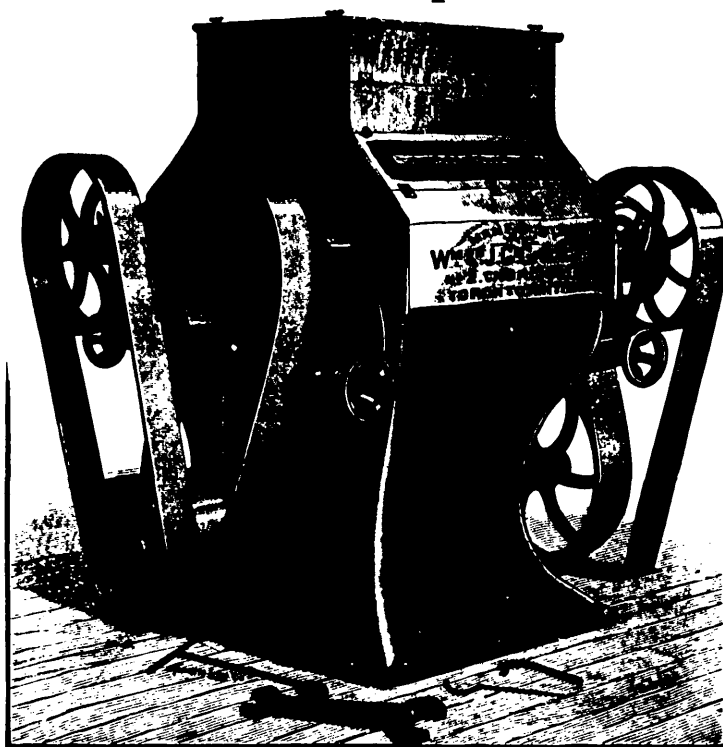
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OLD SERIES, VOL. XI, NUMBER 6
NEW SERIES, VOL. III, NUMBER 6

TORONTO, ONT., JUNE, 1893

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PERFORATED BELTING.

ONE of the most unreasonable and unscientific fads, says a writer in the *Mechanical Journal*, is perforated belts. The advantage claimed for them is preventing air from accumulating between the belt and the face of the pulley, thereby decreasing its frictional power. This point is particularly urged in cases where a belt is run over a small pulley at high speed.

This theory is not only nonsensical, but contrary to all the laws which govern belt friction. The power of a belt, under any circumstances, depends entirely upon three conditions, viz.: speed, tension, and the amount of surface in contact. Belts running over small pulleys at high speed, under all ordinary conditions, must necessarily work to a certain disadvantage as compared with those running at comparatively slow speed.

In the first place, in order to obtain the best results, a belt should embrace at least one-half the circumference of the smaller pulley, but it is most frequently the case where high speed is necessary, the driving pulley is four times or more the diameter of the driven, and unless the conditions are such as to admit of considerable distance between the centres, and the slack side of the belt running towards the top of the driven pulley so as to utilize the sag of the belt, the speed will be such that not more than one-third the circumference of the small pulley is embraced: under such conditions it is high! essential that every atom of the surface of the belt as well as the pulley should be utilized.

It is a fact well known to belt users that the smoother and more perfect the face of a pulley is, the greater will be the friction power of the belt. There is no class of manufacturers who are more fully aware of this fact than the manufacturers of wood pulleys, and one of the greatest secrets of their success is in the careful manner in which their pulleys are finished. Why do the belt manufacturers always recommend running the grain side of a belt next to the pulley and claim an increase in power by that method? Simply because the grain side of leather, especially when new, is smoother than the flesh side, consequently presents a greater amount of frictional surface in contact with the pulley.

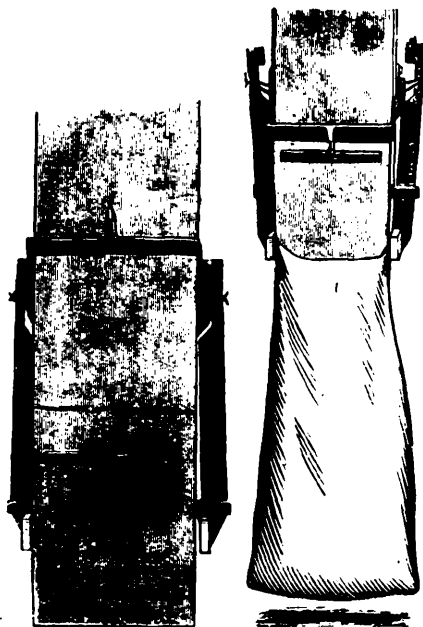
Now if the compressed-air theory is correct, and by perforating the belt and thereby depriving it of a part of its frictional surface, adds to its power, why not then, upon the same principle, perforate the face of the pulleys also by drilling holes in the rim?

The fact is plain to a close observer that the reason why fast running belts over small pulleys are more inclined to slip than those running at less speed, is not due to atmospheric influence, but entirely due to centrifugal force. A belt at high speed, passing over the face of a small pulley, is subject to the same laws which govern the pulley itself. The natural tendency of all revolving bodies subjected to speed beyond the tensile strength of the material of which they are composed, is to separate, and the several pieces to fly off at a tangent from the centre. Anyone who will observe the cylinder belts of a planing machine when running at its regular speed, will observe that the top or leading side of the belt, as it approaches the pulley, instead of hugging the pulley at the moment of approach, is thrown upward and outward; in some cases, especially where the belt is slack, it will not come into intimate contact with the pulley until it has passed a considerable distance beyond the top of it. This decrease beyond the arc of contact fully explains why such belts are more liable to slip over the face of the pulley. Wherever this decrease in the arc of contact and consequent decrease in friction becomes such that it is not equal to the resistance offered, the belt will run off, and the perforating of such belts can not possibly have any other effect than to decrease its frictional surface and consequently decrease its frictional power.

Where both edges of the belt are free and nothing prevents the air that may be carried along from escaping at each side of the pulley, how is it possible for sufficient air to accumulate under the belt to force it away from the face of the pulley? For this reason there can be no possible advantage in perforating a belt for either fast or slow speed, and the sooner that theory is abandoned the better. There are other claims for belting that are equally absurd.

A NEW BAG HOLDER.

HAVING experienced many complaints from customers, says Mr. A. Dobson in the *American Miller*, through the tearing of bags by the hooks and nails usually used on chop and bran spouts in the process of filling, I set myself to devise some means by which this objection might be obviated. After much experimenting I have succeeded in producing a bag holder, an engraving of which is given herewith, and which we have been



A NEW BAG HOLDER.

using in our mill with great satisfaction for several months. We believe that what is of so much use to us would also prove of use to others.

Cut 1 shows spout and holder without the bag; cut 2 shows the spout and holder with bag in position. All that is necessary to effectually hold the bag is to pull down the lever, and when the bag is full raise it, which releases it and allows it to drop to the floor. With this holder the bag can never be torn, while it is easier to work, there being no lifting or pulling required to detach bag from spout, as when hooks or nails are used. There is no patent on this bag holder.

A GOOD PLAN.

A SET screw on a moving part is a most dangerous thing, particularly if it is within reach. Why are they made to project about an inch above the surface? Why so much thread on a fixture that is as permanent as a key? We were taught many years ago to leave set screws only two threads above the surface of the job, and we think it is a good plan yet.

CAN A PERFECT MILL BE BUILT?

By W. I. BATES.

IT is really astonishing to me what some millers will do with all the new machinery they are reported to be so constantly buying. It has never been my fortune to be in the service of one of these open handed gentlemen. I think I can with safety say that I have in all my milling career never seen more than about two new machines introduced in all the mills in which I have been employed, and I venture to think that my experience is somewhat singular in this age of rapid change and innovation. At the same time I have had opportunities of practical acquaintance with the most approved methods of treating and manipulating grain at every point, so am in a position to judge of the effect of any change or reputed improvement. Three years ago I wrote a criticism, which was published in *The Miller*, on "Progress in Roller Milling," in which I endeavored to prove that we had made little or no progress from the start. Now I can say we have made improvement, but in one respect only—purification.

There is no doubt that purification is the secret to good milling, and well-worked purifiers the bane of perfect work, so that to regenerate a mill in this particular is money well spent that is, on one condition, that the new machines are properly handled. Now this is the real point. It is all very well to buy new machines, but would it not be better to ascertain whether the existing ones are doing their best? I can not disguise the fact that the greater portion of Hungarian flour than which there is no better, nor better milled, in the world is purified almost exclusively on the gravity purifier, which we have utterly discarded. Here it was generally ill-used on account of imperfect dusting and sizing; there, in Hungary, it is used to the very best advantage, with correspondingly good results. Some of us have yet to learn that it is not the buying of machinery but the working which constitutes the improvement. I bought an old fiddle for half-a-guinea, but I can not play it; the half guinea was nothing to the labor of learning to play.

I know of some millers who have spent many hundreds of pounds in new machinery to meet the competition of others who have not spent as many shillings in the same way, but with no effect. It is just the case of me and my old fiddle—they lack the skill. Yes; I think that is the answer to many a burning question. Eternal incompleteness lies more in the human than in the mechanical department. This, too, is a full explanation of the successful competition of some out of date mills—they are well handled, or as a French gentleman once expressed it after viewing a certain English mill, "magnificently handled, but wretched wheat." Nobody is better aware of this than the travelling expert, and dare he break a secret he could point to many a mill built on the newest and best principle, which by careless management has been allowed to run down, and eventually to get entirely out of the running, necessitating the calling of professional assistance, which, under any circumstances, is sure to prove an expensive luxury.

As I said, I admit that improvement has taken place in purification alone. Greater attention is now paid to wheat cleaning generally and to washing in particular, and it is laughable to see that those who condemned the practice as dishonest a year or two ago now make a boast of their progress in that particular. Washing, stoning and conditioning have all been practised pretty fully in Liverpool and district for years past. Finality may not yet be an accomplished fact or even within measurable distance, but sufficient for our needs is our present knowledge, and, fitted up to date, I should advise millers to make the very best use of their appl-

ances, and be content rather to follow the unattainable and expensive "knowledge like a falling star."

I fully believe wheat cleaning will undergo extensions and modification, but not radically, at least for some considerable time: even then the improvement will not be great, no more than it has during the last decade. In the purifying department I look for great changes, but little improvement. I have small hopes of better work than our best and newest types of machines perform, but purification will take a new departure. Machines will assume a different form and occupy far less space. Indeed, I have always been struck with the unwieldiness of all our machines, and particularly the purifier. The difference between the mills of the next century now very near and our existing ones will be in concentration. Flour dressing will be done on a different principle in a much smaller machine, but for all that I believe our 1893 mills, well managed, will be able to hold their own well into the next century. The new mills will be less expensive constructions, and will probably absorb less power—a power the motive force of which we, as yet, have no conception, but it will not be steam: in that department, at least, we have not attained finality. Even then, when the millennium of milling appears in sight, "wheat" will be just as important a factor in flour manufacture as it is to-day.

Depend upon it, whatever developments may take place, and however near we may approach the alluring and illusive "unattainable," the best flour will be made in those mills, new or old, which use proper wheat and are properly managed. Did I say "the best flour?" Aye, and the best money, too. What is true to-day will apply with equal force twenty years hence; and for that reason I repeat that were greater attention paid to these two important particulars to-day, the mill builders would do a less flourishing business in reconstructions, and some millers would have less cause to complain of an unprofitable trade.

Independently of outside assistance it is really astonishing what a lot of changes of system and arrangement are constantly taking place in most mills. It seems almost inconceivable that a mill fitted up to date, with all the supposed latest improvements, should admit of any change at all, much less a constant succession of changes, all apparent improvements. Really there seems to be nothing like finality so far as changes of system go. In competent hands these changes will aggregate an improvement, but in incompetency will make confusion worse confounded. It is even whispered that the mill builders drink to the health of the man who makes his own mill, as lawyers do the man who makes his own will. Trouble and a long bill is in each case a remedy for this peculiar ailment. Some millers who ought to know say that when the mill builder has finished the miller must begin. Just so, if he is a practical man, but certainly not if his knowledge is only of the book order; for too often his ardor will outrun his discretion and his inexperience lead him into difficulties. Finality will then appear in perspective as a constantly vanishing point, "unattainable."

DAMPERS IN STACKS.

BE careful of dampers in stacks: use them with care. Be sure they are open before starting the fires. The greatest care should be exercised when light fuel is used, for to close a damper with large body of fuel on grate bars will cause flame to impinge on bottom over same, thus concentrating heat on one point of boiler. Many good boilers have been bagged and burned from the same cause. Always try and regulate draft by damper in bottom or front.

OUR SENTIMENTS, TOO.

HERE is some advice tendered by Hunt's Merchants' Magazine. "According to the character or extent of your business, set aside a liberal percentage for advertising, and do not hesitate. Keep yourself unceasingly before the public; and it matters not what business of utility you may be engaged in, for, if intelligently and industriously pursued, a fortune will be the result."

COOPERAGE D'PT.

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

THE MONTH'S TRADE.

SINCE our last report there has been good drying weather all over the cooperage manufacturing district, the consequence being that staves and hoops are now in first class shipping condition, and orders can be promptly supplied. There is no change in prices, for while there is enough stock to promptly fill orders, there is no surplus as yet on the market, and with the good prospects we have for a fruit crop, there is not likely to be any drop in prices. Heading is still very scarce and commanding good figures.

The flour trade is not very brisk at present, only the more progressive millers running full. A great many of the larger millers in the country are now putting in dry kilns for drying staves before making them into barrels. The latest one on the list is Mr. N. H. Stevens, of Chatham, who is putting in an Andrews dry kiln for drying the staves, so that he will have a first class barrel. With kiln-dried staves and the patent wired hoop, Mr. Stevens will have the best barrel that is made in Canada.

Sutherland, Innes & Co. are also putting up this fall large kilns for drying staves and heading, as it is found that the general tendency of the millers is to use kiln-dried staves, especially during the winter months, as it saves them the cost of coopering the barrels when they arrive at destination, and helps the flour to sell better.

There is every hope of a large apple crop this season, and coopers are already beginning to look around for stock, so that they will not be left in the cold when the busy season comes on.

DULL MINNEAPOLIS.

The cooperage situation at Minneapolis shows very little change during the month. Slow is still the word to describe the situation. The flour mills do not increase their output to any remarkable extent, and considerable of the flour produced is for export to foreign parts. For this reason more sarking is done than usual. Only about 40,000 barrels per week are being turned out, which leaves the shops not much more than half occupied. It is estimated that in the eight cooper shops in Minneapolis there is at least \$300,000 worth of barrel stock, and the insurance on all this cuts no small figure in the present condition of the money market. May business has shown a falling off from the April trade by fully one-third, and usually the month of May is the best one in the year. There is of course no stock whatever purchased, as everything has been contracted for the season, in fact the coopers would rather sell themselves than to buy. There are no changes noted in prices. Heading is quoted at 4½ cents, and could no doubt be bought for even lower figures in the present disposition of the trade. Elm staves are now bringing \$6.75 per thousand. A good deal of the stock that comes in now is being sidetracked, and frequently it stays there some time before being taken care of.

COOPERS' CHIPS.

J. B. Coates, of Ilenheim, Ont., has suffered a loss of about \$2,500 by the burning of his store and hoop mill.

The heading mills of northern Wisconsin being in almost a perpetual snowbank up to the 1st of May, are behind on orders.

A patent on a barrel-making machine has been issued to W. T. Vale, of Toronto, and he assigns it to the New York Barrel Machine Co. A stock company is being organized for Canada.

The French oak stave factory, at Monroe, La., is nearing completion quite rapidly and will soon be in operation, and will work from 75 to 100 men daily. They are receiving from 15,000 to 20,000 staves daily, which will be made complete here for shipment to Bordeaux, France.

The Lumberman, of Chicago, says of trade in that city: "The demand for lard tierces is slow, and prices range from 87½ to 90 cents. There is no demand for pork barrels. There is little call for staves and few arriving. In the south, shippers are disposed to wait until they can get \$18 a thousand for staves, and until tierces sell higher than now, coopers cannot afford to pay more than \$17 for strictly No. 1 staves. Like conditions pertain to pork staves. The market as a whole is dull.

Win. Merrill, of East Saginaw, Mich., has patented a machine for finishing staves, the combination of the jaws for clamping and retaining the stave in a fixed position, the rotary cutters located on one side of the said jaws for crozing and chamfering the ends of the stave, the knives located on the opposite side of the said jaws for jointing the edges of the stave, and mechanism for moving the said cutters and knives to and from the said jaws for finishing the staves without moving the blank.

A New York flour man, in Minneapolis lately, stated that, while the mugwump barrel used by the Pillsbury mills was a homely package, it was stronger and would stand more hard service than the ordinary barrel. Flour could be tierced up in warehouse with it a good deal higher than round-hoop barrels would stand. The breakage of bilge hoops on stored barrels, which was large when round hoops were used, amounted to little or nothing on the mugwump. Another point in favor of this package cited by barrel-stock men, is that its use equalizes the demand for patent and round hoops, and keeps the market more uniform and steady than would be the case were only one kind in use.

GRAIN INSPECTION.

HON. J. F. WOOD, Controller of Inland Revenue, replying to the memorial on the subject of grain inspection sent by three members of the Board of Examiners, Montreal, Que., writes as follows:

To Mr. H. McLennan, Chairman of the Board of Examiners for Grain, Montreal:

Sir, Your communication of the 10th inst. has had the careful consideration of the Department. The Inspection Act, when originally introduced, was to afford machinery for the use of commercial bodies. The Government has been very careful not to override or weaken the authority of either inspectors or examiners appointed under its provisions, and although Parliament has chosen to give the Governor in Council power to counteract the effect of hasty action, especially in view of abnormal seasons, I am of opinion that those powers should be used very sparingly. In the present case it would appear that the samples selected by the board appointed for that purpose have been generally approved by the trade, except that No. 2 oats are now alleged to contain more barley than the statutory definition of such grade would seem to justify. Not a single complaint has reached the department in respect of the inspection of grain of any kind by the Montreal inspectors, whether inspected within or without his district, and but one in respect of any other inspector. While, therefore, the department is inclined to think the standard sample may be faulty, still buyers must know what to expect, as they have the sample to compare with the statutory grading, and in view of the standard having been in use for several months. I am of opinion that the power to reject the standard vested in the department should not be used, as probably more harm might be inflicted by so doing than by continuing the existing standard in use, even if it be below the grade indicated by the statutory definition of No. 2 oats. The standard having been established and distributed, the mixing of other grains to bring a given sample higher than the standard to an equality with it does not seem to be a matter upon which the department should interfere, though it seems to be within the scope of Boards of Trade to agree upon and promulgate rules as to all such matters, provided in doing so they do not override the provisions of the law. The Inspection Act must be regarded, as I have said before, simply as a piece of legislative machinery. The whole spirit of it is to vest in Boards of Trade the motive power for bringing it into effective action, and for this reason I deem it to be unwise (the principle of inspecting to sample as well as inspecting to standard having been admitted) to prohibit, even if the department has the power to do so, the practice which seems to have prevailed in some quarters of inspecting foreign grain "in transit" to foreign ports, or if inspecting to Canadian standards, in foreign ports, provided the certificate states clearly what are the facts in relation to the grain so inspected. Should you see fit to arrange a meeting of representatives from other boards with the board of Montreal, to discuss the whole subject of grain inspection, and should such a meeting deem it wise to propose any amendment to the Act during next session, I shall be happy to give the whole matter my careful consideration. I am, sir, your obedient servant,

JOHN F. WOOD,
Controller of Inland Revenue.

Has your subscription to CANADIAN MILLER expired?



MY work brought me into company a few days ago with a number of representative millers from various parts of the province. They were men who know milling conditions in Canada as thoroughly as any dozen millers you would meet anywhere, and their knowledge of the successes and failures of milling in other lands is considerable. There was present that veteran of the trade, Mr. Jas. Goldie, of Guelph, whose reminiscences of milling in this province would constitute an interesting volume at any time. Discussing the question of creating new markets for mill products, he made the cogent remark, as reflecting the condition of the milling trades for some months past, "One cannot do business with anyone now." My miller friends of whom I write are no pessimists; on the contrary they might each be taken as typical of the traditional jolly miller; at the same time they realized, and manfully acknowledged the fact, that the past year has been a slow one for milling. The talented president of the Dominion Millers' Association, Mr. M. McLaughlin, whom all millers are pleased to honor, facetiously remarked, when an intimation was made by one of the company that a certain miller had sold out, "One fortunate." Mr. McLaughlin would hardly want to have it said that a man was better out of milling than in it, because I think he has every confidence in the ultimate future of this industry; his big mill, recently enlarged, is the proof, but it was one way of expressing the general sentiments of millers that the immediate present of the trade is rather depressed. Of course the recent escapade of Leon M. Carrier, of Quebec, who managed to do up somebody—whether railroads or millers may not yet be certain, or both—to the tune of \$30,000 or \$40,000, was a topic for comment. The talk had previously been on the line of adopting some plan of protecting the trade against such men as Carrier. "Are you aware," said secretary Watts, of the Millers' Association, a man who has an eagle's eye when the welfare of the Canadian miller is in jeopardy, "that this man Carrier was twice sold out by the banks within the past few months?" "I am so informed," said Mr. Watts, "and if we had in connection with the Dominion Millers' Association, some such method as is the vogue with the Michigan millers, we could readily put our millers on to these fellows who from time to time work to fleece some innocent dealer." Who else constituted this company of millers? There was Mr. H. A. Mulhern, of Peterborough, one of the best known millers in the province, and who has recently shown his capacity for greater things by a noticeable enlargement of his milling properties in that growing eastern town. A man who never says much, but whose judgment always carries weight with his associates, Mr. J. D. Saunby, the miller of the Thames, London—he was one of the number. The Sniders, of Waterloo, a family with an historic record in the annals of Canadian milling, found a worthy representative in Mr. W. S. Snider, of Waterloo town. It is not the face of Mr. A. H. Baird, of Paris, that shines out in an illustration elsewhere on this page, but the family likeness is there. The Paris miller was with us, and like the brother who so ably presided over the affairs of the Toronto Board of Trade a year ago, Mr. A. H. Baird has a keen head for business, and his suggestions are at all times marked by shrewdness and good sense. Of course the ready-witted Spink was there. A suggestion was made that several of the company try their hand at formulating a resolution touching a matter that was being discussed. All made a good fist of the job, but so thoroughly did Mr. J. L. Spink's setting of the situation express the sentiments of everyone else that by unanimous consent the other motions were consigned to the waste basket. That is the Pickering miller every time. He gets there. Lindsay was represented by Mr. J. D. Flavell, who has a level head

for business and a practical knowledge of milling, that gives influence to any remarks he makes on the subject of flour production or flour markets. Last, but by no means least of the company, was Mr. Wm. Galbraith, treasurer of the Dominion Millers' Association. His experience in handling flour covers many years. How the markets have been depressed in other years, as well as the present, and the trade lived through it all; the rocks on which dealers have sometimes split, and the difficulties that have had to be encountered; the fashions of the trade in the past and the whims of the present, are a few of the many matters of which Mr. Galbraith can descant out of his years of experience as a large flour handler. And so our company of jolly millers talked and talked and successfully planned and worked for the weal of the milling trades of Canada.

Robert Watson, minister of Public Works in the Manitoba government, when in Montreal the early part of June, said to an interviewer: "The outlook for the new harvest is splendid. The lateness of the season is no drawback. Vegetation seldom begins till the middle of May, and now it is progressing freely. The great question of the spring is that of rain, and now there is ample moisture, with quite sufficient heat."



HUGH N. BAIRD.

He does business in the Board of Trade buildings, where he and his partner have handsome offices, and the volume of his affairs requires a large staff of clerks, for he operates in Toronto and Montreal, and sends his product over the seas to feed the people of England. He is popular among his fellow business men, and perhaps no president of the Board of Trade ever filled the position so well as did he when he held the office. But more than being a successful man of commerce, he is a stalwart Canadian who loves his land with rare devotion, and is loyal to the Mother Land.

Three-quarters of a million dollars have been expended on the Galops rapids with the expectation that the grain trade would have been a large gainer in opening up an improved St. Lawrence river channel. But the fates would appear to be against it. David Thompson, manager of the Montreal Transportation Co., says that their pilots refuse to take a tow down the new channel, as they consider it unsafe, on account of the cross currents.

"The government," has not yet shown to us, Mr. Thompson has further remarked, "that the channel is practicable for a tow of barges. Let it do that first, and let the pilots see that it is safe." M. W. Stewart, manager of the Montreal Forwarding Co., says "Our pilots can not see their way to run down a new, untried, and as they believe, a dangerous channel. The cross current is too strong and the rear barges of a tow would be driven on the bank of the channel." C. A. Jacques, of George E. Jacques & Co., says that their propellers run the new channel but he would not hazard an opinion as regards a tow of barges."

Mr. Geo. F. Hastings, manager of the Keewatin flour mills, speaking of the crop prospects in Manitoba and the Northwest, said it was too early to judge yet, but with a dry summer, the farmers would fare very well. The season was a little colder and in re backward than usual. Mr. Hastings thought there was rather a greater acreage of wheat sown this year than last, while it was also noticeable that the wheat area was extending further westward. Especially was that the case in the Saskatchewan district, brought about through railways being constructed in there. Mr. Hastings had been through to the Pacific coast, and went to the Lower Kootenay to see what business could be done there, but found that Canadian millers were practically shut out through the heavy freights. It would cost Manitoba millers \$1 a hundred pounds to send flour to Nelson, while Spokane flour could be delivered there duty and freight paid, for 81 cents, giving the Americans an advantage of 19 cents per cwt. The Spokane flour was not so good, but with this advantage the Canadian article was shut out. The British Columbia trade remained steady, and they had no trouble with the collections. They had made small shipments to China, but the results had not been so satisfactory as could be wished. The market seemed to be filled with Oregon and California flour, and the demand for hard wheat flour, such as Manitoba turns out, was not large.

The discussion as to the origin of Fife wheat may, perhaps, be rounded up with the following letter from J. A. Fife, M.D., of Peterborough, whose name was mentioned by a number of our correspondents, as one who could give a correct history of this debatable question. It will be noticed that the particulars given by Dr. Fife, agree in leading particulars with the letter from Wm. McDonald, of Sandfield, published on this page of last month's MILLER. Dr. Fife says: "David Fife, of the township of Otonabee, in the county of Peterborough, Ont., was a Scotchman, born in the township of Kincardine, on the Frith of Forth, and came to the township of Otonabee with his parents and brothers in 1820. About 1845 or 1846 he was in correspondence with a friend in Glasgow, Scotland, who was interested in unloading ships that brought in wheat from different parts of the world to that port. This friend sent some wheat to David Fife, of Otonabee, that was taken from a ship that came from the city of Danzig, in Russia on the Black sea. The grain was sown by Mr. Fife, and the produce from this was also sown and rapidly came into favor. It was not subject to rust, and was more productive than other varieties of wheat then grown. Mr. Fife tried to give it the name *Dansic wheat*, and sometimes Russian wheat, but these names did not become general. The neighbors, and others at a distance, gave it the name *Fife wheat*. I remember an article written about that time in an agricultural paper by the late George Easson, who was a neighbor of Mr. Fife's, in which he claimed the name *Fife wheat* should be the name by which that variety should be designated, as a rightful honor to the man who introduced the seed and made its superiority known. This variety of wheat rapidly came into favor throughout Ontario, and soon spread into the western states. If any one should ask for proof that the wheat now growing in Manitoba is obtained from that grain introduced and propagated by Mr. Fife, it might not be forthcoming, as I am not aware that any one keeps a record like a herd book or any other register, but I have no doubt but it is. I may say that this family of Fifes stick to the clan and shire name, and spell their name Fife and not Fife, as some people in Manitoba do."



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J. S. ROBERTSON, EDITOR.

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

The only paper of the kind in Canada, containing full and reliable information on all topics touching our patrons, and undoubtedly as an organ with any manufacturing company, we will always be found honestly and earnestly endeavoring to promote the interests of our subscribers. Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trade.

IS THERE UNDERBILLING OF CARS?

Is it the case that someone, shippers or railroads, make a not infrequent practice of sending forward carloads of merchandise underbilled often to a considerable amount? It is so charged by those engaged in the flour and grain trades, and there are those interested in other departments of manufacture who are telling equally strange stories. Where there is so much smoke, believers in the old adage will say, there must be some fire.

So far as the milling trades are concerned the matter has been made prominent at the present time by the sudden departure of Mr. Leon M. Carrier, commission merchant, of Quebec. He was in the habit of having large quantities of Ontario flour shipped to his address in Quebec. It is now broadly stated that shipments were in several cases underbilled to the extent of 100 barrels below the actual weight contained in the cars. For example, the statement is made that in the case of one car billed at 300 bags, it actually contained 500. Other cars were billed as containing 150 barrels each when they really contained 200. Another scheme to attain a similar end and one that it is said is practiced by dealers is to put the flour up in 140 lb. bags and bill them as 98 lbs. Or again a few tons of feed will get smuggled into a car and be omitted from the shipping bill saving in freight charges to that extent.

How unfairly methods of this kind work against the honest dealer will be clear to the veriest novice in commerce. Their ill effects have been very patent in the flour trade in Quebec where prices have been cut lately so that the miller with the most perfect advantages for doing trade has been unable to meet the competition that has been prevalent. "Why, do you know," said a prominent miller to the writer, referring to a specific shipment of flour, which it is alleged was underbilled, "that exactly forty-nine dollars was saved in freight charges between what was paid and what should have been paid if an honest shipping bill had been made out—a nice profit in these days when millers hardly know, where under the most favorable circumstances, their profit is to come in."

The practice is rascally and vicious whoever is to blame and places the honest dealer in any line, and the charge is that milling is not the only trade suffering from these methods, in a cruel position in competition with the dishonest dealer.

Are the railroads ignorant of these practices? Well, we should like to believe that there is nothing in any of the charges made; that all millers are honest; that there is no commission dealer who tries to get ahead of his rival by the methods here described. But it is hinted that the railroads know as well as anyone how to follow Lord Nelson's plan of sometimes looking through a glass eye at certain acts. Railroads are keen for business, like other concerns, and whilst they cannot perhaps cut rates, they have learned by this time that there are more ways than one of killing a cat.

As to a remedy for the trouble, if trouble there really is, it will doubtless be found, and in the railroad act, extracts of which we give below, very important machinery exists to get at those who are known to be guilty of the practices named, whether these be shippers or railroads. Certain clauses of the act read:

"That the railroad committee consisting of the Minister of Railways and Canals, the Minister of Justice, and two or more other members of the Queen's Privy Council; three of whom shall form a quorum; shall have the powers and perform the duties assigned to it by this Act." Among these are: "The Railway Committee shall have power to enquire into and determine any application, complaint or dispute." (Sect. 11.)

"Tolls and rates for the transportation of passengers and freight." (Sect. 11, k.)

"Unjust preferences, discrimination or extortion." (Sect. 11, j.)

The Railway Committee, etc., shall have the same power to enforce the attendance of witnesses and to compel them to give evidence and produce the books, papers or things which they are required to produce, as invested in any court in civil cases." (Sect. 15.)

"No tolls shall be levied or taken until the by-law fixing such tolls has been approved of by the Governor in Council, not until after two weekly publications in the Canada Gazette of such by-law, and of the Order in Council approving thereof; nor shall any company levy or collect any money for services as a common carrier except subject to the provisions of this Act." (Sect. 228.)

"Every by-law fixing and regulating tolls shall be submitted to revision by the Governor in Council, from time to time, after approval thereof; and after an Order in Council altering the tolls fixed and regulated by any by-law, has been twice published in the Canada Gazette, the tolls mentioned in such Order in Council shall be substituted for those mentioned in the by-law, so long as the Order in Council remains unrevoked." (Sect. 228.)

"No company in fixing a toll rate, shall, under like conditions and circumstances, make an unjust or partial discrimination between different localities; but no discrimination between localities, which, by reason of competition by water or railway it is necessary to make to secure traffic, shall be deemed unjust or partial." (Sect. 232.)

"No company shall make or give any secret special toll, rate, rebate, drawback or concession to any person, and every company shall, on the demand of any person, make known to him any special rate, rebate, drawback or concession given to any one." (Sect. 223.)

"All regular trains shall be started and run as near as practicable at regular hours, fixed by public notice, and shall furnish sufficient accommodation for the transportation of all such passenger and goods as are within reasonable time previous thereto offered for transportation at the place of starting and at the junction of other railways and at usual stopping places established for receiving and discharging way passengers and goods from the trains." (Sect. 246.)

2nd. "Such passengers and goods shall be taken, transported to and from, and discharged at such places, on the due payment of the toll freight or fare lawfully payable therefor:"

3rd. "Every person aggrieved by any neglect, or refusal on the premises, shall have an action therefor against the company; from which action the company shall not be relieved by any notice, condition or declaration. If the damages arise from any negligence or omission of the company or its servants."

THE FINANCIAL SITUATION.

THE observations of the chief officers of the Bank of Montreal, given expression to at the annual meeting of the leading monetary institution of the Dominion in June of each year, are usually scanned with considerable care by the business men of the country. With commercial connections touching every corner of the Dominion and almost all kinds of traders, the officers of this bank are in possession of data of a volume and character that enables them to judge more accurately than most men can of the true position of financial affairs. In the case of the Bank of Montreal, perhaps more than any other Dominion institution, a large business is done both in the United States and Great Britain, so that opportunity is given its officers to take a broad view of the whole financial situation.

We are aware that it has become the vogue with some bank magnates, some more diminutive than others, to use the occasion of the annual meeting to lecture business men on business ethics, in the daily application of which they are not all times themselves too particular, and to make a parade of learning in business economics that the depth of their experience hardly justifies them in making. But these are little fables of the profession common to any business and profession that do not after all affect the general situation.

Sir Donald A. Smith, president of the Bank of Montreal, made the more lengthy and important speech at this year's meeting in the early days of June. The profits of the year were deemed satisfactory, and this was the first matter of comment and congratulation. The business of the year was, especially in Ontario and Quebec, pronounced satisfactory. The boot and shoe

trade, that in Quebec is an important industry, was in a most unsatisfactory condition at one time, but an undoubted improvement had taken place lately. Dry goods, which had been slow, were improving. Lumber for the past year had shown a marked improvement, and it was expected that these conditions would continue.

The most disappointing branch of trade was wheat. The quantity was not equal to the expectations of the early part of the season, and prices were so low as to prove very disappointing to the farmer. Hay had become an important factor to the farmer, and so had cheese and cattle, distributing something like \$20,000,000 among them last year, and it is suggested that more attention might with profit be given to these branches of farming in the future.

The section of country that is described as suffering the severest depression during the year was Manitoba and the Northwest. There they had a great shrinkage in the quantity of grain owing to the exceptionally dry weather just a short time before the ripening of the crops, so that the volume for export was much smaller than was expected, and when to this is added that the price they received for their grain was from twenty to twenty-five per cent., or even more, less than in the preceding year, we at once see that it put the people there at a very great disadvantage. It is expected, however, that the crop this year will be very satisfactory. Though the season was late in opening, Mr. R. B. Angus, one of the directors of the bank, who has recently returned from the Northwest, reports crops more forward than they have been for some years back.

General manager E. S. Clouston, followed the president, and having referred to the financial troubles in Australia and the silver difficulties in the United States, he summed up the financial situation in Canada thus:

In the midst of all this unrest and financial excitement it was a source of relief and assurance to those having charge of financial matters in Canada to feel that the commercial business of Canada was in a sound condition and that trade, on the whole, had been fairly satisfactory during the past year. Profits have been reduced by competition in some cases, but on the other hand there have been fewer bad debts, the record of failures showing about \$12,000,000 against \$16,000,000 for the previous year. The grain trade has not been quite satisfactory, owing to low prices, but there has been a decided improvement in lumber, and the prospects ahead are good. There is no great speculative inflation. What inflation there was in the stock market has already largely corrected itself, and if the banks will only act with caution and circumspection, neither encouraging speculative ventures nor refusing judicious assistance, there is no reason why the coming year should not be a satisfactory one for Canada. It must be a year of caution, however, as the condition of affairs in the United States is not reassuring, and we may be more or less affected by it owing to our commercial relations with that country. It should also be a period of economy, and that applies to governments, cities, and municipalities as well as the commercial community; for we have been spending too much money; too many subsidies to railways, too many expensive works and too much good money wasted. Those having charge of the purse strings will do well to draw them tightly during the coming year.

TARIFF MATTERS.

THE New York Commercial Bulletin discusses with greater candor and fairness than is common to many newspapers either in Canada or the United States the question of trade relations between the two countries, and presents some figures that will serve a useful purpose in the consideration of this question. It says: "It was deemed necessary for the farmer to exclude Canadian barley and eggs three years ago in singular oblivion to the immense quantities of corn, wheat and provisions which Canada annually buys from us. In the fiscal year 1892, the breadstuffs sold in Canada amounted to \$11,401,494, while the amount we bought of her was only \$3,673,843. The only two large items in our breadstuff imports from Canada were wheat and barley, both of special varieties, grown little or not at all here, and imported because of their quality, and not because of their cheapness. The wheat and flour we sold Canada were worth nearly seven million dollars, the corn nearly two millions, and the rye over two millions. All the provisions we bought of Canada amounted to less than \$57,000, and the butter and cheese we bought were less than \$27,000, while the quantity we sold was worth \$1,237,910. The aggregate of all these food articles exported by us to Canada in 1892 was \$16,855,054, while the amount imported from Canada was only \$5,079,615. And yet the farmers along our northern frontier have been told till many of them believe it that Canadian competition would ruin them."

IEWS AND INTERVIEWS.

Success on Top.

The reply of Daniel Webster to the young man who sought his advice as to taking up law has often been quoted. "Yes," said the learned jurist, "there's lots of room on top." How to get there is the bother with many men in various callings. "On every side," some one has said, "we see the plodding masses following in the old rut, each contending with his neighbor for the scanty herbage within reach of the well-beaten pathway, while just beyond, on either side, are pastures fresh and green. Originality is the ladder which affords an escape from this old rut, which is being worn deeper every day by a constantly increasing stream of plodding, grovelling, mediocre humanity. These plodders are found in all kinds of business. They are struggling simply for bread, and many there be who fail to win it. The man who would make a success of a business venture must leave the rank and file, and get off the tread-mill. He must climb out of the rut. He must be an originator of practical ideas, and an independent thinker. He must be able to clearly see a point, and then possess the executive ability to make it. He must possess sense enough to know that he cannot advance without breaking ranks."

Suits The British Baker.

It is not supposed that in much of the flour exported from the United States to Great Britain during the past six months that there has been any large profit for the American miller. Nor has this constant glutting of the British markets helped, in many respects, Brother Jonathan's trade. Milling, of Livepool, however, points out that in one respect at least, the American is serving the Britisher and in a way which he scarcely realizes and hardly intends. "Fine spring patents at 23s. 6d. and Fine Kansas patents as low as 22s. 6d.," remarks Milling. "This flour has the advantage of age and dryness; desirable qualities for admixture with Black Sea wheat-flour, the gluten of which latter, while abundant, is more sticky and troublesome to the baker. By using a large proportion of spring American wheat all goes well in the oven; but a smaller proportion of spring-wheat flour, imported as flour, with age serves the same purpose and then the Britisher can use a larger proportion of the cheaper Black Sea wheats and sell his own fresh without complaint from the ever-critical baker."

Bread From Underground Grain.

It is idle in this day of new inventions and novelty in every department of life to suppose that there is no other way than our way to do a thing. We have our own way of making bread in this country, but it is different unto the method of a Riga manufacturer. The Rigaer Zeitung reports regarding it: "An eight-horse-power steam motor sets in motion the machinery for converting the grain into bread. In the first place the wheat or rye is soaked in warm water. The grains swell and become soft, and at the same time all dirt is separated from them. In this condition they are crushed into a thick liquid mass between a pair of rollers. A thorough mixing of the bran with the gluten and starch of the grain is obtained by forcing the thick liquid through closely perforated plates to which it is conveyed by means of archimedean screws. After passing through these sieve-like plates the mixture has a stringy appearance like vermicelli, and as the holes of the plates become successively smaller a perfect mixture of the various constituent parts of the grain is effected. The mixture is next sent to a kneading machine, where it is thoroughly mixed with leaven and other necessary additions. When the dough is thus prepared it is left in large wooden tubs to rise, which takes about four or five hours. It is then put into a machine resembling a brick-press, and which works in the same manner. The dough comes out of this machine shaped into loaves, which are left to stand another hour or two, and are then put into travelling ovens made after General Wasmundt's system, from which after sufficient time the bread is removed ready for use. It is claimed as an advantage of this new bread that it is better looking, better flavored and more nourishing than that prepared in the usual way."

Don't Worry.

"A man's business life is too short," says a contemporary, "to waste any portion of his time in fretting over any trifling matters of business. If a man has a mind to be annoyed by every little mishap that occurs in his establishment he can keep himself in constant hot water by worrying. There is neither sense nor reason in flying into a fit of passion because some careless clerk breaks a stone fixture, leaves a faucet running, smashes a jug, or commits some other trifling blunder. Constant fretting on the part of employers makes clerks and book-keepers nervous, and in this condition of mind and body they are far more apt to make mistakes than they otherwise would be. Business worry wears a man out very rapidly, and when the habit of fussing is acquired, it is extremely difficult to rid oneself of it. There are men who work themselves into perfect fits of passion over little insignificant matters not worthy of serious thought and consideration. There are other men who fret because they fear that something unpleasant is going to happen to their business. They may have obligations to meet, a note due at the bank, while their customers cannot be depended upon to help them out of a tight corner, but there is no earthly use of borrowing trouble until trouble comes, and then every enterprising merchant should manfully meet it. There is a great difference in merchants. Some wear themselves out before middle life, become irritable, morose, snappish and disagreeable in the conduct of a very small business, while other men, with vast interests and great responsibilities who are calm and well poised, patient and nervous, live to a good old age without borrowing trouble or shattering their nerves over trifles."

Keeping in The Front.

There is a penny wise and pound foolish policy in business, sometimes. We may strain at the little economies in business to the sacrifice of the larger and more important ones. In an age when the survival of the fittest seems an almost unrevocable law of commerce, business men have to watch with keenest eye that in no particular they are outstripped in the race by a still keener rival. In milling one essential to keeping in the front of the race is proper equipment in the mill. The Roller Miller has this to say on the subject: "A miller frequently tries to make himself believe that he must keep a certain machine, even though it is far out of date, simply because it cost him a considerable sum when it was built. There was a time, of course, when the majority of machines were built by hand in the mill. It was, as a rule, stocked with as much material as possible, both wood and iron, which necessarily made it an expensive affair. For instance, there are even to-day many millers holding to their old-style bolting chests, which are regular traps for bugs and worms. The mill is cluttered up generally, owing to the immense proportions of the old chest. Conveyors that carry out the material are twice or three times the length they would be in modern chests, and consequently they wear out the stock all the more. Oftentimes these long conveyors warp and become crooked to such an extent that the flights fairly gnaw half way through the sides or bottom of the conveyor box. One of these conveyors filled with flour or other material throughout its entire length will have its effect on the amount of power consumed, to say nothing about a full chest with these long conveyors. The long reels as well are loaded their entire length, and are quite heavy to move even when they are empty. A conveyor is certainly a very objectionable device to be used in a mill, these days, for anything excepting wheat or the finished products. Likewise do millers cling to ancient purifiers. There was a time when sieve machines were made of very large proportions. The shaker was probably patched up numberless times until it was rickety in the extreme. We now have the air-belt and the sieve air-belt machines, either of which will displace the old mammoth purifying machine to good advantage."

DOMINION MILLERS' ASSOCIATION.

A MEETING of the executive of the Dominion Millers' Association, at which a large amount of important business was transacted, was held in the Board of Trade Building, on Tuesday 7th inst. All members were present, except Mr. Isaac Warcup, of Oakville, who had tendered his resignation to the secre-

tary, having retired from the milling business, and Mr. E. S. Edmonson, Oshawa, second vice-president.

Those present were: M. McLaughlin, president; A. H. Burd, first vice-president; C. B. Watts, secretary; W. Galbraith, treasurer; J. L. Spink, Toronto; J. D. Saunby, London; H. A. Mulhern, Peterboro; J. D. Flavelle, Lindsay; Jas. Goldie, Guelph, and W. S. Snider, Waterloo.

The meeting was opened promptly at 11 a. m. by the president. The secretary reported a total paid-up membership of 210, which included the following new members since the annual meeting in August last: Alonzo Baige, Formosa; W. F. Stewart, Durham; T. Dexter & Son, Seatonville; Cookshire Milling Company, Cookshire, Que.; Heslop Bros., Port Robinson; R. T. Walsh, Ormstown; Flesheron Milling Company, Flesheron; James Wilson, Fergus; M. M. Squire, New Lowell; H. Hollingshead, Dutton; Knight & Hill, St. Mary's; George Needler, Millbrook; D. C. Thompson, Orillia, and Frank Harris, Springfield. The treasury was found in a healthy condition, all expenses of incorporation having been paid, and a considerable balance still on hand.

In the report of the secretary it was remarked, that there had been less cause for complaint than formerly in the inspection of Manitoba wheat. Perfection had not yet been reached but there was a marked improvement. A good opening for Canadian flour was to be found in the West Indies and if the various suggestions that had been made touching the local peculiarities of that trade were given a practical application, the market to a large extent could be secured to our millers. If Newfoundland was embraced in the confederation of the Dominion a flour trade larger than at present could be secured with that colony. As it was the trade was worth watching and cultivating, some 300,000 barrels of flour being consumed in the colony in a year. It was pointed out that bran and offal were to be disposed of at a profitable figure for feeding purposes and manure, a fact, apparently, that was not known generally to millers. Complaint had been made to the executive that low grade flours were being shipped from the States into the Maritime provinces, and passing the customs as feed, thus escaping the duty that is practically prohibitory. The department of the Interior had been communicated with, and the executive were assured that prompt measures would be taken to stop the fraud, which it was believed was done.

The secretary, acting under instructions from the executive, had effected a satisfactory arrangement with Lloyd's Marine Insurance, a plan that very completely covered the difficulties that had hitherto been experienced in the shipping of flour by water.

The report of the Central Wheat Buyer showed that the business of the office had suffered to some extent lately in sympathy with the depression that had existed in the grain and flour trades during the past six months.

On resolution the date of the annual meeting of the Association was fixed for Wednesday and Thursday, August 9th and 10th. Being the first meeting since the final consummation of the incorporation of the association under special act of parliament additional interest, it is expected, will be attached to the proceedings. The programme of the day will include the discussion of various topics of great practical value to millers. Among these may be named:

The practice of underbidding cars and the remedy.

A systematic effort to warn members of the Association of the tricky dealer.

A standard form of blank orders for buyers and sellers, and means of redress against dealers who refuse to accept shipment of flours at dates ordered.

It is expected that several papers on practical milling subjects will be read by prominent members of the Association and a discussion follow these.

On the second day of the convention a trip will be made from Toronto to Niagara Falls and return, the cost of which will be quite nominal to members of the Association. This is an outcome of the suggestion made by President McLaughlin a year ago, that whilst these annual gatherings of millers should be for business that they should also be used as a means of enabling the members to become better acquainted with one another and perhaps in no better way can this be done in the summer season than through the means of such a trip as is now being planned.



The particular purpose of this department is to create an increased market for Canadian mill products—flour, oatmeal, cornmeal, rolled oats, pea barley, brown meal, split peas, etc.—at home and abroad. The interests of the miller who grinds the grain will have thoughtful consideration. Any matter that is likely to lead to an improvement of conditions in the local market of any of the various provinces of the Dominion will be carefully considered in this department. A close study will be made of the foreign markets with the aim of further developing the Canadian export trade. The Mill can each month covers very effectively the field of flour handlers and buyers of mill products, not only within the borders of the Canadian Confederation, but in New-England, the West Indies, Great Britain 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, methods of transportation and shipping intelligence in its bearings and relationship to the milling industries. We receive correspondence from millers, shippers and buyers on any matter touching these important subjects.

OATMEAL MILLING IN MANITOBA.

NOT long since the charge was made by the trade in Manitoba that Ontario millers were branding as Manitoba flour a product that was not manufactured from Manitoba wheat. The deception, so far as it may have been practised at the time, has not, we believe, any existence now. It would seem, however, that Manitoba oatmeal dealers have taken a cue from Ontario, for according to the Pilot Mound Sentinel, "it has been the practice of dealers in Winnipeg to brand the meal manufactured in Manitoba with an eastern mark, and afterwards distribute it throughout the province described as Ontario meal." Manitoba oatmeal is not equal in quality to that milled in Ontario, and hence the fraud, and the supposed advantage to the fraudulent dealer. Now that the little trick has been discovered, and been exposed by the local press, it will be expected that those naughty dealers will no longer continue naughty.

Though oatmeal milling in Manitoba has not developed to any large extent as yet, there being only some three or four mills in the province, and the most important of these, that situated at Pilot Mound, was recently burned, yet the people of the prairie province believe that the conditions of the country are favorable to the extension of this branch of trade. The quality of oats grown in the country are, it is claimed, better than those raised in other provinces, and can, with a little more attention to the cultivation, and the farmers provided with dry granaries, be further improved. With these conditions watched and an improvement made in the methods of milling, Manitoba, it is expected, will take a front place in oatmeal milling.

WHERE THE FLOUR GOES.

The output of United States flour mills runs into large figures. Where all the flour goes is an interesting question. The Minneapolis Market Record discusses the matter in these terms: "The larger portion of the wheat crop of the United States is winter wheat. The three principal spring wheat states are Minnesota and North and South Dakota. Last year they raised, according to government estimates, 107,975,000 bushels, but these estimates were much too low, probably 150,000,000 bushels is nearer correct. The bulk of this wheat is sold at Minneapolis, mainly to local millers. The demand from them is sharp, most of the time keeping prices above an export basis. They are so now and have been for a long time. In other words, a farmer can sell his wheat to the millers in Minneapolis for more money than he can get for it either at London or Liverpool, freight off. The reason is perhaps that the flour made here is of a better quality than that made by English millers, even when identically the same wheat is used, and commands higher prices. This is due to the machinery used here being superior to much that is in use there. For this reason English millers are forced to buy cheaper wheats from India, Argentine and Russia, to mix with our spring wheat, in order to meet the competition of the spring wheat millers. The trade in the leading English wheat markets is called dull by millers here, and prices there are very low, but the demand is picking up, and spring wheat flour continues to be pushed on to them, and seems to stand at the

head of patent flours, with the exception of that made in Hungary. The latter production is small. Most of our spring wheat flour is sold in the United Kingdom."

FLOUR ON CREDIT.

No good purpose is to be served by a wholesale denunciation of the credit system. Credit is doubtless bad under certain conditions. Credit is also good, and under some conditions an absolute necessity of business. It is only giving utterance to a very self-evident fact to say that to no small extent the basic principle of all business is credit. But when we commence to particularize there are certain trades where credit should be given much more sparingly than in others. This is the case in milling. The flour comes from wheat and no one pretends to buy wheat except on a cash basis. The labor which is put on the wheat to convert it into flour calls for immediate cash. These days flour is sold on so close a margin that there is no room for taking chances with bad accounts. And yet all millers do not adhere strictly to the cash basis. One of the drawbacks of doing a trade in flour in the province of Quebec is that to a large extent credit is given by the flour handler. The argument there, and the argument in Ontario, where the custom is not so prevalent, but still is not extinct, is that "others do it, and we must do the same unless we are prepared to forego trade." The serious question to consider is whether there is not more money in foregoing some trade that carrying the risks, and the losses, too, that are inevitable to the credit system, no matter how carefully watched.

Conversing with Ontario millers we have been pleased to learn that many of the best of them adhere very firmly to the cash basis, at the same time there are those who are prone to be lax in this particular. At a time when caution is the admonition in commercial circles the usually prudent miller will not despise a personal application of the admonition.

BRITISH FLOUR MARKETS.

(SPECIAL CORRESPONDENCE CANADIAN MILLER.)

IN my last letter I gave some information touching the kind of flour to make to meet requirements here. In this letter I shall give the best places for such grades as were mentioned in my last, and the reasons why other places will not give the Ontario winter wheat miller even cost of manufacturing. But let it be understood, that when Manitoba produces more good No. 2 spring wheat than the Dominion can consume, bringing down price of No. 2 hard spring to export basis, then those very places where at present winter patents cannot be sold at a profit, will take a portion of Manitoban patent, because it will not come into direct contact with the English production. Also, let it be understood that while I say that at some points winter patents cannot be introduced without loss, yet at the same time some Ontario millers are selling a small portion of their winter patents even in those places, but it is because those brands were introduced there before the English patent gave such competition, and now sells because of the reputation of the brand, and not because of its intrinsic value over other new brands that cannot be successfully introduced now.

First then, I will mention the places where winter patents cannot be successfully introduced now and the reasons why, viz.: Newcastle, Hull, London, Bristol; and the reasons are that large quantities of English made winter patents find a market in those places made from English winter wheat or part English winter wheat bought at prices at the mill down that foreign winter wheat flour cannot compete with and so far as London is concerned Australia, California and River La Plata send immense quantities of winter wheat flour there, which has a superior reputation for biscuit and confectionary purposes, hence from reasons mentioned I fear our Ontario patents cannot be successfully introduced in those markets. However, those reasons do not exist to the same extent at Aberdeen, Dundee, Leith, Glasgow, Liverpool and all Ireland. Scotland and Ireland have ceased to a large extent from being wheat producing countries, their climates being more suitable for oats, and the oat crop at present being more remunerative, hence those places will continue to take large quantities of Ontario patents.

So far as Ireland is concerned at the present juncture, political questions are disturbing the regular course of trade. Most of the Irish flour import trading is done through large import houses in Liverpool and Glasgow, some being bought by those importers for direct shipment to Ireland; others import to Liverpool and Glasgow, and re-ship to Ireland, but many of those houses just now, for financial and political reasons, are withdrawing their capital from the Irish trade,

and in the near future there will be some changes from the past in firms that will do the Irish import trade. Ireland in the old stone mill regime was quite a large milling country, but different from England, very few mills have been changed to rolls and not likely to be, hence so soon as present political excitement is over and the country settles down to some basis of government, old or new, Ireland will continue to take a share of her breadstuffs in flour from Ontario. What she requires is a white 80 to 85 per cent. winter patent. In my next letter I will give a few hints how an export trade can be done with essentials to its success.

DAVID PERKINS.

LIVERPOOL, Eng., June 2, 1893.

THE FLOUR MARKET.

Flour has remained very quiet during the month. Prices have given no encouragement to exporters and at the same time the glutted condition of foreign markets has left little necessity for supplies even with prices favorable to the buyer. Everyone is wishing for an end of this lethargy, but it does not yet appear near by. The current issue of the Trade Review, of St. John's, Nfld., says: "Flour is unchanged, and the low prices ruling are likely to maintain. Wholesale men are still importing largely. The number of barrels imported this year is nearly three times as large as up to the same date last year." Local trade is not more active than foreign.

PRICES OF FLOUR AND MEALS.

TORONTO: Car prices are: Flour (Toronto freights), Manitoba patents, \$4.25 to \$4.35; Manitoba strong bakers', \$3.90 to \$4; Ontario patents, \$3.25 to \$3.50; straight roller, \$2.85 to \$3.10; extra, \$2.65 to \$2.70; low grades, per bag, \$1 to \$1.25. Bran—\$12 to \$13. Shorts—\$14 to \$15. The Flour and Grain Trade Bulletin, of the Dominion Millers' Association, reports of Ontario flour: "Sales: Straight grades, \$3 and \$3.05; patents, \$3.20, and \$3.25 per barrel, f.o.b. for Lower Provinces. Bran—\$11; shorts—\$13.50 and \$15 per ton. Shorts in good demand."

MONTREAL: Winter wheat, \$3.90 to \$4.10; Manitoba patents, best brand, \$4.20 to \$4.30; straight rollers, \$3.40 to \$3.55; extra, \$3 to \$3.15; superfine, \$2.60 to \$2.90; Manitoba strong bakers', \$3.65 to \$3.80; Manitoba strong bakers', best brands, \$3.90 to \$3.95. The demand for oatmeal is not very good, but stocks are small and while the market is firmer in tone, there is no change in quotations. Standard, bags, \$2.05 to \$2.10; standard, bbls., \$2.25 to \$2.30; granulated, bags, \$2.10; granulated, bbls., \$2.30; rolled oats, bags, \$2.10; rolled oats, bags, \$2.10; rolled oats, bbls., \$2.30. The supply of bran and shorts is very small and dealers find it difficult to fill orders. Owing to the absence of any business of importance prices are unchanged. Bran—\$14 to \$15.50; shorts, \$17 to \$18; mealie, \$20 to \$23.

MANITOBA: Little or no change in local flour markets. Patents, \$1.95; strong bakers', \$1.75; XXXX, 85 to 95c; superfine, 60 to 70c. Millstuffs—To the local trade, less than car lots, delivered at \$11 for bran and \$13 for shorts. Oatmeal, etc.—There is still considerable variation in price, rolled oats being quoted as low as \$2 per sack, while some brands are quoted \$2.15. Granulated varies from \$1.95 to \$2.15; standard, \$1.90 to \$1.95; cornmeal, \$1.60 to \$1.65; beans, \$1.80 to \$1.90 per bushel; peas, \$2.40 to \$2.50; pot barley, \$2.40 to \$2.50; pearl barley, \$4 per sack.

J. F. McLAUGHLIN ABANDONS.

GENERAL regret is expressed among the trade at the assignment of Mr. J. F. McLaughlin, grain dealer of the Board of Trade. The assignment was executed on 12th inst., Mr. W. A. Campbell being the assignee. Mr. McLaughlin came to this city several years ago from Memo Mills. The direct cause of Mr. McLaughlin's failure is attributed to the fact that he has been a large holder of Ontario wheat on which he has suffered considerable loss.

A SUCCESSFUL BUSINESS YEAR.

The sales of Magnolia Metal have been so enormous and the business so prosperous in the last year that the Magnolia Metal Co.'s stock has been recently made \$1,000,000.

The elevator of the Monmouth Elevator Co., limited, Monmouth, Ass., has been sold to Mr. Hunt.



Office of the CANADIAN MILLER,
June 15, 1893.

THE GENERAL SURVEY.

MANY and varied have been the fluctuations of the market during the past month. Financial matters in the United States are in an uncertain state, and the effect of this uncertainty is being felt in every branch of trade. It is hardly apprehended that serious financial disaster will overtake our neighbors, but clearly the situation is suggestive of the utmost prudence and caution.

Already the speculator is counting the issue of the coming harvest. Every climatic condition influences his calculations, and where the weather fails to fill in the blanks correctly the imagination can usually do duty as substitute.

Whilst the statement is current that the world's wheat crop will be under the average of some years past, a conservative calculation would make it at least an average crop. The condition of the growing crop in Europe has improved encouragingly within the past few weeks. An excellent wheat crop is expected in England. A report from Russia is to the effect that the winter wheat in that country is excellent in 124 districts, good in 303 and bad in only 10, while the outlook for summer wheat in the other provinces is generally satisfactory. This is a big improvement from a month ago brought about by more favorable weather. On the other hand it has to be said that reports from France, Germany and Italy indicate that probably there will be considerable losses in these countries.

In Algeria and other parts of North Africa, again, the wheat crop has sustained great injury from drought. Owing to the destruction of the crops of Algeria and Tunis no exports are expected this year from North Africa, except from Egypt. But the spring exports of wheat from Argentina are the largest on record. As regards India there is no room for doubt. The wheat crop there is already harvested, and is a little over 240,000,000 bushels, or 14,000,000 bushels under the average; but it is nevertheless expected that India will be able to export this year about 30,000,000 bushels.

In the United States the crop is being figured down below the average of the decade of 1880-90, that is under 450,000,000 bushels. But not a few wise heads express the opinion that this calculation is altogether too pessimistic. A month ago it looked as though the crop in Manitoba was going to show up quite light, but reports from those who have gone carefully over the field more recently and investigated conditions, points to a good yield in the Northwest. According to a late report of the Bureau of Industries, issued within the past week, and which we find place for elsewhere in these pages, crops in Ontario have suffered, more than had been anticipated, within the past month. Especially is this true of fall wheat. To this extent the general crop on this continent will be lessened by Ontario's probable failure.

How these conditions, which after all, it must be remembered may be materially altered by the circumstances of the next two months, are going to affect prices, is the pressing and present matter with many in view of the large surplus stock of grain still extant. Taking all things into consideration, so far as an opinion may be hazarded at this time, there are indications that prices will certainly not drop any lower and on the other hand that the tendency will be to an increase in prices.

CURRENT PRICES FOR BREAKING.

WHEAT—Toronto: (West and north points) White, 64 to 65c; spring, 61 to 62c; red winter, 64 to 65c; green, 60 to 61c; spring, Midland, 64 to 65c; No. 1 hard, North Bay, 85 to 86c; No. 2 hard, 83 to 84c; No. 3 hard, 76 to 77c; No. 1 fronted, 65 to 66c. Montreal: No. 2 hard Manitoba, 82 to 83c; No. 3 hard do., 79 to 80c. Chicago: June, 65 1/2 to 65 3/4c; July, 66 1/2 to 66 3/4c; September, 70 1/2 to 71c. St. Louis: 64 1/2c. July: 67c. August: 69 1/2c. September: Duluth: No. 1 hard, 64 1/2c. For July: No. 1 northern, 62 1/2c. July: No. 1 hard, 71c. September: No. 1 northern, 67 1/2c. September: No. 1 hard, 64 1/2c. June: No. 1 northern, 61c. June. English markets: From Bremerharn: spring wheat, nominal; red winter, 5s. 7d. to 5s. 8d.; No. 1 Cal. 5s. 10d. to 5s. 11d.

BARLEY: The market is dull, prices nominal and unchanged and few sales reported. Toronto: "Feed" will find buyers at 35 to 36c, but very little offering; No. 1 estimable at 45c. and No. 2 about 40c. outside. Oswego despatch says: The market for Canadian barley very dull; prices nominal in the absence of transactions; no receipts for shipments.

OATS: A bonanza has come to holders of oats within the last month, prices ruling in Montreal according to the Trade Bulletin as high as 39 to 39 1/2c. per 34 lbs. afloat, and even as high as 40c., large quantities being sold at these prices. "The advance in prices," says our Montreal contemporary, "is due to the great scarcity of feed stuffs in Great Britain and on the Continent, in consequence of the severe drought there this spring; in fact, it has been the driest spring on record in the latter country, the drought lasting from March 1st to the 1st week in May. Since then, however, copious rains have fallen all over England, although they came too late, it is thought to save the hay crop, and hence the continued demand for oats and hay from this side. So far, Canadian oats appear to have given good satisfaction in England judging from letters received by shippers here. Regarding the prospects for shipping Canadian oats to England, a great deal will depend upon the extent of the damage done by the drought. No. 2 White and Mixed Canadian have been selling at 17s. 9d. to 18s. per quarter, bringing 3d. per quarter over the No. 2 Russian and American. According to this, American and Russian oats must have a greater percentage of barley or other foreign substance than No. 2 Canadian. It is therefore gratifying to find that Canadian oats take the lead of foreigners, even if they have a percentage of barley mixed with them, as London receivers are not fools enough to pay 3d. more Canadian than Russian and American, unless they are worth that much more." Toronto current prices are quoted: 37 1/2 to 38c. for cars on the track and to arrive. Montreal per 34 lbs. afloat 39 to 39 1/2c.

PEAS—Toronto: Demand quiet, yet prices steady. Prices rule about 55 1/2 to 56c. for cars or less lying north or west. Montreal: Per 60 lbs. afloat 77 to 78c.

RYE—Toronto: Outside, 55 to 56c. Montreal: 63 to 64c. BUCKWHEAT—Toronto: Outside, 50c.

CROPS IN ONTARIO.

The following particulars of the growing crop in Ontario are given in a bulletin of the Ontario Bureau of Industries dated June 1:

Both April and May were colder on the average in 1893 than in 1892, or than the average of the eleven years 1882-92. In May the rainfall was a little less than in May, 1892, but 0.59 inches greater than in the period 1882-92. The last two months have been colder and rainier than the average; in other words the growing season has been later than usual in Ontario.

Fall Wheat—The reports as to the condition of this crop were not so favorable on June 1st as on April 17, the date of the former bulletin. In some townships as much as one-half of the entire crop has been ploughed up, in others from one-third to one-quarter has been seriously injured by rain and frost; on the whole at least one-quarter of the crop of the entire province has been ploughed up and sown to other crops. Great variation is reported as to that which has been left, the best and most vigorous fields being those lying high or well drained. The lake Erie counties report fair prospects; Lake Huron and Georgian Bay under the average; and a high percentage ploughed up; West Midland, fair to good; East Midland, average. (On the whole the returns for the province may be summarized thus: Average reduced at least one-quarter; growth backward; general condition variable; prospect on June 1st not quite up to the average.)

Rye: Fewer reports than usual have been received as to rye. The crop, however, seems to have stood the winter and spring better than the fall wheat, and to be in a promising condition. The total amount of grain for the province will be small.

Spring Wheat: The continued rains of the late spring delayed sowing in most counties. In the north and north-eastern sections the larger portion of the spring wheat was yet to be sown on June 1st. The dry weather following the heavy rains crusted the soil so that in many places the young plants had difficulty in pushing through. As a result the fields were more or less patchy. That which had made growth was reported in fine appearance. The acreage will probably be about the same as last year. The prospects on June 1st were fair for what had made a start.

Barley: Sowing was in progress June 1st. In comparison with former years the acreage will likely be still further reduced. Nothing could be said as to condition, since very little was up above the ground.

Oats: Upon well drained and high lands oats were just in early, and such had a vigorous and promising appearance at the beginning of the month. Most of the crop, however, was just in late. An increased acreage is reported, especially from the Lake Huron and Georgian Bay counties. As far as it was possible to report, the returns were very favorable; in fact this crop was reported as the most promising of the grain crops on June 1st.

Wheat: An increased acreage in Simcoe, Grey, Bruce and Huron is reported. A slight decrease in the counties of the West Midland and Lake Erie districts, owing doubtless to the past ravages of the "hog." As far as could be reported upon, the young crop was in fair condition.

C. F. B. ELEVATOR.

President Van Horne says: "The company have the plans all prepared for the new elevator to be erected at Winnipeg, and just as soon as the crop prospect warrants it we will go ahead with the construction, which I anticipate will be in a very few week's time."

FOREIGN LETTER BOX.

GREAT BRITAIN.

THERE is a growing impression in metropolitan markets that the crop coming forward is not going to be a very good one, and this impression is evidencing itself in improved prices. The trade are not unmindful of the fact that the quantity of grain afloat continues about as large as ever, but if the new crop is to be a failure one will not likely go astray in buying at present prices. This, at least, is the logic of not a few in the trade. American flour is in better demand. Hungarian is showing an advance.

BUDAPEST.

Prices for grain have shown an advancing tendency lately. Opinion is general that the new crop will be light, and it is this fact, combined with the impression that in other countries similar conditions will prevail, that is causing, measurably at least, this improvement. Flour has likewise shown an improvement, and a fair demand is found. The following letter from an English flour handler is quoted as indicating the preference in Great Britain for Hungarian flours over American flour, even though the price for the latter is lower. The writer says: "Don't fear for your country, for it is entirely impossible that Hungarian flour could be excluded from England by that of any other competitor. The high value of Hungarian flour lies not only in its extraordinary qualities in some 'je ne sais quoi' not to be found in its other products, but especially in its reliable and everlasting equality. If I buy Hungarian 'Crowns,' or 'Tulips,' or any other brand, I am certain to get the same flour which I got years ago. That is the great advantage which Hungarian flour possesses over American and other manufactures, which mostly vary too much, so that one can never be sure if he will get a similar flour to that which he bought a week before."

RUSSIA.

Rains in increased copiousness have favored this country lately, and the prospects of the winter crops are much brighter than earlier in the season. Spring crops are coming along most encouragingly, and rye is in good shape. Prices of grain are influenced by European and American changes and change as the markets change abroad.

MINNEAPOLIS.

The flour mills here are increasing on their output of a month ago, and it is expected that the present average will be kept up for some time. The volume of output, however, is still behind that of a year ago. For the week ending May 31st, for example, the figures were 176,835 bbls. against 198,700 bbls. for corresponding period 1892, and in 1891, 128,230 bbls. The conditions of trade do not change, dullness continuing to be the complaint of dealers. The United Kingdom wants patent, and the continent, particularly Holland, bakers. The grain market is comparatively easy despite the general stringency of the "money market."

WHEAT FOR EXPORT.

THE statement is made by the Milling World, that at the present time there are nearly 1,100 vessels on their way to Europe containing wheat and flour equal to 48,000,000 bushels of wheat. The United States is credited with having more wheat and flour-laden vessels afloat than any other country, the number being 284. Russia comes next with 245 and the Argentine with 237. India has 106, Chili 75, Australia 74, New Zealand 42, and Austria-Hungary 14. About two-thirds of the vessels are bound for the United Kingdom. The average passage from San Francisco is 135 days, although some sailers have been out already 180 days. Atlantic America is the nearest to Europe, the average time, by steamer, necessary to make the trip, being 13 days. Russia is 20 days off, India 32, Argentine 35 and Chili 55. It requires 130 days from Australia and 120 days from New Zealand. A large part of the wheat from the United States goes from the Pacific coast, the number of vessels on the way to Europe from there now being 157. The wheat from the Atlantic coast is mostly winter wheat. Owing to the high favor with which No. 1 northern is held by millers, generally, in the United States, who use most of it, it is kept above what importers generally can afford to pay for it.

NOTES AND QUERIES

Questions and answers are inserted under this heading 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 not appear in the waste basket.

NO. 40. BREAK ROLLS. The query of a Manitoba reader of the MILLER regarding break rolls is very nicely answered in a short comment by J. W. Abram, in Milling, of Liverpool, Eng. He says: "Where the modern break rolls fail is in the objectionable shearing action, which produces both bran powder and chips, also small bran flakes, and at present it seems to pass the wit of man to so manipulate them as to obviate these evils, our object being to open out the kernel and tear out the inside with as little friction as possible and in the most granular form attainable; yet leaving the bran both broad and free from flour. If we could secure 90 per cent. of the endosperm in the granular form, over 80 per cent. of patent flour (so called) would be accomplished. Such a desideratum, if ever it is accomplished, would revolutionize the break process, for I cannot see how it is to be done successfully by using the style of rolls used at present, with their small diameter, angular flutes, and fast peripheral speed."

NO. 41. ABOUT STEAM BOILERS. It matters little all that has been written on the management of steam boilers, some new problem is continually coming up; or some one who has not learned on the particular point which is his worry seeks information. We give our readers the benefit of the following remarks by a writer on practical subjects on Power: "A boiler should never be blown out while hot. Portable tubular boilers should stand at least twelve hours after the fire is out before letting out the water. Stationary boilers should stand long enough to allow the brick walls to cool. I usually let my boilers stand from eighteen to twenty-four hours, and by so doing I keep the dirt in solution and can wash it out without any trouble. In case there is any scale I use a boiler pick and a good scraper. When there is any lime in the water, the latter should pass through a good purifier before being pumped into a boiler. Water should never be pumped into a boiler cold, as it makes hard firing and allows all the impurities in it to enter the boiler. In case the scale is hard, and can not be easily removed, saturate it with coal oil before filling the boiler with water. This will loosen the scale without harm to the boiler. A good skimmer properly constructed and properly attended to will do much toward keeping a boiler clean, but cannot be relied upon. All boilers should be opened and thoroughly cleaned once in two weeks, as they are often burned by relying on some automatic device for keeping them clean that fails to do its work."

NO. 42. HOW TO PLACE THE KNOCK. Mr. Robert Ginnshaw, who always talks about mechanical matters in a thoroughly practical manner, and ever with a heap of good sense, makes this observation on how to place the knock: "I have been watching you, Bigly, with a great deal of interest as you have been endeavoring to locate that knock by sound. Whatever place you go to it seems to be in some other. Now, while your hearing is very sharp, there are some senses that are more acute than hearing, and feeling is one of them. Just take one end of this long lead pencil between your front teeth and rest the other end first on one place, and then in the other about the engine, and you will find that you can hear through your teeth better than you can through your ears. You can detect differences in the amount of vibration that the ears would not be sensitive to, and you will not be fooled by the reflection of the sound from the walls, as in the case of hearing. I think that you will agree with me that the piston head is a truck horse on the rail, and that is a matter about which you will have to wait until shutting down time before you can do anything. The lead pencil is located at once, and you were in doubt as to whether it was in the cross head or in the cylinder as long as you trusted to hearing."

A LOGICAL METHOD OF DRIVING.

THERE is still another method of driving, writes R. J. Alernathy, that, I believe, is being used by some makers of machines, and that is to drive one fast and one slow role with the same belt, using two driving belts, one on each side of the machine as before described. In the judgment of the writer that is the most logical, legitimate and only really mechanical way of driving a machine. It is simplicity itself, does away with all anoyances and complication, gives a steady, regular and uniform motion with an unvarying differential, and I unhesitatingly say to millers that when all other conditions are equal, roller machines so driven should have the preference. I know of no reason why all machines, no matter what or by whom made, cannot be so driven

CHIMNEYS AND DRAFT.

In this age of science and practical development, the form, size and proportion of furnaces and chimneys, to be the best for steam users, take a prominent place, says Noah J. Tilghman, in Power. All desire the greatest amount of steam from the ton of coal or cord of wood as the case may be.

I here propose to deal with practical results, regardless of theory, but wherever practice and theory go together, they shall be accepted. I think best to state my experience first as the shortest way to the facts. Although a mechanic and somewhat acquainted with water power and machinery before, I had my first experience with steam engines and the setting of steam boiler in 1854, when my partners and I bought an engine, two boilers and other machinery. We asked the builders to give us a draft for the setting of the boilers, the shape and style of furnace and chimney, size and proportion, and also to send us a competent man to superintend the work. When all was ready we went to work, but in a short time steam failed to keep up as at first. We cooled down to find the trouble, and found the boilers covered with a scale of soot. We cleaned it off, and went on as at first, but soon had to clean again. On examination we found that the part of the boiler plate just over the bridge brick walls was clear of soot, while between the bridge walls the boilers had the scale of soot. We had been instructed that these several walls (Fig. 1) were to form smoke chambers, and as the unconsumed gases or smoke would roll over the walls into the spaces, it would ignite again and make extra heat. Then a consultation was held. I proposed filling the smoke chambers with brick work up to the top of the walls. This was objected to, upon the ground that the builders ought to know the way to do it. Then I agreed to make the change at my own individual expense, and if not for the best, to change it back as at first; so I made the change. The boiler never had to be cleaned afterward, and steamed better than ever before.

The plan given for the chimney was that it should be at the base, inside, 24 inches square, and steadily enlarged as it went, which we were told would increase

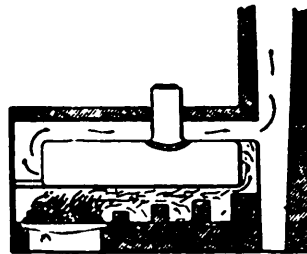


FIG. 1.

the draft. The chimney we never changed, but have found that it was not the best shape. This idea was in the mind of the old chimney builders for private residences to burn large sticks of wood. I have been a steam user ever since I began in 1854, but I have never gone back to the bridge walls.

In the year 1880 I was contemplating the building of another mill and wishing to know all about furnaces and chimney drafts, I went to several of the cities and visited the machine shops and chimney makers. But no one could tell me anything definite in regard to the matter. Quite a number said, "I can not say positively, but the opinion is that the chimney should commence with a suitable size at the base and enlarge somewhat as it goes up, but do not know all about it." So I went home knowing no more than when I left. But with a determination to know, I made a smokestack 12 feet long, 10 inches square at one end, and 12 inches square at the other end, and then built a furnace to set it on, with a fixture so that two men could reverse it, first large end up, second small end up. With fire in the furnace, we reversed it a number of times, and found that with the small end up it produced very much the stronger draft; when the large end was up, the draft was weak. This was the result at each and every trial. So with me the old draft theory was exploded.

I then examined many chimneys of various styles, from the mud and ladder to the fine back, and inquired and found how each acted. With many of the fine chimneys with narrow smoke entrances, the draft was poor, and they smoked inside of the house too much for the comfort of the inmates. The mud ladder chimneys—the four sides of which had a frame much like ladders, the rounds being very close together and plastered with mud, were generally about three feet at the ground and

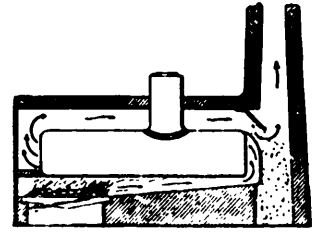


FIG. 2.

two feet at the top, and from 15 to 20 feet high. These chimneys all possessed an excellent draft, notwithstanding the high arch under which the wood was burned.

I then set about the building of the contemplated mill. I made my own plans for the brickwork but was warned and warned again by the bricklayers that my plan would not do. But the work was completed. Fig. 2 shows a side view, and, although not perfect, it will show the shape and style.

I will give a few facts that may be of interest to your readers. There were 20 feet of grate bar surface. At the farther end of the boiler the smooth brick pavement was seven inches from the boiler. The chimney at the base inside was 34 inches square; at the top it was 24 inches square, and 53 feet high. We used various kinds of fuel, green sawdust from a sawmill, chips from a planing mill, cordwood, hard and soft coal, coal dust, and other wastes from coal and wood yards. The draft was good, and the results all we desired. Here is the reason for it: first, if you fire a pile of wood the volume of blaze and heat will be greatest just where the flame leaves the wood, then it assumes a cone shape, so the nearer the inside of the chimney comes to fitting the tapering blast, the better will be the draft. If the chimney should be too large, or enlarged at the top, the cold air will fall in around the top and small end of the blast and weaken the draft.

A ship, to sail lively, must be free from barnacles. Water will run more rapidly through a smooth box or rough passage. So it is clear that from the grate bars to the top of the chimney the whole way should be made as smooth as possible. The bridge walls are a hindrance to a draft, and no good.

In the successful experiment just given, I placed a sheet of iron at the joint where the blast enters the chimney, giving it a downward dash, which successfully threw all the sparks into the base of the chimney, from which they could be taken in the absence of firing. This chimney never sent out fire, although having a good draft.

CLEANLINESS IN THE MILL.

THE man that keeps his mill sweet and clean from basement to garret, says the Millers' Review, cannot fail to be a good man on general principles and is a law unto himself. But there are a great many who do not keep their mills clean. They are careless, indifferent, and perhaps lazy. Such cannot be reached or moved by the ordinary influences that make some men better than others; but there is another consideration that ought to move them, and that is the safety of the mill. The cleaner the mill, the less the danger from fire, which ought to be a sufficient inducement for a sluggish miller to arouse himself. If there are no heaps of oil and waste to accumulate anywhere on floors, on beams or on machines, if no flour dust is allowed to find a lodgment anywhere in the mill; in fact, if the entire mill is kept as clean as the godly miller voluntarily keeps his, the fire risk will be greatly lessened all round.



CANADA.

Abel Wright, miller, Tp. of Holland, Ont., has assigned. There is some talk of erecting a new roller mill at Honora, Ont.

John Holland, flour and feed, Miami, Man., sold out to J. Ironside.

The grist mills of D. B. Megg, Farnham, Que., have been destroyed by fire.

J. T. Burns, of Mantowaning, Ont., is putting rollers into his mill and making other improvements.

Koester & Sons' flouring mills at Virden, Man., were burned on the 8th inst. The loss is \$10,000.

Floods caused damage to the flour mill of J. K. Breckenridge, at Mattawa, Ont., to the extent of \$1,000.

The mill dam at Thornbury, Ont., the property of Andrews & Co., oatmeal millers, was carried away by recent floods.

Woodstock is agitating for a grain elevator. An effort will be made to have both G.T.K. and C.P.R. erect suitable buildings.

Contracts have been let for the erection of the new flour mill at Marquette, Man., to be ready for operation in time to handle the new crop.

McKay & Co., of Toronto, in their shipment of oats to Trinidad, mark their bags "Canadian Oats" to correct the notion that such products are all American. Good idea.

A terrible hurricane passed over Tilsonburg, Ont., a fortnight ago, knocking in one side of Tilson's elevator and killing Mr. H. Joyce, an employee who was on the bottom floor.

The heavy rains of the past few weeks caused the old Welland canal to overflow its banks submerging the lower floor of Norris' mill, St. Catharines, Ont., and damaging 100 barrels of flour.

The warehouse at Sidney, Man., was blown over a fortnight ago, bursting it open and quilling 5,000 bushels of wheat which a Mr. Clifford had stored in it. Dr. Grouse, of Fergus, Ont., owns the warehouse.

The newly elected directors of the Whitewood Milling Co., of Whitewood, Assa., are: R. Limoges, J. J. Knowler, E. Jannet, H. De Sozas and Alexander McKenzie. The company is doing a good business.

The first Duluth wheat, comprising 80,000 bushels, reached Montreal on 30th ult., and this was followed next day by 100,000 bushels, with 100,000 bushels from Kingston. During May 1892 the traffic amounted to half a million bushels, while the figures for the same month this year have gone beyond a million and a half.

T. G. Shaughnessy, vice-president of the Canadian Pacific railway, says: "We expect to complete our line from Vancouver to St. Paul (the "Sea" extension) by August 1. We shall make the run in less than seventy hours, and expect to develop a large business, as the line will be first-class in every respect. We will build through the Crow's Nest Pass, but that will be later on."

A special from Fargo, N.D., says: Attachments have been served upon all the elevators and other property of the Northern Pacific Elevator Company in North Dakota. The suit for which these attachments were issued claims that \$400,000 is due and it is brought at the instance of banks in Montreal, Minneapolis and Duluth. There are fifty elevators belonging to this company in North Dakota. The headquarters of the company are in Minneapolis.

A Montreal despatch says: It was stated at the board of trade meeting that a correspondent from Prince Edward Island wrote advocating that grain imported for seedling purposes should be placed on the free list, and asking that the council use its influence with the government to secure such change with the view to leading to a larger production of a superior quality of grain. The council rather favored the idea and decided to reply that if the local board of trade of Prince Edward Island would take the matter up they would support it.

The grain trade has had a sensation in the disappearance of Leon M. Carrier, commission merchant, of Quebec city. He was accustomed to purchase from millers in Ontario, and sold in Quebec. About two weeks ago he visited Ontario, and purchased, it is said, about fifty carloads of flour and grain. Upon his return to Quebec he called upon most of the flour and grain merchants and told them that he had purchased at great advantage in Ontario, as the merchants of that province

were demoralized with the state of trade. As he was offering at 2 to 2½ per cent. below the current market prices he did not have much trouble in making sales. A few days after his arrival large shipments of flour, grain and seed arrived, but as the goods had not been paid for they were not shipped to Carrier's order, but to that of the banks, the Merchants', the Quebec, Montreal, Union and National. Nevertheless, without the production of the bills of lading, Carrier had no trouble in having the goods delivered by the Canadian Pacific Railway clerk. The cars were unloaded, and their contents delivered to the purchasers, who, not having the slightest suspicion of the transactions, paid Carrier, and the latter after having collected about \$30,000, took his departure by the Canadian Pacific Railway 10.30 p. m. train. Before leaving he had told some of his friends that other cars would arrive in a few days, but he had to go to Coloung where he was summoned as a witness. His wife went to see him off expecting to see him back in a few days. He was next heard from in New York where he drew upon a leading Quebec firm for \$500, but as the firm owed him nothing the draft was not acknowledged. In the meantime the banks are holding on to their bills of lading. Carrier is about 25 years of age and was supposed to be doing a good business. He lost some money on the Chicago markets.

PERSONAL.

Mr. Thomas Martin, miller, has been elected president of the recently organized Board of Trade, at Mount Forest, Ont.

Mr. Nummie, head miller in the flour mill at Austin, Man., is leaving to take charge of the farmers' mill at Portage la Prairie.

The death is recorded of John McKae, of Renfrew, Ont., at the ripe old age of 84. Mr. McKae was born in Scotland, and came to Renfrew many years ago, where he successfully carried on a grist mill for a number of years, but of late years has lived a retired life.

The Northwestern Miller, of Minneapolis, celebrated its twentieth birthday on June 1st by an At Home in its new offices in the New York Life's arcade building. The CANADIAN MILLER tenders its congratulations, with the sincere wish that our contemporary may live to see many more like happy occasions. It merits them all.

CHAFF FOR THE DUSTIES.

Both millers and newspapers that print their circulations are after a "high water mark."

A great many people who look for credit at the corner grocery believe in a flour trust.

If a miller lends his grain bags to a farmer, when he knows they will not be returned, he is a sucker.

The man who said that he made a barrel of merchantable high grade flour out of 4 : 8, is a rail spelt backward.

If a miller pays cash for stock and puts out his products on credit, he will, in the course of time realize a busted condition.

Nothing resembles an extenuation of elongated veracity so much as a claim to make a barrel of good flour out of four bushels of wheat.

"People are always hard on me," said the wheat. "I'm always being thrashed." "Oh, I'm shocked," said the corn, and thereupon assumed a rye face.

"What makes your bread so heavy?" "Well, my wife made it. She's a literary woman, remember. Some of her work must have got mixed in the dough."

"What a tremendously fast eater a miller must be!" He doesn't chew his food at all. "What makes you think so?" "Bolting his meal is a regular practice with him."

Bob—"I hear that Jenks is engaged to a miller's daughter. I suppose it's a money affair. Job—"Yes. Jenks knows the miller has lots of "dust," and no doubt he's out for it.

(Of brothers six, most praised was Jim.

A good, industrious miller he,
How proudly all looked up to him,
The flour of the family!

Miller—"You say he wants to go into partnership with me. Has he any experience?" Boomer—"Oh, he has been through the mill." Miller—"Who is he, anyhow?" Boomer—"A professional pugilist."

Grocer—"It's one of those things no fellow can find out." Customer—"What is?" Grocer—"I once had a white dog about this place, and I couldn't keep him away from the coal box. Now I've got a black dog, and he persists in getting into the flour-barrel."

If a miller exchanges forty two pounds of flour for a bushel of wheat that will only produce forty six pounds of a like quality to that given, thinking he has a barrel out of four bushels mill he will get so far behind in the procession of money makers that he can neither see the flag wave nor hear the band play.

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Duplex AND SINGLE Steam AND POWER Pumps

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

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 DEPARTMENT OF AGRICULTURE, ONTARIO,
 Toronto, March 17th, 1891.
 Gentlemen: We have used Myers' Royal cattle spice during the present winter with both cattle and sheep. It seems to be equally valuable for both. I would especially like to mention a lot of yearling rams. The change in their appetite and appearance was easily perceived after the first week or ten days feeding, and they have steadily and rapidly gained size. Yours very truly,
 Messrs. Myers & Co., Toronto.
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 Gibbs' Patent Dust Protector prevents the loss and much from inhalation of poisonous dust. Invaluable to operators in every industry where dust is troublesome. Detailed particulars with further explanation. Metal plated protector by mail, 50c; postage p. One-half cent. Special quantity prices.
 Gibbs' Respirator Co., 26 LaSalle St., Chicago.

EMBRO OATMEAL MILLS
 ROLLED OATS
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 Special terms made with Flour Millers for re-shipment with carload flour.
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 ... STAVES HEADING ...
 ... HOOPS ...
AYTON, CHY.  **N. WENGER & BROS.**

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FOR SALE. 3 1/2 IN. GIANT WATER WHEEL. RUNS 35 against the sun, has division plate, good as new, also lot of heavy iron spur and bevel gearing. 1894. TORONTO RUBBER CO. OF CANADA, LTD., 28 King Street W.

TO MILLERS FOR SALE. NATIONAL ROLLER MILLS. BRUSSELS. Ont.; capacity 100 barrels per day. Cheap, easy terms of payment. Address: "B.C.", P.O. Box 566, Toronto.

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Up to the present time the insurers with this company have made a saving, when compared with the current exacted rates, of \$91,004.30. And in addition thereto bonus dividends have been declared to continuing members amounting to \$61,521.72.

Besides achieving such result, we now also have, over all liabilities including a re-insurance reserved (based on the Government standard of 50 per cent. (50)), a cash surplus of 1.23 per cent. to the amount of risk in force.

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

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

HUGH SCOTT, Mgr. and Sec'y. THOS. WALSHLEY, Treasurer.

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THE CANADIAN MILLER, Toronto, Ont.

USE COPPERINE HONOR BRIGHT BEST MANUFACTURED IN CANADA... CANADIAN MADE EQUIPS THE WORLD... QUALITY TO DO ALL YOUR WORK... FOR BURNING ALL WOODS... CHEAPER AS OLD MODE... FOR ENGINEERS AND MECHANICS

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CANADIAN LUMBERMAN'S DIRECTORY

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

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

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

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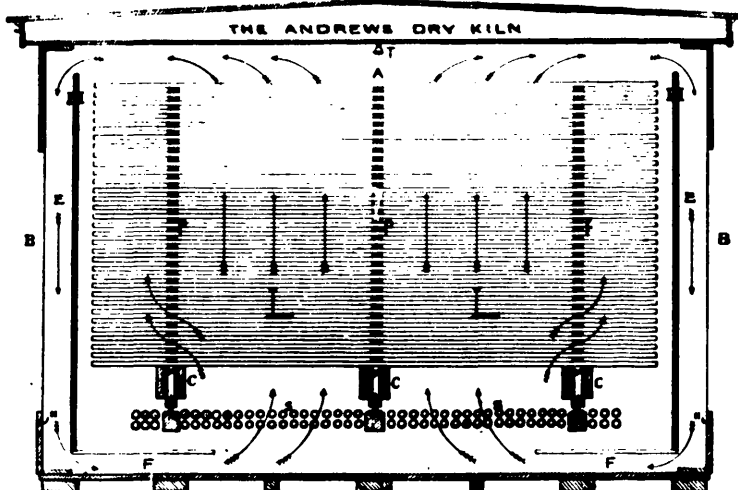
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That isn't much money, is it? About twenty-five cents a week or so. And a man must be pretty hard up if he hasn't that much to spend every week. Times are hard, they say; but if they are hard now to your family and yourself, what will they be to your family without you? That's worth thinking about. We think that no man should be without life insurance when it can be had at such a low rate as 3 1/2 cents a day from the Manufacturers' Life, Yonge Street, corner Colborne, Toronto. Write to us and we will give you all particulars.

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For Lumber, Shingles, Staves, Heading, etc.



This system and apparatus covered by letters patent.
 A - Drying Room. BB - Draw Condensing Walls. CCC - Lumber Cars. DD - Lower Air Flows. EE - Bottom Air-Flows. FF - Inside Walls, protecting metal from heat. GG - Lumber on cars. HHH - Brass Clusters for preventing condensed moisture. IIII - Ricks between lumber. JJ - Double Steam-Coil. K - Automatic Steam Fire-Extinguishers. L - Auto-matic Steam Fire-Extinguishers. M - Auto-matic Steam Fire-Extinguishers. N - Auto-matic Steam Fire-Extinguishers. O - Auto-matic Steam Fire-Extinguishers. P - Auto-matic Steam Fire-Extinguishers. Q - Auto-matic Steam Fire-Extinguishers. R - Auto-matic Steam Fire-Extinguishers. S - Auto-matic Steam Fire-Extinguishers. T - Auto-matic Steam Fire-Extinguishers. U - Auto-matic Steam Fire-Extinguishers. V - Auto-matic Steam Fire-Extinguishers. W - Auto-matic Steam Fire-Extinguishers. X - Auto-matic Steam Fire-Extinguishers. Y - Auto-matic Steam Fire-Extinguishers. Z - Auto-matic Steam Fire-Extinguishers. Arrows show direction of currents of air.

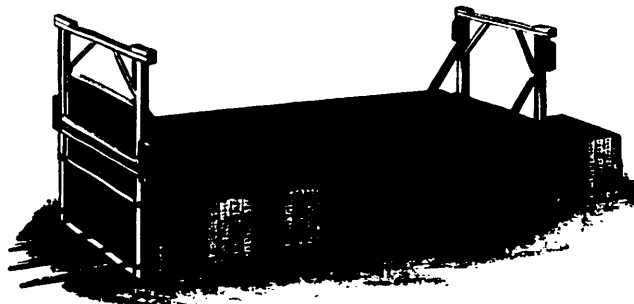
THIS DRYER

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

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

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

- NO FAN
- NO ENGINE
- 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."

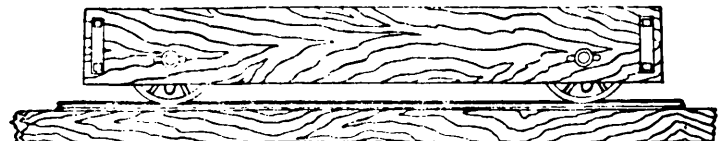
This is the verdict of a Quebec lumber firm, and we can give equal results every time.

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.

SEND FOR CIRCULARS



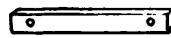
SIDE VIEW OF CAR AND TRACK.



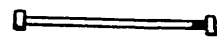
DOUBLE FLANGE WHEEL ON SINGLE TRACK

CAR WHEEL, DOUBLE FLANGE

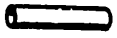
SECTION OF CAR TRACK, SHOWING AXLE BOX.



STRAP WASHER



BOLT



AXLE

DOMINION DRY KILN COMPANY

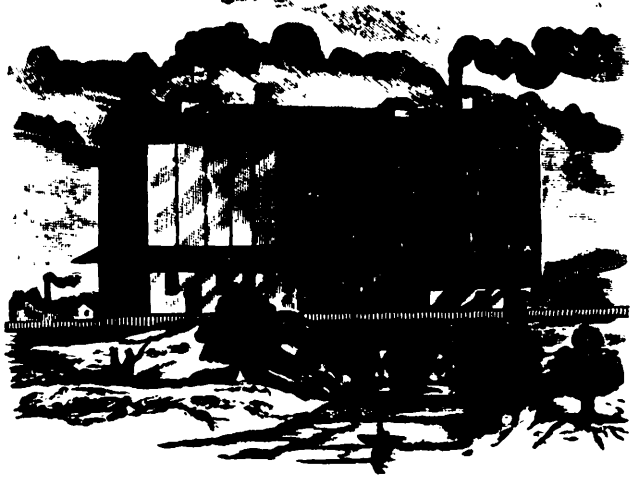
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BRANDS:
STAR : LINCOLN
CROWN
RED CROSS
CLYDE MILLS
SPARKLING RIVER



Unsurpassed for Uniform Quality



GREENFIELD MILLS + AYR. ONT.
D. GOLDIE, Prop.
Daily Capacity 500 Barrels

M. McLaughlin & Co.

Royal Dominion Mills
TORONTO



PATENT
STRONG BAKERS
LOW GRADE

From No. 1 Hard
Manitoba Wheat

PATENT
FAMILY FLOUR
LOW GRADE

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Best Ontario Wheat



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railway station



Send for samples and quotations



- Royal Mills, capacity 1,600 bbls
- City Mills, 1,100 bbls
- Glenora Mills, 1,200 bbls.
- Goderich Mills, 1,200 bbls.
- Seaforth Mills, 600 bbls.
- Winnipeg Mills, 1,200 bbls

DAILY CAPACITY

7,100 BBLs.

HIGHEST QUALITY

Hungarian Patents
AND
Strong Bakers'

FIRST PRIZE, DIPLOMA AND
GOLD MEDAL, EXHIBITION,
JAMAICA : : : :

FLOUR

W. W. OGILVIE
PROPRIETOR

HEAD OFFICE :
MONTREAL, QUE.

THE NORTH AMERICAN MILL BUILDING CO.

STRATFORD, ONT.

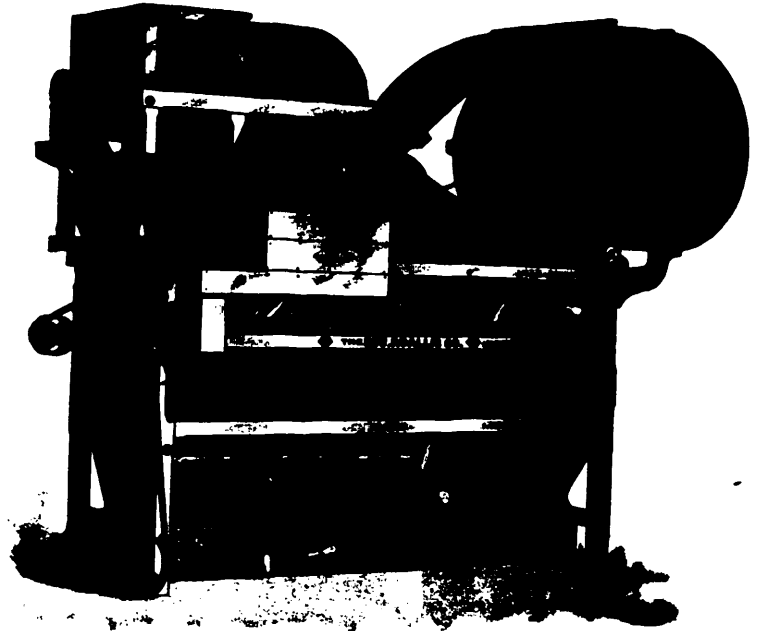
MANUFACTURERS OF

=MODERN=

FLOUR MILL MACHINERY

On both Smith and Allis Systems

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



ALSO RELIANCE AIR PURIFIERS

As a System exclusively using a separate Purifier for each grade of middlings

If you are about to Build or Remodel a Mill it will pay you to
... correspond with us ...

North American Mill Building Co., Ltd.  Stratford, Ont.

WORLD



BEATERS

No. 1 with Stand

THE

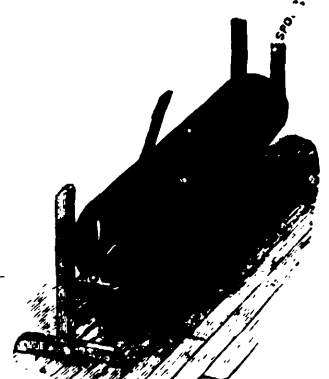
GENUINE PRINZ COCKLE MACHINES



Unique in principle

Effective in Operation

Unapproachable in Results



No. 1 without Stand

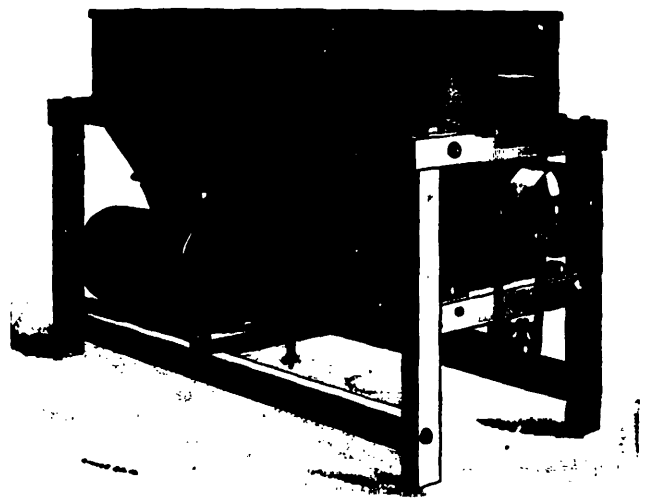
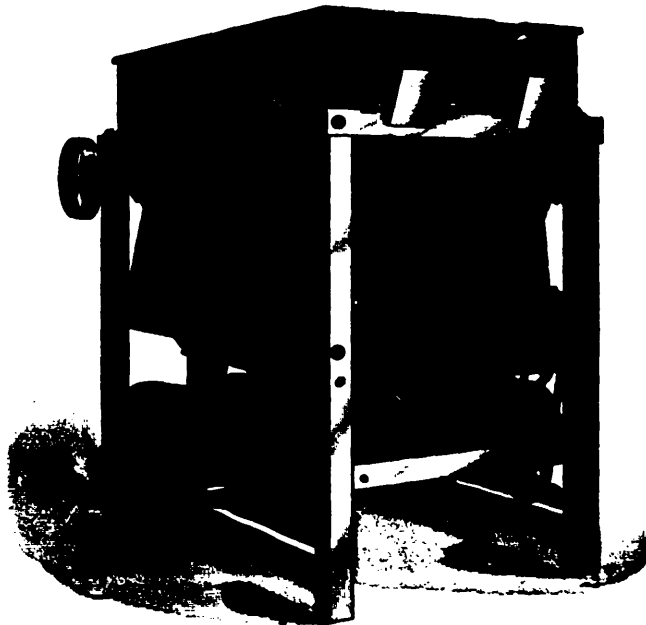
Steel Reels don't wear out. Peculiar Indentation makes Perfect Separation

The Inventor, Mr. Prinz, has studied the secret of grain cleaning, and followed every step with expensive experiments for about 15 years, and the machines now offered are complete in every detail, and guaranteed to do better work than any machine on the market



PEERLESS MACHINES FOR MODERN WANTS

Two-thirds of the mills in Minneapolis, and all the mills in Milwaukee, and about a thousand all over the country are using the "PRINZ"



Manufactured for Canada trade under license from Faustin Prinz, solely by

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OF EVERY QUALITY AND SIZE REQUIRED.

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Original Designs for Brands Prepared Free . . . Printing in beautiful Bright Colors at Lowest Prices

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DICK, RIDOUT & CO., TORONTO, ONT.

Actual Results

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PAID TO THE

ONTARIO MUTUAL LIFE

on an ordinary Life Policy of \$1,000,
No. 1250 during its first 30 years,
issued for age 37.

In 1872	Paid \$26.67	In 1882	Paid \$100.00
1873	27.57	1883	110.00
1874	27.57	1884	110.00
1875	28.25	1885	110.00
1876	29.77	1886	110.00
1877	31.17	1887	110.00
1878	32.32	1888	110.00
1879	34.09	1889	110.00
1880	36.75	1890	110.00
1881	39.25	1891	110.00

Total Paid in 30 years \$321.29

F. E. DIXON & GO.

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We carry the Largest and Best Assorted
Stock in the Dominion.

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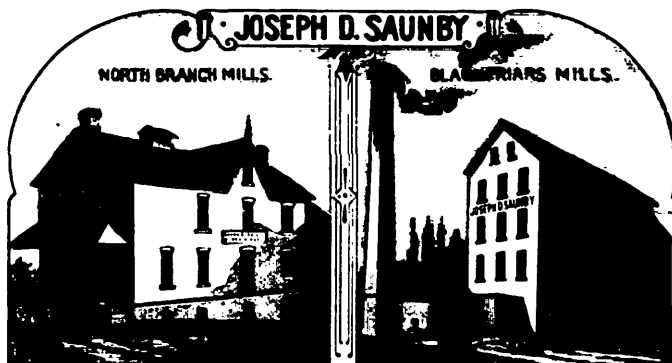
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Chopped Feed . . .

In whole or car lots
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