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CANADIAN MILLER

GRAIN TRADE REVIEW

NEW SERIES "MECHANICAL AND MILLING NEWS"

OLD SERIES, VOL. XI } NUMBER 2.
NEW SERIES, VOL. IV }

TORONTO, ONT., FEBRUARY, 1894

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

TORONTO, ONT., FEBRUARY, 1894

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LEVERAGE IN MECHANICS

ONE of the strangest hallucinations in this era of advanced thought in mechanics, as in all other branches of practical science, writes Mr. R. James Abernathy, in the American Miller, is that which clings to leverage as a factor of facilitating work in shops, mills and factories. The attention of the writer has been very forcibly called to this delusion, this relic of past ignorance, this shadow of a darkened period that should be left to oblivion and be forgotten, by a recent controversy with another writer. The writer claimed that if one man, by catching hold of the rim of a 36 inch wheel, could revolve the reel or set of reels with which it was connected, seven or eight times a minute, it would require sixteen men to revolve the same reels at the same speed provided a wheel 2 1/4 inches in diameter were used instead of the 36-inch wheel. The ignorance of mechanical lore displayed in this statement is so apparent that we gaze upon it in bewildered astonishment, and wonder how it could have been penned by any writer of to-day, whether of high or low degree.

It is true that but few writers would now make such an awkward blunder as that. That assertion, in connection with many others less transparent, but equally erroneous, makes it certain that this heresy is still fondly cherished by very many that have so far been totally unable to entirely forget the traditions of the past and rise to the level of a nineteenth century range of thought. The delusion arises from the oft repeated observation and perhaps experiment of performing work with a lever in the hands of an individual, that could not be performed by the direct application of muscular strength. Those, however, that base their calculations upon such performances or observations must not forget that in all such tests, time is totally ignored, while in all mechanical work time is a dominant factor that is not and cannot be ignored.

A single glance at a wheel of any description ought to convince the most thoughtless that there is no such factor as leverage in mechanics. A wheel is a simple lever with the fulcrum in the centre. Every man knows that if he takes a lever and places a fulcrum under the middle of it, making both arms the same length, that he can raise no more weight with it than he can by a direct application of his strength. It is balanced work equals strength and strength equals work as we may want to make the comparison. That is all there is to the "leverage" of a wheel, and all that can possibly be made of it.

"Oh," but says the leverage crank, "while it is true there is nothing gained in leverage by the use of a single wheel, much is gained by combining wheels, as in that way we can increase the length of the long arm of the lever at will, and decrease the length of the short arm in proportion. By so doing we obtain unlimited advantage by leverage." Yes, so perpetual motion idiots have always thought, and presumably always will think as they follow each other in the paths of darkness and destruction.

But to illustrate. Years ago, when the writer was an apprentice, the question of leverage in mechanics came up now and then. The question came up more frequently than that now, because we were less enlightened then for discussion. On one occasion we were engaged in the construction of a wooden overshot water wheel, around one of the rims of which we were putting an iron segment rim, with teeth to gear into a pinion for driving the machinery of the mill. I had been thinking the leverage question over in reference to that wheel, and finally evolved a problem with which I intended to overwhelm the boss. On the first proper occasion I put it at him something after this fashion: "Now, then, Mr. K., you say that there is no mechanical gains in leverage.

I want to ask you if, instead of putting a segment rim on the outside of the rim water wheel, which is about 18 feet in diameter, we would put a master wheel on the water wheel shaft 9 feet in diameter, if we could not gain two to one by leverage and exert double the force on the pinion?" "That is very true," he replied, "but in so doing we would reduce the speed of the machine, say just one-half." That reply knocked me out. I had revolved the question, as I had thought, from every point of view, but strangely enough, had not thought of that phase of it. It was natural enough and plain enough when my attention was called to it, and I saw plainly that instead of cornering the boss he had cornered me.

"But to further illustrate," he said, "we will assume that this is a 40-horse power water wheel, and we are going to use it for raising a weight of 33,000 pounds 40 feet high per minute. The raising of 33,000 pounds one foot high per minute, you know, equals one-horse power, as we are now constructing the wheel and arranging the machinery. But, as said, if we substitute a 9-foot master wheel for the segment rim we reduce the speed of the machinery just one-half, and can therefore lift the weight but 20 feet high per minute instead of 40, as now intended. To raise 33,000 pounds 20 feet high per minute requires but 20-horse power, which is but half the working strength of the wheel. We can therefore raise the weight 66,000 pounds 20 feet high per minute, which just equals 33,000 pounds 40 feet high per minute. So you see there is nothing gained in actual work by your supposed gain in leverage. It is a stand off. Nothing ever has and nothing ever will be gained in that way."

I was convinced, and from that time until now have never been guilty of advocating "leverage" as a factor in facilitating mechanical work. It can't do it, as the above simple lesson plainly illustrates. Foolish, indeed, is the man that clings to the fatal delusion, more especially if he attempts to utilize it, as many have done in wild perpetual motion schemes.

CONTRIVANCE FOR STOPPING AN ENGINE.

AN ingenious contrivance for stopping an engine in a machine shop occupies not more than a cubic foot of space, and consists of an electro-magnet, a system of small levers and a cylindrical chamber at right angles to the steam supply pipe, this chamber containing two connected valves—one thick and the other thin. When the steam is shut off the thicker valve lies across the main supply pipe; but when the steam is on, the two valves lie in the cylinder on either side of the upper pipe; when in this position the valves fit loosely enough into the cylinder to allow a strong pressure of steam on all sides of them. The motive power of the mechanism is furnished by two small electro-magnet spools, through which a current is sent by pressing the button in any part of the shop, this attracting to the magnets a small bar of steel which is fastened at one end of an angular lever; at the end of the lever's other arm, which runs horizontally, and on its under side, is a small notch, into which, when the machine is ready for action, fits the end of a vertical lever, to which is fastened a valve lever, hanging by the perpendicular, and so arranged that when it falls the two levers separate. The action of the magnet raises the end of the horizontal arm of the angular lever and loosens the smaller vertical lever, so that the weight of the valve swings it down in a semicircle, thus hitting a cam and tripping a valve. This exhausts the steam outside of the smaller valve in the cylinder, and the steam beyond the other drives it across the supply pipe with great force, shutting off the steam from the engine within fifteen or twenty seconds.

THE INVENTION OF THE MATCH.

HISTORY does not give to any one man the credit of inventing the match. That useful article reached its present state of perfection by a long series of inventions of various degrees of merit, the most important of which resulted from the progress of chemical science. Starting from the under-box and fyrstan of the Saxons, the first attempt to improve on the old sulphur match was made in 1805 by Chancel, a French chemist, who tipped cedar splints with a paste of chlorate of potash and sugar. On dipping one of these matches into a little bottle containing asbestos wetted with sulphuric acid, and withdrawing it, it burst into flame. This contrivance was introduced into England after the battle of Waterloo, and was sold at a high price, under the name of Prometheans. Some time after a man named Heurtner opened a shop in London. It was named the Lighthouse, and he added the inscription to the mural literature of London

To save your knuckles, time and trouble,
Use Heurtner's Egyptian

An open box, containing fifty matches, and the sulphuric acid asbestos bottle were sold for a shilling. It had a large sale, and was known in the kitchen as the Hugh Perry. Heurtner brought out "vesuvians," consisting of a cartridge containing chlorate of potash and sugar and a glass bead full of sulphuric acid. On pressing the end with a pair of nippers, the bead was crushed and the paste burst into flame. This contrivance was afterward more fully and usefully employed for firing gunpowder in the railway fog-signal. The next was Walker. He was a druggist at Stockton-on-Tees, and in 1827 produced what is called "congreves," never making use of the word "Lucifer," which was not yet applied to matches. His splints of potash paste, in which gum was substituted for sugar, and there was added a small quantity of sulphide of antimony. The match was ignited by being drawn through a fold of sandpaper, with pressure; but it often happened that the tipped part was torn off without igniting, or, if ignited, it sometimes scattered balls of fire about. These matches were held to be so dangerous that they were prohibited by law in France and Germany. The first grand improvement in the manufacture took place in 1833, by the introduction of phosphorus into the paste, and this seems to have suggested the word "Lucifer," which the match has ever since retained. When phosphorus was first introduced to the match-makers, its price was \$21 per pound, but the demand for it soon became so great that it had to be manufactured by the ton, and the price quickly fell to \$1.25 per pound. Many inventors then entered the field, and matches were sent in shiploads to all parts of the world.

FLOUR MILLING IN BRAZIL.

THE London Miller says: "A brighter day seems to have dawned for the Rio de Janeiro Flour Mills and Granaries Limited. The directors' report for the year ending August 31, 1893, shows a net profit of £10,065 2s. 9d., which, it appears, will suffice to pay a dividend of 7s. per share, and leave a balance of £1,315 2s. 9d. to carry forward to the new account. Such a result is the more satisfactory, seeing that the internal condition of Brazil has not been during the past twelve months exactly favorable to the operations of trade. It is not surprising to hear that since the date at which the accounts were made up, that is to say, the close of August last, the working of the mill has been greatly interfered with by the disturbed state of Rio de Janeiro, but it is well to know that the mill and its belongings have hitherto taken no serious harm, and that the staff are reported safe and sound. Even war's alarms cannot extinguish man's craving for food."

IEWS AND INTERVIEWS.

All The Year Round

Every one knows who knows anything about wheat, that it is harvested every month in the year. Australia, Argentine Republic and Chili harvest in January. India and upper Egypt harvest in February and March; lower Egypt, Syria, Cyprus, Persia, Asia Minor and Mexico in April; Algeria, Central Asia, China, Japan, Morocco and Texas in May; and Lutkev, Italy, Spain, Greece, Portugal, south of France, California, Oregon, Louisiana, Mississippi, Alabama, Georgia, South Carolina, North Carolina, Tennessee, Kentucky, Arkansas, Kansas and Missouri in June.

Vitality of Wheat.

From field experiments carried on the agricultural experiment station, Purdue, University, Indiana, extending over ten years, it appears none of the varieties of wheat tried have any tendency to deteriorate or "run out, providing proper care is exercised. No wheat proves to be "rust proof," but early wheats are generally less injured by rust than later kinds. Eight pecks of seed per acre gave the best results at the station, the average yield of nine years being 20.35 bushels per acre. The best results came from sowings made not later than Sept. 20th. The value of crop rotation in maintaining yields of grain has been strongly emphasized, for a comparison of rotating crops with constant grain cropping for seven years showed average gain of 3.7 bu. acre in favor of the former.

A General Growl.

Everyone is growling. At least it so seems. The times are everywhere out of joint, and things not alone at home, to borrow the words of Will Carlton, but everywhere else, are crossways and in a tangle. Applying the plaint to the flour trade, as the Roller Miller has said: "The miller declares that the grasping grocer is skimming the cream off the flour trade. The baker makes the same complaint about the bread trade. The farmers, ditto of the milk, butter, egg and poultry trade. If this thing goes on, the greedy and grasping grocer will be getting the cream off all creation. Then the song will be—

It is the grocer's daughter,
And she is grown so dear, so dear,
That I would be the jewel
That trembles in her ear.

The miller's daughter will simply not be in it.

Corn Fed Hogs

It is a matter worthy of note that the hog products that command the highest prices in the English markets come from countries that are not noted for the production of corn. England, Ireland and Denmark. The quality and consequence of the high price of England, Ireland and Danish bacon is due, first to the feeding of the hog, and second, to the manner of curing. The finest quality of bacon is produced by feeding barley, rye, wheat, peas and boiled potatoes, skim milk, butter milk and whey. The hogs should range in weight, from 180 to 220 lbs., and should be long and lean, with well developed hams, straight bellies, and the fat on the back should not exceed one and one-half inches in thickness. The shoulders, sides and hams are cured in one piece. The over fat corn fed hog does not make the finest bacon and does not bring the highest price. By paying attention to these requisites the Danish farmers have increased their sales of bacon in England from 4,000,000 lbs. in 1881 to about 200,000,000 lbs. in 1892, and the price has steadily increased.

Milling Inventions

Europeans are showing less or more activity in the invention of new milling machinery. Among late ones in England is a "separator for middlings and the like," in which, as the Milling World remarks, there is nothing startling or revolutionary, but which has some plain, practical points to commend it. From Liverpool comes word of the invention of a middlings purifier by J. Higginbottom. This invention relates to improvements in purifiers and is applicable to former machines built by the inventor. A third late invention patented in England

is a sifting machine, by G. Marky, of Woschnau, Switzerland. According to the specifications in the patent, this invention relates to the construction of a sifting machine in which a number of products may be simultaneously sifted into a number of different grades. The sieves are arranged in one or more boxes, supported by hangers from the frame of the machine and driven by eccentric-rods, from the main driving-shaft. The sieves in the boxes may be divided by partitions, so that any suitable number of different materials may be treated at once. The material follows the course and is delivered in different grades through the shoots. The material that falls through the shoot is delivered to the sieves in the lower box. If so many grades are not required, only one sieve-box may be employed, and the sieves may be arranged somewhat differently. A number of deflecting plates may be attached to the sieves to forward the material over the surface of the sieves. The sieves are kept clean by means of brushes working beneath the sieve. The worm is driven by belt-gearing from the main-driving shaft. The worm rocks the vertical shaft by means of a worm-wheel, the connecting-rod and the arm attached to the shaft. Arms are pivoted on the shaft and driven by stops on a bracket secured on the shaft. The arms operate a block sliding on a fixed rod, and the actuating-rods for the brushes are attached to the block. The amount of play given to the arm corresponds to the stroke of the sieve while passing slowly over it, and thus prevents any damage being done to the sifting-surface. The Milling World remarks of these inventions: "These are not new lines, and it is a question whether they are lines that will promise good results. They serve to show in what particulars the inventors are looking for improvements. It would seem judging from the preponderance of sifting-machines among recent European inventions, that European millers are still finding their greatest trouble with purification and separation."

COST OF RUNNING UNDER SPEED.

SOME of the calculations which have been made upon the cost of stopping, even for a single minute, the motive power of a large mill are quite startling, says Power, and suggest the enormity of the loss which must be occasioned by running a mill under speed. The loss from an accidental shut-down may be momentary, and ceases when the engine is started up again. The loss from running under speed is continuous, and decreases the product of the mill more than would a shut-down of some length. Take, again, the mill with 2,000 operatives averaging ten cents per hour. If the product turned out by each operative is proportional to the speed of his machinery, and the engine runs 50 1/2 instead of 60 revolutions per minute, the result would be equal to a loss of half a minute on each hour, or nearly \$17 for ten hours again without counting the loss of profits, etc. Would it not be well to see that the engine is always on time, and that too much speed is not lost between the engine and machinery through slipping belts?

ELECTRIC CANALBOATS IN FRANCE.

ELECTRIC propulsion on canals, says Cassier's Magazine, is not altogether so new a thing as those who read of the Erie canal enterprise may have been led to think. For some time past, in fact, electric power has been applied to identically the same purpose in France, on the Canal du Bourgogne, and illustrations which have appeared in several French papers of the electrically equipped boats there used have shown the arrangement adopted to be similar in many respects to that only recently carried out in the United States. On the French boats, however, the electric motors are not coupled to the propeller shafts, but instead, drive trains of gearing by which a chain on the bottom of the canal is clutched, thus pulling the boats along. Chain haulage of this general kind has long been in use on some of the European waterways, and, in itself, is nothing new, simply illustrating in this instance another example of electric development of an old method of propulsion. The double trolley system is employed, and the current is furnished by generators driven by turbines, the canal company controlling near-by water powers which could be readily utilized.

INCREASING THE TEMPERATURE OF STEAM.

SOME short time ago, says the Scientific American, it was suggested by Lord Rayleigh that the efficiency of the steam engine might conceivably be increased by adding some salt to the water in the boiler, which should have the effect of raising the boiling point of the solution. The idea sought to be conveyed was that the initial temperature of the working fluid might be thereby increased, thus providing for a larger range and a greater fall of temperature between the boiler and the condenser.

Certain critics objected to this proposition that to raise the boiling point of an aqueous solution does not necessarily imply a corresponding elevation of the temperature of the evolved vapor, which is simply that of water, and must accordingly possess only the temperature corresponding to the pressure. A number of experiments to determine the temperature of the steam arising from a boiling salt solution have been made from time to time; but the results have been of a conflicting character. The difficulty of arriving at trustworthy results in this class of experiments consists in the circumstance that, while the walls of the steam chamber must be at a temperature higher than that of boiling water, and yet below the temperature of the solution, a sufficient quantity of steam must be evolved to insure that these walls shall not exercise any appreciable cooling effect upon it. These desiderata are claimed to be all satisfied by an arrangement devised by Professor Sokurai, of the College of Sciences of the Imperial Japanese University, by the aid of which it has been determined that the temperature of steam escaping from boiling aqueous solutions of such salts as calcium chloride, sodium nitrate, potassium nitrate, is exactly the same as the solution itself. This is a corroboration of Lord Rayleigh, but whether of any material service to mechanical engineers remains to be seen.

TRICK OF A SAFETY VALVE.

AN engineer recently observed his steam gauge indicating a higher pressure than his safety valve spring was set for. He slackened the spring, but the gauge kept rising and the steam did not blow off. He slackened the spring further, still the steam did not blow. When the pressure rose to 200 pounds he became alarmed; and as he could not start the engine he started the injector and opened the water blow-off cock. The damper being closed, this had the effect to prevent further increase of pressure. On examining the safety valve it appeared that the brass seat of the valve was a bushing put into an iron casting, that it had become loose and that the steam had pressed it up against the valve. As the valve rose the seat followed it, and there could not have been a release of steam until the bushing was pushed out of its hole. Some serious accidents have occurred from this cause. It is not good engineering to so construct safety valves that it is possible for the valve-seat to become detached.

TRADE NOTES.

The survival of the fittest applies more to the manufacturing and producing of satisfactory oils than to almost anything else we know of. A satisfactory oil is a thing to be prized. No one except an engineer, or one who has charge of lightning running machinery, can appreciate an oil that will do the work and keep the bearings cool, as against an oil that comes a little short, that can't quite do the work, costs a little less but takes double the quantity and keeps everybody nervous, fearing stoppages and delays caused by hot boxes, cut outs, etc. There is no further any uncertainty about oils. Long practice and experience have come to the aid of Samuel Rogers & Co., together with their ample means and facilities for manufacturing and selling oils of all grades, places them at the head of the list in this line. Their oils have undoubted merit. They are careful, painstaking, reliable people; their great aim being to produce the best quality possible in every grade, from the cheapest black oil, to the finest engine and cylinder oil. They have made a special study of the various grades required for all the various uses, and especially mill uses, and have produced heavy, strong oils that are prizes for heavy work. We can say to our friends that they can depend on the goods they buy from this company, they are solid. See their advt. in this issue of the MILLER.

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 cooper's range as an adjunct to his mill, or else he resorts for his supplies to an outside cooperage. The cooper in any case finds one of his best customers in the miller. The object of this department is to bring each in close touch with the other and to materially advance the interests of both trades.

TRADE REVIEW.

SINCE our last report the weather all over the cooperage district has remained open with the exception of a heavy snow storm which took place on the 12th inst. This snow storm did not help the mills to any great extent, as owing to the very high wind the snow did not remain on the roads and made sleighing impossible except through the woods. Very few indeed of the mills have yet got in one-third of a stock, some of them not having more than two weeks' run, whereas a year ago they had all the stock they could manufacture for a nine months run.

The flour barrel trade in the States is looking up considerable, and cooperage stock manufacturers in Canada have disposed of nearly all their surplus of dry stock which they carried over from last year. With very few exceptions flour mills in Canada have been running light and not using a very large quantity of cooperage stock. From the present outlook it would seem that stock is likely to be very scarce before the end of the present season, and should a good apple crop come on top of the short crop of logs, it will puzzle consumers of cooperage stock to supply their wants for next spring. The following are the present prices of cooperage stock f. o. b. cars, Toronto:

No. 1 30" jointed elm staves	Per net 1,000	\$5 85
M. K. 30" "		5 50
" 2 30" "		3 85
" 1 24" "		4 65
No. 1 5 1/2 ft. patent coiled hoops		6 05
" 1 6 1/2 ft. "		6 65
No. 1 17 1/2" kiln dried heading	Per wt	4 1/2c
" 2 17 1/2" "		3 3/4c
12 in. head-liners, 40c per net 1,000.		

We may say that the largest manufacturers of cooperage stock in Ontario have placed large blocks of staves in the United States for delivery over this year. They are very likely to place almost their entire cut in the States this year owing to the demand for Canadian staves which bring the highest price and the likelihood of the duty being taken off staves by the Wilson bill if it should pass the Senate in its present form.

UNITED STATES MARKETS.

CHICAGO: There are few buyers of cooperage at any price, and tierces are dragging at 85 to 87 1/2 cents. Receipts of hogs continue light, amounting to 6,500 Tuesday and 10,000 Wednesday. Pork barrels are held at 65 cents, and slow sale at that figure, many of the packing houses being shut down. Tierce staves are moving slowly at \$18 to \$19, and coopers generally are very slow in making payment for stock purchased, being unable to sell their cooperage. Pork staves are scarce, and a few cars suitable for pickle barrels might find sale at \$15 to \$16 a thousand. Short stock, 24 inches and under, is not wanted, and cars of even first quality would hardly sell for enough to pay the freight. Circle heading has arrived in excess of the demand, and lower prices have generally been accepted. Tierce heading is held at 13 to 13 1/2 cents, and pork heading is unsaleable at 11 cents. Tierce hoops have declined in value, so that \$10 is a good price for the best. Hickory flour barrel hoops are freely offered, but there is no demand. The nominal price is not over \$4 a thousand.

MINNEAPOLIS: A good deal of interest is shown among local flour barrel manufacturers in the state of weather and roads in the hardwood country of lower Michigan and Canada. Last week for the first time this winter there was cold enough weather to permit of making roads fit for hauling logs to the stove factories. There is yet no snow, but there will be a general rush to haul on artificial roads, and it is hoped that by the close of the season there will be a fairly good supply on hand at the factories. But in spite of all activity there will be a shortage, and for this reason some of the stove men are

inclined to hold for better prices than have been ruling for a time. A contract for 4,000,000 staves has recently been made, and it is said that the price is something less than the old established price of \$6 75. It is noticeable that almost all stove men are willing to make long contracts for \$6 75, in spite of the poor logging conditions. Some think that the stove stocks held over from last year with the crop of this year will suffice for the coming year's demands. Heading is still weak in spite of the meeting of heading manufacturers last week. Just before the meeting there were offers of No 1 heading made freely for 3 1/2 cents. The association put the price at 4 1/2 cents, but the local shops are not yet paying that price, though as yet no buying has been done since the meeting. Little faith is here put in the ability of the heading men to keep the price up to that point. The most of the contracts now in force are to run from four months to a year and are made at 4 to 4 1/4 cents. The barrel makers think that by the end of the year the association will have lost what grip it may have, but this remains yet to be proven. Hickory hoops are plenty and weak. Good hoops and plenty of them can be had at \$7 though \$7.25 is the contract price for the greater part of those now being used. Elm hoops do not vary from \$7 to \$7.25 though not particularly stiff at \$7.25. Oak staves are coming at 12 cents. The proportion of oak to elm used here is about as one to twelve.

BUFFALO: A correspondent of the Northwestern Miller says: "There is very little stock moving. Jobbers and coopers report even a more complete stoppage of milling operations lately than is admitted by millers direct. Stock is very low, and supplies are cut off by the absence of snow in the Canadian woods. Everything has had to be carted to the factories. Northern Michigan has done somewhat better, but the supply is nowhere large. There has been an effort to cut down the price of making flour barrels here to 9c. consequent on a demand for barrels to the trade at 32c. In both cases the reduction appears to have been conceded."

COOPERS' CRIPS.

The heading men of Wisconsin and Minnesota, re-entering sixteen factories, met at Eau Claire on 9th inst., and formed an association to continue for two years.

The mills of St. Louis are sacking heavily, and using only about 7,500 flour barrels weekly. The demand for stock is light. Shaved hoops can be bought now for the lowest price ever known. There is a pretty good call for potato barrels, though prices are very low.

Mr. J. Innes, of Sutherland, Innes & Co., of Chatham, Ont., when in Minneapolis a week ago, arranged with W. B. Judd, an experienced stock man, to act as north-western representative of the firm. Mr. Judd formerly operated a heading factory at Barron, Wis., and has a large acquaintance with the trade. Sutherland, Innes & Co. are understood to have recently contracted with the Hardwood Mfg. Co. for 4,000,000 staves, for future delivery half here and half at Duluth.

The Michigan correspondent of the CANADA LUMBERMAN says: "The manufacture of elm hoops for sugar, pork and flour barrels has grown into a large industry in some parts of Michigan. There are five hoop mills on the Saginaw river, the cut of which in 1893 amounted to 75,000,000. H. Seelye operates a hoop mill at Beaverton, and the Michigan Lining & Hoop Company, of Coleman. A new stove and hoop mill is being built by Hecox & Co., at Coleman; and Geo. Fiege, of Saginaw, operates a mill at Gaylord. There are also a few others in northern Michigan. Elm logs last winter brought \$6 to \$8 and are about \$1 a thousand less this season. Large quantities of elm logs are also consumed in the manufacture of staves. The stock of hoops cut last season was pretty well sold up. There is a large quantity of elm timber in this section of the state. A few years ago it was considered of little value, but the development of the hoop and stove industry has put a good value on this timber. The Hecox Company, of Toledo, recently paid \$10,000 for the timber on 2,500 acres of land near Coleman. The stove men just now are concerned over the Wilson bill not feeling sure how it is going to strike them."



MAVOR McCULEY, of Edmonton, told a good story at a dinner lately. The old-timers had been reminiscence, and one of them had described the first flour mill taken into Edmonton. The affair was a small hand machine, which, when flour was \$25 a bag, proved a profitable investment. The mayor declared that he had endeavored to purchase a similar mill, and in reply to his enquiries in the east, had received a letter to the effect that the only record of such a mill that could be learned of was in the 14th chapter of Matthew, and the 15th verse, where it was recorded of two women who were working at a mill that one was taken and the other left. It was hinted that the owner must have met the man that was left, and so secured the mill, which was the only one of its kind in existence.

* * * *

It may not be easy work to gather sunbeams from cucumbers, and with trade depressed, as it has been for some time, and market conditions, so far at least as grain and flour are concerned, becoming worse, as the days roll by, there will seem to be little comfort in talking of the better days to come. Yet these better days will come, even though the hope of them may not count as currency in keeping the mill running and making money just now. This is about the mood in which I found ex-president McLaughlin, of the Dominion Millers' Association, as I chatted with him the other day of business in general and milling business in particular. Mr. McLaughlin is no pessimist at any time. He was quite ready to admit that milling for the past year had been very dull. Few of the millers of the country, he said, are running more than about half-capacity. This is the case in the city, and the same story is told by outside millers, wherever one might meet them. But this kind of thing is not going to continue for ever. Just now everyone is buying simply from hand to mouth, not desiring to incur any unnecessary outlay. This method, however, works only one way. The stocks throughout the country are everywhere down to the smallest point. As has been remarked, dealers are carrying no surplus stocks; any reserves the mills may have had are being drawn upon to fill orders, so that the day is perhaps not so far away when there will be little or no flour on hand with miller or dealer. Then times will have revived, and, take this as sound gospel, added this well-known representative of the milling trades, our mills will be taxed to their fullest to meet the calls upon them. Methinks this is sound reasoning of my friend McLaughlin. History has repeated itself in this manner over and over again. At the same time, canny and careful, and yet one of the shrewdest of business men, as Mr. McLaughlin is known to be, he would be the last man to make a suggestion that would lead, or give encouragement, to any line of extravagance. A lesson of the present crisis, said he, is for business men to stick closely to their own business. It is no time to venture into outside speculations, and the man who does so stands a good chance to land himself on the rocks. It is a time, too, when business men need to be careful of the out-go. Expenses must be kept down, and every detail of business closely watched. In this manner Mr. McLaughlin chatted pleasantly on, and methinks his philosophy was sound. Sensible to things as they exist, and yet not cast down. I was tempted, of course, to ask the ex-president for his opinion of the present low prices of wheat, which have become lower than ever during the month, and what this constant dropping meant. Prices will be better was the reply. They will not, however, get up to the old level of former days. This is not to be expected, for the cost of production in all lines, farming not excepted, is lower to-day than of old.



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J. S. ROBERTSON,

EDITOR.

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

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

A WORD WITH SUBSCRIBERS.

THE current CANADIAN MILLER goes to a large number of subscribers with bill enclosed for subscriptions that fell due at the new year. The amount in most cases is not more than one dollar, and, even where arrears are owing, the indebtedness to the individual is only trifling. But 2,000 such accounts mean anything from \$2,000 to \$3,000 to the publisher, and money is much needed by him at the present time. It costs a heavy outlay each month to produce a journal of the completeness and character of the MILLER. Subscribers, we have reason to believe, appreciate these efforts to give them a first-class trade journal. Our desire is to make further improvements during 1894. Saying this much, we rely upon subscribers responding favorably to the present request to remit promptly the amounts now due.

GERMINATING POWER OF CANADIAN GRAIN

BULLETIN No. 1, of experimental farm notes, which has been issued by Mr. Wm. Saunders, director of experimental farms, Ottawa, deals with the germinating power of grain grown in Canada during the season of 1893.

The testing of the germinating power and vigour of samples of grain grown in the several provinces of the Dominion during 1893 began on the 9th of December, 1893, and since that date 1,153 samples have been placed under test. The testing is conducted in duplicate; in one case the grain is planted in the soil, in the other in a suitable apparatus between folds of linen kept constantly moist. With 686 samples the tests are now completed, and while thus far the average vitality stands higher than in the crop of 1892, which is very gratifying, there is, nevertheless, a serious drawback in connection with the samples of barley which have been received from Manitoba, the Northwest Territories, New Brunswick and Quebec in the unusually large proportion of plants of weak growth. The percentage is small in the samples from Prince Edward Island, Nova Scotia, Ontario and British Columbia.

The results of these experiments are considered to be very encouraging to wheat growing in Canada, Mr. Saunders remarking that "It is doubtful if any other country in the world could show so high an average as 91.9 per cent. in 686 tests of samples received indiscriminately from all parts of its territory, especially since many of these were sent because they were suspected of being deficient in germinating power."

The provinces and territories at present stand thus in order of merit.

	No. of Samples Tested	Average Vitality
British Columbia	21	97.4
Northwest Territories	18	96.3
Ontario	145	94.5
Manitoba	35	92.7
New Brunswick	115	92.
Prince Edward Island	37	90.8
Quebec	225	90.6
Nova Scotia	91	89.1

The fact that in this series of tests samples of wheat have gone as low as 28 per cent., barley 47 per cent., and oats 50 per cent., should be sufficient. Mr.

Saunders believes, to induce those farmers who are holding seed of doubtful vitality for spring sowing, to send samples at once to the Central Experimental Farm so that they may be tested and reported on before the time for seeding arrives. These samples are tested free of charge, and the reports of the results can usually be sent within two weeks from the date of receipt of the samples. About one ounce of the grain is sufficient for the test, and the samples can be sent from any part of the Dominion to the Central Experimental Farm through the mail free.

The MILLER has frequently pointed out the intimate relationship that exists between the vocation of the farmer, as the sower of grain, and the miller who grinds it into flour, and we simply state the fact here, again, without further observation, to show the importance of millers doing what they can to influence farmers to grow only the better grain.

EDITORIAL NOTES.

THE French government is moving in the direction of certain changes in the bonding of wheat. A dispatch from Paris of a week ago says "At a Cabinet Council held at the Palace of Elysee to-day, it was decided that the Government should introduce into the Chamber of Deputies a Bill limiting to one year the period for which wheat may be bonded. It was also decided providing the enforcement of the new duties, in which it is proposed to impose a sur-tax of 10 per cent. on wheat from countries other than those of Europe. Imported flour must be bonded and when it is taken out of bond will have to pay, in addition to the wheat duty, interest thereon from the time from which it is imported."

At a season when distress in all parts of the country is more severe than it has been for years, our own prosperous Dominion not escaping the depression, we are each one disposed to view our own case as the most severe. But there are degrees of privation we know nothing of in this land. The philanthropically disposed are distributing bread to the poor, and their hearts are being made glad thereby, but it is good bread, sweet bread, they are receiving. In South Russia, because of the high price fuel, the peasants bake bread once in three or four months. Towards the end of the second month the bread becomes like stones, and were it not the Russian peasants' stomachs would seem to be made of cast iron, circumstances probably constituting them so, they would never be able to digest the food.

WITH the price of wheat for some time past down to about a cent a pound, Ontario farmers are seriously considering what can best be done to meet these altered conditions. Some have suggested that a change be made from wheat growing to the raising of cattle. Others advocate chopping the wheat and selling it for feed, as more profitable than seeking purchasers at present market prices. A suggestion is made in another quarter to grow grain for seed for export as a method of realizing a good profit. This season, we are told, Canada fancy alsike brought as much as 20c. more per 112 pounds in the English, French and German markets than was paid for the best American seed, and two years ago the first Canada alsike sold 30c. higher than any other importations offered. The case is mentioned of a farmer, who got 75 per cent. more out of his 32 acres than he would have received if he raised wheat.

IN Minnesota, Illinois, and Dakota, and possibly in other points, it is claimed that experiments have been made, demonstrating very clearly what is suggested in a paragraph we have given place to elsewhere, that the most profitable purpose to which wheat can be put at present low prices is to feed it to the hogs. A good many hogs, we are told by the St. Paul Pioneer Press, have recently come into the St. Paul market fattened on wheat, and the result has been that the farmer has got more than twice as much for his wheat in this form as he could have realized for it by selling the grain itself. When hogs are only 4½ cents a pound the farmer can get at least \$1 bushel for his wheat converted into pork,

and by this plan he can also escape a very large share of the charge for transporting his wheat to market. In a recent instance a North Dakota farmer got nearly \$1,400 for a carload of wheat-fed hogs at the South St. Paul Stock Yards, when he couldn't have realized more than \$150 at Minneapolis for a carload of wheat.

THE early fixing of the rate of tolls on the St. Lawrence canals for the season will enable those in the grain trade to make contracts ahead for the sale and transportation of grain on the opening of navigation. Referring to this matter the Witness, Montreal, says. The Dominion government has responded promptly to the demand of the Board of Trade and corn exchange for the abolition of canal tolls on eastward through grain. The government has not abolished the tolls, but has fixed them at the same rate as last year, namely, ten cents per ton on all grain passing through the Welland Canal, payment at that canal ensuring free passage through the St. Lawrence river canals. Thus, American grain shipped via Oswego, Rochester, Ogdensburg or any American port east of the Welland canal to an American destination pays the same as grain destined for Montreal, and passing through all the St. Lawrence canals. Wheat transhipped at Ogdensburg for Montreal is no longer charged extra tolls owing to the retaliatory tolls imposed by the American government upon Canadian vessels passing through the Sault Ste. Marie canal in 1892.

MEMBERS of the Montreal Board of Trade are agitating for the establishment of a wheat pit on 'Change similar to that in Chicago. This step was proposed some months ago, but better judgment seemed to have prevailed, and the matter was allowed to drop. A question of the legality of the move was also raised. We do not know that any more is known on this point now than then, but Montrealers who are anxious for the change ask if the pit is legal in Chicago, why not in Montreal? There might be many reasons why: One that Montreal is in Canada, and Chicago is in the United States. A further argument is, that dealers want to be able to trade at home on the same basis as in Chicago, where they would take delivery of the wheat or whatever article would be traded in. Should the pit be established, advocates point out that all the money that goes to Chicago would at least remain in Montreal. A leading grain broker said that he knew certain Montrealers who bought wheat in Chicago two years ago, changed it from time to time and sold it recently at a loss of eighty cents a bushel, caused by depreciation and carrying charges. This, he says, should be one of the best arguments in favor of a local wheat pit.

THE Milling World, of Buffalo, does not like our reprinting in last month's MILLER, an article from the Commercial, also of the Bison city, speaking of the superiority of Canadian barley over the American cereal. The Commercial made the statement that "Canadian barley fetches in the American market 10 to 15 cents a bushel more than its American rival." This statement the Milling World wants to call into question and produces certain figures to verify its statement. We leave the two journals to fight out this matter of quotations themselves. When, however, our milling cotemporary wants to tell its readers that the American grown article is just as favorably received by the malsters of his country, as the Canadian barley, the bluff is too funny, coming even from the Milling World. What about the recent dispatch from Washington saying that Secretary of Agriculture Morton has promulgated an order for the purchase of many thousands bushels of Canadian barley for seed with which to furnish the farmers of the United States? The object, it is plainly stated, is to endeavor to raise the superior quality of barley now grown in Canada, admitting at once an important distinction. We are ready to agree with the Milling World that the beer made from the American barley "will craze, besot, imbrute, degrade, and destroy the drinkers just as rapidly now, as it ever did when it had Canadian products in its composition." Nevertheless this is rather away from the question at issue.

INDIA'S WHEAT TRADE.

NOW that the rupee of British India is a recognized factor in the monetary conditions of the commercial world, it is interesting to note, writes Thomas Patrick Hughes "that India ranks third among the countries of the world as a wheat-producing country, with every prospect of taking a second if not a first place both as to production and export. The United States exports some eight-three millions of bushels out of its annual yield of four hundred and forty, and Russia is able to spare about the same quantity out of its production of two hundred and forty millions of bushels. And although France stands second on the list, as a producer of three hundred and ten millions of bushels, she is the importer of thirty-eight millions of bushels, and the rapidly increasing population of the United States would indicate a gradually increasing demand for home consumption. In the meantime the growth of wheat in India is rapidly increasing, and the yearly exports of wheat from the ports of Kurrachee and Bombay show a marvellous development of the country as a wheat-contributor to the markets of Europe. During the last year the estimated growth of wheat in India was two hundred and three millions of bushels, or about one bushel to each unit of the population of that vast empire. Out of this quantity thirty millions of bushels were exported, being about one-eighth of her production, as compared with one-fifth of America, and the one-third of Russia. This year the yield is estimated at two hundred and sixty-seven million bushels. But while the export of wheat from the United States may be expected to dwindle, as her population and industrial development progresses, the surplus of wheat in India must be an increasing quantity.

Owing to a magnificent system of irrigation carried on throughout the Indian empire, under the control of skilled experts in the science of irrigation employed by the government, the growth of wheat in those sunburnt regions no longer depends upon the rainfall. In those fertile districts where the government irrigation works have been constructed the farmer gets his spring and autumn harvests without waiting for the "former and latter rain." This is especially the case with the valley of the Punjab, which only thirty years ago was dry and arid, but now blossoms as the rose under the fertilizing influences of those great works of irrigation so efficiently worked and controlled by the government irrigation department. The opening of a railway to Cashmere brings another almost unknown wheat-producing country into the market. And the recent annexation of Burmah another. In fact, British India is still undeveloped. It is a country in which you can never say of any enterprise, it is finished. The Indian zamindar, or landowner, is ignorant of the possibilities of his country as a settler in the Wild West. He has not yet awakened to the fact that there is a wheat market beyond the limits of his own land. The native farmer never reads a newspaper, and is a man destitute of ambition in commercial life. It was only a few years ago that he had to protect his lands against the inroads of the enemy, and he can scarcely realize that a reign of peace and commercial prosperity has begun. There is, in fact, no organized system of commercial development beyond the paternal rule of "the barra sahib," or the "great gentleman," as the district magistrate is called. This officer, to use the native expression, is literally the "niabap" or "mother and father" of the Indian farmer. But such a form of rule is not conducive to the development of private enterprise, and it might safely be said that whatever India has done in the way of increasing its export of wheat, it has been the result of a happy "kismet" rather than of any organized system of trade. What it needed is increased capital and increased energy. A few millions of British capital and an importation of American enterprise would make Kurrachee a very important metropolis, and the Chicago of Asia. The great obstacle to the expansion of the Indian wheat trade is the less remunerative price which it commands in the market owing to its dirty condition. The Indian farmer garners his wheat under the enlightened rule of the Queen-Empress very much as he did in the warlike days of Barber. He threshes his wheat on the dry sod in front of the village host just as Gideon did in the time of the Judges, and this wheat is stored in

earthen barns which are pulled to pieces when the native agent from Kurrachee of Bombay pays the village his annual visit. It is therefore not surprising that hundreds of tons of "pure dirt" are shipped to Europe at the exporter's expense, and that the London and Liverpool brokers still depreciate the wheat produce of British India. But all this will be changed in the course of a few years, and ere long India, the land of the silver rupee, must rank second, if not first, among the wheat producing countries of the world."

CONSUMPTION OF POWER IN ROLLER MILLS.

BUT little positive information, says Mr. A. E. Baxter in the Northwestern Miller, exists at the present time regarding the consumption of power required by roller mills in the manufacture of flour. A well-equipped modern mill will require from one-half to thirty-six one-hundredths of a horse power per barrel of flour manufactured, according to capacity, and repeated indicator tests clearly demonstrate that in mills of seventy-five barrels capacity and under, at least .05 horse power barrel will be consumed in mills of one hundred to two hundred barrels capacity at least .04 horse power per barrel, and plants from eight hundred to three thousand barrels at least .36 horse power. Any plant producing a barrel of flour within these figures must be well equipped and properly handled, with an easy line of machines to operate, shafting well lined, bearings well lubricated and of sufficient number and length to prevent over-loading or heating, and no useless machines used in the operation. The elevator lines must be of ample strength to prevent deflection. This is one of the greatest evils in mill construction to-day. Fully sixty per cent of the power consumed will be absorbed on the roller floor and the lines of shafting connected thereto, twenty-five per cent is consumed in the bolting machinery and attachments, eight per cent by the process of purification, and seven per cent by elevator lines. This is for large mills, with cleaners driven by separate power. The break rolls will consume about ten per cent less power than the smooth rolls, the first and fifth breaks will consume less power than the second, third and fourth, and the second, will consume less power than the third or fourth. Another almost universal misconception exists regarding power consumed by modern dressers and centrifugal reels, all manufacturers claiming a saving of power over the old-style reels. This is a great mistake, as the indicator clearly shows that the mills built with these modern machines consume fully as much power per barrel as was consumed prior to displacement of the old reels. The saving of the room, however, is clearly in favor of the new machines. Another almost universal mistake is that a short system decreases the consumption of power. Repeated tests clearly demonstrate that the fact is just the reverse, and that a mill with a moderately long system will produce given results in quality of goods and clean-up at a saving of power over a short system giving equal results in quality and quantity. Tests indicate that an overloaded roll consumes a percentage of power not in direct proportion to the quantity of work performed. It is also clearly demonstrated that, after a certain speed of roll is attained, anything in excess of this speed is direct consumption of power without direct gain in capacity or quality of work produced. Dull corrugations will consume from twenty-five to fifty per cent more power than when sharp, producing the same quantity of work.

CANADA'S NEW EXPORT GRAIN PORT.

THE fixing of St. John, N.B., as a grain and shipping port, to which reference has already been made in the MILLER, is described with some detail, and in complimentary terms, by Bradstreet's. This journal says: "St. John, N.B., has bounded into existence as a grain shipping port, and will hereafter be included among the North American cereal exporting points covered by wire by Bradstreet's each week in reporting totals of wheat, corn and flour sent abroad from the United States and the Dominion of Canada, both coasts. The Canadian Pacific Railway Company seems to be responsible for this added glory of the New Brunswick capital. Hitherto the winter grain export business of Canada has been done largely from New York, Boston and Port-

land. Recently the Canadian Pacific acquired the short line between Montreal and St. John, with a view, as now appears, to use St. John as a winter port. To further the plan the city gave a bonus of \$40,000 for the erection of an elevator, which has just been completed. The first consignment from St. John has been made, 16,000 bushels of wheat, and is the commencement of a trade which is expected to expand enormously." The new elevator has a frontage of 400 feet and a depth of 27 feet and upward at low water, spring tides, and the wharf is therefore capable of accommodating "one steamship of the largest size or two smaller vessels." The elevator on the wharf is of modern construction, and has been pronounced by good judges "the best elevator in Canada," having a storage capacity of 360,000 bushels, and machinery sufficient if its storage capacity should be doubled. It will load an ordinary freight steamship in from four to six hours, and it is estimated "that 4,000,000 bushels of grain can be shipped there monthly, provided there is not too much detention on the railway."

HEATING IRON IN COLD WATER.

IT would now seem as though the common, but time-honored blacksmith's forge, and all other kinds of fiery furnaces, will become extinct and live only in the memory of a rapidly-receding past. The forge and furnace of the future will consist of a lead-lined glass or porcelain vase or cupola filled with cold acidified water, to which is connected a strong positive conductor. A pair of tongs with insulated handles attached to a flexible negative conductor are also provided, making the new forge and outfit complete.

The smith seizes the piece of iron he wishes to manipulate with the insulated tongs and plunges it into the sour water, which begins to boil and bubble the instant it comes in contact with the iron, which, in a remarkable short space of time, turns to a red and then to a white heat, ready for the work of the smith.

So rapidly is the heating done, that the water and the portion of the iron not immersed in the water is but slightly warmed.

The principle involved in this process is the same as in incandescent electric light. Resistance produces the light and heat. It is said that enormous heat can be produced by the method, much greater than is necessary to extract the iron from the most refractory ores.

Like all, or nearly all, of the late practical applications of electricity, this discovery will no doubt lead to marvelous results in the perfect and rapid handling of heavy iron and steel plates and bars that have to be hammered and welded, and more valuable still for tempering purposes, as the required heat for the immersed portion can be quickly obtained, while the remaining portion is kept comparatively cool, which cannot be done by present methods. By electricity we live and move, and by electricity some of us die. —Mechanical News.

NEW WHEAT FIELDS IN AFRICA.

IT may be recollected by some that about a year or two ago mention was made in these columns of the arrival in this country of samples of wheat and barley from Uganda, says the Liverpool Corn Trade News. We now give an extract from the Manchester Guardian of January 12th, bearing upon the same subject:

"I hear that samples of both wheat and barley grown on the Kikuyu plateau in British East Africa have reached the country, and that in Mark Lane the very highest opinion is expressed of the quality of both samples. This is especially the case with reference to the barley, which I am told has been declared to be as fine a sample as has ever been shown in the market. The Kikuyu plateau is on an average from 5,000 feet to 7,000 feet above sea level, and is one of the regions which Captain Lugard refers to as a probable field for European occupation, although situated within the tropics. As compared with Nyassaland it has several advantages as a grain producing region, not the least of which is that while the part of the Lake Nyassa region most readily available for cultivation the Shire highlands—is a succession of hills and valleys, on the Kikuyu plateau there is a stretch of country 400 miles long which is nowhere below 5,000 feet above sea level. Of course nothing can be done to develop this grain growing region until cheaper modes of transport are introduced, and I believe that the advocates of a railway from Mombassa to the Victoria Nyanza are especially pleased at the result of the experiment of growing wheat and barley in a district through which the projected line would pass."

Advertise in CANADIAN MILLER. It pays.



The particular purpose of this department is to create an increased market for Canadian mill products—flour, oatmeal, oatmeal, rolled oats, pot barley, horse meal, split peas, etc.—at home and abroad. The interests of the miller who grinds the grain will have thoughtful consideration. Any matter that is likely to lead to an improvement of conditions in the local market of any of the various provinces of the Dominion will be carefully considered in this department. A close study will be made of the foreign markets with the aim of further developing the Canadian export trade. The MILLER each month covers very extensively 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 invite correspondence from millers, shippers and buyers on any matter touching these important subjects.

WHERE THE BLAME IS.

THE amount of the "cheap and nasty" that is to be found in almost every department of manufactured product to-day is one of the unfortunate aspects of business methods of the day. Cotton is no longer cotton, and a yard wide. Broadcloth is shoddy, and patent flour may be ground from the poorest grade of wheat that the market has seen, and by millers who can lay no claim to being first-class workmen. Things, in very truth, are no longer what they seem.

It is flour, however, that claims our interest. The MILLER has given enough space of late to comments on the flour product that reaches England from this side of the Atlantic to show that British flour handlers are a good deal concerned over the deterioration, as they claim, of much of the flour that comes to them from America. Well, there seems to be very little doubt but that they are securing a good share of the "cheap and nasty" in flour, just as merchants in other branches of trade in this land are receiving lines of goods that possess more of the spurious in their composition than the good. But who is to blame? It is perfectly true that large quantities of low grade flour are manufactured, and much of this is exported to the United Kingdom. The very finest grades of flour, none better in the world, are also manufactured on this side of the water, and it can be exported also, if wanted. It is, however, as the Northwestern Miller has said, "the English miller cannot afford to pay the price." There will be no trouble about Liverpool or any other market getting the kind of flour it wants if it will pay what it is worth or what it will bring elsewhere. We confess that the temptation to smile has been very great on occasions when we have heard foreign buyers speak seriously of the sale of certain "well-known brands," as they called them, brands which sold largely in foreign markets which seemed to fully meet the wants of the trade there, and yet came from mills which were the veriest rat-traps, in charge of millers who were incompetent to hold positions as roustabouts in any first-class American mill, and which were never known to turn out a really excellent sack of flour, or one made with even the rudimentary economies of manufacture known to progressive millers. A large number of such mills are in operation to-day, and practically all their output goes abroad. Their owners would not venture to offer their flour in the high-class markets, and yet they set the pace for the foreign trade, and they do so because they are always low sellers and always in the market at bottom prices. Such connections as these are eagerly sought by English factors. Quality does not figure with them. They are the great makers of "masquerading" flour, and, because they sell in such quantities and at such low figures, they become the competition which meets the maker of better and more honest flour, when he puts his product before the British buyers, hoping that its quality will command at least some consideration at his hands. It is little wonder, therefore, if, in an attempt to hold business against such competition, the trend of the whole American trade has been toward a lowering of grades. The blame must be placed on a market which demands something for nothing, and the remedy must come when flour sells in England more on its actual merits and less on its stenciling."

If we commence to probe the problem a little further, it may be true, that the flour-handler demands a cheap flour of the miller, because the great consuming public have reached a point where they are constantly looking for something cheaper than the cheapest, and he must supply it, or the other fellow will capture his trade. The trend is, if this view be correct, downwards, and as Lord Beaconsfield has said, let the tastes of man or woman run in this direction, and he will soon grovel. The miller who will set the pitch in a higher key, and get the trade looking forward, will have performed a useful mission for all concerned.

BUDAPEST MILLS IN 1893.

A good deal has been written in American milling journals during the past year of the effects of competition from this side of the Atlantic on flour milling in Budapest, but from particulars furnished by the Miller, of London, Eng., it would not appear that the size of the output has been affected. If a large output could be accepted as the sole end of flour milling, says our British cotemporary, 1893, would be reckoned as the most successful that the mills of Budapest have known. For in the face of an ever growing provincial competition, the mills of the Hungarian capital not only maintained, but actually increased, their production, reaching the enormous figures of 7,000,000 metercentners (the m. is 220.46 lbs.). It is interesting to compare with this result the average yearly production from 1870 to 1889—

	Metercentners.
The average yearly production of 1870-1874	2,550,000
" " " 1875-1879	3,054,595
" " " 1880-1884	4,036,050
" " " 1885-1889	5,510,000

On the other hand, it is alleged that few years have proved so destitute of profit in proportion to the work performed. For this unsatisfactory result a peculiar conjunction of adverse conditions, at home and abroad, seems to be responsible—an inflated and excited home wheat market synchronised with a period of great and perhaps unparalleled depression in the wheat and flour markets of the rest of the world. Under such circumstances, the export trade (which seems to have an irresistible fascination for Hungarian merchant millers) could only be carried on at a sacrifice. That the volume of trade with Great Britain and Brazil was well maintained was doubtless due to the Minister of Commerce, who caused the railway rates on all flour forwarded to the Port of Fiume to be reduced to a very low figure; that a similar concession has not been granted by the "Adria" line of steamers, which uses the port and enjoys a subvention from the Hungarian Government, has caused some surprise. With respect to Great Britain, our imports last year of Austro-Hungarian flour (of which the bulk is doubtless derived from Budapest) are returned by the Board of Trade at 1,099,614 cwt., against 977,272 cwt. in 1892, and 1,217,933 cwt. in 1891. The result in Brazil is creditable to the energy and perseverance of the Budapest millers, as in that country Austro-Hungarian flour has to fight a heavy duty imposed in favor of the millers of the United States. For the rest, Hungarian flour is being hardly treated in more than one foreign market. France seems disposed to adopt an absolutely prohibitive duty, while Spain adopts much the same attitude, but perhaps the kindest cut has come from Austro-Hungary's neighbor and political ally, Germany. It is asserted that in spite of the reduction of duty granted to flour products from the Dual Empire by the Austro-German Commercial Treaty of 1892, the old and full duty of 10½ marks is still exacted on some pretext or another at many German custom houses. There appears to be the less excuse for so high-handed a measure, when it is considered that the reduced duty still amounts to 7.30 marks, which is more than double the duty on wheat. In the other half of the realm, that is to say, in Austria, the invasion of Hungarian flour is bitterly resented, and pressure has been placed on the Government to impose a 25 per cent. differential railway rate on flour, as it is believed that such a measure would attract Hungarian wheat and shut out Hungarian flour. A few of the Budapest mills holding large stocks of cheaply bought wheat profited by the sharp rise which set in towards the middle of the year, but died away by the advent of

autumn. The difference between the highest and lowest price of wheat during this crisis represented 27 per cent. It is not, therefore, surprising that the Budapest wheat market fluctuations of 1893 brought more loss than gain to the great merchant mills of that city. The fact that, in spite of all, many mills should be able to pay good dividends, speak highly for their management.

MEANINGLESS BRANDS OF FLOUR.

In another column we have something to say about the alleged deterioration of flour exported to the United Kingdom. A recent issue of the *Pittsburg Commercial Gazette* contains an article said to have been prepared by one of the best informed local authorities on the subject, in which the deception practised by many millers in the branding of their flour is handled in vigorous fashion. The article says: "The competition is so great and the margins have been cut down so low that mills have been making low prices and then making a flour to suit the price sold at, until half of the so-called fancy patent flour sold in our markets to-day is nothing more than a second patent or a straight. It is high time the consumers of flour should realize the fact that they are being imposed upon every day. It is only the small mills which indulge in making a skimmed flour, but the same thing is practiced by quite a number of the mills of the extreme north-west. While they claim a superior quality of wheat, and their flour will take more water and has more gluten in it and will make more bread, yet they will persist in making a skimmed flour and try to pass it off to the trade as a first or best patent. The time was when 50 per cent. was supposed to be all the patent flour there was in No. 1 spring wheat, but to-day there is 90 and 95 per cent., and if they keep on with their latest improved machinery they will come to the conclusion they can work in the most of the feed and it will pass for fancy patent flour. Now mills that keep it up and think they can impose on the consumers of flour will find in the end something as bad as the Wilson bill has struck them, and they will find the wheels of their mills standing still. There are still a few Minneapolis mills that can be relied upon for a strictly fancy patent flour if the trade is willing to pay a fair price for it."

Commenting on these conditions, the Northwestern Miller says: "Such sentiments as the above are unfortunately not confined to any one market, and the substance of the whole matter is that the mere words "patent," "straight" and "bakers" no longer mean anything, unless they are coupled with the name of a mill of known reliability, which will not, for any mere temporary gain or advantage, suffer its brands to cover flour which is below the standard it ought to be. This, however, does not acquit the millers of our country from having done (anonymously, it is true), a grievous wrong to the general public, which in the long run, will react on the trade at large. So prevalent is the practice, that we fear it will become educated up to the point of seeing the absolute error of branding their sacks to suit their customers' wishes, utterly regardless of the character of the contents thereof. It seems to be regarded as perfectly good business morals to stencil sacks and barrels according to the buyers' desires and fancies, so long as the name of the real maker does not appear, and so long as the buyer makes it an absolute condition of sale that the flour shall bear his stencil and not the regular mill brand."

This, it must be admitted, is a sorry state of affairs, and is a case where we should hope Canadian millers can be held guiltless.

In 1892 the United Kingdom imported 87 million cwt. of wheat and flour, and in 1893 nearly 86 million cwt.; but while in 1892 the value was £37,000,000, in 1893 it was only £31,000,000, showing the great decline in prices in those two articles.

WINTER crops, in Russia, are reported still in a satisfactory state (though not as brilliant as a month ago), as they also are in the Baltic provinces, central Russia and Poland (only rape seed looking badly, in Podolia and Kieff, where, however, field mice are doing mischief).



Office of the CANADIAN MILLER,
February 20, 1894.

THE GENERAL SURVEY.

THE wheat market has been one series of surprises for many months. But perhaps the greatest surprise was a further drop in prices a few weeks ago when the argument was, though there had been a continued series of drops, that it could not be possible for a still lower point to be reached. It came, however. And in this connection it is interesting to remark that simultaneous with the fall of the price of wheat came a fall in the price of silver. Prior to 1873, the price of silver had been approximately \$1.30 an ounce since the beginning of the century. Last June the price of the metal was in the neighborhood of eighty-three cents an ounce, when India, following the example of western nations, closed its mints to the white metal. And then came other changes, until to-day the bullion value of an American silver dollar is less than fifty cents. Keeping pace with these conditions wheat which was \$1.30 in gold in the New York markets in 1873 has within the month dropped in the Chicago market to less than 60 cents a bushel. From this data it would be interesting to point out the general decline that has taken place in the prices of all other agricultural commodities, and, in fact, of nearly all commodities, since the first demonetization of silver in 1873, but this is hardly the place for such a discussion. The thought is, nevertheless, suggestive, in view of the parallel lines in which wheat and silver have been running since 1873.

In view of these changing conditions—ever changing—is it not idle just now to theorize or conjecture on possibilities of the future?

CURRENT PRICES OF BREADSTUFFS.

WHEAT—Toronto—Steady, at 56c. north and west and 57c. bid, middle freights, for red and white. Spring wheat nominal at 60c. to 61c. east. Goose wheat, quoted at 55c. west. Manitoba wheat, No. 1 hard, North Bay, at 78½c. The same grade quoted east at 77c., and west at 74½c. to 75c., and at 78c. grinding in transit; No. 2 hard is quoted at 75c. east and 73c. west Montreal. Wheat, No. 1 hard, 76c. to 78c.; wheat, No. 2 hard, 72c. to 74c. Chicago: February, 57½c.; May, 60c.; July, 61½c. to 61¾c. St. Louis: 55c. for cash; 54½c. for February; 57½c. for May; 58½c. for July. Duluth: No. 1 hard, 61½c. for May; 63c. for July; No. 1 Northern, 60½c. for May; 61½c. for July. Milwaukee: 57½c. for cash; 58½c. for May. Toledo: 57½c. for cash and February; 60c. for May; 61½c. for July; No. 3, soft, 55½c.

BARLEY—Toronto—No. 1, outside 42½c. to 43½c. Feed west quoted at 36c.; feed east, 37c. to 37½c. A Buffalo dispatch of Feb. 26th, says of American barley markets: "The visible supply of barley has decreased 150,000 bushels during the past week and is now rated at 1,210,000 bushels, and is now 650,000 bushels below the quantity reported at this date last year; there was some increase at primary points, notably at Milwaukee, where stocks now reach 114,744 bushels, but at Buffalo and New York stocks have considerably decreased. There is now but 363,153 bushels of barley in store in Buffalo, a decrease of the week of 122,880 bushels, and stocks are now 214,897 less than on the corresponding date last year and a considerable quantity in elevators is sold and held to await maltsters' orders. To-day there was an active enquiry at Buffalo, but sellers are stiff at their views for low grade stocks, of which there is not much now on hand. The market, however, is distinctly strong for all grades and the week will probably end with a fair record of trades."

OATS—Toronto—Car lots of mixed and white, west, quoted at 32c. Buffalo, No. 1 white, 35c. to 35½c.; No. 2 white 34½c.; No. 3, white, 34c.; No. 2, mixed, 33c.

PEAS—Toronto—Prices steady, car lots wanted at 53c.

RYE—Toronto—Car lots wanted at 45c., offered at 46c.

BUCKWHEAT—Toronto—Car lots east offer at 43c.; 40c. bid. A New York market report of February 24th says: "A car of Canada grain sold recently at 68c. free for prime, or equal to 53c. in bond. But really there is no demand for it. Flour is bid \$2 by city mills, and offered at \$2.25 for pure. Sales, 150 bbls., \$2.30."

THE FLOUR MARKET.

THAT one might vary the story—but stillness and dullness continues. There is very little business doing in flour either locally or for export, enquiry among the mills show-

ing, as Mr. McLaughlin states in an interview in another column, that a large number of the mills are not working to nearly the full capacity. The flour output of the Minneapolis mills showed a small increase for week ending Feb. 17th over previous week. Export trade was also reported a little better. The Northwestern Miller says: "Millers have advices from London saying that the stock of flour there amounts to 500,000 280 lbs. sacks, but fully half of this is represented as being old stock that is wholly out of condition, upon which 20c. or more in charges have accumulated. This stuff, while not salable, is counted as so much flour in sight, and exerts a correspondingly depressing influence on the market. This feature in no small degree corresponds with the position of the heavy stock of wheat in the United States, a large portion of which is accessible to the miller. In considering the high prices paid for cash wheat, attention is called to the fact that where patent flour is now selling 20c. per barrel lower than at the opening of the crop, and bakers' 30c. lower, cash wheat is within 2½c. per bushel as high as it was at that time. Nothing more conclusive could be adduced to show how prime milling grain is regarded. The direct export shipments by the mills last week were 22,975 bbls., against 22,600 bbls. the preceding week. London quotations, per 280 lbs. c. i. f., are: Patents 22s. 3d. to 23s. 3d.; bakers', 15s. 3d. to 15s. 9d."

PRICES OF FLOUR AND MEALS.

TORONTO. Car prices are: Flour (Toronto freights) Manitoba patents, \$3.70 to \$3.75; Manitoba strong bakers' \$3.45 to \$3.50; Ontario patents, \$2.90 to \$3; straight roller, \$2.05 to \$2.70; extra, \$2.40 to \$2.50; low grades, per bag, 90c. to \$1. Bran \$15. Shorts \$16.

MONTRÉAL. Flour Spring patents, \$3.60; straight roller, \$3.10 to \$3.20; extra, \$2.75 to \$2.80; superfine, \$2.60 to \$2.70; fine, \$2.25; strong bakers', Manitoba, \$3.40 to \$3.50; strong bakers', Manitoba, best brands, \$3.50 to \$3.60. Meal: Granulated and rolled, per brl. \$4.25 to \$4.30; granulated and rolled, per bag \$2.10 to \$2.20; standard per barrel \$3.90 to \$4; standard, per bag, \$1.90 to \$2. Feed Bran is scarce and high-priced. Shorts are steady at \$17 to \$19. Bran \$17 to \$18; shorts, \$17 to \$19; meallic, \$20 to \$24.

COMPLICATION IN FREIGHT RATES.

A REDUCTION of 5c. in the rates for oats from Ontario points to Montreal was announced by the Canadian Pacific Railway a few days since. The local rate was 21c., but the C. P. R. put it down to an export basis. The effect was to at once induce large purchases on the lines north and west and middle freights at an advance of 2c. to 3c. and one local firm estimates that 100,000 bushels were bought for shipment east at 34c. to 35c., besides which 10,000 bushels in store, Montreal, were sold at 39½c., 40c., and 40½c. The next day the C. P. R. notified buyers that they had restored the rate to 21c., and the result was that bids were at once dropped again 2c. to 3c. The temporary reduction in the rate was said to have been due to some misunderstanding on the part of the C. P. R. authorities, who, having heard a report that the G. T. R. had reduced its rate in some other case, made the reduction in oats to meet the opposition of its rival. When it was found that there was no foundation for the reported reduction by the G. T. R., the rate on oats was at once restored. The C. P. R., says the Globe, has gained an advantage, however, as large purchases of the grain have been made for prompt shipment at the reduced rate quoted by the railway, and local grain men say there is no doubt they will be given the lower rate, as the large purchases were undoubtedly made in the expectation of getting the freight 5c. lower.

FLOUR CONSIGNMENTS ABROAD.

UNDER the title "Killing the Goose," our Liverpool, Eng., contemporary, Milling, says, or permits one, "Urbanus," to say: "This title is not suggested by the late festive season, but by the present policy of the transatlantic miller, whose golden eggs have ceased to come. It is no part of our business, nor is it here intended, to preach a homily to our neighbors; they know their own business, and the apothegm holds good that it is usually safer to take advice than to give it. It may, however, be possible to learn something to guide us in our actions from what befalls the actions of others. The wise man, it has been truly said, learns from the experience of others; any fool can learn from his own. In this view of things we may analyze the causes of those frequent complaints made by our good neighbors, or competitors, that the United Kingdom will not buy foreign flour except as a dead bargain. We will not buy it on spot unless the price is that of a glutted market; nor will we buy it forward, because we know there is an immense bulk here; that there is plenty more coming on consignment; that there is no other outlet of

any account in Europe; that Minneapolis mills did not stop as proposed, after all; that the rail freights at the other side are reported as almost as low as the normal rail and lake rates, so that flour will still come in, right or wrong.

It is interesting to consider why the usually far seeing Yankee has provided us with flour so persistently in spite of the low prices. First, there is the necessity, that so many are under, of keeping on shipping so as to get into funds by rail against bill of lading; and the continent being closed by tariffs, these islands constitute the only dumping ground worth mentioning. Once this system of consignment is commenced, there is no option but to continue it, profit or no profit. Many of the consignors are semi-insolvent, and their only resource is to ship and draw against documents, because it puts the consignee immediately into funds wherewith to meet his liabilities for wheat. The States miller has wisely resolved to sell on a cash basis, and as he cannot get the cash at home, he has had to come here for it or stop his mill, an alternative which many are not solvent enough to adopt. But there is another reason, not so obvious, which has actuated the solvent, perhaps, as much as any other, the very narrowness of the margin. Only by increasing the quantity manufactured can they reduce the proportionate trade and manufacturing expenses, in other words, the cost per sack. The less the profit, therefore, the more has had to be ground. This is freely admitted in the American journals, and the increased output of the past two years is probably very much the result of this resort. For the year ending August 1st last 9,349,615 barrels have been shipped to us, and the year before 7,500,654, more than 2,000,000 increase over 1890-91, an amount far in excess of that shipped in those years when the margin was admittedly better. The last half of 1893 was, they all aver, for the worse; and for the four months succeeding June the States export reached the quite unprecedented total of 6,412,004 barrels, and the total for the year is about 8,000,000 sacks.

Considered as a business policy, the expedient is sound so long as there is the smallest margin, and the tendency to enlarge the mills everywhere shows that the mercantile mind generally has grasped the situation; yet it may become a suicidal policy under exceptional conditions, because nothing depresses prices like over-production, and once gone down to a fractional loss, the larger the output the worse. An export regulated by the demand means profit. One based on reducing the average cost of production per sack, by extending the output entirely regardless of consequences, means killing the British goose that, with patience and nursing, would be a producer now, as in the past, of golden returns. It is destroying the very source of profit, and must be economically unsound, as it is certainly disastrous to the American miller. The moral for British and Irish millers is not to look exclusively, or even primarily, at the magnitude of output, but, while keeping it in view, to see with one eye at the same time whether the stuff can be placed to advantage. A little excess of stock over requirement does more at any time to put down prices, and to hold them down, than even the certainty of a bad harvest."

UNFAIR TRADING.

ONE of the most reprehensible practices which have arisen out of the keen competition of the times, says the Australian Miller, is that of dividing profits with a customer in order to cut into the trade of a competitor. Besides accustoming people to a scale of prices which is entirely incompatible with reasonable profit, this demoralizing trade, it is the baneful source of competitive strife which often leads to the most extravagant limits, and ultimately to all kinds of adulterations and sophistications, from which traders and customers are alike sufferers.

EXECUTORS' SALE

In our advertising columns will be found an announcement of the intended sale of the valuable mill properties of the late James Norris, St. Catharines, Ont. These consist of the well-known "Norris" roller mills on the Welland Canal, St. Catharines. Mill "A" has a capacity of 400 barrels, and mill "B" of 325 barrels. Both mills have ship elevators, and most complete shipping facilities. The Fyfe mills, at Thorold, are also included in the properties offered by the executors. These have a capacity of 160 barrels daily, and are constructed on the full roller process. Additional to the mills and milling property, the steamer Persia, which has for years done a large freight and passenger business between St. Catharines, Toronto and Montreal, will also be sold. The steamer has always been found a valuable adjunct to the business of the mills owned by Mr. Norris. Altogether the opportunity is an exceptional one for the right person to enter into a large and profitable milling trade. All particulars are given in the advertisement.

THE NEWS.

CANADA.

—Guelph citizens are thinking of erecting a grain elevator.

—P. McConnell, flour and feed, Melita, has moved to Deloraine, Man.

—The boiler of a steam flour mill, at Marquette, Man., exploded, killing the engineer, John Reid, instantly.

—John Heath's flour mill and contents, at Wardville, Ont., were completely destroyed by fire on the 15th inst.

—The premises of F. Millette, flour and grain, Windsor Mills, Que., were destroyed by fire a few weeks ago.

—The Calvin Company are building a new large at Garden Island, Ont., which will carry 30,000 bushels of grain.

—John Plewes, of Flesherton, Ont., purchased the grist mill at Mansfield, and will fit it up in good shape for trade.

—Supt. White is quoted as authority that the C.P.R. elevator in Winnipeg will be built in time for this year's crops.

—The roller mills of Alvin T. Drake, at Byng, Ont., were destroyed by fire a few days ago. Loss, \$12,000; insurance, \$1,300.

—Mattawa citizens, at a public meeting a week ago, passed a resolution to take steps toward the erection of a grist mill in the town.

—The flour mill of Hammond and Leckie, at Hartney, Man., is said to be one of the best constructed mills in that section of country.

—Mustard's roller flouring mill, at Wyoming, Ont., was burned to the ground on the 1st inst. Loss about \$12,000; insured for \$3,000.

—Mr. Wood, of Cargill & Co., Armstrong, is considering the advisability of putting in a grist mill at Vernon, B.C., to be run by water power.

—The grain warehouse owned by W. B. Collins & Co., situated across the railway track, was set on fire from the mill, and with its contents became a total loss.

—Katz Bros., of Tavistock, Ont., intend to remain active buyers of grain, pending the re-building of their mill, which was destroyed a short time since by fire.

—J. W. Cochrane, of Glenboro, Man., writes the MILLER: "I have just completed and started my 150 barrel roller flour mill at this place, and it is doing splendid work."

—Alfred Shaw contemplates moving his roller grist mill from Nevis to Hawkesstone or Mitchell Square, Ont., with the view of running it with water power instead of steam.

—Wm. Welsh was caught in an endless belt in his grain elevator at Stony Point, Ont., and was so severely injured that the doctors entertain very little hopes of his recovery.

—The Fort William people are endeavouring to influence the C.P.R. to revoke their supposed decision to erect a big elevator at Winnipeg, and make Fort William the choice.

—J. D. Sibbald has withdrawn from the Western Milling Co., and will commence business in Revelstoke, B.C. Mr. Spring Rice is now acting president and manager of the company.

—The visit of the Australian delegates to Ottawa to confer with the Canadian Government with respect to the engagement of the trade relations between Canada and Australasia has been fixed for June 21st.

—Rumour has it that quite a few Montrealers were scorched severely through the recent drop in Chicago wheat. In some cases, it is said, personal property had been sacrificed in order to cover Chicago losses.

—Thos. McClay, flour and planing mills, Woodstock, Ont., is asking an extension from his creditors, four, eight, twelve and sixteen months. McClay shows liabilities of \$19,525 and assets \$39,000, and it is quite probable the extension will be granted.

—The Assiniboia Roller Mills, at Mossomin, Man., will be closed down the end of this month. This step has been necessitated through the death some time ago of Mr. C. J. Smith, of Ottawa, who was the senior member of the firm of owners, on account of which the estate must be closed out.

—R. C. Scott, miller, Highgate, has made an assignment for the benefit of his creditors. Aggregate liabilities amount to \$32,000. The mill property is worth \$20,000, but outside of this the assets are small. H. Hollingshead, miller, Dutton, has been appointed assignee. The mills were established in 1880.

—Leon M. Carner's case is still before the courts in Quebec. The absconding broker was brought up in the police court to-day and pleaded not guilty to eleven different charges, all of which were for disposing of flour and provisions to the amount of \$35,000. Proceedings were again adjourned owing to the absence of a material witness.

GENERAL.

The Farmers' Mutual Elevator Company, owners of six elevators at Crookston, Minn., has gone into the hands of a receiver.

—In Ohio the food inspector recently discovered that flour was being adulterated with bone dust. This is a new scheme. The sale of the flour was stopped and bakers warned.

—Already there is a demand for tonnage to carry wheat from Duluth to Buffalo. A week ago contracts were made sufficient for 500,000 bushels at 2½ cents. The winter has not been severe and the expectation of an early spring has prompted early charters.

—A despatch from Topeka, Kan., says: "The grain men here say the recent heavy snow will make a wheat crop of 100,000,000 bushels in Kansas despite the low price of wheat and the dry weather last fall. The area seeded was over 4,500,000 acres, according to the latest report of the State Board of Agriculture."

PERSONAL.

Mr. W. W. Ogilvie has been re-elected president Montreal Board of Trade.

Colin Wible, miller, Amherstburg, Ont., was married a week ago to Miss Susanna Dibbs, of Petrolia. The happy couple honeymooned in Southern Ohio.

Universal regret will be experienced in milling circles, as well as in his own immediate locality, with the news of the death of Patrick Kelly, of Blyth, Ont., which occurred on the 14th inst. The deceased was one of the best known millers in the London and Huron territories. He served faithfully and intelligently as a member of the executive of the Dominion Millers' Association, and at the annual gatherings of the association, with his quaint brogue, and characteristic Irish countenance, his was a marked figure. Mr. Kelly had been in poor health for a year, and at the time of death was about 63 years of age. He had been a prominent figure in public affairs in Huron county for the past quarter of a century, and his name was familiar in almost every household. He was a man of good natural ability and of indomitable pluck and perseverance. He was successful in business, and was one of the founders and leading men in the village where he lived, and it owed much of its success to his energy and enterprise. It was due to his exertions in no small degree that the London, Huron and Bruce Railway was built by its present route. In religion he was a Roman Catholic and in politics a Conservative. He was an intimate and trusted friend of the late leader of the Conservative party, Sir John Macdonald, and many amusing anecdotes have been related concerning the doings of the two men when they met to plan for party interests. He has always taken a prominent part in municipal and local affairs. He was long a member of the County Council and for a year or more he was warden of the county. He also contested West Huron for the Legislature in the Conservative interests, but was not successful.

THE DOMINION BAG COMPANY, LIMITED.

In the Dominion Bag Co., Limited, with headquarters at Montreal, we have an old and worthy concern under a new name. The business was started by A. W. Morris & Bros., and afterwards operated by the Consumers' Cordage Co. For five years past the business has been managed by Mr. John L. Galletti, who now becomes managing director of the new company. This is a substantial guarantee of the character of the work that will be executed by the Dominion Bag Co. The quality of the work that had in the past borne the imprint of the Consumers' Cordage Co. is well known to the millers of Canada, and has, we have reason to believe, always met with their approval. We may expect that this high standard will be fully kept up, and doubtless surpassed, the working staff, as well as the management, remaining absolutely unaltered. Mr. Chas. A. Smart, favorably known on the road, will continue to represent the firm. Messrs. Merrick Anderson & Co., of Winnipeg, who have represented the business in Manitoba ever since its opening will continue to look after affairs in the Northwest.

OPERATIVES DO NOT STUDY.

THERE is a dearth of trained and educated millers—trained and educated in the business we mean—yet there has been time since the advent of roller milling for the education of almost any quantity, says Milling, of Liverpool. Since that time the principles of milling have not changed, although the details are being gradually rendered more perfect, yet how few of our operatives take any pains to qualify themselves by studying either principles or details, except such as they meet with within their daily work.

STEAM PUMPS



Duplex

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Steam

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Pumps

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

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MILLING AND HARD TIMES.

WE speak in every day parlance of certain lines of business, as providing only the luxuries of life and for this reason suffering more severely when hard times take hold of a community. Drawing this distinction between necessities and luxuries it is hard to name any business that meets so completely a necessity for all people and all communities as that of the milling of flour. The Good Book is doubtless correct when it tells us that man cannot live by bread alone, but it is quite true he cannot live without it.

Moved likely by thoughts of this character Milling, of Liverpool, has the following suggestive paragraph: "Is it a fact that, during periods of extreme trade depression, mills and millers are more than usually busy? This statement was strongly emphasized by a delegate on a recent deputation, and from inquiries we have made there appears to be some foundation for it. We heard it repeated the other day by a Liverpool flour salesman, and certainly at the present moment, although trade in some parts of Liverpool is very lull, and there is much distress among some classes of work-people, the consumption of bread is now above the average. Most, if not all, of the mills in Liverpool are working full time, and the demand for local flour continues in a steady and healthy condition. The bakers also are mostly working to their full output; some are making extensions to meet increasing demands, and all seem fairly satisfied with the present state of the trade."

On this the American Miller comments thus: "Of course, millers neither here nor elsewhere have a talisman that protects their business from the vicissitudes caused by panics, over-production or other malign influences on trade. They encounter exactly the same difficulties in the conduct of their business that are met with in other lines; they make bad debts, find collections slow and meet destructive competition. But the industry has one very decided advantage which accrues to the industry as a whole, if not to its individual members. It deals with a staple whose consumption is an almost constant factor. Iron, cotton and woolen goods and lumber are staples, but their consumption fluctuates, iron the most, and cotton the least; but the fluctuation in the consumption is often disastrous to the producers.

Carefully collected data from a number of leading industries show an average falling off in sales the past six months of about 29 per cent. In some lines the decrease is nearly 50 per cent., and in some it is as low as 10 per cent. In only one line has an increase been noted, groceries. The increase is insignificant in amount, namely, one per cent, but very significant as showing the limits of the economies practiced by the people, rich and poor alike. The sales of flour and cereal foods have probably increased. Household economies are not effected in the matter of flour. Probably many mills have sold less than usual; but this is not a decrease in consumption, but in the stocks carried by grocers, jobbers and even families. The actual amount of flour consumed was probably larger the past six months than at any time in the history of the country, because our population is larger.

In the "spell" that followed the panic of 1873, milling was not depressed to any extent. In fact, when measured by the profits of to-day, that was a golden age in the industry. The same causes that removed milling then from the circle of commercial disturbance are operative to-day. We are beyond the reach of foreign competition in flour, and the production of a staple of almost invariable regularity of consumption can hardly fail to insure moderate prosperity to the industry at large, whatever misfortunes may overtake individual members."

TRACHER—"How many mills make a cent." Johnny—"None of 'em, Pa says they're all losin' money."

MECHANICAL ARTICULATION.

TO make a sound by steam power loud enough to be heard ten or fifteen miles for signal purposes, as in the case of the steam siren, a 10-horse power boiler is used that must be fired for all it is worth, for it takes steam to furnish lung power for a device of this kind, says the Boston Journal of Commerce. The steam is allowed to rush direct into the open air from a valve in the horn that opens and shuts 250 times in a second to give a pitch that will correspond with the human voice. The trouble with sound like this is that it is too regular, with all the pulsations just alike and calls for interruptions similar to those found in telegraphy to give signals. What is wanted is to rig up some way to have perfect control of every pulsation on the opening and closing of the valve for every discharge of steam, that the horn may work more like the telephone; in fact, make the steam siren speak for itself by working on the phonographic principle. A single word is composed of no more vibrations than there are pulsations made by the steam horn during the time it takes to pronounce it. This number could be spaced off on the rim of a large wheel as though intended for teeth to a gear, and a tooth cut for every space that will open and close the valve on its own hook independently of all the others; then when the wheel is given a single revolution each tooth will act on the lever of the steam valve in their regular order and produce the word they have been shaped out for. With a set of no more than twelve wheels quite a conversation could be kept up by simply changing the lever opening from one to another, as the case may require, but who will attempt to shape the first valve wheel? Already a sectional view of a phonographic cylinder has been made that will show the styles perfectly, and has been magnified and photographed till the vibrations for a single word can all be traced on a 12-foot circle. This ought to be large enough for any mechanic to be able to reproduce on a wheel 2 feet in diameter with a one-eighth milling cutter quite closely on the pantographic principle, and given the siren a distinct articulation. The first time it may sound a little hoarse, but might improve in this respect as the surface of the valve wheel wore smooth.

DESIGNING vs. MAKING.

IT is very easy to tell by a quick, searching glance whether a piece of machinery has been "signed" or only "made," in other words, whether the plans have been carefully studied and weighed for convenience and cheapness of manufacture, or whether they have been neglected and the machine built piecemeal, making the latter parts fit the first ones. This is too often the case with some machinery, and we find to our sorrow when we come to repair or replace some part, that what should be a minor repair necessitates taking down the whole machine to get at the piece to be replaced.

This counts against a machine when the repair bills are charged to it as should be the case in a well organized shop, and probably prevents another order for this machine being placed when another is wanted. It will pay to look your machine over and see if there is not some part which comes under this head and that can be improved, and these little improvements in get-at-able-ness all count in a machine's favor with the men who have them in charge.

MILLING in Germany is now considered an unremunerative industry, more especially as the new treaties with Austria-Hungary and Italy bring greater competition than ever. The German millers have now therefore arrived at a point when the surplus production is so great that millers sell flour to their buyers at two, three or five months' credit, even with the clause that the buyer shall have the advantage of any decline that may supervene; but the seller may take no advantage of any rise.

STRENGTHENING OLD BELTING.

BY means of an ingeniously arranged apparatus the strength of old belting is now renewed or augmented to such a degree as greatly to lengthen its service. To accomplish this, two large, hollow copper cylinders are provided, and into these steam is admitted, so that they are always heated. In a tank is a solution composed of beeswax, borax, glue, starch and molasses, prepared in equal quantities, the solution being in liquid form; and there are guide rollers, through which runs the leather belting, which is in process of treatment. The belt to be operated upon is started into the machine at a point where it can enter the tank, and while passing through the latter the leather receives an application of the solution; the press rollers immediately squeeze the compound into the fibre of the leather, and then the heat from the cylinders, over which the belt is being drawn, dries the compound. All the rollers and cylinders rest in the bearings. As represented, the application of this compound to the belt, and immediately drying, is to add strength to the fibre of the leather in a remarkable degree.

FRED. ROPER

Trustee, Accountant, Auditor, etc.

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LARGEST STOCK. PROMPT SHIPMENT. CLOSE PRICES.

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WANTED AND FOR SALE

ROLLER MILLER SINGLE-OPEN FOR engagement as first or second; good references. Address Box 77, Waverley, Ont.

MILLER GOOD REFERENCES EITHER first or second; reasonable terms. Box 59, Clarksburg, Ont.

AS HEAD MILLER CAPABLE OF RUNNING and improving the output of any mill; references from prominent milling firms. Address Box 485, Mail.

AS MILLER - CAPABLE OF TAKING a change of roller mill, any capacity; married; steady and temperate; with further good references if required; open for engagement immediately. Address, T. C., Miller, 51 Brock Avenue, Parkdale, Toronto.

MILLER WANTED

WANTED, A GOOD MILLER TO MANAGE a 75 barrel mill. Must be competent man and single. Address

A. LAPOINTE, St. Justine de Newton, Que.

SITUATION WANTED

BY MILLER, 4 1/2 YEARS' EXPERIENCE. Young, single, industrious and strictly temperate. Uses no tobacco in any way. Best of references. State wages when writing. Good mill. Address: JNO. FORD, JR., Muskdale, Ont.

EXECUTOR'S SALE

OF THE "Norris" Roller Mills, St. Catharines; "Fyfe" Mills, Thorold, and the Steamer "Persia."

TO LIQUIDATE THE ESTATE OF THE late JAMES NORRIS, the executors have decided to sell the following properties:

MILLS "A and B" on the Welland Canal, St. Catharines, Ontario. Capacity mill "A," 400 barrels; "B," 355 barrels. These mills are on the direct line of water communication between Chicago, Duluth or Fort William and Montreal, and enjoy the benefit of water rates on all grain inward, and flour outward. Both mills have ship elevators capable of handling 1,500 to 2,000 bushels an hour. Grain storage capacity, 60,000 bushels; large flour and feed storage. Steamers can load for Montreal and way ports direct from the flour warehouses at very nominal cost. Brick cooper shops and ample storage for coverage stock and barrels. These mills are full roller process, thoroughly modern in all their appointments, and are running daily. The brands manufactured are registered, and are well known throughout Canada and Great Britain, and are standard wherever used. The mills enjoy a large and profitable local business. Never failing water power, costing only \$500 per annum. There is 400 feet dock frontage on the Welland Canal. On the property is a large two-story stone warehouse, now used for the storage of merchandise in connection with the steamer "Persia." Could be utilized for other purposes, or extra flour and grain storage. Entire premises electric lighted by a modern Thomas-Houston incandescent plant belonging to the property, and at a very small expense over cost of fuel.

STEAMER PERSIA—This boat is in excellent condition, and has always done a large freight and passenger business between St. Catharines, Toronto and Montreal. The "Persia" is a valuable auxiliary to mills "A and B," enabling them to deliver flour at sea-board at a very low rate of freight.

FYFE MILLS, on the Welland Canal, Thorold, Ontario. Capacity, 160 barrels daily. Full roller process. Never failing water power, summer and winter. Water rate very commensurate. This mill will be sold cheap, and offers a capital opportunity for any practical miller.

For further particulars apply to EXECUTOR'S ESTATE OF JAMES NORRIS, St. Catharines, Ontario.

Best Box MetalExtant Stands any Gait, Weight or Motion No Hot Boxes Four Grades do all your work with economy ALONZO W. SPOONER SOLE MANUFACTURER PORT HOPE, ONT. Holds the best TESTIMONIALS from the largest machinery manufacturers, owners and users in the country

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In the Short Line to
SAGINAW AND BAY CITY
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MILLERS' & MANUFACTURERS' INS. CO.

ESTABLISHED - 1885

32 Church Street, Toronto

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

Up to the present time the insurers with this company have made a saving, when compared with the current exacted rates, of \$91,000.50. And in addition thereto bonus dividends have been declared to continuing members amounting to \$61,522.72.

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 1.25 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 McAllouch, Galt; S. Neelon, St. Catharines; George Pattinson, Preston; W. H. Story, Acton; J. L. Spink, Toronto; A. Watts, Bradford; J. Wilson, Toronto.

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



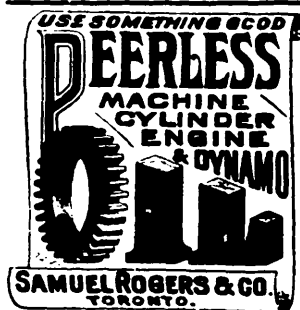
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If you want to save fuel
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THE best non-conductor is the cheapest covering. Mineral Wool heads the list as a fire-proof non-conductor. Hard pressed coverings are poor non-conductors, and are therefore the most expensive in the end. A good pipe covering is one of your best investments. It is false economy to have uncovered pipes, as you are just paying the coal man what the covering man should have, and only ashes to shew for it. Give the matter your consideration, it means money to you. We also carry full lines of Asbestos Goods, and Mineral Wool for fire-proofing, deadening of sound, insulation, etc., etc. Send for Pamphlet.

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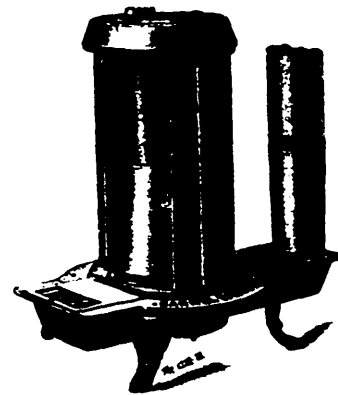
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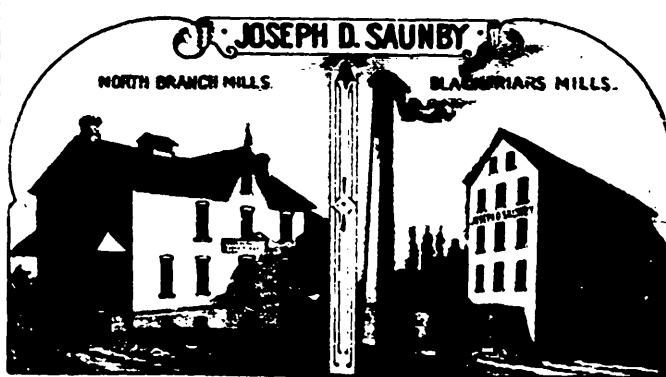
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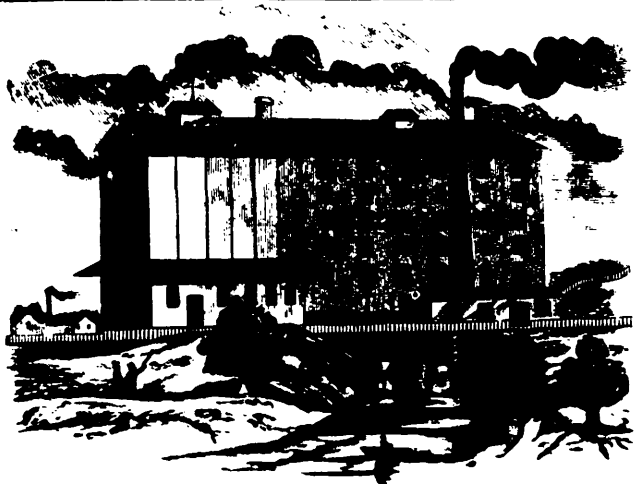
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STRONG AND SURE,
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DAILY CAPACITY
7,100 BBLs.

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Hungarian Patents
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FLOUR

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FIRST PRIZE, DIPLOMA AND
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The Best, most Economical and
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Another prominent Mill Firm endorses our Machinery
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MANUFACTURERS OF

FANGY BRANDS OF FLOUR AND ALL KINDS OF FEED

FULL HUNGARIAN SYSTEM

FOREST, ONT., JANUARY 23RD, 1894.

NORTH AMERICAN MILL BUILDING CO.,
STRATFORD, ONT.

GENTLEMEN,

The mill that you completed for us last November started up and run ever since without any changing. We find the mill turns out easily 135 barrels in the twenty-four hours, although the contract called for only 100 barrels.

Now, we do not believe in puffing up a firm too much, but in this instance, after our experience of twenty years' milling, we have to confess that in your cleaning machinery, rolls and separations you certainly stand at the head of the list of all mill-builders. If anyone does not credit this, let them come to Forest, and we shall be pleased to show them through a model mill both in equipment and manufacturing. If your firm continues under the same management, we feel satisfied no one will regret to leave their order with you as far as first class machinery and fair-dealing goes.

Yours respectfully,

NEIL McCAHILL & CO.

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A SPECIALTY

NOT A SIDE LINE

Full line of most modern and improved Machinery furnished for Mills of large or small capacity from basement to attic.

Prices as low as any in the market consistent with first-class Material, Workmanship Style and finish.

We guarantee results superior to any that can be obtained from any other line of machinery in Canada.

Estimates, Plans and Specifications cheerfully furnished upon application.

All kinds of Rolls corrugated with promptness and despatch

DUFOUR BOLTING CLOTH AND MILL SUPPLIES

ALWAYS IN STOCK

North American Mill Building Co., Ltd.

STRATFORD, ONT.

THE PLANSIFTER COMPANY OF CANADA

LIMITED

SOLE MANUFACTURERS UNDER THE CARL HAGGENMACHER'S PATENTS

STRATFORD, ONT.

The following paper was read by JOHN LANDES, of Arkansas City, Kan., before the Millers of the South Western States in convention at Kansas City, Mo., January 23rd and 24th, 1894:

SOME two years ago our company decided to increase the capacity of our mill from 500 to 800 or 1,000 barrels. To do this we had to enlarge the building, which was done that summer. This made room to move out the packing and cleaning machinery, leaving the original building 40x50 feet in the clear, and four stories and basement for flouring machinery exclusively.

As I was in charge of the mechanical department, I started out by increasing the necessary roll capacity. Then came the question of providing the necessary scalping and finishing reels. To make our 500 barrel mill we had thirty-five scaplers and finishing reels, which pretty well filled up the floors above the grinding floor. To nearly double the capacity I saw visions ahead of the floors solidly full of reels and scaplers; but, just at that time, and before beginning the task, our company suggested that it might be wise to investigate the plansifter. I caught on to the suggestion like a drowning man to a straw and started out on my mission.

After visiting several mills and the manufacturers' shops, and seeing the work of construction and the separations, I was convinced in my own mind that the plansifter was the coming bolting device, and so reported to my company, who had faith in my milling judgment (whether deserved or not), and after due consideration we ordered four machines, for four breaks. Each machine was guaranteed to handle each respective break for 1,000 barrels in twenty-four hours and to make all the separations complete without rebolting, which they did. The break flour is clear and good color, with three grades of middlings from each machine, thoroughly dusted and ready for the purifiers.

After starting the four machines I had the pleasure of dropping twenty reels and scaplers, with the capacity doubled. We then decided to order two more machines for the first reduction of middlings. After starting the last two machines mentioned, we dropped out nine more sixteen foot reels. The six machines are on the upper floor of the mill, and occupy a space 35x15 feet, and the six are running with an eight-inch belt. We have fourteen reels and centrifugals left out of the original thirty-five, and we have nearly doubled our capacity. These fourteen reels we use on finishing up. So, gentlemen, you will see that my vision of the floors being full of reels, was never realized; besides we have made a great saving in power. The question will now be asked, do they shake the building? To this I can say, that if not properly set up and handled, they will shake the building. But where a steady and uniform motion is maintained, and the machines balanced, they will not impart any more tremore to a building than other machinery. We have been running our machines something over a year now, and the flouring cloths are yet good. The sieves that dust the course middlings have had to be reclothed, but the cost for one sieve is only about \$9, while it costs about \$20 to \$30 to clothe a reel, and then you would not have as much capacity.

There is one item I am constrained to mention, and that is in reference to the many inquiries I have received by mail, asking about the plansifters. Many of these inquirers seem to have the idea that a plansifter constitutes a whole mill, and want to know whether they will make all patent flour or not, and if it is three or four grades better than flour made on reels. In answer to any such questions I have simply to say: The plansifter will do the work it is designed to do and do it well, but it will not correct improper grinding or purification. If the wheat is not thoroughly cleaned and tempered and the reductions are not even, so as to secure an even round middling, which should then be well purified, I contend that any deficiency in this line cannot be overcome by any bolting device, entirely.

I might say more about the machine, but as I have given my practical experience, I will not take up the time of the meeting further than to say that I believe the plansifter, while it may have to fight its way, has come to stay.

We invite all who are interested in Milling to call and see a full 350 Barrel Plansifter Mill in operation in Stratford, Ont.

THE PLANSIFTER COMPANY OF CANADA, LIMITED, · STRATFORD, ONT.

DICK, RIDOUT & CO.

JUTE AND COTTON

BAGS AND SACKS

OF EVERY QUALITY AND SIZE REQUIRED.

Strict attention given to prompt shipment.

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

SEND FOR SAMPLES
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One 20-year Survivorship Distribution Policy embraces all the newest features, and is the best form of Protection and Investment money can buy. It has no equal. Guaranteed values, attractive options and liberal conditions.

A WISE AND GENEROUS PLAN.

Our Annuity Endowment Policy ensures a certain annual income to yourself during 20 years after maturity of the Policy or to your family at earlier death, and the Annuity Life Policy guarantee a sure income to your family during 20 years after your death; first payment immediate. The rates are lower than on ordinary plans.

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COOPERAGE STOCK If you want STAVES, HOOPS, HEADING OR LINERS

Flour Barrels, Meal Barrels, Apple Barrels, Salt Barrels, Bean Barrels or any other kind of Barrels

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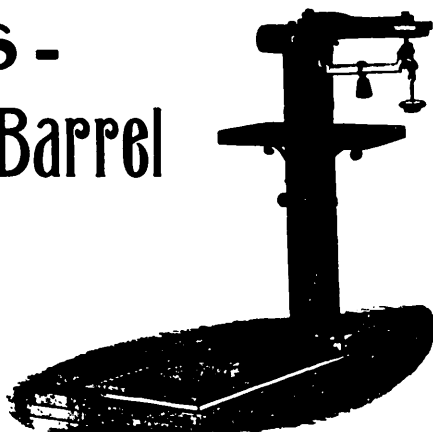
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