

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- Coloured covers/  
Couverture de couleur
- Covers damaged/  
Couverture endommagée
- Covers restored and/or laminated/  
Couverture restaurée et/ou pelliculée
- Cover title missing/  
Le titre de couverture manque
- Coloured maps/  
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black)/  
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations/  
Planches et/ou illustrations en couleur
- Bound with other material/  
Relié avec d'autres documents
- Tight binding may cause shadows or distortion along interior margin/  
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure
- Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/  
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.
- Additional comments: /  
Commentaires supplémentaires:

- Coloured pages/  
Pages de couleur
- Pages damaged/  
Pages endommagées
- Pages restored and/or laminated/  
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/  
Pages décolorées, tachetées ou piquées
- Pages detached/  
Pages détachées
- Showthrough/  
Transparence
- Quality of print varies/  
Qualité inégale de l'impression
- Continuous pagination/  
Pagination continue
- Includes index(es)/  
Comprend un (des) index
- Title on header taken from: /  
Le titre de l'en-tête provient:
- Title page of issue/  
Page de titre de la livraison
- Caption of issue/  
Titre de départ de la livraison
- Masthead/  
Générique (périodiques) de la livraison

This item is filmed at the reduction ratio checked below /  
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	14X	18X	22X	26X	30X	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12X	16X	20X	24X	28X	32X	

# CANADIAN MILLER

GRAIN TRADE REVIEW

NEW SERIES "MECHANICAL AND MILLING NEWS"

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

TORONTO, ONT., JANUARY, 1893

TERMS, \$10.00 PER ANNUM  
IN ADVANCE



## MAGNOLIA METAL

IN USE BY  
EIGHT LEADING GOVERNMENTS

BEST ANTI-FRICTION METAL FOR

Flour-mill, High-speed Engine, Dynamo, Rolling-mill, Steamship, Railroad, Saw-mill, Cotton-mill,  
Paper-mill, Woolen-mill, Silk-mill, Jute-mill, Rubber-mill, Sugar-mill, and all Machinery Bearings.

MAGNOLIA ANTI-FRICTION METAL CO.

London Office 75 Queen Victoria Street

Owners and Sole Manufacturers

Chicago Office 41 Traders' Building

74 Cortlandt St., NEW YORK

Montreal Office H. McLAREN & CO., Agents

Automatic Arc Dynamos and Lamps  
Direct Current Incandescent Dynamos  
Alternating Current Incandescent Dynamos  
Transformers of High Efficiency  
Electric Motors All Electric Supplies

OUR record for the past ten years as  
Electrical Manufacturers guaran-  
tees purchasers satisfaction.

Ask our customers about cost of re-  
pairs on Ball apparatus, which for  
EFFICIENCY, ECONOMY  
SIMPLICITY and SAFETY  
are unexcelled.

AN ORDER  
SOLICITED  
Send for new pamphlet  
of Motors and new  
Book of Testimonials

THE BALL ELECTRIC LIGHT CO., LTD.

70 Pearl Street, TORONTO, ONT.

Use McCOLL'S "LARDINE" AND HIGH GRADE  
OTHER MACHINE OILS

Our CYLINDER OIL IS IN USE IN ALL THE  
BIG MILLS . . . . .

McCOLL BROS. & CO., TORONTO

# RUBBER BELTING

MONARCH, RED STRIP AND LION BRANDS.

MANUFACTURED BY

THE GUTTA PERCHA & RUBBER MANUFACTURING CO. OF TORONTO.

OFFICE 515 BAY STREET, W. TORONTO

FACTORIES AT PARKDALE, ONT.

ESTABLISHED 1856

The J. G. McLaren Belting Co.  
MONTREAL

BELTING

MANUFACTURED FROM

IMPORTED OAK-TANNED LEATHER  
EVERY BELT GUARANTEED

TORONTO: 76 YORK STREET

## A PARTNER'S DEATH

IN every partnership there are two factors of great importance—the managing brain and the capital employed—and if death removes either the business must suffer. It often happens that the brains belong to one man and the capital to another. If the manager dies the capital is worth less than before, and if the capitalist dies and his capital is withdrawn, the manager is crippled. It is clear that each has an insurable interest in the life of the other, because the profits of each depend in part upon the life of both. The firm should, therefore, insure for the benefit of the business on either the ten-twenty plan or the modified natural premium life of the **Manufacturers' Life Ins. Co.** These are the plans best adapted to suit the requirements of such cases. Let this statement be tested by comparison.

The Manufacturers' Life Ins. Co.

Corner Yonge and Colborne Sts., Toronto

# THE GOLDIE & MCGULLOUGH GO., LTD.

Beg to thank the public for the extensive and liberal patronage which has been extended to them, a continuance of which it will always be their aim to merit.

They would call special attention to their



which they claim is unsurpassed for general excellence of design, workmanship and material.

They are prepared to erect new and remodel old Flouring Mills of every style and capacity, under the supervision of a thoroughly practical millwright and miller.

They also manufacture

**The Wheelock Improved Automatic Engine, Boilers** and all appliances used in connection therewith

**WOOD-WORKING MACHINERY**

**SHINGLE AND STAVE MACHINERY**

**SAW MILL MACHINERY**



**WOOL MACHINERY**

**Patent Wood Rim Split Pulleys**

**Fire and Burglar Proof Safes and Vault Doors, etc., etc.**

**BOLTING CLOTH OF SUPERIOR QUALITY ALWAYS ON HAND**

**GENERAL MILL FURNISHINGS**  
ORDERS PROMPTLY FILLED

CIRCULARS AND FULL PARTICULARS IN EVERY DEPARTMENT FURNISHED ON APPLICATION

**GALT, ONT.**

# THE CANADIAN MILLER

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

TORONTO, ONT., JANUARY, 1893

TERMS, \$5.00 PER YEAR  
(SINGLE COPIES, 10 CENTS)

## OVERWORKED MILLING MACHINERY.

BY LOUIS H. GIBSON, IN "MILLING."

[A conversation with one who has always been intimately associated with milling construction, one who has been quite as instrumental in developing results in connection with the modern history of milling as any one else, he said "It disturbs me greatly to see what I must see every day in nearly every mill that I go into. "To what do you refer?" was asked. "Primarily," he replied, "nearly every machine in the mill is overworked and few of them are made to do work in quality, which they are capable of doing."

"Does what you say bear any relation to the short system?"

"In a general way, yes. The short system evil had its growth and development from a desire to do a large amount of work with a small amount of machinery. If, instead of shortening the mills and increasing the capacity of the amount of machinery they contained, they had been lengthened, the millers would be in much better shape to-day, in that they would have been able to get more money out of the wheat. This is certainly the aim of every miller's work. There is a tendency among millers at this time to do away with short system methods and to reduce the amount of work which is being done by the machinery of the mills. This change is slow but gradual. It is slow for the reason that the movement is resisted by those who have capital in mills. They do not care to invest in additional machinery. On the other hand they dislike very much to reduce their output. I have in mind the history of one milling establishment which made 500 barrels of flour with a given amount of machinery. As soon as the short system idea impressed itself upon them they increased their capacity to 750 barrels. Now, if instead of doing that, that mill had reduced its capacity from the original 500 barrels to, say about 400, and continued to operate on that basis, I have no doubt but they would have more money to-day. It takes a good deal of courage to go against the face of a general movement, and when a large number of establishments are changing from one method to another, it is difficult to keep out of the swim. This mill was doing good work making a barrel of flour out of four bushels, twenty-eight pounds of wheat, when they were making 500 barrels. When the change was made to 700 or 800 barrels, their yield varied from 4.40 to 4.50, and the quality of flour was not so good. Now, if the capacity of the mill had been reduced from 500 to say 400 barrels, there would have been a large reduction in the yield; as low as 4.22 or 4.20. To be sure they would have had a comparatively large amount of machinery for doing a given amount of work. They would be making a large volume of middlings, however, because of slow grinding, and would have provided large bolting capacity for their clear flour and could have finished up leisurely with a large number of smooth roll or other reductions. This would mean good proportion of patent flour because of the large volume of middlings and because of the improved character of their yield, because of slow grinding, a high grade of clear flour; because of the slow reductions and careful work generally, a quality of low grade flour which would be well up. Thus, on one hand, there would be an improvement in the quality of the flour and again there would be an improvement in the yield. Take the case of the mill which increased from 500 to 700 or 800 barrels. They make very few changes in their wheat cleaning machinery. Machines had an increased amount of work to do without a corresponding increase in equipment. It is true that the mills which I speak of are reducing the relative volume of output, but it will be a good while before they are at the 500 barrel point again, and certainly a

long time before they are working on a 400 barrel basis.

"Those who have capital invested in milling are very restless. When they are making 600 to 700 barrels of flour and selling freely, they wish for an increase in capacity, and the capacity which is fixed under pressure, is subsequently maintained as a regular and ordinary capacity of the mill. There was a time when this was somewhat different. Every man that was engaged in milling work knew something about the general practice of milling. Now those who manufacture the product stay in the office and pay very little attention to what is going on in the mill. When the quality of the flour is off, they object seriously, but on the other hand they insist on the work being done in a way which greatly reduces its value. That is, by an increase in capacity. Thus the trade of the product is greatly reduced and in a way that does not show definitely through the buyers. The quality of the flour is greatly reduced and for that reason does not bring positive and immediate claims from them for rebate or damage. They notice, however, in course of months that they can buy equally good flour from other mills which are in general competition, and for that reason the value of the product and the general trade is affected.

"I wish to register the statement that there is being a gradual change made from short milling of all kinds and that it will only be a little while until we will be back from the point where we started from several years ago."

"Do you believe that milling machinery will ever be worked at a capacity less than that of the time previous to the introduction of the short system?"

"I certainly do, and I base my judgment on something more than the fact that there is a general tendency at this time, as there has been in the past, to do away with the short system methods. I base my opinion on the fact that better milling can be done by working machinery lighter, than was done even previous to the inception of the short system idea. It is in milling as it is in everything else: people gradually work around to the best thing, after all. To one who is interested in seeing the best thing done and the one who feels that there is a departure from the right methods, the process of righting is altogether very slow. But, nevertheless, the general movement in all minds is improvement. There are occasional lapses and there are occasional movements backwards, but in the end the right prevails, in milling, as it does in history and in morals.

"You said something about machinery not being worked to the limit of its capacity. Just what did you mean?"

"A good deal might be said about that, but the thing that I had in mind at that particular time was in reference to purifiers. I think I know more about purifiers than anything else connected with milling work, and at the particular time that I was talking to you, I had them distinctly in mind. I will say that I do not believe that one machine in ten is handled as it should be. I am safe in that statement. You can understand just what that means, how true my statement is, when you bear in mind that every purifier, to do its best work should have the cloth evenly and properly covered from head to tail, with the proper size of middlings."

"In how many cases does such a condition exist, and with purifiers as now constructed how is it possible for the ideal condition to exist?"

"A machine which handles middlings must be changed as to its feed from time to time. Occasionally it has the proper amount of work to do; again there is a reduction of the volume of stock. At other times there is an increase. The increase is great occasionally, as any one who is concerned in the practical operation of a mill knows. On a machine which has no proper

method of increasing or reducing the working capacity of the machine, it is clear that that machine cannot operate properly at all times, even if the conditions change. On a roll when one puts on more feed the miller changes the set of the roll. The same as in the time of grinding with millstones, when one changed the feed on the buhr he changed the set of the buhr; but on the purifier it merely changes the feed or increases or decreases the volume of stock on the sieve. Sometimes the sieve has the proper quantity of material. Often-times it has too much, and again not enough. When the cloth is bare in any one point the operation of the machine is greatly changed. Its efficiency is largely destroyed. There are two vital reasons for this. The efficiency of the purifier is largely dependent on its sieve action. By means of the vibration of the sieve the light particles or bran particles of the middlings are floated to the top. If the top happens to be a bare cloth the bran and other material of that character naturally finds its way through the cloth and hence the purity of the middlings is affected to their disadvantage. Again the efficiency of a purifier is dependent upon the suction through the cloth. If there can be no suction, as there cannot through a quarter or a half inch bed of middlings, or when on the other hand the cloth is bare so that the air can flow up through the uncovered portion and leave the rest without suction, it is easy to see that the character of the purification will be affected thereby. If one bears in mind that the eye of the fan is only eight or ten inches in diameter, it is easy to see what the effect of the bare cloth two or three or four feet square, will have upon the middlings where the cloth is covered.

"What would you suggest as a change in the purifier to bring about the proper results? You know a good many machines are made with hangers so that by adjusting them their capacity is increased or diminished."

"That is all true enough, but you know that if a miller has stock traveling over his sieve he is not going to work to change four hangers in order to improve the quality of the product. It is not only too much work but it is liable to make him a great deal of trouble. If the miller can keep the middlings moving over the sieve, that is about all he is going to do unless it can be done easily and with the certainty of making him no more trouble. There is no way more certain of getting into trouble with a purifier than by maneuvering with the hangers. My plan would be to devise mechanical arrangements so that the speed of the shaker could be altered without affecting the speed of the fan or other moving parts of the machine. Thus the middlings could be made to pass more rapidly or more slowly, over the sieve according as the volume required. Another way to secure this same result would be by changing the eccentricity. By changing the throw of the eccentric the capacity of the machine may be increased or decreased. But the mechanical device of bringing about the change of the speed of the shaker or the change in its throw must be exceedingly simple. It should be so simple that it can be done as easily as raising or lowering a buhr with a lighter screw. I am sure I am right about this, as time will prove."

## NEW MILLING MACHINERY.

The Dubuque Turbine and Roller Mill Co., of Dubuque, Iowa, have contracted with John Inglis & Sons, of Toronto, for supplying the Hueffner Corrugations to Canadian millers and also to supply the necessary machines for the One-Break Milling System, which has been successfully introduced in the States in over one hundred small mills doing custom work for farmers. Full particulars of these machines will be furnished in the advertising pages of the MILLER next month.

Is there any place where there are more wrong ways of doing the right thing than in a mill?



**A** WELL-KNOWN grain man of Winnipeg, Man., being asked by a reporter whether wheat deliveries are growing any larger, replied: "I can't say that they are. The ordinary citizen—I mean the man who knows nothing about the grain trade—imagines that the recent increase in prices would induce the farmers to rush to market, but as a matter of fact it is the hardest thing in the world to buy wheat on a rising market. Perhaps the stormy weather has had something to do with it, but it looks as if the farmer was holding off for a dollar a bushel." "They will probably get it?" was the query. "Yes, they will—for two bushels."

Mr. Thos. J. Vipond gives an encouraging account of the results of the trips of the steamer *America* between Montreal and Jamaica last year. It is expected that next summer an additional boat will be added to the service. Mr. Vipond says he has not the least doubt but that Canada can work up a very successful trade with Jamaica; but to do so Canadian manufacturers must go to a little trouble. The United States now monopolize the trade of the island, because its people have gone to the trouble to make goods especially for the Jamaica trade. Take flour, for instance. That supplied by the Americans, and which they claim we Canadians cannot produce, makes a dark heavy loaf which seems to please the natives much better than nice light white bread. The steamship *America* took down some of Ogilvie's flour during the summer, which made finer bread than that made from the American product, being both lighter and white, and while it sold well, it is not just what the average native wants.

The low prices of wheat, grain and flour this season is accounted for by an owner of an American mill of considerable importance in this way: "I believe that the exporting millers are to be blamed for the low values of flour. They have overdone their export business, rushed their mills too fast, glutted their foreign markets and lowered values there, found themselves loaded at home with heavy stocks of grain and flour, and so have thrown themselves on the market here with great lots of their flour. Result: They have broken prices here. Now they are over-competing, cutting prices, showing their flour everywhere, and are whipsawed between foreign trade that nets them little or nothing, and home trade that leaves them at best only a small margin of profit. The export millers are more to blame than the 612,000,000-bushel crop of 1891 and the 520,000,000-bushel crop of 1892 for the present low range of values. In fact, these exporters have made their flour cheaper abroad than the grain is. We all lose by their greediness and unbusiness-like methods. If the British mills in Minneapolis made so poor a record on their past year, I predict they will make a worse showing on this year's work."

"I have eaten apples that ripened more than 1,800 years ago, bread made from wheat grown before the children of Israel passed through the Red sea, spread with butter that was made when Elizabeth was Queen of England and washed down the repast with wine that was old when Columbus was playing barefoot with the boys of Genoa," said a gentleman of a Chicago club the other day. This remarkable "spread" was given by an antiquary named Gorbel, in the city of Brussels, in 1871. "The apples were from a jar taken from the ruins of Pompeii, that buried city to whose people we owe our knowledge of canning fruit. The wheat was taken from a chamber in one of the smaller pyramids, the butter from a stone shelf in an old well in Scotland, where it had lain in an earthenware crock in icy water, and the wine came from an old vault in the city of Corinth. There were six guests at the table, and each had a mouth-

ful of the bread and a teaspoonful of the wine, but was permitted to help himself liberally to the butter, there being several pounds of it. The apple jar held about two-thirds of a gallon, and the fruit was as sweet and the flavor as fine as though put up yesterday."

Two prominent millers are candidates for election to the Council of the Toronto Board of Trade. These are Mr. M. McLaughlin, the esteemed and able president of the Dominion Millers' Association, and Mr. John Brown, one of the most active members of the association. Asked the question what policy he would pursue were he one of the chosen ones on election day, Mr. McLaughlin said that at the request of the millers of the Board of Trade, and there were more millers belonging to this institution than any other class, he had consented to become a candidate. He would, if elected, endeavor to take a broad view of the many business matters that would come before the Board, and he would aim to give all the time possible to the affairs of the Board. Business men were all cramped for time, no doubt, but the affairs of the Toronto Board of Trade were deserving of any attention that could be given them. Mr. Brown holds pronounced opinions on two or three important questions and expressed himself as follows: "I do think the board could have accomplished a good deal more, particularly in the direction of obtaining better terms in the matter of transportation rates for Toronto. I have been deeply interested in that question for a number of years, and that is one of the matters I would give my special attention to. I am also very anxious to have Toronto made a centre for the handling of our mineral resources. Very little has been done in the past in that respect. I would also favor, with respect to the future, any reasonable or sensible movement which would increase the volume of manufacturing in Toronto. I would like to see a more general representation of the industries of the city on Council Board. The milling industry, of which I, if elected, would, of course, be a representative, is next to the lumbering, the greatest in Canada to-day, and I do think that we should have a representative, and also that there should be a fair representation of those who handle heavy freights at the Council Board." At a special general meeting of the Board of Trade, held to consider the question of the establishment of a first-class fast Canadian-Atlantic passenger service, Mr. Brown spoke strongly regarding the transportation of freights. He said: "Canadians were at present at the mercy of the United States in the matter of the transportation of freights. Provision should be made for the carrying of heavy freight. While the passenger department was being looked after the freight should not be neglected. Under present circumstances Canadian shippers were at continual inconvenience. They were obliged to ship their freight over American lines to reach the ports from which the United States freight steamers sail. Of course American freight was given the preference, and when there was a rush Canadian shipments were greatly delayed. If provision were made for the transportation of heavy freight by an exclusively Canadian line, much would be gained by the shippers and merchants of this country. This question should not be overlooked, while the fast passenger service is being forwarded."

The charge is not an uncommon one that business men of the day can talk little else than shop. Great Britain has more than once been railed at as a nation of shop-keepers, and yet the best in literature comes from the tight little island across the sea, and a study of this literature shows that much that takes a foremost place in its catalogues has been written by men of affairs. The same is true of other countries, not excepting Canada and the United States, though in these newer lands the main energies of the people are, perhaps, necessarily, devoted to money-making. Dante was a chemist; Villani, author of the best history of Florence, was a merchant; Isaak Walton a linen-draper; DeFoe a tile-maker; Shakespeare managed a theatre; Grote, the historian, and Sir John Lubbock, the scientific antiquarian, were bankers. Voltaire insisted that the real spirit of business and literature are the same. It is, nevertheless, true, the world over, that the development of the literary and intellectual faculties of man are

usually subordinated to things material, if not mercenary. What has been accomplished by men of business, who have strayed away from the beaten track, serves to illustrate, however, what the world has lost by others of doubtless equal ability not following in similar paths. To the writer it is always a pleasure to meet with a business man who can talk something besides shop. This was my pleasure a few days ago when I had a call from Mr. T. W. Graham, general manager of the Dubuque Turbine and Roller Mill Co., of Dubuque, Iowa. Mr. Graham is interested in the manufacture of flour mill machinery, and to this extent there was an affinity between us. But a few minutes exercise of memory brought to my recollection the name of Mr. Graham in another connection: and turning to my files of *Milling*—the *Century* and *Harper's* of milling magazines in this country I found T. W. Graham as a frequent and able contributor to this bright and well-conducted monthly. Mr. Graham is a student of tariff reform and has repeatedly discussed the question in his contributed articles. As a practical mechanic we find him at another time writing of "Percussion and Reaction." In a paper on "Competition or Monopoly, Which?" he is contending with vigorous pen against the trend of the age towards monopoly in every branch of business. Whatever the subject written of Mr. Graham has shown himself a master of the English language, a careful student of history and a shrewd observer of current affairs. I say these things not as an encomium on Mr. Graham. That is unnecessary and is not called for: his writings carry their own praise: but with the purpose of, possibly, stirring up MILLER readers to work out some effort on similar lines. "They have their business to attend to every day." So have others. And "they are tired when the day's work is over." Is that so? The widest experience of the world's wisest and greatest workers proves that the best rest is change—complete change of the mental or physical faculties that have been exercised. Try it, brother dusty. In conversation with Mr. Graham I learned that until five years ago he had been a Republican, and supposed that to raise his hand to do away with the protective tariff of his country would be to tear into shreds and patches the whole fabric of the American constitution. He had no such fear to-day. He was a free-trader and had voted for Grover Cleveland at the last election. As a manufacturer he did not fear the competition of either Great Britain or Canada. "I am opposed," said he, "to taxing the many for the benefit of the few, and there is no disputing the fact that this has been the result of protection in my country. Capitalists seem to overlook the fact that as they add to the cost of production in manufacture they are making necessary increased investments of capital to cover this cost and every manufacturer knows what this means. Without this obstruction less capital would be requisite to carry on the individual business and profits would be enhanced. Besides, in adding to the cost of production we are restricting to that extent the purchasing ability of the consumer; in other words the number of purchasers becomes limited to the number who are possessed of the amount called for by the protected, and *pari passu*, high-priced article of manufacture. A country is not to be made rich by burdensomely taxing the citizens who constitute that country. Agriculturists and millers would certainly be benefited by freer trade relations, and especially, it seems to me, between the United States and Canada." What is your view, I enquired of Mr. Graham, concerning the contention of Mr. C. Wood Davis and Mr. Erastus Wiman, that within a very few years, less than another decade, the wheat fields of the United States will have become incapable of growing sufficient wheat for your own people, and the republic will have become an importer, in place of, as to-day, a large exporter of wheat. "We have been listening to this same story for years," said Mr. Graham. "I think these gentlemen are out. We are not receiving from the land all that it is capable of yielding, and when the time nears that is predicted by Messrs. Davis and Wiman, our farmers will find it profitable to enter into more scientific farming than they have attempted yet." I learned that Mr. Graham is an ardent disciple of Henry George; a believer in the single tax system as the great solvent of many of the social ills of the day.

**VIEWES AND INTERVIEWS.**

**An Antique Mill.**  
A Washington exchange tells of a flouring mill in Astoria that is not the very newest thing out; it has little acquaintance indeed with the full roller process or middling purifier attachments. The student of ancient history would recognize it as one of the household articles in common use at the time Pharaoh's daughter adopted Moses, but this mill was imported from China by Sun Yuen Lung, a Chinese merchant of Ocoza, for the purpose of grinding rice. It is not stated whether he will do custom work for the natives and take toll, or simply keep it for his individual use.

**Trade Winds**  
Nothing could be more commonplace than the saying that change is the order of the day. How wonderful have been the changes in all departments of life within the past quarter of a century, yea, inside of the last decade. A recent writer, noting the changes that have taken place in various branches of business, remarks: "The most noticeable as well as notable of these changes have been the altered methods of transporting freight at sea. Although the shipping of grain dates back considerably beyond the period we have mentioned above, it is only during the past fifteen years that the movement has reached its full development. All classes of grain now pass from the hands of producers to those of consumers in foreign countries without the aid of packages of any sort, and without hand labor to a considerable extent, the grain being transferred from cars and barges, in which it has been hauled from the interior in bulk, by means of elevators, either direct into the holds of vessels or into the bins of storehouses to await shipment. By far the most interesting evolution, however, has been the gradual abandonment of the barrel as a package. Flour, which was formerly always packed in barrels, is now put up altogether in sacks when intended for export and the barrel is also to a great extent being replaced by the sack for the domestic trade."

**Business and Morals.**  
The science of homiletics is not alone the work of the moralist. Morals have their place in all walks of life. Business and morals separate them as some will endeavor to do—have a close affinity for one another. The business that is immoral should certainly have no place in the business of a country, and one may well look askance at the business man who decies the application of moral principles to his methods of transacting business. The old saw, "honesty is the best policy," is an acknowledgment of the place that morals occupy in business. The tenets of this adage are perhaps not the highest, but the exercise of its teachings in business gives force to the conclusion that even in business the right way is the best and only safe way. The business man needs not be constantly assuming the role of the preacher. It is hardly business-like for him to do so, at least in an ostentatious manner. Yet the more closely his methods are shaped on these lines, the more healthful, even from a financial point of view, will be the outcome of his business operations. And the business of a community or a country being simply an aggregation of business units, the better will it be for that community or country when the business units, as one man, exercise in private and public transactions the healthful points of the saying, "honesty is the best policy."

**The Cheap Miller.**  
It has been long demonstrated by careful students of the labor problem that there is no economy in the employment of cheap labor. In those countries where wages are low—take Mexico or India for example, though far distant from one another—the actual nett returns for the wage outlay is less than where wages for similar labor is many per cent. higher. In America and England wages average the highest of any countries in the world, and the return from this labor is the most profitable. Skilled labor is employed in the one case, and skilled labor is productive labor; unskilled labor is employed in the other case and there is no productive result. Milling is no exception, and the Southwestern Miller touches the question with vigor and intelligence when it says: "Of all false economy schemes the cheap

mill is the worst; and although we have been looking for the phenomenon for long years we never have been able to see what a mill owner is trying to get through him when he hires an incompetent miller rather than the competent one because the former agrees to work for twenty-five or fifty cents per day less than the latter. Taking it from a standpoint of value of flour product alone—saying nothing of yield or economical work, fuel, wear and tear of machinery, etc.—and in the small mill of twenty-five or fifty barrels per day capacity a saving of one cent per barrel pays the difference; and oftentimes a good miller will make up the difference of twenty-five or fifty cents in the day's wages on each barrel."

**Do it To-Day.**  
"Do it to-day," says a writer in the Merchant Seaman. "Meet the day's demands with promptness regardless of their seeming insignificance, for there is no better way to place your name between the lips of undesirable business gossip than by showing this lack of promptness in small matters. This does not alone apply to the strictly financial part of your work. There are thousands of opportunities which present themselves where it is possible for the business man to take advantage of the "stitch in time saves nine" axiom. The "stitch" is but an insignificant factor in the make-up of the long, binding seam, but the neglect of the one broken thread, and procrastination's prevention of its prompt repair, is the ruination of the entire garment. So we and men in their business transactions constantly "putting off" that which should be done to-day until an accumulation of the little neglected details form an aggregation with a crushing weight, when the time comes that circumstances give the mandatory command. It must be done! How often do we hear the merchant who is his own book-keeper lamenting an unpardonable negligence in himself—in the matter of keeping his accounts entered up to date and his books in a condition of intelligent management. A negligence which he would not tolerate in any one in his employ. So easy is it to thoughtlessly "put off" that which does not make a peremptory demand upon our time, that we are liable to fall into the habit of being behind the details. Better, by far, be ahead of time than constantly lagging. Do everything as it presents itself, for just as sure as you "put off" until to-morrow, your time will be fully filled by the duty of the day and you have lost the only opportunity of life open to the neglected work."

**GOOD AND BAD BELT FASTENINGS.**

**A** MAN had occasion, says a writer in the Tradesman, to pass under a twelve-inch rubber belt which drove a certain part of the mill. This belt was fastened by means of small links, similar to those used in an endless chain. The links were put through holes cut one inch from the ends of the belt, and in putting the belt together the ends are placed together so that the holes are opposite to each other. Then the links are forced through and a piece of iron wire put through the holes in the links so as to bear on the outside surface of the belt. This device forms a joint which stands straight up from the pulley about 1 1/2 to 1 3/4 inches when the belt is running. The man who was hurt was just passing under the belt when the joint came along and struck him on the top of the head. It took off a piece of the scalp about as big as a dollar, cutting it clean in three sides and leaving it hanging by the fourth. It knocked him senseless and it was several days before he was again fit for duty.

Such belt fastenings as these are an abomination that are as dangerous as a powder mill. All belts should be boxed up, but a belt with one of these things travelling around it should be cut in pieces and thrown into the boiler furnace. The link fastening is cheap, is quickly put into a belt and as quickly taken out when necessary to take a piece out of the belt. Boxing up will protect the operatives from the belting, but it will not protect the millwright or the repair man whose business it is to monkey around belts and shafting when it is running.

The instance mentioned above was a bit of personal experience of the writer, the man who was hurt being one of his workmen at the time of the accident. The owner was entreated to provide different fastenings, and

after a great deal of grumbling some brass belt studs were provided, also a ring for making cement joints, which is the best possible way of splicing a belt. The belt studs are little brass concerns having a T-shaped head on either end, being made about 1/2-inch wide and of a length sufficient to pass through two thicknesses of the belt to be fastened. Brass belt studs can be procured in the market of various lengths from 3/4 to nearly two inches long. They can be quickly put into a belt and just as quickly taken out, and when properly put in and adjusted will hold equal to the best sewed lacing that can be put in. The heads of these belt studs do the work done by the wires when the iron links are used as described above, but the studs do not cause the belts to stand up and make a scalping machine which is liable to maim or kill. To give an example of how well this stud does its work, it may be mentioned that a belt can be put together with these studs, and, after running a few days, and perhaps even hours, the stud holes may be cut completely out through the ends of the belt, but the studs will still hold perfectly, owing to the grip obtained by their heads on the outside surface of the belt.

After these studs were procured, they were put into all the belts around the mill, which were liable to need frequent taking up, i. e., one joint was made with the studs and all the rest of the belt (for there were several pieces forming some) were permanently cemented together, making practically an endless belt. The cementing outfit consisted of an ordinary glue pot with water jacket and lamp underneath. This could be used when necessary, but it was usual to place the glue pot on a steam pipe a few minutes before desired for use. In the glue pot was placed two parts of best common glue to be obtained and one part of fish glue. This forms a mixture which will hold leather so well that when torn in two after having dried thoroughly it will split in a new place even more frequently than it will in the splice. A piece of smooth pine board, two feet square, a smoothing plane and a chisel, a hammer, a few tacks, together with a strong knife and a square, completed the cementing outfit. There must, however, be added to this list a pegging awl and a supply of pegs of different lengths.

The operation of cementing a belt is very simple. First, the belt is squared and cut perfectly true upon the end; then a mark is made back from the square end a distance equal to the width of the belt; then the belt is tacked upon the board so that the end comes just even with the edge of the board. By means of the plane the belt may be easily chamfered down from full thickness to anything wanted. Both ends of the belt are served in this manner, taking care to carve each end on the right side, also making sure that there is no twist in the belt when it is brought together ready for cementing. Secure one end of the belt to the board by means of a couple of tacks a distance above the butt end of the splice, then warn the leather by some means, either by holding over a lamp or by means of a hot iron. When as warm as will bear the hand comfortably, proceed to spread on a coat of the glue, which should be moderately thick, a little thicker than is used for gluing wood. Give both surfaces a coat as soon as possible, then put them together and hammer lightly with a broad-faced hammer. When spreading the glue, it must be made sure that the entire surface of the leather is coated, and coated evenly at that. Any little corner left without glue will be a defect in the work and a source of continuous trouble.

Having made sure that the surfaces are thoroughly covered with glue, place together as above described and hammer lightly until all parts of the surfaces have been pounded together. With the pegging awl, mark a row of holes about three-quarters of an inch apart all around the splice. Drive pegs into these holes as fast as they are made, and use a length of peg which will just go through the leather and leave the pointed part projecting. Allow to dry a few minutes, then trim off the pegs with a sharp knife and the belt is ready for use. It would be better to allow it to stand over night if possible, but many times it is not and the belt is doing good work within half an hour after completing the splice.

Neither affrontery nor unbridled audacity can safely be substituted for earnest determination.



PUBLISHED ON THE FIFTEENTH OF EACH MONTH

ARTHUR G. MORTIMER

OFFICE:

75 CANADA LIFE ASSURANCE BUILDING  
TORONTO, ONTARIO

**TERMS OF SUBSCRIPTION.**

One Copy One Year, in advance \$4.00  
One Copy Six Months, in advance 2.50  
Foreign Subscriptions, \$1.50 a Year

ADVERTISING RATES FURNISHED ON APPLICATION

J. S. ROBERTSON, EDITOR.

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

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

**CHAT WITH SUBSCRIBERS.**

PURSUING the policy that regulates every well-conducted business, we enclose in this month's CANADIAN MILLER accounts against individual subscribers who may have, amid the festivities of a holiday season or the excitement of a municipal election contest, overlooked the fact that they have not remitted the year's subscription to their own trade journal, for the CANADIAN MILLER is essentially the miller's journal. Our subscription books should show a clean sheet on first of February, and all that is needed to make this a fact is for each individual concerned to attend to this little affair now. The successful business man attends to-day to the affairs of to-day.

**ANOTHER MILE-STONE.**

THIS number of the CANADIAN MILLER marks the commencement of the eleventh year of publication, a record that reflects not uncreditably on the trades for which the MILLER essays to speak, and we may be permitted to add, nor on the journal itself. Horace Greeley once declared: "The success of a newspaper depends largely, very largely, upon the friendliness and co-operation of its constituency." And the MILLER has reason to believe that its success during these ten years, and more particularly, the enlarged success that has come to it, within more recent years, has been due to the cordial and friendly relations that have always existed between the paper and its readers. We shall continue, during the new year, to make the MILLER of increased value to the milling and grain trades in the broad field it now occupies, and thus continue to merit, by actual doing, the many kind words that are spoken of it.

In the special holiday number of the CANADIAN MILLER issued last month we took occasion, some days in advance, to wish our many readers a happy and prosperous New Year. We repeat the wish, as we greet them at this time in the first number of the new year. 1892 may not have been the most successful year that has come in the walk of the milling trades of this country. But if it has had its shadows there is reason to believe that the new year opens with the light breaking in, and a prospect of better times ahead.

**CROP REPORTING.**

EXACT as is supposed to be the work of the statistician in the present day, we have, nevertheless, frequent illustrations, in the history of crop reporting, of the faulty character of many calculations made by those, whose figures are, it is claimed, framed on so scientific a basis, that they cannot possibly be wrong. A late illustration is the case of Statistion Dodge, of the United States Bureau of Statistics. It has been shown to a demonstration that recent crop reports compiled by him have been altogether askew with actual conditions. Those, who have given the subject of gathering crop returns any thought worth while, will recognize that the work is beset with difficulties. There is, for one thing, the speculative character of the grain business, the bull and the bear element, which impels some to mislead in the

imparting of information for statistical purposes, and influences others, who may be in possession of certain knowledge, to withhold it for the time, or falsify the record that is presented. But the greatest obstacle to securing exact returns is the breadth of the field to be covered and the amount of detail connected with the work, if it is to be rightly done. It is a mistake to suppose that the real conditions of a season's crop are nearly ascertained when all the information possible is obtained from the elevators and shipping centres, which much of the grain reaches. No system of crop returns is complete that does not get at the farmers of the country, as nearly as possible as individual farmers; for, as the Milling World has pointed out lately, there is a vast amount of wheat in the country of which no account is made in any "visible supply" tabulations. Our Buffalo contemporary supports this proposition by quoting from three letters from farmers in Minnesota. One of these reads: "I have 2,400 bushels of wheat; holding for better price. Four farmers east of me have over 7,000 bushels. Three next to me on the west have 6,000 bushels." The second letter tells of over 35,000 bushels on 15 farms, and the third tells of 24,000 bushels on 12 farms. Here are about 75,000 bushels held on 35 farms in two counties. Very pertinently the question is asked: How many counties in this and other states would reveal the same thing in a greater or less degree?

The remedy suggested is a system of crop reporting by school districts, townships, counties and states for all crops. "If crops are to be reported at all," says this journal, "they should be reported as fully as possible."

It would be too much to say that the Bureau of Statistics, of the Ontario department of Agriculture, is beyond improvement in the methods adopted for securing crop returns in this province. Yet a careful study of the methods employed, in contrast with those of other countries, indicates very clearly a belief in the proposition that "if crops are to be reported at all they should be reported as fully as possible." The principle with the Ontario Bureau is, to quote its own words, a "direct census" of conditions furnished by the individual farmer in the individual school section. This must be the ground work of any successful system anywhere.

**SAFE SPECULATION IN FLOUR.**

IT is sometimes contended, with many a grimace, that trade methods on this side of the Atlantic—as is supposed to be the ways of this newer country—are woefully demoralized. And it is true enough that we too oft-times forget those rules of decency and good sense that should govern men who essay to be leaders and princes in commerce. When in the dumps over these conditions we point to good old England where they do things different, so different, and whose traders are guided by sound economical principles and not the slipshod methods that not infrequently influence ordinary mortals. We are prepared to admit that the business men of the mother land, in many respects, take higher ground in the conduct of business affairs than do those, sometimes, of other countries. But in reading a recent article in the Millers' Gazette, of London, Eng., headed "Safe Speculation in Flour," from the pen of the well-known milling writer, Mr. W. T. Bates, we are forced to the conclusion that there are as foolish and unbusiness-like things done in England as are done at times elsewhere.

Mr. Bates informs us that there is a large amount of speculation in flour, especially in London, but unlike all other forms of speculation, a reversing of the general rule, there is no speculation or chance in these deals in flour. How the business is managed is told by Mr. Bates in these words:

"I am a baker, doing, perhaps, ten sacks a week, and scarcely able to keep square. At any time which I think favorable I can buy from different millers enough to last me six months—aye, two years. I make no agreement or stipulation as to when I shall take any or all of it. If the price should go against me I may decline to see my millers, or put them off. I may, if I choose, complain of the quality, and decline to take any in until it suits me, which may be in months or years. But if, after a long interval, markets should change in my favor, I can demand my bargain, which the miller has thus considerably carried for me, without the slightest cost to me,

but at a great expense to himself. I am quite different to any other speculator, for I neither pay for my bargains, pay no differences or interest, so I am a sure winner. I win, but what then? Well, the flour which I bought at a low price enables me to undersell my less cautious or more scrupulous competitors. I give the public the benefit, and pay my miller, if I can. Yes, it may injure my neighbors, and it doubtless will injure the miller—for I can and do sell his flour cheaper than he can." Fancy a man being undersold by himself—and yet it is frequently done. A small miller told me he had sold ahead three months, and was carrying that load with great difficulty. "But," he added, "if I do not sell when the bakers are buying I cannot sell at all." Another instance is given of a medium-sized mill having 20,000 sacks of flour sold, a load that is being carried with much inconvenience, and must continue to be carried for an indefinite period. Almost without an exception this is the order of business with the millers of the great metropolis. The same custom has been followed to some extent in Liverpool and other cities, but nowhere have the conditions been as aggravated as in London. In Liverpool a start has been made in the direction of curtailing forward sales and the suggestion of Mr. Bates is that the millers of other cities take united action on similar lines. It is wisely proposed that no forward sales be booked for more than one month.

Not very long ago English millers were in the habit of loaning their sacks to the bakers, taking their chances of getting them back, and losing immense quantities of them. "They now charge a uniform rate of 1s 6d each, with just as much satisfaction now they are used to it."

We do not know, nor is it intimated by Mr. Bates, what pull the bakers have on the millers to force them to adopt this ruinous policy of forward selling. But to the average man it seems strange if so one-sided a deal cannot be broken, and that in very peremptory fashion, and thus "free the trade from an unendurable incubus."

**BRANDED "MANITOBA" FLOUR.**

MILLERS of Manitoba make the charge that Ontario millers are branding as "Manitoba" flour that which is not Manitoba flour. The Commercial, of Winnipeg, states the grievance thus: "The placing of flour ground in Ontario mills upon the market as Manitoba flour, is quite a serious matter for western millers in these days of unprecedentedly low flour prices. Ontario millers are getting their wheat proportionately cheaper than Manitoba millers. The eastern millers are buying wheat at their mills at a price only about 10 to 12 cents per bushel lower than prices in Manitoba. When the freight rates from Manitoba points to eastern markets is added to the Manitoba product, there is a large balance in favor of the eastern miller. Manitoba flour, on account of its superior quality, however, commands a higher price than that manufactured from eastern wheats, and on this account western millers are able to dispose of their product in eastern markets. Manitoba flour will therefore sell in the market with Ontario flour, on its merit; but when the latter is put up and branded as Ontario flour, the competition is placed upon an unfair basis. The Commercial is informed that some flour dealers furnish sacks to eastern mills, which are branded as Manitoba flour. Of course there are eastern millers of established reputation, who grind Manitoba wheat for mixing; but there is no doubt considerable flour sold from unknown mills, and branded Manitoba, in the manufacture of which no Manitoba wheat whatever has been used. This is not only an unfair competition for western millers, but it also injures the general trade in Manitoba flour by giving a false impression as to the quality of the latter. The question is at present in the hands of the Winnipeg board of trade, with a view to securing a remedy, if possible, though this will be a difficult matter to do."

**ONLY BEST METHODS SUCCEED.**

THE shrewd manufacturer, in whatever line, recognizes the difficulties he is laboring under, if, for any reason, he is holding on to methods and machinery, that have been supplanted by something newer and more efficient. Just as truly as the mill cannot grind with the water that is past, neither can the miller, employing the mill machinery of an age now consigned to the archives of the past, compete, with any measure of

MECHANICAL HINTS.

success, with the modern furnished mill of to-day. Milling business in the United Kingdom according to Milling, of Liverpool, is suffering from just this want of better methods of handling grain. "Grain handling, of an efficient and economical character," says Milling, "is clearly one of the crying needs of the grain trade, and especially for millers. So long as the volume of imported flour continues in anything like its present ratio, so long may we conclude that the milling in this country is deficient somewhere in ability to keep it out. Undoubtedly we are behind in one department, the automatic and economical handling of our grain. Except in large—for the most part new—establishments on, or accessible to the coast, grain elevators and silos are the exception and not the rule."

Following along in the same line of thought our contemporary philosophizes on the possibilities of changes in the future in the roller mill process of milling: "King Millstone's long reign is over, but does it follow that his younger rival, the Roller Mill, will keep his place unchallenged. So far, roller systems have held their own against all newer methods. Discs, Schrot Machines and the like, have come and gone, have had their day and disappeared, but the restless inventiveness or modern days still threatens to renew the battle which is waged from time to time against what now holds the field. The phases of roller milling in this country since 1868 have been many and various. The Buchholz system commenced with a method of decorticating wheat, which has never been surpassed. This, followed by a brush machine, was adopted before the first reduction on fluted rollers, and despite the crude ideas combined with the system, there was much to recommend it. Ten or twelve years later the pendulum swung quite the other way, and cleaning wheat was, in many cases, of no account at all. Splitting the grain by means of fluted rolls to let out the "crease dirt" became the rage in every case. The "crease dirt" theory is quite exploded now, and other "fads" take its place."

EDITORIAL NOTES.

AN exchange remarks: With prices for flour at the 1892 level, it makes a miller in this country green with envy to read that flour is selling at Caracas, the capital of Venezuela, at \$30 per barrel, wholesale. Our millers have not had very much velvet of late.

A SCOTCH engineer is said to have solved the problem of making the mill run with the water that has passed. An arrangement has been effected by which all the steam used by an engine is returned to the boiler. As a result it is said that as much energy can be gotten out of one ton of coal as is now secured from seven.

VIEWING the situation 3,000 miles away the Mark Lane Express says: "The best means of dealing with the question of agricultural depression is shown in America, where a farmers' party has been formed. It is to be hoped that at the next general election, English farmers will follow the American lead." We suppose the reference is to the new People's Party of the United States. Certain wrongs of the agricultural classes may be redressed through the influence and agitation of a well-organized political party, but the farmers of the republic still wait for the greatest of all boons—high prices for their produce. Will the People's Party give them this?

WHEAT-GROWING in the Antipodes does not make the progress that many might be led to expect. The London Miller, in a recent article, says: "The need of irrigation makes many holdings expensive, and the persistency with which labor clings to the great towns makes rural wages range exorbitantly high. Fourteen years ago the acreage was roughly calculated at three-and-a-half millions and the yield at thirty-five million bushels, and from this mean the deviation has not been great. The expanding industry and developing agriculture of a new country will be looked for in vain, but the national debt to be borne by the settler has risen nearly a hundred millions sterling."

A REPORT has been issued by Dunlop Bros., of Glasgow, Scotland, saying that in a comparison made this

season between Duluth and Manitoba wheat the latter has received a decided preference. The report goes on to say that Manitoba wheat is handsome, heavier, and in every way much more attractive than Minnesota wheat. Manitoba No. 2 hard has become popular in the English and Scottish markets. What is not without significance in this connection is a statement of a Duluth paper that within the past two or three weeks nearly 2,000,000 bushels of Manitoba wheat has been sold in Duluth for May delivery. This is a much larger quantity than has ever reached that port before. Last year about 1,000,000 bushels of Canadian wheat reached Duluth. The wheat this year will reach Duluth by way of Winnipeg, and has been bought by three houses. The price paid was about two cents per bushel less than the market rate at Duluth.

THE millers of Victoria, Australia, are moving in the direction of a Victorian Millers and Flour Agents' Association. As with millers everywhere they are experiencing the necessity of members of the same trade combining for mutual service and protection. Canadian millers, through the Dominion Millers' Association, are ready to testify to the benefits of such an organization, both indirectly as a means of enabling the members of the trade to become better acquainted with one another; and directly in the money it has put in their pockets through the office of the Central Wheat Buyer, and in other ways. The Australian Miller wisely remarks: "Combination of the members of the Trade for mutual protection can result only in mutual benefit. What is necessary to enable it to be carried out is that all should exercise a little tact and forbearance in the first place, and should determine in the second to observe loyally the policy ultimately adopted."

THE Winnipeg Commercial is of the opinion that the manufacture of macaroni is an industry which might be carried on to good advantage in Manitoba. Macaroni is manufactured from wheat, but only a particular class of wheat is suitable for the purpose, and our northern wheat should possess the required properties to a remarkable degree. Macaroni is made more largely in Italy than anywhere else, and also largely in France, and on this account some may suppose that it requires a soft southern wheat to make macaroni. The fact is, exactly the opposite is the case. The Italian and French manufacturers bring their wheat from a province in Russia, which produces a very hard and flinty wheat. The flintier the wheat, the better the quality of macaroni produced. We should be able to produce a wheat here which would excel even the Russian wheat in these properties. Large quantities of macaroni are consumed in various parts of the world, and the industry is an important one.

THE unexpected increase in the price of May wheat a few weeks ago has given rise to considerable conjecture as to what the increase means. The Toledo Produce Exchange Report has prepared the following table of the price of May wheat on December 1 and the price of cash wheat on May 1 for ten years, which is interesting reading in this connection:

	Price of May.		Price of Cash.	
	Dec. 1.	1892.	May 1.	1884.
1891.....	102 3/4	1892.....	90 1/4	
1890.....	102 1/4	1891.....	112 1/4	
1889.....	86 1/4	1890.....	92 1/4	
1888.....	107 1/4	1889.....	88	
1887.....	89 1/4	1888.....	89 1/4	
1886.....	87 1/4	1887.....	84	
1885.....	99 1/4	1886.....	86 1/4	
1884.....	78	1885.....	106	
1883.....	112 1/4	1884.....	99	
1882.....	98 1/4	1883.....	114 1/4	

It will be seen from the above that in six years out of ten, buyers of May wheat in December lost the carrying charge. Also, it will be seen that on December 1, 1884, the price of May wheat was 78c., and on May 1 following the price of cash wheat was \$1.06. But that does not prove much, because on Dec. 1, 1885, May wheat was 99 1/4c. and on May 1 following wheat was 86 1/4c. On Dec. 1, 1883, May wheat was \$1.12 1/4, and on May 1 following cash wheat was 99c. The useful lesson of statistics must be learned in connection with the existing facts and influences bearing upon them at the date of occurrence.

WE often see engineers when they are about to pack a valve or piston rod, and their packing is a little large, hammer the packing flat, so that it will go into the gland. This is a bad practice, for it breaks the strands of the packing, cuts them in fact, and does not improve it in any way. Instead of this, just take it to the vise and press or squeeze it out as flat as you wish. It will be more even, will pack better and will not have ruined the properties of the packing. Try it once and see how much better it is than hammering. If the jaws of the vice are too short for your work, you can easily arrange some false jaws for this work, either of hard wood or soft metal.

Don't go working around a shafting with anything that can possibly catch in the belts, pulleys or couplings. If you wear an apron, take it off when at this business, as it is a trap, for if the material does not give way you are liable to go sailing around the shaft, not a very pleasant journey to contemplate. Don't wear a jacket or shirt with ragged sleeves, or, in fact, any projections that could tempt the revolving set-screws or key-ways. Of course, no such things should be around a shaft, the day for that is past, but do not be careless even if there are no such traps around the shop. In these days of wooden split pulleys that require no set screws to hold them on the shaft, there is little excuse for key-ways or set-screws that lie in wait for victims. When it is necessary to use set-screws, as in collars, etc., let them be countersunk, so as to present no projecting heads, let key-ways be filled with wooden strips outside of the pulley, and, in fact, take every reasonable precaution for the safety of the men whose duty calls them around the machinery, and on whom depends the successful running of the plant.

There is much unnecessary carelessness in a good many establishments, and much more danger than is necessary to the running of the plant. In one place that the writer knows of they have left the covers off the shaft couplings, leaving the bare bolt heads and nuts exposed to catch any one who comes near. The cover came with the coupling, but was left off from pure neglect; probably because they did not need it for a driving pulley. It must not be thought that all the blame lies with the foreman or proprietor, for such is not the case, and we often find the men leaving, from pure neglect, things undone, which leave a danger for their companions.

For instance, the scaffold may not be put up strongly because the man who put it up thinks it doesn't need any more nails, or his nail box may be empty and he forgets to go up there again and put in more; then somebody falls and the verdict is: "Unavoidable accident;" but there is some one to blame nearly every time. Don't let it be you.

MILL REPAIRS.

THERE is a wide difference with men in the manner in which repairs are made in different mills. A skillful mechanic and machine operator is always satisfied when a machine is doing good work, and is quite willing to let well enough alone; others seem to delight in constantly tinkering with the machines, whether they really need it or not. With the former, when a part is broken or worn out, he is never satisfied unless the part supplied is the exact duplicate of the other, both in style and finish; the latter seem to delight in patching up broken parts, frequently in anything but a skillful and mechanical manner. With such men it only becomes a question of time when the machine will become a scrap-heap and comparatively worthless, so far as its value in the market is concerned, whereas, if the repairs had been made in an intelligent manner, a machine, after eight or ten years' use, should possess nearly its efficiency and value as a second hand machine, provided it were changed for a new one, and the legitimate repairs would, probably, not have cost the proprietors any more than the tinkering.

Milling in the towns near the head of Lake Superior promises to grow to enormous proportions in the next year or two. All the plants in prospect for Superior and Duluth are of the gigantic order. Minneapolis needs to hang on to her "supremacy" crown with both hands or some of her rivals will snatch it from her.





The particular purpose of this department is to create an increased market for Canadian mill products—flour, oatmeal, animal, rolled oats, put barley, horse meal, split peas, etc.—at home and abroad. The interests of the miller who produces the grain will have thoughtful consideration. Any matter that is likely to lead to an improvement of conditions in the local market of any of the various provinces of the Dominion will be carefully considered in this department. A close study will be made of the foreign markets with the aim of further developing the Canadian export trade. The Mill Line each month covers very fully the field of flour handlers and buyers of mill products, not only within the borders of the Canadian confederation, but in Newfoundland, the West Indies, Great Britain and other 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 questions.

#### MORE ABOUT THE WEST INDIES.

THE attention given by the CANADIAN MILLER, of late, to the flour trade with the West Indies, has been suggested, largely, by the attention the West Indies people, themselves, have been paying to the question. Recently a committee of the Royal Agricultural and Commercial Society, of British Guiana, took evidence touching the character of our flours, as compared with those of the United States. Two facts, at least, have been established as a result of this inquiry: (a) The existence of a very friendly spirit towards Canada, creating, as the Daily Chronicle, of Georgetown, British Guiana, has it, "A desire, all other things being equal, to deal with those who are bound to us by the ties of a common race." (b) That United States flour has obtained a good footing in the Indies, but despite the spirit of patriotism, which has its influence with these sister colonists, there is the natural prejudice and aversion, common to all peoples, of making a change. "It is, therefore," quoting again from the Georgetown Chronicle, "easy to arrive at the conclusion that, if Canadian flour is to hold its own in the West Indian markets, it must do so upon its merits." Sentiment may have its influence in securing business, but standing alone it is a poor article of commerce.

How far then has the inquiry of the Royal Agricultural Society established the merits of Canadian flour? We take the conclusions of our Georgetown contemporary, which has evinced a friendly spirit throughout to Canada, as furnishing one reply. "When we are met with the query: 'Is there any reason why Canadian flour should not be generally used in the British West Indies?'" says this journal, "we are inclined to meet this question with another, and to ask: 'Is the Canadian flour as good as that which is imported from the United States?' Now, any of our readers who have gone to the trouble of studying the evidence on the point published in our columns, that was taken before the committee to which we have referred, is bound to come to the conclusion that, whatever may be its merits before it leaves Canadian ports, it does not arrive here in as good condition as the flour that is sent to us from the United States. This is a fact the testimony given by competent authorities proves, and proves most conclusively. But it has not been shown that the commodity is not equal to the best American flour before it leaves Canadian ports; in fact, the natural inference derivable from the evidence is that it is quite as good, if not better. Most, if not all, of the evils appear to be of a nature that may be remedied; not, it is true, without some trouble, and certainly not all at once, but most assuredly in process of time. All of these difficulties appear to have their existence in the method of packing and the means of transit. And when the Canadian dealers consider this fact, there is little reason to doubt but they will endeavor, and endeavor in all probability very successfully indeed, to suit themselves to the Colonial market." The Hon. A. Weber, chairman of the committee of inquiry, concludes that there is no remarkable difference between the flours of Canada and the United States, "that if Canadians would send good brands and pack it suitably for that market, their flour would go down just as well as that from the States." The testimony of a Mr. Edwards was in these words: "If those samples I had

from Donaldson's were put into American barrels and sold here they would be appreciated as well as any flour on the market, as an extra flour."

The demerits of Canadian flour is not in the flour itself, but in the manner in which it is packed. Nothing, in the inquiry, has been more clearly demonstrated than this. "The flour, it is alleged, "is less concentrated in the barrel, than the American, and for this reason is more likely to sour. The wood the barrel is made of attracts more air than the other. The air gets at the flour somehow." But the flour itself, our West Indian friends freely admit, is all right.

The packing is a difficulty millers can readily overcome. Once overcome, conditions are largely in their favor, and success will depend upon the measure of effort they are prepared to exert.

#### BUCKWHEAT MILLING.

"In these times when the profits on the manufacture of wheaten flour have been reduced to a minimum," says the Miller's Review, "it is a matter of interest to the miller to examine into any special branch of the trade, which will yield a good and satisfactory return. We have always advocated specialties in milling, as they are generally recognized by millers as offering good sources of income, and without require very little expense in providing the necessary machinery. There is probably no grain which pays a better profit in its reduction than buckwheat, as it is to some extent a luxury, and one which is becoming more popular with each succeeding year. The popular handling of this favorite grain, therefore, so as to meet the demands of an advanced taste, is a matter worth careful consideration upon the part of the miller, as a favorite brand of buckwheat flour is pretty sure to meet with a ready demand at good prices."

#### CHEAP FLOUR.

"A good family flour ground from Ontario wheat," says the Montreal Trade Bulletin, "is being sold by a Montreal miller at \$1.40 per bag of 98 lbs., which is the lowest price ever before known, and the same flour is being sold in Quebec at \$1.44. These low prices mean a tremendously increased consumption, as wheat and bread are about the cheapest food staples for both man and beast at the present time. When spoken to in reference to the quality of the above, the miller referred to said: 'You have eaten bread made from worse flour than it, which is a good wholesome article.' It is very certain that the people of Quebec never enjoyed such privileges in the shape of cheap food before, and indeed the same remark may be applied to the people of the whole world. It is stated that at the low prices ruling during the past few weeks some cheap lots of flour have been picked up and put into store, for a higher market, as it is not thought possible that prices can go any lower. This, however, has been thought so often before, and acted upon, that those who have hitherto pinned their faith to that belief have become disgusted at the manner in which they were deceived by the onward turn in prices. Still, it is certain that a rock bottom basis must be reached some time, and it is equally sure that if it has not already touched it, the time cannot be far off when it will, as there can be no profit to millers or the producers of wheat. Speculation, which has lain dormant in the flour trade for a long time past, is evidently beginning to arouse itself, as we are in receipt of letters from a milling firm in western Ontario, stating that Toronto and other buyers are bidding \$3 f.o.b. freely for straight rollers, some of whom would contract for 5,000 to 10,000 bbls. if they could secure them for that figure. Millers, however, are asking \$3.10 per bbl. f.o.b. London and Liverpool buyers have been enquiring for Canadian flour, and although at low prices, there appears to have been a disposition to advance rather than recede in their cable limits. There has of late been some unprecedented slaughtering of American flour in the English market, Minnesota bakers having been sold at 18s to 19s, notwithstanding that the regular quotations for that class of flour at the time was 21s 6d to 22s 6d. Some Canadian red dog was also sold in Liverpool as low as 10s 3d and 10s 6d per sack of 280 pounds, which are said to be the lowest prices ever experienced before in that market. Advices from New York state that all the cheap bargains that were offered last week have

been picked up and holders have since been reserved. A good many thousand barrels of cheap flour were purchased in New York last week, over and above what was required for consumption, which demonstrates a revival of the speculative feeling, and if this continues an improvement all round will not be long delayed."

#### FAVORITE LINE WITH FLOUR SHIPPERS.

The Canadian Pacific route via Charlton, N. B., to ports in Nova Scotia, has become a very favorite line with flour shippers. We quote from a letter written by Mr. J. P. Cox, a large commission merchant of Halifax, addressed to Mr. D. J. Seely, manager of the Seely Packet Line, running in connection with the Canadian Pacific Railway from Carleton for the Gulf ports:

"I have been greatly pleased with the way in which you have attended to this business (export flour) this season; such an improvement over the route via Boston, and owing to the quick despatch from Carleton and also quick transportation of cars from point of shipment to Carleton via Canadian Pacific that in future our customers will have confidence in ordering their goods via your route."

The flour shipments from Ontario to Nova Scotia were sent almost entirely via Boston until the new route was opened up. Opportunity is now given shippers to use a Canadian line which will deliver their flour in much better time and condition, and at as low rates as the Boston route. They also avoid Customs trouble and charges and storage and delay in Boston waiting for shipment. The principal Gulf ports for which the Canadian Pacific Ry. take flour, meal and other grain products, via the Carleton route are as follows:

Annapolis, N.S.	Hall's Harbor, N.S.
Barrington, N.S.	Kingsport, N.S.
Beaver River, N.S.	Malden, N.S.
Bridgetown, N.S.	Margaretville, N.S.
Canada Creek, N.S.	Meteghan, N.S.
Canning, N.S.	Noel, N.S.
Clementsport, N.S.	Old Barns, N.S.
Church Vaults, N.S.	Port Latour, N.S.
Cornwallis, N.S.	Port Williams, N.S.
Digby, N.S.	Parsonsboro, N.S.
Economy, N.S.	Pickett's Wharf, N.S.
French Cross, N.S.	Port George, N.S.
Five Islands, N.S.	Port Greenville, N.S.
Granville, N.S.	Round Hill, N.S.
Great Village, N.S.	Shelburne, N.S.
Hantsport, N.S.	Spencer's Island, N.S.
Hillsboro, N.B.	Wolfville, N.S.
Harvey, Co. Albert, N. B.	Windsor, N. S.
Harborville, N.S.	Wesport, N.S.
Horton, N.S.	Weymouth, N.S.
Horton Landing, N.S.	Yarmouth, N.S.

If any Canadian miller is not already aware of the advantages of this route we would suggest to him communicating with the Canadian Pacific Railway officials.

#### THE FLOUR MARKET.

It will hardly be claimed that the year just closed has been very profitable to the millers of the country. Prices for some time have taken a turn that, in every day parlance, has left no money in the business. This condition of low prices has prevailed not only in the local markets, but, if anything, the export markets have been still more demoralized. Wheat started out at a low figure on the opening of the season, and it has been a case of dropping lower, with barely any interruption, ever since. During the past three months the highest price reached on the Chicago market was 74½ cents, where 99 cents was the figure in 1891 and \$1.03 in 1890. Besides, the weight of wheat was not equal to the average, thus affecting the product of the mill by lowering the yield of flour, and adding to the percentage of low grade.

In a recent number of the New York Commercial Bulletin it is remarked that "the prices of flour are now the lowest through the whole list on record. A comparison from the books of a large receiver of prices on December 1st of 1891 and 1892 shows the decline in one year as follows, on trade brands of spring wheat flours: Choice patents, then and now, \$5.25 and \$4.50; choice bakers' extras, \$4.80 and \$3.60; choice rye mixtures, \$4.70 and \$3.25; choice straights, \$5.10 and \$4.10; and choice winter straights, \$4.90 and \$3.80, all in barrels. But this does not show the entire decline from last crop prices. September 1st to October 1st, 1891, the price, on the same grades respectively, were \$5.50, \$5, \$4.80, \$5.25 and \$5.10. These are not the extreme top prices on last crop, nor the extreme low ones on this. Low springs or export grades have suffered a still

greater shrinkage, not being wanted, whereas in 1891 they could not be had, and bakers' extras, in sacks, have sold for \$2.75 and \$3, against \$4.75 to \$5 previous crop, and even \$5.10 to \$5.25 on one or two occasions. Spring fine in sacks sold in 1891 as high as \$3.75, and now sells at \$1.60 to \$1.70, and spring superfine and No. 2 do are unsalable at much more than fine for feedstuffs; No. 2 winters, then and now, \$4 to \$4.25 and \$2 to \$2.25; superfine do., 10 to 25c less, and No. 1 do., 25 to 50c more."

It is the way of human nature, despite many and continued set-backs, to look hopefully to the future. "There is a good time coming" is the refrain of the most disconsolate. Even though the past season has been one of low prices, as is pointed out elsewhere in an article in the MILLER, there is reason to believe that 1893 has already ushered in improved conditions; that bottom has really been struck, and prices and profits will mend shortly.

PRICES OF FLOUR AND MEALS.

Toronto: Manitoba patent, \$4.35 to \$4.40; strong bakers', \$3.75 to \$4; patents, \$3.50 to \$3.60; straight roller, \$3 to \$3.10. The Dominion Millers' Association Bulletin says of Ontario flour: "Straight grades, \$3.10 to \$3.15; patents, \$3.10, \$3.15, \$3.25, \$3.30; and 85%, \$3.37; 80%, \$3.60 per barrel, f.o.b. for Lower Province. Bran, \$10 to \$11 and \$12; shorts, \$13 per ton f.o.b. Sales reported for export at equal to \$3.20 for spring patent."

Montreal: Current prices are given as follows: Spring patent, \$4.25 to \$4.50; winter patent, \$4.25 to \$4.50; straight roller, \$3.55 to \$3.75; extra, \$3.20 to \$3.25; superfine, \$2.65 to \$2.90; city strong bakers', \$4.10; Manitoba bakers', \$4 to \$4.10. A fair amount of business is reported in oatmeal, with prices thus: Granulated, brls., \$4 to \$4.05; rolled oats, brls., \$4 to \$4.05; standard brls., \$3.90 to \$3.95; granulated, in bags, \$1.95 to \$2; rolled oats in bags, \$1.95 to \$2; standard in bags, \$1.90 to \$1.95; split peas, brls., \$3.50 to \$4; pot barley, brls., \$4 to \$4.40; pearl barley, brls., No. 1, \$7.25; pearl barley, brls., No. 2, \$6.25; pearl barley, half brls., \$6.75; pearl barley, pockets, 2X, 80c; rolled wheat, \$2.65 to \$2.75; buckwheat flour, \$2; gold dust cornmeal, \$4.50.

Manitoba: Prices at Winnipeg are quoted to the local trade in small lots 100 pounds: Patents, \$1.95; strong bakers', \$1.75; XXXX, 75c to 90c; superfine, 60c to 70c. Millstuffs, \$8 to \$9 per ton; shorts, \$10 to \$11 per ton. Rolled and granulated oatmeal, \$1.80 to \$1.90 per sack; cornmeal, \$1.65 to \$1.70 per hundred pounds; split peas, \$2.60 to \$2.65 per hundred pounds; beans, \$1.75 to \$1.90 per bushel; pot barley, \$2.50 per 100 lbs.; pearl barley, \$4.

SUITS MANITOBA.

THE Winnipeg Free Press says that the statement, that it is the intention of the C.P.R. to do away with North Bay as a distribution point for Manitoba wheat and substitute Fort William is looked upon with a good deal of favor by all the grain men in Winnipeg. There are no elevators at North Bay, and as the majority of country shippers bill to that point the result is an accumulation of grain, and the prices are affected to a considerable degree in consequence at the expense of the consignor and to the benefit of the ultimate purchaser. Added to this are the demurrage charges on cars not rebilled inside of 24 hours, which at the rate of \$2 per day per car soon amounts to no mean figure. The change will alter these conditions. A sample case will very clearly illustrate the matter. A few days ago a city grain dealer shipped to North Bay a carload of rejected wheat which brought 54c a bushel at that point. From Fort William to North Bay the transportation charges are 15c per bushel, which would, if deducted from the price obtained at North Bay, put the grain at a valuation of 39c at Fort William. This particular grade at Fort William was actually worth 50c. Thus a straight loss of 11c a bushel is sustained in this case. On the higher grades of wheat, Nos. 1, 2 and 3 hard, the difference is not so great, being from 3c to 5c., which, however, is a very considerable difference, and in the handling of several hundreds of thousands of bushels, leaves a wide margin.



Office of the CANADIAN MILLER, January 16, 1893.

THE GENERAL SURVEY.

THE quietude of holiday times was disturbed, somewhat, by a sudden jump in May wheat on the Chicago 'Change, and a period of excitement not uncommon to the grain centre of the Windy City became the order of the day. There are those who accept the situation as an indication of improved prices; and in some respects a better tone has taken possession of the market.

Of a less disturbing character, doubtless, but perfectly satisfactory to many concerned, has been the advance in prices on the Manitoba markets. The increase was immediate and so one of these things that could, as it were, be taken hold of. Prices advanced from 3 to 5 cents, the Lake of the Woods Milling Co., one of the heaviest buyers in the Prairie Province, giving instructions to their agents to pay that much more to farmers.

Broadly, what the early months of the year will develop is what most concerns both buyers and sellers. This feature is to be recognized that the visible supply of wheat on this continent is no inconsiderable amount. But it is queried by some: Is the supply as heavy as the figures apparently indicate? It is to be remembered that the elevator accommodation of the country has been much enlarged during the year, and that where farmers held wheat themselves, formerly, their supplies to-day are in the elevators. So that if, in the calculation, we add to the supplies in the elevators an estimated supply in farmers' hands, we may be just that much out, and prices some day in the future will be affected accordingly. In an article elsewhere, entitled "Crop Reporting," we have referred to the large "find," as it may be termed, of wheat in the hands of three farmers in Minnesota, which gives rise to an intelligent inference that theirs is only a specimen case, which has its counterparts in large numbers in other states. In a word: Are we not usually out in our calculations of reserves in farmer's hands, because, taking the continent over, we are without an exact knowledge, to start with, of the complete yield, and as a result, we are never quite sure of the volume of reserve from time to time in the hands of farmers?

These are conditions that require consideration in any outlook we may take of the future. At the same time, this is to be said, that viewing the entire situation as it presents itself to-day, aside from any local move within Chicago or Manitoba, there is good reason to anticipate an improvement in prices, to some extent, at least, in the near future.

The final crop report of the United States government, issued Jan. 4, places the wheat crop slightly above an average in yield and in volume has only been exceeded in 1891, 1884 and 1882, though the crop of 1889 and 1880 nearly equalled it. The area as estimated is 38,554,430 acres; product 515,949,000 bu.; value \$322,111,812. In the revision of acreage, the principal changes are made in some states in which the decline of the past 12 years has been heavier than has been reported. There has also been a considerable enlargement of breadth the past year in several western states. The rate of yield is 13.4 bu. per acre. The average value per bu. 62.4c. is the lowest average value ever reported, that of 1884 being 64.5c. and that of 1887 being 68.1. The average of the crop of 1891 was 83.9c. The weight of measured bu. will be determined later but it is probable that the acreage above will be equivalent to 500,000,000 commercial bushels.

Australian calculations are estimated by the London Miller in this way: Last season the total was over estimated by 6,700,000 bushels, it being assumed at about 38,005,000 bushels instead of 31,305,000 bushels. The New Zealand crop, which is not sufficiently forward at the end of November for estimates to be safe, was reckoned at 5,600,000 bushels, whereas it turned out to be 9,000,000 bushels. On the other hand the acreage in

South Australia, assumed at the previous year's figures, was found to have declined 400,000 acres, and on the reduced acreage was more gravely deficient than at first supposed. Thus where 17,100,000 bushels have been originally expected, only 10,100,000 were eventually secured. The present promise is a great improvement on last year, as it had need to be.

	Ares	at 10 bush. per acre	Bushels
Victoria	4,100,000	41,000,000	11,000,000
N. S. Wales	400,000	4,000,000	4,000,000
Queensland	40,000	400,000	360,000
S. Australia	1,500,000	15,000,000	12,000,000
N. Australia	40,000	400,000	320,000
New Zealand	300,000	3,000,000	7,200,000
Tasmania	26,000	260,000	200,000
Total	3,495,000	34,950,000	35,080,000

CURRENT PRICES OF BREADSTUFFS.

WHEAT. Toronto: Winter, outside, 60c.; Midland spring, 63c.; goose, 58c. to 60c.; No. 2 hard offered 75c. f.o.c., Fort William, with buyers 69c.; 83c. was bid North Bay, and 86c. named for grinding in transit stuff. No. 3 hard, 75c. Chicago: A dispatch to John J. Dixon says: "Wheat weakened to 82 1/2c. sold up to 83 1/4c., closing 81 3/4c. for May. Room traders as a rule were bearish, and there was liberal realizing again by commission houses that have been long. The big bull interests, however, showed no signs of liquidating, but were liberal buyers during the early part of the session. The English visible showed a decrease of the amount on passage. Export clearances of wheat and flour aggregated 800,000 bushels. Receipts in the North-West were less than 200 cars, while receipts here were 278 cars, and 115 cars are estimated for to-morrow. There is nothing new to say of the market." January, 76 3/4c.; May, 81 3/4c. to 82c.; July, 80 1/4c. St. Louis: January, 70 1/2c.; May, 76 1/2c. to 76 3/4c.; July, 77 1/2c. to 78 1/2c. Milwaukee: Cash, 68 1/4c.; May, 73 1/4c. New York: March, 82 3/4c. to 83 1/4c.; May, 84 1/4c. to 85 1/4c.; June, 85 1/4c. to 86c.; July, 85 1/2c. to 86 1/2c. British: The Mark Lane Express, in its weekly review of the British grain trade, says: English wheats are unchanged. Only 69,500 quarters have been sold. The average price was 4s. 8d. below that of No. 1 California, compared with a difference of 4s. 10d. in 1892, and 5s. 10d. in 1891. Hence, though prices are low, they are not excessively depressed, compared with those of foreign wheats. There has been a fall of 6d in foreign wheats in most of the markets, but trade is steady and values are still 6d. in advance of those prevailing at the end of 1892. Beerbohm says: Floating cargoes - Wheat, firmly held; cargoes on passage - wheat, firm, but inactive. No. 2 red winter, prompt steamer, 3d. higher, present and following month 3d. higher. Liverpool: Spot wheat, firmly held; No. 1 Cal., India, 1d. dearer; red winter, 1/2d. dearer, spring, 1/2d. dearer. On passage to United Kingdom - wheat, 27,000 qrs. To continent wheat, 495 qrs. Imports to United Kingdom past week - wheat 189,000 qrs.; flour, 200,000 bbls.

BARLEY - Toronto: Quiet, yet firm and steady; No. 1 47c.; No. 2, 41c. outside; No. 3 extra, 35 to 36c. Buffalo: The market here is very quiet. No. 1 Canada, by sample, 79 to 81c.; choice bright, 83c.; No. 2 good, 75 1/2 to 76c. One Buffalo despatch says "Native grades are neglected and the general tone of the market is weak. The visible supply is discouraging; it exceeds last year's showing at the same date by 350,000 bush., with the excess principally located here and at Peoria and Detroit." Albany: The demand is limited and the market dull and unchanged. New York: Market dull; choice grades held firm. Stocks in store are very light; 64,000 bush. afloat; offerings mostly to arrive. Canada choice, 84 to 94c. Oswego: No movement; values nominally steady and unchanged. Milwaukee: The market is quiet, but at a slight advance for No. 1 January, which sold at 64 1/2c. Sample lots on track, 45 to 62c.

PEAS - Toronto: A steady market with considerable demand. Purchases at 56c., but 57 to 58c. is asked.

OATS - Toronto: Sales at 31c.; mixed and white, 28c. Chicago: January, 31 1/4c.; February, 32 1/2c.; May, 35 1/2c. Buffalo: No. 2, 41c. on track, 42c. in store; No. 3, 40c. on track, 41c. in store; No. 2, mixed, 38c. on track. Oswego: Dull; extra No. 1 white, 40c.

RYE - Toronto: Very little offering; firm at 59 to 61c. outside. Buffalo: No. 2, 63c.

BUCKWHEAT - Toronto: Firm at 42 to 43c. outside.



## CANADA.

—H. N. Schmidt, grist mill, Midland, Ont., has called a meeting of his creditors.

—The prospects are hopeful for the establishing of a new flour mill at Prince Albert, Man.

—Four car loads of machinery for the new flour mill at Whitewood, Man., have reached that point.

—John Mackay, miller, Bowmanville, Ont., writes: Trade very good in my line; orders ahead to April.

—D. McIntosh and Gilles Bros., of Whitewood, Man., are shipping considerable wheat direct to Toronto.

—Large quantities of grain are being received by the Brackman & Kerr Milling Co., New Westminster, B.C.

—The Lake of the Woods Milling Co., distributed one hundred and fifty turkeys among their employees at Christmas.

—McLaren & Co.'s barns, Buckingham, Que., caught fire through the explosion of a coal oil lantern and caused a loss of about \$5,000.

—A new stone and flouring mill is to be erected at Exeter, Ont., by Messrs. A. J. Rollins and J. A. Williams. Both parties are competent men.

—For the five weeks ending Dec. 31, there were 1,778 cars of wheat inspected at Winnipeg, as compared with 2,761 cars for the corresponding time in the previous year.

—The new steam grist mill at Harrietsville, Ont., owned by Hulton & Jenkins, has been destroyed by fire. Two hundred bushels of wheat and some flour were in the mill and were destroyed.

—A fire at Caledonia, Ont., destroyed the premises of the Caledonia Milling Co., which suffers a loss of \$2,000; partly insured. Hall & Old, grain merchants, were also losers to the extent of \$1,000.

—Joseph Woodruff, of Killarney, Man., has sold out his grist mill to Young Bros. and Thos. Buck. Buck is a practical miller and had been employed in the Bossevain flour mill and came from Ontario.

—R. Muir & Co. have moved their mill from Shoal Lake to Gladstone, Man., where it has been fitted up with improved machinery, and a much better mill building has been erected. The mill will have a capacity of 125 barrels.

—Certain members of the Winnipeg Grain Exchange, who have studied the matter carefully, estimate that there is at present between 4,000,000 and 5,000,000 bushels of good wheat in Manitoba and the Northwest yet unmarketed.

—The imports from Canada at the customs house at the port of Suspension Bridge, N.Y., one of the most important entry ports in this country, for the past year show a total of \$361,210. This is a falling off of over \$50,000 from last year's total, due principally to the falling off in the imports of barley.

—Stocks of Manitoba wheat in store at Lake Superior and interior points approximate about 5,000,000 bush. The tendency since the close of navigation has been to accumulate slowly but steadily. Marketing in the last few weeks has been very light, and the crop appears to be pretty well out of first hands. About 2,000,000 bush is probably the limit remaining to come out.

—It has become known that L. P. Druneau, senior partner of Druneau, Curry & Co., flour dealers, Montreal, Que., whose death occurred the early part of January, committed suicide. While conversing with a friend he appears to have become suddenly insane, the result, no doubt, of long sickness, and before his intentions were realized he drew a revolver from his pocket and placing it to his temple, fired with fatal effect.

A rather serious accident happened in the mill at Austin, Man., recently. Mr. McKinnon, one of the millers working on the night shift, while putting on a belt which drives one of the purifiers, became entangled in a pair of gear wheels. All his clothing was stripped off, bruising him considerably and breaking two or three ribs. Fortunately for him, the wheel slipped and let him drop on the floor below, where he was found a short time afterwards.

## GENERAL.

—St. Louis has a grain blockade just now.

—The Mexican tariff on corn will become effective Feb. 1.

—There are over three hundred and sixty varieties of wheat in the world.

—Corn as a breadstuff is coming more and more in favor in the various countries of Europe.

The wheat harvest of South Australia promises to be excellent both in yield and quality.

The output of flour by the Minnesota mills for the first week in the new year was the lightest in ten years.

The North Dakota Milling Association, with headquarters at Grand Forks, N.D., intends to put in cooper shops at certain points for supplying its different mills with barrels.

Archibald's flour mill at Dundas, Minn., the largest in the state outside of Minneapolis, was burned on New Year's night, and also the elevator adjoining it. Loss \$100,000; insured.

A manufactory on a large scale is reported to have been established at Port Limon, Costa Rica, for the purpose of manufacturing flour out of manias, which is said to be found more nutritious than rice, beans or corn.

The United States senate on Jan. 3 passed an amendment to the interstate commerce law which provides that no person shall be excused from testifying on the ground that his testimony might tend to incriminate himself.

This year's English wheat, says Beckwith, does not improve in quality, and the price obtainable for it (25s. to 29s.) is so low that farmers are using an unusually large percentage of it for cattle feeding, although in the opinion of practical cattle breeders there is a limit in this direction beyond which it is unwise to go, no matter how cheap wheat is; the chief breadstuff, in fact, is considered by many practical men as the reverse of a good cattle food.

## PERSONAL.

Mr. W. W. Ogilvie, the lag miller, has been elected president of the Montreal Board of Trade.

Mr. J. L. Spink, the well known miller, has been elected treasurer of the Toronto Board of Trade. He is just the man for the position.

Mr. Wm. Hastings, manager of the Montreal house of the Lake of the Woods Milling Company, has been visiting in Winnipeg, Man.

Mr. S. A. Milligan, head miller for Copeland & Sons, Penetanguishene, Ont., has been made general manager of the firm's business at Midland, Ont.

Mr. M. McLaughlin, President of the Dominion Millers' Association, is up for election to the council of the Toronto Board of Trade. He ought to get there.

Mr. T. M. Clark, superintendent of the Ogilvie flour mills, Montreal, has been presented with a handsome gold watch by the employees of the "Royal" and a massive chain and locket by those of the "Glenora." Each was suitably engraved.

Mr. Robt. T. Walker, the oldest grain layer in the county of Bruce, who is carrying on business to-day, has been presented by the farmers of Huron township with a valuable gold watch and Mrs. Walker with a chaste gold brooch. Mr. Walker has been on the market for about thirty years.

We had hoped to have been able to congratulate Mr. John Brown, of the Citizens' Milling Company, on being elected an alderman for the city of Toronto. The papers elected him by their figures on the morning after the election, but the official count left him out by a few votes. He would have made the kind of alderman Toronto wants this year. The splendid run made presages victory another year.

## TRANSPORTATION TOPICS.

All along the line of the C.P.R. in the west, the C.P.R. have intimated to the grain men that the privileges extended to the proprietors of elevators in regard to the shipping of barley and oats have been withdrawn, and in future these grains may be shipped direct on board the cars.

A Duluth paper gives currency to the rumor, and with it, is thought, some apparent degree of foundation, that the Canadian Pacific is about to gobble up the Duluth & Winnipeg railway just as President Hill is forecasting with evident relish the consummation of his scheme to absorb the road.

Mr. John Earles, western freight agent of the Grand Trunk, has informed the grain section of the Toronto board of trade that in order to prevent blockade of grain on the Canadian side in consequence of the inspection imposed upon Canada by the American roads, it will sometimes be necessary to employ an extra United States customs officer on the American side, and that in such cases a record of all expenses for said inspection on the American side will be kept, and shippers or owners of grain so inspected will be required to pay the cost of the extra United States officer pro rata per car, having regard to the number of cars inspected for each shipper.

## NEW PUBLICATIONS.

The value and utility of that unique literary publication, The Weekly Bulletin of Newspaper and Periodical Literature, published in Boston, are to be greatly enhanced by the immediate

addition of some important new features. Besides serving as a guide and index to the press of the country by affording a weekly classified and descriptive catalogue of the contents of over twelve hundred different papers and magazines, the bulletin will hereafter supply the growing public demand for a review of the periodical press by devoting several pages every week to comprehensive summaries of the best and most interesting articles appearing in the monthly magazines and the daily and weekly papers.

The Review of Reviews, founded and edited, so far as the English edition is concerned, by Mr. W. T. Stead, grows rapidly in popularity and influence. The American edition, edited by Dr. Albert Shaw, and which reaches the LUMBERMAN every month, is brim full of bright and suggestive thoughts. It has, most aptly, been called the "busy man's magazine," and we know of no journal that so perfectly, and with such marked journalistic ability, faithfully and completely mirrors the best thought the world over every month. The man who reads carefully the Review of Reviews the year round will have just claim to the title of a well-read man.

## KIND WORDS FOR "THE CANADIAN MILLER."

THE newspaper press of city and country, along with many of our subscribers, have taken occasion to say some kind things of the Christmas number of the CANADIAN MILLER, which reached them last month. We make a few brief excerpts, all our space will permit:

Globe: Among the many excellent Christmas numbers of Canadian publications few, if any, can compare with that of the CANADIAN MILLER.

Mail: The editor is to be congratulated on turning out a really good number.

Empire: A particularly handsome number. The reading matter is of a very high literary character appropriate to the season and the constituents of this journal.

World: Reflects credit upon the managers of this enterprising journal.

Hardware: A very prosperous looking production, and the attractiveness of its appearance is fully equalled by its merits.

Witness, Montreal: The cover is striking; the reading matter is of an exceptionally interesting character.

Milling World, Buffalo: An extra-fine number. The contents are full of the spirit of the season. We compliment our neighbor on its taste and enterprise.

The Journalist, New York: A model of neat typography and literary taste.

News, Truro, N. S.: An artistic publication. Should be in the hands of all of whose interests it is published.

Sentinel, Pilot Mound, Man.: Finely printed, every article is clear, vigorous and interesting.

Examiner, Charlottetown, P.E.I.: One of the best things of its kind.

Patriot, Charlottetown, P.E.I.: An excellent and useful journal.

Summerside Journal, Summerside, P.E.I.: Typographically and otherwise leaves nothing to be desired. Replete with information useful to the trade.

Sentinel, Woodstock, N. B.: A fine number.

## TRADE NOTES.

Mr. Alonzo W. Spooner, known the country over for his Copperine speciality, has been admitted a partner of the Queen City Oil Co., Toronto, and will be an active member of that firm. His Copperine business at Port Hope runs along just the same, with Mr. Samuel Bennett as manager.

We are in receipt, from Robin & Sadler, of Montreal and Toronto, of a novelty in the way of a price list, printed in gold on an ivory tablet, with one side blank to be used as an erasing tablet. Not only is the idea novel, but very tasty and useful. In a letter to the MILLER this firm reports the results of last year's business to have been very satisfactory and present indications promise well for '93. They add: "This speaks well for the manufacturers in general of Canada who seem to have plenty to do and are consequently buying considerable belts to run their new machines."

## A HOME INSURANCE COMPANY.

No argument is needed in the present day to justify life insurance. The question is largely one of methods and where to insure. A company that holds a first place among the insurance companies of Canada is the Ontario Mutual Life, with head office at Waterloo. The new business of the year 1892 was \$2,676,250, and there was more cash in it than in the business of any previous year. A pleasing feature of the business, the superintendent of the company says, is a recent communication, is the continuous low ratio of mortality, a convincing proof of the care exercised in the selection of risks. The insurance in force by this company to date is \$16,000,000. The interest income exceeds death losses by many thousands. Surplus is about \$300,000.

**A NEW GRAIN-CLEANER.**

The following brief description is given of a "washing, stoning and drying" machine for wheat, recently brought out in Darmstadt, Germany: The wheat enters together with a strong current of water two horizontal copper cylinders, which revolve slowly. Through the pressure of the water the wheat is moved forward, while the stones by their weight sink to the bottom of the cylinders, whence they are slowly brought back again towards the head end by a special mechanism and dropped out of the machine. The water and wheat go over the tail end of the cylinders and drop into a trough below. The good berries leave this trough by an opening in the lower part, while the lighter grain and other substances float on the surface of the water and are led away by a special spout at the side of the machine. The good wheat goes through the spout into the lower part of the drying apparatus, which consists of two cylinders covered with perforated sheet-iron. A system of strong, round beaters revolve in the interior of these cylinders at a speed of 400 revolutions per minute. These beaters throw the wheat against the perforated covering and carry it towards the tail end, where it leaves the lower cylinder and is carried into the upper cylinder. After having been subjected in this second cylinder to the same treatment, the wheat leaves the machine in a dry condition. On both ends of the drying cylinder are mounted strong fans, which draw the air into the cylinder from both sides. By this arrangement the air is forced to seek its way out through the perforations of the coverings. It thus keeps the holes open and dries the wheat, from which the water is thrown by the rapid movement. No steam or hot air is required for drying the grain. Many of these machines are now in use in Europe. Their capacity ranges from 6 to 30 sacks per hour.

**KEEP YOUR EYE OPEN.**

Scientific bolting by modern self-attending reels is all right, but it must not by any means be the sole dependence for constant, perfect work, for the way in which grinding is done is half of the battle. Stuff well ground is half separated. It is no trouble to separate properly ground material. It is no trouble to purify properly made middlings. It is no trouble to finish the bran from properly treated break stock. In other words, no matter what sort of machinery you have for separating—for milling is separating—it will not atone for neglect of the miller.

**ALIGNMENT OF SHAFTING.**

Where a shaft is crowded with pulleys and of different diameters, I have found, writes a correspondent of Power, that I can get good results in the following manner: Drop a plumb line from near each end of the section of shafting carrying the main driven pulley (supposing this pulley to be in direct position as regards the driver). Use light lines and heavy bobs. Do not tie the lines to the shaft, but make a long loop, and allow the bob to reach nearly to the floor. Stretch a light line entirely through the building, or far enough to correspond to the shafting overhead, and high enough from the floor to clear the machinery or other obstructions. True this line by the two plumb lines and secure it at both ends; then

drop a line at the next bearing, secured in the same manner as the first two, and adjust that box until the plumb line will rest against either side of the lower line. Repeat this at each bearing, but do not use too many lines at once, as they would all need watching. After the lower line is secured in place, one plumb line is sufficient. If the shaft is clean and smooth under the loop at the end of the plumb line, the bobs will find the center regardless of the different diameters of shafting.

**FLOUR-MOTHS IN CALIFORNIA.**

Recently a San Francisco paper has been investigating the subject of the presence in the flour-mills of that city and California of the Mediterranean flour-moth, and it declares it has already become an alarming pest, resulting in the loss of thousands of dollars to a number of large establishments, and that it will result in still greater loss before very long. The statements are based mainly upon interviews with W. G. Johnson, professor of entomology in the Leland Stanford University, and with a number of flour-manufacturers. They say that there is hardly a mill in the State which is not affected by the moth, and that all efforts to eradicate it have been unsuccessful. The moth is continually spinning strands of silk in great quantities, which not only get into the flour, but also clog the machinery so badly that the mills are obliged to shut down temporarily. Prof. Johnson, who has made a careful study of the subject, says he has discovered that the moth propagates more rapidly in this climate than in Canada, the Eastern States or other colder countries where it appeared. He predicts that the disastrous effects of this moth will be very apparent in nearly all the mills of the State before the end of another year.

**FIRST WHEAT IN AUSTRALIA.**

The man who first grew wheat in Australasia was James Ruse, a convict transported for burglary. He is mentioned in the Sydney Gazette of June 20th, 1827, as being the first man to land, having carried Colonel Johnson ashore on his back from the boat. When he obtained his liberty he was granted a piece of land to grow wheat, and he was the first to grow that grain in Australia. His grave in the Campbelltown cemetery, N.S.W., has an historic interest, and the epitaph on the stone which marks his humble resting-place runs as follows:

I H S  
Gloria in Excelsis.  
Secred

To the MEMERY of James Ruse who departed this life Sept 5 in the year of Houre Lord 1837 natel of Cornwall and arived in this Colony by the first fleet aged seventy-seven.

My mother reread me TENDERLY,  
With me she took much paines;  
And when I arrived in this Colony,  
I sowed the first grain;  
And now with my HEAVENLY Father  
I hope forever to remain.

Mr. Zetterlund, acting on behalf of a number of people in Sweden, is visiting different districts of Manitoba and the Territories, hunting for suitable locations for a settlement. As soon as he reports to them, it is likely there will be a large party come out.

**WANTED AND FOR SALE**

FOR SALE OR TO RENT THE FOUR-story stone Grist Mill (known as Dean's mill) and dwelling-house, sheds and blacksmith shop adjoining, situated on lot 5, con. P. Clinton township, Lincoln county. Terms moderate. Address Andrew Spence, or Jacob McHeuer, Campbell P.O.

**JAMES DICKSON**

FINANCIAL AGENT  
ASSIGNEE  
COLLECTING ATTORNEY  
ETC.

Room 17 Manning Arcade

.. Toronto

TELEPHONE 65 --

Flour Barrel Labels  
Calendars  
Advertising Novelties  
ETC., ETC.

TORONTO LITHOGRAPHING CO.  
TORONTO

Superior  
Wood Engraving

**THE SHIPPING MANUFACTURERS LIST**

ARE YOU IN IT

IF NOT WHY NOT

It will contain a full list of articles manufactured in Canada only. The articles will honor the manufacturer. Send in a list of your products if you have not already given one to our writers.  
Toronto Office: 34 Confederation Life Building.  
Montreal Office: Desbarats & Co., 73 St. James Street.

ESTABLISHED 1885

**MILLERS AND MANUFACTURERS INSURANCE COMPANY**

HEAD OFFICE:  
Queen City Chambers, 32 Church Street  
TORONTO

DIRECTORS:  
JAMES GOLDIE, General, President  
W. H. HOWLAND, Toronto, Vice Pres.  
H. N. BAIRD, Toronto  
W. HELL, Guelph  
H. McCULLOCH, Galt  
S. NEELON, St. Catharines  
GEO. PATTINSON, Preston  
W. H. STOEKEY, Acton  
A. WATTS, Brantford  
W. WILSON, Toronto  
J. L. SPINK, Toronto  
HUGH SCOTT, Manager, Toronto

THIS Company was organized expressly for the purpose of insuring only Manufacturing Industries, Warehouses and contents.  
The primary object being to give protection against loss by fire at a minimum cost consistent with absolute security.  
The system adopted has been to inspect all risks before acceptance, and fix the rate to be exacted equitably in accordance with the hazard assumed.  
The very small ratio of Fire Losses referred to by the President is attributable in a marked degree to CARE, ORDER and CLEANLINESS, the most important factors to observe here, and which must prevail in all risks assumed by this Company.  
The President in moving the adoption of the report, February, 1891, said:—  
"I have, however, much pleasure in drawing your attention to the fact that the committee have done, as you will see by referring to the Revenue Account, exceeded the total claims for five losses, a record, I believe, unprecedented in the history of any other fire insurance company either here or in the mother country.  
The owners with this Company, since it was established in 1885, have already saved on the current assessed rates, upwards of forty-five thousand dollars. As no claimants are employed, dealing directly with the assured, those desiring to avail themselves of the advantages offered by this Company will please address:  
MILLERS AND MANUFACTURERS INSURANCE CO.  
Queen City Chambers, Church Street  
TORONTO

**35 CENTS**  
BUYS  
**FISHER'S GRAIN TABLES**

The book contains more valuable information and useful tables for Farmers, Millers, Traders and others than any similar book of its kind ever published, the index being a complete Ready Re-Viewer showing the value of articles or lbs. from one to one, from a quarter of a cent to \$2.00. Also tables for Grain, Hay, Rent, Board, Wages, Interest, etc.

Write for sample copy  
THE CANADIAN MILLER,  
Toronto, Ont.

# FLOUR, GRAIN AND COMMISSION MERCHANTS AND BROKERS

The Canadian Miller will not knowingly publish the cards of irresponsible parties. So far as we know, the following firms are thoroughly reliable.

For Sale

**MANITOBA WHEAT**

Via C.P.R. and Northern Pacific.



Wanted

**BRAN, SHORTS**

AND

**STRAIGHT GRADE FLOUR**

210 Board of Trade

Toronto

**C. GOODE**

GRAIN and  
COMMISSION Merchant

ONTARIO AND MANITOBA  
WHEATS IN CAR LOTS

Consignments promptly attended to

62 FRONT STREET EAST

TORONTO

**CHAPMAN & CO.**



GRAIN AND  
COMMISSION  
MERCHANTS

Manitoba Wheats

33 SCOTT STREET . . .

TORONTO

**Peer & Company**

Flour and  
Grain Merchants

BOARD OF TRADE  
BUILDING

TORONTO

ESTABLISHED 1839

**WM. GALBRAITH**

Commission  
Merchant

Flour and Grain

48 Front Street E.

TORONTO

**STARK BROS. & CO.**

BOARD OF TRADE BUILDING  
.. TORONTO ..

GRAIN DEALERS

Specialties:

MANITOBA WHEAT

MILLFEED

AND COARSE GRAINS

LAWRENCE GOSSEL

THOMAS FLYNN

ESTABLISHED 1845

**L. Coffee & Co.**

Grain and  
Commission  
Merchants

38 Church Street

TORONTO

**W. E. TURNER**



Grain and  
Commission  
Merchant

34 Yonge Street

Opposite Board of Trade

Toronto

**John J. Dixon & Co.**

. . . BROKERS

Canada Life Assurance Building  
Toronto

Orders executed on the New York  
Stock Exchange and Chicago Board of  
Trade.

Private wires direct to New York and  
Chicago.

TELEPHONE 2212

**William Green**

GRAIN  
FLOUR AND  
FEED

WHOLESALE

34 Yonge Street

OPP. BOARD OF TRADE

TORONTO

**J. F. McLaughlin**

FLOUR, GRAIN  
MILLFEED  
WHOLESALE

Send large samples and  
quote prices . . . .

**MANITOBA WHEAT FOR SALE**

Rooms 511 and 512

Board of Trade

. . Toronto

**VALUABLE FLOUR MILL  
FOR SALE**

SITUATED IN OMAHA

NEAR-FAILING WATER POWER. ROLL-  
er process. Machinery all new. Capacity 125  
barrels per day. Dam, sluiceway and flume in excel-  
lent repair. The only mill within twelve miles. A  
foreigner may be had. Good reasons for selling. For  
further particulars apply

JAMES DICKSON,  
Manning Arcade, Toronto.

**FRED. ROPER**

Trustee, Accountant, Auditor, etc.

QUEBEC BANK CHAMBERS

2 TORONTO STREET Phone 1714



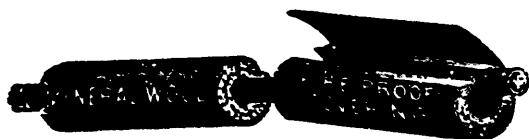
ALWAYS BUYING. SEND SAMPLES AND QUOTATIONS.

**Leon M. Garrier**

COMMISSION MERCHANT

COR. ST. PAUL STREET AND BELL'S LINE, QUEBEC

FLOUR, GRAIN, FEED AND PRODUCE



**MINERAL WOOL**

STEAM PIPE AND BOILER COVERING

Saves enough fuel to pay for itself in one season.

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

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

# M. McLaughlin & Co.

## Royal Dominion Mills TORONTO

**PATENT**  
**STRONG BAKERS**  
**LOW GRADE**

From No. 1 Hard  
Manitoba Wheat

**PATENT**  
**FAMILY FLOUR**  
**LOW GRADE**

From : :  
Best Ontario Wheat



### Bran, Shorts, Screenings

In car loads or mixed cars, delivered at any  
railway station

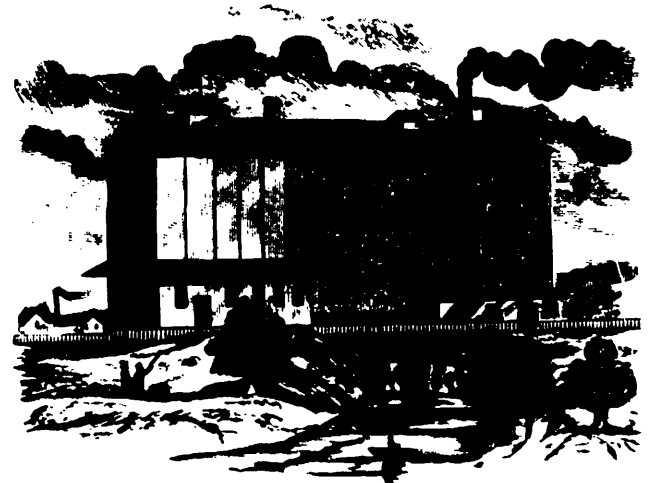
Send for samples and quotations



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



Unsurpassed for Uniform Quality



### GREENFIELD MILLS + AYR. ONT.

## D. GOLDIE, Prop.

Daily Capacity 500 Barrels



Royal Mills, capacity 1,000 bbls  
City Mills, 1,100 bbls.  
Glenn Mills, 1,200 bbls.  
Godrich Mills, 1,200 bbls.  
Sawforth Mills, 600 bbls.  
Winnipeg Mills, 1,200 bbls

DAILY CAPACITY

7,100 BBLs.

HIGHEST QUALITY

## Hungarian Patents AND Strong Bakers'

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

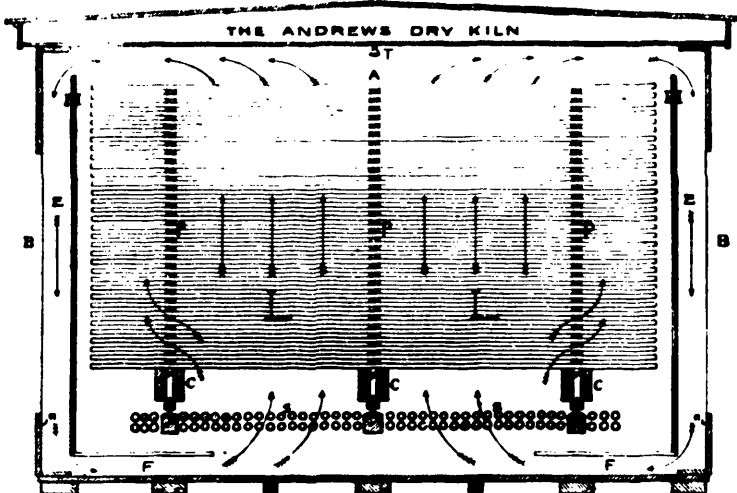
# FLOUR

## W. W. OGILVIE PROPRIETOR

HEAD OFFICE :  
MONTREAL, QUE.

# THE ANDREWS DRYER

For Lumber, Lath, Shingles, Staves, etc.



This system and apparatus covered by letters patent.  
 A - Drying Room. BB - Brass Condensing Walls. CCC - Lumber Cars. DD - Lower Air-Flows. FF - Buttine Air-Flows. EE - Inside Walls, protecting metal from heat. LL - Lumber on cars. HH - Brass Gutters for receiving condensed moisture. PPP - Marks between double flange wheels. MM - Double flange wheels. TT - Anti-mastic Hose. Fire-Extinguishers. Arrows show direction of currents of air.

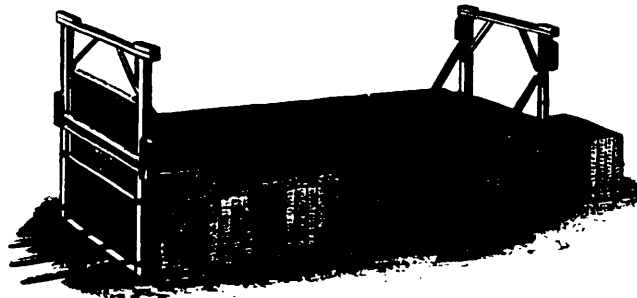
## THIS DRYER

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

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

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

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



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

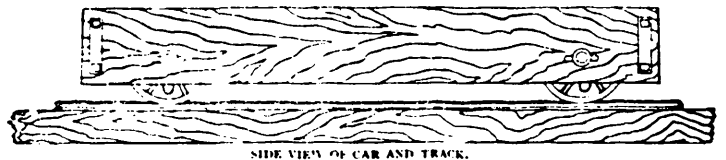
"WE PUT GREEN SPRUCE IN DRIPPING WITH WATER, AND IN EIGHTEEN HOURS IT WAS DRYER THAN LUMBER THAT HAD BEEN STUCK UP IN THE YARD ALL SUMMER."

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

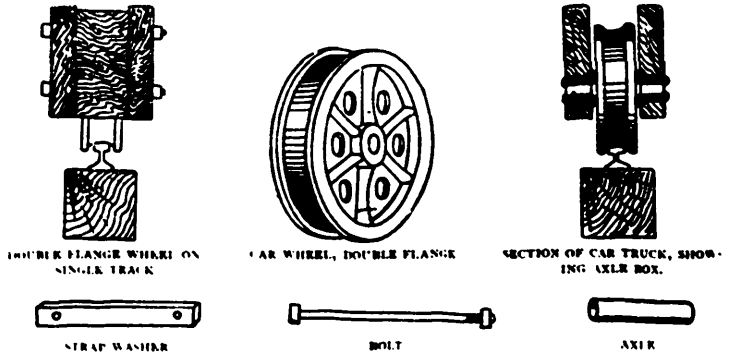
### The Andrews Lumber Dryer

Has been proved to possess the following points of excellence.

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



SIDE VIEW OF CAR AND TRACK.



SEND FOR CIRCULARS

**DOMINION DRY KILN COMPANY**  
 CANADA LIFE BUILDING : : : TORONTO. ONT.

JOHN BROWN

JOHN REED

GEORGE HAMILTON

# ALEX. BROWN & CO.

Commission Merchants

## GRAIN AND FLOUR

UNMIXED MANITOBA WHEAT  
A SPECIALTY . . .

OFFICES:

Room 44, 34 Yonge St.

Toronto, Ont.

# A. WATTS & CO.

## BRANT ROLLER MILLS

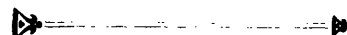
BRANTFORD, ONT.

# GEO. McCULLOCH & CO.

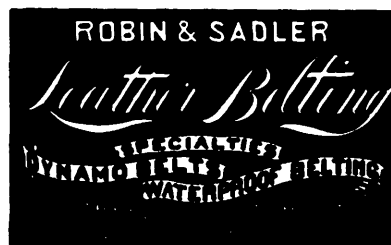
Rapid City Roller Mills

RAPID CITY, MAN.

Hungarian Patents  
Strong Bakers'  
and Low Grade



SEND FOR SAMPLES AND PRICES



Send for sample of our new SAWMILL BELT

# BAGS

## JUTE AND GOTTON

### HOME TRADE AND EXPORT

FOR ALL PURPOSES

DESIGNS FOR BRANDS WITHOUT CHARGE  
ARTISTIC PRINTING A SPECIALTY

## Consumers Gordage Co. Ltd.

MONTREAL

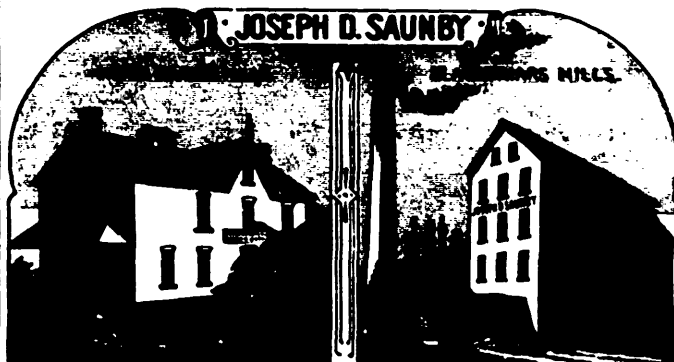
# BAGS

C. C. CLEVELAND

G. F. CLEVELAND

# J. L. Goodhue & Co.

MANUFACTURERS OF  
**LEATHER BELTING . . .**  
AND  
**LACE LEATHER**  
DANVILLE, Que.



Manufacturer of . . .

## High Grade Flours

Brands:

"ANSONIA"

AND

"GECUMSEH"

## Chopped Feed . . .

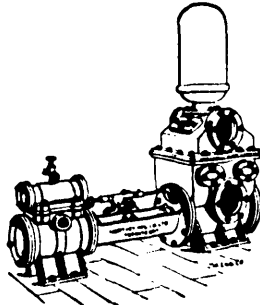
In whole or car lots  
mixed

~LONDON, ONT.~



# NORTHEY MANUFACTURING CO., LTD.

SIMPLE



ECONOMICAL

## STEAM PUMPS FOR ALL POSSIBLE DUTIES

JUTE ..... **BAGS AND SACKS** Of every :::  
 AND ..... Quality and ::  
 COTTON ..... Size required:

### Brown and Cream Calendered Jute Bags

25 and 50 lb. Flour, Rice and other Groceries. 56 and 200 lb. Salt. 100 lb. Flour, Meal, Grain, Potatoes. 140 lbs. Flour, Meal, etc. 100 lbs. Middlings.  
 200 and 280 lb. Flour. 75 and 100 lb. Bran. Wool sack, etc.

Bleached or Gray Cotton Bags 10, 24 1/2, 49, 98 and 140 lb. Flour, Meal, etc.  
 2, 3, 5, 7, 8 and 10 lb. Table Salt.

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

SEND FOR SAMPLES  
 AND PRICE LIST



**DICK, RIDOUT & CO., TORONTO, ONT.**

WINNIPEG AGENT: - - - J. L. BUCKNALL

Try the  
**Ontario Mutual Life's**  
 Twenty-year  
 Survivorship  
 Distribution Policy

ATTRACTION OPTIONS  
 LIBERAL CONDITIONS  
 LARGE ACCUMULATIONS

**F. E. DIXON & GO.**  
 MANUFACTURERS OF  
**Star Rivet LEATHER BELTING**  
 70 KING ST. EAST  
 Toronto

WRITE FOR DISCOUNTS

1892 MODEL  
**Remington Typewriter**

Unapproached for Excellence of Design and Construction, Quality of Work, Simplicity and Durability.

Send for Circular.  
**GEORGE BENGOUGH,**  
 Tel. 1207 10-12 Adelaide St. East  
 25 MACHINES FOR RENTAL '93  
 COPYING DONE OPERATORS SUPPLIED  
 MONTREAL AGENCY:  
 SPACKMAN & CO., 14 St. James St.

**BAGS** For FLOUR OATS BRAN FEED

**BAG PRINTING IN COLORS**  
 A SPECIALTY  
 ... DESIGNS FURNISHED FREE ...  
 and the Best Work guaranteed

Every Size and Quality in stock  
 The Largest and Best Equipped Bag Factory in Canada

PRINTING CAPACITY 15,000 BAGS DAILY

**HESSIANS or BURLAPS** We carry the Largest and Best Assorted Stock in the Dominion.

**THE CANADA JUTE COMPANY LIMITED**  
 15, 17, 19 AND 21 ST. MARTIN STREET, MONTREAL  
 Toronto Agent: FRANK T. BARR, 48 Wellington Street East, Toronto