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# CANADIAN MILLER

## GRAIN TRADE REVIEW

NEW SERIES "MECHANICAL AND MILLING NEWS"

TORONTO, ONT., AUGUST, 1894

TERMS, \$1.00 PER YEAR  
(SINGLE COPIES, 10 CENTS)

OLD SERIES, VOL. XI } NUMBER 8  
NEW SERIES, VOL. IV }

### EMBRO OATMEAL MILLS

ROLLED OATS  
STANDARD AND  
GRANULATED OATMEAL

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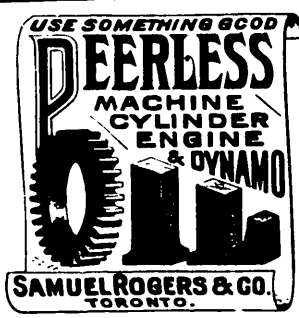
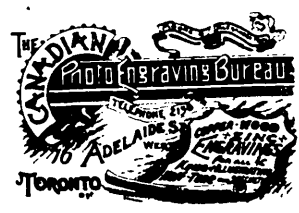
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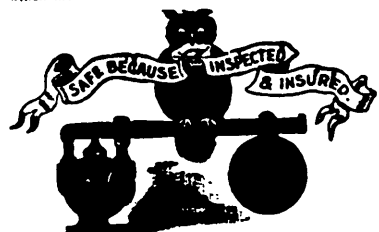
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Advertisements will be inserted in this department at the rate of 15 cents per line each insertion. When four or more consecutive insertions are ordered a discount of 25 per cent. will be allowed. This notice shows the width of the line and is set in Nonpareil type. Advertisements must be received not later than the 6th of each month to insure insertion in the following issue.

**A S MILLER—THREE YEARS EXPERIENCE**—good references, steady place preferred. Address, J. N. STORAY, in care of Gould Bros., Uxbridge, Ont.

**PARTNER WANTED IN 70 BARREL FULL** Roller Mill, water power. Mill new and everything complete. Address J. C. McCLELLAN, Alton, Ont.

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**FLOUR MILL FOR SALE BY TENDER**

Sealed tenders will be received by the undersigned until **THE 25TH DAY OF AUGUST NEXT**, at 11 o'clock noon for the purchase of the Bolton Flour Mills, situated at Bolton, County of Peel.

The mill is Roller Process, well equipped; has a good water power and steam engine. The location is a good one for the purchase of wheat, and the mill has a large gristing and local trade.

There are two Store Houses at the railway station, which will go with the mill if the purchaser so desires, and tenders may or may not include these.

The property is offered for sale in consequence of the decease of the late proprietor, Mr. A. McFall.

The terms will be cash. For particulars of the property apply to H. S. Howland, 37 Front street west, Toronto, or to Arthur McFall, on the premises, Bolton. The highest or any tender not necessarily accepted.

H. S. HOWLAND, Toronto.

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**\$95 SPOT CASH!**  
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ONLY ABOUT TWENTY LEFT...

These Wheels will be sent subject to examination to any part of Ontario, on receipt of a sufficient sum to cover express charges.



FULLY GUARANTEED

These Wheels are equal to any, and bear the highest testimonials, which will be forwarded on application.

**GEO. F. BOSTWICK**

24 WEST FRONT ST. - TORONTO.

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*Oak Tanned Leather Belting,*  
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**Flour, Bag and Barrel, Platform, Dormant Hopper, Track Scales, &c.**

Write for our Book of Testimonials on Large Scales. © Catalogue and Price List furnished on application.

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**THE GURNEY SCALE CO., HAMILTON, ONT.**

**Pumps**  
& HYDRAULIC MACHINERY

**DUPLEX AND SINGLE STEAM AND POWER**

**NORTHEY, LD. TORONTO**

# THE CANADIAN MILLER

OLD SERIES, VOL. XI } NUMBER 7.  
NEW SERIES, VOL. IV }

TORONTO, ONT., AUGUST, 1894

TERMS \$10 PER YEAR  
SINGLE COPIES, 25 CENTS

## BY THE WAY.

GIVING space to the news item that Canada is shipping flour into the island of Hayti, a recent steamer load from Halifax having included 225 bbls, the Roller Miller asks, what are United States millers going to do about it? Why friends, you do not need to let the matter give you any concern. The people of Hayti are being well served and getting just the article they want when they buy Canadian flour. You know that.

× × × ×

UNMISTAKABLE evidence of the size of the financial depression with our neighbors to the south is found in the fact that in the winter wheat sections farmers are already commencing to deliver new wheat more freely. This circumstance, if it should be found that the practice is likely to be very general and continued for any length of time, may hold an important influence in bringing back matters to something near a better level. Commercial depressions have in too many cases been intensified by this unfortunate habit of the farmers of hanging on to wheat for a higher price. The best statistics show that in 9 cases out of 10 the farmer is the gainer by selling his wheat early in the season. With the market experience of several years back he should not now in any case require evidence to further pursue the folly of holding his wheat. During the past year the loss sustained in our own country as well as elsewhere in storing wheat has really run into tremendous figures, and the lesson ought to be worth something to everybody concerned.

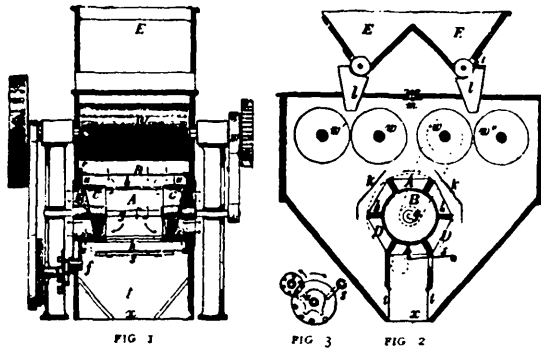
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At a time when the memorial of residents of Manitoba and the Northwest territories, asking for better freight rates, is met with the reply from our railway magnates, that rates to-day are as low as the volume and character of the business will permit, some observations by Prof. Henry C. Adams, are timely. His data is of American roads, but some of his conclusions will apply as aptly in one country as they will in another. One remark is that the figures given forth by railway corporations as evidence that their profits will not permit of further concessions in rates, are not unfrequently "fixed" for publication, and the claims of these corporations are not candid. It is the case, so far as the United States is concerned, that 43,000 miles of railway, or the amount equal to 24% of the total length of the line, have been placed under the protection of the courts. Dividends have also fallen off. "Facts of this sort," says Mr. Adams, "would seem to warrant the despondency with which railroad managers view the situation, but before allowing the interpretation it may be well to inquire if all the facts in the case have been presented. The statement that 61% of railroad stock pays no dividend does not necessarily mean that the business of transportation is carried on at a loss, for not only does it disregard the parasitic organization, whose income are not included in the published reports, but about 25% of railway stock is the property of railways in their corporate capacity and consequently represents a phase of railway consolidation." In other words, Mr. Adam's contention is that railway assets and liabilities, sometimes like government figures of an alleged surplus, can be so arranged that it would take a Napoleon of finance to decide whether everything will square with the claims made.

India reports a wheat crop of 2,946,310 tons of wheat for 1894, against 3,245,210 tons in 1893 and an average of 3,265,842 tons for a series of years. Later returns may increase the present crop somewhat.

## ASPIRATION FOR ROLLER MILLS.

ASPIRATION has for many years been applied to roller mills in various forms. As ordinarily applied by way of suction through spouts it is rather an awkward, cumbersome contrivance and very much in the way. Frequent efforts have been made to simplify its application and to increase its effectiveness. We present herewith a design of aspiration which is incorporated directly with the roller mill itself making it entirely self-contained. It is the invention of Jacob Heeffner, an Austrian miller. Fig. 1 is a sectional elevation. Fig. 2 a sectional elevation and Fig. 3 the cleansing arrangement. The device is composed of a revolving screen A, right and left hand flights BB, inserted in the cylinders CC. The revolving screen A is supported by the cylinders CC, by means of strips *bb*, over which the wire is stretched. The screen is revolved by means of gears *e* and *f*. The shaft *g* is driven with a belt from the pulley *w* on fast toll journal, whereby the flights BB are driven at a high speed, causing the hot air to discharge on both sides of machine while the particles of material, attracted by the suction, lodge on the outer surface of the screen. A knocker *s* is applied, whereby the longitudinal strip *h* is made to bear on the wire surface for the purpose of keeping it clean. Motion is given to the knocker by means of the disk *r*. 'AA' are protectors which prevent the bulk of the material



from coming in contact with the wire, and only the lighter particles are carried over the top edges of the protectors. Air is permitted to enter the machine at *i* through the hoppers *h*. Aside from this, air may be permitted by means of the adjustable valve *m*; *n* are self-acting valves for the purpose of delivering the ground stock to the outlet of the hopper. Milling.

## THE FUTURE OF WHEAT.

WRITING on this subject in the American Agriculturist for May, Henry Stewart says.

Statisticians have tried to prove that within five years the value of wheat would be at least two dollars a bushel, and that this price would be reached by gradual advances from now onwards, until the consumption of it would overtake the production and then surpass it, thus giving the wheat grower the absolute command of the markets of the world. It is doubtful if any farmer was deluded by this roseate view of the position of the wheat grower, for every intelligent person knows that the reserve of land suitable for the culture of wheat within the boundaries of North America alone is sufficient to more than double the present product, without even any improvement in the cultivation of this crop. And certainly every farmer knows that if the right method were taken the present product might be easily doubled without adding a single acre to the area now under this crop. For, while the average product of wheat is not more than eleven or twelve bushels per acre, there are many farmers

who produce three times this yield, and what these farmers are doing others may and can do if they will only use the same methods.

But if we look abroad we find the very same conditions prevailing over enormous areas of territory suitable to the growth of wheat. There is that vast stretch of land known as the Northwest Territory of Canada, and which is now being only simply touched by the plow, but when fully occupied may produce not less than two thousand million bushels of wheat, which is about the whole product of the world at this time. The farms of Europe may be wholly left out of the calculation, and only the at present undeveloped fields taken account of. And these will include Australia, a greater part of Africa, and the vast area of Argentina just now opened to this enterprise, with other parts of South America that will yield the best quality of this grain. And to make our story as short as possible we may confine our eyes to Argentina alone.

Here are 40,000,000 acres of fine wheat lands that two years ago no one thought of as a wheat exporting territory. Indeed, only a few years back this great country procured its supplies of wheat and flour from the United States, but last year it exported 20,000,000 bushels as a beginning, and the present season expects to have a surplus of 50,000,000 bushels for export. And by the use of the most improved machinery and large enterprise, wheat is now grown at a good and indeed attractive profit of twenty five cents a bushel, which is about the cost of it in the Canadian Northwest Territory and the Dakotas. At only ten bushels an acre, here alone is a doubling of the world's product. At the present time Canadian wheat is being carried from Winnipeg, in Manitoba, to England for 28 cents a bushel, and the wheat of Argentina can be had down in the same market for 50 cents a bushel. Considering these vast fields, and then possible, not to say probable, of certain products, in the near future, what is then the position of the American farmer? He must grow wheat, or change entirely his rotation and system of farming. The pivot on which his rotation revolves is wheat, and he cannot abandon it. Then he must make up his mind to compete with these foreign wheat growers and meet them on equal terms. And doubtless he will be able to do this and produce this grain for 25 cents a bushel, when he adopts the indispensable improved methods of culture by which the yield can be made to reach forty bushels to the acre. And this seems to be the present view of the future of wheat that must be taken, and indeed that presents itself to the American farmer.

## ENGINEERS WHO TINKER

THE American Mechanist comes to the rescue of the engineer who knows enough to "tinker" with his engine when it needs it, in these words: "There are men around engines who ought to do tinkering, but they are not engineers. They are men who tattle around for about a dollar and a quarter a day. These be they who never ought to get within a half mile of an engine with wrench or hammer. No one ever knew a real engineer to do much tinkering. He is just lazy enough not to do useless work, and just enterprising enough to do such tinkering as is required. An engineer who hasn't push enough about him to tinker the pump is, and other little ills out of his engine ought to get an easier job without serious delay. He might do well at holding down a chair, or something of that sort, but as an engineer he hasn't just a little chance of success. In the best interest of his employer he ought to get another job before his engine has to go to the machine shop or the machine shop go to the engine."

# MILLING IN CANADA

## ANNUAL MEETING DOMINION MILLERS' ASSOCIATION.

**Large Attendance of Members. Reports of Officers and Standing Committees Much Valuable Work Accomplished. Papers on Practical Subjects—Interesting Debates.**

**T**HE second annual meeting of the Dominion Millers' Association held since this organization became an incorporated body convened in the Board of Trade building on Tuesday, August 7, commencing at 2 p.m.

The president of the Association, Mr. A. H. Baird, of Paris, occupied the chair, supported on his right by Treasurer Wm. Galbraith, and on the left by Secretary C. B. Watts.

Among the prominent members present were: Angus Plewes, Markdale; J. W. Ford, Markdale; Simon Plewes, Creemore; W. H. Finemore, Burlington; P. Quance, Delhi; Jas. Stark, Paisley; Alex. Dobson, Beaverton; John Rock, Springfield; D. Clark, Ayr; John Goldie, Ayr; R. Neilson, Ayr; C. F. Gray, Seaforth; W. J. Baldwin, Aurora; S. R. Stuart, Mitchell; A. Wolverson, Wolverson; R. A. Thompson, Lynden; J. H. Dracass, Streetsville; W. B. Robson, Hamilton; J. C. Vanstone, Bowmanville; J. L. Green, Greenwood; P. R. Hoover, Green River; J. E. Pearen, Brampton; H. P. Shepherd, Primrose; J. D. Sunby, London; Frank Harris, Springfield-on-the-Credit; Chas. Smith, Campbellford; F. W. Findlay, Hastings; Chas. Neeldler, Millbrook; John Hull, Lakefield; John Brown, Dunnville; P. G. McCargar, Lakefield; W. H. Schneider, Midway; T. O. Kemp, Seaforth; W. D. Mace, Tamworth; F. W. Rollin, Madoc; T. F. Dexter, Sebringville; H. Barrett, Port Hope; T. Foulcs, Oakville; Jas. Goldie, Guelph; E. D. Tilton, Tilsburg; R. Noble, Norval; R. H. Vick, Orillia; James Robb, Valleyfield, Que.; F. Heimbecker, Hanover; W. J. Snider, Conestogo; John Galbraith, Allandale; D. A. Thompson, Orillia; M. McLaughlin, John Brown and J. I. Spink, of Toronto.

### SECRETARY'S REPORT.

The report of the Secretary, Mr. C. B. Watts, was read as follows:

The attendance at our meeting a year ago was the largest we have had for several years. The idea of an excursion to Niagara Falls by steamer and electric railroad proved so attractive that a party, consisting of members, their wives and friends, to the number of 140, had a most enjoyable trip to that point. The only drawback was that only about 50 notified the secretary of their intention to be present at the dinner, while no less than 120 were there, entirely overtaxing the facilities provided for the occasion, but for this the committee could not be blamed. So enjoyable was the trip that on our return, and since a number of our members have suggested that it be made an annual affair.

During the twelve months which elapsed, i. e. July 1st, the beginning of our financial year, there have been matters of the deepest interest to the milling fraternity dealt with by the Association, and though there has only been one General Meeting during that time, the executive committee and other committees have held more meetings than in any previous year, and have decided that it will be necessary to meet at least bi-monthly in the future, to do justice to the important matters which are brought before them from time to time.

The Executive held five meetings during the year, on Sept. 13th, and Dec. 20th, 1893, April 17th, June 12th, and Aug. 27th, 1894.

The Freight Committee only held two meetings during the year. There were, however, several meetings of the sub-committee, and a deputation visited Montreal on two occasions, to attend joint meetings with the Railroads and Steamship Companies, regarding the freight rates on flour for export.

During the year ending June 30th, the following were admitted to membership: Evans & Evans, Thorndale; W. D. Mace, Tamworth; J. H. Harvey, Colocanck; J. R. Kidd, Lithars; Rocke Bros., Springfield; A. B. Bell, Kimberley; C. & J. G. Wilson, Masson, Que.; Campbell & White, Oshawa; Geo. Elphick, Pinkerton; Stewart and Graham, Brussels; F. Gille, Shelburne; Sylvester Wright, Brantford; W. H. Schneider, Midway; Collins & Williams, Exeter; Bennett & Constable, Spencers; C. Copland & Son, Penetanguishene; C. J. Martin, Lindsay; Hewson Bros., Durham, making 18 new members as against 14 the year before. A total of 205 members paid the annual dues last year, as against 210 members the previous year. The reduction in membership can easily be accounted for by the large number of treasurers by deaths in our membership and the number of mills burned during the year.

The report, Mr. Galbraith's report, again shows a balance on the right side, of \$229.29. In addition to the ordinary expenses, the disbursements included a balance of the cost of incorporation \$155.00, and also \$50.00 for printing the by-laws. There is also due to the Association \$23.75 for advertising in the weekly Bulletin while the liabilities of the Association are only \$9.00.

The Dominion Government appointed the following members to act on the Boards setting the various standards for the current year: Robt. Noble, Norval, on the Flour Standard Board; at the Port of Montreal, J. I. Spink, on the Ontario Grain Standard Board, and the Central Wheat Buyer on the Manitoba Standard Board. So satisfactorily was the work of all these boards done,

that I may say I have not heard a single complaint of the standards chosen, excepting that the distinction between mixed wheat and red and white, and between mixed oats and white oats, was not sufficiently marked in the standards chosen by the Ontario Board.

The question of under billing has been given considerable attention, especially in the first half of the past year; the correspondence having been maintained not only with the C. T. R. and C. P. R., but also with the Intercolonial Railway. That the efforts made, backed up by the strong stand taken by the Association on this question has resulted in much good, and while no doubt there are still individual cases in under-billing, I believe the evil is almost entirely stamped out.

Acting under instructions of the chairman of the Freight Committee to whom the question of short weight barrel and bag flour was referred by the executive, I have endeavored to secure sufficient material to justify action being taken against any parties who may be guilty of these practices, and although some evidence has been secured, it is not sufficient to lay an information or to report at this meeting.

There has also been a variety of matters dealt with in the office during the past year, which, if they had been neglected, might have been fraught with grave consequences in the milling industry, but which cannot be well referred to in detail in this report.

The following members suffered either total or partial loss of their mills by fire during the past year: D. S. Clemens, Winterbourne, July 1893; Walker, Harper & Co., July 1893; The Doherty Milling Co., Fleshton, W. H. Hill, Sarnia, The Tavistock Milling Co., Tavistock, Geo. Elphick, Pinkerton, March 1894; H. Barrett, Port Hope, March 1894; J. H. Harvey, Colocanck, April 1894; S. Lukes, Bradford, June 1894. In the last mentioned the damage was very slight, but I have been unable to get a full report of the losses and insurance in the other cases.

I regret to say that the "grim reaper, Death" has been active amongst us since we met here last, as the following record will show: A. C. Mann, Baltimore; P. Kelly, Byth, Robt. Bruce, Gormly, and A. McFall, Bolton, have all crossed the Lounse whence no traveller returns.

I cannot close without thanking some of our members for the kind words of appreciation in their letters of the work done and information supplied during the past year.

The secretary's report was unanimously adopted, and a vote of thanks tendered to Mr. Watts for his ability, courtesy and tact in the office.

### TREASURER'S REPORT.

Mr. Wm. Galbraith, treasurer, read the following report:

I beg leave to report for the year ending June 30th, 1894, that the total receipts were \$1458 47, consisting of—

RECEIPTS.	
Annual dues—166 mills at \$ 5.00 .....	\$ 825 00
20 " " " 10.00 .....	200 00
20 " " " 15.00 .....	90 00
3 " " " 20.00 .....	60 00
3 " " " 25.00 .....	75 00
3 " " " 35.00 .....	105 00
1 year 8 " " " 2.50 .....	20 00
Total annual dues .....	\$1305 00
18 new members, entrance fees at \$5.00 .....	90 00
(One of above for 1893) .....	
Advertising .....	63 47
Less commission on cheques .....	\$1458 47
	23
	\$1458 18

Cash in hand July 1st, 1893 .....

DISBURSEMENTS.

Expenses annual meeting, 1893 .....	\$ 10.00
Balance excursion expenses .....	4 00
Aut. list, 1893 to 1895 .....	38 00
Printing By-laws .....	36 00
Legal expenses, Edwards' bill, .....	155 00
Exp. of mems. attending Executive meeting .....	156 47
Expenses of Freight Committee .....	4 00
Stationery, envelopes, etc .....	10 75
Printing Bulletin, etc .....	121 50
Printing Bulletin, etc .....	143 28
Secretary's salary .....	500 00
Office rent—Association portion .....	67 00
Clerical help .....	100 00
Legal expenses .....	17 54
Expenses, deputation to Ottawa .....	53 95
Expenses, two deputations, Montreal .....	64 00
Bank charge .....	1 41
	\$1720 00
Balance on hand .....	202 29
	\$1681 29

On motion the report of the treasurer was unanimously adopted and pleasure expressed at the satisfactory condition of the finances.

### REPORT OF EXECUTIVE COMMITTEE.

The secretary read the following report of the Executive Committee.

The Executive Committee held five meetings during the year. At our first meeting the Freight Committee was appointed, consisting of the following gentlemen: M. McLaughlin, Toronto; chairman; Peter Shirk, Bridgeport; J. J. Sunby, London; E. D. Flavell, Lindsay; Jas. Goldie, Guelph; A. H. Baird, Paris, and H. Barrett, Port Hope. Also the Seed Wheat Committee, as follows: T. O. Kemp, Seaforth; J. C. Vanstone, Bowmanville; L. B. Beechell, Burford; N. H. Stearns, Chatham, and John Gallenhill, Allandale.

The following names were submitted to the Government, from which to select your representatives on the Boards of Examiners, to select the standard samples for the year: T. O. Kemp, Seaforth; James Goldie, Guelph; W. H. Midway, Peterboro'; J. C. Vanstone, Bowmanville to act on the On-

tario grain board. Also the names of Robert Noble, Norval, and J. Gallenhill, Allandale, to select the flour standards, and the name of the Central Wheat Buyer, to assist in setting the Manitoba grain standards.

We again appointed Mr. Geo. Edwards, accountant, to audit the books of the treasurer and Central Wheat Buyer.

Re Eastern Agent.—The Committee you appointed at your annual meeting, to consider the question of an eastern agent to sell flour, made the following report:—In the opinion of this committee, it would be a wise and prudent move for the Dominion Millers' Association to appoint a competent man, at a salary to be determined upon by the Executive Committee, to represent the different millers, who belong to this Association, at some point in or east of Montreal, and that we hereby recommend the said appointment, and that a meeting be called at the earliest date possible, to take action. We gave this report our most serious attention, but as the difficulties surrounding the question appeared to be almost insuperable, we did not see our way clear to take action thereon, nor did we deem it wise to call a special meeting of the Association. We have therefore deemed it advisable to place it on the programme, that at our report might be considered at this meeting. We also considered the advisability of adopting a scheme to post our members regarding dishonorable grain or flour merchants; but did not deem it wise to take any action in this respect at the present time.

Re Cyclone Dust Collectors.—A number of our members having written to the Secretary, with regard to a claim for royalty for using the cyclone dust collectors, made by Mr. Knickerbocker, of Jackson, Mich., appointed a committee to see what arrangement he could make, whereby our members would receive a license at a smaller payment than was being asked. After an interview with the Secretary and Mr. Knickerbocker, who came over for the purpose, and considerable correspondence with his solicitor, we arranged that our members should only be charged \$20 each on cyclones used on middlings purifier, and \$30 for those used for other purposes. Some of our members made a saving sufficient to pay their fees for several years, and also saved considerable costs on suits, as already stated.

In the proposed changes in the tariff of the United States, known as the Wilson Bill, the following clause appeared: "Breadstuffs and farinaceous substances, buckwheat, corn or wheat, cornmeal, oats, oatmeal, rye, rye-meal, wheat and wheat flour 20%; but each of the above products shall be admitted free from any country who impose no import duty on the like product which is exported from the United States." As this appeared inimical to the interests of the Canadian millers, inasmuch as it was proposed to retain the full duty on mill offals, which is the only thing we are now able to export to the United States, and which it might be to the benefit of our mills to have admitted free into those markets, about which there is no difference of opinion among the millers of Canada, we appointed a deputation to wait upon the Government at Ottawa, to see that our interests were fully protected, should any change in the Canadian tariff be proposed. The delegates were informed by the ministers, that, the flour mill products and wheat were not included in the schedule of articles on the Statute Book from which it was proposed to remove duty provided the United States do the same; and that it was not their intention to make any alteration in the tariff on these articles, as they did not think it would be in the best interests of either the farming community, millers or consumers, to make a change.

It having been proposed by the Dominion Government to place a duty of 10% on half bleached jute cloth used for the manufacture of flour bags, we at once entered a protest against this action, as the whole of the proposed tax would fall on the millers, there being no jute cloth manufactured in this country, and we are pleased to report that the proposed tax on our industry was abandoned.

Hearing that a petition had been sent by the Winnipeg Board of Trade to the Dominion Government, asking, among other things, that the Board of Examiners to select the Manitoba grain standards should consist only of persons residing west of Lake Superior, which would not only exclude our representative, but also all other eastern representatives, we memorialized the government protesting against any change, as also did the Boards of Trade at Toronto and Montreal.

Re Export Freight on Flour.—The great discrimination in the export freight rates from interior points in Ontario, in favor of wheat as against flour, demanded our earnest attention during the past year. What has been done in our endeavor to obtain as favorable rates on flour as on wheat will be seen in the very full report of the Freight Committee on this question. Should we fail to obtain redress in any other way, it is our intention to lodge a complaint with the Railway Committee of the Privy Council under the railway act, that the flour millers may be placed at least on an equal footing with the exporters of grain at all times.

Re Underbilling.—As the penalties to which persons who are found guilty of the above practice render themselves liable, appear wholly inadequate for the gravity of the offence, the railways have requested us to procure the necessary legislation under which the honest shipper will be protected from the dishonest one, by enabling the railways to collect heavy extra charges with freights, in cases where overloading is discovered. It is proposed on all over weight found in a car, not shown on the shipping bill, to charge double the regular rate, and also to charge on the whole quantity contained in the car any additional mileage which it may have been necessary for the railway to haul the car in order to weigh it. With your approval we will seek to obtain such amendments to the railway act, or other legislation as may appear necessary to our Executive Committee, to give effect to the above proposals.

We think that from the above it will be seen the work done by the Association is of great importance and direct benefit to every miller in the Dominion of Canada, and we trust that these millers who are not members of our Association will show their appreciation of the benefits which they have received by identifying themselves with us, at an early date and that by increased numbers and influence, we may have even a greater

weight in the future than in the past. We hope that the programme that has been prepared for the general meeting will be found an interesting one, and that every member present will make arrangements to take part in the excursion to Niagara Falls to-morrow, and that by social intercourse we may become better acquainted with one another, and have the "bond of friendship" as well as the common interest to hold us together.

#### THE EVIL OF UNDER-BILLING.

The clause on under-billing in the report of the executive gave rise to considerable discussion. It was argued by Mr. John Brown that the Association was not called upon to accept suggestions from the railways as to what course they ought to pursue, or to help them out of any apparent difficulty. The Association ought to take a stronger position on the question of under-billing and so express their convictions at this meeting. Mr. W. H. Finemore, of Burlington, was favorable to leaving the clause as reported by the executive. He did not see that any honest shipper could object to it. The honest shipper should be willing that no man should have an advantage over him.

The outcome of the discussion was that the clause on under-billing was referred to a special committee, consisting of Messrs. Noble, Tilson, Foulles, J. Brown and C. Smith, who at a later stage in the proceedings reported that said clause be amended by making it to read as follows: "As the penalties to which persons who are found guilty of the above practice render themselves liable appear wholly inadequate for the gravity of the offence, the railways have requested them to procure the necessary legislation under which the honest shipper will be protected from the dishonest one by enabling the railway to collect heavy extra charges with freights; that the executive committee be and are hereby instructed to take such steps as to have the Railway Act so amended as to compel all the railways to charge on all overweight. Also to obtain legislation making under-billing a criminal offence, and those being found guilty of the above to be punished in a manner similar to the Interstate law of the United States of America."

With the exception of this one change in the report of the executive, it was unanimously adopted by the Association.

#### PRESIDENT BAIRD'S ADDRESS.

President Baird delivered a carefully prepared address, that met with a close hearing and was warmly appreciated by the members. He referred with some detail to the work of the Association and the Executive during the year now closed.

The year had been, he said, an exceptionally trying one for those interested in flour milling, the price of grain and flour having reached a lower point than at any period since Canada has had a milling industry of any extent. When we last met the price of wheat had reached a point which it was thought impossible for it to go under, being below the cost of production as generally accepted, but we have been compelled by the process of events to lower our opinions on this as well as other subjects, for we find during the past few months wheat has been sold and delivered in Liverpool for less than a cent a pound, and during a greater portion of the year the prices of both English and foreign wheats have been lower in Great Britain than ever before known. Under these conditions we might expect to see the production greatly reduced, but all indications point to another large crop.

Special attention was drawn to the milling industry in foreign countries, and its relation to the governments, simply to show what efforts are being made to give encouragement to the industry by not only preserving their home markets, but also encouraging millers to do an export trade. In Germany the miller can import any quantity of foreign wheat and escape paying duty by exporting a like quantity of native grain. Thus they were able to obtain any desirable quantity of foreign wheat for grinding or mixing purposes free of duty. In Italy the duty on foreign flour has been increased during the year equal to about 40 cents per 220 lbs. In Portugal the import of foreign wheats is prohibited, except to certain millers who are allowed to import a limited quantity. In France the law is such that a miller who imports foreign wheat can cancel his bond by exporting about 10% less flour than wheat. This state of affairs was occasioning some alarm to English millers, who see possible hurtful competition. On the other hand, English millers are considering the advisability of entering the export field themselves. This, however, could only be possible as long as present low wheat prices prevailed. In Russia efforts are being made by the government to promote an export trade in flour.

Reference was made to the disadvantage Canadian millers experience because of unfair rates, and dwelt on at length in a special report from a committee of the Association.

Millers who by stress of hard times might be considering the advisability of dropping their membership in the Association, were reminded of the close-fisted farmer who thought he would do without his newspaper so as to save a dollar, and then through lack of information he lost five dollars on his next sale. The secretary was being paid to look after the interests of the members and they should make use of him by seeking his advice on frequent occasions, whether it be a question of price of wheat or on other subjects. The hope was expressed that the evil of selling wheat on time would not be allowed to grow, for its baneful effects must be plain to any intelligent miller.

In retiring from the presidency, Mr. Baird thanked the secretary, executive committee, and many members for the valuable aid they had rendered him during his term of office.

#### THEY APPRECIATED HIS LABORS.

President Baird was asked to withdraw from the chair for a time, treasurer Galbraith taking the chair, when on motion of J. L. Spink, seconded by M. McLaughlin, a cordial vote of thanks was tendered the retiring president for the able, courteous and self-denying manner in which he had performed the duties of chief officer of the Association during the year. The resolution was passed amid the plaudits of the members.

#### FREIGHT COMMITTEE'S REPORT.

This report, read by the secretary, is as follows:

Following up the work done last year by the Association, in the direction of doing away with the discrimination in freight rates which existed against flour, your Freight Committee have made strenuous efforts to induce the railways to give on flour the same rate for export as they do on wheat.

The members have cause to remember that in former years this discrimination acted very prejudicially to the interests of the mills. During the past winter the evil became so great that it was plainly evident that some steps would have to be taken at once, unless the millers were prepared to stand idly by and see their flour export trade completely wiped out, it being reported to us, that while a through rate of freight was given, of 20c. per 100 lbs. on wheat for export from north and west points to the old country, the rate asked on flour at this same time was 29c.

This discrimination was so outrageous that your Secretary took advantage of being in Ottawa with the delegation regarding the American tariff changes, to lay the matter before the Hon. Mr. Bowell, Minister of Trade and Commerce, and pointed out to him that a continuation of this condition of affairs would only result in the complete annihilation of the export trade in flour.

As the result of this interview, Mr. Bowell arranged a meeting for the 24th of February, at Montreal, between Mr. Seaman, General Manager of the G.T.R., Mr. McLaughlin, Chairman of this Committee, and your Secretary, at which the Hon. Mr. Bowell was present. Mr. Burton, General Freight Agent; Mr. Cunningham, Assistant Freight Agent, and Mr. Fraser, General Steamship Agent of the G.T.R., were also present.

The conference opened by reading an extract from a letter received by Hay & Harrison, of Ailsa Craig, from David Plewes, 10 Drury Lane, Liverpool, written on Jan. 26, 1894: "In reply to your favor of the 12th inst., 17/9 to 18/ is the very highest obtainable, but I ask you how I can sell flour when your freight is 29c. per 100 lbs., when wheat is only 20c. per 100 lbs. The thing is impossible. If arrangements could be made so that your rate on flour were even 2c. per 100 lbs. over the current rate of freight on wheat, I could sell lots of flour. If you had had a 22c. rate on flour, alongside of a 20c. rate on wheat, you could have filled all the orders I have sent you. Why don't your Association pull in this direction? If there is no better arrangement to get no better comparative freights on flour, as against wheat, I will return in June, as it is utterly impossible to sell freely against such odds in freights."

We pointed out that the difference in freight gave the English miller, buying our wheat, an advantage over the Canadian miller of equal to about 20c. per barrel in freight alone; or in other words, the G.T.R. was offering a bonus of that amount to the English miller to take the wheat out of Canada, instead of encouraging the grinding of it in this country, which would not only be beneficial to the millers and farmers, but especially so to the railways themselves. Any mill doing an export business is compelled to bring in wheat by rail, on which they pay an average freight of say 5c. per 100 lbs., which is entirely lost to the railroads when the wheat is exported, and the railroads lose the freight on coal required to run the mills as well.

There are also several other items, such as staves, machinery, and all other supplies necessary to run the mills, and maintain the men employed in them, on which they receive local freights, while they receive nothing from the English millers or grain dealers in this way; so we were entitled to receive every consideration possible at their hands.

To put the mills on really a fair basis the railroads should allow the mills to bring the wheat in, grind it, and export the flour to its destination, by paying 1c. per 100 lbs. as stop-over charge, only, in addition to the through rate of freight which the grain exporter would have to pay, from the original point of shipment, through to the old country.

That they now did this on Manitoba wheat, and formerly did it on wheat brought from the United States, and that they should place the farmers of Ontario in as good position as they did the farmers of Michigan.

We also called their attention to the fact that the giving of these private special rates was a violation of the Railway Act; so they were not only acting in such a way as would inevitably result in the destruction of the milling industry in Canada, as

a shipping business, but they were also breaking the laws of the Dominion.

Mr. Burton, in reply, said that one reason that they could not give the same rates on flour as on wheat was because the steamship companies charged a much higher rate to carry flour than to carry wheat; also that they wanted sometimes a cargo to be delivered at Portland inside of a couple of weeks, and flour could not be supplied quickly enough; that it cost a good deal more, and required a longer time to handle flour, and that they required grain for stiffening the ship, where flour would not do. Sometimes they could not get wheat in Ontario, and had to bring corn from Chicago to supply freight. That their quoted rates from north and west points were 25c. and 26c. on wheat when it was 29c. on flour; and that for the reasons mentioned above, they could not carry flour at the same rate as wheat.

It was sometimes necessary to make a special rate to get the necessary cargo, but in all cases of this kind, half the space was allotted to Toronto and half to Montreal, and anyone wishing to do so could take advantage of it. From Mr. Fraser's explanations, however, it was evident that only two or three parties in Montreal, and a similar number in Toronto, were offered this space at a reduced rate.

But we pointed out that while, as Mr. Burton said, the public rate on grain was 25c. to 26c., there was no doubt that the rate of 29c. was given, and also that the rates were not made public in the general sense of the term.

Hon. Mr. Bowell said that if the rates were posted in the Boards of Trade in Montreal and Toronto, the spirit, if not the letter of the law would be fulfilled; but thought the requests of the millers' representatives were reasonable, as while the wheat, which was the millers' raw material, was taken out of the country at a much lower rate of freight than was charged on flour, the miller certainly could not do any export business; but sincerely trusted that the railways would be able to arrange matters, so as to remove the great discrimination from which the millers were suffering.

Mr. Seargent said the G.T.R. could not deal with this matter alone, as the C.P.R. was also interested; and if the steamship companies would not carry the flour for the same rate as wheat, he did not know how the difficulty could be overcome. He, however, asked your representatives if they would attend another meeting, at which the representatives of the C.P.R. and the steamship lines would be present.

This meeting was held in Montreal on the 6th of March, when the agents of the Allan Line; Hamburg-American Steamship Packet Co.; Donaldson, and Beaver Lines, were present, together with the representatives of the railroads; also Mr. Flavell, of Lindsay, and your Secretary, representing your Association.

Mr. Olds, the General Freight Agent of the C.P.R., said, after the case from the millers' standpoint had been laid before them, that it was certainly the best policy for the country and for the railroads to give every possible encouragement to the manufacture of all the products of the country, here. This was Mr. Van Horne's policy, and the policy of the C.P.R., which they would carry out in every way possible.

The C.P.R. was not interested in this matter, as they had not been giving 20c. rates on grain for export, as they had no ships to fit freight for. He said, moreover, that there was no doubt that grain, and all the products of grain, ought to be carried at exactly the same rates, that they were both in the same classification, and that in the United States they were always carried at the same rate, and there was certainly no reason why they should not be so carried here.

Mr. Cunningham, of the G.T.R., said the Dominion Millers' Association had requested that the same rate be given on flour as on grain for export, all the year round; and also that they be given the same through rate for export, and allow the wheat to be stopped at the mills and be ground, and the product re-shipped on the payment of 1c. per 100 lbs. stop-over charge.

Mr. Watt, of the Allan Line, said that the flour occupied 45 cubic inches per 100 lbs., stored in the ship, that wheat only occupied 40 cubic inches, and that therefore they wanted to be paid for the extra space the flour occupied, and that they did not care much what they carried, as long as they were paid for the space; but they always required a certain amount of grain to stiffen the ship. He said they always liked to carry a certain amount of flour, but could lag the grain, to take the place of flour. He also said that sometimes the rates on flour and grain varied to different ports, even at the same time. For instance, the rate on flour to Glasgow was 15.13c., while on grain it averaged about 11.38c. To Liverpool it was just the reverse, being 11.25c. on flour and about 10.50c. on grain.

Mr. Thom, of the Hamburg-American Steamship Line, said they were prepared to carry a certain quantity of flour, say 50,000 sacks a month, at the same price they would carry grain for. If, however, a greater quantity was offered, they would then expect to receive higher rates on the additional amount, as it will take the place of cheese or other higher class freights. If, however, they could not get the required quantity of flour, they would carry it at a lower rate of freight than grain.

The gentlemen representing the other steamship lines said their views had already been expressed by Mr. Watt and Mr. Thom.

Your representatives then stated that they were glad to learn that the steamship companies were willing to carry flour at the same rate as wheat, at all times, provided they got paid for the additional space, which at the rates quoted would be only about 1c. per 100 lbs. over the grain rate. This the mills could afford to pay, but it was a very different rate from the 4 or 5c. per 100 lbs., in some cases, 9c. per 100 lbs. extra, as mentioned in Mr. Plewes' letter. It was apparent that the great discrimination complained of rested entirely with the railroads.

Your Secretary said a telegram from Chicago had just been received, quoting the freight on wheat from Chicago to Liverpool at 27.34c. per 100 lbs., and on flour 27.44c. per 100 lbs.; only 1/100 higher than on flour than on wheat. Although the representative of the Allan Line stated that the rate then ruling on flour was about 1c. per 100 lbs. higher, to Liverpool, than

on grain. From this it would appear that the railroads in the United States were willing to carry flour from Chicago to the sea-board for a rate of 14c per 100 lbs. rather than they were getting on grain. There could be no question of the difference in terminal charges on wheat and flour, as it was through rates we dealt with in all cases quoted.

Your representatives concluded by saying that they simply asked the railroads, when they find it necessary to make special rates to get freight for their steamships, to allow the millers, through the Association, to take such space as they could fill, but it be much or little, at the same rate as they gave the grain men, per 100 lbs.

Correspondence was exchanged with Mr. Seargent and endeavors were made to obtain the concessions asked for; but while Mr. Seargent wrote on April 6th, that in regard to the port of Montreal, export rates are practically the same on flour as on grain, and that they are able, having regard to the steamship tonnage available, to follow that rule; but in regard to Portland, the season was now over, and would give them time to consider if anything could be done to meet the wishes of your Association. This was considered so unsatisfactory, as regards Portland, where the great discrimination has always existed, that we felt compelled to make a report to the Executive Committee to the above effect, recommending that unless satisfactory assurances are received from the G. T. R. that they will carry flour for export in future, at the same rate as grain or wheat, or 1 1/2 or 2c per 100 lbs. including the stop-over charge for handling, the information be laid before the Railway Committee of the Privy Council, claiming that flour be carried at the same rate as grain, they both being in the same classification.

Under the date of June 16th Mr. Seargent wrote, reiterating all the old objections, which had been fully dealt with at both conferences, but adding nothing new. The only striking clause is the following:—"Our experience is that whilst we ship large quantities of grain from Portland to Liverpool, the proportion of flour is comparatively small." The circumstances were to be extremely surprised if it were large. He also states as follows:—"This is not the question in which the G. T. R. alone is interested; it has to act in concert with the United States railway companies."

In this connection we beg to submit to you a few figures, which we think you will find very suggestive. In December last a carload of milling product was shipped from St. Louis to Toronto, for 14c. per 100 lbs., a distance of 720 miles, and over several lines of railroads; while the rate from Collingwood on the G. T. R., 95 miles, or Harrison, on the C. P. R., 97 miles, was 10c. per 100 lbs., in both cases. In small shipments a similar state of affairs exists, as 5 barrels were shipped from Indianapolis to Toronto, a distance of 470 miles, by the 4 or 5 different roads, and the rate was only 1 1/2c., while to ship this same amount from Toronto to Hamilton, less than 40 miles, the rate is 14c. To a point a couple of hundred miles east, the rate of 32c. per 100 lbs. was asked on double the quantity.

We also find that on comparing the freight tariff to Montreal, on flour, with the tariff given on grain for export, that while the rates vary, in groups, from 12c. to 16c. per 100 lbs., during the winter season, on flour they ranged from 12 1/2c. to 18 1/2c. per 100 lbs. Also, the whole district west of Toronto, for grain purposes, is divided into two divisions, groups 2 to 5 taking 14c. rate, and groups 1 and 2 a 16c. rate; while on flour the rates in groups from 1 and 2 are from 15c. to 19c. per 100 lbs., after allowing for 100 lbs. for terminal charges on grain. In justice to the flour millers the same rates should be given to Montreal for flour for export, the same groups should apply.

We are also astonished to find that the Canadian roads apparently extend to the American millers advantages which we have never dreamed of asking for. To illustrate this, without saying that the points mentioned are correct, only that we are informed that wheat is carried by the railroads, from say Toledo to Detroit, and there milled, the product being shipped for export; and the rate charges are only the export rate charged from Toledo to the foreign destination, without any other charge whatsoever.

This is no more incredible than to learn that flour is carried from points about 100 miles west of Detroit to St. John, Newfoundland via Canadian railways to Montreal, and the through rate charged is only 2c. per barrel higher than it would be from a mill east of Toronto to the same destination.

Also the discrimination in favor of American mills, against Canadian mills, is even more glaring, in the case of local business. We are advised that in the interior points in Michigan to interior points in Eastern Canada, many cars of milled product have been shipped at a rate of 5c. per 100 lbs. lower than the rates from north and west points in Ontario to the same destination.

Taking all the above into consideration we think that it is a matter of surprise that the milling industry does not find itself in even greater straits than it is to-day, if that were possible.

It is useless for individual millers to attempt to get this remedied, as it places them in a position of either the railroads using their power to squeeze them, or else by an attempt to bribe them, and so kill the agitation for the time being. It then remains that the Association alone, through their Committees and Officers, are the only persons who can handle this question with any hope of success; and now is the time when these facts are well known, and can be easily established, to take whatever steps are the wisest for the Association to attain the end in view.

The report of the Freight Committee was recognized as embodying a large amount of work and effort during the year closed, with which would still need to be followed up with energy. The report was on resolution unanimously adopted.

REPORT OF THE CENTRAL WHEAT BUYER.

Mr. C. B. Watts, Central Wheat Buyer, read the following report:

In spite of the great depression under which the milling industry has labored during the past year, owing to the prices of grain

being so high as to prevent any flour worth speaking of being shipped either to Newfoundland or other points of export, and that the continued decline in prices on both wheat and flour has rendered it almost impossible for our millers here to export that owing to I am happily able to again take a position to report that owing to the extent the millers have made use of the office during the past year, there is again a small surplus over the expenses.

During the past twelve months there have been no less than 145 mills who have purchased grain through this office, of whom 127 patronized it for the first time, and six of these, by being members, have paid the full commission to this office of \$5.00 for Ontario and \$6.00 for Manitoba wheat.

In addition to the non-members who have purchased wheat through this office, no less than 9 of the new members joining this year were brought in because they wished to take advantage of the benefits to be derived from the use of the Central Wheat Buyer.

It is, however, evident that there are still some of our members who do not take advantage of their connection with the Association to the extent that they might do, and there are also odd members who do buy grain through the Association, but probably do not know it, as it was purchased through other brokers.

The following are the details of the purchases made during the past year: July, 45 cars Ontario, 17 cars Manitoba, 1 car oats, 1735.00; August, 85 cars Ontario, 65 cars Manitoba, 1 car barley, extra commission Ontario \$3.00, Manitoba \$3.50, \$37.50; September, 70 cars Ontario, 94 cars Manitoba, extra on Manitoba \$3.50, 5 cars oats, 2 cars barley \$2.75, \$46.62; October, 102 cars Ontario, 111 cars Manitoba, extra on Ontario \$2.50, extra on Manitoba \$3.50, and on 4 cars Manitoba and 30,000 bush, \$4.50, 1 car barley \$3.50, \$54.50; November, 168 cars Manitoba, extra 80c., 63 cars Ontario, extra \$3.00, \$149.80; December, 76 cars Ontario, 8,000 bushels Ontario \$40.00, 72 cars Manitoba, extra on Manitoba \$3.50, 6 cars oats, extra on oats \$4.50, \$39.00; January, 59 cars Ontario, 95 cars Manitoba, extra on Manitoba \$3.50, 2 cars bran \$6.25, \$62; February, 63 cars Ontario, 40 cars Manitoba, extra on Manitoba \$3.50, 1 car screenings \$4.00, 19 cars Oats, extra on oats \$6.41, 1 car barley, 1 car corn \$7.25, 4 cars bran \$13.38, \$312.04; March, 44 cars Ontario, 45 cars Manitoba, 9 cars oats, 1 car corn, 2 cars bran, \$6.75, \$63.25; April, 41 cars Ontario, 34 cars Manitoba, extra on Ontario \$2.50, 1 car bran \$6.25, \$18.75; May, 40 cars Ontario, 56 cars Manitoba, 10 cars oats, 1 car barley, 1 car bran, \$3.75, \$251.25; June, 41 cars Ontario, 48 cars Manitoba, 1 car oats, 1 car shorts, \$5.00, \$409.50.

Making a total of 1,643 cars sold during the year, being 163 cars more than that of the previous year, in addition to 38,000 bushels sold to grain men. The total commission earned by this office was \$3934.93, less cars not delivered, bad debts, and depreciation of assets, \$158.34, leaving a net for the year of \$3776.59, or about \$100.00 more than the previous year. The total expenditure was \$2356.59, making a profit of \$1519.10 for the year.

The total amount of grain which has been purchased at prices lower than the orders were given at (although in most cases they were on the lowest quotations obtainable at the time) is not large as it was the previous year, but still amounts to a very respectable total of 254 cars, as follows:—

Table with 2 columns: Quantity and Price per 100 lbs. Rows include 65 cars purchased 3c. below order, 63 " " " 1 c. " " " 14 " " " 1 1/2 c. " " " 6 " " " 3 c. " " " 1 " " " 1/2 c. " " "

On account of the almost total failure of the Ontario spring wheat crop, and the partial failure of the fall wheat crop last season, a number of our smaller millers could not obtain sufficient supplies from the farmers in their neighborhood to do their regular business, and not being on the list of those entitled to the regular milling rates, the local rates were so high as to be virtually prohibitory. To aid the matter, Mr. J. White, General Freight Agent of the Central District, and owing to his kindness succeeded in arranging the freight rate slightly higher than the regular milling rate, but very considerably below the ordinary local rates, and got something over 20 of our members on the list, from which they have derived great advantages, while the arrangement has been a very profitable one to the G. T. R. as well.

I had again this year, as in the past, when the prices asked by the grain men were decidedly above the legitimate market values, adopted the policy of advising millers to buy what wheat they absolutely must have direct from the grain dealers, instead of through me; and although it caused a loss of some commissions to this office, I considered it in the interests of millers as a whole.

Strong expression was given to the opinion by leading members that it would be unfair to Central Wheat Buyer Watts to allow his report to be adopted on a silent vote of thanks. The year had been one of unusual depression in grain and milling circles, and yet Mr. Watts, by untiring energy and watchfulness, had been able to present a report to the meeting showing that the office had continued a paying one and the year had closed with a balance on the right side.

The Central Wheat Buyer in replying to the resolution of thanks from the Association said that the most encouraging testimony to his work would always come from an increased interest by the millers in the work of the office. There were certainly individual advantages to every miller in buying through the office, and it was deserving of remark that a number of the new members who had connected themselves with the Association during the year had come in because of the advantages that they believed would follow from the Central Wheat Buyer.

CHATTEL MORTGAGES ON FARMERS' GRAINS.

Mr. Jas. Goldie, of Guelph, led a discussion on chattel mortgages on grain and how they affect millers. He cited a case of personal experience where an agent of his purchased from a farmer 223 bushels of fall wheat and paid cash for it each day as delivered. A year before this date the farmer had given a chattel mortgage on the wheat growing in the ground. Then came a demand from the mortgagee that Mr. Goldie return the wheat or make payment. This action was defended by Mr. Goldie before Judge McDougall, and finally dismissed on a technicality. The judge, however, expressed the opinion that under other circumstances judgment might have been given for

the mortgagee. Under the English Bill of Sales Acts (which are different from our chattel mortgage acts) it has been decided in a case of National Mercantile Bank Limited, Ver. Hampton 5, English Law Reports, Queen's Bench Division, Page 1177 (which is exactly similar to this case) that having regard to the terms of the bill of sale under the English Acts there was an implied license to the mortgagor to carry on his usual ordinary course of business, and any wheat in his usual ordinary course from him would have a good title. There seemed to be no doubt, so far as Canada is concerned, that when the land on which the grain was growing has been correctly described in the chattel mortgage, a claim can be made on the man who has bought the grain. It was intimated that at one time an effort was made to put a bill through the local legislature remedying this bill, but for some reason it was withdrawn.

KIND WORDS FOR THE "MILLER."

The following resolution, moved by Mr. M. McLaughlin, of Toronto, and seconded by Mr. James Goldie, of Guelph, was unanimously carried. Several of the members spoke, commending the MILLER. "This Association desires to place on record, its appreciation of the able and intelligent work being done by the CANADIAN MILLER, in the interests of the grain and milling trades of this country. The CANADIAN MILLER has, during its several years of existence, proven an important means of communication between members of the milling trades located in various parts of the Dominion; and the importance of this work can hardly be too strongly emphasized. In the treatment of technical subjects connected with the trade, the CANADIAN MILLER has done much to help in the direction of important milling methods; for millers cannot forget that good milling depends in no small measure upon good milling methods. In the effort to develop the export trade in flour and other mill products, the CANADIAN MILLER has spared no effort to collect information concerning foreign export fields, and in many intelligent ways has endeavored to keep this subject prominently before the trade. During the years covering the existence of the Dominion Millers' Association there have been battles to fight, to wit, the grinding-in-bond privilege, the duties on flour, and the unfair freight rates made by our leading railways. In all of these contests, and others that will suggest themselves to members, the CANADIAN MILLER has stood loyally by the interests of Canadian milling; and with force, vigor and ability, contended for the rights of the trade. The CANADIAN MILLER is the only trade journal in Canada, devoted to the interests of milling, and as such, has strong claims upon the members of this Association, and millers generally throughout the Dominion. For these, among other reasons, the Dominion Millers' Association commends the CANADIAN MILLER to the support of its members, and to millers as a body in all parts of Canada."

OUR DEEP WATERWAYS.

A letter was read from the deep waterways committee setting forth the importance of this project and its special benefits to those concerned in the grain and milling trades. The Association was asked to appoint delegates to attend the convention on this matter, which would be held in the city in the early fall, and the executive committee were appointed to represent the Association on this occasion. Mr. John Brown, who is a member of the special citizens' committee making preparations for this project, intimated that the meeting would be open to all millers, and they would be glad to see a large representation of the Association.

OUR EXPORT FLOUR TRADE, AND WHY IT HAS BEEN LARGELY LOST.

The following able and comprehensive paper on the subject named was read by Mr. M. McLaughlin, of Toronto: Canadian flour has found entrance to the markets of many countries, but passing Newfoundland, the only important export flour trade this country has had has been with the British Isles, and it is of this trade I shall speak.

Our export trade in flour has at times, in proportion to the crop grown, been extensive, and has been always an alluring bait for millers having a surplus milling capacity. Any miller who had an old country trade, long enough cultivated to carry with it some margin of net profit, will admit that it was the most satisfactory kind of trade to have, and will be glad to see the return of conditions favorable to it.

In considering why our flour trade with Great Britain has declined, and what are the obstacles in the way of improving it, two kind of causes present themselves; conditions that are, and must be, beyond our control, and conditions that are remediable by this Association

and by the Government of this country, in the interests of the trade of this country.

The uncontrollable causes are many and serious, and among them is the lower cost of wheat production in certain countries, which are tributary to English, but not to Canadian mills. In India, where the wage of the agricultural laborer is less than 5 cents per day, and where the climate and soil are both favorable to wheat growing; in Russia, and in the Argentine Republic wheat is produced at less cost than it can be done in Canada. All these countries supply a certain quantity of wheat cheap to the English mills, and offer no competition to them by shipping cheap flour, for they do practically no milling for export.

The English mill, in getting wheat lower than the Canadian mill does, allowing for freight, has an advantage that is readily seen. The higher value of offal in England than in Canada is so much clear leverage for the English mill.

Unfortunately for the Canadian miller, no practical means has yet been devised for exporting offal; and inevitably too, the greater the increase of our export flour trade, the less the value, per ton of our offal.

Without a practical export outlet, we over supply the demand of our own country, with the result of reducing values to us.

British industries are not nurtured by import tariffs as are the industries of almost all the rest of the civilized world. Fortunately for her millers, the conditions of wheat growing and transportation in widely scattered fields, give them a small measure of protection that is independent of tariffs.

Another among the uncontrollable, a most serious one, and one which has worked havoc, but which we may hope is temporary, is the reckless consigning of flour by the United States millers. For years past, but chiefly during 1891-2-3, large mills, and smaller ones, in that country, have sent forward overwhelming quantities of flour to British markets, without being sold. They pile it up in all the ports till the regular storage was filled; did not stop then, but kept on shipping, and filled garrets and nooks and crannies that were never used before for such a purpose, till the flour factor found himself smothered in American flour, and the trade there and here suffering from congestion and unavoidable decline in prices that must follow. This consigning rendered it unnecessary for the British flour factor to buy abroad. Why should he buy, when foreign millers were so eager to send forward on consignment? This is undoubtedly one of the greatest among the causes, perhaps the very greatest, for the decline in our export flour trade. It is one that in my opinion will disappear. United States millers have been doing abroad what nearly every man in this chamber has done for a longer or shorter time at home. We have all helped to fill our Eastern markets with consigned flour, and all learned the same lesson of loss that United States millers have been learning abroad. It is fair to predict that as we were cured they will be cured, and this great obstacle to the Canadian miller doing a legitimate selling business in export flour will become only a bitter memory to the trade of the country south of us. Leaving out of the field this torrent of unsold flour, the contest will be between the millers in Britain and the millers on this side. With equal prices for wheat, and equal prices for transportation, Canadian millers have little to fear from legitimate competition from the United States millers.

Canadian millers, however, pay more for wheat than United States millers do. A comparison of prices any year, and all the year round, will show the bonus received by our farmers for their wheat, over the price received by the farmers in the United States. While this is a good thing for the Canadian farmer, it is a serious handicap for the Canadian miller who seeks to send any portion of his product to the British market. The remedy to this obstacle in trade is in our own hands.

Great among the causes for stagnation in our export flour trade, and great among the obstacles to building up that trade, is the discriminating system of carrying, by which wheat is transported from this country at a lower rate than flour is. We are all well acquainted with the facts, and fully conscious of the consequences of having to pay more freight on flour than on wheat. In a country where one of Her Majesty's ministers is specially charged with promoting the interests of the trade and commerce of this country, we have a right to look with confidence to the removal of this impediment, at an early date. This does, we have it in our own power to so improve many of the conditions as to be quite on equal terms with our neighbors, in supplying our full share of the flour that enters the British Isles.

#### PLAIN TALK ON EXPORT FLOUR TRADE.

The excellent paper of Mr. McLaughlin on the export flour trade brought forth many expressions of commendation from the members. The subject was felt to be one of the most important that the Association could deal with. Mr. McLaughlin had handled it with remarkable ability and comprehensiveness. A number of members entered into a discussion of the question.

Mr. James Stark, of Paisley, was a pessimist on the subject. Our export flour trade, he said, had gone

from us and he could not see how it was to come back again. With flour shipped from the large mills of the United States to the Old Country at better rates than we can ship it; with wheat at the price of to-day, and the Argentine looming up as a big competitor in the wheat fields, "What the end is to be the Lord only knows," remarked Mr. Stark.

Mr. J. L. Spink said it would be a hard matter for the mills of this country to compete with a people who needed only to wear a linen towel for a garment and who were satisfied with a mess of bananas for a meal. For his part it had been a long time since he could get down to exporting flour on a paying basis.

Mr. David Plewes, the ex-secretary of the Dominion Millers' Association, and who had only returned from Great Britain a few days previous, after a sojourn there of two years and eight months, rose to his feet after repeated calls for "Plewes." He said that it was with mingled feelings of sorrow and gladness that he rose to address a meeting of the Dominion Millers' Association after an absence of nearly three years. He referred with touching pathos to the death of Mr. Thos. Goldie, who had occupied the position of president at the time he had left for Great Britain. Coming directly to the question of export flour trade, he said he would speak very plainly on the subject. The trouble, to a large extent, was in a nut shell. So long as Canadian millers were prepared to pay an average of 5c. a bushel more for wheat at the mill door than was the market price of the day, it was folly to suppose that they could manufacture flour and sell it at a price that would compete with the flour being shipped from the United States. If millers will get down to an export price for wheat then there will be an opportunity to sell their flour in the United Kingdom. Add to this the disadvantage under which the miller labored in the discrimination in freight rates between the rate on wheat and wheat made into flour and it did not require any great brilliancy to show how Canadian millers were handicapped in the race for export flour trade. Mr. Plewes believed that this difficulty could be gotten over by millers entering into a pooling arrangement for the shipping of flour. Shippers of wheat were given special rates by the railroads and vessel owners, because at particular times when these carriers wanted a large amount of freight they were able to give it to them in the shape of thousands of bushels of wheat. The railroads would not quote a low figure for 500 sacks of flour, but if the millers would stand together and offer them, say 8,000 to 10,000 sacks, he believed they would get the rate. Here Mr. Plewes took occasion to tell the millers somewhat plainly that they were altogether one too much afraid of the other. Unless the difficulties of export business were to be met in these ways, millers would continue to go on losing money until such time as having lost all their own, what the banks were prepared to give them, and their friends' money, they would have to come to a stand still.

Mr. James Goldie, of Guelph, did not see how it would be so easy a matter to get wheat down to the low prices at which Mr. Plewes recommended it to be bought, for, as prices ruled to-day farmers were seeking other means of disposing of their wheat, the feeding of cattle being one method, and a method that would be more largely followed, he believed, in the future.

This debate closed at 5:30 o'clock, when the Association adjourned to meet again at 8 P.M.

#### EVENING SESSION.

At 8 P.M. the Dominion Millers' Association was again called to order by the president, Mr. A. H. Baird.

#### DOUBTFUL PATENTS ON MILLING MACHINERY.

The following valuable paper on a timely topic was read before the association by Mr. H. Barrett, of Port Hope:—

This subject is of necessity, one that has considerable interest for those engaged in the milling business, and I have been requested to prepare a paper relating thereto. So many of the appliances used in modern milling are covered by patents and so many devices have been produced to obtain similar results it is impossible for any ordinary individual to keep informed upon such a voluminous subject. Therefore I do not undertake and I trust you do not expect an exhaustive paper from me.

Primarily, the matter that touches us all is how our interests are affected, and when affected injuriously how

they may be best protected. It is needless to say that every article, machine or device of any kind that the miller uses, which is covered by a patent, is enhanced in price by the largest amount that the Patentee thinks he can squeeze out of purchasers. Consequently the amounts paid out by the millers in the shape of royalties represent in the aggregate, a very large total and it is in this phase, that we, as an association, must regard such levies.

A great many patented devices are no doubt honestly and ingeniously thought out, and the originators rightfully obtain their patents; but on the other hand, the scrutiny given by an examiner in the patent office is not infallible, and many alleged inventions are only modifications or resurrections of ideas long before in the hands of the public. Indeed, in the United States, the authorities in the patent office do not pretend to draw any very fine conclusions, and it is notoriously the case that they go on the principle of issuing a patent, on any colorable grounds, and let the adverse claimants fight out their disputes in the courts.

In Canada we have not had so many instances of such practices, but, as millers buy so many of their machines from American manufacturers who extend their patents to this country, we indirectly have to face the same state of affairs.

The old truism that "Everybody's business is nobody's business" can be applied to the question in hand very aptly. Each man concerned is fully aware, that he is affected as well as his neighbor; but it is hard to find a man who is philanthropic enough to go to the trouble and expense of fighting out public rights. The individual is apt to take the view, that he will have to undertake a troublesome dispute, involving him in endless bother and expense, and take chances of not being successful, or that he can avoid it all by submitting to the extortion of the claimant no matter how wrongfully demanded.

The points involved in this question of "doubtful patents" have been very lately brought to the attention of most of us, by the operations of the Knickerbocker Co. of Jackson, Michigan, who claim to be the owners of a patent on a device that is known as the "Cyclone Dust Collector."

"Cyclones" have been very generally used by millers during the last few years and were in some cases brought from manufacturers of milling machinery, and in other cases were built by the millers themselves.

At first the machinery manufacturers paid royalties to the Knickerbocker Co., but, when they found that the patent was disputed in the United States, and that they were not protected in any way, they ceased paying the royalty.

About a year ago circulars were sent out by a legal firm, Messrs. Maybee & Gearing, of Stoughton, demanding a large royalty from every one using Cyclone Dust Collectors and hinting at legal proceedings if their demands were not satisfied. They gave color by citing an English judgment said to have been given in their favor. Afterwards the same firm instituted actions against a number of millers who were using the "Cyclones" and as the amounts claimed were not individually large, the parties who were sued preferred, in most cases, to submit to the extortion rather than incur the loss of time and expense of defending the suits.

The matter was brought up in the Executive Committee of this Association, but as there were no funds at their disposal to enable them to make a contest on behalf of the Association, added to which was the fact that a good many millers had already settled with the claimants, the Committee decided they could take no action beyond instructing the Secretary to correspond with Messrs. Maybee & Gearing and obtain as favorable a settlement as possible. This was done, and a reduction was obtained on their original demand, viz:—from \$25.00 to \$30.00 on purifiers and exhausts from rolls; and, from \$35.00 and \$50.00 for wheat cleaners and other purposes, to \$30.00 all around, including past use. On this basis all members of the Association who had been notified were able to obtain settlements.

For further information the Secretary recently sent out about 300 cards to millers in the Province with following questions:—

"Total number of Dust Collectors in use for all purposes....."

"Paid Maybee & Gearing Royalty on....."

"Dust Collectors....."

Replies were received to about 100 of these cards and the answers show as follows:—

26 millers paid royalties on 73 machines amounting to \$2469.12.

11 millers bought machines from licensed manufacturers and indirectly paid royalties on 30 machines, say \$750.00, (the balance of those who replied used other machines or else did not use dust collectors at all.)

Total amount ascertained to have been paid is approximately \$3219.

Another feature of the matter was developed from these replies, namely:—

Four of the parties who replied were not members of the Association, and made their own settlements. They paid in royalties and costs \$981.00 for 19 machines, while the members of the Association who made their settlements after adjustment at \$30.00 each would have paid



about \$380.00 for the same number of machines, showing a difference of \$600.00 in favor of united action.

Those who took the trouble to send in replies, only constitute about one-quarter of the millers in Ontario; and taking the results as fairly representative, we may estimate that the amount collected by Maybee & Gear would be three or four times as much as the amount ascertained from replies. So that in all probability the Knickerbocker Co. were able to collect about \$6,000 to \$8,000 with very little expense or trouble by a good bluff.

Although the Knickerbocker Co. cite an English decision in their favor they do not mention the fact that their patent in the United States is disputed by the Vortex Dust Collector Co., of Milwaukee. The litigation is still pending and the solicitors of the Vortex Co. express themselves as confident of showing the want of validity in the Knickerbocker Co.'s patent.

Out of the correspondence that has taken place, our Secretary has obtained evidence from different sources showing that Dust Collectors were built on the same principle as the "Cyclone" both in the United States and Canada many years prior to the date of the Morse patent. This evidence is positive and beyond question.

Wm. Spider & Co., of Waterloo, had a "Cyclone" built for them by a millwright named Beerbohm ten years ago.

A. B. Barter, Medway Mills, London, helped to build a "Cyclone" as long ago as 1870.

Benjamin Barter, of Toronto, built a "Cyclone" Dust Collector in 1871, for the Polar Star Mills, Fairbault, Minnesota, and a letter written by him describes it as follows: "The Exhaust consisted mainly of an inverted cone about 5' 6" in diameter, having an opening near its periphery for the admission of the air and dust, and a small opening at the bottom part of the inverted cone for the dust to pass out to a spout, while a large opening in the centre, at the upper part, allowed the air to ascend and pass out. A fan operated in connection with the several burrs and the passages through which the flour chop was conveyed to the bolts for the purpose of drawing the hot air, etc."

Now compare this description with the specification made by Moore in his patent, as follows: "A Dust Collector composed of a conical or tapering separating chamber having a dust discharge opening at its small end and air discharge opening at its large end, and an inlet for the dust laden air connected with the large end of the separating chamber, substantially as set forth."

This is identically the same as Barter's except that Morse has added rotating arm or brush inside the cone for the purpose of deflecting the dust as it collects in the lower part. This is only an accessory to the main idea of a cone in which the air and dust are separated, by centrifugal force, and retarded motion, the air escaping upwards and the dust downwards.

Besides this evidence found in Canada, the Vortex Co. must have collected considerable evidence in the United States upon which they have carried on their contest. It appears from the data at hand that the Knickerbocker Co. have succeeded in collecting large sums of money from the millers in this country with scarcely any opposition and no test of the validity of their patent, owing entirely to the fact that no one man would undertake the trouble and expense of contesting a claim which was individually small, but which, if contested for all concerned, would have saved a large amount of money.

Some means should be devised by which better protection may be had against similar claims. It is pretty well understood that there was some years ago in our courts a case in which competing machinery manufacturers were fighting out the validity of a patent device; and when the patentees found that their opponents had secured fatal evidence against them, they negotiated a compromise, by which they were, for valuable concessions, allowed a formal judgment in their favor; thus establishing their patent when in reality it would have been declared invalid if the matter had been fought out to the end.

By this time I think the question has occurred to you, as it has to me, why should not this Association, as representing the milling fraternity generally, undertake the responsibility of protecting our interests in this direction.

It is in a matter like this, that our Association can be of the greatest assistance and benefit to its individual members. Let us insure ourselves against exorbitant and untenable patent claims, which are liable to arise.

I venture to suggest that if the Association has no fund at hand for such purpose it would be but a small matter to inaugurate a special fund, by a small assessment, for the purpose of contesting doubtful patents or similar claims. It would not cost much to retain some legal firm on behalf of the Association, who would be ready, at any time, to confer with the Executive Committee on such questions, and should litigation be necessary, the sinews of war would be provided in the manner I have suggested, with very little burden to individual members. At least we would have the satisfaction of knowing that we were in a position to fight for our rights, instead of tamely submitting, one by one, to the demands of peripatetic owners of doubtful patents.

#### THE PLANSIFTER SYSTEM OF BOLTING.

The manufacture of the plansifter in Canada has created interest in this particular system of bolting, and the subject was clearly dealt with in a paper by Mr. John Hodd, of Stratford, whose mill is fitted up largely with plansifters. The paper is as follows:

At the request of your honorable president I will endeavor to give you my views on the Plansifter Bolting Machine. I wish, before giving said opinion, to relate to you our reason for adopting the Plansifter. Years ago our company built a full roller mill, using the latest bolting devices known to the milling trade, which, you are at the time aware, consisted of besagon reels, ranging from 16 to 18 feet long, and scalping reels from 4 to 6 feet long, running in connection with centrifugal reels, which were just being introduced to the milling public. As progress was made in the milling science, we adopted more reels of the latest and most improved pattern, until we had in operation 12 besagon reels 18 feet long and 32 inches in diameter, 7 centrifugal reels and 7 scalping 6 feet long and 32 inches in diameter. After running our mill steadily for eight years, the bolting department commenced to wear out and cause us a great deal of trouble and delay, also a great loss of time and money, owing to this disadvantage. Our company concluded to investigate the different systems of bolting in use, with the view of adopting the most perfect system. In the course of our investigations we were advised to look over a Plansifter mill, which we hastened to do, and after a careful investigation we concluded to adopt that system of bolting, and accordingly on the last of December, 1893, we shut down our mill, and proceeded to put in five Plansifters, removing 24 old reels, and retaining two centrifugals. We had our mill again running on February 6th, 1894, or in about five weeks from time of shutting down. After starting up we found that our flour was more granular, was of equal, if not superior color, giving a much whiter loaf, and that our yields had improved and capacity increased 74 barrels, using the same roll surface and with less power, all of which is due I think to the superior work of the Plansifter, which causes the light or fluffy material to float on top, and the heavy particles to drop to the bottom, thereby causing the flour to be sent direct to packer, avoiding all re-bolting. I might add that we have found that our present grade of flour will produce more pounds of bread per hundred of flour than our old, owing to its being free from fluid and dead flour. As regards our reduced yields, I will state that the middlings coming from the Plansifter are practically free from woody or fibrous particles, and most of necessary grain easier, and cause better separations, enabling us to send any impure stock direct to the tail end of the mill for treatment, and avoid any overloading of our rolls. All pure stock is reduced to flour before it reaches the low grade rolls, these rolls have only the woody and fibrous stock to handle, this stock is sent direct to centrifugal reels, where all flaky stock is broken up and dressed into low grade flour, averaging 4 or 5 per cent. running on average yields of 4 2/3 (theaters and car wheels). In my opinion the one reason for the savings in power is owing to the superior condition in which the stock comes from the Plansifter and goes into the rolls to be ground, as it enables you to grind high and still produce good yields, another is that the Plansifters themselves run very light, in fact one of our machines doing all the scalping, grading, and flour dressing for 350 barrels. The first, second and third breaks do not take two horse power. In my opinion the superior points in the Plansifter over any other bolting device consists in the following: larger capacity, saving of space, saving of power, makes sharper flour, makes whiter flour, sends middlings direct to rolls and purifiers without the use of conveyors, it handles each break and reduction separate allowing none to mix, can be used equally well on hard or soft wheat, easy manner in which it can be controlled on any class of wheat. I have been asked the question a number of times in regard to the machine shaking the mill building. In reply to these questions my answer is this, that they do not shake it any more than the old style long geared reels, and if they are in balance, the shake cannot be felt to any extent, the shake, when there is any, is a swinging shake and does not have the harmful effect on the building that the jarring of the old style machine had.

I will not take up your valuable time any longer, and will close by extending to you, one and all a special invitation to call and examine our Plansifter mill at work.

#### ELECTION OF OFFICERS.

At this point in the proceedings the election of officers for the new year was proceeded with, resulting as follows:

President—H. Barrett, Port Hope.

First vice-president—Alexander Dobson, Beaverton.

Second vice-president—James Hodd, Stratford.

Treasurer—William Galbraith, Toronto, (re-elected).

Representative of Industrial Exhibition Board—John Brown, Toronto.

Executive Committee—J. L. Spink, Toronto; J. D. Saunby, London; A. H. Baird, Paris; M. McLaughlin, Toronto; James Hodd, Stratford; Robt. Noble, Norval; John Goldie, Ayr.

Board of Arbitration—James Stark, Paisley; John Galbraith, Allandale; James Goldie, Guelph; J. C. Vanstone, Bowmanville; W. J. Baldwin, Aurora; Geo. Hamilton, Toronto.

#### WHEAT BUYING AND PRICES.

A discussion on this question, which is a very live one at present with millers, was led by Mr. T. O. Kemp, of Seaford. He expressed the opinion that the system of buying by standard, adopted by the Association some years ago, had served its purpose. It was formulated at a time when \$1.00 a bushel was being obtained for wheat. It had also served the excellent purpose with the farmer of improving the quality of the wheat. As prices ruled to-day, however, the adoption of that system meant that the miller was paying, in most cases, a premium per lb. for his wheat. He could not afford to

do this. Mr. Kemp was of the opinion that the time had arrived when the system of buying should be changed to a percentage system, as the only fair method alike to miller and farmer. He had carefully worked out what this change would mean to all concerned, and gave to the meeting several practical illustrations. In all cases he contended it would be giving the farmer every cent that the wheat was worth.

The remarks of Mr. Kemp provoked a good deal of criticism. Mr. James Goldie, of Guelph, was of one opinion with Mr. Kemp in the matter. He said it was folly for millers to go on buying under the standard system. Mr. J. L. Spink said he had not bought by the standard system for some time. His buyers examined the wheat sample and judged its price, and offered the farmer so much per bushel for it whether it weighed 60 lbs. or 61 lbs., or otherwise. Mr. A. H. Baird and others were strongly of the view that it would be unwise, after all the labor that had been expended in getting the standard system accepted by farmers, to disturb matters at present. Mr. M. McLaughlin apparently voiced the view of many when he said there was one safe rule only to be followed and that was the one enunciated by Mr. Plewes at the afternoon session, namely, in no case to pay for wheat more than the export price. Millers could not hope to succeed by adopting any other method.

The proposition of Mr. Kemp was put to a vote, but did not carry, though members agreed with much that he said and admired the care and thought he had given the question.

The full programme having been carried out almost in its entirety, another successful meeting was brought to a close at 10:30 P. M., so far as business was concerned.

#### CANADIAN MILLERS AT PLAY.

There dwelt a miller hale and bold  
Beside the river lee;  
He worked and sang from morn till night,  
No lark more blithe than he.  
And this the burden of his song,  
"I never used to be,  
"I envy nobody—no, not I,  
And nobody envies me!"

So pleased were the members of the Dominion Millers' Association and their friends with the outing of a year ago, which took the shape of a trip to Niagara Falls, by the beautiful steamers Chippewa and Chicora, and the new electric railway, that there was a very general request that the trip should be repeated again this year. Consequently the programme of the second day of the annual meeting was fixed to be an excursion to Niagara Falls. Some by the 7 a.m. boat and others at 9 o'clock—millers and their friends to the number of upwards of 100 proceeded to the Falls on Wednesday, Aug. 8th. With the exception of a slight sprinkle of rain the weather was delightful, and the manner in which millers enjoyed themselves seemed to show that "no lark more blithe than he" is to be found anywhere than the Canadian miller when he is off for fun.

On the arrival of the party at Niagara Falls dinner was served at the Duffin Cafe, where complete arrangements had previously been made by Secretary Watts, who was on hand early to see that members received careful attention. Needs of the inner man having been satisfied, the excursionists proceeded to enjoy themselves generally by seeing some, at least, of the many beautiful sights of the Falls, which people never seem to tire of.

#### VISITING UNITED STATES MILLS.

It had been arranged by the Secretary that Canadian millers might visit the two large mills, among the largest in the Eastern States, situated at Niagara Falls, N.Y., and many millers took advantage of the opportunity to see how their American cousins conducted affairs and in what way the American "dusty" was different from those who plied their trade within the Queen's domains. The capacity of the mills visited is about 2000 bbls. (each) daily. Every attention was paid the visitors by the managers of those two large concerns. "In fact, just you say," said Mr. James Goldie, of Guelph, to a representative of the CANADIAN MILLER, "these Americans have treated us in the whirist manner possible. They showed themselves good fellows and they have our very best thanks and appreciation for the trouble they have taken upon themselves during the time of this visit." There is no doubt that from a trade standpoint

the visit was profitable, just as from the social point of view it was enjoyable. Canadian millers received pointers from what they saw, and if they are able to introduce any improvements or new notions into their mills on their return home, they will have to thank the firms of Schoellkopf & Mathews and The Central Milling Co. And we are sure that no one will be more delighted to know that information has been imparted than these representative American millers.

At 4.15 p.m., the party again took the Niagara Park and River Railway for Queenston, there boarding the Chippewa, reaching the city about 8:30 o'clock, having had a jolly time.

TALKS WITH MILLERS.

"Managing to keep the sheriff out—that's about the most millers can hope to do these times," was the reply of John Brown, of the Citizens' Milling Company, to my enquiry of the day, "How is trade?"

Mr. David Plewes, the old-time Secretary of the Dominion Millers' Association, was a prominent figure in the meeting. As is generally known Mr. Plewes has spent the past two years and more in Great Britain, representing a syndicate of Canadian millers. His return at the present time is due to the depressed condition of the flour market in Great Britain. He does not at present see any way out of the woods, certainly not so far as Canada is concerned, until more favorable through freight rates for flour are secured, and millers buy wheat at an export price.

I had a few words with Mr. J. D. Saunby, of London, who has recently returned from a trip to the Maritime provinces. "Trade is flat, very flat," said this well-known miller from the Fcrest City. "We can sell some flour, of course, if we are prepared to do so below cost, but for my part I see no fun in doing business in this manner. The fact is the millers of Ontario are acting like fools. Only to-day I received a telegram from a dealer in the provinces offering to place an order for flour providing we would drop our price to cents below suicidal figures already quoted." "Is there no remedy for the evil?" I asked Mr. Saunby. "Really, I don't see any relief," was the reply, "so long as millers will persist in doing business at a loss. Of course the strongest men cannot keep this up for ever."

"The trend of trade towards centralization," said Mr. James Stark, of Paisley, as I chatted with him on the way home from the excursion on Wednesday, "is being felt in Canadian milling to-day as it is in almost every branch of trade. In the city here the small tradesmen know how the big bazaar stores are cutting into their trade. The small manufacturers of various articles all over the country know how the large combinations and consolidations are affecting business with them. It is hard for the small men to compete with these big fellows. We are seeing the same thing growing in milling. There are large milling concerns in this country doing a business that might be represented by 200 small boss millers. They manufacture at a cost that the small man cannot touch; they possess advantages in selling their product; their large output enables them to secure special rates both on the product going out and the wheat coming to the mills. How are the small mills to meet this evolution in trade is a present-question. And yet I believe that at the small mill is a necessity to the success of the country and the small miller will still, somehow, manage to fight his way."

Mr. Charles Smith, of Campbellford, is one of the men who does not believe in helping railroads. Enjoying the lake breezes, and they were at their best at that hour, on the hurricane deck of the Chippewa, as we were homeward bound from the millers' outing he conversed freely of railroad freights. "How we are going to remedy the trouble," he said, "I hardly know. We must all recognize the power that railroad corporations possess and how they can manipulate governments, and I believe, too often, individuals to meet their own ends, and yet we have got to fight this. It is amusing, when these railway managers are brought to book about discrimination in freight rates, for them to tell us that there is a millers' rate. Of course there is a millers' rate, but there are rates and rates. The millers' rate, unfortunately, is not the best rate the railroads are ready

to give, if you know enough to get after them for something better. Take a case of some 17,000 bushels of wheat, that I bought some time ago, to be delivered at my mill as I might want it. Within the past few weeks I sent west here for a portion of that shipment to be sent me. The rate was 6 cents to Campbellford. Brokers tell us that they are not making any commissions these days on wheat, so I suppose they must get a living in some other way; at any rate this wheat was sent forward to me at 3c., just half the rate. The railways certainly broke their rates and I suppose the margin, or part of it, at any rate, helped to make up the broker's commission, not so obtainable at present prices. When one sees the inside of this freight trouble I confess it annoyed me to see the Association anxious to put themselves about at all to obtain any special legislation for the railways. Let them fight their own battles. We have got our hands full." SCRIBER.

IMPRESSIONS.

What would the Dominion Millers' Association be without its able and indefatigable secretary, Mr. C. B. Watts? The position of the Association to-day illustrates its success under his capable management. There is no flattery suggested in the interrogation, for at different points in the meeting on Tuesday the 7th, it was evident that not only has the secretary the confidence of the entire membership of the Association, but he has their sincere admiration and appreciation, and he deserves it all.

Editor Wrigley of the Canada Farmers' Sun was an interested visitor at the evening sessions of the Association. He appeared to be quite interested in Mr. Barrett's account of how millers had been caught through doubtful patents in milling machinery, and we are mistaken in our study of faces if he was not a good deal interested in the address of Mr. T. O. Kemp, and the discussion following it, on the price of wheat and a possible change from the basis of buying by standard.

While Mr. Plewes was warming up in his speech on the export trade in flour, Mr. J. L. Spink threw one of his little bon-mots, of which he keeps a stock in hand, into the discussion. Mr. Plewes was speaking with a good deal of vigor of the low prices that were being paid for wheat, when Mr. Spink took out of his pocket book a three line clipping, which he said he had received that day from his wife, who is visiting in Kansas. It read, that 35 wagon loads of wheat had been delivered that day at 35c. a bushel, and oats at 23c. "Canada is not a bad country to live in after all," remarked Mr. Spink.

The annual meeting was a success. Who will say nay? The attendance of members was perhaps a few behind a year ago, nevertheless the numbers ran into satisfactory figures, and those present were creditable and able representatives of the trade. The reports of the officers, executive, and freight committees were full of meat, and as given in full in this number of the CANADIAN MILLER ought to be carefully studied by every man interested in the progress of milling in Canada. They should, by the way, give suggestion to milling writers for various topics suited to these columns.

It was a pleasing break in the order of proceedings, that one or more papers on technical subjects were read before the Association. Previous programmes have been weak in this respect. Sometimes we are led to think that millers forget that there is a practical, as well as a commercial side, to flour-milling. Without any doubt the miller must watch closely the buying of his product for milling, and again the selling of it, for in both cases the cents in these days count. But the wheat that comes into the mill must be properly ground, if a successful and lasting trade is to be done, and whether this is so or not will depend on the methods employed. The papers of Mr. Barrett and Mr. Hodd merit the attention of all practical millers.

Allow us to throw off the innate modesty of a miller-editor and draw the attention of the trade of Canada to the very curious resolution of commendation of the CANADIAN MILLER moved by Mr. M. McLaughlin, of Toronto, seconded by Mr. James Goldie, of Guelph, and passed at the afternoon session of the Association. The success of the milling trades are in no small measure wrapped up in the prosperity of a well conducted trade journal. The publisher of the CANADIAN

MILLER is sparing no effort to make this journal one worthy of the great interest it represents. How much millers may lose by not being subscribers is perhaps suggested by the story told by president Baird in his annual address of the farmer, who thought he would economize by stopping his newspaper, which had been costing him \$1.00 a year. Twenty-four hours had hardly gone by before he lost five times the amount through an error in a little transaction, because he had not his paper to keep him posted. We are modest enough to say that the suggestions and information that can be obtained in these columns in twelve months, for the sum of \$1.00, are worth many times the amount to every miller. Read the resolution that appears in the report of the proceedings.

The Association has, we believe, again made a happy choice of officers. Mr. H. Barret, of Port Hope, steps up from the first vice-presidency to the position of president. He got there as the unanimous choice of the Association, and will no doubt do honor to the office. In next month's MILLER we will publish a portrait and character sketch of the new president, when more will be said about him. In Mr. Alex. Dobson, of Beaverton, and Mr. James Hodd, of Stratford, the Association secures the services of two of the most successful and capable millers in the province. They are new men on the executive and will bring strength to it. Two other new faces, that will appear at future meetings of the executive, will be Mr. Robt. Noble, of Norval and Mr. John Goldie, of Ayr. The former is one of the solid, prudent, level-headed millers of the country, whose councils are always sought after and followed. The latter is the son of one of the veterans of Canadian milling, Mr. David Goldie, of Ayr. He is a young man and an active member of the recently organized Goldie Milling Co.

IN RUSSIA.

RUSSIA is a country of queer things. A St. Petersburg letter says: "It seems almost incredible that a people who, two years ago, were suffering all the horrors of famine and publicly offered up prayers to the Almighty for an abundant harvest, should now consider measures for the purpose of counteracting the effects of the wished-for blessings. But it is none the less true, and, stranger still, some papers in reply to the question, 'Should the corn be reaped?' have deliberately given it as their own opinion that, for numerous districts, it would be advisable to leave the corn standing. Nay, more it now appears that many landowners refused even last year to gather in the harvest and are determined not to remove it this year either. One landlord, for instance, who owns a large estate near Odessa, and whose facilities for export are, therefore, very numerous, foreseeing the fall of prices, purchased 1,000 sheep and unhesitatingly turned them into his field of wheat. He is said to be so satisfied with the results that he meant to do the same this year, now that a further fall in price is probable." On the same subject the Novosti, Odessa, says: "It would be tantamount to throwing good money after bad to gather in the harvest this year, for it can only be done at a heavy loss to the farmers. A pud (36 pounds) of barley, for instance, costs the producer 36 1/4 kopecks (18 cents) before it is shipped at Nikolaieff; the price per pud at that port, is, at present, only 34 kopecks, and and is bound to become less as soon as the abundance of this year's harvest is made generally known."

EXPANSION OF CYLINDERS.

MUCH trouble is experienced in long stroke engines by the cylinder working loose on the foundation, caused by expansion in the cylinder body from the heating of the steam. Various means for overcoming this have been adopted and the most satisfactory seems to be to fasten one end of the cylinder solid to the foundation and leave the other end free to expand endwise, but of course prevent from vertical motion by the proper appliances, in other words, have a sliding expansion joint at one end. In tandem engines where one cylinder is fastened to the other direct, that is, the back end of the first to the head end of the next, this expansion is something considerable and should be provided for. This expansion can be diminished by not connecting the cylinder as first stated, but connecting the head of the first cylinder to the head of the second by rods running outside of the smaller cylinder.



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

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

#### AN EXAMPLE TO OTHER WORKMEN.

ONE of the happy conditions of the milling trades generally is the satisfactory relations that exist between employers and employed. The world of labor almost everywhere evinces a spirit of troublesome unrest. A reference to the events of the past few months, and to instances just as distressing, dating not far back of the great railway tie up, furnish illustration enough on this point. But the head miller and his associates go on their way undisturbed, carefully minding their own business. Analyzing the well-known character of millers, whether proprietors or workmen, we may perhaps attribute this enviable condition of affairs to an innate contentedness and a common-sense way of viewing business matters. The miller can afford to hold firm to this position, for there is need that some body of workmen should stand out in contrast to those who essay to-day to be leaders in the ranks of labor.

Unfortunately labor disturbances are like the rain from the heavens above; they fall both on the just and the unjust. If the results of strikes could be confined only to the particular trades directly interested, serious though these would be, we might be satisfied to withhold unfavorable comment. But the loss and trouble strikes others as badly as these do the workmen themselves who are the instruments of the strike. The outcome of labor strikes, whether in this country or abroad, furnishes stronger reasons for the abandonment of these methods of removing labor troubles than it does for a further pursuance of them. Workmen might profitably come to the conclusion of their unfortunate and wild-headed leader, Debs, that they will never again have anything to do with leading a strike.

An able and comprehensive review of labor troubles, written by the Hon. W. P. Reeves, Minister of Labor, New Zealand, throws clear light on this phase of the question. Quoting data from English, American and Antipodean sources to substantiate the statement, he remarks "not many labor victories are complete enough to reimburse the men the hard cash they are out of pocket through a long spell of inaction. The cost of strikes are frightful, their waste deplorable. What is to be said when this price is paid, not over victory, but over defeat and humiliation when after all these sacrifices workmen see their cherished union shaken and discredited; their leaders, it may be, in prison; their places taken by the hated black legs; their families eating the bread of charity; themselves driven out to wander and beg for the work they renounced". Mr. Reeves says that after all the strike or lock-out only proves which side is the stronger, not which is right. Employers have yielded to unfair demands simply through fear of loss by stopping their works. Quite as often unions have not dared to press home fair requests through their inability to face the lock-out, or the summary dismissal of their leaders. It may well be asked if a method of

settling labor troubles, that does not produce greater results than these, should not be abandoned for something more business-like, rational and in keeping with the progress of the age.

#### WHEAT CHANGES.

THE indications are many that methods of farming on this continent are undergoing a number of changes. Various commercial conditions have led up to this point, but doubtless first among these is the continuous depression of the wheat market. In Ontario what with the loss of the barley trade, caused by the McKinley bill, followed by the low price of wheat for the past two years, something had to be done, and we find our farmers entering largely into *barving*, as one means of relieving themselves from the loss of trade that had resulted from the changes in the barley and wheat markets. Others, both here and in the United States, have been studying the question of feeding wheat to hogs, in place of selling it in the customary channels of trade. Figures previously given in these columns have shown that there has been during the past year no small part of the wheat crop ground up by millers for feeding purposes. How far wheat becomes a profitable food for hogs is another question that farmers must intelligently solve if they intend to use the grain in this manner. Investigations are now being made at different experiment stations in various states with the view of ascertaining how far wheat may be fed to hogs with profit to the owners of these animals. In South Dakota a result of these experiments has been given forth and would indicate that whilst wheat can be fed profitably as an entire ration to hogs, it would pay better to mix it with some other food, particularly during the early stages of fattening. Hogs fed on ground food make a more rapid and more uniform gain and produces pork of rather better quality, but they also consume more wheat than those fed upon the whole wheat. Other questions, bearing chiefly on the quantity of pork produced, when fattening begins and how long, are brought out in the investigation, but so far as the main enquiry is concerned it would give strength to a growing opinion that a better price will be netted the farmer, as prices are running these days, for wheat fed to hogs than sold for flour making. It ought to be a good thing for the farmer if he can find a new outlet for his crop through the hog. This circumstance, combined with a tendency to curtail wheat-growing, ought ultimately to result in bringing up the general price of wheat to a better figure than has prevailed for some time. We are at a period in wheat growing when considerable changes will be made. As we have remarked more than once millers are largely concerned in the evolutions of the wheat market and the intelligent miller will give his best thought to these changes of the times.

#### THE FACTIOUS SIDE OF WHEAT.

GROWING discouraged in the effort to bring wheat prices up to anything approaching a decent level of former figures, some of our cotemporaries are beginning to treat the question facetiously, and if they cannot join with President Van Horne in fixing \$2.00, or yet \$1.00 for wheat, they are at least going to have some fun out of the business.

These are not the days that create wheat kings like "Old Hutch," of Chicago wheat pit fame. The times are such as would test the ingenuity of a brighter man than even he in an effort to run prices up a single notch, much less a jump of say 40c., as had been done on one memorable occasion. With wheat in Chicago hanging around 50c., this kind of work is out of the question.

Looking at things in this light we find the Montreal Trade Bulletin, for one, amusing its readers with a dissertation on "That Poor Old Hack Wheat," as follows: "The amount of confidence still placed in the recuperative powers of that poor old broken-down, sore-footed horse called wheat, is really marvellous. Because it has performed some fast pacing under the jockeyship of Jack Sturgess, Jim Keene, the Cincinnati barber, and the renowned Hutch, the great crowd of speculators are all betting on its capability of doing some other wonderful feats, and margins are all up, expecting the old nag to get away in fine style and make some money for them. The stubborn old brute, however, continues to

make starts after starts, as though it meant business, but no sooner is it off on a canter and making headway than it pulls up broken-winded, and walks back to the starting point."

#### EDITORIAL NOTES.

OUTSIDE of the foolish young lads, who have visited the Peel county pool room, where the gambling has been on horse flesh, chiefly, we do not hear of any extravagant losses from this habit in Toronto, though, doubtless, losses are made, that are kept dark. Doing things up on a larger scale, Montreal seems, relatively, to be as much given over to gambling in grain as Chicago. The death of a prominent citizen, in the person of Mr. James Burnett, who died suddenly a few weeks ago, has brought out the fact that an estate that would have realized, likely, not less than \$1,000,000 has been discounted to the extent of \$200,000 through losses in wheat speculations made by Mr. Burnett. His is by no means an exceptional case, if all we hear from Montreal is correct.

AN outcome of the discussion that has been conducted in these columns regarding flour trade with the West Indies has brought forth the suggestion that it would be a practical step towards a development in trade with these colonies if the government were to appoint an officer who might be known as Agent-General for the Indies. There are now at certain points in the Islands officers, who, to some extent keep track of the conditions of trade, but their work is hardly continuous enough. What is wanted is one who will give careful thought to the needs of the colonies, watch carefully the imports, and adopt means to direct these to as large an extent as practicable into Canadian channels. It seems quite likely from what we know of the flour trade in the Indies that an officer who understood his business could materially help to direct greater attention to Canadian flour and to adopt means to wipe out any prejudice that to-day may be a drawback to doing as large a trade in flour as might be done.

OUR friend, N. H. Stevens, of the Kent Mills, Chatham, has uttered the prediction that the ruling price for the new wheat crop will be 50 cents per bushel. He considers dealers have been paying far in excess of the price warranted by the market, either present or prospective. This well-known and level-headed miller of the west is not alone in this view of wheat prices, whilst of course there are others who do not give way from their prediction that before very long we will really touch \$1.00 for wheat. On this point, as a contribution to the argument, each one to take it what way they will, it is to be noted that the amount of wheat and flour on passage to the United Kingdom and the continent increased for the last week in July nearly three million and a half, from 82,628,000 bushels to 90,088,000 bushels, a figure that makes the total in sight come up to within 5,926,000 bushels of that of a year ago. If the new crop is to be as large as appearances would indicate just now, we are certainly not going to be short of wheat.

AT various times the grain and milling trades have not escaped the evil of adulteration. The baker has learned that it was not all wheaten flour he was making into bread, and we do not know that he has been so sinless, that he has not himself had a knowledge of the art of adulteration. It is a peculiar condition, however, to write of wheat, the most valued of all grains, at least this was so at one time, as being itself used for purposes of adulterating some of the minor cereals. It is stated on the authority of the National Stockman that since the price of oats has been comparatively higher than the price of wheat, the products from oats have been adulterated by mixing them with the products of wheat. Some of the manufacturers of oatmeal, it is reported, have been buying large quantities of wheat recently for the sole purpose of increasing the weight and cheapening their output. Chops and other of the by-products of wheat are being used in commercial funds to-day placed on the market. It was a terrible insult to wheat when we commenced to feed it to the hogs, but the descent is surely still greater when it commences to serve the ignoble purpose of adulteration.

IEWS AND INTERVIEWS.

**Where Australian Millers are Behind.**  
 Millers at the antipodes are recognizing that they are behind the times in labor saving machinery. The Australian Miller says: "The low price of wheat this year has forced on our notice the fact that, if wheat-growing in Australia is to pay, we must adopt more efficient and less wasteful methods of farming and of handling the grain. In a country like ours, where the heavy cost of labor is the chief obstacle to the rapid development of the various resources of our vast and sparsely inhabited continent, it is reasonable to think that we should evolve, an aptitude for inventing labor-saving devices. or, at any rate, that we should adopt the labor-saving devices which have been found to work well in other parts of the world."

**Where Corn is Indigenous.**  
 Dr. John W. Harshberger, in an interesting study on maize corn, traces its origin to the highlanders of Mexico, between the 21st and 22nd degrees of north latitude, from whence it spread through the agency of the tribes of Northern Mexico, and possibly by the way of the West India Islands also, into the area included by the United States. Following down the Isthmus of Panama it extended southward along the great Ardean system, where we find tribes in no way related borrowing the name as well as the cereal itself. Maize was not introduced directly into the West India Islands from Mexico, but probably through South America. This is inferred from the fact that South American words designating this grain extended all through the West India Islands. These conclusions in regard to the introduction of this cereal north of Mexico are contrary to the generally accepted idea that the Caribs introduced it into Florida.

**Scientific Milling.**  
 The real science of milling, says a writer in the Modern Miller, consists in removing the husks of bran from the berry without cutting it up and reducing it to powder so that it all can be removed from the flour, and that the taste, whiteness or nutritive properties of the flour may not be interfered with. So important is the thorough purification of middlings still considered, that scarcely a week passes in which there does not appear some new-devised machine. Many of these cannot bear the test of practical use; others are but a slight alteration of some machine already in use, but oftentimes the patents issued represent considerable original experiment on the part of the inventor. When we look over the panorama of machines which have been brought before the milling public, however, we find that although many times there have been radical deviations in all directions, after all we have returned to the original principles.

FLY WHEELS.

FOR convenience of those designing or buying steam engines, we give herewith a table applicable to engines of various horse powers, of different speeds, and from which the required weight of fly-wheel rim in pounds may be got by dividing the number given by the diameter of wheel decided upon. The larger the wheel the less rim-weight it needs.

TABLE FROM WHICH TO GET WEIGHTS OF FLY WHEEL RIMS.

H. P.	REVOLUTIONS PER MINUTE.			
	60	70	80	90
	Constant	Constant	Constant	Constant
25	45126	33163	25391	20111
30	54152	39796	30469	24133
40	72202	53061	40625	32178
50	90253	66327	50781	40222
60	108303	79592	60938	48266
70	126354	92857	71094	56310
75	135379	99690	76172	60333
80	144404	106522	81250	64355
90	162455	119388	91406	72400
100	180905	132254	101563	80444
125	225611	165816	126953	100555
150	270718	199380	152343	120666
175	315824	232143	177734	140767
200	361010	265306	203125	160868
225	406196	298469	228516	180969

TRANSPORTATION AGAIN.

MR. CAMPBELL'S FIGURES AND VIEWS ATTACKED BY MR. PRINGLE, OF STRATFORD.

IN reply to the position taken by Mr. J. B. Campbell, of Montreal, whose several papers on transportation and wheat prices have appeared in these columns the Globe of recent date publishes the following vigorous rejoinder from Mr. Jas. Pringle, of Stratford, Ont.:

I have read several long letters in your valuable paper from Mr. James B. Campbell, of Montreal, advocating the deepening of the St. Lawrence and also of the canals to a depth of 22 feet, so as to enable large vessels to load Manitoba grain at Fort William or Duluth direct to Liverpool, or to any European port, without breaking bulk. This, he claims, would reduce the cost of carriage so much that it would make farming in Manitoba and the Northwest profitable, which would have the effect of populating the country, and of enriching Ontario and the rest of the Dominion, as well as Montreal and himself, instead of building up New York State and city, and allowing the profits of the Manitoba grain trade to go into the pockets of a New York Syniccate as at present. It is very doubtful if the syndicate or the profits exist anywhere but in the imagination of the writer.

Mr. Campbell has informed his readers that he has been fifteen years a member of the Chicago Board of Trade, and wishes it to be inferred from this fact that he knows all about grain and the grain trade, but it does not follow that he does. There is no class of men on the face of the earth engaged in the grain business that know so little about the quality or the business they are following than nine-tenths of the members of the Chicago Board of Trade. One man who has made millions during the last few years does not know spring wheat from fall, oats from barley, or peas from beans. As far as the knowledge of the value of grain is concerned the majority of members, to use a common expression, "don't know beans."

Mr. Campbell may be an exception, but it appears to me that he does not know quite as much about the intrinsic value of grain or of the grain trade as he professes to do, and it will be well for the different Provinces to think twice before consenting to put another mortgage of \$100,000,000 on the country for the doubtful experiment of making wheat growing profitable and building up the trade of Montreal. Mr. Campbell forgets that the natural highway to the English market he speaks about is frozen six months in the year, no matter how deep the water is. Besides it is not long since we had a visit from Sir John Thompson. In speaking about the grain trade he predicted that in ten years from now the Americans would not be able to grow enough wheat to supply their wants, and that it was only a question of time when they would have to depend on the Canadian Northwest for their supplies. If this prediction comes true the depths of water will be quite sufficient for the requirements of the country. Mr. Campbell seems to overestimate both the productiveness and the quality of the grain. It is true Nos. 1 and 2 hard command a big premium this year over other varieties, both at home and abroad. But Manitoba has been shipping wheat east for the last ten years. During this time she has shipped much soft and unmerchantable wheat, as well as much Nos. 1 and 2 hard. Mr. Campbell is mistaken if he imagines Nos. 1 and 2 hard are equally valuable one year with another. This season it is worth at least ten cents per bushel more to the English miller for mixing purposes than the same grades were two years ago.

MILLERS MUST EXPERIMENT.

It takes time for millers to find out the qualities of each year's crop, hence the reason English millers have increased the premium on this year's crop. A few years ago Manitoba dealers found a good market for frozen wheat from Ontario millers. To-day no miller who has any regard for his reputation will allow it in his mill at any price. In a year like this, when the bottom has been dropping out of the wheat market, it is unfair to quote the selling prices in the English market on certain dates and Manitoba prices at the same time, it being much easier to quote prices than it is for shippers to realize these prices six weeks or two months afterwards. If Mr. Campbell wished to be fair to Manitoba grain-dealers he ought to have quoted the prices paid during October, 1891, for wheat that did not stand the inspec-

tion, and the prices realized in the English market two months later. It is well known that large quantities of wheat were shipped that season that scarcely paid the freight. If dealers save themselves this year from loss it is simply because the crop is so small and the quality is so good. Supply and demand regulate prices. If Sir Charles Tupper's prediction had come true, and Manitoba had been raising a surplus of 640 millions of hard wheat ever since 1890, instead of wheat being 45 cents it would now be worthless. There is no sense in advocating at present increased production of an article that is now below the cost of production, either in Manitoba or elsewhere. It is an easy matter to quote figures holding out great inducements to lead the people astray. From 1855 to 1875 the counties of Perth, Huron, Bruce and many others raised nothing but the hardest kind of fine wheat on account of its proof against rust. In one of these early years I arranged to supply a miller in the State of New York, but he soon discovered the wheat was harder than the stones he had for grinding it, that is, that his millers, instead of making flour, had to be dressing stones the greater part of their time, and he concluded to get his wheat elsewhere. During this period farmers had no trouble in growing from 25 to 35 bushels an acre. Since that time the wheat has refused to grow either on the richest old land, or in the newest of the new. It is hard to say how soon it may give out in Manitoba, when the present premium would cease.

THE GRAIN DEALERS' METHODS.

Mr. Campbell is unnecessarily concerned about the welfare of Manitoba and her grain dealers. It is to be presumed the grain men know their own business. I am told several of the leading firms have formed a syndicate, and are pooling their purchases, one firm being stationed in New York, whose business is to sell the wheat on its merits either in New York, in the English markets, or on the continent of Europe. In view of the fact that the syndicate have to compete in buying against the Ogilvie Milling Company, the Kewanee Milling Company, and all the rest of the milling companies, there is not much danger of getting hard wheat much below its value. Mr. Campbell laments that Manitoba sends her wheat so far round about at a greatly increased cost, to be at last slaughtered in New York.

This shows plainly that Mr. Campbell has never studied the geography of his own country. The distance from Buffalo to New York is very little over 400 miles; from Port Colborne to Montreal is 435; Montreal to Portland is 287; to Boston 335, and to Halifax 756 miles, which shows plainly that Manitoba is using the direct route to the seaboard, to the port where she gets the best service and by far the cheapest freights the whole year round. It has been the experience of farmers and grain dealers during the last 35 years, that the sooner wheat was marketed after harvest it proved the most profitable nine years out of ten. This holds much more so in Manitoba, where snow drifts penetrate right through the stacks and destroy the grain, and the weather is so cold that thrashing has to stop. For this reason large quantities of grain will always be coming down at the close of navigation. The syndicate prefer Buffalo, because the grain can all be promptly unloaded. Supposing the canal is closed there, and a great many railways ready to compete for the carriage to New York at a very little over canal rates, time having been money in grain the last three years the sooner it reached the market the better.

Mr. Campbell surely would not expect shippers to be so foolish as to run the risk of having their property stuck at Port Colborne, Kingston, or even Montreal, and then have to pay two or three times more freight to Portland and Boston than by Buffalo to New York. Manitoba is not so badly in the hole as long as the New York route is opened to her. I find the rate from Duluth and Fort William to Buffalo is only 2c; from Buffalo to New York is 3c. This is surely cheap enough. But the chances are that as soon as canal boats are propelled by electricity, the same as trolley cars, freights will get much lower. Just think of a trolley taking hold of eight or ten boats and towing along at the rate of six or eight miles an hour! This will make the cheapest kind of transportation on the face of the earth; besides, the chances are before long the power that propels the boats will be made to keep the canal from freezing. If such is accomplished Mr. Campbell may as well give up his wild and expensive scheme.



Office of the CANADIAN MILLER,  
August 10, 1894.

**THE GENERAL SURVEY.**

**WHAT** are we to say of the trade conditions of the month that can be of timely interest to anyone interested in the selling or buying of grain? The conundrum is more difficult to solve than any of the Humpty-Dumpty riddles of childhood. The whole situation might be sized up in the words: Stocks and more of them than anyone wants; prices lower than anyone cares to sell for. The whole trade more stagnant than ditch water.

Things must be kept moving, however, somehow, and consequently thought has to be given to conditions as we meet them each day, though these may only be a repetition of yesterday. And we must look a little into the future, notwithstanding that we do not see many rays of sunshine coming from that quarter. Prices continue to drop. Everybody supposed that was said for the last time a good many months ago, but the past four weeks have brought still newer surprises and the lowest figure yet has been reached. What next month will be it is hard to say.

There is a little freshness undoubtedly in thinking of what may be ahead as a result of the growing crop. Talking of home matters, we have given a good deal of space elsewhere to the reports of millers telling of the condition of the wheat crop in Ontario, and these would seem to tell us that we will be with the new harvest in about the same position as at a corresponding period a year ago. The acreage sown is rather less than a year ago, but there is an increase in yield that will make up for any deficiency in this respect. Manitoba and the Northwest are not likely to do big things this time. The crop will be an average one only, though there is this in its favor that it will be harvested perhaps earlier than any year since 1886, which means that it will be got in with perfect safety.

The crop of the United States is variously estimated at from 400 to 480 or 500 million bushels, but figures in the Republic have for some years been so uncertain that naturally any statement is taken with a good deal of distrust.

From foreign fields reports come to us of bountiful harvests in Germany and Austria. India will have a good crop. Weather conditions are not too favorable for the best crop in Great Britain. Blunching all reports together, however, it is not likely that the world will see anything touching the nature of a famine in wheat this year, which with the stocks on hand means still a heavy market and quite likely continued low prices. So much attention has been given to the Argentine wheat crop that the United States minister at Buenos Ayres has given special attention to an investigation of conditions in that country. He tells us that the last wheat crop was phenomenal in yield and the quality was particularly good. The acreage for this year shows an increase of over last year of about 20%, but it is not thought that the yield will be as great, so that in the opinion of this gentleman, it might be a safe estimate that the probable crop for export next year, would be only a slight increase in bushels over this year. If this statement is nearly correct Argentine will not be so strong a competitor as everyone has been counting upon.

**CURRENT PRICES OF BREADSTUFFS.**

**WHEAT**—Toronto—Winter wheat (old), 55c.; spring, 58 1/2c.; No. 1 Manitoba hard, 70c. Trade Bulletin of Dominion Millers' Association says: "Fall wheat at 55c.; spring, 60c.; Manitoba wheat 69 1/2c. west and 71 1/2c. east. Offered new Fall wheat 53c., f.o.b. both roads." Montreal: No. 1 hard, 73c. to 74c.; No. 2 hard, 69c. to 70c. Chicago: quotations as follows—No. 2 spring wheat 52 1/2c. to 53 1/2c.; No. 3 spring wheat, 48c. to 51c.; No. 2 red 52 1/2c. to 53 1/2c. Buffalo: winter wheat, cash, 53c.; No. 1 white, 58c.; No. 2 extra

white, 57c. St. Louis: For cash 51 1/2c.; 52 1/2c. for September; 53 1/2c. for December; No. 3 soft, 53 1/2c. Duluth: No. 1 northern, 54 1/2c. for September; No. 1 northern, 56c. for December. Toledo: No. 2, cash, 51 1/2c.; September, 52 1/2c.; December, 55 1/2c. Minneapolis: August, 55 1/2c.; September, 52 1/2c.; December, 54c.

**BARLEY**—Toronto—Prices nominal; for feed quoted at 40c. Montreal. Barley for malting 50 1/2c. to 52c. Oswego: Canada barley market reported very dull; prices nominal with few sales.

**OATS**—It will be learned from the report of Ontario crops published in another column that oats very generally are looking particularly fine. Toronto: offerings in different parts of Ontario are quite liberal. Old oats are quoted at 32c. west, new oats offered at 31c. Montreal; Per 34 lbs. store, 41 1/2c. to 42c. Buffalo: No. 2 white, 37c.; No. 3 white, 36c.; No. 2 mixed, 31c.

**PEAS**—Toronto—The movement in new peas has apparently commenced and sales have been effected at 54c. middle freight. Montreal: for 66c. afloat, 73c. to 73 1/2c.

**RYE**—Locally little doing. Sales of several thousand bushels at Buffalo have been reported at 54c. for choice and No. 2 at 52c. in store.

**THE FLOUR MARKET.**

It is not an easy matter to report anything different to the dull monotony of low prices that has prevailed in the flour market throughout the year. Prices in fact vary a good deal, which is hardly evidence of a strong market. It is a case frequently of a desire to make sales at the best price that can be secured, but make the sale is the determination. Straight rollers of Ontario brands have been reported in Montreal at having been made at \$2.80 on track. United States flour is being offered in Montreal at \$2.60 in bond laid down. We hear of Ontario straights that have been placed for Newfoundland trade equal at \$2.70 on track at Montreal. There is no more encouragement at present to export flour, than there has been for months. Conversation with Ontario millers bring largely the same reply that everything is dull, not excepting local trade.

**PRICES OF FLOUR AND MEALS.**

**TORONTO**—Flour: (Toronto freights). Manitoba patents, \$3.40 to \$3.60; Manitoba strong bakers' \$3.30 to \$3.40; Ontario patents, \$2.90 to \$3.00; straight rollers, \$2.65 to \$2.80; extras \$2.50 to \$2.60; low grades per bag, 85c. to 90c. Bran, \$13.00. Shorts, \$16.00. Trade Bulletin of Dominion Millers' Association, says: "Sales of straight roller, \$2.55 and \$2.60; 90% patents \$2.65 and \$2.75 and 85% patents at \$2.90; 80% patents, \$2.95; bran, \$11.00 and \$12.00; shorts, \$14.50 and \$17.50 f. o. b."

**MONTREAL**—Flour: Spring patents, \$3.40 to \$3.50; straight roller, \$2.95 to \$3.10; extra, \$2.50 to \$2.70; superfine, \$2.35 to \$2.45; fine, \$2.25; strong bakers', Manitoba, \$3.30; strong bakers', Manitoba, best brands \$3.40 to \$3.50. There is a fair demand for meal at firm figures. Granulated and roll, per bbl., \$4.50 to \$4.70; granulated and roll, per bag, \$2.30 to \$2.40; standard, per bbl., \$3.90 to \$4.00; standard, per bag, \$1.60 to \$2.00.

**AN INSPECTOR'S EXPERIENCE.**

**A**n inspector writes concerning an experience that recently befell him, as follows: "I had an experience a few weeks ago, which I should be quite reluctant to repeat under the same circumstances, if it could be avoided as well as not. I called to make an inspection at a stone works, where they have two boilers, but use only one at a time. The engineer was working at his two pumps, which he could not get to throw water, and was scolding because he had no steam to run with, although he had plenty only a short time before. The tubes in the boiler I was going to inspect were badly choked, and, in fact, nearly filled with soot from the coal. I thought that might be the trouble with the boiler they were using, so I opened the front of that boiler and looked into the tubes. They were red hot. I looked for the water. It was gone. I looked under the boiler to see the fire, and jets of burning gas were actually spurting out between the rivets on the seams over the fire. And the engineer was still work at his pumps, trying to get some water. I had a queer

feeling just at that instant. I got the engineer away from the pumps as soon as possible and had him draw the fire; and I could see the gas burning along the seam while the fire was being drawn. As soon as it was darkened in the arch a little, I could see that the sheet on the bottom of the boiler was red hot for a space of about three feet square. As soon as the boiler cooled down we opened the manhole, and found the inside to be bone dry. The outcome was that the seam next to the bridge wall was badly fire-cracked and sprung, so that a new sheet had to be put in. The tubes had all come out, and all the seams on the fire surface had to be re-calked; which I considered to be a very fortunate escape."—The Locomotive.

**REPORT DUTIES ON WHEAT AND FLOUR.**

**F**ROM a statement prepared by the British Board of Trade the London Times has compiled the following showing in English equivalents, the customs duties at present levied on imports of wheat and of wheat flour in the various European countries and in the United States of America. In most instances the duty is quoted per hundred-weight, so that if multiplied by four it would, in the case of wheat grain, fall just a little short of the equivalent duty per imperial quarter of 480 pounds:

Country.	Wheat Grain.	Wheat Meal and Flour.
Portugal.....	Prohibited.	Prohibited.
Spain.....	3s. 3d. per cwt.	5s. 4 1/2d. per cwt.
France.....	2s. 10 1/2d. per cwt.	4s. 6d. to 6s. 6d. per cwt.
Italy.....	2s. 10 1/2d. per cwt.	4s. 8d. per cwt.
Germany.....	1s. 9 1/2d. per cwt.	3s. 8 1/2d. per cwt.
Austria-Hungary.....	1s. 5 1/2d. per cwt.	3s. 9d. per cwt.
Greece.....	1s. 3 1/2d. per cwt.	2s. 1d. per cwt.
Sweden.....	8 1/2d. per cwt.	1s. 5d. per cwt.
Norway.....	1 1/2d. per cwt.	9d. per cwt.
Russia.....	Free.	1s. 11 1/2d. per cwt.
Roumania.....	Free.	4s. 10 1/2d. per cwt.
Turkey.....	2 per cent. ad val.	8 per cent. ad val.
Bulgaria.....	6 1/2 per cent. ad val.	8 1/2 per cent. ad val.
Denmark.....	Free.	Free.
Holland.....	Free.	Free.
Belgium.....	Free.	Free.
United States.....	1s. 3 1/2d. per bushel.	5s. per cent. ad val.

"From this table it will be seen that Denmark, Holland and Belgium, like the United Kingdom, admit wheat and the flour of wheat free of duty. Russia and Roumania likewise admit wheat free, but they both place an impost on the manufactured product. In every case—with the exceptions of Turkey and Bulgaria—where there is a duty on imported wheat there is still a heavier tax on imported flour. Portugal, it will be noted, forbids importation either of wheat grain or of wheat flour save under certain conditions and restrictions. In France the duty of flour amounts to either 4s. 5 1/2d., or 5s. 5 1/2d., or 6s. 6d. A shilling (s) is equivalent to 24, and a pence (d) to 2 cents, according to quality. In Italy the duties on wheat and flour are provisionally in force in virtue of a royal decree, dated Feb. 21, 1894, but the sanction of Parliament has yet to be given before they can be definitely applied. The differences in the imposts of Sweden and Norway are interesting."

**COMPARATIVE VALUE OF DIFFERENT BOILERS.**

**T**HE comparative value of different boilers has lately been a prominent theme at the meetings of different engineering associations, and much has been said in favor of those of water tube construction. In the advantages claimed for the latter stress is laid on the fact that when the circulation is efficient a rapid current flows through the tubes, producing a tolerably uniform temperature in all parts of the boiler, and there are no serious strains from unequal expansion—the small diameter of the tubes permitting the attainment of excessive strength over any desired ordinary steam pressure even with thin heating surfaces. As such boilers are also made in sections of moderate size they are easily transported and can be conveyed through narrow openings of buildings which would not admit of a fire tube boiler, and they may be fixed in confined spaces. As is well understood, the heating surface of such boilers is measured on the internal diameter of the tube; in a general way, one square foot of heating surface being required for the evaporation of two and one-half pounds of water per hour, and 49 square feet of heating surface for every 100 pounds of water evaporated per hour.

## COOPERAGE D'P'T.

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

### COOPERAGE FACTORIES CLOSING DOWN.

Much interest in cooperage circles has been stirred up through a meeting of dealers and manufacturers of cooperage stock in Chatham a few days after the last issue of the MILLER had gone to press.

There were present: Mr. Buchanan, of Buchanan Bros., Staples; J. S. Ainslie, of J. S. Ainslie & Bros., Comber; Mr. Gordon, of Steinhoff & Gordon, Wallaceburg; Smith Bros., of Quinn; S. J. Sutherland, of the Sutherland, Innes Co., limited; H. Morris, of Wallaceburg; H. H. Shaver and J. P. Middleton, Eddy's mills; C. E. Naylor, Essex, D. P. Sickelsteel, J. Groesbeck and Mr. Decew, Essex.

It is to be remarked that the main home of cooperage manufacturing is in the vicinity of Essex, Kent and Lambton. At one time there had been in existence what was known as the Canadian Cooperage Association, but apparently having served its purpose it had passed out of existence. One step taken at the meeting on motion of Mr. Gordon was to plan the re-organization of the Canadian Cooperage Association. On the question of organization Mr. Morris, who occupied the chair said: "You will observe that in the business world, men are ever found binding themselves together for the purpose of bettering their conditions and protecting their interests. We see that even labor has bound itself together under a definite name, and I think that the important industry of cooperage and that particular branch of the trade involved, ought certainly not to be behind the times."

Mr. Gordon supported the chairman's remarks in these words: "I think it would be to the best interests of the society to thoroughly re-organize. For a long time there has been no question of importance enough to require our attention; the present situation in which our neighbors on the south are placed, however, will alone warrant us in taking such steps as will enable us to protect ourselves. It has long been my opinion that if those interested in the cooperage business would work more together, the benefits derived would soon manifest themselves, and I think it will be more advantageous to re-organize ourselves, even with a small membership, than to possess no organization at all."

Mr. Decew, Mr. Ainslie and Mr. Sutherland each followed in similar strain. The discussion being followed up by a resolution, which was unanimously carried, Moved by Mr. Sutherland, seconded by Mr. Gordon, that this association be re-organized, and that every man engaged in the manufacture of cooperage stock in the counties of Essex, Kent and Lambton, be invited to join this association, and that a meeting be held at an early date to enroll members for the same.

### REVIEW OF THE SITUATION.

An important part of the proceedings was the able speech made by Mr. S. J. Sutherland, explanatory of the reason of calling together the present meeting. He said:

"I think we have arrived at a period in the history of the cooperage industry when strong and vigorous action should be taken for mutual protection.

You are all aware that for a considerable period of time tariff legislation has been before the United States, the Wilson bill having been sent to the Senate; the Senate changed many items, and a committee of both houses are wrestling with the matter in the way of a compromise before the bill can be passed to the president for his signature. This makes matters very unsettled; capital is timid and manufacturers have been going very slow, buying from hand to mouth until tariff legislation is completed and manufacturers know just what they have to contend with.

Then came the financial crisis which began last May, and which resulted in enormous shrinkage in values, industrial corporations suffering as well as railroad corporations. It was simply a panic that was ruinous to many, resulting in a large number of failures and involv-

ing large amounts. Possibly but for the action of our own company, and one or two others, the situation would have been desperate to many users of cooperage stock. I tell you, gentlemen, that it was often absolutely impossible for them to pay their bills. I don't think since '57, if you take Dunn's and Bradstreet's assignment reports, that you would find so many failures. Now this situation had a very depressing effect.

We thought possibly that matters would improve, and after matters began to settle down, and confidence had been again restored, we had that coal strike, and not long after this the trouble between Geo. M. Pullman's Palace Car Company and his employees, and a sympathetic strike by the American Railway Union.

We are paying in Canada higher wages to our employees than the average wage in Michigan, Ohio and Indiana. This I know personally, and it simply means that if we are going to be able to compete and put our goods on American markets, we have got to make up our minds as manufacturers to accept very much lower prices in Canada, or curtail production. It seems to me that Mr. Morris' and Mr. Gordon's suggestion to curtail expenses would be the easiest way out of the difficulty, as, by shutting down for thirty days, the production in this country would be curtailed to the extent of twenty-four or twenty-five million staves, and the market be placed in a healthier and stronger position; and we should go slow as our largest markets are in the United States. Fifty-five per cent. of the staves manufactured in Canada are shipped to the United States, and, as intelligent business men, we should act in a conservative manner until such time as business matters settle down in the Republic and the output of our factories can go into consumption. Mr. Gordon mentioned that the duty may be taken off staves. Allow me to say to you that I have tried to obtain information on this point, and I very much question that they will be put on the free list, especially jointed staves. Provided mills close down for thirty days, possibly twenty-four to twenty-five million less staves will be produced; but it is not that twenty-five million staves, but our action to-day, if ratified, that will have its effect; manufacturers of cooperage stock in Michigan, Ohio and Indiana, will note that the manufacturers of Canada have deemed it advisable to close for a time, and they will at once start to take some action, and do as we are doing to-day. It will not simply mean a falling off in Canada, but also in Michigan, Ohio and Indiana, and I firmly believe from my heart that we should confer together and adopt some strong course of action, and that every man manufacturing cooperage stock in Canada should be invited to join our association, that we may have an association strong enough to make its influence felt; and that all may work together unitedly as one man, towards putting this industry in better shape and condition. I may say that so far as our company goes, everything that can be done will be done, because I tell you, gentlemen, that there is no money in the business for any body when the markets are overstocked, and it simply means that if united action is not taken: it is going to seriously affect the business of '95. We do not want artificial prices, we only want figures that will enable us to pay fair wages to our men, fair prices for our timber, and a fair percentage on the money invested. I think it is for us to say whether the business can be done at a profit, or whether we are going to put our hands in our pockets and throw out money.

I believe that it is wise for us to manufacture and produce less. There is no question in my mind whatever that every log we have, every tree standing, will be worth much more money. We will be paid fairly good living prices for anything we have to sell, and we will have no trouble in disposing of all the stock we can manufacture.

### TO CLOSE DOWN.

The decision of the meeting was quite unanimous in favor of re-organizing the association, which was accordingly done. Mr. Morris was elected president; Mr. Naylor, vice-president, and Mr. Sutherland, secretary-treasurer. It was also resolved that the mills close down for a period of 30 days.

### COOPER'S CHIPS.

THE stave, heading and hoop factory of Sutherland, Innes Co., at Romney, Ont., was burned on July 20. It was a new factory and about the largest the Company operated. It will be rebuilt immediately.

THE B. C. Cooperage Company, of Vancouver, B. C., have replaced their shops, recently destroyed by fire, with works erected on a better and more extensive scale than formerly. This firm are manufacturing lime barrels in large quantities for the Honolulu trade.

THE anticipation of a large apple crop gives encouragement to coopers, that serves as some offset to a depression in barrel-making in other ways. "Boss coopers" are already storing, we are told by a western manufacturer of barrels, "to meet anticipated wants."

IT is stated locally that if the stave mills are closed down in the Chatham district, it will throw out of employment 1250 men and a month's cessation of work will mean a reduction of cooperage stock of some \$120,000. Should the example of the Canadian mills be followed by the mills in Michigan, Indiana and Ohio, as is apprehended, there will be 23,000 men thrown out of employment. Many of these workmen earn \$3.00 a day. The wage bill of Sutherland, Innes & Co. is about \$6,000 a week. This firm controls the product of 23 mills.

### PENALTIES FOR BULLING THE MARKET.

IN ye olden days the "bull" did not have the free hand of to-day. The Mark Lane Express tells the story of the conviction and punishment of a "bull" operator on the market at an early day. It says:—The following advertisement, which appeared in the Annual Register for 1750, shows that in those days anything under 48s. per qr. was considered an unremunerative price for wheat, and that it was not safe to try to "bull" the market. If a similar punishment was meted out to the scores of "bulls" in the "Haltic," and the fines were applied to the benefit of the Royal Agricultural Benevolent Society, that organism would soon be well off for funds, unless the "bulls" saw the error of their ways:—

"Whereas I, Wm. Margetts, the younger, was at the last assizes for the county of Cambridge, convicted upon an indictment to raise the price of corn in Ely market, upon the 24th day of December, 1757, by offering six shillings a bushel for wheat, for which no more than 5s. 9d. were demanded; and, whereas, on the earnest solicitation and request of myself and friends, the prosecutor has been prevailed upon to forbear any further prosecution against me on my submitting to make the following satisfaction:—viz., upon my paying the sum of £50 to the poor of Ely, to be distributed by the minister and churchwardens of the several parishes of the town of Ely; and the further sum of £50 to the poor inhabitants of the town of Cambridge, to be distributed by the minister and churchwardens of the several parishes in the said town; and the full cost of prosecution; and upon my reading this acknowledgment of my offence publicly, and with a loud voice, in the presence of a magistrate, constable, or other peace officer of the said town of Ely, at the market place there, between the hours of twelve and one o'clock on a public market day, and likewise subscribing and publishing the same in three of the evening papers, published in the London and Cambridge Journal on four different days. I have accordingly paid the said two sums of fifty pounds and costs, and do hereby confess myself to have been guilty of the said offence, and testify to my sincere and hearty sorrow for having committed a crime, which in its consequences tended so much to increase the distress of the poor in the late calamitous scarcity. And I do hereby most humbly acknowledge the lenity of the prosecutor, and beg pardon of the public in general and of the town of Ely in particular. This paper was read by me in the public market place at Ely in the presence of Thomas Annejar, gentleman, chief constable, on the 2nd day of June, 1758, during a public market day there, and is now, as a further truth of just sense I have of the heinousness of my crime, subscribed and published by me William Margetts. Witness James Day, Under Sheriff of Cambridgeshire."

THE NEWS.

—A. Burland is erecting a new flour and feed mill at Grimaldy, Ont.

—G. R. Harper & Co., millers, Dundas, have assigned to C. S. Scott.

—Kinzie & Co., grist millers, Hopewell Hill, N. B. are reported insolvent.

—Incorporation has been granted the Virden Milling Co., Virden, Manitoba.

—The farmers in the vicinity of Sewell, Man., are agitating for a grain elevator.

—J. E. & K. S. Lauson, saw and grist millers, Stanley, N.B., assigned recently.

—W. T. Craven, dealer in flour and feed, Winnipeg, Man., has given up business.

—Mr. Drury will erect a flour mill at Port Colborne, Ont., at a cost of about \$13,000.

—Fraser & Co., saw and grist mills, Edmonton, N. W. T., Malcolm McLeod, deceased.

—It is stated that there are still 750,000 bushels of wheat of last year's crop in store west of Winnipeg.

—The Altona, Man., Farmers' Elevator Company is seeking incorporation, with a capital stock of \$5,000.

—John Aakew & Son have recently placed a quantity of new machinery in their roller mill at Leamington, Ont.

The roller flouring mills at Bolton, Ont., are being offered for sale by tender, owing to the death of the late proprietor, A. McFall.

—Byran & Co.'s stave and hoop mill near Cedar Springs, Ont., was destroyed by fire the early part of last month. Loss, \$10,000.

—Lequin & Co.'s flour mill at Farnham, Que., recently burned, is being rebuilt. It will cost in the neighborhood of \$10,000.

—The employees of Wm. & J. G. Greey, the well-known mill furnishers, of Toronto, held their annual picnic at Lorne Park on the 4th inst.

—The oatmeal mills at Pilot Mound, Man., were closed down recently for the season. The proprietor, Mr. Dow, is at present on a visit to England.

—The well known firm of Marsan & Brousseau, grain dealers, Montreal, were recently compelled to make an assignment. Their liabilities are placed at \$150,000.

—S. & J. Armstrong, millers, of McKellar, have been compelled to make an assignment. The liabilities will be about \$10,000, and the assets nominally the same.

—James Dow, a resident miller of St. Thomas, Ont., died on the 3rd inst. from the effects of bursting a blood vessel. He was 51 years of age and a native of Scotland.

—The exhibits of grain sent from Manitoba and the North West territories to the San Francisco Midwinter Fair, have been awarded the gold medal, being the finest samples on exhibition.

—The Goldie & McCulloch Co., of Galt, will install the complete outfit in Muir & Ross' new mill at Mattawa, Ont. The mill building is now being erected and will be completed at an early date.

—A fire which had its origin in the engine room of A. E. Sinaas's flour and grist mill destroyed a large portion of the village of Harrow, Ont., on the 4th inst. The loss on the mill is roughly estimated at \$11,000 and the insurance, \$5,800.

N. A. McIaw, President of the Winnipeg Grain Exchange, has recently returned from a three-weeks trip in the western and southwestern districts of Manitoba. He reports that in some sections the crops have been affected by the recent dry weather.

—The Brackrae & Ker Milling Company have purchased the business of the British Columbia Milling & Feed Co., New Westminster, B. C., of which Batchelor & Quine were the promoters. The new proprietors will increase the capacity and continue to operate the mills.

—Incorporation is being sought from the Dominion Parliament by "The Shirra Milling Company" for the purpose of manufacturing flour and feed. The place of business will be Caledonia, Ont., and the capital stock, \$25,000. Robert Shirra, miller, and a number of local farmers are the applicants.

—The business of D. Goldie, proprietor of the Greenfield mill at Ayr and the Cumberland mill at Highgate, Ont., will in future be carried on under the name of "The Goldie Milling Company, Limited," a new company having been formed. Mr. Goldie's associates in the new firm are Messrs. James Goldie, George E. Goldie and Robert Neilson, all of whom have been connected with the business for an extended period. Mr. David Goldie is president, and Mr. Neilson secretary.

—A. M. Hamilton, of Warkworth, has purchased a flour mill at Sarnia, Ont., and will remove to that town. H. A. Mulhern, late proprietor of the Otonabee roller mills, Peterboro, has been engaged as manager.

—The flour mill of W. J. Humphries, at Lang, Ont., which was destroyed by fire, is being rebuilt. Wm. & J. A. Greey, of Toronto, will furnish the machinery for the new mill, which will have a daily capacity of 50 barrels. An oatmeal plant may also be put in.

—The by-law granting a bonus of \$6,000 and exemption from taxation for ten years to a proposed new flour mill at Brandon, Man., was defeated recently. A by-law to exempt the mill of Alexander, Kelly & Co. from taxation for ten years was also defeated.

—It is reported that the firm of McAllister & Son, millers, of Pembroke and Pakenham, has been dissolved. Mr. C. B. McAllister will control the mills at Pakenham, while a syndicate composed of Messrs. W. B. McAllister, A. Foster, A. Millar and C. Chapman will operate the mills at Pembroke, part of which were lately destroyed by fire, and which will be fitted up with the latest machinery.

—Campbell's mill at Toronto Junction, which ran 18 hours per day during the first half of the year, is now operating day and night. The output of this mill is sold in the city of Toronto and in Quebec and the lower provinces. The orders now in sight will, it is believed, be sufficient to keep the mill in full operation until the close of the year. The bulk of the flour shipped to the lower provinces is made from soft wheat.

PUBLICATIONS.

We are pleased to welcome to our table early copies of the Milling and Market News, published by Mr. R. W. Dunham, formerly of the London, Eng., Miller. The new journal is tastily printed and covers in an able manner the milling and grain fields.

GRAIN AND FLOUR TRADE OF MONTREAL.

In a recent review of the trade of Montreal the Mail has gathered some interesting figures touching Montreal's position in the grain and flour markets of the Dominion. The exports of grain and products the result of manufacture from it last year, totalled up, we are told, to the sum of \$16,200,000. Montreal grain brokers and flour men handled a large part of this business.

Early pioneers in the handling of the grain trade of Montreal were: George Denham, C. J. Cusack & Co., the Hon. John Young, John M. Young, the Hon. Louis Renaud, and Rimner, Gunn & Co. They have all gone out of existence now, but their places have been well filled since. In 1846 the exports via the St. Lawrence route were about half a million barrels and as many bushels of wheat and flour, all of which went to Great Britain. Three years later the exports of breadstuffs had increased to three million bushels, the exports of the previous year having been only 968,605 bushels. From that period the shipping of wheat via Montreal to Europe increased steadily. In the year 1852 Mr. Ira Gould leased the first water power conceded in the then new canal for a manufactory of any kind. This was the birth of the long street of mills and factories now known as Mill street, with their output of many millions of dollars annually. It was in the same year that the Hon. A. W. Ogilvie joined his father's firm, then the leading milling firm of the province. Their mills were at the foot of the Lachine Rapids and out in Jacques Cartier county, but when Mr. Gould built his mill on the canal, the Ogilvies were not slow to recognize the advantage of a site on the same artery, and the erection of Mr. Gould's City Mills was immediately followed by that of the Glenora Mills at Seigneurie street, and the Ogilvies commenced making flour on a large scale. They brought down wheat from different points in Ontario with the aid of schooners, and when the supply at the points first tapped was exhausted, a move was made further west, as a grain was imported from Chicago and Milwaukee. The year 1856 witnessed the construction of the Grand Trunk railway.

Thirty-five years ago the flour market of Montreal was probably the largest on the whole continent, with the exception of that of New York. The whole eastern country, the Lower Provinces, Gaspe, Prince Edward Island, and the Halifax and St. John districts were tributary to Montreal. Merchants came thence to the metropolis to make their purchases, and the volume of business done was large. It is these days that the Montreal middlemen point to now as the golden days of the

flour trade. As the years advanced, however, and communication became more perfect, that universal tendency to do business as direct as possible between producer and consumer became more and more apparent, and Montreal lost its prominence as a distributing point for flour. The opening of the Intercolonial railway was the inception of this change, for with the system of granting through rates from milling points, and the natural inclination of the buyer to save the middleman's profits, if possible, sent the bulk of the business past Montreal. To-day eastern buyers almost exclusively deal with the millers either in Montreal or Ontario direct, and the flour business in Montreal is more or less of a local one.

The construction of the C.P.R. and the opening of the great plains of the West was the next epoch in the history of Montreal's milling trade. As early as 1875 Mr. W. W. Ogilvie had visited Manitoba and the North West, and made a searching enquiry into their possibilities as centres of grain production. He was the first, therefore, to use Manitoba wheat, and to-day No. 1 hard Manitoba wheat, like No. 1 hard Duluth, makes the best flour in the world to-day, and the system of milling in Canada is not surpassed by any in the world. The enormous business of the Ogilvie Milling Company is a visible demonstration of this fact, the output of the various mills under Mr. Ogilvie's control being the greatest controlled by any one individual man on this continent.

To grain exporters the St. Lawrence route via Montreal offers advantages possessed by absolutely no other route in America, and everything else being equal, should have the preference over all others. Its advantages in the matter of coolness, etc., have been dwelt upon so often before that it is needless to repeat them. In fact this is the natural outlet of the West, and the opinion has been expressed time and again that with inland and ocean freights properly adjusted Montreal could, in summer at least, secure a much larger portion of the export trade than she actually does. The question of freight rates is naturally a vexed one, and one upon which it is hardly likely that shippers and carriers will ever agree. It is interesting, in view of this difference of opinion, to contrast the comparatively moderate forwarding rates of to-day with those of twenty or thirty years ago. The old rate of 6 1/2% per bushel on grain from Kingston to Montreal has been reduced to 2 1/2%, and 6 1/2% is the present rate from Duluth to Port Arthur.

The tables which are appended have been gathered from the official returns of the Board of Trade, and show the record of the export of grain, etc., from the port of Montreal in 1890 and in 1893. This will give a pretty good idea of the business that has been going on during the past four years. During 1890 the grain dealers of Montreal handled and exported 2,623,050 bushels and barrels of Canadian grains and flours. This was valued at \$2,917,076. In the same year the exports of American grain via Montreal was greater than those of the produce of Canada, being 8,980,223 bushels and barrels, of a value of \$5,122,300. In 1893, however, the position was reversed. Montreal's exports of Canadian produce proper last year were eight millions of dollars greater than those of 1890, and the quantity had increased by over twelve million bushels. The exports of American produce via this port last year were 6,527,794 bushels, of a value of \$4,857,345.

The detailed figures of the exports of Canadian grain proper are as follows for the two years under consideration:—

Article.	1890.		1893.	
	Quantity.	Value.	Quantity.	Value.
Barley, bushels	54,093	\$ 28,090	256,711	\$ 168,470
Beans, "	5,523	2,665	6,468	7,797
Corn, "	102,599	62,000	5,046,147	2,917,520
Flour, "	1,000,000	97,000	2,368,000	1,700,317
" special, "	113,000	76,000	501	764
Rye, "	170,000	98,070	41,920	20,997
Wheat, "	371,000	215,741	4,883,300	6,179,075
Other grain "	11,000	3,000	86,000	15,000
Flour, barrels	36,000	185,000	974,320	1,200,000
Chemical, "	25,000	145,000	8,541	200,000
Other goods "	98,111	70,373	3,731	7,970
Hay, tons,	90,599	900,000	112,000	1,000,000
<b>Total</b>	<b>4,620,000</b>	<b>\$2,917,076</b>	<b>13,622,000</b>	<b>\$20,717,007</b>

## ONTARIO WHEAT.

OPINIONS OF NEARLY 100 REPRESENTATIVE MILLERS.

ABOUT a fortnight ago communications were sent out to the members of the Dominion Millers' Association in Ontario with the purpose of ascertaining their views regarding the winter wheat crop now being harvested, the prospects of the spring wheat crop, and the area sown with winter and spring wheat. Replies were received from 95 of the leading millers of the province, representing widely different districts.

Interest naturally centres in the question at this time, what will be the yield of wheat? and it has been specially to this question that the answers of correspondents has been directed. The average yield of winter wheat is estimated at 22 25/39 as against 19 last year, and of spring wheat 16 1/2 as against 12 1/2 last year. Out of the 95 districts covered by replies, wheat was sown in 78 of them and spring wheat in 43 of them. A digest of the various reports would indicate in the matter of fall wheat, that whilst the acreage sown is smaller than a year ago, the increase in yield will about cover up the shortage in acreage, bringing the total yield for the province up to about the same as a year ago. The general run of the replies estimate the yield of winter wheat from 20 to 25 bushels per acre, though in some localities the yield is expected to be more abundant. Grey will probably give a yield of 30 bushels per acre. In Simcoe the figures are fixed in, at least, one point at 35 bushels per acre. In the Hespeler district of Waterloo county the yield will run from 25 to 30 bushels per acre. Haldimand expects an increase of probably 5% in the yield over a year ago.

The decrease in the acreage sown in spring wheat is more remarkable than in the case of fall wheat, and at the same time an increase in yield will, in individual localities at any rate, help materially to level up the decrease in acreage.

Each individual report will bear a careful study by millers, as suggesting problems that are commencing to show themselves in connection with the question of wheat raising, and that sooner or later will have its bearing on milling.

## MILLERS' VIEWS.

A synopsis of the views of millers is as follows:

W. B. Brown & Co., of Simcoe, state that the winter wheat yield per acre in the county of Norfolk will be 25 bushels, as against 20 bushels last year. No spring wheat is grown in this locality; acreage is about the same as last year. The sample will be somewhat uneven.

In the county of Leeds the yield of winter wheat will be about 14 bushels to the acre, according to the estimate of Mr. R. Harvey. The yield last year was rather less. Spring wheat will yield about 15 bushels to the acre. The acreage of winter wheat is reduced about one-sixth, and acreage of spring wheat about the same.

Telfer Bros. estimate the yield of winter wheat at 30 bushels to the acre, and spring wheat about 15 bushels to the acre. The acreage of both spring and winter wheat has been reduced about 50 per cent.

Brown Bros. state that the acreage of both spring and winter wheat in the county of Welland will be about the same as last year. Very little wheat is grown in this county. The yield will be about 10 per cent. less than last year.

In the county of Grey the yield of winter wheat will be about 30 bushels to the acre, against 20 last year; according to the estimate of Mr. John W. Ford. Four townships in this county grow very little wheat. The yield of spring wheat will probably be 20 bushels, as against 15 last year. The acreage of winter wheat has been reduced 50 per cent., and that of spring wheat about 50 per cent.

In north-east Kent winter wheat yield, as estimated by Tyler & Maybaw, of Thamesville, Ont., will be 17 bushels, as against 22 last year. No spring wheat. Acreage of winter wheat slightly reduced. Some early wheat on light land destroyed by frost in June; late wheat on clay tusted. Really good wheat fields are the exception.

Messrs. J. M. Lot & Co., of Lambton, estimate the yield in that county at 18 bushels to the acre, as against 20 last year, and spring wheat 10, as against 12 last

year. Acreage reduced about one-third, spring wheat about the same as last year. Oats at present appearance will be a good crop.

Messrs. Wm. Snider & Co. state that in the county of Waterloo winter wheat will yield 25 bushels to the acre, as against 18 last year. Acreage reduced 10 to 15 per cent. Very little spring wheat raised here, not worth mentioning.

William Pearson estimates the yield of winter wheat in the county of Simcoe at 30 bushels per acre, as against 20 last year; spring wheat 20, as against 10 last year. Winter wheat acreage decreased one-half; spring wheat acreage the same as last year.

M. J. Beech, Dundas, states that the yield of winter wheat in that county will be about 25 bushels per acre, as against 10 last year. Spring wheat 25, as against 10 last year. Crops in this locality appear better all round than those of last year.

Messrs. McIntyre & McDonald estimate the yield of winter wheat in the county of Grenville at 20 bushels per acre, as against 15 last year; spring wheat 22, as against 12 last year. Acreage of winter wheat has been reduced 75 per cent., and spring wheat 20 per cent. Oat crop very poor.

C. & G. J. Wilram, Masson, Que., estimate the yield of spring wheat in the county of Ottawa at 6 bushels, as against 10 last year; winter wheat none. Acreage of spring wheat reduced 10 per cent. Oats and peas will probably be a failure; too wet.

Merrickville Milling Company estimate the yield of winter wheat in the county of Grenville at 10 bushels per acre, as against 15 bushels last year. Spring wheat 20, against 15 last year. Only about 10 per cent. of the wheat required for local consumption is grown in this district.

E. J. Presant, Guelph, estimates the yield of winter wheat in the county of Wellington, per acre, at 25 bush., against 18 last year. Hardly any spring wheat sown. Acreage of winter wheat has been reduced 10 per cent. Spring crops promise light yield for want of rain.

J. C. Vanstone, of Bowmanville, estimates the yield of winter wheat in West Durham at 20 bushels to the acre, as against 20 last year. Spring wheat 20, as against 13 last year. Winter wheat acreage about the same; spring wheat acreage reduced fully 50 per cent. Many farms have no wheat. Too early to say much about spring wheat; it looked well this time last year, but failed later.

M. M. Stephens & Son estimate the yield of winter wheat in the county of Simcoe at 25 bushels per acre, as against 15 bushels last year. No spring wheat in this section. In the nearest spring wheat to them acreage has decreased considerably.

Geo. Bell, Erin, estimates the yield of winter wheat in that section of Wellington at 28 bushels per acre, as against 22 bushels last year. Spring wheat, 14 bushels, as against 12 bushels last year. The winter wheat acreage is about the same; spring wheat decreased about 50 per cent.

R. P. Hoover estimates the yield of winter wheat in the townships of Pickering and Markham at about an average, as against an average last year. Spring wheat, scarcely any sown.

J. & R. Bell estimate the yield of winter wheat in the county of Simcoe at 25 bushels per acre, as against 25 last year. Spring wheat 20, as against 15 last year. Acreage about the same. Winter wheat is badly down and will not fill out well.

Geo. H. Harper estimates the yield of winter wheat in the county of Wentworth at 20 bushels per acre, as against 18 last year. Acreage of winter wheat has been reduced 3 per cent.; spring wheat, none grown. The sample of winter wheat will be good if the present weather holds.

G. S. Baldwin estimates the yield of winter wheat in the county of York at 18 bushels per acre, as against 18 last year; spring wheat 16 bushels, as against 12 bush. last year. Acreage of winter wheat has been reduced probably 10 per cent., and of spring wheat about 25 per cent. Spring wheat here is principally goose.

G. Copeland & Son estimate the yield of winter wheat in the county of Simcoe at 25 bushels per acre, as against 15 bushels last year; spring wheat 15 bushels, as against 10 last year; acreage of spring and winter wheat has

been reduced about 33 1/2 per cent. Messrs. Copeland state that these observations apply to the part of the county in which they are located.

George Needler estimates the yield of winter wheat in the county of Durham at about the same as last year. Spring wheat, 10 bushels per acre, as against rather less last year. Acreage of winter wheat slightly increased, and of spring wheat probably reduced.

G. Carter, Son & Co. estimate the yield of winter wheat, county of Perth, at 20 bushels per acre, as against 20 last year. Spring wheat, nil; scarcely any sown and a poor yield, same as last year. Acreage of winter wheat reduced 10 per cent.

John McLaren estimates the yield of spring wheat in the county of Renfrew at 20 to 24 bushels per acre, as against 7 or 8 last year; winter wheat, none grown. The acreage of spring wheat has been reduced 10 per cent.; peas will be under the average; oats, fair.

H. Brown & Sons, Carleton Place, write as follows: "There is very little fall wheat grown in this section. The spring wheat acreage has been considerably reduced, but we are not in a position to give any figures. The wheat looks well now, but we think it will go back before harvest."

J. & P. R. Howard estimate the yield of winter wheat in the county of Haldimand at 30 bushels per acre, as against 25 bushels last year; spring wheat, hardly any sown, very little sown last year; acreage of winter wheat has increased about 5 per cent. The farmers are all busy cutting wheat; it will be a fine sample.

Amoyer & Co. estimate the yield of winter wheat in the county of Perth at 20 bushels an acre, as against 23 bushels last year; spring wheat 10, as against 10 last year; acreage of winter wheat decreased about 30 per cent., and spring wheat 50 per cent.; crops around Listowel look pretty fair, but west, towards Brussels, are rather short and unhealthy looking.

J. Lee & Sons estimate the yield of winter wheat in the county of Bruce at 20 bushels per acre, against 15 last year; spring wheat, good, as against 10 last year. Not much spring wheat sown, but what there is looks well; acreage of winter wheat reduced about 30 per cent., and spring wheat, slightly increased.

J. & R. W. Hazlewood, Clifford, Ont., estimate the yield in that part of Wellington at from 20 to 30 bushels per acre, as against same last year; spring wheat, none grown; acreage of winter wheat, decreased 50 per cent.

E. W. B. Snider estimates the yield of winter wheat in the township of Woolwich, Waterloo, at 25 bushels per acre, as against 25 last year; spring wheat, none sown. Mr. Snider adds that he gives the yield of fall wheat as claimed by farmers, but he considers the estimate rather high.

Lewis Kribs, Hespeler, estimates the yield of winter wheat in the county of Waterloo at 25 bushels per acre, as against 20 last year; spring wheat, none; acreage of winter wheat, about the same as last year. Mr. Kribs states that except on the lowlands the wheat is good and high, and will average 30 bushels to the acre.

William Sutton, Simcoe, estimates the yield of winter wheat in the county of Norfolk at 25 bushels, as against 20 last year; spring wheat, none; acreage of winter wheat about the same as last year. New wheat is now being delivered, and samples good.

Messrs. T. & J. N. Andrews, Thorabury, Ont., estimate the yield of winter wheat in the county of Grey at 25 bushels per acre, as against 18 bushels last year; spring wheat, 15 bushels, as against 7 last year; acreage of winter wheat, about the same as last year; spring wheat, 50 per cent. less.

W. Wenger & Bros., Ayton, Ont., state that in the south-west part of Grey the yield of winter wheat will be rather better than last year. In this locality there is no spring wheat grown. The acreage of winter wheat has decreased fully 10 per cent.

T. O. Kemp estimates the yield of winter wheat in the vicinity of Seaforth at 20 bushels to the acre; spring wheat, acreage so small it cannot figure to any effect. There was very little last year, and less this.

William Campbell, secretary of the Nottawasaga Farmers' Milling Company, Limited, Duntroon, Ont., estimates the yield of winter wheat in the county of Simcoe at 25 bushels per acre, as against 10 bushels



last year; spring wheat 15 bushels, against 5 bushels last year; acreage of winter wheat has been reduced 25 per cent., and spring wheat 50 per cent.

J. W. Carveith, Leskard, Ont., roughly estimates the yield of winter wheat in that part of the county of Durham at 20 bushels to the acre, as against 15 bushels last year; spring wheat 15, as against 5 last year. Mr. Carveith states that not over quarter of spring wheat sown last year is sown this year. The weevil, he states, is starting its work, and the yield may be nothing.

George Heimbecker estimates the yield of winter wheat in Bentinck township, county of Grey, at 25 to 30 bushels per acre, as against 15 to 20 last year; spring wheat, not much grown there; acreage of winter wheat has been reduced 10 per cent.

R. J. Walsh estimates the yield of spring wheat at 20 bushels per acre, as against 10 bushels per acre last year; winter wheat, none grown; acreage of spring wheat has been reduced 50 per cent.

Thomas Elliott estimates the yield of winter wheat in West Durham at 25 bushels per acre; spring wheat, 12 bushels; acreage of winter wheat is about the same as last year; spring wheat reduced some.

William McElwain estimates the yield of winter wheat in the county of Simcoe at 20 bushels per acre, as against 15 last year; spring wheat at 15, as against 10 last year; acreage of winter wheat has been reduced about 20 per cent., and of spring wheat 50 per cent.

E. & N. Moody, Orangeville, Ont., estimate the yield of winter wheat in county of Dufferin at 20 bushels per acre, as against 15 last year; spring wheat 15, as against 15 last year. Acreage of winter wheat is about the same as last year, and of spring wheat about two-thirds less; peas, full crop; barley, one-third less; hay, half crop; oats, full crop.

R. Reyburn estimates the yield of winter wheat in the county of Hastings at 22 bushels per acre, and of spring at 10 bushels per acre. Acreage of winter wheat reduced 10 per cent., and of spring 20 per cent.

James Cunningham estimates the yield of wheat in the county of Leeds at 20 bushels per acre, as against 15 bushels last year, and of spring wheat 15 bushels, as against 15 last year. Acreage of winter wheat has been reduced 25 per cent., and of spring wheat 50 per cent.

Whitlaw, Baird & Co., Paris, Ont., estimate the yield of winter wheat in the county of Brant at 25 bushels per acre, as against 15 last year. Acreage of winter wheat has increased 10 per cent.

W. Y. Emery estimates the yield of winter wheat in the county of Norfolk at 15 bushels per acre, as against 20 bushels last year; spring wheat, none grown.

Alex. McLaren estimates the yield of spring wheat in the county of Renfrew at 20 bushels per acre, as against 10 last year. Acreage of spring wheat has been reduced about 33 1/3 per cent. Oats poor, not half a crop; peas, good, but damaged by the wet.

S. R. Stuart, Mitchell, estimates the yield of winter wheat in the county of Perth at 25 bushels, as against 25 bushels per acre last year; acreage of winter wheat has been reduced about 10 per cent. The prospects here are for a good average crop of good quality.

William Brodie, Bridge End, Ont., estimates the yield of winter wheat in the east half of the county of Glengary at 20 bushels per acre, as against 15 bushels last year, and of spring 10 bushels, as against 7 last year; acreage of winter wheat, small; spring wheat, about 25 per cent. less than last year.

Tavistock Milling Company estimate the yield in the county of Oxford of winter wheat at 28 bushels per acre, as against 25 bushels last year; spring wheat, 18 bushels, against 20 bushels last year; acreage of winter wheat reduced to 15 per cent., and of spring wheat 20 per cent.

Gibson & Co., Morrisburg, estimate the yield in the county of Dundas of winter wheat at 20 bushels per acre, as against 27 last year; spring wheat, 12 bushels, as against 10 last year; acreage of spring wheat has been reduced about 20 per cent.

W. S. Ireland estimates the yield of winter wheat in the county of Simcoe at 35 bushels per acre, as against 20 bushels last year, and of spring wheat 25 bushels, as against 15 last year; acreage of winter wheat has been reduced about 10 per cent., and of spring wheat about the same as last year.

Messrs. Lake & Bailey estimate the yield of winter wheat in the county of Wentworth at 25 bushels per acre, as against 20 last year; spring wheat, none sown.

Fred Rollins, Madoc, Ont., estimates the yield of winter wheat in the county of Hastings at 20 bushels, as against 15 bushels last year; spring wheat at 25 bushels, as against 14 last year; acreage of winter wheat is about the same as last, and of spring wheat about 10 per cent. increase; barley and peas are above the average; oats, half crop; rye, good.

James Goldie, Guelph, estimates the yield of winter wheat in the county of Wellington at 25 to 30 bushels per acre, as against about 20 last year; spring wheat, not much sown.

H. Barrett, Port Hope, Ont., estimates the yield of winter wheat in the county of Durham at 20 bushels per acre, as against 20 last year; spring wheat 10 bushels, as against ten last year; acreage of winter wheat is about the same as last year, and of spring wheat reduced 75 per cent.

Alexander Dobson, Beaverton, estimates the yield of winter wheat in North Ontario at 20 bushels per acre, as against 20 last year; spring wheat 15, as against 15 last year; acreage of winter wheat has increased about 10 per cent., and of spring wheat reduced about 25 per cent.

G. E. Smith, Hagersville, Ont., estimates the yield of winter wheat in the county of Haldimand at 18 to 20 bushels per acre, as against 16 to 18 last year; acreage of winter wheat has been reduced about 5 per cent., spring wheat, very little sown here.

William B. Wood, St. George, Ont., estimates the yield of winter wheat in the county of Brant at 20 bushels per acre, as against 18 bushels last year; acreage of winter wheat about the same; spring wheat, very little grown in this locality.

Angus Plewes, Markdale, estimates the yield of winter wheat in the county of Grey at 30 bushels per acre, as against 25 last year; spring wheat 20, as against 15 last year; acreage of spring and winter wheat has been reduced about 50 per cent. Not much wheat sown here on account of low prices.

John Campbell estimates the yield in the county of Elgin at 18 bushels per acre, as against 18 bushels last year; spring wheat, none; acreage of winter wheat about the same as last year.

Charles Smith, Campbellford, writes as follows: "If fall wheat had not been winter killed we would have had a big crop. Coarse grain is good, except oats, which is going to be a short crop." Mr. Smith estimates the yield of winter wheat in Northumberland at 15 to 20 bushels per acre, as against 20 bushels last year; spring wheat, 12 bushels, as against 10 bushels last year; acreage of spring and winter wheat decreased about one-third.

N. H. Stevens, Chatham, Ont., estimates the yield of winter wheat in the county of Kent at 25 bushels per acre, as against 20 bushels per acre last year; winter wheat decreased about 10 per cent.

R. M. Easton estimates the yield of winter wheat in the county of Grenville at about 15 bushels per acre, as against 15 last year, and of spring wheat 25 bushels, as against 12 bushels last year. Acreage of winter wheat is about the same as last year, and of spring wheat increased 33 1/3 per cent.

R. A. Thompson estimates the yield of winter wheat in the county of Wentworth at 22 bushels per acre, as against 20 bushels last year; spring wheat none. Mr. Thompson adds: "In this section fall wheat appears to be coming in good, promising good quality and yield."

N. Boswell, Wyoming, Ont., estimates the yield of winter wheat in the county of Lambton at 29 bushels per acre, as against 20 bushels last year, and of spring wheat 21 bushels, as against 17 bushels last year. Acreage of fall wheat about the same as last year, and of spring wheat about one-quarter less.

Pearen Bros. estimate the yield of winter wheat in the county of Peel at 20 bushels per acre, as against 20 bushels last year; spring wheat, 10 bushels, as against 10 bushels last year. Acreage of winter wheat has increased about 25 per cent. Messrs. Pearen say that all of the spring wheat grown around Brampton is good, but there was not over half sown this year that there was last year.

R. Neilson, secretary-treasurer of the Goldie Milling Company, Ayr, Ont., estimates the yield of winter wheat in the county of Waterloo at 25 bushels per acre, as against 20 bushels last year; spring wheat none. Acreage of winter wheat is about the same as last year. Mr. Neilson says that harrowing is now in progress, and that the sample will be good.

John Shaw estimates the yield of winter wheat in the county of Norfolk at 25 bushels per acre; spring wheat none. Mr. Shaw adds: "Some of the fields of wheat are badly rusted."

Martin Bros., Mount Forest, Ont., estimate the yield of winter wheat in the south part of North Wellington at 25 bushels per acre, as against 25 bushels last year; spring wheat 20 bushels, as against 15 last year. Acreage of winter wheat has been reduced 25 per cent., and of spring wheat 75 per cent. Messrs. Martin state that there is almost no spring wheat sown in their section, and add that some complaints of rust are heard regarding winter wheat.

Munroe & Snider, Berlin, estimate the yield of winter wheat in the county of Waterloo at 30 bushels per acre; acreage of winter wheat about the same as last year; spring wheat, very little sown.

James Naylor estimates the yield of winter wheat in the county of Essex at 20 bushels per acre, as against 25 bushels last year; spring wheat none.

John Cada estimates the yield of winter wheat in the county of Essex at 15 to 18 bushels, as against 25 last year; spring wheat, none grown; acreage of winter wheat will be reduced 40 per cent.; samples of winter wheat, good.

George Elphicke, Pinkerton, estimates the yield of winter wheat in the county of Bruce at 25 bushels per acre, as against 20 bushels last year; spring wheat, 15 bushels as against 10 bushels last year; acreage of spring wheat will be reduced about 50 per cent.

J. D. Saunby, London, estimates the yield of winter wheat in the county of Middlesex at 25 bushels per acre, as against 20 to 25 last year; acreage of winter wheat will be reduced about one-half; spring wheat, none grown.

Neil McCahill, Forest, estimates the yield of winter wheat in the county of Lambton at 15 bushels per acre, as against 20 bushels last year; spring wheat, 18 bushels, as against 12 last year; acreage of winter wheat has been reduced 10 per cent.

J. W. Wylie, Almonte, estimates the yield of winter wheat in the county of Lanark at about the same as last year. Spring wheat, 20 bushels per acre, as against 15 last year. Acreage of winter and spring wheat about the same as last year.

Bennett & Constable, Spencerville, estimate the yield of spring wheat in that locality at 25 bushels per acre, as against 25 bushels last year.

W. H. Finnemore estimates the yield of winter wheat in the county of Halton at 21 bushels per acre, as against 18 last year. Spring wheat, none; fall wheat will be a good sample. Barley and oats, light in some sections.

Quance Bros., Delhi, Ont., estimate the yield of winter wheat in the county of Norfolk at 25 bushels per acre, as against 18 bushels last year. Spring wheat, none grown. Messrs. Quance add: "We think fall wheat a much better crop in this county than that of last year. We think the acreage is rather more than last year. Unless price improves fully half the crop will be fed in the event of pork and live stock remaining at present prices."

Wolverton Milling Company, Wolverton, Ont., estimate the yield of winter wheat in the county of Oxford at 22 bushels per acre, as against 20 last year; spring wheat, none; acreage of winter wheat about the same as last year; sample of winter wheat likely to be very fine.

R. B. Clement estimates the yield of winter wheat in the county of Bruce at 25 bushels per acre, as against 20 last year; spring wheat, 20 bushels, as against 15 last year; acreage of spring wheat reduced about 25 per cent. All crops and fruit are good, and will be heavy, except peas.

W. Plewes, London, Ont., estimates the yield of winter wheat in the county of Middlesex at 18.60, as against the same last year; spring wheat, none; acreage of winter wheat will be reduced about one-third, mostly in white wheat. Mr. Plewes adds that oats are going to

be a great crop, and that the acreage has been doubled; the yield this year will probably be four times that of last year.

Shirk & Snider, Bridgeport, estimate the yield of winter wheat in the county of Waterloo at 25 bushels per acre, as against 20 last year; spring wheat, none; acreage of winter wheat about the same. The prospects are for a good sample of new wheat.

Samuel Lukes, Bradford, estimates the yield of winter wheat in that part of the county of Simcoe at 30 bushels per acre, as against 30 bushels last year; spring wheat, 18 bushels, as against 16 bushels last year. Mr. Luke says that there is every prospect of full average crops in all grains, hay, roots and fruit.

Messrs. Macdonald & Robb, Valleyfield, Que., state that owing to the low price of flour very little wheat was sown in that section this year.

The Plattsville Milling Company, Plattsville, Ont., state that winter wheat will be an average in Oxford, as against an average last year; sample of fall wheat will be good.

Ogilvie & Hutchison, Goderich, Ont., estimate the yield of winter wheat in the county of Huron at 20 bushels per acre, as against 16 last year; spring wheat, hardly any sown; acreage of winter wheat is about the same as last year, and sample will be good.

Thomas Eyre, North Augusta, Ont., estimates the yield of winter wheat in county of Grenville at 25 bushels per acre, as against 10 bushels last year, and spring wheat 20 bushels, as against 8 bushels last year; acreage of spring and winter wheat is about the same as last year.

A. M. Fall, Bolton, estimates the yield of winter wheat in the county of Peel at 18 bushels per acre, as against 16 bushels last year; spring wheat, 12 bushels, as against 10 bushels last year; acreage of winter wheat will be reduced 20 per cent. and of spring about one-half.

George Smith, Port Elgin, Ont., estimates the yield of winter wheat in the county of Bruce at 20 bushels per acre, as against 20 bushels per acre last year; spring wheat, 15 bushels per acre, as against 15 last year; acreage of winter wheat will be reduced about one-quarter; spring wheat about the same as last year.

W. H. Meldrum, Peterboro', estimates the yield of winter wheat in that locality as above that of last year; spring wheat, about double the yield of last year; acreage of spring wheat reduced about 75 per cent.

Stewart Graham, Brussels, estimates the yield of winter wheat in the county of Huron at 25 bushels per acre, as against 20 bushels per acre last year; spring wheat, 20 bushels per acre, as against 18 bushels last year; acreage of winter wheat will be reduced about 50 per cent.; spring wheat, very little grown here. Mr. Graham states that fall wheat is being harvested, and that farmers report fine appearance of straw and good plump grain. Other grains, good prospects.

#### DRIVING ROLLS.

ONE of the evils connected with roller mills, says R. James Abernathy, in the "Tradesman", is the short driving cross belt found on all single belt mills and the larger but almost as pernicious cross belt found on one side of most of the double belt drive mills.

Of the two kinds it may be that the single drive mill is the least objectionable as most of them use two belts on the opposite side which greatly relieves the situation and makes it much easier on the belts. As has been heretofore stated in these papers, cross belts are very objectionable as a rule, so also are all forms of tighteners. The evils of both have been fully dwelt upon and set forth and users of belting advised to avoid both when possible to do so.

In the case of rolls it would seem that the greater the necessity the greater the evil. There seems so far no possible way of avoiding the use of tighteners on roll belts and nowhere do they seem to do more harm in their deadly effects upon the belt and in increasing the friction on the journals of the rolls. The drive belt on a stand of rolls has no slack side; both folds are always taut. With both folds as tight as drum heads, no belt can do its work without greatly increasing journal friction and thereby increasing the draft upon the power to run it. It would greatly lengthen the life of the belts and

diminish the power for driving rolls if the use of the tightener could be avoided, but so far as discovered it cannot be. But while tighteners may have to be used there is no occasion for the double evil of both cross belts and tighteners as the former can be dispensed with in all drive mills especially.

To proceed with the case the main drive will have to remain substantially as found on all machines, but for the other side, instead of having the customary cross belt, we will provide two independent acting and adjustable idler pulleys that will serve the purpose of keeping the belt tight.

To make these work to the best advantage a frame of two parts and one cross piece or bridge tree, should be provided. The posts, which may be of 6x6 to 9x9 timber, according to size of rolls, must run from basement floor to joists above and be securely fastened both at top and bottom. These posts stand on each side of the driving shaft and right opposite the driving pulley so that a line stretched from center to center of the posts would strike the center of the face of the pulley. The posts should be about one foot away from the driving pulley. That distance can, however, be best determined by the nature of the idler pulleys, as they are made in various forms, but all should be of a swiveling nature and not rigid. A rigid device might do, but it is thought that swiveling frames are better adapted to the purpose. Under the pulley and a few inches above the floor of the basement, the cross timber or bridge tree must be framed into the posts and the three fastened together either with pins or joist of bolts.

Our old-fashioned millwrights always make a lug tennon on the bridgetree and use wooden pins for drawing the shoulders of cross tie and posts together. But by later methods a short tennon is made and iron joint bolts used for drawing them together. The latter plan is the simplest and best.

To this bridgetree on each side of the drive pulley the idler pulley frames must be secured, and when that is done all is ready for the belt to go on. In putting on the belt we will start, say below the driving pulley, where both ends of the belt will meet below the main driving pulley, when they can be fastened together and the job is finished. Then the belt can be moved around and the swing or riveting done whenever it is most convenient.

#### ROPE DRIVING.

THE subject of rope driving may properly be placed under two heads, according to the nature of the material composing the ropes—whether fibrous or metallic. With few exceptions metallic or wire ropes are used almost exclusively on long-distance or telodynamic transmission, while fibrous ropes are employed for intermediate and comparatively short drives. Among the materials used in this method of power transmission we find manilla rope in much favor in this country, as well as in Great Britain and Germany.

In many cases ropes of cotton are also used, as they are generally softer and more pliable than the ordinary manilla ropes, thus allowing smaller pulleys to be used with less injury to the fibres. In fact, cotton ropes of small diameter have been used for years in cotton machinery bandings over pulleys and under conditions which would wear out a manilla rope in one-third the time. There is also an advantage, in that there is less internal chafing and wear when the rope is bent over a pulley, on account of the smoothness of the fibres and the great elasticity of the yarns.

The fibre of cotton is in itself a single cell, or hair, which grows on the coat of the seed and is thus a unit. These fibres are divided into two classes, constituting what are known as the short and long stapled varieties, in which the length varies from 3/8 inch to 1 1/4 inches. The unit cell, when attached to the seed in the plant, is in the form of an elongated cylinder, but when dried and separated from the plant the walls of the cells collapse; the flattening of the cells is not uniform nor continuous in a straight line, and as a result the fibre assumes the appearance of a twisted ribbon of numerous convolutions, somewhat resembling a corkscrew.

The shape of the fibre is thus well adapted to the work of being twisted into yarns and on account of each fibre

being a unit its surface is comparatively smooth; the structure of the fibre permits considerable elongation, and especially in the long stapled varieties, the natural wax on its outer surface acts as a lubricant and permits a freedom of motion between the unit fibres without undue wear.

Thus it will be seen that cotton ropes are particularly well adapted to the transmission of power, in which the rope is constantly undergoing a varying strain, and is subjected to much flexion. The strength of cotton ropes is, however, extremely small, and although the weight is about one-third less than manilla the actual first cost is from fifty to seventy-five per cent. greater than for the latter. The working strength of cotton transmission rope may be taken higher, in proportion to its ultimate strength, than is used for manilla, for the latter is weakened by the grease with which it is lubricated, and, moreover, a large factor must be allowed for wear on account of the character of the manilla fibre, which breaks more easily under bending strains.

As compared with manilla, then, the advantages of cotton ropes of the same diameter are: Greater flexibility, greater elasticity, less internal wear and loss of power due to bending the fibres, and the use of smaller pulleys for a given diameter of rope. Its disadvantages are greater first cost, lesser strength, and possibly, a greater loss of power due to pulling the unwaxed rope out of the groove—in any case this is very small with speeds over 2,000 feet per minute.

In England manilla is now being used very largely, but cotton were formally preferred to the exclusion of all others for all kinds of driving, but the most probable cause of this was not that cotton was the best or most economical for the purpose, but that rope driving is most common at cotton factories, and cotton ropes were made in the locality by men who were familiar with the local product and had for years been making spindle and rim bands of small size. When the demand for large sizes arose these rope makers applied themselves to the newer industry and shut out other materials.

In the mills of Dundee and vicinity, and in the North of Ireland, where flax and hemp are worked, we find ropes of hemp, a local product, used entirely.

Rawhide ropes, which are made from 3/8 inch to 2 inches in diameter, are used to a limited extent. Where the stress in a rope is not great and the accompanying slip is small, rawhide works very well, and will last from three to six, and, in some cases, ten years. Under ordinary circumstances, it is not necessary to use any dressing, as sufficient lubrication is furnished by the rope itself; if the rope slips in its groove the leather will be burned and lose its flexibility and also its adhesive qualities to a certain extent. A rawhide rope has very little tendency to rotate on its axis, and for this reason the wear is not uniform, and with a heavy tension it is liable to take the set of the groove in which it runs; this is rather an advantage for a straight drive, where the rope always runs in the same direction, but in those cases where a rope is led on to the pulleys in an arc this will be a disadvantage, as under such conditions the rope often slips and wear is excessive. Where the rope is subject to wet or dampness, rawhide is an excellent material to use, as it is very little affected by dampness.

The cost of rawhide rope will average about six times that of a good quality of manilla transmission rope.

Solid round and square ropes of leather are sometimes used, and steel ropes with leather washers closely threaded on have been tried with considerable success, but the expense of such a rope would necessarily limit its application.

As we have already noted, manilla rope is used very extensively for transmission purposes, but its application has not always met with that success which would follow a more thorough knowledge of its requirements. Inefficient rope drives are erected and run for a few months, or perhaps only days, and are replaced with larger ropes if the sheaves will permit, or, as in many cases, the ropes give way to leather belting and henceforth rope driving is condemned. The true cause is not so much the inefficiency of the ropes as it is the lack of knowledge concerning their use and application. Flather, in the Electrical World.

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## A CLEAN MILL.

BY W. T. BATES IN ENGLISH "MILLER"

CLEANLINESS is said to be next to godliness, and in milling is supposed by some people to be synonymous with the manufacture of good flour and financial success. Cleanliness may be a virtue deserving a non-variation equal with godliness; but I greatly fear that many a canonized saint too often lacked the lesser virtue, and if Eastern "saints" are at all a pattern of the exalted departed, I should not be surprised to learn that uncleanliness in some cases was "accounted for godliness." I have also a strong impression that all the best flour is not made in all the cleanest mills, but in saying this I do not wish to appear as advocating either ungodliness or uncleanliness. As a matter of fact, all of us know of commercially successful mills, which are not models of orderliness, or alambros of delight; and we know also of carefully kept establishments which are unable to hold their own. I am not attempting in any way to state cause and effect in these cases, but relate them as matters of fact in order to disprove the connection, if any was supposed to exist.

There are untidy people who are never satisfied without they are up to their necks in dirt, and it may be true, as some assert, that a dirty man is never a good workman, his untidiness being the best evidence of his qualification—his character, in fact. While, however, admitting that some men are beyond redemption in this respect it would be quite unfair to generalise and condemn all men as dirty who happen to be connected with an untidy mill. Neither is it fair to blame the management for this state of affairs, and give the mill or system the credit of the financial success. We ought rather to reverse the order of this, and say that the condition of the mill is the fault of the builder, and its success due to the management.

It may be that the old style of milling has something to do with the slovenly and untidy habits of some men. The mill was considered to be clean if it was swept once a day and cobbed twice a year, the sweepings being left under the stairs and picked up about once a month; but as the old race of millers is dying out, and the breach between the old and new is ever widening, this reproach cannot long remain.

Our old race of so-called "rule of thumb," but really practical men, is being replaced by what we may with more truthfulness call knights of the broom. The age of millstone milling produced practical, self-reliant, all-round capable men. Their place is not being filled. The working of the mill depends now upon one man. The era of roller milling is the era of brooms and brushes, and of a race of housemaids, whose duty chiefly is to sweep, sweep, sweep, from morning until night. Cleanliness, now, in some mills, takes precedence of milling in its proper sense, except officially. The use of the broom becomes a painful monotony, or, as Mr. Mantellini would express it, "One horrid dem'd grind."

Some mills are dusty because it is impossible to keep them free from dust, owing to inherent defects; for no sooner has a man got to the end, say of a line of rolls, with his dusting, than he has to begin afresh and repeat the process. On the other hand, there are mills which scarcely need sweeping up once a day. But pray don't blame or credit the men or management in either case, for these extremes represent the difference between good and bad arrangement and environment. Only those who have had experience of this sort of thing can understand or appreciate the misery which unpreventable dust and untidiness induces, or the gratification arising from successful endeavors to overcome it.

Having experienced the two extremes, I will give my opinion of what I consider to be the chief causes of dust, dirt and trouble.

First and foremost amongst them all I place the absence of a good exhaust, especially where damp wheat is used. A good exhaust under the rolls ventilates the whole mill; for by drawing the hot air from the rolls the elevators and all dressing machines connected therewith are ventilated. The effect of this is that everything works better, the flour dresses freer, chokes are avoided, dust prevented, and general comfort promoted throughout the mill. This is not a fancy picture; without an exhaust, when milling damp wheat, and especially with dull rolls, sweating takes place, the spouts become

charged with damp moist air, and quickly fill up with a green fungous substance. Chokes inevitably follow, and chokes are the most fruitful cause of untidiness and unsatisfactory work. Besides this the spouts and elevators become rotten, and general discomfort is the supreme result. This state of affairs must also be prejudicial to the health of the workmen, as it assuredly must be to their tempers. We have probably learnt enough about roller milling—costly lessons too—to avoid these failures in our more recent constructions, but that will not cover past follies. In a mill that comes under our cognizance this trouble is so great that a weekly clearing out of elevator bottoms and spouts takes place regularly. Of course, there is always the remedy of applying a proper exhaust, but then everyone does not know its advantages; let us hope that this paper may assist them in this respect.

Another cause of dust, but not now very prevalent, is blowing elevators. Through going too fast generally, but sometimes through faulty construction, a portion of the load is thrown back, and falling to the bottom causes a rush of air and dust from spouts, or even from the roll case itself. This is a trouble sometimes difficult to cure, for it may arise from the elevator being overloaded, and the mischief of it is that every bit thrown back increases the load, but this overloading may be more apparent than real, for sometimes the buckets get clogged—partly filled with an accumulation of sticky dust—and this prevents them carrying their proper quantity. Spouts too upright may also prove a cause of dust by "blowing" in the same way as elevators. A flap valve or two put in a long spout will sometimes entirely overcome this defect, but it is best always to put the spouts at a fair angle, as anything hard will be greatly damaged by heavy falls. I have seen semolina thrown from an elevator down a long spout which not only wore a hole through the spout in a few months, but caused such a rush of wind that it lifted the lid from the purifier hopper. I should call that a fault of construction, although other people might put another construction upon it when they saw the trouble and mess it caused. We must, however, admit that millers and mill builders do not always admit the same construction!

There is no gainsaying the fact that all modern dustless purifiers may be made excellent dust distributors unless the feed is thoroughly dusted beforehand, which is often not the case owing to changes in the condition of the wheat. Arrangements which will dust middlings from dry hard wheat are very inadequate for damp wheat, and unfortunately we cannot always ensure one condition of wheat, even with our modern washing and mangling outfits; hence we find some "dustless" mills very dusty indeed, but, *le. us* also add, some are very free from dust, and also, that this defect is, wherever it may exist, a miller's and not a mill builder's fault. I question the wisdom of close dusting, but I give full credit to the dustlessness of the modern purifier when properly fed.

Mills should always be so constructed that the dirty dust of one department cannot be drawn in to contaminate the pure products in the other. For that reason the wheat cleaning department should be entirely separated from the mill. If dust is once set free in the air, we never know its destination. It may be our lungs, and it may be the pure products of our purifiers, for wherever fans are drawing breath, the impurities in suspension will accompany it. In badly arranged buildings this dirty dust can be seen sticking to the underside of the purifiers, and also covering main drives in out-of-the-way places in the mill. Depend upon it these are not the only places where it settles; the mill is generally affected thereby, and it can be seen in the color of the dust swept from the tops of machines and other places.

In a case I have in mind the dust catchers for the entire mill were placed under the roller floor. As every one knows, nearly all of these machines fail to catch fine dust, and the effect upon all the roller belts and the roller floor can be easily imagined. Fine dust is like smoke, following every current and eddy until it finds a resting-place. Its effects upon the inside of a belt is most disastrous, for no belt can obtain a proper grip when covered with dust. Slipping belts mean trouble, and where the cause is widely distributed, as in this case, the trouble is sure to be correspondingly great.

I should call that a fault of arrangement, and I should not blame the miller for it. If it became a question for compensation, I fancy the sum in question would be large, for I know the trouble is incalculable, and there is small credit given to those who have to battle with it.

Perhaps the greatest difficulty with which a conscientious man has to contend in his endeavors to maintain a clean mill is the general habit of untidiness in workmen. Plenty of men will go carefully through all their machines, polish bearings and brighten shafts, and yet have the mill littered and untidy. It may be an empty sack in a window sill, some waste left in a corner something between the elevators, some grease or oil left upon the floor, even something hanging upon the wall, all of which seem to neutralise or spoil the effect of their otherwise successful labours. Again, with regard to partially filled sacks. I remember going to take charge of a mill and found scores of these little bits of stuff littering up the place. Against every pillar were piled up half-a-dozen, and in every possible corner an even greater number. Everybody had done something to add to the number and yet it was nobody's business, and nobody knew what they were. This is a trouble that wants keeping well underhand or it grows to an awful nuisance.

I think that in some cases a mill cannot be kept clean because it is undermined. I should like to see a distinction made between millers and housemaids. We imbue our men's minds so thoroughly with this eternal cleaning business that I think they sometimes forget they have anything else to attend to. They are "broom knights" first and millers afterwards, a condition which I must say is not very creditable. We ought also, I think, to do all in our power to reduce this sweeping business to the lowest limit by doing everything possible to overcome its necessity.

Some complain of the waste in dirty mills. There is waste undoubtedly, but waste arises more from chokes; remove this trouble and the other disappears, as showing the difference under different conditions. A mill in which I was engaged worked under the worst conditions above enumerated, the result may be imagined, and imagination could not color the real truth, it was bad enough in all conscience. I now have the pleasure of working under the exact opposite—that is, the most favorable conditions; we have no choking, no waste, and to receive visitors is a pleasure.

The best way to dispose of sweepings, where there is a large quantity made—and badly constructed mills do manage to make a large quantity—is to have a mixer on each floor of the mill. All sweepings are put into these which feed into a short reel, where they are sifted and sent into sharp; or they may be divided and sent partly to sharps and partly to bran. This disposes of them as they are made, and prevents an awkward accumulation, difficult to dispose of.

Of course mills are sometimes dirty through sheer carelessness. A worm lid is left off from day to day, or a spout lid in like manner. A leak may remain unstopped, and yet, for all this, every day the man goes round and sweeps up the deposited dust, leaving the cause as before. It may be too much to expect our "broom knight" to become thoughtful, but until that consummation is arrived at I fear there is little hope for the realization of our dream of purity and light, an absolutely clean mill.



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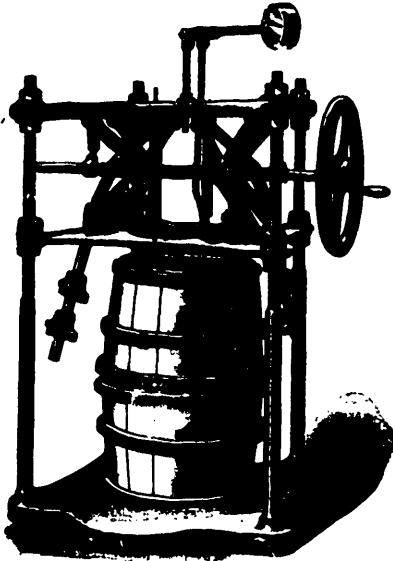


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