

Arthur, they would be obliged to have offices in Winnipeg to manage their wheat-buying department. This would cause extra outlay in maintaining offices at the two points. Again, Port Arthur is at a disadvantage in the matter of railway competition. A mill there would be entirely dependent upon the C. P. R. for freight rates from the source of supply all the year round, and also for shipping flour eastward during the close of navigation. The advantages on these two points are therefore in favor of Winnipeg. The Winnipeg council has offered the firm exemption from taxation for fifteen years if they put up their mill here, but no direct bonus is offered. The Ogilvie mill was given the same exemption. Messrs. Hastings & Co. have also been considering the advisability of building their mill near Rat Portage, on account of the water-power privileges afforded there, which would of course reduce the cost of manufacturing. The chances are understood to be in favor of Winnipeg getting the mill.

A great deal of apprehension is being caused here regarding frozen wheat, as it is understood to be the intention of farmers to sow frozen wheat for seed next spring. Farmers who had their grain frozen last fall, will not pay the high prices now ruling for sound grain for seed, and will take chances on the frozen grain growing all right. It is feared that if badly frozen grain is sown largely next spring, it may have a very bad effect upon the next crop, as there are doubts as to the germinating properties of frozen grain. In 1885 wheat was frozen to some extent, and a good deal of frozen grain was sown for seed the following year, with fairly good results; but the grain was not as badly frozen in 1885 as it was last harvest. In sowing frozen wheat for seed in the spring of 1886, it was customary to sow about half a bushel per acre more than the usual quantity, as an allowance for poorer quality of the seed.

There is good reason to believe that a flour mill will be established in the far western portion of the territories next summer. The point likely to get the mill is Calgary. The residents of Macleod tried to secure a mill last year, but were unsuccessful. Regina, 350 miles west of Winnipeg, is the farthest point west having a mill. Calgary is nearly 850 miles west of Winnipeg. There is quite a settlement in the far west, extending mainly from Calgary southward to Macleod, but very little wheat has been grown, and the flour has been supplied from Manitoba mills. It has been generally reported that this western country is not adapted to wheat, owing to its proximity to the mountains, and the supposed danger of summer frosts. This, however, is a good deal supposition. At any rate, the Eau Claire Company, now owning a saw mill at Calgary, has about decided to build a flour mill, and if the intention is carried out, the capabilities of the district for growing wheat will soon be tested.

### STEEL FOR PIPES.

EXPERIMENTS have been progressing in England for a year or two past in the way of determining the quality and properties of steel for use in water and other pipes. *Engineering*, of London, contains the following reference to this subject:

"Mr. James Riley, one of our foremost engineers, more distinctly associated with steel constructions, has been making efforts of a more or less tentative character, to secure the adoption of this metal for the purpose, and to overcome the objections which have been raised to its use. The only technical difficulty was that of welding the tubes, and this he has overcome; but it is not so easy to fight down the prejudices against steel for tubes.

"Some time ago Messrs. A. and J. Stewart, Glasgow, and the steel company of Scotland, in conjunction, supplied tubes of steel for carrying the water over the Tay Bridge, this being the first illustration of their use in Great Britain. These pipes were welded by Messrs. Stewart, and were fitted with Riley's patent socket, and completed by the steel company. They have proved very satisfactory. Tenders have been put in recently for 1,600 tons of steel water mains of large size for the Sidney water works. Estimates and tenders have been made within the last year or two for several very large quantities, requiring from 100,000 to 250,000 tons of steel, but as was the case on the introduction of steel for ship construction, the progress is very slow. When the strength of steel is contrasted with that of cast iron, of which those large water mains are usually constructed, it will be at once apparent that a great reduction can be made in the thickness and consequent weight of the metal required for the purpose. For conveyance abroad, too, the question of freight is a consideration.

"It is under contemplation to make provision in the west of Scotland for executing contracts for steel piping at a more rapid rate than is now possible."



St. John, N. B., is applying for the erection of a great flour mill.

There is said to be a good opening for a flour mill at Gladstone, Man.

The mill at Yorkton, in the Northwest, has recently been shut down for repairs.

It is feared that the McGregor, Man., flour mill may have to shut down for want of water.

Steps have been taken towards the building of a flour mill at Broadview, N. W. T., next spring.

Mr. Joseph Lague, West Farnham, Que., has just secured the patent for a millstone dressing machine.

D. S. Clemens & Co. have purchased Fisher's Mills, near Hespeler, Ont., and the Winterbourne Mills.

During the recent wind storm the barrel shed of the Howland Mill, at Thorold, Ont., was blown down.

Mr. D. Brown, of Forrester's Falls, Ont., contemplates erecting a roller mill on the site of the old grist mill.

The exports of wheat and flour to England from Canada, decreased in 1888 from £2,045,846 to £886,785.

Work has been commenced on the new 750,000 bushel elevator of the Grand Trunk Railway at Warton, Ont.

Messrs. Cochran & Manson, millers, Crystal City, Man., have changed the style of their firm to Cochran & Co.

It is reported that Mr. Geo. Mace, a former resident of Exeter, Ont. will return and build a flour mill in that town.

Mr. Williams' mill dam at Centerville, Ont., was swept away by floods last month, entailing a heavy loss on the owner.

Mr. Cochrane, head miller for the Portage (Man.) Milling Co., has bought a mill at Crystal City, and will go there soon.

The municipal council of Cartwright, Man., has been asked to submit a by-law to grant a bonus of \$4,000 for a new flour mill.

A project is on foot to induce a Clifton (Ont.) miller to remove to Glanboro, Man. So says a correspondent of a Winnipeg paper.

An over-heated elevator shaft set fire to Howson Bros' mill at Teeswater, on Jan. 22nd, damaging the roof to the extent of \$100.

The West Toronto Elevator Company, of West Toronto Junction, Toronto, has been incorporated with \$10,000 capital stock.

The Lake of the Woods Milling Co., Keewatin, is shipping eight to ten cars of flour per day to Montreal and other eastern points.

W. B. Browne, of the Simcoe Mills, Simcoe, Ont., will build elevators and purchase grain at Port Rowan, and St. Williams next spring.

Snider & Recket have put in machinery, in connection with Woodworth's elevator at Deloraine, Man., for grinding feed and Graham flour.

A flour mill is badly required at Manitou, in the Northwest. There is said to exist an excellent opening for both gristing and shipping business.

A by-law will be submitted to the municipalities of Silver Creek and Russell to raise a bonus of \$5,000 for the erection of a grist mill at Russell, Man.

The employees of Neelon's flour mills and cooper shops, St. Catharines, Ont., numbering 50, had an excursion to Niagara Falls on the 28th Jan.

Mr. James Forbes, of the Hespeler Star Mills, who has been suffering from a heavy cold for some months, has gone to Bermuda for the benefit of his health.

\$3,000 will be raised by private subscriptions for the erection of a flour mill at Glenboro, Man. The committee will be glad to correspond with mill builders.

Mr. S. A. McMurtry, on leaving Lindsay to assume a position with the Ogilvie Milling Co., of Montreal, was the recipient of a number of addresses and valuable presents from his admiring fellow citizens.

Messrs. J. E. Pearen, of Toronto, and J. W. Pearen, of Goderich, the latter for several years miller for Ogilvie & Hutchinson in their large mill at Goderich, are about to erect a 100 barrel mill at Brampton, Ont.

If the Government grant the application of the Eau Claire Milling Company for a water lease at Calgary, N. W. T., it will probably lead to the establishment of a roller flour mill by the company which already owns a saw mill.

An attempt is being made at Thornhill, Man., to form a joint stock company for the erection of a roller process mill. There is great need of a good mill, and Thornhill is said to be a very promising place for such an enterprise.

During the last season of navigation there was refunded on grain passing through the St. Lawrence canals tolls amounting to \$30,580, the figures for the previous year being \$33,412. The actual increase of revenue for 1888 from canal tolls was \$13,784.

The grist mill owned by Mrs. Bonfield at Eganville, Ont., was completely destroyed by fire on Sunday morning, the 20th Jan., nothing was saved. The loss on the mill and contents, will be about \$30,000. The only insurance is about \$4,000 on the machinery.

Messrs. May Bros' roller flour mill at St. Thomas, Ont., was destroyed by fire on the 19th inst. The loss will exceed the insurance which amounted to \$6,700, by \$5,000 or \$6,000. In addition to the loss on the mill and machinery, considerable grain, etc., was destroyed by water.

The provisions of the law allowing Canadian grain to be ground in the States in cases where the farmer lives near the frontier and more than five miles from any Canadian grist mill, which have been hitherto applied only to the Eastern townships, have been made general. Manitoba and Northwest settlers will be greatly benefitted by the change.

The Austrian Consul-General in Liverpool estimates the number of mills in England at 7,000, with a total productive capacity of 36,000,000 sacks of 280 lbs. The capacity of individual mills varies from 100 to 7,000 sacks per week. He observes that although the roller system is making more and more headway, yet a great number of stone mills are left.

Mr. Maguire, an old and esteemed employee of Messrs. Wm. & J. G. Greey, mill machinery manufacturers, of this city, on resigning his position with the firm was waited upon by his fellow-workmen and presented with a complimentary address and a handsome meerschau pipe. Mr. Thos. Mulholland, another old and much esteemed employee of the works, takes Mr. Maguire's place.

The Rev. Principal Grant, of Queen's University, Kingston, who has lately returned from a tour around the world, says that the Japanese are largely abandoning the use of rice in favor of bread, and he can see no reason why the fertile prairies of the Northwest should not largely supply Japan with the wheat she will require for her 38,000,000 of people.

The municipal council having thrown out the petition asking that a by-law be submitted to grant a bonus for the establishment of a 50 barrel roller flour mill at Catwright, in the Northwest, steps have been taken to form a joint stock company to carry out the project. The entire farming community tributary to this point are most enthusiastic in promoting the scheme, the success of which is considered beyond question.

A Port Arthur despatch of Jan. 24th, conveys the information that Messrs. Hastings & McGaw, of Winnipeg, have closed an agreement with the Port Arthur council to erect a flour mill there in consideration of receiving a bonus of \$15,000 and exemption from taxes for ten years. Leading citizens will give a bond guaranteeing a bonus in case the by-law is not passed. In this way work will be at once commenced on the erection of the mill, which will be of 500 barrels capacity.

A resolution has passed the Winnipeg City Council, subject to ratification by the citizens, to grant to Messrs. Hastings & McGaw, exemption from taxation for 15 years upon all buildings and machinery erected by them in building and operating a mill and elevator in that city, the mill to have capacity of at least 600 bbls. Hastings Bros. & McGaw state that they propose investing \$100,000 in buildings, etc., and will pay from \$30,000 to \$25,000 annually in wages. This places the proposed mill on about the same footing as the Ogilvie mill, which received a like exemption.

Mr. James Wilson's oatmeal mill at Fergus, Ont., was burned to the ground on Friday, the 18th inst., with all machinery and most of the contents. Since Mr. Wilson rebuilt this same mill, which was destroyed by fire a little over two years ago, he has put in the most improved machinery, and it was considered the most modern mill in Ontario. The mill was run to its full capacity night and day the year round, and consequently a number of men will be thrown out of employment. The insurance will not nearly cover the loss. Great sympathy is felt for Mr. Wilson in his misfortune.

It is a common expression among many of the best millers of this country, says the *Millstone*, that the millstone still has a place in all first-class reduction mills, and that gradual reduction does not in theory or practice, forbid the use of millstones. Gradual reduction has in mind the preparation of pure stock for final reduction. The middlings having been prepared and purified to the limit of possibilities, and having been reduced for that purpose, it is right and proper that the millstone be used to complete the reduction of this stock. Much of the stock which goes to the red-dog is in a condition to successfully resist the action of smooth rolls. Hence the millstone is a necessity here. Smooth rolls will go farther in the reduction of hard wheat stock without hardening or flattening it than they will on soft stock. Hence there is a greater necessity for millstone reductions on winter than on spring wheat.

If flour costs \$6 a barrel, what is the value of one pound? Now to divide \$6 by 196, the number of pounds in a barrel, is a tedious operation. The result may be accomplished as follows: Divide 6 by 2, calling the result cents; double this result, writing it underneath, and two places to the right of the last number; then add the results. It is evident that with most numbers the writing of the numbers alone performs the addition. For illustration, take one example given: Divide 6 by 2, then writing the results in cents, we have .03. Doubling this and carrying it two places to the right we have .006; doubling this in turn and carrying it two places to the right we have .00012. Adding these amounts we have the following: .03061224, which is the cost per pound. This rule will be found correct to a number of places of decimals. Those of our readers who desire to test its accuracy can do so by simple division.

Among the recommendations made to the Kingston Board of Trade by the Executive Council of that body, is the following: "Among the most important industries of our city is its storage and forwarding of grain, and if the St. Lawrence route is to receive and hold a large share of grain shipments from the Northwest, a large warehouse with all modern appliances for storing grain during the winter months, and handling and shipping same in the most improved manner may be a necessity, not only to companies engaged in the forwarding business but to the general community, and, as such an enterprise would give employment to a large number of men, it should receive your careful consideration and an energetic and capable committee be appointed. Closely connected with this question, and one also of great importance to us is: Building of composite steel barges for carrying grain. If there is a market for the output of such an industry, no better place can be found than this city, with its dry dock, its immense forwarding business, its locomotive works and foundries."