

This wall was constructed for the double purpose of preventing dust from reaching the mill, and as a fire wall. The first floor of the cleaning department is used to receive wheat from farmers' wagons. The second flat has stones for grinding feed, and scales for receiving wheat from cars. On the third flat are two Richmond brush machines. On the fourth flat, two Richmond smutters. On the fifth flat is located one four-cylinder cockle machine. The last flat is occupied with three Richmond separators and one large Barnard & Leas' receiving separator. One half of the cleaning department is divided into four bins for grinding supply of wheat, with a capacity of 20,000 bushels. The total cost of this extensive milling property amounted to over a quarter of a million dollars.

Since the completion of the mill, the business of the company has constantly and rapidly expanded. Supplies are now readily obtained to keep the machinery steadily at work throughout the year, and the product is ever in increasing demand. For the past year the mill has been at work night and day without interruption. Since the mills were completed, quite a number of roller mills have been erected throughout the province, and these have of course cut off considerable local trade, but in spite of this, the demand for the brands of flour turned out at this mill has enormously increased. The trade of the company now extends from Victoria, B. C., on the west, to the Lower Provinces, Newfoundland and the United Kingdom to the east. Ogilvie's Hungarian patents, and Ogilvie's strong bakers have successfully competed with foreign shippers of flour to Canada, and these two popular brands of Manitoba flour have taken the lead in driving out Oregon millers from the markets of the Pacific Province, as well as the Minneapolis and St. Louis millers from the markets of the Lower Provinces. In both the eastern and western extremes of our country, Manitoba has almost succeeded in annihilating foreign competition, and to the two brands named belongs a great share of the credit for this result.

Commencing at first with two or three purchasing points, the company now has grain buyers at all principal points throughout the province, extending along over 800 miles of main line and branch railways, mostly in the province of Manitoba. At many of the principal points commodious steam elevators have been erected, and at minor points horse-power elevators and store-houses have been established. The country storage capacity is being added to yearly. In addition to the properties already described, the company has erected a commodious brick building at a central location in the city, from which the business affairs of the institution are directed.

The amount of wheat handled each year since the completion of the mill, will give an idea of the rapid expansion of the business of the company. In 1882 the purchases of wheat amounted to 400,000 bushels; in 1883, 650,000 bushels; in 1884, 1,000,000 bushels; in 1885, 1,250,000 bushels; in 1886, 1,750,000. Figures are given for the crop year. The figures will also serve as an index to the expansion of the wheat-growing industry of the province. The Ogilvie company expect to handle fully 3,000,000 bushels of the crop of 1887.

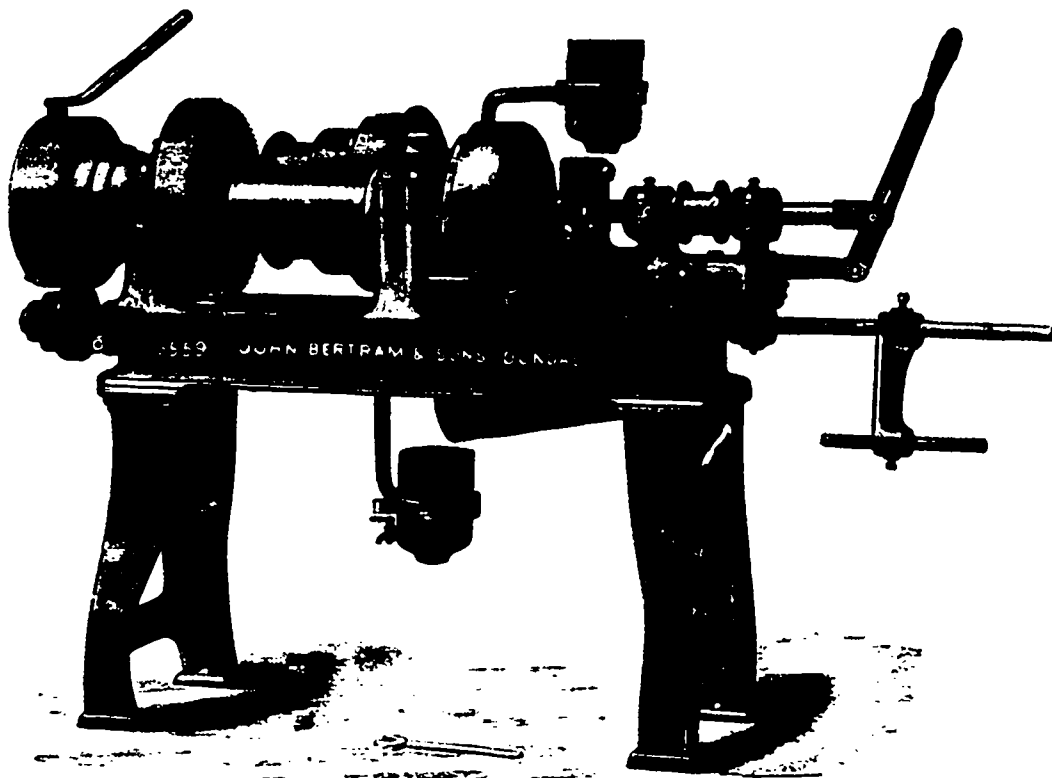
This brief sketch of the milling industry at Winnipeg of the Ogilvie Milling Company, would be incomplete without some reference to the *personnel* of the company, so well known throughout Canada and even beyond our national boundaries: The following are the officers: President, John Ogilvie; Vice-President, W. W. Ogilvie; Directors, W. A. Hastings, Geo. V. Hastings and S. A. McGaw. The local officers here are: W. A. Hastings, managing director; F. W. Thompson, secretary; Geo. V. Hastings, superintendent of building, machinery and manufacturing, and S. A. McGaw, director of the grain purchasing department. Mr. Geo. V. Hastings is considered a very competent man in his department, and the mill here was built under his superintendence. He has just returned from superintending the construction of the Company's Royal Mills at Montreal with a capacity of 1,500 barrels daily. Geo. H. Kelly is the head miller at the Winnipeg mill. F. G. Simpson travels for the western branch of the company's business, his route extending from Ottawa Ontario, to Kamloops, B. C.

A. O. Hastings represents the company on the Pacific coast. The Winnipeg branch also necessitates the employment of an office staff of twelve men, whilst about 150 men are given employment in the purchasing and manufacturing departments.

### IMPROVED CUTTING-OFF MACHINE.

The firm of John Bertram & Sons, Dundas, Ont., to keep up with the increasing demand for improved labor saving machinery, have placed on the market lately a number of new tools, one of which, for cutting-off and centering bars from 3½ inches down, is herewith presented to our readers. No well organized machine shop can do without such a machine as this, and stick to the old style of nicking, breaking-off, centering and facing the rough ends of bars and forgings. The satisfaction to a good lathe hand when all the work is put to his hand centered and faced ready for the tool, can be easily understood.

This machine can cut off and centre steel and iron bars from 3½ inches down. The two tools are set in sockets in the rests so as to cut close to the revolving jaws on hollow spindle. The frame and headstocks are cast in one piece and the hollow spindle is provided with a universal chuck at each end. The tools feed to the centre automatically and can be adjusted from the front while running, a stop motion throwing the feed out at any point. The centering device can be thrown back while cutting off, the tools are planed with the proper clearance. Countershaft has fast and loose pulleys,



IMPROVED CUTTING-OFF MACHINE.

14x3½ inches and should make 80 revolutions per minute. Weight, 2,100 lbs.

### A \$50,000 CONTRACT.

AND MANY MORE, ENTRUSTED TO THE SMITH PURIFIER COMPANY—ORDERS IN HAND FOR PLANT FOR NINE ROLLER MILLS.

From a recent issue of the Stratford Daily Herald we clip the following article:

The Geo. T. Smith Middlings Purifier Co., of this city, has the contract for the iron work and machinery for a new 1200 barrel roller flour mill at Rat Portage, Manitoba. This contract, which calls for about \$50,000 worth of machinery, includes about 40 roller mills, 36 Smith purifiers, and centrifugal reels and other machinery, with 180,000 pounds of iron work, shafting, pulleys, &c.

The machinery of the mill are prominently identified with the Canadian Pacific Railway and carrying out the project under the style of the Lake of the Woods Milling Co., Alex. Mitchell being president and John Mather vice-president, both of Montreal. The mill and its adjuncts are to be of a most substantial and complete character, and will cost over \$200,000. The mill building will occupy a ground space of 100x110 feet, and will be constructed wholly of granite, a large amount of this stone being quarried from the race-way. The mill proper, 50x110, will be six stories high, exclusive of basement. The remaining 50 feet frontage will be three stories and basement in height, and designed for the packing department and warehouse. Contiguous will

be a building 30x50 feet, to contain two 60 inch water wheels, working under a 24 foot head, and leaving ample room for two more wheels in case the company should at any time in the future desire to build another mill adjoining, as is thought possible. About 200 feet distant from the main building is to be erected a 125,000 bushel elevator, the wheat being conveyed to the mill by means of a belt wheat-carrier. A race-way 30 feet wide and to have 10 feet of water will be cut through the solid granite at a cost alone of \$24,000. In this manner the Lake of the Woods is secured as a natural and inexhaustible reservoir for water, the race emptying into the Winnipeg river.

The contract was given the Smith Purifier Co. by E. P. Allis & Co., of Milwaukee, the head contractors. It is understood that the main object of the enterprise is to mill Manitoba wheat in transit, and that it is probably but the first of several mills that will be erected. Montreal, where Ogilvie & Co. have just completed a new mill, is mentioned as the location most likely to be chosen by the new company for another mill, so that the Smith Purifier Co. has a series of fine orders in prospect, of which the present is only the first.

Besides the large contract referred to, the Smith Purifier Co. has numerous other orders, which will keep the works fully employed for some time. The company has orders for milling plant for two other mills in the Northwest, one at Portage la Prairie and another at Moosomin, Assiniboia; for a mill at Waterford, Ont.; and for five mills on the new C. P. R. cut off from Smith's Falls to Montreal, namely, at Smith's Falls, Oxford Mills, West Winchester, Chesterville and Maxville, the last of which is about completed and will be running in a few days.

The constant stream of business at the Smith Purifier Co.'s works is the best testimony that could be furnished of the company's manufactures. The *Herald* hopes this leading Stratford institution will prosper yet more in the future.

### WHERE IS THE ADVANTAGE FROM HIGH SPEED?

It is very easy to leave out the part that the strength of a shaft has to take, in looking for the benefit of high speed in transmitting power and to overlook a small factor of safety which every one is fond of seeing when a number of heavy shaft wheels are to be strung up overhead. Take the line shaft that runs down through the centre of the room loaded with pulleys from end to end and notice how much can be gained by driving it at a slower speed. Make the pulleys twice as large and the shaft only needs to go one-half a turn as before, and what a change it makes in the arc of contact for the belting? The same belts will answer to run just the same, only they need to be made somewhat longer to allow for larger driving wheels, and see how much easier it is to carry all the load on the bearings, than to strain everything up to high speed? All the friction found in the journals are not to be overcome through but half the space as before, and a great improvement is indicated in the direction of the coal pile. It is very easy to see that the strength of the shaft has been made the most use of by such a proceeding and the factor of safety reduced to almost the breaking point. Another enlargement of the shaft wheels would give it more of a torsional strain than it could hold. If it would do to make the wheel twice as large, and drive the shaft slowly to keep up the same surface speed to save power, then it would be just as well to let the pulleys remain as they are and turn down the bearings where the shaft is to be supported as far as loss of power is concerned. There are two things that go to make up the driving energy of power. One is speed and the other is moving force. The advantages of high speed are, that it takes less force to operate with than a driving strain that has a slow movement to work from. High speed gives a chance for a small belt to do as much work as a large one; for a small pulley to accomplish as much as a heavy flywheel, or a light shaft to transmit the same amount of power as a heavy one; and whenever this important element of speed is interfered with an increase in the driving force must be called for and the modes of transmission strengthened accordingly.—*Journal of Commerce.*