

HAMILTON'S FOUNDRY AND MACHINE SHOP, PETERBOROUGH.

SAW MILL WORK A SPECIALTY—A NEW CIRCULAR MILL—COVELL'S SAW SHARPENER—VERY LARGE STEAM HAMMER—A BUSY SEASON.

The large foundry and machine shop of Mr. W. Hamilton is known to every resident of the Town of Peterborough, and to many living at a considerable distance. It has for years been looked on as one of its leading industries, and judging from present appearances it is bound to keep a place in the front rank. The name of Mr. W. Hamilton as a first rate manufacturer in his own particular class of work, is now fully established from one end of the Dominion to the other, and it is not by any means unknown across the border, as many of the American firms, with which he has come in contact in the matter of tendering, can testify, to their cost. He makes a specialty of mill work of all kinds, more particularly that used in sawmills, and furnishes such institutions throughout from top to bottom. As is well known, Mr. Hamilton does not turn out any trashy work, but instead, everything, no matter how small or large it may be, has to pass the minutest inspection by practical men before it leaves the establishment, and thus customers are assured of obtaining the very best article that can be manufactured by men thoroughly skilled in their business.

A VISIT TO THE FOUNDRY.

The first glimpse of the premises betokened business, boilers complete and half finished, as well as numerous other heavy articles were to be seen on the road in front of the premises, and the number of men engaged in putting in raw material and taking out finely finished machinery ready to place in position, gave the neighborhood a business-like air. Passing inside, through the door of the machine shop, we found ourselves surrounded on all sides by workmen busily engaged at their various occupations, and were almost deafened by the increased din and clatter of the various machines, which were all in full operation. Mr. Hamilton informed us that business is booming without any doubt. Every department was engaged to its fullest capacity, and still they found it very difficult to keep up with their orders. Being very busy himself, he introduced us to Mr. W. H. Trout, the draughtsman and the chief designer of the works, who kindly consented to show us through this "hive of industry."

SOMETHING NEW AND UNIQUE.

Mr. Trout was busily engaged in the drawings of a new circular saw for Messrs. Irwin & Boyd for the Nassau mills. It is of a wholly new design, made from entirely new patterns, drawings, etc., and is calculated to meet every present and even the probable future wants of the lumbermen. It is a very heavy, powerful mill driven by a 20 inch belt, running on a 33 inch mandrel pulley. The mandrel is 4 1/2 inches in diameter and nearly eight feet long. The frame or husk is 6x9 feet. All the pulleys are extra heavy with solid web and are perfectly balanced. The racks and pinions for the carriage are cut from solid cast steel. New improvements are claimed for the set works, giving greater exactness and convenience. The quick reversal of a heavy carriage and heavy machinery, or a quick change from feed to gig, or gig to feed is probably the foremost problem in the mechanics of circular mills. An automatic brake which plays its part at the proper moment, offers to accomplish this most effectively. One movement of a convenient lever sets all the dogs. The saw is set in line without changing its relation to the carriage or any other portion of the machinery, as it is all self-contained, the main belt for tightening the pulley not excepted. This performs double duty; besides serving its proper office it drives the gig. The carriage is operated by a 1 1/2 inch hemp rope. With suitable gearing it may be worked by a wire rope, or the ordinary rack stick and pinion, or in steam mills by the steam feed. We understand that a patent has been applied for, covering all the improvements, and have no doubt that it will be granted. Practical men who have examined the mill all agree that it is the mill of the future. Before commencing our inspection of the various shops, Mr. Trout furnished us with some information as to their business.

SOME GENERAL FACTS.

Work has never been as plentiful since 1872, in which year there was a great run, but still not as much as at the present time. The work turned out now is far superior in every respect to that which was turned out eight years ago, for the simple reason that the mill men will not look at work now that they would jump at then. The prospects for the continuance of the flow of work are brighter than ever they were and the future outlook is excellent. Mr. Hamilton has refused some heavy contracts, for which he had the first chance, on account of not being able to turn out the work in the specified time. Several orders of work from Manitoba have also been refused as he prefers to handle work nearer home, when there is enough of it to keep all employed, as is the case at the present time. The capacity of the shop is limited and we are told that it is proposed to extend the premises shortly, in fact the necessity for such a step is very apparent, and will be more so before long. The wages of the employees have been recently increased all round and even at the enhanced figures, it is a very difficult thing to secure competent men, a rather different state of things from a few years since, when first-class men could be obtained on all sides at a considerably lower figure than is now paid. As we said before, Mr. Hamilton's specialty is mill-work, particularly that for saw-mills. For this class he has the "run" for Ontario and does the bulk of the work. Nearly all of the large lumber manufacturing firms deal here and many of the smaller ones, although the greater portion of the work required for the latter can be done at nearly every foundry throughout the country.

WORK ON HAND AND RECENTLY DONE.

All the machinery required for the large elevator, now being erected by the Midland Railway, is being made at the present time. The engine is of the latest improved Corliss pattern and is of 120 horse-power. The boiler, a return tubular, is 5 1/2 x 14 feet. Besides the engine and boiler there is all the shafting, pulleys, etc., of which a large number will be required. There is also in course of construction a circular mill for Mr. Tait, of Gravenhurst, who was recently burned out; a circular mill and all the accessories for Messrs. Williams and Murray, of Blind River, Georgian Bay; two gang mills for Gilmour, of Trenton; Ross & Co., of Buckingham, Quebec; and similar machines for at least a dozen other firms; two dozen of Covell's patent saw sharpeners, (which are manufactured by this firm under the Canadian patent, and are rapidly winning their way into public favor), besides complete outfits or repairs of some kind for nearly every mill in this district. So busy have they been in filling orders that Mr. Trout has been kept steadily employed since the beginning of the present year in draughting patterns for the work.

THE PATTERN SHOP.

In the pattern shop in the second story of the main building over the machine shop. We found eight men at work, with Mr. W. McLean as foreman. All the patterns are made here, and such wooden work as is required on the various machines. There is not much wood work to do as iron is chiefly used in the construction of all the various patterns of the machinery which is made. Cogging wheels and making frames for sawmill carriages, and putting together frames generally appears to be the principal work. Several of the men were engaged in making windlasses for towing sawlogs and rafts of timber on the lakes. The machinery in operation consisted of two planing machines, and numerous saws.

THE MACHINE SHOP.

We next entered the machine shop, under the charge of Mr. Geo. Munro. Here everything was in activity. Every person was busy and worked as if they knew that there was lots to follow. Immediately in the rear of the machine shop is the blacksmith shop, where six men were working at their forge, under the watchful eye of Mr. John Fraser. The machine shop is literally "choked full" of shaping and slotting machines, planers, emery wheels, and the thousand and one large and small machines which are known to the mechanic. It looks as though it would be an impossibility to crowd any more men or ma-

chines into this room, and as things are at present it could not be done, but we are told that by a re-distribution, which it is proposed to make at an early day, if the premises are not extended in the meantime, one-third more men and machines can be accommodated. The hands here are utterly incapable to keep up with the press of work, but in order to accomplish as much as possible they work until ten o'clock every night. There is in this room a steam hammer which is worthy of special mention. There is nothing like it to be seen outside of the cities, and large cities at that. Toronto cannot even boast of one, and of course Mr. Munro feels proud. This feature alone distinguishes this establishment from all others of a similar character in the Province. It can be used for forging both heavy and light work, in fact anything from a monster anchor down. It will work with any amount of force from a few pounds to several tons. The possession of this hammer is a great advantage, as formerly all heavy work had to be sent from Peterborough to Buffalo in order to be forged, but now it can all be done at home and a large amount of time and money saved. Some of the workmen were engaged in putting the finishing touches to the large span circular mill for the Messrs. Gilmour of Trenton. The machine is thirty feet long and is operated by a steam cylinder. The logs are cut the same on both sides, slabs and boards being taken off in any desired number, and the stock left any size wished for, according to the diameter of the log. The log is held on at one end only by a massive iron dog, which is an entirely new feature, and one that cannot help but please. The idea is a new one and originated in this shop. This is only the second mill of this kind that has been turned out; the first one has been in operation in Mr. Buck's mill at Port Severn during the last season, and that gentleman says it is the most satisfactory he has ever had in any of his mills. Coming from a gentleman of such great experience of Mr. Buck, this statement has naturally had a good effect, and Mr. Hamilton expects to have a large run on these machines during the present year.

THE MOULDING SHOP.

Having viewed the machine shop thoroughly, we next proceeded to the moulding shop, where Mr. Thos. Tucker is looked up to. This is by long odds the quietest room in the whole foundry, but noise is not necessary here—although dust appears to be—to carry on operations. The men were engaged in doing only general work necessary for the contracts. In a large oven are dried the cores and special moulds, which are sent in and taken out on a small car which runs on rails. Iron casting is carried on every alternate day, and brass casting at irregular intervals, just whenever required. The heaviest cast made is about four tons, although, should occasion require it, they can cast as high as five tons. To an ordinary observer not acquainted with the work going on, this is the least interesting room in the building, and that fact combined with the dust which was floating around thick, made us take a hasty departure to

THE BOILER SHOP.

Things are quiet enough here except when riveting is going on, and then any person who is fond of noise should just drop around and listen for a short time. Boilers for the Midland elevator and half a dozen other places were in process of construction. As a general thing many of the boiler makers are employed at outside work, and it is a rare thing to find the whole staff in the room. In this branch Mr. Hamilton has had more competition than in any other department of the business. Some large firms do nothing else but manufacture boilers, but notwithstanding this fact, good work always tells, and as the majority of people prefer a first-class article, Mr. Hamilton's boiler shop is kept busy all the time. Here are large hoists, cranes, etc., for moving the heavy work and loading it on waggons, by which all the machinery made has to be drawn to the railway stations. When the "missing link" is constructed, it is expected to pass close to the foundry and will thus remove one great obstacle and greatly facilitate shipment. Review.

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MINDEN.

JOBBER.—The Bobcaygeon Independent says: We have had a very busy time here all winter, and one of great prosperity to both settlers and store keepers. The lumbering has arrived at a point when there are not so many large shanties and many more jobbers. It is not the less profitable to the country. In fact it is more profitable, for the money goes more directly into the hands of the settlers. A settler who gets out logs, and sells them to the lumberman, makes all that can be made by the operation, and more than would be the case if the lumberman run a shanty and took them out with his own hired men. One operator, who manages the business for a Bank, paid over nine thousand dollars this season to settlers for logs they got out, and others in proportion. But the feature of the season has been the large quantities of forest produce taken out other than pine logs and squared timber. The Victoria Railway will carry not less than a hundred thousand railway ties, twenty thousand telegraph poles, and so many posts, and so much cord wood, that no estimate can yet be accurately made. The ties bring 14 cents each, the poles about 30cts. each. Thus \$14,000 will go to the settlers for ties, and \$6,000 for poles. This \$20,000 goes into the pockets of the settlers, and is just so much gained as a result of the railway being opened. The ties, in another year or two, will attain a value of twenty cents each, and then it will be a good business. I should think that not less than \$20,000 will be paid to the settlers for posts and cord wood, and thus forty thousand dollars will be gained to this country, this year, by the construction of the railway,—which cost the country altogether only \$55,000 of bonus.

UXBRIDGE CAR WORKS.

The car works of the Toronto & Nipissing Railway are situated in Uxbridge, and form one of the most complete establishments of the kind in Canada, although not by any means the largest. There is now on the stocks almost completed a first-class passenger coach, which will be finished equal to any on the continent. The inside will be of walnut facing, with Hungarian ash panels. The coach is 67 feet in length over all, 8 feet 10 inches wide outside, and will contain 32 double seats. The framework is strengthened by upright iron stanchions, and triangular iron braces, which, from their peculiar construction, support the carriage from each end. The roof has 10 iron rafters, connected with ribs fastened to the floor, giving great strength combined with lightness. Several new cattle cars are also under way. They are 30 feet long, 8 feet 10 inches wide, by 6 feet 2 inches high, clear of roof, giving ample room for stock. The cars, although to be used on the narrow gauge, are of dimensions suitable for the standard width, should the railway company at any time decide to widen the gauge. The rolling stock of the company is kept in excellent order, and under the management of Mr. Joseph Haggas, mechanical superintendent, keeps improving. The locomotive department turns out first-class work—amongst which may be mentioned a specialty, viz.: "the Haggas Water Elevator," an ingenious contrivance for supplying locomotives with water from underground tanks along the line. It is worked by a suction pipe connected with the engine, which, by forming a vacuum, draws the requisite supply of water into the tender in a very short time. This apparatus is adopted by the Midland and other railways, and is found to work well. It does away with elevated tanks and pumps, and is safer from frost during winter. Mr. C. E. Caron is in charge of the wood department, as master car builder.

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