

interior finish by reason of the beautiful polish of which it is susceptible, is used in England chiefly by the coach builder, but will, in the course of time, become a favorite with cabinet makers when they come to understand its true value.

The treatment of woods, particularly furniture woods, in finishing them, is somewhat different from that in use in this country. The English woods are finished in dark colors mostly. They do not do much with light woods, like birch or maple, but when once the British public comes to understand the exceeding beauty of these woods when manufactured into furniture, they will, without doubt, quickly become popular. A movement is now on foot by furniture manufacturers of Grand Rapids, for establishing a distributing centre for their goods in some large city of Great Britain, probably Glasgow, and notwithstanding the well known conservatism of the English people, it is thought that these products will meet with ready sale, for sound sense and ability to recognize a good thing when they see it, is quite as prominent a British characteristic, as is their proverbial conservatism.

#### The William Hamilton Manufacturing Company's Works.

The Wm. Hamilton Manufacturing Co's. works, at Peterborough, Ont., may be justly classed amongst the thriving industries of the country. The firm is well known all over the Dominion and their works are among the largest and most complete in Canada. The firm supplies Canadian mills and factories with the best and finest machinery that can be manufactured, making a specialty of mill machinery. From time to time additions and improvements have been made to the buildings, and from a comparatively small beginning the business has grown until it has assumed immense proportions. Since the fire last summer a general reconstruction of the premises has been going on, and now that they are finished the works have resumed their wonted activity.

The plant is the very best that could be procured. The shops are supplied with all the latest improved labor-saving appliances known to the mechanical world, and as a consequence the class of work turned out is unexcelled. This is evidenced by the fact that the company ship their manufactures from the Atlantic to the Pacific coasts, and as fast as they can be supplied. About 125 men are at present employed, but this number is expected to be increased during the winter.

A new brick chimney has been built one hundred feet in height, which is no small triumph of the builder's art. The base of the stack is ten feet square, which gradually tapers off to 6 feet 6 inches at the top. The chimney flue has a uniform width of 48 inches from top to bottom. The burned buildings have been restored, and an unbroken front of 300 feet of two story brick buildings fronts on Reid street.

The pattern shop has been remodelled and the patterns arranged and classed more conveniently than before. The old moulding shop will be the erecting room. The erecting room is supplied with the largest planer in Canada, a pulley lathe for turning pulleys 10 and 12 feet in diameter, and a horizontal drill.

The engine and boiler room have been about doubled in size. Two mammoth boilers, 14x56 feet, will furnish steam for the three engines which are necessary to run the machinery. Two of the engines are situated close to the boilers; the third is in the new moulding shop across the way. A big 80-horse Corliss engine gives power to the machine shops, while a smaller Leonard Ball automatic engine will run the forty-light dynamo.

On the east side of Reid street are the new moulding shops and the pattern store house. The building is 150 feet long, with a truss roof 40 feet high, and wings 18 feet wide, the central portion being 32 feet in width. There is a fifteen ton power crane driven by a wire rope, and capable of lifting the heaviest weights, and also three hand cranes swinging on the support columns. A narrow-gauge railway runs the length of the shop for conveying the castings to the front. In the north-west corner of the building is the brass-moulding shop; next on the same side are the core benches and two large core ovens with a 32-inch cupola. On the other side of the shop, in the west end, is a 15-

horse engine, which is driven by steam conveyed from the boilers in the main building through pipes stretched underneath the street to the moulding shop. This engine runs the travelling crane and drives the rattle mill, and the hoist which carries up the metal to the cupola platform. The other departments in the main building, the boiler and machine shops, have not been altered. Every shop is heated by steam, and the different sections are separated by fire proof walls. The whole premises are now lighted by electricity, for which purpose some fifty lamps are required.

The LUMBERMAN extends to the Wm. Hamilton Manufacturing Co. its best wishes for continued prosperity.

#### HARDWOOD LOG INSPECTION

(Northwestern Lumberman.)

Log buyers who have handled white pine exclusively can have but a faint conception of the trouble buyers who handle all kinds of timber in the hardwood sections have in regard to log inspection. Owners of timber who have little or no experience in the saw mill or lumber business have the most exaggerated and erroneous ideas as to the relative value of the different grades of logs. Two white pine logs of the same size and length approximate each other very closely in value, but there is a wide difference in hardwoods. There are but a few defects in pine, and, as a rule, they are apparent at a glance, but every kind of hardwood is subject to numerous defects, some of them peculiar to each kind of timber, and many of them can only be detected by an eye trained by long experience. A Tennessee red cedar log may show perfectly sound at both ends and free from hollow knots, and yet, if an expert can find anywhere along its length a "cat face," or a little hard fungoid protuberance, which is peculiar to this class of timber, as large as the end of his little finger, he knows the log is hollow and fit only for square stuff the full size the log will make. A poplar log may look to be all right to an inexperienced individual, and still be "pecky" or full of black streaks. Oak and ash logs may have defects that appear slight, but which reduce them one or two grades, and make a very serious difference in the total value of a large lot; more especially is this true in walnut, cherry and other high-priced timber. An inexperienced seller is apt to think all his logs are good, and naturally expects the highest quoted prices for that class of timber, and is amazed at the result when the logs are measured up. If he goes to other buyers in the market, and they figure his logs out about the same value, he is ready to conclude there is a combination to beat him.

The following instance is reported from Nashville, Tenn., very recently, and is a fair illustration: A gentleman living in north Alabama wrote for prices on a carload of walnut logs represented to be No. 1 in all respects, and all black. He received a bid for all grades, from cull to No. 1, which was accepted, and the logs shipped, with a statement that they contained 5,280 feet, board measure. The logs proved to be what is culled "hickory" walnut—little tight bark fellows almost as hard as ebony, 6 to 10 feet in length, 10 to 26 inches in diameter, knotty, some more than half sap and some with double hearts—altogether about as hard a lot as can be imagined. The mill man declined to receive them, and the shipper visited the city to sell them to some one else, but failed, and finally sold them to the original consignee. The logs measured 1,450 feet, and came to \$32. The freight bill was \$36, and the shipper's fare and hotel bill about half as much more. The shipper is largely interested in iron and coal production, and without experience in the timber or lumber trade.

#### Economy in A Saw Mill.

J. H. MINER.

How much time is lost from belts would surprise mill men who would take pains to investigate it. The loss in this way is as great to the mill owner as his belting bill at the end of the year. What is first essential to economy is the best belting; second, a competent foreman. One mill man is entirely satisfied with his foreman, who in reality is incompetent. Others are not satisfied with a better man.

A prominent lumberman on the Mississippi river has

had over a dozen foremen in the last ten years, and so far has not procured the right man. In this case I think the mill man was too rigorous. Good belting well cared for need not be duplicated in years of use. True, there are machines overtaxed, and many not so proportioned in size and width of pulleys to justify the proper care of belting. All this a competent foreman in purchasing or in changing of machinery will overcome. Short, high-taxed belts should be obviated, as they require much attention. Improper fastenings have much to do with the life of the belt and of the mill man's pocket. Every foreman thinks there is no better plan than his. The result in many cases is that the belt is put on too slack or entirely too tight. In both cases the mill or machine has to shut down. If not a broken belt it is a hot bearing. In the former, than a part of the end of the belt or holes are pulled out. The life of that belt is short. A new belt should be put on with clamps overnight which will help to stretch it. Such a belt will go until the next night or noon hour, when it can be taken up. Belts are often run too loose, and when the machine is at work runs over to one edge, thus chafing the edge. This is particularly the case in gang edgers. The pulley is so closely housed that a little variation will soon ruin the edge of a rubber belt. Leather belting does not suffer so much from chafing, but has its edges elongated allowing it to run farther over. Dust in saw mills is a great enemy to the belt. It removes the adhesive surface that any belt should have, which soon chafes the rubber from the surface which virtually destroys a rubber belt. The leather belt in this respect suffers less. Ample provision should be made to keep belts clean by good, close sawdust conveyors. The main saw belt should be housed. The sawyer does not want to see its operation if it is cared for properly. The adjusting is the life of the belt. Endless belts should be used where it is practicable. A long belt may have a good, well-balanced tightener. Machines in some cases can be moved as belt slackens. It is not always convenient to put on an endless belt and if care and good judgment is not used, it will have to be cut in a short while because of stretching. I advocate the very best "Extra" rubber belting for saw mill work, with Covel's belt fasteners. If used as directed an endless belt is had all the time. They are condemned by many from reckless application, and from using cheap, worthless belting, soft and flimsy separating between the plys. The best belting is firm, with a light coated metallic surface, which it will retain, provided "grips" in the shape of belt grease is not used. A little castor oil may be used very sparingly. No belt should be allowed to slip when sufficiently tight. If it does it will soon be ruined. In lacing there are two reliable methods, viz.: The "hinge" and "zigzag." Two rows of small holes are punched half an inch from the end of the belt and half an inch apart, the second row having one hole less. The former lacing is begun in the center, the lacing passing between the ends of the belt and coming through at opposite sides, thus forming a complete hinge, which is not only a relief in passing over small pulleys but in addition to the strength of the holes the ends of the belt are clamped, thus preventing any raveling or the pulling out of the holes, as is frequent with the straight and crossed lace. Another advantage of this lace is that one or more strands may wear in two and the lace will not give immediately away as there is no long ends to be whipping the lacing loose. The foreman examining this lace can depend on it with certainty. The zigzag lace does not cross on either side of the belt, both sides being precisely alike when rightly laced. It is begun in the center, lacing from the outside row to the inside row on the other side of the belt, not taking opposite holes, but to the one side or the other. This being completed, the other row of holes is laced from the other side of the belt, forming an X from opposite sides. This lace, as well as the hinge lace, should be neatly hammered down, and when a good, thin whang is used a smooth running belt is had. Thick lacing drawn twice through large holes can not be relied on. The thump in passing over the pulley will soon wear or pull the holes out. Rivets can only be used on very slow belts. They require a lap which throws the belt out of balance, and can not be run but a short time at high speed. Good belting, well cared for, need not detain a mill a minute at any time, adding greatly to the output of the mill, and saving the owner hundreds of dollars annually.