

THE MANUFACTURE OF DOWELS.

The layman will scarcely think that dowels—the little round wooden pins used by the furniture and carriage trade and a few other industries—would require the output of several large factories; but such is the case. The demand for dowels runs into the millions. The modern finished dowel is a round hardwood pin, of various sizes, of mathematical accuracy of diameter, with rounded or pointed ends, and is usually made with a series of parallel grooves to permit the escape of air and surplus glue in the joint made by its use.

For years dowels have been turned from square stock sawed out for the purpose. According to the American Lumberman, a new dowel-making institution recently put in operation resorts to a new process of making, which provides for the utilization of what would otherwise be waste material left in the woods after the logs are taken out or at best used for firewood.

Comparatively straight grained sections of bodies or branches of maple, birch and beech are sawed into

fact that many economics in woods and saw mill waste can be accomplished if a little thought and experiment be brought to bear on the subject. In the case in point the addition of a modicum of low-priced labor to a mechanical outfit that cost but a few thousand dollars—probably not to exceed \$3,500—has made a



POLISHING THE DOWELS.

high-class commercial commodity out of material that would at best have produced only firewood.

THE HARDWOOD INDUSTRY.

The use of hardwood has increased enormously for building purposes in Canada during the past few years. In England the demand is constantly growing for Canadian hardwood products required to take the place of oak. The fact that there is a scarcity of hardwood in the United States and other countries is well known.

Some persons claim that in the near future the great bulk of our lumber will consist of hardwood, as the white pine is gradually disappearing. In the Muskoka district large quantities of hardwood have been left standing, owing to its being of too great specific gravity to float.

The Canadian Wood Manufacturing Company, Limited, has just been organized, with a capital of half a million dollars. Among those upon the Board are Messrs. R. S. Wood, Vice-President Imperial Loan Company, Angus McLeod, M.P., and Geo. McCormick, M.P., Dr. Beattie Nesbitt, M.P.P., President of the C. H. Hubbard Co., and J. D. Shier, Mayor of Bracebridge.

The company has been organized for the purpose of manufacturing hardwood flooring, blocks, veneers, broom handles, dowels and wooden novelties. The town of Bracebridge, which is situated in the heart of a large hardwood district, has voted a bonus of \$20,000 without interest as an inducement to the company to establish its factory and mills at that place, and building operations are already well under way. Some of the stock is now being offered for sale by Messrs. J. H. Jewell & Co., 5 King street west, Toronto, who are the promoters of the company.

EMBARGO ON HEMLOCK.

BOSTON, MASS., Sept. 2, 1902.

Editor CANADA LUMBERMAN:

DEAR SIR,—I notice in your September edition that under the heading "Embargo on Hemlock," you give the comparisons of shipments of hemlock bark.

I would say that the shipments of hemlock bark have decreased from the Province of Ontario very largely since the Ontario Government passed a law prohibiting the exportation of hemlock bark to the United States from Crown lands. As there are only very small quantities of land that are actually owned by farmers and lumbermen, very little can be exported.

The bark on Crown lands must all be sold to local tanners or left to decay. This embargo on hemlock bark was put on for the protection of sole leather tanners in that locality. If it should be removed there would be a market in New England for all the bark that might be produced.

Yours truly,

FRANK A. CUTTING.

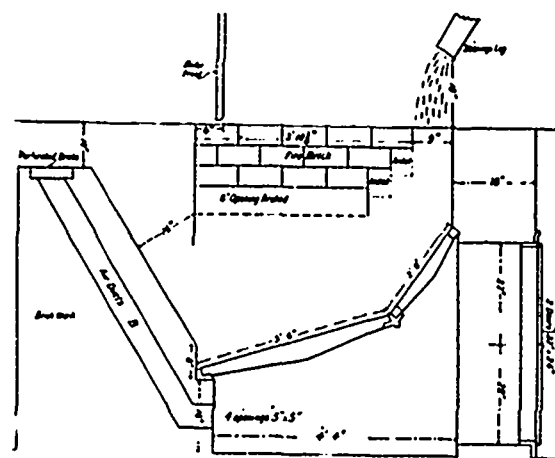
THE SMOKE NUISANCE.

Recent inquiries and replies regarding this subject that have appeared in these columns recall that there are several so-called "smoke consumers," which can no doubt be found by consulting a good engineering journal.

Two such systems have come under the observation of the writer, one of which was nothing more than a perforated pipe injecting live steam over the fire near the front of the firebox, and operated with a valve in the boiler room, being used only immediately after a fresh firing. The effect of the steam was to precipitate the soot and thus cause it to burn, instead of passing out of the chimney.

The other system consists of the peculiar manner of constructing the bridgeway and setting the grate-bars. It is particularly adapted to a wood-burning furnace. The enclosed sketch will explain the principle and the construction better than words can do. This system has some advantages not found in other styles of firing.

It will be noted that the floor of the boiler room is above the level of the grates. This permits of firing by dropping the fuel into the fire without the exertion of raising it, as is required in shoveling into an ordinary firebox. If the shavings exhaust is convenient, one or two legs may be dropped from the discharge pipe to about 18 inches to 2 feet above the floor of the boiler room, and the shavings may be dropped directly into the fire, giving an even heat as well as a saving of labor. The fire can not get up into the exhaust system, as there is no back suction, the only force being the attraction of gravity causing the shavings to drop, and it is never cut off, if the engine does shut



SMOKE CONSUMING WOOD BURNING FURNACE.

down. A closely-shutting valve for regulating the feed should be arranged up near the junction with the separator, so that when not required on the fire the shavings may be run into the vault.

The draft may be regulated by opening or closing the feed hole in the floor above, or by manipulating the draft doors under the floor, as shown. Note that the bridge-wall is built with several flues, which admit air into the smoke chamber though the centre of this wall. The oxygen coming in direct contact with the dense, hot smoke, combines with the carbon in it, adding to the heat of the direct fire, at the same time purifying the smoke. Another advantage is the ease with which the grates may be gotten at, to be cleaned or repaired, or the ashes removed. — The Wood-worker.



SAWING THE BUTTS TO LENGTH.

blanks about two feet in length in the woods, following the logging operations, and transported to the factory. The bolts are split to convenient sizes and cross-cut on an ordinary saw table to the length of dowels desired. A machine chopper then reduces the blocks to vertical strips, eliminating the defective and cross-grained wood. These strips are then fed to an automatic machine of recent invention, which chips off a section of sufficient size to form a dowel and drives the piece of wood through a hollow knife-edged die, at the astonishing rate of 6,000 pieces an hour. Thus the blank for the dowel is made.

These blanks are dumped from the barrels into which the machine drops them into trays, which are slid into a rack, carrying corresponding trays, and then are wheeled into the dry kiln, where they are thoroughly seasoned. The next process consists in grooving the



GROOVING THE PINS.

blanks, and this is accomplished by another ingenious little machine which works with wonder-speed and accuracy. The next and corresponding machine rounds the ends of the pins into perfect dowels. Lastly the dowels are dumped into a revolving tumbling box, where they are polished, and then are ready for shipment. Views are shown of some of the operations.

This new departure in dowel-making illustrates the