

MAKING CIGAR BOXES.

While some cigar boxes are made of cedar, a great number are made of poplar, veneered on one side with cedar, while still others are made of poplar without any veneer. In the latter case the wood is printed in imitation of cedar by the use of ink of the proper color and a machine which carries a printing roller on which are the lines to resemble the graining of cedar wood.

The bottom and top of a cigar box of standard grade are 5-32 of an inch in thickness, while the ends are 7-32 of an inch. Despite the very small amount of wood needed, it is cheaper, however, to use the veneered poplar than the cedar, and still cheaper to print the poplar. Solid cedar boxes to hold 100 cigars now cost about ten cents, and the half boxes, or those for fifty cigars, about eight cents. The corresponding prices for veneer are about one cent less, while for the printed poplar the prices are three to four cents.

Such prices are only made possible by the use of intricate machinery and subdivision of labor, and it is also important to waste as little of the material as possible. To this end the wood of the proper thickness is not sawed from the log, but sliced or split by a special machine. The immense pressure used in veneering wood for the manufacture of furniture is not used, and the veneered sides, which are pretty well warped and twisted at first, are straightened out and dried simply by passing through rollers.

Then the slabs are taken to the sawing table, where they are ripped and cross-sawed—from five to ten in one cut—into pieces of proper dimensions for the single boxes which are being made. Thence the pieces are sent to the inspector, who, besides examining each and sorting out those which are imperfect, makes separate piles, containing the same number in each of ends, sides, bottoms and tops.

The ends and sides are nailed together into a frame by one machine, and the bottoms and tops are nailed on by another. These machines are fed with nails by an automatic arrangement, which presents the required number of them at each stroke. One stroke does the business of nailing at each corner, and one stroke also suffices for the bottoms and tops, the nails being pushed in rather than driven. One of these machines will frame 5,000 boxes a day, and two machines, working together, will turn out 10,000 boxes, except for the labels.

The lid of the cigar box is held in place by nailing only along the front edge, and generally by one nail. The hinge at the back is made by one strip of cheese-cloth glued upon the outside and subsequently covered by the labels and paper trimmings. When the hinge is dry the pasting of the labels is begun. Tiny metal hinges are sometimes put upon cigar boxes, but these are comparatively rare. So are dovetailed boxes, which can, however, be had on order.

Generally speaking, the entire interior surface of the boxes is lined with paper flaps, and in large factories the label printing, and sometimes even the designing of the labels, constitute an important branch of the work. Such printing is of an unusually varied character, requiring several kinds of presses, including those for embossing.

TEST FOR LUBRICATING OIL.

To test the body take a strip of glass 3 feet long, 2 or 3 inches wide; fasten a scale to it (any old ruler will do), and bring it to an inclined position. From perhaps two different sorts of oil pour a drop on the highest point of this strip; oil No. 1 may run 18 inches in an hour and

oil No. 2 perhaps 2 feet, which shows you that the latter has less body.

In order to make a comparison with your next lot make a note of this, and you can come nearer telling what you get for your money.

To test the oil for acid, which it should not contain at all, take a medicine glass, put in warm water, some oil and litmus fluid. If the oil turns red, and especially the litmus fluid, then it is allied with acid; but if the litmus remains blue, the oil is a good one, and, therefore, free from acid.

To make the third or gum test, let the oil used in first test stand an hour and then rub off; if easily removed the oil is practically free from any gum; but if it feels sticky the oil is mixed with plant oil, or even with gum oil, which is extremely cheap.

SAW MILLING IN CANADA.

A writer in the Liverpool Daily Post and Mercury sets forth the English view of a Canadian sawmill in the following article:

"At a rough estimate there are 1,000 sawmills in Ontario. We contented ourselves with the sight of one—a big concern at Blind River, in the district of Algoma; and so having seen one of them, we consented to forego the other 999 with perfectly cheerful resignation. Blind River was our sole object lesson in the lumber trade of Ontario. Of the romantic open air life of the woodsmen who fell trees in the forest, the teamsters who haul the logs to the waterside, and the famous drivers who float the logs down the flooded streams, we saw nothing, for the end of September is not the time of the year when these things are to be seen. But the operations at the sawmill served to show us the extent of the season's activities, and helped us to realize more effectively than stacks of statistics the enormous volume and value of the lumber industry in Northern Ontario. Huge piles of sawn timber were ranged for half a mile along the side of the river ready for shipment. Thousands of logs caught up in booms were lying in the river waiting their turn for the mill, and the mill itself was working furiously at its maximum capacity to get rid of the accumulations of lumber before the winter set in. No work which can be done by machinery is done by hand in an up-to-date sawmill such as this was and all others are in Ontario. From the moment the big logs enter the workshop at one end by way of the endless chain carrier, which hauls them up from the river, until they are slid out at the other end in the shape of planks of varying length and thickness, they are never once actually handled by the workmen. The men are concerned solely with the direction of the machinery which does the work for them. Finally as the boards pass out, they are reviewed by an expert with a blue pencil, who makes marks on them which indicate their dimensions, and serve as directions to the men who are engaged in the piling. Add to all this the incessant screeching din of the whizzing saws, the jarring rattle of the engines, the whirring of the carriers, the vicious kicking of the "nigger," and the thud of the plunging logs, and you will have as faithful an impression of the interior of a Canadian sawmill as I am able to give you. And when you consider that this mill, like all its thousand fellows, works day and night without a break, throughout the summer, you will begin to appreciate what a big part the lumber trade plays in the industrial life in Ontario. In the light of the estimates I have mentioned, it cannot be denied that in its timber trade, positive and potential, Ontario possesses a prodigious golden egg; nor can it be denied that the Government has shown sufficient foresight in the adoption of means to prevent the killing of the goose.