LUMBERING METHODS IN CALIFORNIA.

A RECENT number of Pacific Coast Wood and Iron, published at San Francisco, Cal., contains an interesting article relating to California redwood, and the methods of lumbering as practised by the Usal Redwood Company, of which Mr. Robt. Dollar, once prominently identified with the lumber industry of Canada, is local manager.

The following description of Californian methods will doubtless have an interest for Canadian readers:

"A logging railroad has been constructed from the landing up along the creek for a mile and a half, and is being extended from month to month as needed. Trees growing along the creek and the slopes near by are cut, and the logs handled by a donkey engine, which hauls a cable with much greater speed than the old ox teams, and loaded on the cars to be hauled to the mill.

To reach out into the more distant hills and up the lateral canyons opening into the main one, a large engine, called a "bull donkey," is placed at the mouth of the canyon, and this machine operates three winding drums or cables. First is the main wire cable, about one inch in diameter, which extends from the bull donkey back up the canyon, or over the hills, for a mile and a half. This is pulled out by a smaller cable from the engine passing over a pulley at or near the point desired to be reached by the large cable. A second small cable is also used to enable the large cable to be hauled up a branch canyon if needed. Two telegraph wires run parallel from the engine up the whole route of the cable, and are connected with an electric bell located right in front of the engineer. By touching both wires at once with an iron rod a circuit is established, and signals can be sent from any point on the line. A small donkey engine is located at the point on the route where they are getting logs. This small machine hauls the logs from the place where they are cut to the line of the large cable, and they are coupled together much the same as railroad cars, from 20 to 26 or 30 logs forming a train. This train is hitched to the large cable, and then the field operator with his rod signals the engineer, who answers with his whistle, and the great log-train starts off, pulling the end of the small cable after it. It may strike a snag, but a quick signal stops the engine until all is clear again. The train may break in two, but at a signal the great cable is hauled back and the broken-off part of the train pulled up and coupled again. Once more it starts, and at last pulls up at the logway, by the side of which the logging train stops for its load.

The locomotive on this road is a peculiar one. It has three cylinders, and these instead of turning the driving wheels directly, as is usual, connect with a flexible shaft which runs lengthwise of the engine, and every wheel of the locomotive is a driving wheel, and driven by a pinion on the flexible shaft. Thus the locomotive has great power to climb steep grades and turn sharp curves.

At the mill the loaded cars are pulled one at a time into the room by a winding drum and cable, and the logs pulled to the saw carriage in the same way. The lumber is all sawed with a band saw, the blade six or seven inches wide, which walks through the logs as if they interposed no resistance. The boards after being sawed pass on by automatic machinery, and are all slit into proper widths and cut to proper lengths, with no human assistance beyond a directing hand, and being delivered then on trucks upon an elevated platform, they are lowered to the piles, rather than lifted to them. Where lifting is required, special cranes are provided.

The thick parts of the slabs are sawed into shakes, and almost everything is worked into merchantable shape. All the edgings and pieces are thrown into a yawning hole, and a grinding "craunch" is heard as the "hog" converts them into chips, which conveyors carry along the boiler furnaces, which are thus fired without human labor. All the sawdust and many of the slabs are carried on endless belts to a fire pit near the foot of the hill, where they are consumed. Probably enough fuel is there consumed to supply one-fourth of the city of San Jose.

A monster main engine of 600-horse power is so well balanced and firmly seated that not a tremble can be felt, and there are one or two auxiliary engines besides. Water pipes pass everywhere with such arrangements that the heat of a burning shaving would at once let loose a sprinkler with a rush of water under 145 pounds pressure. Steam does all the lifting and tugging, pulling and hauling. Keen-eyed and skillful men direct the whole, and although the mill does not run at night, one band saw cuts from fifty to sixty thousand feet of lumber every day. The mill is arranged for another band saw, and a dynamo and arrangements for electric lights are now being put in, so that four times this output will be possible.

Vessels lie just outside the elevated wharf, and are loaded by means of a "traveller" on a tightly-stretched wire cable, a donkey engine furnishing the power."

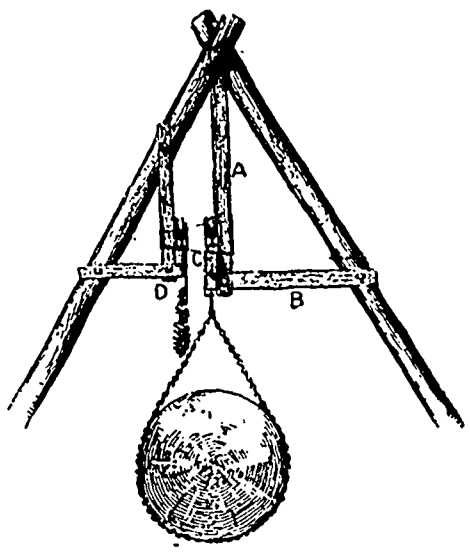

FIG. 1.—SECTIONAL VIEW OF LUMBER CONVEYOR.

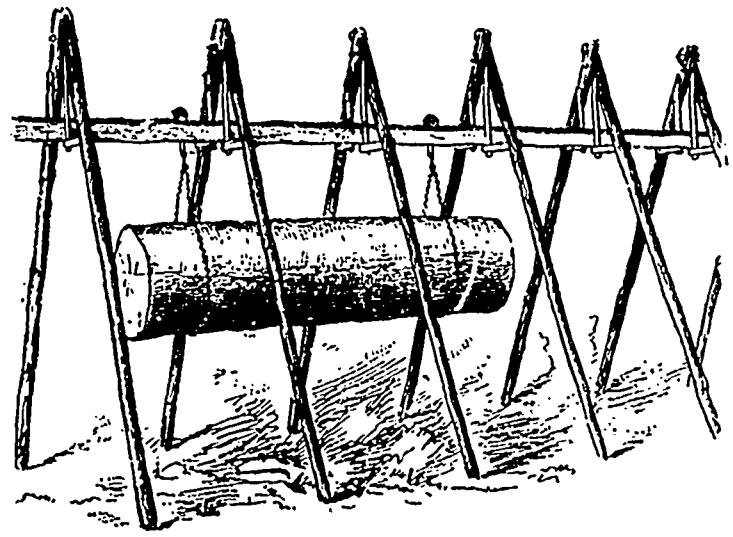

FIG. 2.—LOG IN RIGHT POSITION ON CONVEYOR ON WAY TO MILL.

SYSTEM OF CONVEYING LOGS TO THE MILL.

METHOD OF CONVEYING LOGS.

From a correspondent of Lumber, New York, we obtain the following particulars and illustrations of a system of conveying logs to the mill in operation in California:

The distance from the Blackstone Mill in Mendocino county, Cal., to the logging camp is about 10 miles, being, as is usually the case, through a pretty rough country, where it would be difficult and expensive to build a railroad. The route is mostly along the bed of a creek. At distances of 10 feet apart each were placed inverted Vs made of two saplings about 12 inches in diameter and 30 feet long, as illustrated in Fig. 1. From this is suspended a track as shown in illustration, A being the hanger, B the cross piece, both of 3x8 pine, let into the uprights and into each other, and bolted together. C is the support for the rail, being 4x12 pine. By "pine" in this connection is understood the tough fir, called also Oregon pine. On this is placed a 40-pound T rail. A traveller runs on this, consisting of a flanged wheel, from which is suspended the log. At the loading place in the woods is a platform which is raised and lowered by a simple arrangement. The log is rolled on this and raised sufficiently to clear the ground on its passage, then suspended by chains to the travellers, two of the latter being used for each log, and the platform lowered. By a simple grip the traveller is connected to an endless wire cable, which moves about five miles an hour, and started on its journey to the mill. The position of the log is shown in Fig. 2. At the landing place there is a similar platform, over which the log is stopped by loosening the grip, the platform raised, the chains removed, and the log rolled into the mill pond. The chains are hung on the travellers, which have been placed on the return track D, and the grip being attached, they are carried back to the camp. Small articles of freight are sent up to the camp on these return travellers. There are three telephones along the line, one at each end and one in the middle, in case of accidents. The power is furnished by the mill, through which the cable passes; but, as the grade tends downward from the woods to the mill, this is not called upon to any extent. Some of the logs are 10 feet in diameter and of immense weight, but the system works perfectly.

Japan is said to have a forestry law that compels the planting of two trees for every one cut, thereby keeping intact the forests.

"I have often wondered what became of the old-style bicycles," remarked a wheelman. "I discovered the other day what had become of one of them. During a ride down in Jersey I came across a saw-mill in the woods. To my astonishment and amusement I found that the motive power for the mill was supplied by a young man and one of the big-wheeled bicycles that were in vogue before the safeties appeared. The bicycle was suspended from the ceiling and connected with the mill machinery by a belt. The young man sat upon the seat of the wheel and worked the pedals with his feet, and in this way kept the saw in motion for hours at a time.—Exchange.