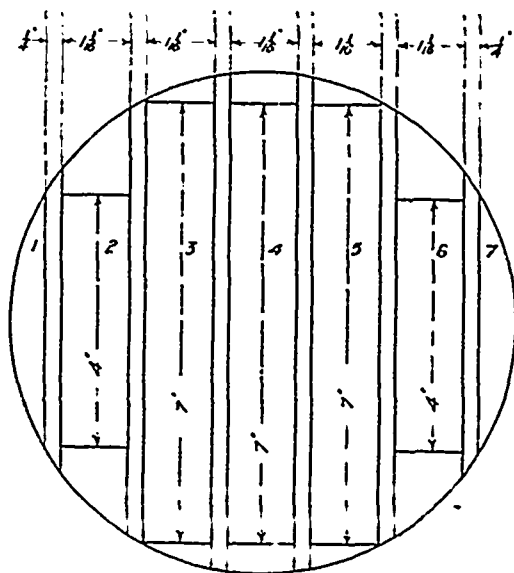


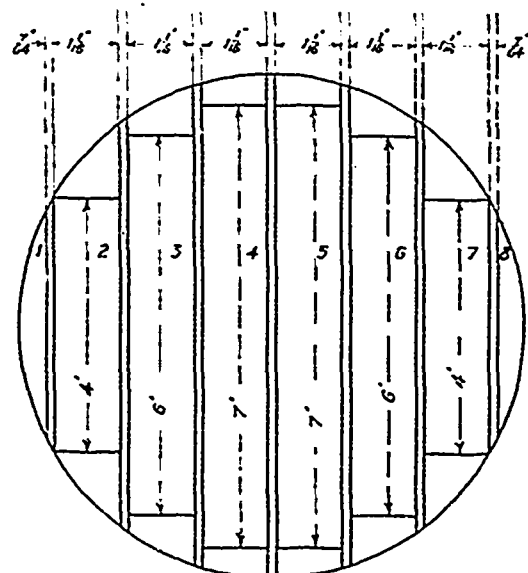
## BAND VERSUS CIRCULAR FOR SMALL LOGS.

Whether the band or the circular saw is the more economical for the manufacture of small logs is a question in which mill men are greatly interested—some being of the opinion that with the band saw there is very little, if any, saving in lumber, although there may be some saving in slabs. The Watrous Engine Works Company, of Brantford, Ont., have been experimenting with the cutting of small logs by a band mill, and state that the smaller

Fig. 1.—5" Log, cut with Circular Saw, 7-Gauge, Kerf  $\frac{1}{4}$ ".

the log the larger is the percentage of saving in good lumber. To demonstrate the accuracy of this statement they give the following examples:

Let us consider that we have a circular saw mill and 8 in. logs to cut, using a saw to do the work having a kerf of  $\frac{1}{4}$ ". Fig. 1 illustrates the method of sawing, and we find that we get two slabs marked Nos. 1 and 7, two 4" boards Nos. 2 and 6, and three 7" boards Nos. 3, 4 and 6, or producing lumber 29" wide by  $1\frac{1}{16}$ " thick.

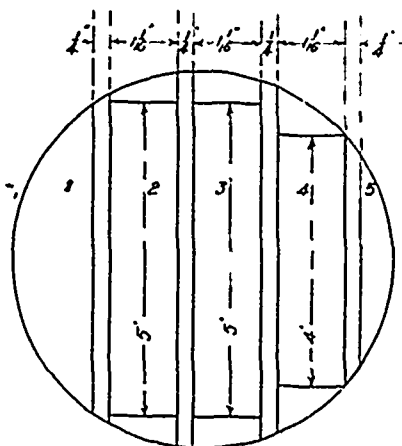
Fig. 2.—5" Log, cut with Band Saw 16-Gauge, Kerf  $\frac{7}{64}$ ".

By using a band mill with a 16 gauge saw, taking out a  $\frac{7}{64}$  kerf, we cut our log as shown in Fig 2, which results in two slabs Nos. 1 and 8, two 4" boards Nos 2 and 7, two 6" boards Nos. 3 and 6, and two 7" boards Nos. 4 and 5, or producing lumber 34" in width by  $1\frac{1}{16}$ " thick, a gain of 5" per foot in length of log.

If these mills each cut a thousand logs 8"

diameter and 12 ft. long, the output of lumber for the circular would be 29,000 feet, and for the band 34,000 feet, or a gain of 5,000 feet for the band, which is equal to  $17\frac{1}{4}$  per cent.

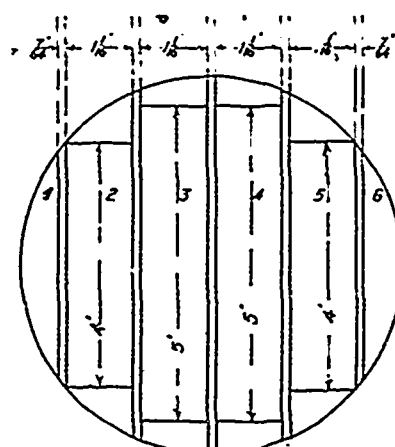
If we take a 6" log and cut it with the same circular saw having  $\frac{1}{4}$ " kerf, we would obtain, as Fig. 3 shows, two slabs Nos. 1 and 5, one 4" board Nos. 4 and two 5" boards Nos. 2

Fig. 3.—6" Log, cut with Circular Saw, 7-Gauge, Kerf  $\frac{1}{4}$ ".

and 3, or producing lumber 14" wide by  $1\frac{1}{16}$  in. thick.

Cutting this 6 in. log with the band mill having a 16 gauge saw with a kerf  $\frac{7}{64}$ ", according to Fig. No. 4, will give us two slabs No. 1, 6 two 4 in. boards No. 2 and 5, and two 5 in boards No. 3 and 4, or producing lumber 18 in. wide by  $1\frac{1}{16}$  in. thick, a gain of 4 in. per foot in length of log.

If these mills each cut a thousand logs 6 in. diameter and 12 feet long, the output of lumber for the circular would be 14,000 feet and the band 18,000 feet, or a gain of 4000 feet in

Fig. 4.—6" Log, cut with Band Saw 16-Gauge, Kerf  $\frac{7}{64}$ ".

favor of the band mill, which is equal to  $28\frac{1}{2}$  per cent.

If these mills cut on small logs, say 30,000 feet of lumber per day, and we presume that they have an equal number of 8 in. and 6 in. logs, the gain would be 21 per cent., or 6,300 ft. to the credit of the band mill.

Taking the value of this lumber at the mill at \$12.00 per M, this would amount to \$75.60, a fair day's profit.

The sawing season in this country (where the winter shuts us up for about half the year) is called say 160 days, and a saving of \$75.60 per day amounts to \$12,096.00 for the season. We know of lumbermen who are permitting their old circular saws to waste that amount of value every season.

We have compared the band mill with a

circular saw taking  $\frac{1}{4}$ " kerf, and are informed by one of the largest and most progressive lumbermen that the most of the circulars in use take that amount or more and very few less.

The cutting capacity of a mill depends largely upon the men who handle it; a circular saw will undoubtedly cut faster than a single cutting band mill on small logs, but the difference, if any—in the output between a double-cutting band and a circular will be very small and the band mill will do far nicer work.

## THE FORESTS OF CANADA.

The first of a series of lectures on the resources of Canada, under the auspices of the Political Science Club of Toronto University, was delivered in the Chemical Building on Monday evening, November 14. The speaker was Mr. E. Stewart, Superintendent of the Dominion Forestry Department, and his subject "The Forests of Canada. He spoke on the forest resources, their origin, legitimate use and proper conservation.

Mr. Stewart traced in a very interesting manner the growth of the forest, from the evaporation of the water in the sea, its transportation, its condensation, and finally its dissipation and reservation in the vast forests of the country. The people of America had been profligate in their use of these great resources, continued Mr. Stewart, and they were now paying the inevitable penalty in the form of annual spring floods and destructive freshets. He strongly advised the provincial governments to protect their watersheds by inserting a clause in their timber patents providing that at least 10 per cent. of the timber should be left on all grants. The vast water-power resources of Canada, he said, were threatened by the wholesale destruction of forests which were the permanent sources of these streams. Only seven countries in the world to-day were able to export any timber, and this number, owing to practical difficulties in transportation, was limited to only three real exporters, namely, Sweden, Finland and Canada. To Canada would fall the lion's share of this trade if she but properly husbanded her resources.

Forestry, as erroneously supposed, did not attempt the conservation of timber, but on the contrary, the production and proper use of trees by scientific methods. A system of planting trees on the co-operation plan had already been inaugurated in the North-West, and the system would be further expanded. Already the Dominion Government had secured twelve large reserves protecting important watersheds, and are now on the lookout for more.

In conclusion, Mr. Stewart drew attention to the fact that our forests were not merely a mine of wealth, but an inexhaustible source of income, were they but properly developed. A number of interesting lantern views illustrative of his remarks were shown at the close of the lecture.

The man that reads the trade papers doesn't know it all, but he has a mighty good chance to know more than the fellow that doesn't read them—and he generally does, too.