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A MODERN SAW MILL.

It will be remembered that about one year ago the saw mill of Mr. J. D. Shier at Bracebridge, Ont., was completely destroyed by fire. Mr. Shier at once decided to rebuild, and in the winter of 1898-99 erected the mill shown in the accompanying illustration. This mill is 34 x 72 feet, with wing 26 x 64 feet, three stories high, and separate engine and boiler room. Power is furnished by three large boilers driving a 150 h.p. Waterous engine. In the lower story is situated the shafting, driving pulleys and carriers, and from this story the refuse of the mill is carried to the burner. The second flat contains the mill proper. Being desirous of erecting a mill modern in every respect, Mr. Shier investigated the merits of the recently invented double cutting mill, with the result that one of the Allis Telescopic band mills, as manufactured by the Waterous Co., of Brantford, was installed. It is worthy of note that this mill was the first one of the kind to be installed in Canada, and at that time was the second in operation in America, although other mills have since been put in. Mr. Shier appears to be well satisfied with his decision to put in a double acting mill, and states that he regards it as a model of perfection in saw mill construction. It is substantially built, easily operated, and does its work accurately, while its cutting capacity is very largely in excess of any single cutting mill, as it cuts nearly as much by the reverse motion as is done by the usual single

saw. The lumber cut on the reverse motion passes by means of a system of rollers to the rear of the mill, returning to the edger by a carrier chain under log-way and back of band mill.

Situated on the same floor with the band mill are the edger, trimmer, and lath mill. The filing room on the third flat is fitted up with a complete set of band saw filing and fitting tools, the machines being driven by an engine located on the same flat.

Many persons have visited Mr. Shier's mill, and the generally expressed opinion has been that it is one of the most complete and up-to-date mills in Canada, and one with which the owner has reason to be pleased. Its cutting capacity has been tested with nearly all kinds of woods, both hard and soft, the tests having demonstrated that it will cut deals and half-inch boards with equal accuracy. The efficiency of this mill reflects credit on the Waterous company, who furnished nearly all the machinery.

We are pleased to present on this page a portrait of Mr. Shier.

WHY BAND SAWS CRACK.

BEING asked for an opinion as to why band saw blades, especially those narrower than two



MR. J. D. SHIER.

inches, crack, E. C. Atkins & Co., the saw-makers, furnished the following:

There are a great many causes for cracking in band saws. The character of the material may not be satisfactory for the work or the temper

the back guide, and thus throws too much strain on the teeth edge and is apt to crack the saw.

Occasionally the machine is out of line and the wheels out of true, causing the saw to jump and have undue strain at certain points, which is another cause for cracking. The teeth should never be filed with square gullets. The gullets should be rounded off, for if left square they are almost sure to crack. The saw should be perfectly straight and true, should have no twists and should be kept in good order.

In reference to the best device for fixing a rubber or leather strip on the face of a band resaw wheel, we have found that these strips can be fastened on satisfactorily with ordinary shellac varnish, excepting that in warm weather the shellac is apt to become soft and allow the rubber to slip off. We use for our own band saw wheels prepared glue and have the rubber put on very tightly.

TIMBER IN EUROPE.

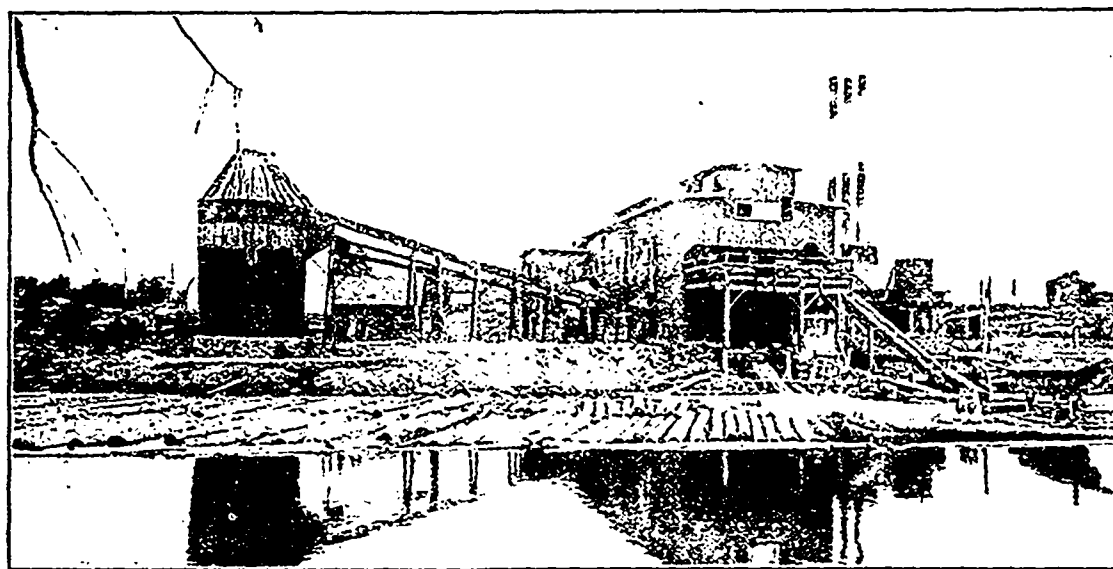
In countries where lumbering is a recognized industry the total area of timber lands amounts to 2,157,292,132 acres, according to official estimates. Of this total Europe has 716,101,412 acres, Asia 186,200,000, and America, 1,254,990,720.

In Europe the acreage of timber lands with the percentage to the whole is as follows: Portugal, 1,163,841 acres, 5.25 per cent. of total area; Belgium, 1,243,507 acres, 17.08 per cent.;

Greece, 2,025,400 acres, 12.60 per cent.; Switzerland, 2,259,018 acres, 20.12 per cent.; United Kingdom, 2,095,000 acres, 4 per cent.; Bulgaria, 3,291,100 acres, 12 per cent.; Turkey, 3,500,000 acres, 8.93 per cent.; Roumania, 4,042,000 acres, 15.22 per cent.; Servia, 5,763,163 acres, 48 per cent.; Italy, 10,131,235 acres, 14.31 per cent.; Spain, 16,354,941 acres, 13.03 per cent.; Hungary, 18,777,771 acres, 23.52 per cent.; Norway, 19,288,626 acres,

24.53 per cent.; France, 23,466,450 acres, 17.92 per cent.; Austria, 24,172,360 acres, 32.58 per cent.; Germany, 34,347,000 acres, 25.70 per cent.; Sweden, 44,480,000 acres, 40.65 per cent.; Russia, 498,200,000 acres, 37.15 per cent.

The British Columbia shingle manufacturers have a wise clause in their price lists as to the thickness of their shingles. It runs as follows: Sawn thicknesses are understood and are subject to whatever slight shrinkage may occur in drying. The mills get all the underweights.



MR. J. D. SHIER'S NEW SAW MILL AT BRACEBRIDGE, ONT.

may be too hard or too soft. The teeth may be case-hardened from the use of the emery wheel, or the saw may be case-hardened on the side from the bearings of the guide. The very slightest case hardening is almost sure to crack a saw.

It is very necessary that narrow band saws have plenty of set, as they are almost sure to crack if run with a narrow set. Sometimes the guide stretches the back if the saw is run too loose on the wheels and is allowed to run against