THE LIFE OF BAND SAWS.

By A. J. Burton, Algonquin Park, Ont.

[Article II.]

The length of time a band saw will live and do good work depends much on the care in handling; they are much like a man or a horse—if you feed them properly and they are well taken care of, they will usually last a long time. If a saw is all right on being received from the maker, and if the filer looks it over every second or third time it comes off the mill, and keeps it all the time in proper shape it will run until worn out, without a crack, and cut at the rate of 50 M per day, providing it does not meet with accidents.

I ran four saws one year on a Clark band mill in Pennsylvania, cutting from 50 to 55 M per day of hemlock, and left them all in good order less the wear, except that one of the saws had two cracks in front edge, which was my own fault, as I let the tension get out too near the front edge. But saws cutting logs containing iron or stones, or getting pulled off wheels, or ill-used in the file room or by reckless sawyers, will last and do good work only in proportion to the care they receive. The filer must keep the tension even, the saw flat and straight, crown in back even, use right amount of swage, not allow case hardening from any cause, see that the lap is always straight, not run too long or too slim teeth, see tha the mill is in line with the track, and the wheels in line with each other, and success will follow the mill owner and filer also.

THE SPEED OF BAND SAWS.

As a result of my experience with band saws for log sawing, having fitted saws to cut almost all kinds of timber grown in Canada, United States, Central and South America, I would recommend that saws run 10,000 feet per minute in white pine, fir, spruce, poplar, cucumber, chestnut, linnwood, basswood, whitewood and any other soft woods; 9,000 feet per minute in hemlock, cherry, red oak, beech, birch, tulip, palmetto, North Carolina pine, yellow pine, red pine, cypress and any other medium soft woods; 8,000 feet per minute in maple, white oak, blue oak, gum, horn beam, ironwood, elm, yellow ash, Hungarian ash, South American mahogany, box wood, Spanish cedar, satin wood, amaranth, cycamore, black walnut, North Carolina red birch and all similar hardwoods. Use a short tooth, with 1¼ inch space and not much hook, and do not run over 6,000 feet per minute in rosewood, lignum vitae, cocobolia, black ebony, Cuban mahogany, palmavese, black palm, leopard wood, pelansee, or vermilion wood, etc. I have filed band saws to cut all the above woods and can speak from experience.

You will observe that in my letter in the May issue I spoke of saw makers not being expected to furnish saws to be used for from six to nine months and then condemned, and I wish to say that saw makers as a rule, are not half careful enough in finishing up a saw before shipping it to the mill, for I doubt if there is one saw manufacturer in the United States or Canada that turns out a band saw in proper condition to run on the mill. I find that new saws from the factory are not flat either lengthwise or crosswise, but there are usually more lumps running crosswise of the plate. This is due to the excessive use of the crossface hammer while smithing, and saw makers do all their work on the anvil. In order to level a saw as it should be, it requires a good solid leveling table, say 4 inches thick, 6 feet long and 12 inches wide; then, with a high hammer, say 2 pounds, all the little lumps or ridges could be taken out. Another reason that new saws are not in proper shape to run is because they are very uneven in tension and there are tight and loose spots; they are tensioned too near the edges in some places, and in other places are too stiff, and the back edge is not always perfectly true. This will cause a saw to oscillate on the wheels, and this, with the unevenness of the plate, is the cause of so many new saws cracking the first or second time they are used, and then condemned as no good by the mill man and filer; where, if the saw had been properly put up when it left the factory, it would have run and cut well without cracks.

If the filer finds the saws in good order when received from the maker, he will advise the manager to so order from the same company. Now, suppose a lot of new saws are received at the mill, and they are not at all in proper condition to run without cracking. The filer will most likely look them over to see how they are put up, supposing that because they are new they are perfect, and if the filer is not a thoroughly practical man, it is ten to one if he does not try to hammer the saws just as they were when they came from the factory, and in a short time the saws will be full of cracks, and the filer will tell his employer that the saws are worthless. The result is that the saw maker is written to about it; he writes back to the mill man that the saws were made of good steel, well tempered, etc., and claims that the cracks were due to the fault of the filer, but all in vain, the saws are returned, and the saw maker loses the sale and the filer his reputation, while the mill man loses both time and money in trying to run his mill with a lot of inferior saws. If the truth was known the trouble is with the saw maker, because he did not have a thoroughly experienced band saw filer to look over his saws and see that they were in the best possible condition to do good work before shipment. Saw makers will say that they employ men who have had a long experience in making saws, and who are good with the hammer. This may all be, but it does not make them capable of putting a saw in good shape to run on the mill, for they have not had the experience in the mill, and none but a good practical band filer can do it.

In my eleven years experience with band saws, I have filed saws for twelve different makes of mills, and the course I have outlined is the one I follow, which I find gives the best results, and a saw put up as described will do good work and not be likely to crack. I would be pleased to hear from other filers also as to their ideas and methods of working. I am always ready to try anything new that will have a tendency to improve the cutting of my saws.

TRADE PROSPECTS IN JAPAN.

The complete report of Mr. George Anderson, Canadian Trade Commissioner to Japan, has been printed for distribution by the Department of Trade and Commerce. It occupies 42 pages of the usual size of the government blue-books, and contains much valuable information regarding the possibilities of trade with that country. Following are extracts from the report:

Lumber.—The demand for lumber of all kinds is simply enormous, and this will certainly be one of Canada's largest exports to Japan, and the saw-mills of British Columbia should be eager to supply the eastern trade. The Japanese are constantly building, their houses being constructed entirely of wood. The specifications sometimes asked for are large sizes and long lengths, as the contractors desire to cut by hand-saw into the sizes required for building. Douglas fir (British Columbia pine) is considered very satisfactory, and cargoes of common lumber will find a market. There is also a large demand for large lumber for docks, ship-building, bridges and government works. The sizes required for railway ties are: length, 7 feet; width, 8½ inches; depth, 4¼ inches. Pit props (round poles) for use in coal mines, vary in size from 6 to 12 feet in length, and from 5 to 10 inches in diameter, the annual consumption running into hundreds of thousands of pieces. Lumber is also required for all kinds of packing cases, box shooks, tea boxes and other purposes. Ornamental wood, such as maple, oak, red cedar, etc., for wainscotting, panellings, ceilings and interior decoration of houses, as well as for use in manufacturing furniture and railway carriages, would find a ready market at good prices. The Japanese are exceedingly tasteful in the interior decorations of their residences. The forests in the main islands are considerably denuded, and the government are insisting on the planting of trees for every one cut down. In quoting, Canadian correspondents cannot be too particular in showing the exact cost in gold at point of destination, and I would recommend sending a pro forma invoice naming price on rail of vessel at mill, and showing freight, exchange, insurance and interest while in transit.

Shingles are used extensively for roofing purposes, being nailed on the sheeting and then covered with mortar, tiles being put on over all. For this purpose No. 2 and 3 quality should find a very large sale. They are also used in the northern part of the Main Island and in Hokkaido, the Northern Island, in the same way as in our own country, with this difference, that bamboo strips are put across the row, the strips being held on by large flat stones, instead of each shingle being nailed. A better quality would be required for this latter purpose.

Staves and Heading.—There is a very large number of people engaged in the cooperage business, manufacturing cement, sake and other barrels, tubs, firkins, pails and all classes of woodenware. Our large stave and heading manufacturers, who are shipping to other eastern countries, will, I am sure, find a large market in Japan, as the preparation of coopers' material by hand is very laborious work.

Pulp.—Paper making is a large industry in Japan, and wood-pulp has already been received from Germany and Sweden. If satisfactory freight rates can be obtained, Canada can readily command this trade with the magnificent resources she possesses in this valuable product.

Furniture.—Furniture is cheaply made in Japan, but the wood being quite unseasoned, it is very unsatisfactory, and there would be a limited demand for all classes of furniture prepared in the white, shipped in the knock-down, and ready to be put together and finished on arrival in Japan. There is a demand for strong, cheap chairs; the backs and legs would require to be lower than usual to suit the Japanese stature, and two flat bars attached to the foot of the legs to protect the Tatami mats which are universally used in all Japanese residences. Office furniture and appliances, to a limited extent, could be introduced to European and Japanese merchants and manufacturers. Many of the better classes of Japanese, when building, are furnishing one European room, and I look for some considerable development in the furniture trade.

Machinery. A tremendous development in this direction and likely to increase rapidly, as machinery is being introduced at a very fast rate, and sure to continue. The business is done by Great Britain, Germany and the United States, and consists of engines, boilers, mining, paper-making, spinning, and all kinds of machinery. I would fondly hope our manufacturers would take steps to secure a fair share of orders for the particular lines which they manufacture. It can only be handled by a special and competent salesman well up in this particular branch.

Wood-Working Machinery.—American firms are represented in this line. There will be considerable sale of planing, dove-tailing, band-sawing, mortising and all kinds of wood-working machines, as they are just commencing to be introduced.

Pulleys.—With the increasing introduction of machinery, there will be a large sale of all kinds of pulleys, and I am strongly of the impression that the light wood-split pulley will find a very extensive sale, if properly introduced by a specialist.

Boilers.—Steam boilers are being imported in considerable quantities from England, and the demand will continue, as there is a strong desire on the part of the Japanese to establish manufactories of various kinds throughout the country. I would advise that rolled plates, marked, ready to be put together on arrival in Japan, would be the best means of transporting boilers, as space in vessels is rated at 40 cubic feet to the ton, and it would be desirable on items of this kind to save freight.

Boiler Covering.—Manufacturers having steam plants are realizing the importance of retaining the heat in their boilers and pipes, and are using increased quantities of asbestos, mineral wool and mica coverings. The demand for these goods will be large.

Belting.—With the very rapid introduction of all classes of general machinery, there is a very large sale of leather and rubber belting, and the demand is likely to increase from year to year as factories are established. Leather is imported, and belting made in Japan, as it is deemed more economical than to carry large stocks made up, but it is considered inferior to the imported article. There are no gutta percha or rubber goods manufactured in the country, and there is a promising future for the belting trade both in leather and rubber.

Freight Rates from Canadian Ports to Japan.—On merchandise weighing 500 pounds or less per 40 cubic feet measurement, $15 per ton measurement; 750 pounds or less, $17.50; 1,000 pounds or less, $20; 1,250 pounds or less, $22; 1,500 pounds or less, $24; 2,000 pounds or more per 40 cubic feet, $1.25 per 100 pounds actual weight.

Import Duties.—Steam boilers, engines and parts thereof, 25 per cent. ad valorem; machinery of all kinds not elsewhere specified, 10 per cent.; belting, 10 per cent.; furniture, 20 per cent.; pulp for paper-making, 5 per cent.; timber, lumber, boards and planks, etc., 5 per cent.

To show the growth of the Japanese market, Mr. Anderson states that in 1887 the imports into that country were valued at 44,304,251 yen, or about $22,000,000, while in 1896 they reached more than 171,674,474 yen. (The yen is equal to 50 cents.) He also gives suggestions as to what course should be pursued by Canadian manufacturers to secure foreign trade.

Duncan A. McRae, of Wolfe Island, has been appointed government land agent and timber viewer in the Yukon district by the Dominion government.