

At Halifax I met a lumberman from Newfoundland, who said that the export of sawn lumber from the island this season would exceed fifty million feet. The Henry M. Whitney concern, of Boston, will put out about half of this, and will have loaded twenty steamers besides several barques before the latter part of October. Labor is scarce on the island, and it is said that there are fully 2500 men now permanently engaged in lumbering in the colony.

Whilst I was at Chatham, N.B., the Head Line steamship "Teslin Head" put in there from Quebec. She was loaded with a cargo of lumber consigned for the Imperial Government.

An all-night run took me through the Metapedia valley and past the famed summer resorts of Bic, Little Metis, Cacouna, and Riviere de Loup. I arrived at Quebec in time to see the brilliant spectacle of the illumination of the British and French fleets of warships and the departure of the vice-regal party.

One word more I close this trip. The Intercolonial Railway deserve praise for their fine service. The parlor, sleeping, and dining car appointments are perfect—equal to anything I have seen on the biggest U.S. lines. The trainmen are the politest I have ever met, and although the journey is long it is one filled with pleasure, and at times, entrancing beauty.

I arrived in Toronto safely. My mileage book showed 3,127 miles of railway travel and about fifty miles by electric road and boat, an average of about 160 miles for every working day. I was tired out by the rapid journey, but like the Great Sacred Black Cat, "still in the ring." J.R.H.

DEVELOPMENT OF THE CIRCULAR SAW.

By D. W. BAIRD.

The publication of some reminiscences of old-time saw mills in a recent issue of the Southern Lumberman served to bring out a great deal of information, more or less reliable, in regard to the primitive methods of converting timber into lumber. While the saw was one among the earliest tools to be used, the degree of perfection attained in saws of all description in use at the present time was arrived at by slow process of evolution and progress that

extended over many centuries. The first users of the saw doubtless realized at a very early date that its efficiency, that is, the amount of work the tool would perform, depended upon the rate of travel of its cutting edge. This proposition is so apparent that we are forced to assume that even a primitive people possessing sufficient intelligence to pull a saw back and forth would readily catch on to the idea. Starting with this assumption, it is astonishing that it required more than thirty centuries for a people constantly increasing in knowledge of mechanical laws to discover the immense superiority of a rotary over a reciprocating motion when applied to a saw, or to many other cutting tools. A large proportion of mechanical force, or power, expended in operating a reciprocating saw or other machine is absorbed in overcoming the impact. Equally as astonishing are the crude devices resorted to some six or seven decades ago in the effort to produce a circular saw. In this connection we present cuts of two of the earliest forms of the circular saw used in Tennessee that are fairly well authenticated.

Cut No. 1 represents a saw that was operated by one Thomas Scarborough in Bedford



FIG. 1.—THE SCARBOROUGH SAW OF 1845.

county, Tennessee, about the year 1840. It was simply a strip of iron about eight inches wide and probably half an inch in thickness, with steel ends in which the teeth were formed. The hole for the mandrel, or arbor, was square. This saw was used for hewing house logs, cutting floor beams, joists, and squaring timber for various purposes. As no other of its kind has ever been reported it is fair to pre-

sume that this saw was not a pronounced success.

Cut No. 2 is from a sketch by John H. Whitson, of Goodrich, Tenn. It represents a saw that was in operation on Hatchie river, West Tennessee, near the line between the counties of Hardin and Hardeman during the last half of the fifth decade of the past century. This saw strongly suggests the circular saw of to-day, but had only four teeth. It was driven

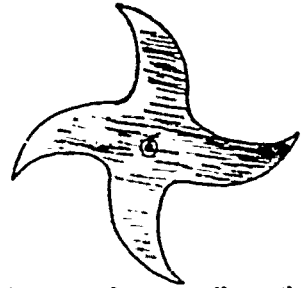


FIG. 2.—WHITSON'S SAW, THE FIRST SUGGESTION OF THE CIRCULAR.

by horse power applied to a draught wheel of the "ground-hog" pattern, except that it was made almost wholly of wood, and was used for cutting pine lumber. Mr. Whitson, who was a half grown boy at the time when he saw it, says that according to his best recollection and belief this saw threw chips fifty feet high.

These two instances will serve to show by what slow process the circular saw of the present was evolved. The step from the circular to the band saw was shorter and more rapid, but still it was brought to its present degree of perfection only through tedious and costly experiments. Few of the present generation realize how much they owe to the patient and slow development of inventive genius among the generations now gone.

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