



PUBLISHED  
SEMI-MONTHLY

The only Newspaper devoted to the Lumber and Timber Industries published in Canada.

SUBSCRIPTION  
\$2.00 PER ANNUM

VOL. 2.

PETERBOROUGH, ONT., FEBRUARY 15, 1882.

NO. 4.

### THE SAW MILL CHANGES OF A CENTURY.

Among the most marvellous of the many wonderful things which distinguish the United States from other nations, are the results which have grown out of the possession of immense forests of valuable timber, in stimulating inventive genius to the preparation of an article of building material so cheap as to enable the poorest to have a comfortable home, while at the same time so excellent in character as to be not only suited, but indispensable, to the working classes. Those more readily accessible regions of the continent which possessed these forest growths in the greatest abundance were among the first to receive large accessions to their population, drawn together at those centres which presented the easiest access to cheap building material, not less than for their personal safety from a savage foe. It was not until the demand for lumber far exceeded the ability of the "greatest" mills of a half century ago to supply, leading the manufacturers to feel the need of a more extended system of production, that the star of empire made any progress westward, or it became a possibility to settle on the prairies of the West, or to develop the mineral resources which have already shown our nation to be the peer of, if it does not excel, all others in the extent of its possessions. To possess is to need. And the cheap building material which the cheap mills of the days long gone by enabled a scanty population to utilize, stimulated a more extended immigration, with its increased needs, as well as a higher order of genius to increase the supply.

The mills of the olden time were, first, the windmill, with its uncertain power, scarce exceeding that of the men who ran the pit saws, which were then in a measure superseded, and whose indignation at the effort to lessen their manual labor caused them to mob the owner and tear down his machinery. Second, the adoption of a current water-wheel of scarcely greater power, if more reliable, run by the natural current of a small stream. Next came the simple flutter-wheel, to impart motion to which required the building of dams to hold large bodies of water, which would at all times be available. But for large operations the flutter-wheel was found to possess too little power, and the overshot or undershot wheel became a necessity, to be superseded later by the adaptation of turbine-wheels, now so much in favor with mill owners who control water power. For the first fifty years of our national growth as well as during the preceding portion of the world's history, none of the mills were equipped with anything more than a single upright saw working in a gate, and when another saw was added, as the inceptive idea of the gang, which quickly succeeded with its large number of saws, words could scarcely express the astonishment of all who saw the working of the bold innovation.

Up to this time, all the lumber which was manufactured had been edged upon the top of the log after it was turned down; an auxiliary saw was not thought of, for the buzz saw, just beginning to be used, was considered a most dangerous piece of machinery. But the increased manufacture growing out of an increase in the power and an increase in the number of saws, led to the introduction of the small circular or "buzz" saw, which was at once found to nearly double the capacity of the mill. It is needless for us to enlarge upon the introduction of steam power into the saw mill, or to follow the original idea of an engine, 6x8 inches, attached to the lower end of the pitman or saw gate, through its successive stages of development and enlargement to the present time, when the Corliss, or Estes, or other well known engines, of a power from ten to one hundred times greater capacity than was the original device, are by the thousand in number engaged in turning out lumber, each in one season aggregating a greater manufacture than were all the saw mills of the country combined at a period scarcely fifty years in the past.

The old gate saw was superseded by the mulay, with a reduction of friction equal to thirty or fifty per cent. increase in cutting capacity. The mulay gave way to the circular, and with its introduction may be dated the commencement of an era which has been prolific of innovation, improvement, and advantage to the saw mill world. As the use of the circular became better understood, and men became more expert in dressing it as to make true lines and smooth surfaces, they found themselves able to produce more lumber in the rough than they could properly edge and prepare for market. The old edging-table could not keep up with the cut of the saw. This was remedied by the introduction of gang-edgers, which no mill doing any considerable business could dispense with. Now the work of the main saw could be safely increased, for the gang—or, as it was at first known, "double"—edger was abundantly able to keep pace with it, and while at first a capacity equal to 1,000 feet per hour was doubtfully claimed, later developments have shown in not a few instances an entire season's work at the rate of 6,000 feet per hour.

This increase in capacity called for a more speedy method of handling the logs on the carriage, and the lumber as it left the saw, and a multitude of inventive minds were concentrated on mill dogs, which should successfully take the place of the lever and pike, driven by a mallet, and the modern saw mill could not now be operated with the original method of dogging the log. The "nigger" for turning the log on the carriage, as well as rolling it on the skids, has superseded the cant-hook and muscular power formerly relied upon, while the lumber, as it leaves the saw, drops upon a system of live rollers, which does the work so much better

advantage than it was formerly accomplished by a hard-worked "off-bearer," who could not in these days by any possibility keep up with the work which would crowd upon him.

Plenty of lumber, cheaply manufactured, and sold at reasonable prices, has enabled the settling up of a nation at the rate of nearly fifty per cent. increase of population during each decade. This in turn demanded a network of railroads, and carriage by them has not yet been reduced to a science, which enables us to believe that rates have reached a minimum which they will realize in the future. The manufacturer of lumber, bearing this in mind, must reduce the weight of his product to the lowest possible point, and the trimmer became a prime necessity as an economizer, not less than for advantage in an aesthetic point of view. And the old gang mill, from its original adaptation of two saws, hung in a cumbersome frame, upon monstrous posts which headed in a weigh beam, made from the largest stick of timber which the forests afforded, and footed in the mill foundations, shaking the structure and the surrounding country, and keeping the machinery about one-half the time in the repair shop from its everlasting jar, has been displaced by the neat, effective, and comparatively noiseless devices of more modern times, developing a sawing capacity of which the fondest anticipation of the original inventor of the idea had not the remotest conception. The heavy weigh beams have disappeared, the monstrous wooden posts have given way to equally advantageous and strong but less cumbersome and more sightly iron supports, resting upon foundations independent of those which support the mill frame. The old, stiff, and full-of-friction gate has been superseded by oscillating slides, giving to the saws the same motion which the pit sawyer seeks to obtain in order to accomplish the most work with the least outlay of strength.

Time would fail us to trace out all the changes which a quarter of a century has developed in the saw mill. Should a Rip Van Winkle of the last century be suddenly awakened from his long sleep, still dreaming of the last act of dogging the log on his old-fashioned carriage, in the old mill, when he took long naps between the cuts, and esteemed a production of 1,000 feet per day something to brag of, and open his eyes on the floor of a modern mill of the smallest size, he would truly think that the world had turned upside down, and if he saw the army of men carrying off a quarter of a million feet of boards per day from the saws of some of the larger mills, he would not believe the evidence of his senses. All has changed; the water wheel has given place to the steam engine; the single small cylinder boiler, to the monstrous tubular or flue in large batteries; the upright saws in a gate, to the mulay and the circular, the two-saw gang, to a forty-saw; the rag-wheel, to the steam feed, adding countless possibilities to the

ability of the circular saw to cut up logs; the single buzz saw, to the double-edger; the rough end lumber to the well-trimmed; the vast piles of worthless slabs, to a useful article of lath and pickets; and the final debris, in many localities, to usefulness in the manufacture of other commercial articles. The pioneer knew nothing of lath and shingle manufacture; live rolls had not entered his noddle; gang slab cutters would have been pronounced by him an invention of the devil to feed the flames of his insatiable furnace. Endless chains would have no use in his mill economy; saw sharpeners and gummers would have no value in his eyes, for he could cut all the lumber he expected to, and find plenty of time for dressing his saws by hand.

The modern saw mill is indeed full of improvements, down to the last device for sorting by machinery. The production in one day, by one saw, of more lumber than was accounted the work of a year in former times, is not only the result of the genius of invention such as marks the spirit of the age, but has rendered possible the remarkable development of the youngest in the sisterhood of nations, forming no unimportant factor in the influence of this country among the people of the earth. All hail to the modern saw mill, and the wise intelligence of nearly every man who is connected with it, either in the production of logs from the forests or the manufacture and sale of lumber, for each progressive step in the march of improvement has reduced the cost of manufacturing lumber, keeping pace with the inevitable increase in the cost of timber, due to the gradual decadence of forests!—*Northwestern Lumberman.*

### MICHIGAN BUSH FIRES.

DETROIT, Feb. 1.—A meeting of the State Fire Relief Commissioners was held here yesterday, at which Governor Jerome and a number of gentlemen from different parts of the burnt district were present. The Governor stated he had received many communications asking that a special session of the Legislature might be convened for the purpose of granting aid to the fire sufferers. After a long discussion as to the wants of the people a memorial, extensively signed, was adopted urging the Governor to call a special meeting of the Legislature as requested. The Governor subsequently urged on the members the necessity of preparing full, comprehensive, and correct reports of the necessities of their respective districts for submission to the Legislature, so that that body, if called together, can act intelligently and without delay. The meeting then adjourned. From reports submitted by the agents of the Commission, the assistant secretary compiled the following statement of the loss incurred by the fire:—Number of houses burned, 1,464; number of barns burned, 1,516; number of persons, 13,995. Total loss, \$2,251,564; average loss per family, \$732.