

A STANDARD GANG SAW MILL.

WE noted in our last issue that the Wm. Hamilton Mfg. Co. of Peterborough, Ont., had just made arrangements with Wm. M. Wilkin, of Erie, Pa., to manufacture his improved patent Compensating Balance Gang, and now give description and cut which very clearly shows its general construction and operation. The radical departure in this machine from previous practice consists in the device adopted for preventing the excessive vibrations to which the ordinary gang mill has been subject. The immense weight of a heavy sash full of saws, reciprocating at the rate of 200 to 300 strokes a minute required an absolutely stable foundation; and even then many gangs tore themselves to pieces.

The shaft of the compensating gang here illustrated is provided with three cranks, the centre one operating the main pitman and the sash. The other two carry inverted pitmans attached to a counterweight sliding in vertical ways. The counterweight is exactly equal to the sash and its saws. The three cranks have the same throw, the two inverted pitmans are of the same weight as the driving pitman, and as the motions of the sash and the counterweight are in exactly opposite directions, it will be seen that the reciprocating parts are self-balanced, the opposing shocks and vibrations will thoroughly neutralize each other, and the machine will run at any speed without jar. Such are, in brief, the claims of its makers. Moreover, it will be seen that the vertical throw of the mechanism being absorbed within itself, the journal boxes are required to bear only the uniform weight of the sash, rods and counterweight.

The sash is made of one casting of steel, and is oscillated by long inverted pendulums pivoted at the bottom, and oscillated near the top by means of an eccentric rod and rock-shaft, so timed with reference to the stroke that the saws enter the cut without shock, leave it when stroke is complete and rise clear of the log, being again thrown into action near the top of the down stroke. The feed is continuous, and variable at the will of the operator.

In the machine shown the rolls open high enough to take in a 14 inch cant 32 inches wide, or the rolls may be filled with several smaller cants or "fitches," piled in tiers, so that flooring may be rapidly made. The ordinary feed carried is $\frac{3}{4}$ inch per revolution of shaft, and the number of revolutions per minute is 300. The saws are held by tabs and buckles keyed at the top. They may be placed any distance apart for making lumber of any desired thickness by the insertion of gauge blocks between the buckles. The capacity claimed for this gang is about 40,000 feet of inch boards a day, with but one attendant aside from the saw filer.

LATEST NEWS NOTES.

Messrs. Sherwin & Kelly, Allanwick, have started a shingle mill at that place.

Winnipeg, Manitoba, done a business in lumber last year amounting to \$1,342,000.

The Rat Portage News reports that the Keewatin Lumber Co. will open a yard at Winnipeg.

Carswell, Thistle & MacKay, Calabogie, expect to cut 8,000,000 feet of lumber this season.

Alpena, Mich., parties are reported to have recently sold 1,000,000 feet of lumber to Buffalo parties at \$8.50, \$17 and \$37.

Mr. H. T. Pierce, of Martinville, is now associated with the management of the Flipp Saw Mills at Three Lakes, Quebec. This concern will now manufacture bobbins and spools in the rough for Messrs. Thompson & Co., Sherbrooke.

The Eliza Cook, lumber laden, from Halifax, N. S., for Bermuda, encountered bad weather April 2nd, in which she lost her deck load of lumber, and subsequently became a total wreck. The crew were rescued by the steamer Concordia, of Glasgow, the hulk and cargo being abandoned.

Messrs. McLachlin Bros, of Annapolis, are said to be contemplating the erection of a railway from their Pettewawa limits to the Madawaska, in order that they may have more rapid carriage of their lumber, under their own control, and free from the annoying delay of towing down the Ottawa.

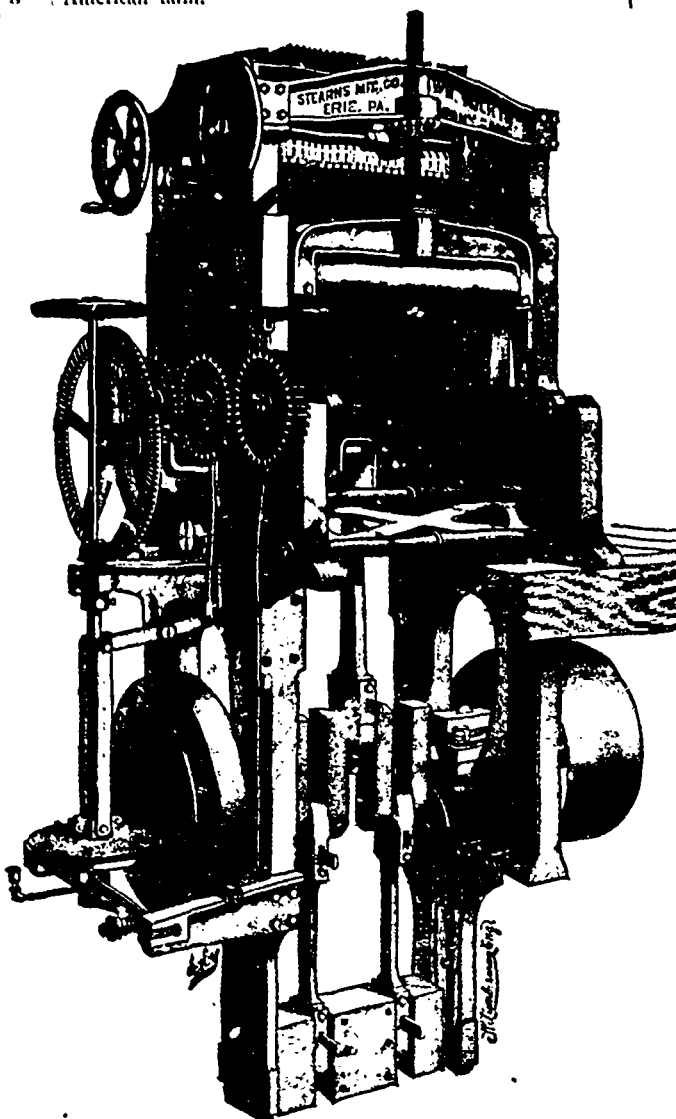
When the south extension of the Algoma branch of the Canadian Pacific railway is finished, it will be easier than now for Michigan lumbermen to reach the pine forests on the Serpent, Spanish and French rivers, for then they can go by the way of Mackinaw and the Sault instead of Toronto.

According to the Halifax Herald quite an extensive business has been done at Minudie and River Hebert, N.S., in lumbering and piling. The vessels at both places are putting on their summer robes and preparing for loading, but the depression occasioned by St. John failures has seriously affected the deal trade.

The following tariff of tolls to be charged by the Rouge Boom Company during the season of 1887 has been approved. Pine logs 3 cts. each, spruce logs 2 cts., long, round or flat timber 5 cts., square timber 10 cts. Railway ties 1 cent. A duty of 10 per cent. *ad valorem* has been imposed upon molded celluloid balls and cylinders, coated with tin foil or not, but not finished or further manufactured.

The lumbermen at the Chaudiere state that no difficulty will be experienced by them in securing the required number of hands to work in the mills during the summer. The wages will be the same as last summer from \$1.20 to \$2.75 per day. Most of the firms regulate the pay of their hands according to the success of the season. If a season is unusually good the pay of the men is raised 25 or 50 cents a day as the case may be.

Chaudiere lumbermen have been apprized of the fact that two or three wealthy Michigan lumber companies which own large quantities of Pine in Ontario will import a considerable quantity during this year, notwithstanding the Canadian export duty. A single raft of 3,000,000 feet was put together in Georgian Bay last autumn, and will be started for Saginaw on the opening of navigation. The Dominion tax will, it is said, be removed whenever lumber is put on the free list of the American tariff.



THE STANDARD GANG SAW MILL.

The projectors and builders of the great Joggins log raft that came to such an ignominious end last summer are again at work rebuilding the monster, and instead of curtailing its dimensions are making it 200 feet longer. Mr. Robinson, the designer and constructor is confident of success at the next trial, and as the unsuccessful past will give experience for the future, it is thought not unlikely the next launch will have a successful termination. The saving of freight on the immense mass of logs and timber will be very considerable, in fact it amounts to a moderate fortune.

Messrs. Smith & Sawell, of Thornbury, Ont., have for some time past been negotiating with Mr. J. Ferguson and the Ontario Government, to secure a site for a saw and planing mill, sash and door factory at North Bay, and arrangements are about completed satisfactorily. They will also open a local market for all the hardwood timber such as birch and maple that can be furnished, as the quantity of pine which they will secure from the Government will be limited, and in order to keep the mills going the whole season a larger quantity of hardwood would be required than the settlers at present in the township of Shadowfield can furnish.

The New Brunswick Trading Co., says the *Miramichi Advertiser*, is removing its head office to Black Brook, but will also continue to occupy a town office. The company has added a fine new building to its already large share of Black Brook village, which is fitted up as a counting-room, store, etc. Preparations are being made at the mill for the coming season's sawing, and the indications are that the company intend to push business as usual notwithstanding the reverses of firms lately connected with it in an indirect way.

Lumber operations at Fisher River, Man., are thus noted by a correspondent:—The lumber camps are breaking up for this season. C. W. Bubar finished last Saturday and started for Selkirk on last Monday morning to bring in supplies and men for the summer. He has had a successful winter's work. Messrs. Brown, Rutherford & Neilson's teams will start for Winnipeg on Monday, the 6th inst. They have taken out an excellent stock of logs this season. They are the largest average I have ever seen in any camp during any season on this lake. The Selkirk Lumber Company have still five teams at work, but will soon be breaking camp also. They have the largest cut of any on the lake, having about 60,000 logs.

The lumbering interests of Gilmour & Co. at Trenton, are extensive and the equipment is complete. Their "big mill," which has both circular and gang saws, has a capacity of 350,000 feet of lumber every ten hours, and is driven by an engine of 1,500 horse power, with sixteen boilers. The timber mill turns out 50,000 feet of ordered stuff for builders, and the shingle mill equipped with the best machinery, cuts 125,000 shingles per day, by means of a 250 horse engine. Five hundred men are employed in these mills. A line of railway runs the entire length of the firm's property, through its lumber yard. These yards have storage capacity for 40,000,000 feet of lumber. The planing mill is run by water power. At present it has four modern planers and there is room in the building for five more. The mill has a capacity for planing 80,000 feet of lumber per day. Connected with the mills is a complete fire system. A commodious brick fire shed has been erected at the water's edge, between the two largest mills, with stables, engine room and quarters for the 25 men who constitute the fire company. They have charge of an Amoskeag steam fire engine. Then there is a force pump in the engine house connected with a 12 inch pipe which leads around the different mills and through the yards. This pump can throw 15,000 gallons per minute. There are 10 hydrants outside the mills and 18 inside. An electric fire system, 16 bells connects the several principal parts of the yard with the fire department. At the head waters of the Moira and Ottonabee rivers there are extensive timber limits. The Central Ontario Railway also taps one of Gilmour & Company's limits.

HOW TO CLEAT LUMBER.

Something may be said as to the advisability of cleating hardwood lumber, especially ash, oak and hickory, when sawed rough edged.

Cleating is beneficial if done at the proper time, i. e., when the plank comes from the saw and before it has been split by handling. After a split has opened a plank two or three feet, a cleat cannot be put on securely enough to prevent the split from extending the first time the plank is handled or "dumped" from a truck. The proper way is for the mill hands or foreman to select the plank, generally the ones coming from the center of the log, that indicate by their appearance a tendency, by small checks or free, straight grain, to be liable to split perhaps the whole length of the plank, and at once nail on a cleat of some tough, strong wood. Oak or elm is best.

Care should be taken that the cleat does not extend beyond the edges of the plank or lap over the sides so as to be easily pulled off in handling, or take up extra room in stowing or shipped where freight is charged by the cubic foot instead of board measure. Plenty of nails should be used. For two inch plank, the cleats should be $\frac{3}{4}$ inch thick and 6d or 8d nails used. Nailing on strips of laths is only a waste of time and material.

Ash splits more readily than any other plank, and the better the quality and the freer from defects, the easier it splits.

Inspectors usually take this fact into consideration; and if a plank is otherwise perfect, will measure down in width one or two inches, and grade it as firsts when it would be classed as seconds if ordinary square edged plank. Most of the best ash, oak and hickory is used for carriage material, and consequently cut into small and short pieces, and the quality is more important than the width and length. In such kinds of lumber, knots are a much more serious defect than splits. Cleats will help much to prevent the latter if put on as suggested.—*New York Lumber Trade Journal*.