

than the cost of production. Forests did not replace themselves for years, and some active measures should be taken to prevent depletion. He did not think that the law restricting the size of trees to be cut was enforced. With respect to pork, Mr. Reford said that he considered Canadian pork much superior to that from the States. He had found it a most profitable business, and as for corn, there was much grown around Montreal, and the farmers were increasing the acreage under corn, finding that it could be raised profitably.

ANDRE CUSHING & COMPANY.

In a recent issue of THE LUMBERMAN we gave some particulars of the construction and equipment of the large



MR. GEO. S. CUSHING.

saw mill of Andre Cushing & Company at St. John, N. B. In this number we are pleased to present a more detailed description, together with a photograph of the mill and portraits of Messrs. George S. Cushing, Theophilus Cushing, G. L. Purdy and F. H. Jobson.

The mill deserves special notice as being the largest and most modern saw mill in the maritime provinces. The situation is unique in that it is within a stone's throw

difference of twenty-five to thirty feet between high and low water—spent some £80,000 in cutting a channel through the neck of land forming the point, and erected a saw mill with a number of single saws that were operated when the tide suited in sawing the large pine that was common on the St. John river at that time. This mill, however, was not a success, and was abandoned. All that remains of the enterprise is the channel, which is through solid rock, and looks as if it would last as long as water runs.

About the year 1852 the first steam mill was built on the extreme point, about in line with the break of the falls, the firm being Andre Cushing & Co. They had the misfortune to be burned out several times, but each time rebuilt on a larger scale. The last fire occurred in the spring of 1895, and for a time the impression was general that the mill would not be rebuilt, consequently the outlook for the large number of employees was not reassuring. However, as it afterwards transpired, Mr. George S. Cushing, the master mind of the firm for the past few years (the original members of the firm having died some years ago), while not saying much, had kept on thinking and planning, with the result that he purchased the interests of the heirs in the estate—retaining the old firm name—and in the fall of 1895 operations were begun to rebuild on a more extensive scale than ever before.

During the year after the fire Mr. Cushing was not idle; he had large lumber contracts in hand at the time of the fire which had to be filled, in which he succeeded, and, besides, he visited the large saw-milling centres to acquaint himself with all the latest saw mill equipments, and, having decided to rebuild, selected those that seemed best suited to his requirements. Owing to the improved machinery he selected, the old site was not deemed suitable, so he began on new ground altogether, but only a short distance from the old site.

Mr. Cushing's judgment was that the first and most important feature in the new enterprise was the power, the order for which he placed with Mr. James Fleming, proprietor of the Phoenix Foundry, St. John. The power plant consists of two horizontal engines of 250 H. P. each, right and left hand on same shaft, with belt fly wheel 12 ft. x 4 ft., six tubular boilers (three of which are sufficient to furnish steam), set with patent sawdust furnaces. These are all placed in a brick fireproof building, with a brick wall dividing the engine room from the boilers, and the whole separated from the mill proper. In the engine room there is a steam pump for fire protection,

band mills made by The Filer & Stowell Co., of Waukegan, one on either side of mill; one Wilkin's compensating direct action steam gang placed in the center of mill; two patent parallel gang edgers; patent slasher made by the Stearns Mfg. Co., Erie, Penn., which carries eight 42" saws; automatic trimmer, Waterbury make, also carrying eight saws. These machines are placed that with the live rolls and transfers used in lumber and slabs are carried to their respective destinations with very little attention and without a hitch. A planer is placed conveniently near the automatic trimmer so that lumber requiring it can be dressed before going to the yard.

The lath and box mill is in an addition at the side of the main mill, the material for which is delivered from the slab slasher very convenient to the operators, while the refuse is carried back to the main conveyor and delivered at the different points required.



MR. THEOPHILUS CUSHING, Superintendent.

The logs are taken from pond to bed of mill on an endless chain and rolled off on either side by large iron rollers eccentrically placed on a shaft under the floor. The shaft is so arranged that it can be turned either way, throwing the log to either side as desired.

There are steam canters or "niggers" for both the mills, as well as "tickers" for throwing the log onto log carriages. These appliances are of the latest



ANDRE CUSHING & COMPANY'S SAW MILL, UNION POINT, ST. JOHN, N. B.

of the only "Reversible Falls"—very aptly termed by the inimitable Burdette on the occasion of his first visit to St. John—of any magnitude in the world. It is situated on what is called Union Point, on the western bank of the St. John river, just above the railway cantilever and the suspension bridges that span the St. John river where it empties into the St. John harbor, and is a natural mill site, as just behind the point on the upper side is a larger bay, in which any quantity of logs can be held and floated to the mill at any time of the year. Admirable piling grounds and wharves line the upper side of the point, from which vessels take in their cargoes for any port.

Before steam became the recognized power for sawing lumber, some Americans took advantage of the location, and on account of water power to be had during a part of the time—owing to the ebb and flow of the tide giving a

and a very complete electric light plant which supplies light to the mill, wharves, pond, yard and offices. The city laid water pipes to the mill and several hydrants are conveniently placed, which, with plenty of hose, would seem to make the fire risk a safe one.

The mill proper is 226x60 feet, three stories high, built on a stone and brick foundation. The power is taken by a double leather belt four feet wide through the side of main mill to a line of shafting running lengthwise of the mill, from which leads belts and gears to drive all the machines which are placed on the floor above. On the same floor as the shafting are the saw-dust, refuse and slab conveyors, the saw-dust going to the boilers and the refuse to a large and long conveyor leading to the fire dump.

The sawing equipment consists of the following: Two

most approved patterns for their respective requirements. Underneath the floor, conveniently placed in the center of log bed, is a steam jump-up saw 60" diameter for cutting the logs to any desired length, and for trimming the ends of logs that are gravelled or "rocked" in driving, saving the band saw many a bad tooth.

The filing room is nicely situated one story above the mill floor and equipped with an engine to drive the various grinders, toothers, rolls, etc., for keeping the logs in order. The location, arrangement and equipment are very convenient and complete in all its parts.

The building of this mill has put a large amount of money in circulation in St. John, and was a boon to the men employed in its construction as well as to the founders and machine shop owners who supplied part of the outfit, some \$20,000 being spent in the