

## REVOLUTION IN SPRUCE.

Exit the saw mill; enter the pulp mill—pulp, more valuable than lumber, demands the timber—New England timber passing under control of pulp men—details of the change, from logs to pulp wood.

Already the transformation from logs to pulp wood and from lumber to paper has commenced, and one after another of the many saw mills, with their forest areas, are being purchased and occupied by the pulp and paper manufacturers. Already the pulp and paper makers of this country consume 65 per cent. of all the spruce growth cut in the United States, and this percentage is increasing year after year. There are about as many spruce saw mills closed down in New England as there are running. Scores of these mills will never be utilized again in manufacturing lumber. The pulp mill is taking the place of the saw mill.

A few facts will illustrate this rapid change in the utilization of the spruce forests. Eight years ago the wood pulp business on the Androscoggin river consumed 12,000,000 feet of spruce at Berlin Falls, and about 10,000,000 feet of spruce at various points below on the river, down to Livermore. In 1898 the consumption for wood pulp on the Androscoggin river had increased from the above 22,000,000 to about 195,000,000 feet, or an increase of about 173,000,000 feet in eight years. Thus, in a general way, the Burgess Company, at Berlin Falls, consumed about 65,000,000 feet of spruce logs, making 250 tons of dry sulphite pulp a day. The Berlin Mills Company consumed about 10,000,000 feet at its mill, and for sale to others, while the Glen Paper Company, at Berlin Falls, now a part of the International Paper Company, consumed 40,000,000 feet of spruce. Below Berlin Falls the consumption of spruce was about 35,000,000 feet at Rumford Falls, and 35,000,000 feet more at Livermore, Jay and other points. The Odell Company used about 6,000,000 ft. of spruce above Berlin Falls on the Grand Trunk Railway. Still further down the river, W. H. Parsons & Co., one of the largest pulp and paper manufactories in Maine, at Lisbon Falls and Brunswick, are using 150 cords a day, or will use during 1899 about 45,000 cords of spruce pulp wood. They now have a Canadian contract with the Cookshire Company, at Scottstown Mills, for 20,000 cords a year.

As we may expect the Canadians to add \$2 a cord stumpage on spruce pulp wood, it is quite evident that the import of pulp wood from Canada into the United States will soon be stopped. This will make a still heavier drain on spruce forests in Maine and New Hampshire.

The most intelligent experts estimate all the spruce growth available on Androscoggin waters, below Berlin Falls, including that on the line of the Rumford Falls & Rangley Lakes railroad, to be less than 640,000,000 feet.

There have been a large number of lumber mills and large manufacturing establishments in New Hampshire shut down within a few years, the properties passing into the hands of pulp and paper manufacturers.

E. Libbey & Sons, of Gorham, Me., have heretofore manufactured 8,000,000 feet to 10,000,000 feet annually. They have cut over all of their lands, and are unable to buy lands in their neighborhood, because the remaining blocks have been purchased by the paper and pulp mills.

In that corner of Vermont tributary to the Grand Trunk Railway, the large lumber mills of A. M. Stetson, at Norton Mills, Vt., with 40,000 acres of spruce lands, have recently been sold to those interested in pulp and paper. The large areas of land formerly owned by George

H. Fitzgerald, at Island Pond, Vt., were sold to pulp manufacturers. The same is true of the large spruce tract formerly belonging to Nathan Hobson, of Brighton, Vt.

On the Kennebec river, in Maine, the pulp wood industry is gaining rapidly on the lumber manufacturers. Where formerly more than twenty saw mills were in full operation, not over seven or eight establishments will manufacture lumber in 1899. The spruce lands in Maine do not yield one-third as much spruce an acre as those in New Hampshire, nor is the yield in the Adirondacks much in excess of that in the state of Maine. There are very few virgin townships now in Maine which have not been more or less cut upon for spruce. The paper mills of the Kennebec river are constantly increasing their capacity, and before many years a saw mill on the Kennebec, manufacturing spruce, will be a curiosity.

On the Penobscot river, in Maine, the pulp interests are gaining rapidly on the lumber interests. One corporation recently established, known as the Great Northern Paper Company, with a capital of \$4,000,000, has recently purchased 260,000 acres, and will cut next winter 50,000,000 feet of spruce on the west branch of the Penobscot. The lumber men on the Bangor begin to look upon these immense pulp mills as serious competitors. The lower Penobscot river has been more of a pine country than spruce, while the lands on the Penobscot river, covering the north and west branches, do not grow as good spruce as on the Kennebec or as on the east branch of the Penobscot. In the former sections there is a large amount of fir mixed in with the growth, a wood which is not of much value for lumber, and of less value for pulp than spruce. The old lumbermen say the best spruce ever seen in Maine grew on the Mattawamkeag river, which is now mostly cut off. It was long, large and of fine quality.

The above facts and figures give a pretty good idea of the way in which the spruce growth is shifting over from the lumber business into the pulp and paper business. The manufacture of spruce lumber during the last three or four years has not been very profitable. The competition with lumber from North Carolina and Virginia has been severe and destructive of profits. The present advance in Carolina and Virginia lumber enables the spruce mills to get a little higher prices for their product, but the tendency, as explained above, is for the spruce manufacturers to sell out to the pulp and paper mills, resulting each year in a diminished number of spruce mills and quite a rapid increase in the pulp and paper industry. This will afford the hemlock men of Pennsylvania, the pine men of the west, and the southern pine men of Carolina and Virginia better markets for their lumber products in the New England States.—American Lumberman, March 18th.

## AMERICAN CONTRACTS.

The Pennsylvania Steel Company has closed a contract for a viaduct over the famous Gokteik Gorge, on the Burmah railway, in India, eighty miles east of Mandalay. According to Iron and Steel it will be 320 feet high and 2,260 feet long, with steel towers at intervals of 120 feet. The cost is about \$700,000, and the first half of the materials for the great bridge will be shipped in August. The work of construction will commence immediately after the rainy season in November. Two steamers will carry the finished steel of which the viaduct will be constructed. Experienced bridge builders will be sent to erect the massive

structure, which will be one of the wonders of the present engineering age.

Concerning the Burmah bridge order, a London despatch of the 9th says: "Replying to a question in the House of Commons to-day, as to whether the Indian Government had given an order for the Gokteik viaduct in Burmah to an American firm, and why British manufacturers had not been asked to make a tender, the secretary of state for India, Lord George Hamilton, replied that the Indian Government had nothing to do with the contract. It was given, he said, by the Burmah Railways Company, which invited six English and two American firms to make a tender. Four of the former refused to bid, and the most favorable English tender received required three years for completion of the work, at a cost of \$580,000, while the best American tender proposed to complete the work in one year at a cost of \$300,625. The company had, in these circumstances, accepted the tender of the American company.—Railway and Engineering Journal.

On the other hand, a consignment of 300 tons of steel guard rails reached Boston last week from London, to be used by the Boston elevated railroad in its construction work. The purchase was made last March. Gen. Bancroft, vice-president and general manager, said that everything had been done by him to place the order with some firm in the United States; but when he went into the market he found that the competition in these particular rails had been eliminated, and that he would have to pay the price established by the trust producing them if he was to use American made goods. This price he considered exorbitant, and invited quotations from English makers. As a result, the contract was given to a London firm at a price considerably under that made by the domestic mills, and which admits of rails being landed here, duty paid, at a saving of 33 per cent. over the price insisted upon by the consolidated concerns.

—"Our treasury," said the chief financier, "is suffering from an overplus of drafts." "No wonder," exclaimed the Chinese Emperor, with considerable petulance; "just think of all the open doors."—Indianapolis Journal.

—Purchase has been made in Pennsylvania for the Coast Railway of Nova Scotia, of 2,500 tons of rails, to be delivered on or before June 1st, and a contract has been made with Mr. E. K. Spinney, of Yarmouth, for all the rail fittings, angle-bars, bolts, and spikes.

—A Cumberland county lumber manufacturer is authority for the statement that there will be this season for shipment from West Bay to trans-atlantic ports about 35,000,000 feet of lumber. The cut throughout Cumberland, he says, has been lighter than for some years past.

—"Faith," said the little school girl, "is believing a thing to be true when you know it ain't." A beautiful instance of this kind of faith is given in the Toulon (Ill.), News, which says: Home protection guaranteed by fraternity is as solid as by the best great corporation in existence, and at about one-third the cost. All we, as fraternal organizations, have to do is to pay our assessments and dues readily so our supreme officers can meet each death promptly, and full protection is assured to each home whose head is a member thereof. This believer is a little incoherent, comments the Investigator, but he knows what he believes, and he doesn't really deceive himself or anybody else. Everybody knows to-day that fraternal insurance is a lottery, and the temptation of a cheap gamble and a good time combined is all that keeps fraternalists alive.