

THE BIG TIMBER RAFT.

The great timber raft, the progress of which was followed with much interest by all newspaper readers, reached New York safely on the 11th of August, after an uneventful voyage of eleven days, the distance covered being about 700 miles. The event is a noteworthy one for several reasons. It has demonstrated the feasibility, under favoring circumstances, of transporting timber in bulk from the most northerly British provinces, whence timber, valuable for many uses, has heretofore been sent by the much more costly mode of transportation by vessels. The experiment has been several times attempted, but two earlier attempts failed signally. The idea of rafting timber in this way originated with Hugh R. Robinson, of St. Johns, New Brunswick, who obtained (in 1886) a patent on a peculiar mode of fastening such a structure by chains. The first raft built on the Joggins shore, on the eastern side of the Cumberland basin in the Bay of Fundy, collapsed while being built. The second attempt was more successfully put together and launched, but, as will be remembered, it went to pieces in a storm when a few days out, and caused great alarm to vessels, as the floating masses were strewn over the ocean in the direct path of the transatlantic steamships. The third attempt, as all are now aware, has turned out successfully, and the

any strain on the main towing chain caused the whole structure to be gripped more tightly, so that the greater the draught on the main chain the tighter the raft would be bound together. As an additional safeguard, steel cables were attached midway between the cross-cables. Thus bound together, the great raft formed an extremely strong and compact structure.

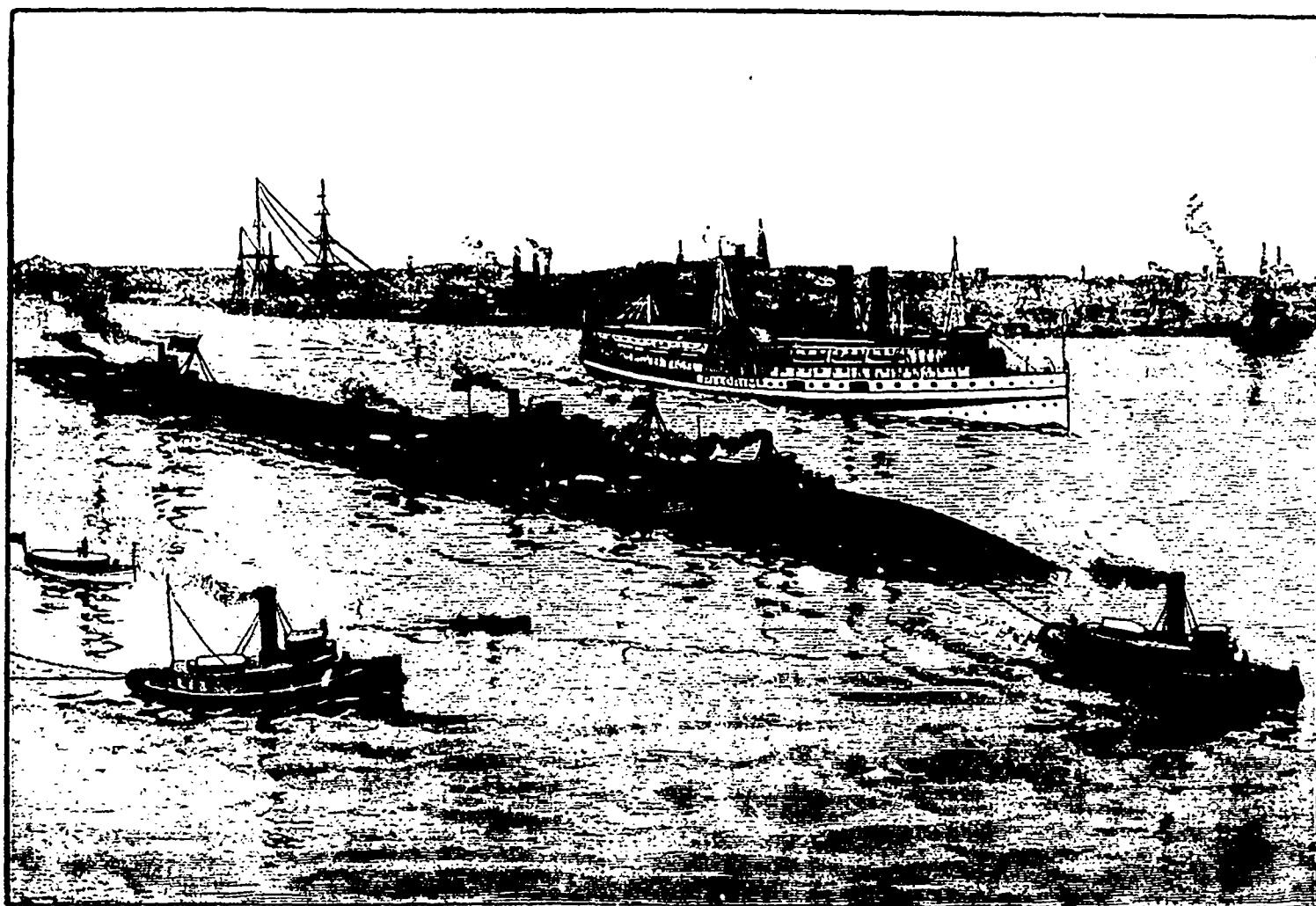
It was towed from Joggins to and through Long Island Sound, and to Flushing at the entrance of the East River, by two powerful tugs. At this point five more tugs were attached to tow it through the winding channel of the East River to the Erie Basin, below Governor's Island, which was its final destination.

The cost of the timber at the place where it was cut is estimated to have been about \$13,000, and the cost of constructing the raft and towing is believed to have been within \$10,000. The piles are worth at New York \$2 each, making the value of the raft \$44,000, thus leaving the handsome profit of \$21,000 on the venture. By the usual mode of transport, it is calculated that the cost to land the timber in New York, including the cost of the timber, would have been \$34,000 leaving a profit of \$10,000—a balance in favor of the raft of \$11,000.

POINTS FOR MILLERS.

To make operatives believe high grinding was better

thought of by many, that a wheat cleaning machine is a purifier; it purifies the wheat before it is broken. The middlings purifier purifies it after it is broken. The purification of the wheat preliminary removes impurities which cannot be removed by subsequent operations. It removes impurities which cannot be separated from the break flour. Emphatically, the wheat-cleaning machinery is the purifier of break flour. The greatest improvement that may be made in the quality of the break flour will be through the medium of the wheat-cleaning machinery. The proper cleaning of the wheat largely reduces the proportion of low grade flour, in that it removes contaminating substances which renders impure a large amount of good stock, and which therefore, will find its way to the low-grade end of the mill, if it is not instrumental in degrading directly the higher products. A miller will buy a centrifugal reel or two for the purpose of pulling up the standard of his break flour; this he does by rebolting. He throws a certain amount of contaminated stock to the low-grade end of the mill. While the quality of the high-grade flour is improved by the centrifugals, it is also plain that there is material thrown out because of its contamination by the impurities of the wheat which goes to make low-grade flour, and which, in the event of wheat having been properly cleaned, would have been in much smaller quantity.



THE GREAT TIMBER RAFT FROM JOGGINS, NOVA SCOTIA.

probabilities are that the venture will recompense its enterprising projector for his previous losses and leave a handsome margin of profit.

The timber of the region of Joggins is in much demand in New York and Boston for piling, and the annual exportation is said to reach 100,000 sticks, giving cargoes to about 200 schooners now engaged in this trade.

The appearance of this monster raft is well shown in our illustration, made from a photograph taken as it was towed down the East River. It has the general shape of a cigar, and has the following dimensions: Length, 595 feet; width, 55 feet; girth, 150; depth, 38 feet. Its weight was from 10,000 to 15,000 tons, and it contained 22,000 sticks of timber, which it is estimated would have required forty-four schooners (500 sticks to a vessel) to transport in the usual manner, and at a cost for freight very much greater than the actual cost of the making and towing of the raft to its destination.

The mode of building this structure was about as follows: It was built on an enormous cradle resting on rows of pillars. The piles (about 12 to 16 inches thick at the butt, and tapering to a few inches at the top) were about 40 feet long, and were laid in tiers, overlapping each other, to the depth of 38 feet. Through the entire length of the raft passes a heavy chain. Other smaller chains, crossed in all directions and spaced about 10 feet apart, are clamped to the outside tier of piles by cross-arms of wood. The raft was towed by the heavy chain, and the heavy cross-chains were so disposed that

than low, that impurities could be removed from middlings and flour by air, that rolls would produce better flour than stones, that gradual reduction would give better results than one reduction, that the round or centrifugal reels were better than the hexagon, and the sieve scalper (which is sure to come into prominence) is better than the hexagon for the first flour breaks on the wheat—these are great triumphs, both of the power of discovering and the power of convincing. We may readily allow this when we recollect how recently these improvements have come into practice, and with what objections each was met.—*Northwestern Miller.*

Never since the introduction of rolls into the mills of the country has wheat been properly cleaned. The rolls themselves, or the inception of the roller mill idea, has had nothing directly to do with this deficiency; indirectly it is responsible for it all. The rolls, and the machinery which came with them, have monopolized the attention of millers and mill builders, so that the attention to wheat cleaning methods has been spasmodic; the miller will buy a pair or more of rolls, and in times past, a purifier or two, and now more easily a centrifugal, or other form of short reel, without giving the matter any very great attention or feeling the weight of the expense. The buying of wheat-cleaning machinery is more serious in a comparative way than is the expenditure of a similar sum of money in any other line in the mill. It is forgotten, or never was

Not only that, but the higher grade of flour would have been of still better quality.—*The Millstone.*

The new wheat season is upon the miller again, and the day is here, when he who is versed in profanity swears at rolls with dull corrugations, reels which are lacking in good cloth cleaners and machines that fail in capacity. The wise miller has taken time by the forelock, and has had his dull rolls recut, his reels put in order and his machines in general brought up to maximum efficiency. This miller is a little cautious, too, about how much new wheat he mixes into the old, and when the old disappears, he is not slow about cutting down his feed. It is too late to get excited after the mill is choked. Better grind a few bushels less per hour, until you know what you can do, than to get bunged up in a manner that requires hours of work to open up communications, and perhaps, a half day or more to feed accumulations in again. Those who provide for this time and exercise a degree of caution, are the ones who can pass from the old wheat to the new without any appearance of riot about the mill.—*Milling Engineer.*

Duncan H. Cameron, of Woodville, Ont., has patented a boiler cleaning compound composed of a decoction of five parts, or thereabout, of the leaves and bark of cedar; two parts, or thereabout, of the leaves and bark of tamarac, one part, or thereabout, of the leaves and bark of each hemlock, oak and sumac, said decoction produced by steaming the ingredients in a closed vessel and then decanting the liquid.