

New York's Biggest Task

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NEW YORK is just now making much ado over her subway, completed at a cost of about \$40,000,000. It is, indeed, a gigantic public improvement, but both it and its cost sink into insignificance when compared with the scope of and expenditure on another undertaking that has been going on steadily since 1871 and will likely continue for several generations to come.

This colossal work has had and will continue to have a pronounced effect on the commerce and general welfare, not only of the metropolis, but of the entire country as well. For, since New York is America's greatest port, the rebuilding of its entire water front to meet the demands of commerce cannot but be felt throughout America in all lines of trade.

But, while the improvement has been going on for a generation, and upwards of \$200,000,000 have been spent by the city therefor, it is safe to say that of the citizens of New York not one in a thousand knows anything about it, and certainly not that proportion outside the city.

Yet in all this time the city has gradually but surely remodeled the water front all the way from the Battery to Twenty-third street on the North River, a distance of about two miles, where it is now engaged in building eight enormous piers that will represent, when completed, an investment of \$15,000,000 dollars; and various more or less extended sections on the East River, where the demands of commerce required it, have also been improved.

Hundreds of piers have been built by the city in this time, but there are hundreds more to be constructed, and the department of docks and ferries does not contemplate quitting in the beginning, as it were, of its task. In fact, it plans eventually to surround the entire island of Manhattan with a concrete bulkhead wall and to have running out from it the finest lot of piers that can possibly be built under the limitations of the various pierhead lines set by the War department in Washington.

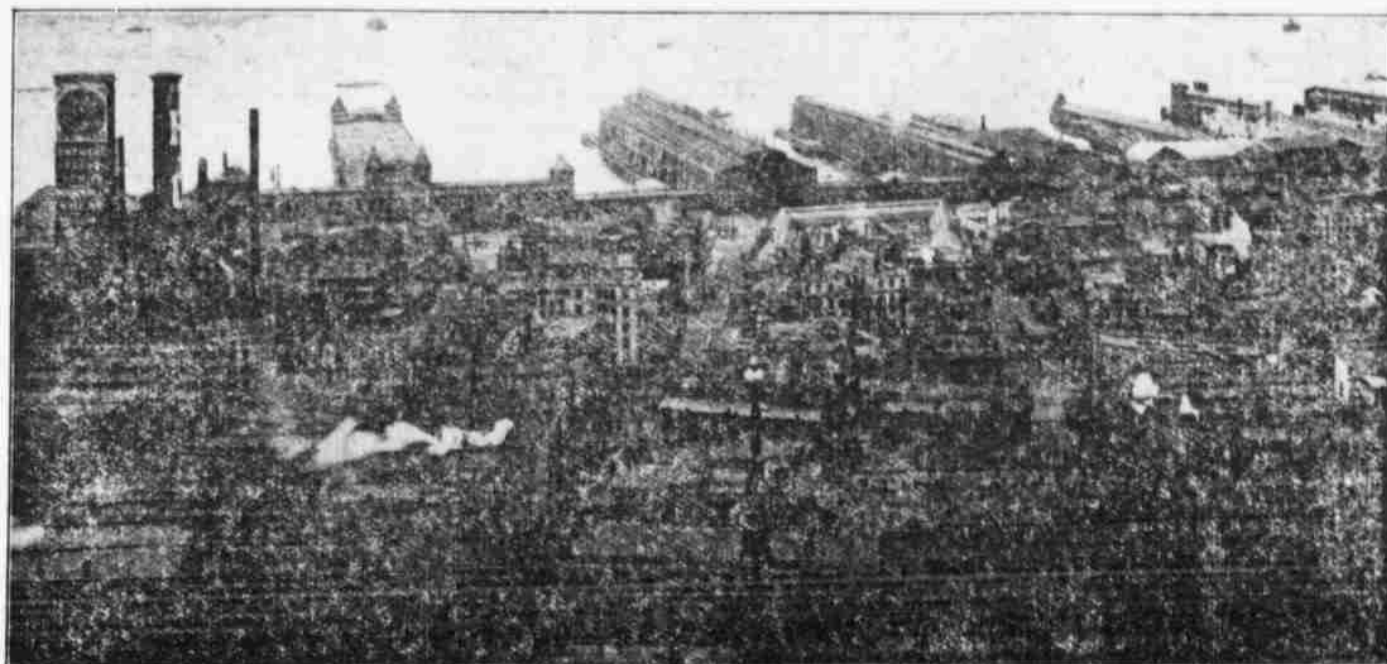
At present no pier longer than 800 feet can be built in the North river from the island. The borough, as owner of nearly all of its water front, desired to have the pier-head line set at 1,000 feet, arguing that it would not be of such length that 1,000-foot piers would be imperative if the commerce of the port, which is synonymous with the international trade of the country, was to be taken care of properly. The department feared that the river channel would be narrowed too much, and the request was refused.

But the city intends to get around the difficulty. Instead of going out into the river, it means to destroy square block after square block of the upland by dredging, and by putting the bulkhead wall where rows of business houses now stand, thus securing 1,000-foot piers for the 800 and 900-foot ocean liners that will undoubtedly come in the near future.

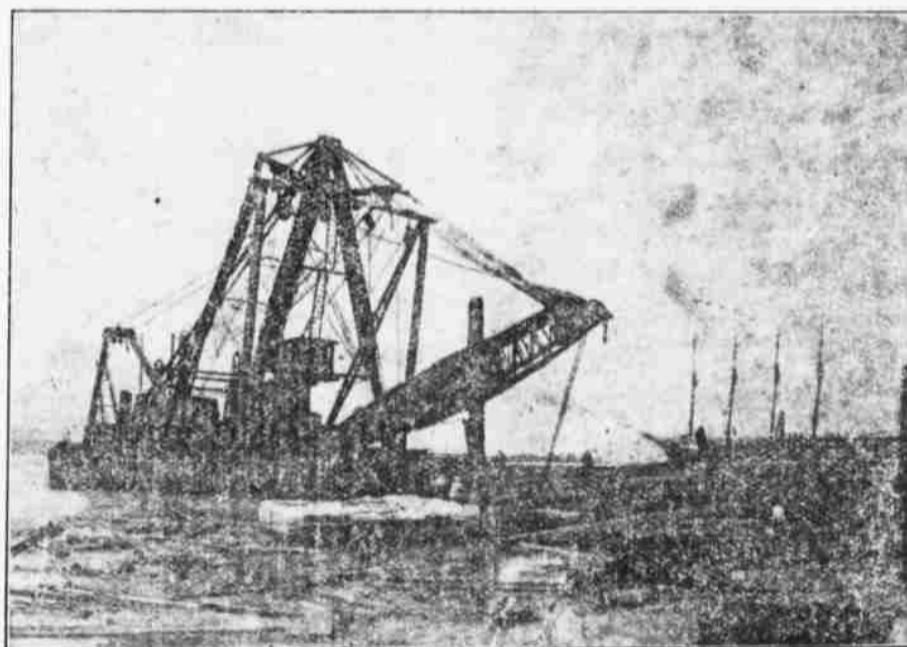
This, however, will be no new move on the part of the city along its water front. Since it began the work of providing ample dockage for the ships that make the port, it has bought scores of blocks of property by condemnation proceedings, torn down hundreds of business houses, and dredged away the land for piers and ships, or added portions of it to the great marginal street, 175 feet in width, that is gradually encircling the island. Sixteen square blocks, every square foot covered with substantial brick and stone buildings, were destroyed to make room for the half dozen latest piers, to be completed at a cost of \$15,000,000, which lie just south of the eight piers now being built on the North river, for which seventeen blocks, in whole or in part, were condemned and purchased at a cost of several millions of dollars. One million dollars was required to purchase a gas plant that stood where one of those piers begins, and it will not be long now before the great ocean liners will be berthed where three years ago great manufactories were humming and giving employment to thousands.

In like manner the improvement will be carried clear around the island, causing thousands of buildings to be razed and decreasing the land area of this already congested spot by acres; \$33,000,000 is to be spent to this end this year. Over a mile of the water front from above the Brooklyn bridge down to the Battery along the East river is shortly to be improved, a section at a time, so as to interfere with the shipping as little as possible, special legislation having been secured from the state to permit of condemnation proceedings for the necessary land. Hundreds of blocks will be required, for in some stretches there is practically no marginal street, which will be from 125 to 175 feet wide, in order to relieve congestion caused by trucking; and it is also planned to convert much of the upland into pier and slip room. About thirty piers in all will be constructed.

Heretofore the city has devoted nearly all of its efforts in behalf of the big ships, such as the liners, but so great has been the demand for better pierage accommodation on the part of the smaller ships that the authorities have turned to the section of the East river where the minor steam-



FIRST BIG PIERS TO BE BUILT BY THE CITY—OCEAN LINERS NOW DOCK HERE.



ONE OF THE CITY'S GREAT DREDGES REMOVING LAND FOR PIERS WHERE ROWS OF BUSINESS HOUSES AND FACTORIES STOOD.

ship lines dock. What will be the cost of this piece of the work no man can say. Even they hesitate to calculate who have it in charge and are engaged on the details preparatory to the actual construction of the piers. All they will say is: "Millions—so many that we ourselves don't know yet, and can't tell until we've condemned all the property that we shall need." They feel certain, however, that it will add an enormous sum to the already respectable one of \$30,000,000. So will the bulkhead wall of concrete when it is completed. Its cost so far has been about \$30 per running foot. The island has a water front of about 200,000 linear feet. The wall will cost somewhere in the neighborhood of \$60,000,000, or \$30,000,000 more than the subway system as it stands today. The latest section of the wall to be finished—and it runs the length of only eight piers—cost upward of \$1,500,000.

There is another remarkable thing about this wall. It is a floating wall—it floats in mud. The piles are driven down to a distance of about thirty feet, where the friction of the mud on their sides keep them practically solid in place, as if they were resting on rock bottom. Then immense concrete blocks, each weighing ninety-two tons, are set on these floating piles, and you have the sea wall. It has been found that the wall sinks very little. Some sections have sunk an inch or two in five years and then ceased altogether. If any portion of the wall were to sink phenomenally, all that would be necessary to repair it would be more concrete blocks upon the top of the others. It would be far less costly than to drive the piles to the rock-bed of the river. In some places several hundred feet below the mud. The old sea wall which is being displaced is of the ordinary crib variety.

Although the land and the sea wall of themselves are the most costly items of this improvement, the new piers are by no means cheap affairs. Of the eight piers now under way each will cost on an average \$2,000,000. These piers are each 800 feet long by 125 feet wide, and each requires 700,000 feet of ordinary pine for decking, 900,000 feet of creosote pine, and hundreds of barrels of creosote, 1,500 cubic yards of reinforced concrete for the deck, 280,000 pounds of iron screw bolts, and a regular forest of trees for piles—2,783 piles, to be exact. Each pile must be capable of bearing a weight equal to eight tons, and as it must weigh two tons, it represents some king of the forest levelled for the benefit of the floating commerce of America. The building of the piers and the dredging are the only parts of the work that the city does by contract; everything

else is cared for by the department, which employs about 2,000 men, and has a plant, consisting of scows, pile drivers, derricks, tugboats, yawls, launches, machinery, machine shops, department yards and timber basins valued at considerably more than \$1,000,000. The biggest timber basin is constantly stocked with 4,000,000 feet of lumber and about 50,000 piles. The city could easily become one of the largest lumber dealers in the country if ever it cared to embark in the business.

To the lay mind it would seem that the metropolis is going to an enormous expense to take care of the country's commerce when it is reckoned that the very few miles of the water front that have been improved have taken the greater part of the \$20,000,000 expended to date by the department. But another fact must be considered in connection with this one, and that is that while the city, to do the work, is able to borrow all the money it wants at 3 per cent, and sometimes less, it is also able to lease the various piers at rentals that average a return of just twice the interest on the millions borrowed. And the rentals are continually increasing in amount, while the interest rate is gradually lowering, so the city eventually stands to get at least \$2 back for every one it has expended or will expend on its water front. New York is engaged in a clever bit of business, even while it is protecting its own interests as a port and the interlocked interests of the country at large.

The large piers, such as those in what is known as the Gansevoort section, where many of the ocean liners now dock, rent all the way from \$70,000 to \$80,000 a year. The lessee rents for ten years at a stipulated sum and is allowed two renewals of ten years each, each renewal to show an increase of 10 per cent rental charges. Then the pier is again put up at public auction and bid in by the highest bidder. The big sheds, which are now a feature of the water front, and which cover the greater portions of the piers, are erected by the lessees and revert to the city on the expiration of the original leases. So the city, through this agreement, is destined to come into property improvement the value of which reaches up into the hundreds of thousands of dollars, and which will not have cost it a cent.

From all this it is easy to deduct that even though this gargantuan scheme eventually costs the city some \$3,000,000,000, as a department official roughly estimated, this vast sum will have been spent with the certain knowledge that it will give back to the municipality double, perhaps treble-

fold, as the commerce of the port grows and the increased demand for dockage, never light, runs up each rental thousands of dollars yearly.

THOMAS G. GILLESPIE.

In an Antarctic Squall

Suddenly the mist lifted, and the temperature, which generally rose during a gale, by this time had fallen to 72 degrees of frost. The first squall brought drift snow, and we suffered greatly from frost bites while securing our little camp. Our reindeer sleeping bags, while warm from previous use had been packed on the sledge, where they became quite flat and frozen hard, so that when the gale surprised us we had to thaw ourselves gradually into the bags. Later on we used the dogs to thaw out the bags for us. They always liked to roll upon anything that was not snow or ice, even were it but a throw-away mitten; and they would turn round and round over it, imagining that they were warmer there than on the snow. When later we threw our frozen bags on the snow the dogs generally clustered together on them at once, and soon after we could get into them.

By this time the gale was over us in earnest, and we took refuge in our sleeping bags in the tent, from which we were not able to extricate ourselves for the next three nights and days, in which time we expected the icy floor beneath us to break up at any moment. Our silk tent rapidly filled with a dense fog, both from our breath and from the heat given out by the lantern; a thick layer of frost soon covered the inner walls of the tent, and beautiful snow crystals shown down on us through the ventilation hole in the bag. The drift snow buried the tent and the snow pressure left us just enough space for our sleeping bags. The dark little spot which we formed on those vast white fields was blotted out. Men, dogs and sledges all disappeared and the antarctic gale as it raged over us found nothing but cold white solitude.

For three days and three nights we had to take turns in standing on all fours to prevent being smothered by the pressure of the snow. From tie to time the Laps joined in melancholy native hymns, the monotony of which seemed in a remarkable degree to harmonize with the rage of the blizzard over our heads. We had brought a small aluminum cooking stove with us into the tent, and with difficulty we prepared a warm meal. But in the cold the metal stuck to our fingers, and it was not pleasant to have one's turn at cooking. We roasted the heart of a seal, but other parts we ate raw. The dogs were completely snowed under. Some of them had eaten the straps of their harness in order to free themselves, but they were still unable to move, being frozen to the ice.—Century Magazine.

Quiet Little Game

A New York woman who has been spending the summer in the Adirondacks tells this story: "The colony of summer residents consisted of a dozen apparently straitlaced and mild-mannered women who spent most of their time playing euchre. When they asked me to join them I told them—sure of my escape—that I never played anything but poker.

"Why," one of them whispered, "that's just what we like best. We'll have a quiet little game with a small limit. What do you say?"

"When we sat down my hostess remarked casually that we would play a \$5 limit and that my pile of chips represented \$100. When we finished one of the older women had won \$25, another \$165 and the third had lost \$20. I considered myself lucky to get off with a loss of \$125. As we rose from the table the mild-mannered old lady who had invited me to play leaned over and said, 'I am so sorry, my dear, but how would you feel if we had been playing for real money?'"