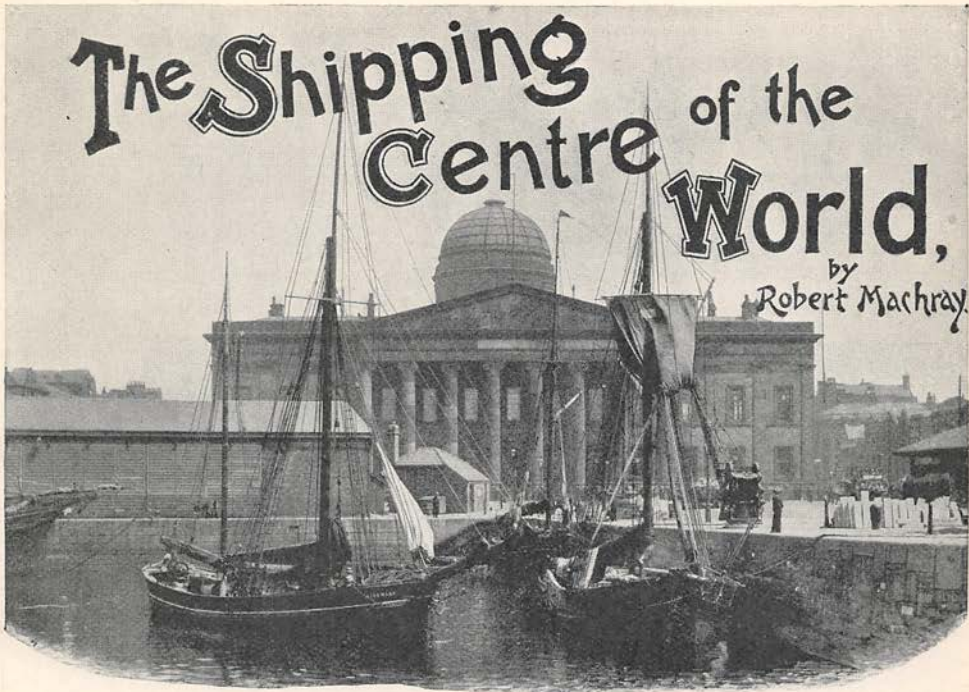


The Shipping Centre of the World,

by Robert Machray



THE CUSTOM HOUSE FROM SALTHOUSE DOCK.

Illustrated from Photographs by Priestley and Sons, Egremont.

DOCKS, docks, docks! Nothing but docks, mile after mile; docks of all shapes except circular—big and little, wide and narrow; dozens of docks running out of and running into still more docks, with here and there, in the stupendous wall which holds them all together, the necessary openings into the splendid estuary of the Mersey.

A great seven-mile long procession of Mighty Works, a glorious record of human effort and achievement, a world's wonder, at first confounding and then uplifting the beholder—such are the most insistent of the ideas which throng the mind on seeing Liverpool. I say Liverpool. For Liverpool is the docks, and the docks are Liverpool. The city has practically no great manufacturing or industrial life apart from its noble river; it has little besides its shipping, but as that shipping is the most important in the world, it is, most people will think, perhaps enough.

Although the history of Liverpool reaches back for five or six centuries, the real story of the place, which now lays claim to being the "second city of the British Empire" (What about "A toon ca'd Glesca"—to say

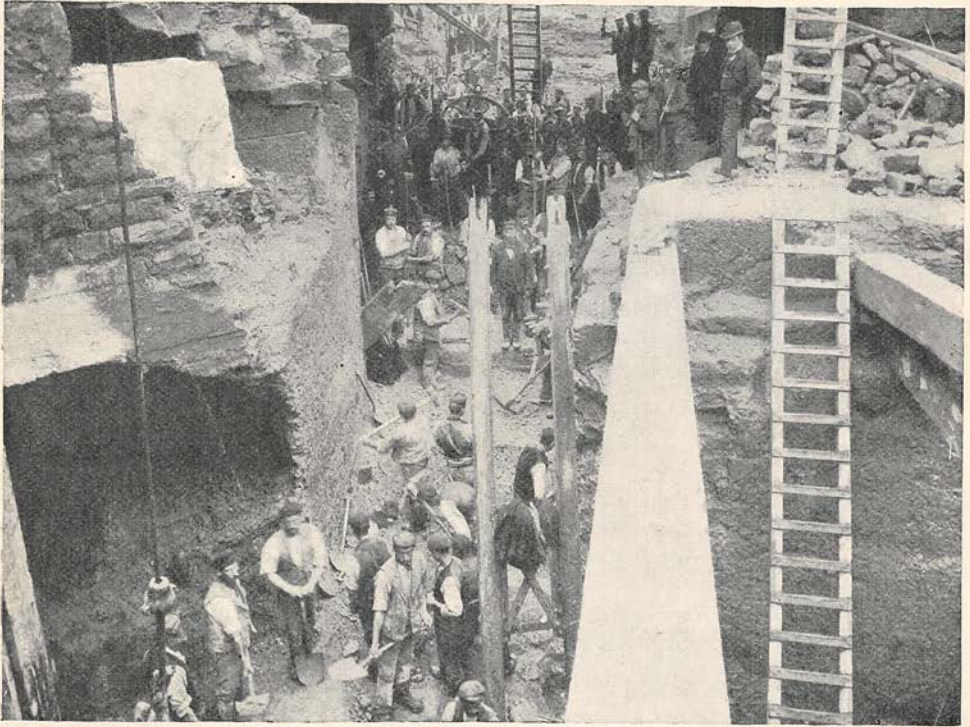
nothing of Manchester?), is bound up with the building of its docks and the extension of its shipping. In fact, its most striking development lies well within the last forty or fifty years.

The first dock was opened as long ago as 1715—a dock which has disappeared, having been filled up to serve as a site for the Custom House (see headpiece). At that time there were not more than one hundred vessels belonging to the port, while its population was set down as 6,000, of whom something like one-fifth were seafaring men. And not only were the ships in those days comparatively few in number, but they were for the most part small, their average tonnage not being much above eighty-five tons.

However, the eighteenth century saw Liverpool, thanks to privateering and the slave trade, well on the way to become a large town, and by the beginning of the nineteenth it showed clear indications of its manifest destiny. The population had then grown to 80,000, while no fewer than 5,000 vessels, with an aggregate of half a million tonnage, were to be found on its registers. Presently a strange, abnormal vessel—it would make us shout with laughter if we saw it to-day—

which was *driven by steam*, came up the Mersey, and that curious ship brought with it, amongst other things, a complete revolution in the conditions which had hitherto governed the sea-borne trade of the world. And amongst the other things which came with it was the virtual annexation by Liverpool of the ocean commerce of America—the great bulk of which it still retains even to this day, as it well deserves to do. Liverpool's capture of the American trade confirmed and consoli-

the year, while the tonnage reached the gigantic grand total of twelve millions and a half. The approximate total tonnage, inwards and outwards, would of course just be twice as much. When I am dealing with statistics I must say I like them to be big ones—and here we have them. The figures for the past year are the largest so far in the history of the port, which, on the whole, shows a fairly steady annual growth. Periods of depression have had their marked effect



PASSAGE IN COURSE OF CONSTRUCTION BETWEEN LANGTON AND ALEXANDRA DOCKS.

dated its greatness, and made it the shipping centre of the globe.

Statistics are seldom very interesting in themselves, but those connected with the shipping of Liverpool are so striking that I make no apology for putting down some figures, kindly given me a short time ago by the authorities of the "Mersey Docks and Harbour Board," the title under which the governing body of the port is constituted, and to whom I am indebted for most of the information contained in this article.

During the year ending July 1st, 1899, the enormous number of 25,522 vessels of all kinds, coming from every part of the planet, paid dock and harbour rates—which gives us about seventy ships for every day in

on Liverpool as on other centres of population, but it has triumphantly emerged from them—so much so that its last record is its best.

The two main factors in the growth of the port of Liverpool are the enormous development of the manufacturing districts immediately behind it—of which Manchester is the centre—and its geographical position on the western seaboard of the country, which made it by far the most convenient point for the American trade. But it could never have been able to take adequate advantage of either the cotton or the American business which has made it so prosperous were it not for the fact that the estuary of the Mersey, regarded from the point of view of the sailor,

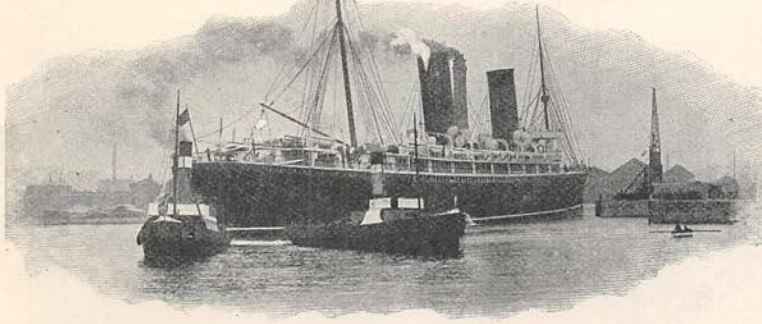
is wonderfully well adapted for commercial purposes.

The Mersey proper is a significant stream, and for

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continually to battle with, and right well do they do so.

The main channel of the river is for the greater part of its length called the Crosby Channel, but the last portion of it, as it gains the sea, is called the Queen's Channel. The width of the main channel between the lines of buoys on either side varies from a maximum of 1,400 yards at each end to a minimum of 800 yards near the Crosby Lightship. At the mouth there is a bar which at one time

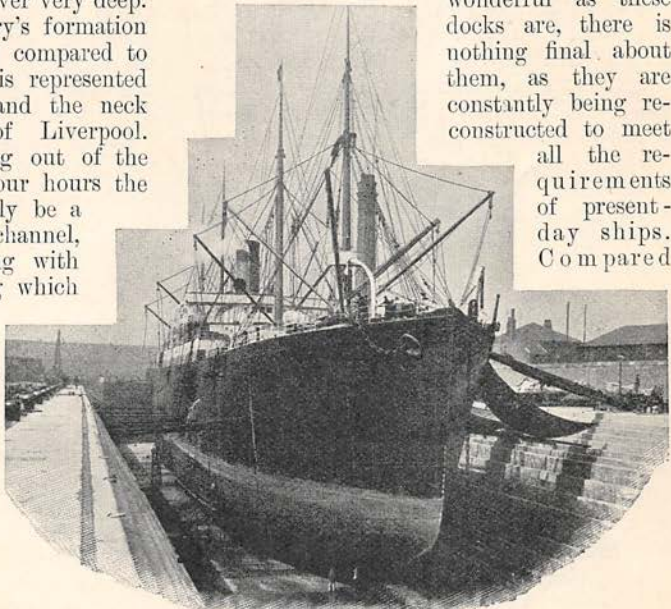


CUNARD S.S. "CAMPANIA" LEAVING CANADA GRAVING DOCK.

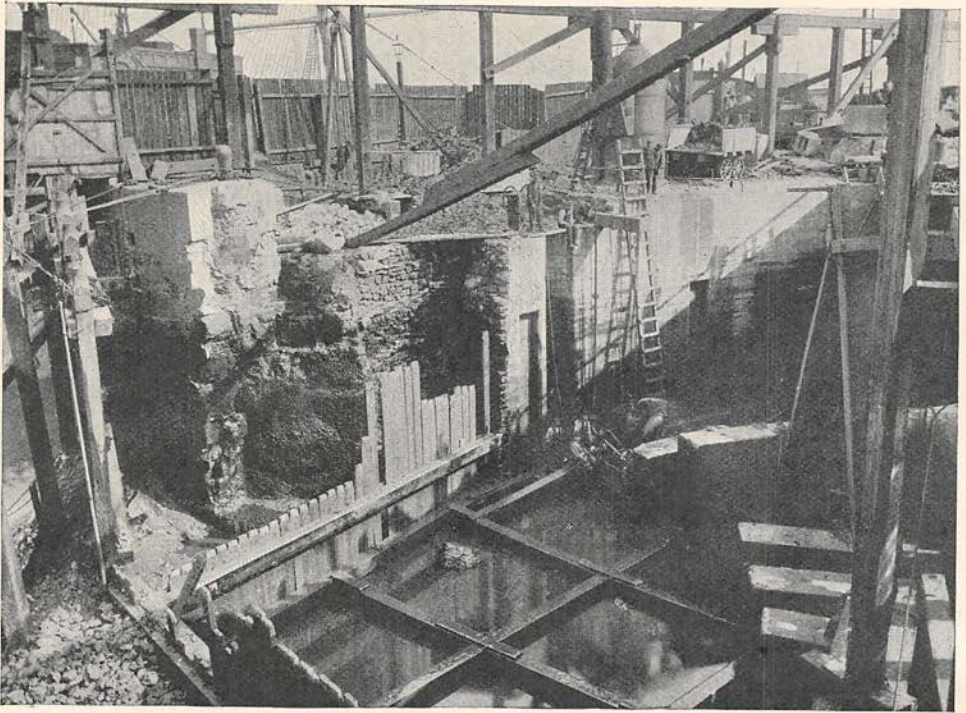
twenty-seven miles of its course is not much better than a large ditch. After it joins the Irwell it gradually increases in width down to the town of Runcorn, where it practically becomes an arm of the sea, attaining, seven miles below Runcorn, to a breadth of over three miles. Between Runcorn and Liverpool the Mersey estuary forms what might be termed a wide salt lake, and it is, curiously enough, more to the existence of this natural feature than to anything else that Liverpool owes its maritime greatness. For this lake is filled at every tide, and the vast volume of water regularly pouring in and out again with enormous force digs the channel of the river very deep. This peculiarity of the estuary's formation has been frequently and aptly compared to a bottle, the body of which is represented by the wide upper portion, and the neck by the narrows abreast of Liverpool. Were it not for this scouring out of the channel twice every twenty-four hours the outlet of the river could only be a comparatively unimportant channel, altogether unequal to dealing with the vast amount of shipping which under present circumstances takes advantage of it. One undesirable result, however, of these tidal operations is that while they deepen the main channel they lodge tremendous quantities of sand on the shoals lying in Liverpool Bay. To meet the difficulties created by these sandbanks is one of the problems which the Mersey Docks Board has

had only a depth of eleven feet of water on it at low water of a spring tide. A few years ago a series of remarkable dredging operations for the lowering and the practical removal of the bar from the main channel were inaugurated. These have been crowned with the utmost success, and the story of the fight between the Harbour Board and the Harbour Bar is one well worth telling, but space forbids.

Liverpool provides for its shipping by the most ample, elaborate, and perfect system of harbour accommodation the world has ever seen; indeed, there is nothing that faintly resembles it anywhere else. And, wonderful as these docks are, there is nothing final about them, as they are constantly being reconstructed to meet all the requirements of present-day ships. Compared



WHITE STAR S.S. "CEVIC" IN DRY DOCK.



NEW RIVER ENTRANCES, SANDON.

with other ports Liverpool is abundantly progressive. The port of London is undoubtedly of the highest importance, and in some respects may even be a greater port than Liverpool. I am not going into that much disputed point, as I hold no brief for either; but the latter can, without any question, proudly maintain its pre-eminence over the former as regards the manner in which it takes care of its ships by giving them the finest and most modern docks, warehouses, sheds—what they call in America “accommodations”—that can be devised. I am told that much of the success of the Mersey Docks’ management is due to the fact that Liverpool is not without its rivals who would snatch from it whatever they could. Well, that is only business, after all, and it is surely rather a good thing than otherwise if competition has led to this superb result.

But the real problem before Liverpool is not how rivals are to be kept off and “bested,” but how the new questions raised by the progress of the science of ship-building are to be met and solved successfully. For, mark you, the new Carrier of the Sea is something vast to monstrosity, a colossal, floating, temporary warehouse, as it were, five hundred, six hundred, nay, seven hundred feet and more long, and she is thirty, forty,

fifty feet and more in height, while her sides, which are in reality walls, go straight down to an enormous flat bottom, with the result that the vessel is more like a gigantic barge than anything else. You don’t hear much said about her “fine lines,” but you do hear a good deal about the many thousands of tons of cargo, of freight, dead and alive, that she can carry. Ships like these require docks of due proportion. A cargo boat like the *Cevic*, or a passenger ship such as the *Oceanic*, predicate a “graving dock” a thousand feet long. Liverpool has already one, the biggest in the world, 950 feet long; and another is being built at the present moment that will be fully 1,000 feet in length.

When we remember that the first dock of Liverpool was built nearly two hundred years ago, and what the size of the biggest ship was at that time, it will very easily be understood that the older portions of the Liverpool system consist of small, narrow docks, while those more recently constructed are large and commodious. I lost count of the number of the docks, but I think I am not wrong in saying that there are rather more than a hundred wet and dry docks, tidal basins, and connecting locks, all strung along those seven or eight miles of that shore of the Mersey. The smallest dock is not much

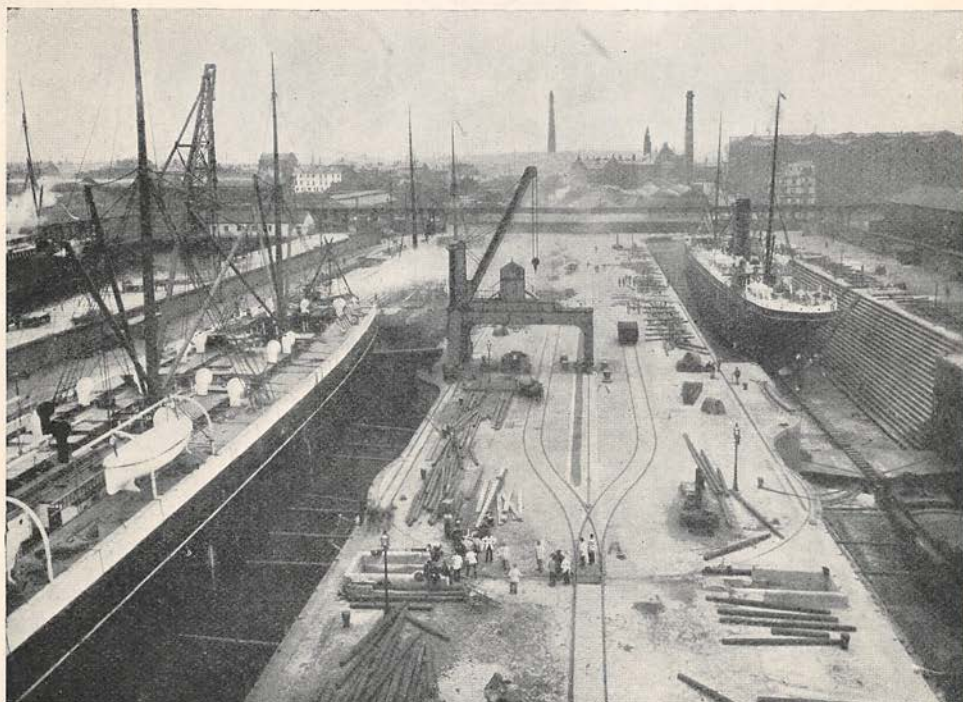
more than an acre in water area, but the largest, the Alexandra Dock, with its three branches, covers upwards of thirty-three acres. The total water area of the Liverpool system is rather more than three hundred and eighty-five acres, affording a quay space of over twenty-five miles. Across the river, at Birkenhead, there are more docks, giving an additional water area to the whole Mersey estuary of about one hundred and sixty-five acres, with more than nine miles of quayage.

For convenience in working the docks are classified as the "north division" and the "south division," the former consisting of the larger and newer docks, such as the Alexandra, of which I have just spoken, while the latter includes the smaller and older docks. It would be tedious for us to consider the various docks in detail, and it will be sufficient to comment briefly on those having the most striking features. It is quite possible to gain a very good idea of the vast extent of these docks, because along their whole length there now runs what is known as the Overhead Electric Railway. If you were to travel up and down once or twice you would obtain some notion of the number of ships in the docks. I believe that on the average there are four hundred ships in this harbour every day of the year, and you would

probably speculate as to the way in which all the business of the place was carried on. The truth is that these docks work, or are worked, as smoothly (if one can use such a term in this connection) as if they were one small instrument or machine, such as a watch or some other tiny and delicate mechanism.

There are, of course, a Harbour Master, Assistant Harbour Masters, and a small army of dock masters and superintendents who watch over these wonderful docks and the shipping in them with that ceaseless vigilance which, here as everywhere else, is the sole price of safety. Over all these Docks, so far as the Works (with a big W) are concerned, presides the engineer-in-chief and his staff, whose offices are at the Coburg Dock. It is here that projects and plans are being constantly devised for meeting the ever-changing requirements of ocean shipping, and at the present moment an enormous scheme, involving the expenditure of five millions of money, of destruction and reconstruction is being carried out. But perhaps it will be more convenient to begin at the extreme south end of the Docks system—that lying highest up the river.

The first dock is itself worthy of special attention. It is called the Herculaneum Dock, and is that which receives the immense



LANGTON GRAVING DOCKS FROM LANGTON ENGINE-HOUSE TOWER, LOOKING EAST.

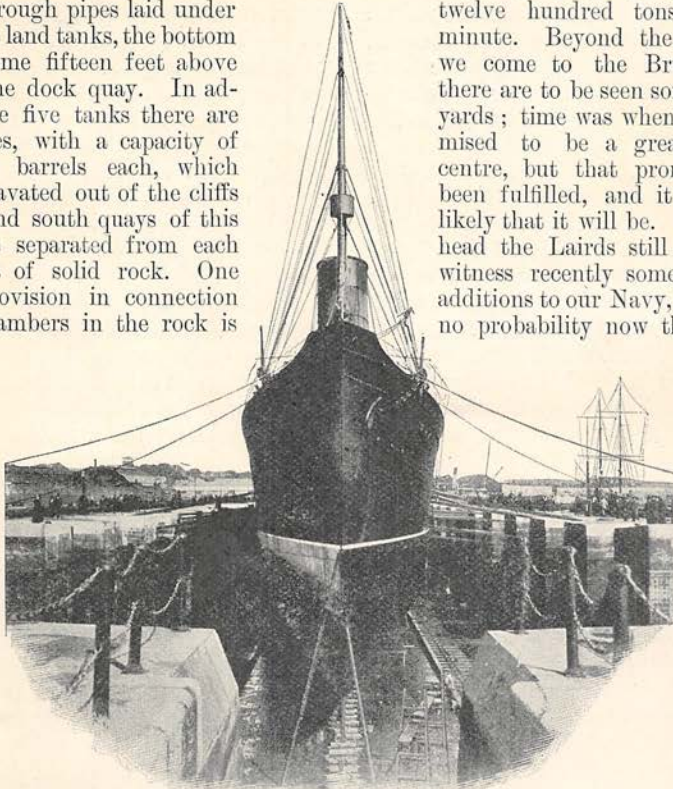
supplies of petroleum coming in tank-steamers from America and Russia. On the land to the south of this dock five huge reservoirs—"tanks," they call them at Liverpool, though the word does not seem quite big enough—have recently been provided, having a total capacity of 12,000 tons. Each tank is surrounded by a concrete embankment, forming a moat capable of containing the whole contents of the tank. The tank-ships bringing oil to Liverpool are berthed on the west side of the Herculaneum Branch Dock, and by their pumps discharge their liquid cargo through pipes laid under ground into the land tanks, the bottom of which is some fifteen feet above the level of the dock quay. In addition to these five tanks there are sixty magazines, with a capacity of one thousand barrels each, which have been excavated out of the cliffs on the east and south quays of this dock, and are separated from each other by walls of solid rock. One remarkable provision in connection with these chambers in the rock is that the sills of the doorways are raised to a height of four and a half feet above the floor, so as to render each magazine capable of containing the whole contents of the barrels in bulk in case any accident should occur.

The amount of oil which came into Liverpool during the year ending July 1st, 1899, was 164,970 tons.

Opening out of the Herculaneum Dock proper are three graving docks, and here one sees in connection with them the first hint of the struggle which is being carried on all over these docks to change old docks into new by making them conform to modern requirements. Thus, with a view to "drying" these three graving docks more speedily than has so far been done, increased pumping plant is being provided, so that it will be possible to dry any one of them in an hour

and a quarter. It is impossible not to speak of these pumps with the greatest respect—pumps that will discharge over one hundred thousand gallons of water in a minute are things to be reckoned with. But not only do these pumps dry one set of docks, but they also pump water from the river into the adjacent docks, the Harrington and Toxteth group. Powerful as these pumps are, they do not begin to rival those situated at the Coburg Dock, which, under favourable circumstances, are capable of transferring from the river to the dock about twelve hundred tons of water per minute. Beyond the Toxteth Dock we come to the Brunswick, where there are to be seen some shipbuilding yards; time was when Liverpool promised to be a great shipbuilding centre, but that promise has never been fulfilled, and it scarcely seems likely that it will be. Over at Birkenhead the Lairds still build ships, as witness recently some of the finest additions to our Navy, but there seems no probability now that the Mersey will rival the Clyde.

At the Coburg Dock, where Mr. A. G. Lyster, the engineer-in-chief, received me very courteously, I was shown more of these improvements of which I have already spoken. Here one begins to see the labour in-



BOW VIEW OF CUNARD S.S. "CAMPA尼亚" IN DRY DOCK.

involved in bringing up an old dock, with its comparatively shallow depth, to the modern standard. After the Coburg comes a procession of about ten small docks, the last one of which, Georges Dock, is immediately in front of a portion of the tremendous landing-stage, the greater portion of which, however, is immediately in front of Princes Dock, so that one portion of this stage is called Georges Landing Stage, the other Princes; but Liverpool people slump them both under the general designation of *The Landing Stage*, not without some little natural pride



ON THE GREAT FLOAT "BIRKENHEAD," CUNARD S.S.
"CAMPANIA" IN GRAVING DOCK.

in its gigantic proportions. For it is nearly half a mile in length, is eighty feet wide, has eight or nine bridges connecting it with the shore, and floats up and down with the tide with almost as little appreciable movement as if it were the solid ground itself. The trans-Atlantic steamships—it does not matter how big they are—berth at this stage to disembark and embark passengers, who depart from and arrive at the handsome "Riverside" railway station which was constructed two or three years ago for this special service, the building of which has proved a great boon to American passengers. I do not know that there is any more impressive sight than that of a leviathan like the *Campania* coming up alongside of the landing-stage, or, for the matter of that, leaving it. It was long supposed that these great ocean liners could not make use of the stage, but experience has proved that idea to be a false one.

Working our way northward we pass another dozen or so of docks, until we are well into the region of those most recently constructed, and which are in every way the most remarkable in the world. Perhaps one should notice the warehouse which is in course of being built for the convenience of the tobacco trade of the port, which is one of its principal features. This tobacco warehouse covers over thirteen thousand square yards, has fourteen floors, equal to an area of thirty-six acres, is 726 feet long, 165 feet wide, 124 feet high—a truly magnificent building. Last year Liverpool imported considerably more than 25,000 tons of tobacco. Think of that mountain of



CANADA DOCK.

tobacco going up in smoke, all ye who buy the fragrant weed by the ounce, and work out the little sum of how many ounces there are in 25,000 tons!

The berthage given by the Canada Dock, which is situated nearly in the centre of the north division of the Liverpool system, is at the present time the best; the water is deeper than in any other dock, and the shed accommodation is of the most modern type. Naturally, in these newer berths one would look for the best vessels of the port; and, as a matter of fact, the crack ships of the Cunard and White Star Lines are to be found here, the former on the west side of the dock, and the latter on the eastern part of the branch dock of the Canada. Here, then, you can see from time to time the greatest ships of which the world can boast—passenger vessels like the *Campania* or the *Teutonic*, cargo boats like the *Georgic* and the *Cevic*, and that superb steamer the *Oceanic*, greatest of them all. The Canada Dock, along with the Hornby, which adjoins it, have enormous timber yards in connection with them.

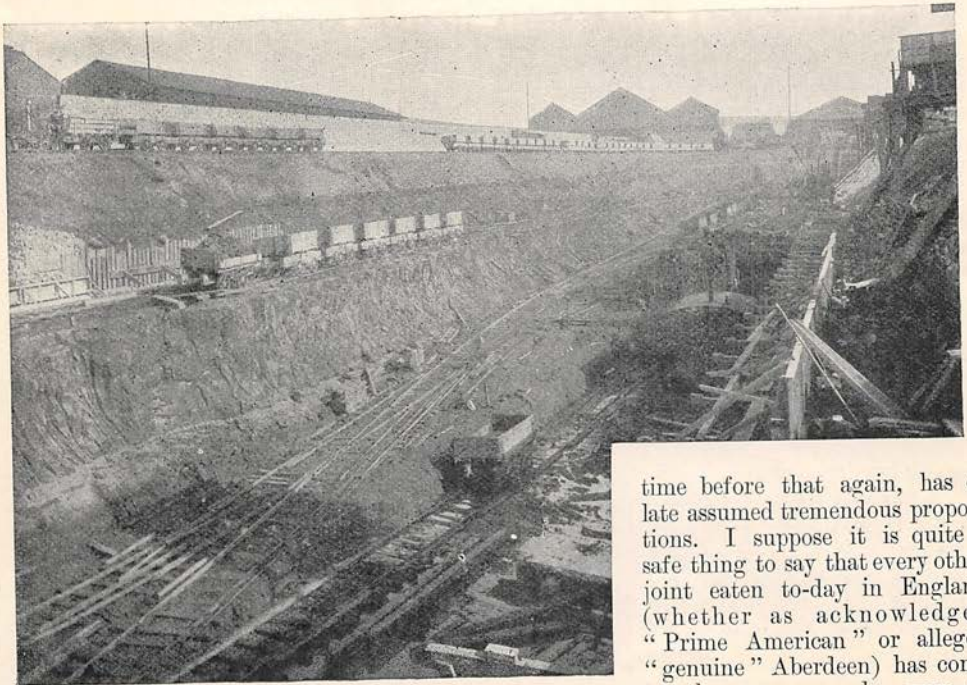
Before reaching the Canada Dock I was shown over that part of the estate which used to be known as the Sandon group—a wet dock and several graving docks. Here the engineers have been carrying out a vast

scheme of reconstruction which necessarily involved an almost equally arduous scheme of destruction. The works are on a scale of Titanic grandeur, and seem to the unconstructed eye to spell chaos. But one may be confident that chaos is being surely if slowly reduced to order and law. Words quite fail to give any true idea of what this process of change means, but perhaps the photographs, specially taken for this article, may convey some more or less adequate notion of it.

Considerations of space prevent me from speaking at length about the way in which the Dock management provide for the wool, the cattle, the wheat and rice, and the other "things" which come into the Mersey in enormous quantities.

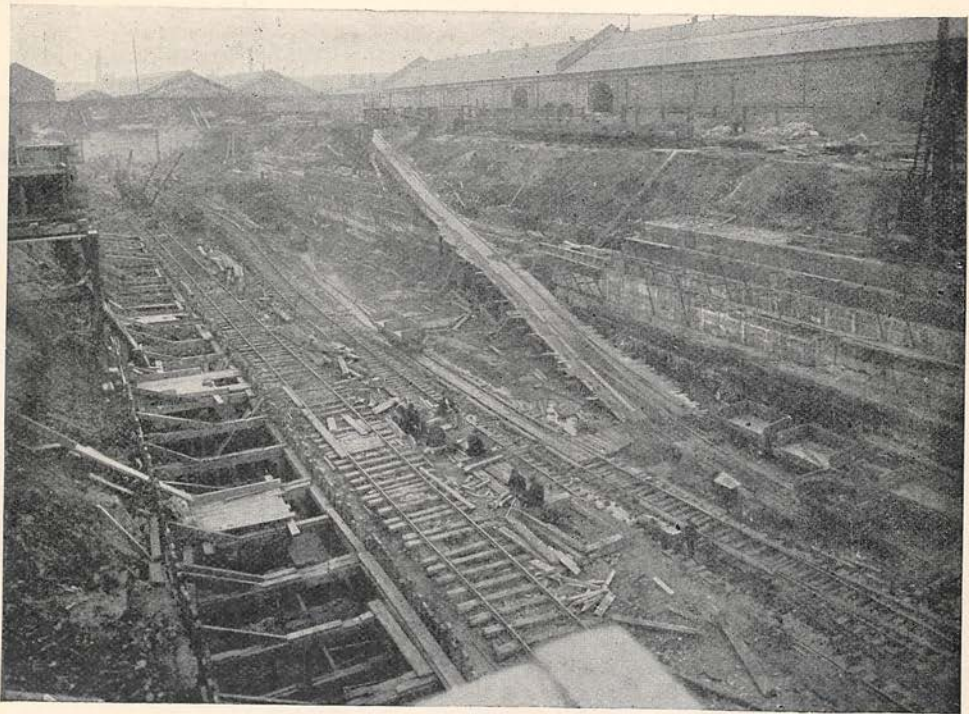
But I feel a word should be said about what is in its way one of the most impressive sights to be witnessed in the neighbourhood of the Docks, and that is the magnificent horses drawing the great wagons laden with bales of stuffs and merchandise—cotton, tobacco, and so forth. These animals are indeed splendid specimens of draught horses, and it is a genuine pleasure to see them at work, moving their gigantic loads with such apparent ease.

The cattle trade of Liverpool, which, a few years ago, was of little importance, and, to say the truth, did not exist at all a short



CANADA GRAVING DOCK, LOOKING EAST.

time before that again, has of late assumed tremendous proportions. I suppose it is quite a safe thing to say that every other joint eaten to-day in England (whether as acknowledged "Prime American" or alleged "genuine" Aberdeen) has come to the consumer by way of



CANADA GRAVING DOCK, LOOKING EAST, APRIL, 1898.

Liverpool. The cattle are landed on the Birkenhead side of the Mersey at a special stage at Wallasey, in whose immediate vicinity there have been built huge structures called "lairages," where the beasts are kept for a time, and then slaughtered, in accordance with the laws governing the importation of foreign cattle. The carcasses are preserved by a system of cold storage, so that the meat reaches the public in a perfectly fresh state.

Now, perhaps, I may be allowed to say a word about the general management of the great trust which is committed to the Mersey Docks and Harbour Board, a body of independent gentlemen who give their services gratuitously. They administer an estate which has cost upwards of forty millions of money. Their annual revenue is £1,600,000.

Liverpool, as a municipal corporation, commuted or sold some years ago its rights to the harbour dues, etc.—rights which were acquired for a large sum by this Board. The city, therefore, has little or nothing to do with the "running" of this wonderful undertaking, which is, in effect, a private enterprise, bound only by the powers and privileges given it by Parliament. Yet, while this is true, the Board, being composed almost exclusively of local men, does and

must always represent and carry out what are the wishes of the community generally.

One of the principal objects of close study by the Board is the way in which they can best foster and extend the trade of the port by granting concessions and reductions to struggling shipping industries. From time to time, as Liverpool continues to grow and flourish, there springs up the rumour that it may not be long before it will become a "free port," but that is scarcely likely. At the same time both rates and dues of all kinds have been greatly lowered during the last few years—the grand total of such reductions amounting to many hundreds of thousands of pounds.

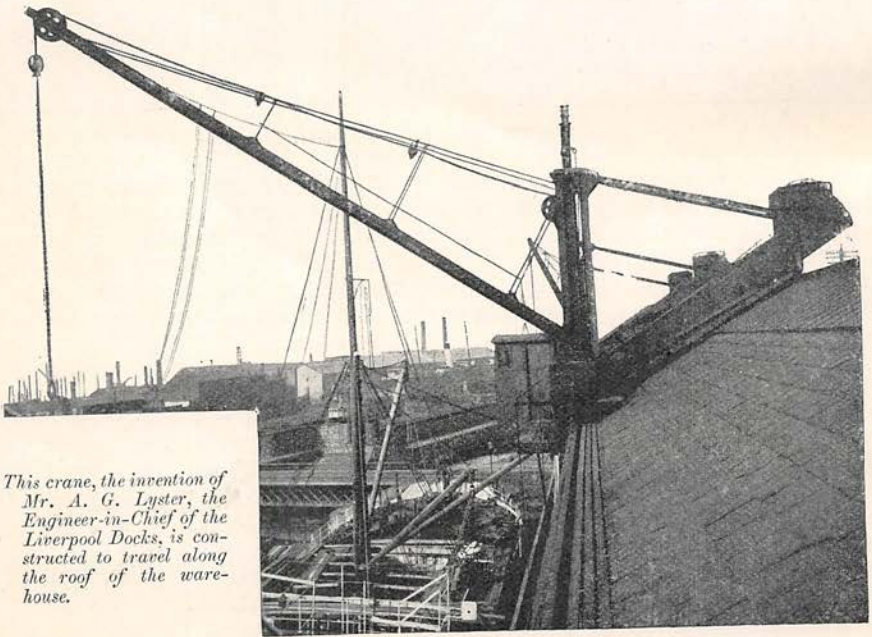
Perhaps I should say that there are no "shareholders" of this amazing enterprise, though I can well imagine many people would like to occupy that position. The Board has borrowed from the public, by virtue of certain Acts of Parliament, great sums of money at low rates of interest, and its debt at the present time is less than nineteen millions. Out of its annual revenue a sum is set aside as a sinking fund for the reduction—perhaps, some day, the extinction—of its obligations to the public, so far as its capital is concerned. Just at present, however, these vast alterations and improve-

ments, of which I have spoken, are increasing the debt of the Docks by several millions more.

I have now touched upon some of the main points of interest; there are many others of hardly less importance. Take, for example, the fact that the Docks give employment to an army of over 20,000 men. Another which might be adduced is an extremely elaborate police system instituted for the regulation of traffic and the protection of property, which costs the Docks

Board a large sum every year. The men constituting this force are drawn, I understand, from the ranks of the Liverpool police, but their maintenance falls entirely on the "Board."

In conclusion, I desire to express my acknowledgments to Mr. Miles Kirk Burton, the General Manager and Secretary of the Mersey Docks Board, and other gentlemen, who kindly assisted me in the preparation of this article.



This crane, the invention of Mr. A. G. Lyster, the Engineer-in-Chief of the Liverpool Docks, is constructed to travel along the roof of the warehouse.

ROOF CRANE ON SHED EAST SIDE OF TOXTETH DOCK.