

THE IMPROVEMENT OF DUBLIN HARBOUR

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[Read, January 19th, 1912.]

In olden times, even in the reign of Queen Anne, there were designs for the improvement of Dublin Harbour, and in her reign a plan was prepared for taking in the slob lands on the north side of the estuary, which—with variations—is still in course of construction. I actually had in my possession and presented to Trinity College Library an old plan showing the present North Wall as a project, and other designs for filling up the slob lands then existing on the north or Clontarf side of the river.

The plan was marked with great evidence of originality, and taken in conjunction with the building of the western front of Trinity College, which was erected about the same time, bears testimony to the great improvement in Dublin which followed the close of the reign of William III.

The idea was substantially as follows:—At the period mentioned the last bridge over the Liffey was Essex or Grattan Bridge, the old Custom House being on the south side of the river immediately below the bridge, on the present site of Messrs. Dollard's printing works. Below this bridge on the north side of the river there was swampy land down to about Sackville Street, which, however, ceased at a place called Mabbot House, still commemorated by the name of Mabbot Street, and which, so far as I can judge, was exactly on the site of the present Custom House. Below that was a lagoon of sand and mud covered by the tide.

The design was to get up a gigantic lottery, then a highly popular mode of raising money, and to devote the price of the tickets to building retaining walls following the lines of the present quays down the North Wall as far as Halpin's Pond, now the site of the G. S. & W. goods station on the North Wall.

At that point, after providing for the Tolka river coming down from Glasnevin, the wall was to turn off on a line called the "East Quay" running through Clontarf Island straight to Clontarf Castle, thus taking in not only the present Eden Quay and North Wall, but the whole of the huge slob lands of Clontarf through a portion of which the Great Northern Railway now runs. The names

of the new streets or roads are marked in the plan, and as a matter of fact the line of the Great Northern Railway follows the line of "West Road" and "Hollybrook Road" laid down in the plan.

The prizes in the Lottery were not to be money, but portions of the slob lands, and the areas of these were varied, those in the best position being small, while the less favourably situated were considerably larger. The lots on the present North Wall were the smallest, those on what I may call the railway slob land of Clontarf, which are slob to this day, were large. Further, each winner was bound to lay out £5, and to pay a rent of £10 afterwards, the money to be devoted to embanking the land rescued.

The lottery was decidedly successful, for the quays were built as far as Halpin's Pond, and the channel of the river was to some extent improved, but the great work of enclosing the land between Halpin's Pond, or the east end of the North Wall, and Clontarf Castle was never carried out, and I may mention that the late Mr. Bindon Stoney, who was second to none as a harbour authority, held very strong views that it was inexpedient to proceed with the remainder of the plan. His theory was that it would not be well to do so because a strong tide or current was required in the channel to keep down the bar at the mouth of the harbour near the Poolbeg, and if the work had been carried out the volume of water in the harbour would have been greatly diminished by being confined to the area of the deep water channel and the fresh water brought down by the three rivers, the Liffey, Dodder, and Tolka, none of which have any great supply except at times of flood. I should mention that my map is dated 1717. in the reign of George I., but refers to the Queen Anne project.

It is not necessary for me to deal with the works on the south side, and it would take a long time to go into them.

In those days, and for long afterwards, the navigation of the Liffey was most unsatisfactory; in fact it was a purely tidal harbour, modern dredging has worked wonders with the channel. An old uncle of mine could remember a man crossing the bar of the Liffey at low water without swimming, and Thom's Almanac records that the depth of water on the bar was in 1830 only 7 feet. It is now no less than 21 feet at low water.

Another proof of the deficient accommodation afforded by the river is shown by the fact that the Dublin and Kingstown railway was originally intended for a ship canal to Kingstown and thence to the sea, so as to avoid the channel of the Liffey. It was the success of the

Liverpool and Manchester railway which led the promoters to change their plans, and the railway follows the line intended for the ship-canal. This shows that the parties interested in the harbour had become hopeless as to the possibility of converting the sandy lagoon into a channel for ships of fair size.

All these particulars go to show that the trade of Dublin in those days was exceedingly limited, and I base this conclusion on the fact that not only was the river shallow and encumbered with sand banks, but the small Custom House Docks were all that were in existence in the 18th century. The Grand Canal Docks, which were excellent for their date, though hopelessly antiquated now, unless the locks be rebuilt, which would cost, say, £80,000, were only built in 1805, as anyone can see, for the date is on the dockmaster's house at Ringsend.

In fact so bad was the harbour that a small port or basin was actually built and is still in existence at the Pigeon House, half-way down the great three-mile pier or wall built to keep out the Sandymount sand, before the more modern North Bull Wall was built, stretching from Clontarf towards the Poolbeg. Lever in *Jack Hinton* has described a landing at this distant locality.

I do not think, however, that it would serve any useful purpose to trace the early development of the Port. I can myself remember seeing in the 'Sixties a North Wall steamer aground in the centre of the river, where the railway boats to Holyhead now start at all times of the tide, and it is a remarkable circumstance that only one railway, the M.G.W., sought to obtain access to Dublin Harbour. The Railway Company had begun by purchasing the Royal Canal, which at its lower end forms the existing Spencer Dock, and it was only natural to put a railway beside the branch as their line the whole way to Mullingar, fifty miles, is built in the same way.

The fact is that for years all goods were carted through the streets to and from Kingsbridge, Amiens-street, Westland-row, Harcourt-street, and a large proportion to the Broadstone terminus of the M.G.W.

I think the best course to adopt is to refrain from further ancient history and to commence with the year 1873, the date when the Spencer Dock was opened. That in itself was nothing, the Spencer Dock is very defective, but it marked the time when the M.G.W., the G.S. & W., the G.N., and the L. & N.W. railways united to form a general railway centre at the North Wall, which was completed, more than ten years after, when the so-called Loop Line was constructed connecting Westland-row with Amiens-street station.

As regards carrying out this connection of the railways, the following is a brief description.

The M.G.W. had a line from their own main line to the North Wall, running alongside the Royal Canal, which they had bought up as I have already mentioned.

The G. S. & W. then built a line from Kingsbridge through the Phoenix Park, which joined the M.G.W. Liffey Branch near Glasnevin, and they thus got access to the North Wall over the Liffey Branch, paying about £7,000 a year to the M.G.W. for the privilege.

Later on a Mr. Butterly obtained an Act of Parliament for a line from the end of the G. S. & W. Phoenix Park line, through Glasnevin, to the North Wall, and this concession the G. S. & W. purchased up, and they constructed the line themselves, thereby saving £5,000 per annum which they had paid to the M.G.W., getting a far better line, as the M.G.W. was on a gradient of one in sixty, and, what was perhaps best of all, the sole control of their own line with a separate station at the end of the North Wall.

The Great Northern connection is exceedingly simple. Their line was only a little more than a quarter of a mile from the North Wall and they merely had to construct a short spur line from their main line, which turns off just where the railway passes through some sloblands which are now being gradually filled up, in perhaps unconscious imitation of the plan drawn up in the days of Queen Anne.

In addition the L. & N.W. has a passenger station which accommodates the passenger traffic between the various other railways and their own steamers to Holyhead.

The passenger traffic, beyond a certain amount connected with the North-Western steamers, is very small; in fact no one would take the train from any part of Dublin to the North Wall; the lines are crowded with goods traffic and the North Wall at present, with its dense congestion and various other defects, is not quite a place for a pleasure party.

Since 1873 the whole extent of the North Wall Quay has been practically rebuilt, and the great bulk of the steamers arrive and leave at any time of the tide, an immense improvement upon the time when the varying depth of water made the hours irregular. Now-a-days the charts of Dublin Harbour notify officially that the channel has a minimum depth at low water of 21 feet, which is gradually being increased to 22, and consequently any ordinary cross-Channel steamer is independent of the tide, though naturally the deep-water channel, nearly four miles to the Poolbeg lighthouse, is somewhat

narrow and renders slow steaming necessary at low water. The Dublin tide is about eleven feet.

It is certainly an immense tribute to the Port and Docks Board, that they have made a good port out of a harbour which was nearly abandoned in 1830.

Several important results, which were probably quite unforeseen at the time, have followed the great changes and improvements which for convenience I have taken as dating from 1873, though some were a little earlier and others a little later.

In the first place the whole distance from the Loop Line railway bridge over the Liffey to the extreme end of the North Wall proper, exactly a mile, 5,280 feet, has been taken up by the cross-Channel steamers, the only exception being the foreign line of Messrs. Palgrave, Murphy and Co., and there are no less than ten lines of steamers berthed at the North Wall.

In the second place, all the land on the North Wall, and behind it to the north, has been taken up by railway lines, warehouses, and cattle yards, not to mention the Custom House and Spencer Docks.

In the third place, the Port and Docks Board have been constrained to build the "North Wall Extension Pier," projecting half a mile, or 2,640 feet, eastward from the end of the North Wall, and to provide the great Alexandra Basin, the last two being for the heavy traffic, such as timber, corn, etc., conveyed in large ships, which have gradually been squeezed out of the North Wall berths by the cross-Channel traffic.

Now comes the difficulty. As already mentioned all the land on the north side of the river has been taken up, and while the North Wall business has been doubled several times over, the traffic from the North Wall Extension and Alexandra Basin has been added to the one available road, the North Wall.

The result is that the traffic has become perfectly unmanageable, there is constant delay and consequent expense, and the evil is increasing from day to day.

Some short-sighted persons have advocated the construction of another bridge below the railway bridge, but it is manifest that this would only aggravate the evil, as the quays above the new bridge would be lost. A new bridge, to my mind, is out of the question.

There remain, however, two remedies, both of which could be utilised.

The first of these would be to establish Steam Ferries across the river on the model of the well-known Glasgow boats, which convey not only passengers but horses, carts, and carriages.

The second remedy is to develop the South Quays.

I will deal with these two points separately, and it will be necessary to give some short particulars of the Ferry question in Dublin.

King Charles II., among various matters for the improvement of Ireland, which included a Land Commission, with Sir John Winston Churchill, father of the great Duke of Marlborough, among its members, granted to the Corporation of Dublin the right of instituting ferries across the river, a very important thing when there was only one bridge, and that of, then, very recent construction on the site of the present Whitworth Bridge just above the Courts of Justice, which were already on their present site, though the buildings now existing only date from 1786-1796.

The Ferries were, no doubt, modified from time to time as bridges increased, and it is sufficient to deal with the existing lease of 15th August, 1835, which will terminate on the 29th September, 1916, having been granted for the residue of a term of 99 years from the 29th September, 1817.

By this lease permission was given to substitute the still existing Metal Bridge as a toll-bridge in place of an existing ferry station, and, not counting an occasional ferry at Kingsbridge, long since abandoned, four other ferries were granted, the rent payable to the Corporation being £329 4s. 7d. of present currency. The four ferries were to be opposite the Custom House, Commons-street, Spencer Dock, and finally at the then extreme end of the North Wall, opposite the mouth of the Dodder, now called Great Britain Quay, the east end of Sir John Rogerson's Quay.

When Butt Bridge was built in 1879 the lessees of the ferry and the Corporation were duly compensated for the loss of the Custom House ferry.

We thus find that the lease of the Metal Bridge and the three remaining ferries will end on the 29th September, 1916.

As to the Metal Bridge, it has been a nuisance for many years, but we are not concerned with it.

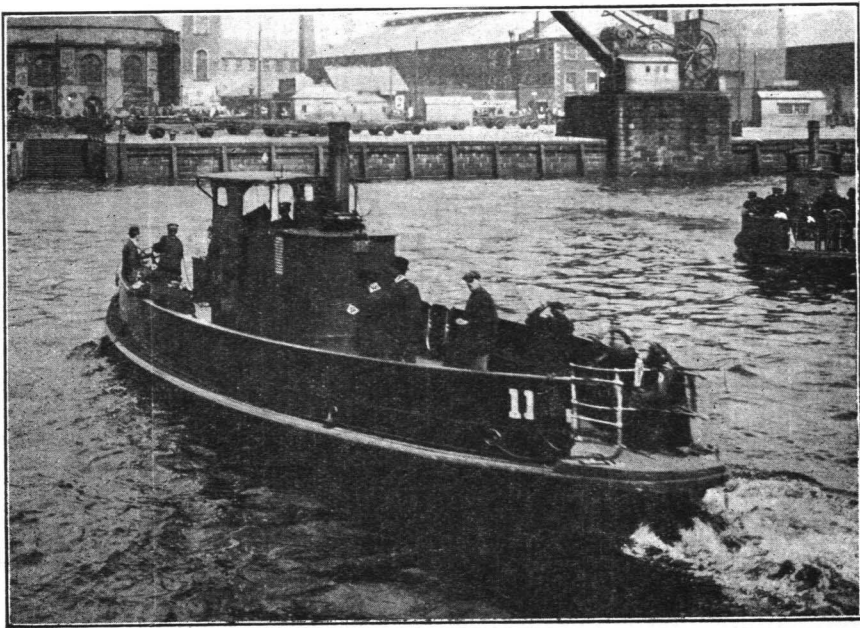
As to the Ferries, it is somewhat curious that comparatively few persons are aware of their existence. The real reason is, probably, that they are so thoroughly deficient in speed, punctuality, convenience, and even in cleanliness that they are only used by persons who actually require them, people whose business takes them across the river far below the last bridge. They are heavy, slow,

open row-boats working at irregular intervals and thoroughly inadequate for the work they ought to do.

What is wanted is a set of steam ferries on the model of the admirable boats on the Clyde below Glasgow Bridge.

I have taken some trouble to obtain information about these vessels, and will give a few particulars.

In the three miles below Glasgow Bridge there are seven ferry stations vested in the Clyde Navigation Trust, and these are supplied with small screw steamers only about forty feet long or less, but very broad, nearly round. They are double-ended, running backwards and forwards, without turning, from a recess in one quay to a similar recess in the other, and each can carry 148 passengers. The time for starting is every five minutes, and the time for the double trip is six minutes, so that each ferry has two boats. The toll is one halfpenny.



Taking an average boat, not the worst or the best, as a specimen, it carried 745,162 passengers in the year, and the revenue earned was £1,210, the boats running from 5 a.m. till 11 p.m. and on Sundays from 8 a.m. till 11 p.m.,

the fare is a halfpenny, but tickets can be bought in large numbers at a reduction. The working cost per boat, including maintenance of boats, repairs to stairs and turnstiles and wages of turnstile men, works out at about £790 per boat per annum, leaving £420 per boat.

This, however, is not pure profit, as there are other expenses:—

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| 1. Interest on capital, say, 3½ per cent. on £3,050, | £106 15 0 |
| 2. Allowance for depreciation on the cost of ferry steamers of £1,500 and turnstiles, £1,500, at 5 per cent. and 2½ per cent. respectively, | 116 5 0 |
| Proportion of general management, | 50 0 0 |

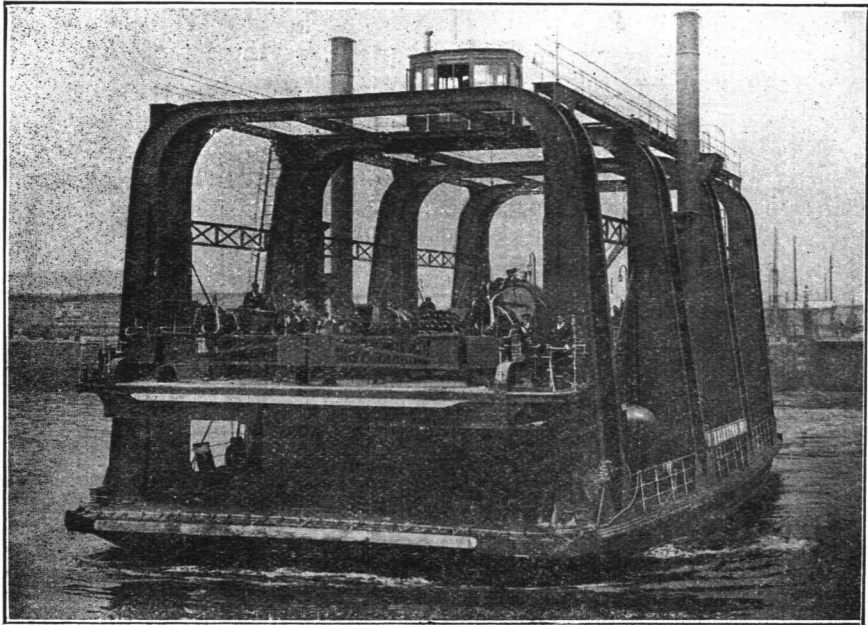
Assuming these amount to £273 0 0

this would still leave £147 per annum per boat, subject to rates, though to be strictly accurate it might be necessary in these times of employers' liability to insure against marine and personal risks. Allowing £47 for these rates and insurance, we have £100 per annum per boat left as profit on each boat, applicable for the general expenses of the harbour. The rent received under the existing lease has been already mentioned as £329 4s. 7d. per annum.

In addition to these small steamers, there are at three of these stations larger ferry boats which carry vehicles in addition to foot passengers. They may be called "pontoons." I have photographs of both kinds, which I have had copied and annexed to this paper, which will give a better idea of these vessels than pages of description. The arrangements to meet the difficulty of the tide are most ingenious, the small screw steamers run to steps, and the ends of the bow and stern overhang, so that the passenger can always step straight on and off without a gangway. As to the pontoons, the whole deck on which passengers, carts and horses stand can be raised and lowered according to the tide, so that horses with carts can walk on board at all times of the tide.

I have met with every courtesy in my inquiries as to these ferries from the Manager, and he has given me full particulars of the cost of construction of the boats, the landing places, the turnstile arrangements for tolls, the working expenses, even the allowance for depreciation and taxation, and I desire to record my sense of indebtedness to him. In fact I wish he could meet our Port and Docks

Board before the time comes for the lease of the ferries to expire, and give them the benefit of his thorough knowledge and experience.



There yet remains another point in this tiresome subject, which seems to stretch out in a number of different directions the more we consider it. The ferries may relieve the congestion of the wheel traffic on the North Wall road or street, but no amount of ferries will increase the length of the North Wall Quay. It is 5,280 feet long, which, as I have said, is occupied by ten lines of steamers. It is obvious that the average berth space is only 528 feet per line. The new boats of the L. & N.W. Railway Company are 300 feet long at least, and the Company has at least two steamers each way per day, others have more than one each day each way, and, as we all know, the tendency is to largely increase the size of steamers both in length and capacity. Therefore, not only is the road crowded, but the quay is far too short.

It is manifest that this is not a question for ferries, and equally so that the proper course is to utilise the south side of the river. The length of quay is the same, 5,280 feet, and the greater part of it has the same depth as the north quays, while deepening of the remainder is now

actually in hands. Further, the road is wider than the North Wall, the larger portion of the city is on the south side of the river, yet the North Wall Quay is congested, and the South is practically derelict. There are ten lines of steamers on the north side and only two on the south, Messrs. Tedcastle and MacCormick's line, which carry coal to their stores on the return journey, and the British and Irish boats, which have actually been squeezed out of the North Wall Quay, where they used to berth.

What is the cause of the difference?

I think it is clear that it is because the North Wall has railway connection, wagons can be loaded and unloaded in the landing sheds under cover, and run on tram lines across the quay, and into or out of the stores and railway stations. There are neither railways nor tram lines on the South Quays, except indeed a narrow-gauge line for the Gas Company's coal.

The construction of tramways would be easy if there were railway connection, so now we come to the actual difficulties.

Nearly everybody in Dublin is aware that there is a railway running parallel with the quay at a distance of 400 yards, 1,200 feet, the Dublin and South Eastern, which actually crosses the Grand Canal Dock. It is true that this is a high level line, but I hold, and hold strongly, that it would be perfectly easy to construct spur lines from the D. & S. E. line, as is done by the Great Northern Railway on the opposite side of the river. As a matter of fact the D. & S. E., an old line, is much lower than the Great Northern, its rails are only about 15 feet above road level in the highest part, and fifteen feet in 1,200, the minimum distance in a straight line, gives a gradient of one in eighty, as against one in sixty on the M.G.W. Liffey Branch.

If it were necessary, the wagons could be lowered to the road level by electric or hydraulic lifts, as is done at several stations in England, notably at London-road, Manchester, and it might be well to adopt this course for cheapness till the traffic develops.

There is no insuperable or even serious structural difficulty in the matter either way, and one would think that the D. & S. E. would be only too glad to get the chance of the important "terminal charges," which, as every railway man knows, constitute such an abundant source of revenue, just as when they have to be paid to other companies they are such an important deduction from profits. If the M.G.W. could obtain £5,000 a year

for the partial use of the Liffey Branch, and the G. S. & W. found it profitable to build the Glasnevin line, surely it would pay even better to link up the D. & S. E. with the South Quays, and shift half the steamers to the south side of the river.

There is another point to be mentioned.

In some respects the South Quays would even have an advantage over the North Wall. They are more accessible, and at present they have very little machinery. Everyone is aware that when once any machinery has been put up and expense incurred it is very difficult to convince people that the machinery of which they were so proud is hopelessly antiquated.

I think this is particularly apt to occur in an agricultural country, and certainly Ireland is peculiarly subject to it. Old ploughs of shallow furrow, heavy draught and faulty construction are tinkered up year after year. Old wasteful engines of feeble power and extraordinary appetite for coal and oil are maintained on the railways and in works, their destruction being postponed owing to parsimony having taken the place of economy. Indeed the way in which many chairmen take credit for "careful economy," when practising "injudicious parsimony," is to my mind a feature of Irish commercial undertakings.

The same thing applies to the loading and unloading machinery in Dublin, as existing on the North Wall and South Wall. It is not up-to-date. I have seen corn weighed by the single sack from the steamer, coal by the single ton. A grain elevator costing £2,500, running on tramway rails, would unload 120 tons an hour. A steam scoop a still larger quantity of coal. The Hulett unloader used in the transfer of iron ore from ship to trucks on the American lakes is stated to deal with 600 tons an hour, and four of them in 4½ hours unloaded 7,200 tons of iron ore.

The South Wall has the advantage of not having any real facilities in existence, and any which are introduced will thus be modern, and no branch of engineering has been more developed of recent years than the facilities for loading and unloading.

It must be borne in mind, what few persons except shipowners seem to remember, that every minute in port is so much dead loss to the long voyage ship. She is really only earning money when in motion, and therefore every delay at a port of call is loss, quite apart from the question of demurrage. If, owing to defective machinery, a

ship can only be unloaded at the rate of twenty tons an hour, it stands to reason that the owner will not grant the same terms for a charter-party as if it could be done at the rate of a hundred. His boat must lie idle five times as long.

We have had recently a wonderful example of what can be done in this way, when the great *Lusitania* completed a double voyage to and from New York in twelve days, very much being principally due to the extraordinary way in which her cargo was discharged and loaded at New York in 37 hours. I do not remember the number of tons of cargo discharged, but the return load was over 5,000 tons of coal and cargo in addition to 1,841 passengers and 3,314 sacks of mails.

There are two kinds of ports, the cross-Channel port, where the vessel crosses practically daily with long intervals in port in proportion to the length of the voyage, and the "port of distribution," vastly more important, where a place becomes a centre of distribution, and large steamers come in with large supplies to be sent away by coasting steamers to other ports.

In my judgment Dublin Harbour, from its safety and its central position, is well fitted to become a port of distribution, but for this it requires not only more quay space but the most up-to-date machinery, and therefore I say that I want ferries across the river, railways and tramways on the South Quays, and really first-class loading and unloading machinery everywhere.

I might point to the importance of this subject to our great export trade in provisions in various forms, and I might go at some length into the question of converting Dublin into a centre of distribution instead of a mere cross-Channel port, which is, I believe, perfectly possible, but all this is a matter for the Port and Docks Board, for the general body of citizens, not for a single individual like myself. My object to-night has been to draw attention to the general condition of Dublin as a harbour, dealing with the three questions of the North Wall, the Ferries, and the South Wall as branches, in the hope that other persons of weight, position, and influence might be induced to take some interest in the subject.

I am afraid that the Irishman, with all his brilliant qualities, his bright imagination, his quick judgment, wit, and immense readiness is apt to be dazzled by a large plan, and vast benefits to follow in the dim and distant future. He has what may be called an imaginative mind

that can conjure up a vision of what he wants, so clearly that it almost seems a reality.

The very plan of 1713 shows this. There is a gigantic plan drawn by a dead hand 200 years ago, and it is still incomplete.

I am weary of hearing the Irish always described as sentimental visionaries. I believe that they can be just as practical as the bonnie Scot, and that signs are not wanting of a change in their manners, customs and habits. I do not want them to be regarded with pitying admiration, and I would call upon them in this case of Dublin Harbour, to do themselves justice, and show that they are capable of carrying out a national benefit for themselves and for their country.