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**PORT ADMINISTRATION AND  
OPERATION**

# PORT ADMINISTRATION AND OPERATION

A REVIEW OF SYSTEMS OF MANAGEMENT  
IN VOGUE IN VARIOUS COUNTRIES

BY

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## P R E F A C E •

DURING a recent visit to North America, on the occasion of a complimentary lunch at the Engineers' Club at Philadelphia, the author was invited to address the members of the Club on the subject of Port Administration in Great Britain; and the marked contrast between the systems which obtain on the Eastern and Western sides, respectively, of the Atlantic, attracted considerable interest at the gathering. Subsequently, he received several requests for further information and enquiries as to whether there were any books published on the subject. These considerations have led him to undertake the preparation of this work, which, he trusts, will serve to meet an evident need.

He desires to acknowledge, with warm thanks, the kind suggestions which he has received from various official and personal friends to whom he has shown the manuscript in draft form. He has been glad to avail himself of such friendly criticisms and advice. He is equally indebted to the courtesy of several port authorities and officials for permission to use the diagrams and photographs which are included in the volume.

BROAD SANCTUARY CHAMBERS,  
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*February, 1925.*

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## CHAPTER I

### INTRODUCTORY

#### IGNIS FATUUS.

A SURVEY of the various methods of administration adopted at seaports throughout the world cannot but present certain attractions to a studious enquirer who happens to be engaged in that sphere of transport work. There is so much of interest in comparing different forms of government and control, so much suggestive of thought and reflection in observing their manner of growth and development, and so much scope for speculation and enquiry in considering the possibility of their adaptation to other circumstances and dissimilar environments, that he cannot but view the undertaking with a feeling of zest and pleasure, and possibly with a desire, scarcely formulated perhaps, to discover the ideal system which, embodying all that is good and discarding all that is defective in particular cases, may be advocated for general adoption. Animated by such a hope he, no doubt, sets out lightheartedly enough on his quest, and accumulate stores of information from various quarters. It is not until he comes to try to disentangle from the interminable ramifications of multitudinous systems, some organic scheme of general co-ordination, that he realises how futile and hopeless such a task must inevitably be. Geography, politics, history, climate; racial, social and business relations, and national temperament are all interwoven into the problem. Finally, he is fain to avow with disappointment, and even with a shade of impatience, that there is no underlying and fundamental scheme of organisation; nothing, in fact, but a heterogeneous complex of individual cases with local peculiarities and irreconcilable



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characteristics. Some slight measure of agreement there may be in regard to certain groups with allied interests and traditions, but, in general, dissimilarity is the predominant feature. That, in substance, is how the matter has resolved itself to the author, when, after prolonged enquiry and research, he endeavoured to establish some comprehensive scheme of inter-relationship, and a plan whereby (metaphorically speaking) order could be produced out of chaos and intelligent design out of random creation.

All systems of port government are characterised by an attempt to meet local needs and requirements, and therefore embody certain features which are essentially good and beneficial. It will also be admitted that a number of systems exhibit obvious defects, which are undoubtedly open to criticism, if not to actual remedy; but a fair investigation will show that, in most instances, these are inherent in the conditions of the case, and that there are corresponding and countervailing advantages not to be lost sight of. So, while some ports prefer to be politically governed, others to be municipally governed; some to be autonomous, others to be proprietary; some to be individualistic, others to be the arena of competing interests; some to be polyarchies and others to be oligarchies: it may be said, in general, that each port has evolved its own system of government along lines which are most congenial to its nationality, its traditions, its genius and its bent. A well-known proverb states that every nation gets the government it deserves. We may say that every port adopts the management it prefers.

### PURVIEW.

The survey contemplated in this book cannot offer, and does not pretend to offer, a completely comprehensive review of port administration throughout the world. Such a project would be at once grandiose and pedantic.

In the first place the field is too wide. The number of ports is legion. In Great Britain and Ireland alone there are over five hundred, and though, of course, many of

these are insignificant in size and importance, yet it is not an exaggeration to say that there are, at least, a hundred of real standing in the commerce of this country. It would be idle to attempt the task of enumerating all the ports of equivalent rank and value on the continent of Europe, along the extensive seaboard of the Atlantic and Pacific in the Western Hemisphere, on the coasts of Africa, Australia, India, China, Japan and the great Archipelagos of the seven seas, all contributing their share to the enormous volume of the world's overseas trade.

Then the possibilities of variation are so numerous. There is an almost infinite scale of gradation between the individualistic autocracy of the single proprietor and the highly systematised organisation of an elective body, with statutory powers defined and laid down in Acts of Parliament, each of which might form the subject of a lengthy legal commentary, as is exemplified in the case of London, where the compilation of such a commentary has resulted in a tome of ponderous proportions.\*

For the purposes of utility and service to the student of transport, and of port administration in particular, a moderate-sized manual is eminently desirable. The author has, accordingly, felt that to attempt to embrace too wide a purview would only confuse the perspective. So casting aside a huge mass of material which, even if satisfactorily collated, would only serve to encumber the reader with a plethora of data, he has limited his investigations to a field which comprises the leading ports of Great Britain and her Dependencies, of the chief maritime nations in Europe, and of the United States. A few illustrations have been culled outside these limits, but only in exceptional cases. And, as the author is much more at home in regard to British port administration, he naturally has devoted the greater portion of his attention thereto. He trusts, however, that these limitations will not materially reduce the serviceability of the book.

It must further be disclaimed that the book is written with

\* "The Port of London Act 1908," by R. W. Harper, M.A. Pp. 1,000.

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the intention of presenting a thoroughly systematic analysis of port routine. The book does not touch on many matters of detail. There are other publications available in which the transactions of trade and commerce, the procedure in importation, exportation and customs routine, shipping regulations and trade documents are fully described and explained. All that is attempted herein is to give a broad view of the methods by which port affairs are administered under different conditions and by different systems. The organisation diagrams will, it is hoped, serve to supplement in this direction the general information contained in the text.

#### PORT FINANCE.

It may be of interest to add a few words on the financial aspect of port operation. The conditions under which ports in general have to work are such that, while they are unquestionably essential national assets, and freely recognised as such, they can very rarely make any remunerative return on the capital invested in them. Very few of the docks and ports of the United Kingdom, after deducting working costs and general expenses, are in a position to pay dividends at all comparable with those received from other forms of investment. Indeed, in certain cases of municipal ownership, financial assistance from the rates is found to be necessary to meet interest charges, and in other cases of railway ownership, similar subsidies have been forthcoming from the general system to meet deficiencies in the dock returns. Pleas for State aid have been put forward in this country from time to time, and although the principle is recognised and acted upon in regard to fishery harbours, by reason of the obvious inability of small fishing communities to raise capital for necessary works of protection and accommodation, the claim has not been admitted in regard to British commercial ports, except that, during the last few years, grants have been made under the Trade Facilities Act enabling new works and improvements to be put in hand as a means of affording opportunities of employment,

principally for unskilled labour, in view of the prevailing distress.

Whenever, by chance, the barest margin of surplus arises in connection with the working of a trust port, it is at once the occasion of a demand from shipping firms and merchants for a reduction in port rates ; and the competition between ports is so keen, that port authorities cannot but admit the exigency of the demand. Even where no profit is forthcoming, the contention is frequently put forward that rates and charges should be reduced as a precedent to increased trade. Hence the task of the port administrator is no light matter. Like Sisyphus, he everlastingly tries to attain a position of assured prosperity for the port undertaking, only to lose it and start afresh with his load at the foot of the hill.

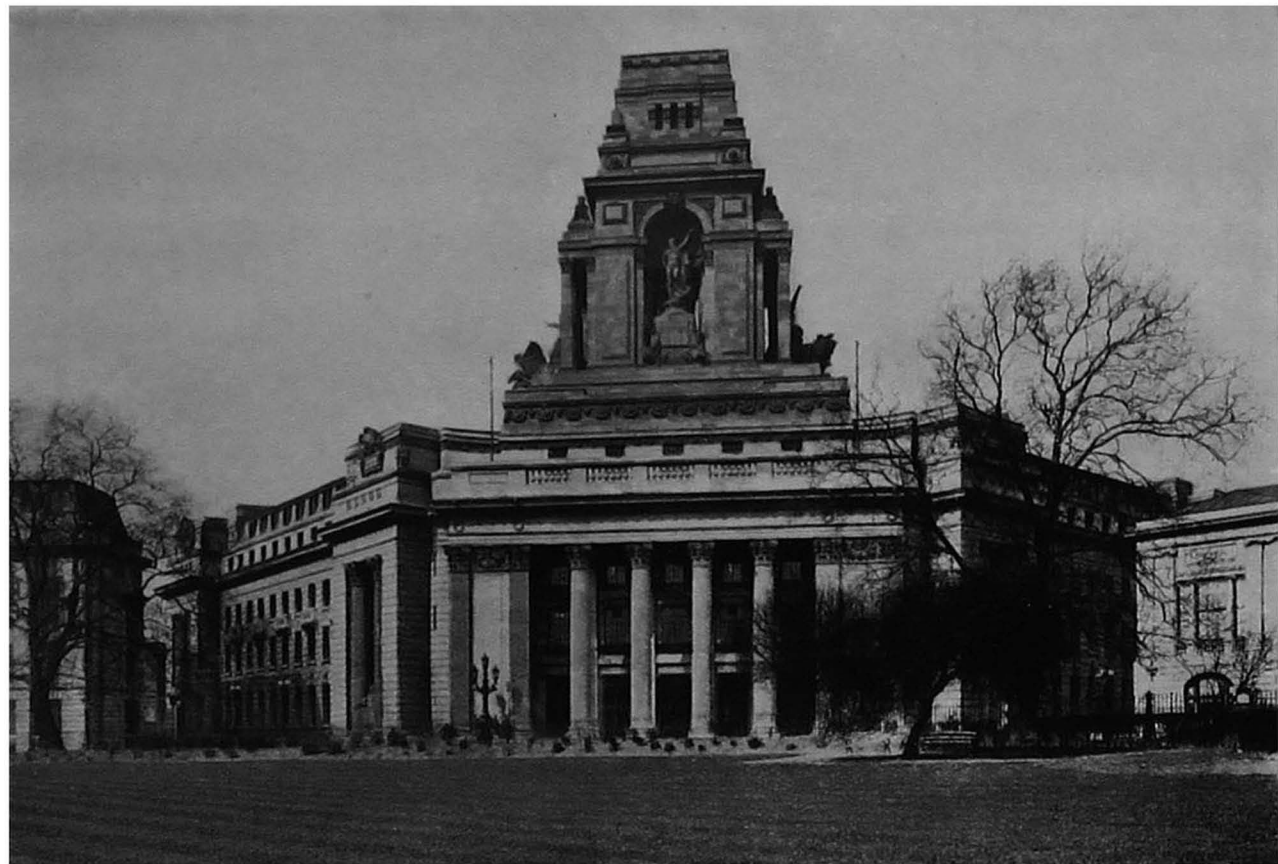
## CHAPTER II

### PORT FUNCTIONS

As a preliminary to the study of port administration, it is necessary to study the functions which a port is called upon to discharge in relation to the commerce of a country. And, at the outset, we must obtain, if possible, a clear conception of the meaning of the word, so that its various implications may be thoroughly understood, and its scope defined within practical limits.

#### DEFINITION.

The term port (*Lat. Porta, a gate*) is one which admits of considerable latitude of meaning and entails corresponding difficulties of definition. In its primary sense, as indicated by the Latin, it is a gate, or entrance, and, situated on the coast, it is obviously a gateway of the sea or a portal to the land. But its implications also include a certain degree of protection, as is evidenced by the old proverb, "Any port in a storm." This arises, perhaps, from the frequent local association of ports with harbours. A harbour, or haven, is essentially a place of refuge. It is desirable, however, to draw a distinction between a port and a harbour, which will be recognised as important. A port may possess a harbour, but a harbour is not necessarily a port. Any natural creek, or inlet, on the coast, with adequate depth of water and sufficient shelter for shipping, fulfils the essential conditions of a harbour. To make it a port in the accepted sense of the word, there must be, in addition, accommodation and facilities for landing passengers and goods and some amount of trade overseas. The idea of loading and discharging goods is therefore fundamental, and, to some extent, the idea of shelter runs parallel, or, at any rate, is



Head Office, Port of London Authority.

[To face page 6.

implied, since shelter is an essential condition of the operations of cargo handling.

A legal authority \* has expressed this view in the following terms :—

“ What do you go to port for ? Because you want either to load or unload goods. Everyone who understands ships knows that you cannot conveniently load or unload goods in a place where the ship itself would be in danger. Therefore all people possessed of common sense, instead of taking their boats on to a beach on an open sea, where they might be knocked to pieces in a storm, go to what they call a port, which is always a sheltered place. It is a place of safety for the ship and the goods, whilst the goods are being loaded or unloaded. . . . The moment you can find that the loading and unloading of ships takes place at a particular spot, you may safely infer that the parties understood that spot to be within ‘ the port,’ because, as a general rule, people do not load or unload goods outside of a port. They do sometimes, but very seldom and only under exceptional circumstances.” †

\* Quoted anonymously in “ Shore Control and Port Administration,” p. 89.

† Of late years an even wider view has prevailed, especially in America, of the services which are comprised within the domain of a port. Not merely the loading and unloading of ships, but the means and agencies by which goods are received for shipment and for transmission inland, form part of the purview of certain port authorities recently established on the other side of the Atlantic, the most conspicuous example of which, perhaps, is the Port of New York Authority. The fact that a port is served both by land and by water, and that it is the connecting link between two distinct but inter-related forms of conveyance justifies the claim that its interest in its rail and road connections is no less than in its approach channels and waterways. In American phraseology, the port is a terminal, and, in their view, it is essential to consider the functions of a terminal from both the land and the water standpoints. On this basis, due consideration must be given to the conveyance and handling of goods to and from the quayside within the limits of the port district, if the entire system of transfer is to be satisfactorily and expeditiously arranged. There is a good deal to be said for the American point of view, the only difficulty being to know exactly where to draw the line between the local port rail service and the trunk line system which it feeds, and which is, in many cases, only a prolongation of the port connection or the quayside track. The matter will be discussed somewhat further in a later chapter, dealing with the jurisdiction of ports.

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It is clear, then, that a port, whatever its particular functions may be, embodies essentially the two characteristics mentioned above, and it will be found that, as a general rule, ports have originated and developed in some location where the requirements can conveniently be fulfilled. Shelter for shipping is primarily a natural feature, but it can be improved and extended by artificial means, and many natural disabilities in a situation favourable for trade may be removed by engineering skill, so as to render the development of a port dependent, practically almost entirely, on the expansion of its trade. Trade, therefore, becomes the dominant factor, and it grows round a small nucleus in the most surprising way. Many modern ports of the front rank have sprung from quite humble origins, and they have had to provide the requisite degree of shelter and accommodation in the face of formidable obstacles.

### SOURCES OF TRADE.

The sources of trade which promote and foster port development are numerous, and include the presence of local mineral deposits, the extensive production of grain and other foodstuffs in the "hinterland," the establishment of manufacturing in a district, or even merely the needs of a large population in regard to the necessaries and luxuries of life.

Great Britain may be instanced as a country particularly dependent on foreign supplies, not only for the comforts and amenities, but for the very necessaries of existence. It does not, and cannot, produce sufficient foodstuffs for its population of nearly forty-five millions. For twenty weeks in the year the inhabitants live on imported meat, and four-fifths of the grain consumed comes from abroad. Kipling has put the matter very pointedly, and very aptly, in his "Big Steamers":

"For the bread that you eat and the biscuits you nibble,  
The sweets which you suck and the joints that you carve,  
Are brought to you daily by all us big steamers,  
And if anything hindered our coming, you'd starve."



It is not only in regard to foodstuffs, however, that this country has to rely on foreign supplies. The raw materials, from which our manufactures are made, also come to us from abroad: cotton from Egypt, America and India; wool from Australia, New Zealand, Argentina and the Cape; silk from China, Japan and Bengal; ores from Spain and Norway; timber from the Baltic and so on.

#### THE PORT IN RELATION TO COMMERCIAL ACTIVITIES.

Ports, then, the gateways through which these vast consignments of food and material have to pass, are essential features of our coastline and they form an important link in the chain of commercial activities. The idea of a link is, however, but an imperfect presentation of their functions. They may be more effectively likened to a ring at the end of a chain, from which a number of slings depend, or to the ramification of roots at the foot of a tree trunk. As in the case of a railway junction, where many lines meet and diverge and there is much intercrossing of tracks, so at ports, ships arrive from many quarters and their cargoes have to be despatched to numerous destinations, all calling for the most careful management and direction in order to ensure uniformity of movement and an absence of impediment to the general working of the system. Voyages by sea and journeys by land are continuous processes, which, with the exception of very rare and minor interferences from weather or accidental causes, can be prosecuted with some degree of reliability and speed. It is when exchange of vehicle has to be effected at a port that an important interruption occurs, which interferes with the steady rate of progress and makes it difficult to adhere to a scheduled programme. Unless arrangements are made to deal promptly and expeditiously with both incoming and outgoing consignments of goods, congestion is bound to occur. It is a function, therefore, of port management to effect this interchange of carriage as smoothly and as rapidly as possible.

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### PORT TRAFFIC.

Let us consider in a little detail the converging and diverging lines of traffic at a port. With the aid of the diagram below we see that goods for export overseas may arrive at a port :

- (a) By rail, sometimes from very considerable distances inland ;
- (b) By road, generally from more moderate distances, economically up to about fifty miles by motor, but only locally if by horse vehicle ;
- (c) By canal, also for considerable distances, the transport being, in general, cheaper, though less speedy than by the previous methods ;
- (d) By river or natural waterway, under similar conditions to (c) but aided or retarded by currents and tides ;
- (e) By sea, in small coasting vessels.

After passing through the port and undergoing the necessary handling incidental to the process of transfer, the goods are despatched to their destinations :

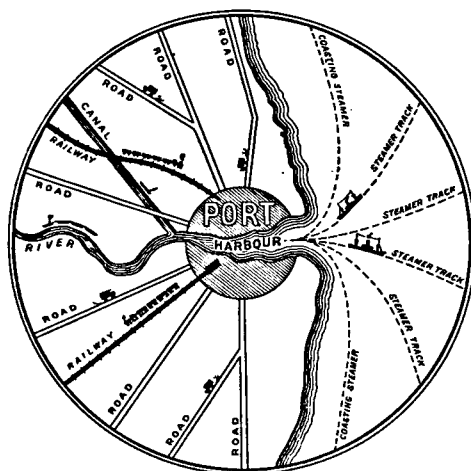
- (a) By a liner, if on an established route with a regular service ;
- (b) By a tramp steamer, if a bulk cargo or a cargo consigned to a particular port not served by (a) ;
- (c) By colliers or oil tankers, if adapted to such a class of container.

Similarly with imports, but in the reverse sense.

### TRAFFIC CONGESTION.

From the foregoing, it is obvious that the two sets of services, incoming and outgoing, must be co-related to each other and that the more nearly they are equated the better for the working of the port. It is of little or no avail having a speedy influx of goods, if a corresponding despatch cannot be maintained. The possibility of a deficiency lies perhaps more in the direction of the inland distributing agencies. These must be provided on a scale sufficiently

ample to cope with the maximum intensity of ship discharge, otherwise the flow of traffic will, at times, be retarded, checked, and even stopped altogether. It has been the experience of more than one port, especially during the war and immediately subsequent thereto, to have vessels waiting their turn to berths at the quayside, on account of



PORT TRAFFIC DIAGRAM.

the inability of the land service to cope with the volume of traffic presenting itself. In one notable case, more than seventy vessels were simultaneously lying idle in a river, unable to enter the docks of a tidal port from this cause. To meet all contingencies, it will be found desirable to provide a margin in distributive facilities which should be not less than thirty per cent., and may very well be fifty per cent., in excess of the average capacity of quays to receive goods from shipping.

Inadequacy of road approaches has been one of the most serious disabilities of some of the docks at the port of London, and it has not been an unusual thing for vehicular traffic to be held up for considerable periods by congestion at certain points, such as railway crossings and swing bridges. It has been authoritatively stated, from records taken, that approximately thirty-five per cent. of the time occupied in the journeys of lorries to and from the Victoria and Albert Dock area is absorbed by delays of this description.\*

Congestion of barge and lighter traffic is another source of trouble and delay. These craft are not infrequently detained alongside, or in the vicinity of, a discharging ship, awaiting a particular consignment or quantity of goods which cannot be released by the stevedores until parcels lying above have been despatched and the holds sufficiently cleared. This is, of course, an inevitable accompaniment of the practice, often unavoidable on various grounds, of stowing goods without reference to the order of their discharge. For instance, vessels calling at a number of ports necessarily stow their cargo in the order in which it is received, that from the last port of call being on top; discharge is bound to proceed consecutively in the reverse order.

The co-ordination of unloading, distributing and forwarding facilities is thus one of the most vital problems of port operation, and, unfortunately, in the great majority of cases it is not under single control, and therefore cannot be contrived as effectively and systematically as is desirable.

\* Sir Henry Maybury on the Victoria Dock District and its Roads. Royal Society of Arts, 1924. "The effect of these adverse conditions at the Iron Bridge, the Canning Town Railway Bridge, the junction with the Victoria Dock Road, the Swing Bridges, the White Gates and the other level crossings, becomes cumulative, since all these obstructions are so close together that when one is removed, the flood of dammed up traffic is immediately added to the block already forming against the next barriers. The delays attendant upon the level crossings and swing bridges not only affect vehicular traffic, but they are a constant source of bad timekeeping by factory employees, and the inadequate road connections and approaches militate seriously against further commercial enterprise in the district."

There is, unquestionably, scope for a closer degree of co-operation between municipal, railway and port authorities and government departments in regard to the arrangement and working of the whole chain of operations connected with the reception and despatch of goods at the quayside. All are alike interested in the prosperity of the port, some perhaps indirectly, but none the less essentially, and the reaction of an unnecessary delay in the handling of cargo at the quayside will be felt ultimately by the ordinary citizen in an inflation of the prices of the commodities which he purchases in the shops. In the past, too little attention, unfortunately, has been paid to the matter. Indeed in a historically old country, such as Great Britain, the trouble is one which like Topsy in "Uncle Tom's Cabin" has "just grow'd" from small beginnings. It would be idle, however, on this account to charge past generations with lack of foresight. In many respects, we are ourselves laying up troublesome problems for posterity to deal with as best they may. Yet, the sooner a concordat is arranged and the various interests agree to act in concert, the better it will be for all concerned—shipowner, merchant, tradesman and consumer.

### CHAPTER III

#### CLASSIFICATION OF PORTS

THE classification of ports is a matter of some importance, in that it enables a study to be made of the fundamental features of the groups to which they belong, and so assists in determining the mode of operation which is best applicable to the type. At the same time, there are several different ways in which classification may be made, so that ports fall into a variety of categories. Each of these should receive due investigation, but there will generally be some predominant characteristic of one or other of the classes which will form an overruling consideration.

##### (1) AS REGARDS SITUATION.

Ports may be classified according to situation and the physical conditions of their environment. **Seaports** are those which, as the name implies, are located either on the seaboard itself, as Marseilles, Havre, Genoa, etc., or immediately within a sheltered estuary, as New York, Sydney and Liverpool. **River ports** are differentiated as those which lie on the banks of a river at some distance inland, such as Rouen and Paris, Cologne and Basle. River ports are not infrequently hampered in regard to their accessibility by the artificial regulation of their waterways, and the term seaport is generally claimed by ports of major importance whenever there is unimpeded connection with the sea. London and Antwerp, accordingly, although some distance from open water, in this sense are included as seaports.\* Sometimes, the claim is founded upon the

\* Distance from the open sea of certain notable ports: London, 50 miles; Hamburg, 67 miles; Antwerp, 50 miles; Bristol, 10 miles; Rotterdam, 18 miles; Amsterdam, 15 miles; Manchester, 55 miles; Baltimore, 150 miles; New Orleans, 96 miles; Philadelphia, 88 miles.



The Galliera Mole, Genoa.  
(Artificial protection across the front of the harbour.)

*[To face page 14.]*

capacity of a port to receive sea and ocean-going vessels and, in that case, the distinction of locality vanishes altogether. Canal ports are analogous to river ports, the only difference being that the waterway is entirely artificial. A notable example of this class is Manchester ; Amsterdam and Bruges are other instances.

A favourable geographical situation is obviously a great asset to a port. Ports on an open and exposed coast are subject to all the devastating effects of tempestuous seas, and vast sums have often to be expended on protective works. At Naples, Genoa and Marseilles, huge breakwaters have been formed right across the whole frontage of each port, representing in each case an outlay of several millions sterling. On the other hand, river channels are liable to silting, and require constant attention, not only to maintain them, but also to deepen them and render them capable of meeting the demands of modern shipping with continuously increasing draught. Moreover, the navigation of a long river channel, often narrow and tortuous, and perhaps crowded with craft, is a difficult, and in times of darkness and fog, even a hazardous, proceeding.\* Ports which have long and difficult approaches, or are hampered by river bars, incur considerable annual expense in maintaining dredging fleets and other ancillary services.

Ship canals have certainly an advantage over rivers in directness of route and regularity of waterway, but they are enormously expensive undertakings.

Another feature of importance in regard to situation is

\* This may be instanced by a recent unfortunate experience at the port of Antwerp, lying, as stated, fifty miles inland on the right bank of the river Scheldt, as is shown in the following brief extracts from a press report in the early part of 1924 : " The withdrawal of the great liners, *Belgenland* and *Lapland*, from the service between Antwerp and New York has again focussed attention on difficulties which have arisen in the navigation of the Scheldt. . . The trouble is attributed mainly to the formation of a bank in what is known as the Valkenisse Channel, and has been aggravated by the wreck of a Greek steamer in that neighbourhood. . . . So serious has the position become that marine underwriters have had under consideration the possibility of having to impose special rates of insurance for shipping using the port."—*Times Trade Supplement*, March 5, 1924.



the area of distribution as affecting trade, and this increases with the distance from the coast, that is to say, the more completely a port is surrounded by land the larger the area which it serves and supplies. Thus a fifty mile circle round Durban or Madras is half land and half water, while in the case of London it is nearly all land. But this general principle is subject to important qualification under certain circumstances. A widely extensive area, with a sparse or scattered population, is not comparable with an intensely inhabited industrial region, though much smaller in extent.

How far ideal, or even favourable, conditions can be combined or selected is a matter of degree. They can rarely be obtained in full measure. Perhaps, on the whole, an estuarial position is most to be recommended, combining in some measure a sheltered position with convenient accessibility, as at New York and Liverpool. But even these ports are troubled by the existence of bars, which necessitate continuous and extensive dredging operations.

#### (2) AS REGARDS TRADE.

Ports are also distinguished by the nature of their trade. Certain ports, such as those on the coast of South Wales, are almost entirely devoted to the shipment of coal, and hence are called **Coaling ports**. Ports whence grain is exported in bulk are known as **Grain ports**: Montreal is a great grain port; so is (or was) Odessa. Other ports, such as those on the Baltic, have a staple export of timber, and are almost exclusively associated with the **timber trade**. There is a group of ports on the Great Lakes of North America where the trade is predominately in **ore and coal**, so that special carriers are utilised in its transportation. All these ports conduct operations of so individual a character as to require particular measures of treatment and development. They must be designed and equipped on lines which are best adapted to the trades which they serve.

Ports which are devoted very largely to the export of coal and grain will need properly systematised siding

accommodation and a skilful layout of track, so as to secure uninterrupted working and absence of congestion. The appliances for handling loaded wagons on their arrival at the port, and for emptying them, either into ship's hold or at storage depôt, and so releasing them promptly for further service, will call for careful consideration as to type and capacity, so that the appliances may function with regularity and efficiency. Too much emphasis can hardly be laid on the importance which attaches to the provision of adequate mechanical appliances and land transport facilities in connection with such ports. The continual expansion in size, and capacity of the wagon or land transport unit, involves a corresponding, and even a prior, development in the quayside equipment to enable the movement to be continuous.

For timber, the medium of conveyance to and from ship is often a waterway, advantage being taken very largely of the specific gravity of the material to float it in rivers and ponds. Much, of course, is also handled by rail, and the waterway may, alternatively, be the route for the coal container.

This, however, is not the place in which to discuss these features at length, and the reader is referred for a consideration of the whole subject to the author's "Cargo Handling at Ports."

### (3) AS REGARDS FUNCTION.

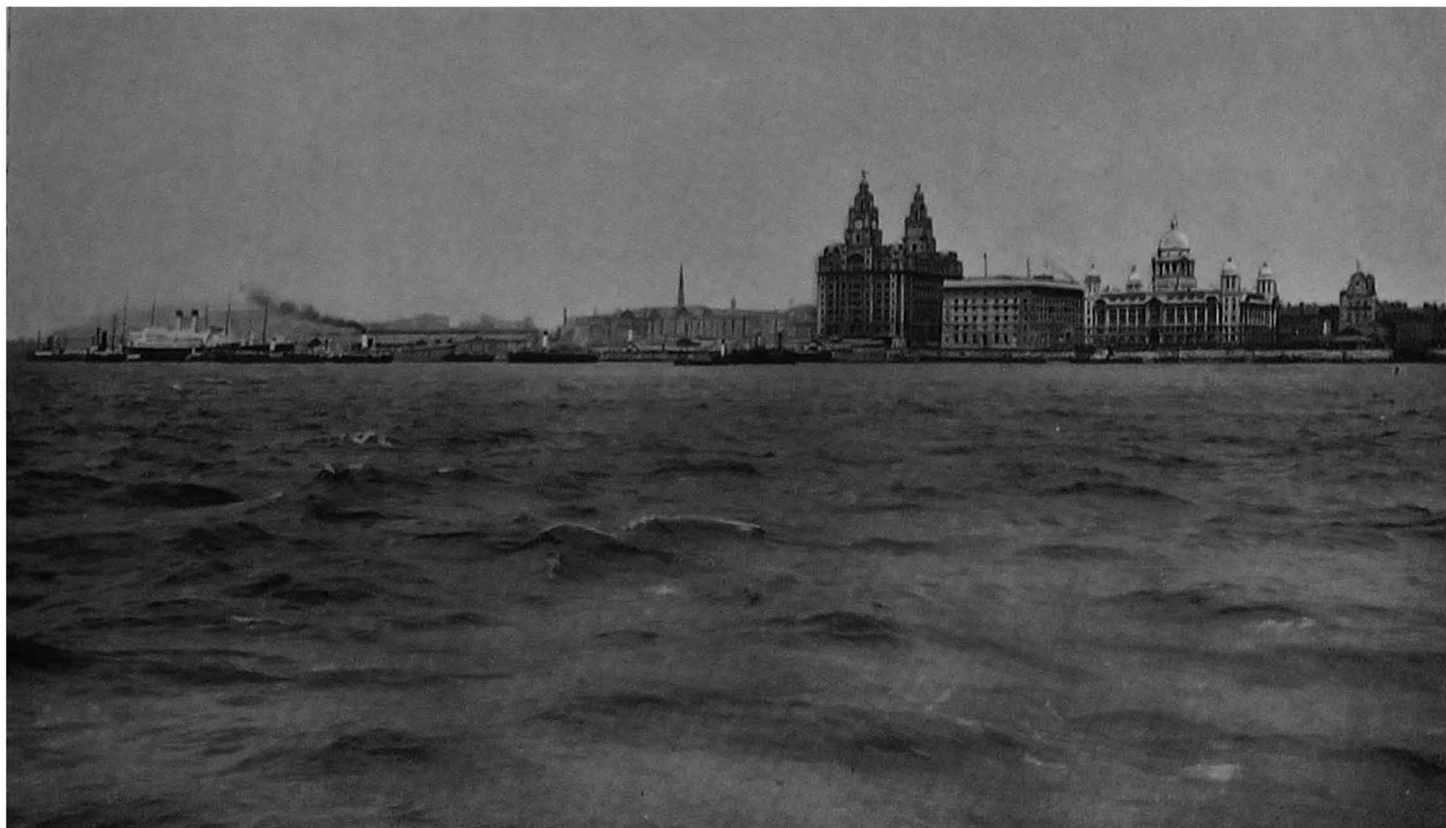
Then again, ports may be differentiated according to the rôle which they play in the routine of commerce. Some ports are **Ports of Call**: vessels put in, in passing, and either collect or discharge part cargoes; or perhaps they call merely for the purpose of coaling. Such ports are to be found along the great mercantile routes, as Colombo in Ceylon, and Macassar in the East Indies, Gibraltar at the entrance to the Mediterranean and the Canary Islands on the voyage to South Africa. A series of ports of call will often lie in sequence along the coast of a distant country, as Valparaiso, Antofagasta, Iquique, Callao and Guayaquil on the West Coast of South America.

Ports of call have certain economical disadvantages. They involve delay and extra charges to shipping. From the shipowner's point of view, the ideal condition is for a vessel to obtain a full cargo at one port and discharge it at another, repeating the process in the reverse direction. In this way rates and dues are only incurred at the two ports of origin and destination. But if a vessel has to call at a number of ports to receive or discharge small consignments, it is thereby accumulating a series of local charges which will materially add to the expense of the voyage and, at the same time, cause a corresponding series of delays during which establishment and overhead charges will be running on. Considerable complaint has recently been made that the number of ports of call in New Zealand for vessels bringing produce to the home market is excessive, and it is contended that it would be preferable for these small outlying ports, or stations, to send their produce in small coasters to certain main ports, whence they could be re-shipped into larger ocean-going vessels and so materially reduce, if not altogether eliminate, the time which is spent by these large vessels in going from place to place.

This is one of the reasons why incoming consignments are frequently landed at ports in this country which are no inconsiderable distance from their ultimate destination, and also why outbound goods are sometimes diverted from the port, which is geographically nearest, to another port where there is, perhaps, a regular service.

Other ports are **transit or transhipment ports**. The goods they receive are merely *en route* and have to be transferred and despatched to their ultimate destination by coasters, river craft or canal barges. Rotterdam is a typical example of this class of port. It receives a great tonnage of shipping into its harbour, but the bulk of the goods are transhipped to and from lighters, which ply along the Rhine and its tributaries between Rotterdam and the great manufacturing region of Westphalia.\* Although, perhaps,

\* From this, it can be understood that train ferries do not bring any direct advantage to the ports they connect, as the consignments pass right through without breaking bulk and, indeed, with practically no handling



Liverpool Landing Stage and Dock Offices.

*[To face page 18.]*

not to so great a degree as Rotterdam, most ports partake of the nature of transit ports, and tranship or otherwise forward some portion of their imports. For instance, Liverpool is a transit port in the sense that it transmits by rail and water the bulk of its imports to meet the demands of the population in the north-western and midland districts of England.

A technical distinction should, however, be made between the terms transit and transhipment. **Transhipment traffic** is that which is passed direct from one ship to another in the same port, although this does not mean that there is no intermediate landing on quay, and there may even be temporary storage. Almost always, it entails intermediate conveyance by barge or lighter. Goods in transit, on the other hand, are generally those which are despatched overland, either to an interior destination or, possibly, to another port for reshipment to a different part of the world. Both these processes entail corresponding Customs supervision, if the goods are dutiable. Dutiable goods for transhipment can only be dealt with in this country at certain ports which are equipped with approved sheds, meeting Customs requirements, and specially adapted for goods that require to be landed prior to re-shipment. In transfer by lighter or barge, special craft must be used, having accommodation for Customs watchers, and either in barge or in van, the goods must be secured under Customs lock. There are also stringest time limits fixed for the operation of transfer. Three days is generally the period allowed, when goods are passed through a shed, and from twelve to twenty-four hours, when conveyed direct by craft from ship to ship.

Lastly, within this section, there are **ports of destination, or entrepôt ports**, in which the incoming goods are absorbed by the local markets, or are passed into local factories for manufacturing purposes. This class of trade is most remunerative to the port concerned, for it enables the town to benefit in a variety of ways: from the increased amount of labour in handling and storing,

from warehousing charges, from processes of manipulation and all the attendant financial, insurance and other interests involved, whereas ports of transit can only derive such income as is directly obtainable from harbour rates and shipping dues. Examples of great entrepôt ports are to be found in London, Antwerp, Hamburg and Amsterdam.

And here it may be remarked, in passing, that markets are not necessarily identifiable with manufacturing districts ; they may even be separated by considerable distances. The seat of the woollen industry in this country is the West Riding of Yorkshire, but the principal market for wool is in London. Wool cargoes of great magnitude are consigned to London for sorting, inspection and sale by auction, with subsequent despatch elsewhere. Repeated attempts have been made to divert these cargoes to north-eastern ports as being nearer their ultimate destination, but for financial and commercial reasons without any great measure of success.

#### (4) AS REGARDS AUXILIARY SERVICES.

Another classification to be made of ports is in regard to the nature of their distributive agencies. In this sense, certain ports are described as **barge ports** and others as **rail ports**, according as the preponderating part of their traffic is handled to and from ship, by barge or by rail. London is essentially a barge port. From eighty to ninety per cent. of the cargoes brought into the docks are passed, either overside or from the quays, into lighters for conveyance upstream to riverside wharves and warehouses, or to inland destinations. At New York, a very large proportion, about sixty per cent., of the water-borne freight is similarly handled. Amsterdam, with its numerous city warehouses situated along the banks of its intersecting canals, is another great barge port. So also is Hamburg.

Manchester, on the other hand, though served by the Bridgewater and other canal systems, is mainly a rail port, well equipped with railway lines along the quayside so that goods may be deposited direct from the ship into wagon.



Royal Albert Dock, London.  
(Showing extent of barge traffic.)

*[To face page 20.]*

Southampton, of course, is a rail port, with a goods service appreciably subordinate to its important passenger traffic. Coaling ports may generally be described as rail ports, with perhaps one important exception: Goole, where the coal is mainly floated down the Aire and Calder Canal from the colliery to the ship.

Liverpool is, on the whole, a rail port. It is not a barge port, but owing to local custom and strong cartage interests, most of the transfer of goods to the railway *depôt* has hitherto been done by cart and lorry. Efforts are being made to encourage the direct user of the rails installed at the quayside of the more modern docks at Liverpool, and these efforts are achieving an increasing measure of success. At the same time, it is difficult in the first instance to overcome prejudice and displace old custom. In the second place, the goods to a very large extent have to be warehoused in Liverpool for longer or shorter periods, to suit the convenience of the inland importer, who is not always able to receive and deal with large consignments. And if a break in transit has to be made at a local warehouse, the lorry is not much less expeditious than the railway wagon, while it may be more practicable.

#### FREE PORTS.

A feature of some note at modern ports is the establishment of an area, or zone, within a Customs fence, or boundary, where goods may be landed free of Customs duty, for the purposes of manipulation and manufacture, prior to reshipment abroad. This is particularly an advantage in the case of raw materials, which may be imported, treated in various ways and reshipped for sale in another country, without incurring an additional Customs charge, which would handicap the exporter very considerably in his competition with foreign markets.

Hamburg and Copenhagen are instances of ports with auxiliary free ports, and the system is one which is becoming increasingly popular in countries where extensive and



## 22 PORT ADMINISTRATION AND OPERATION

heavy tariffs are in force. In an entirely free trade country free ports would be unnecessary, and also in the case of a country consuming the whole of its imports, but where these conditions do not prevail, a free port zone is found to be a very useful adjunct in developing a trade in re-exports which have undergone intermediate treatment.

## CHAPTER IV

### PORT GOVERNMENT

As has already been stated, systems of Port Government are many and various, but, for all practical purposes, and so far as they are generally in evidence in the chief ports of the world, they may be classified under five main heads :—(1) State Control ; (2) Autonomous Control ; (3) Railway Control ; (4) Municipal Control ; and (5) Private Control. We will proceed to review them in this order.

#### I. STATE CONTROL.

##### (a) SOUTH AFRICA.

Perhaps one of the best examples of complete State control is to be found in the Dominion of South Africa, where the Government directs the affairs of the whole of the ports and harbours through the Railways and Harbours Administration, for which a Minister is directly responsible to Parliament. He is advised by a Railways and Harbours Board, appointed under section 126 of the South Africa Act of 1909. The Minister is required to consult the Board upon all matters of policy concerning the administration and working of the railways and harbours, and, in particular, the following :—

- Substantial Tariff alterations ;
- Estimates of Revenue and Expenditure, including Loan Expenditure, which has to be submitted to Parliament ;
- Parliamentary Bills ;
- Expenditure of any sum exceeding £5,000, other than on work authorised by Parliament ;

Substantial alterations in salaries, wages and hours of duty of staff ; and  
Substantial changes in organisation.

The Minister is Chairman of the Board and, in addition to his ordinary vote, he has a casting vote in case of equally divided opinion.

Sir William Hoy, the General Manager of the system, has set out the following advantages which, he claims, arise out of State ownership of the dual services \* :—

“(a) It enables a country to be developed by a comprehensive and co-ordinated system of railway and harbour construction without regard to profits ;

“(b) It enables the general policy and framing of tariffs to be directed in harmony with a broad policy of national development ;

“(c) It reduces the cost of railways to a minimum by Government security and facilitates in such directions as expropriation, legislation, simplification and cheapness of financing, freedom in location, co-operation in surveys, etc. † ;

“(d) It better serves the interests of the community by securing equality of treatment for all, irrespective of the amount of traffic conveyed or other influences, whereas with a company, those controlling the largest competitive traffic are apt to get preference in many ways ;

“(e) It ensures stability in times of depression when the State is able to finance a deficit which might wreck a private company ;”

And so on, with eight other reasons of minor importance, making thirteen in all.

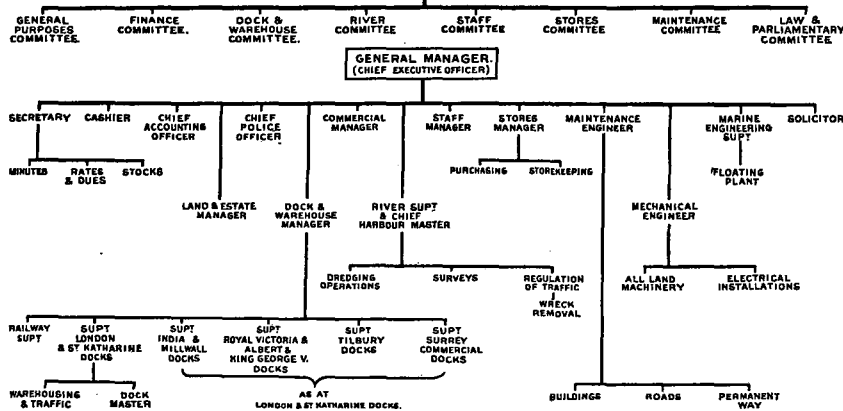
Against these arguments, presented in their most favourable light, there are several countervailing considerations. It will be admitted by impartial observers that Government

\* Lecture delivered at Capetown University, June 24, 1924.

† In this paragraph, harbours, curiously enough, are omitted and the exclusion is difficult to account for, unless it is attributable in some way to the recent remarkable disclosures respecting the loss and “waste” of money in connection with the contract for the grain elevator at the Port of Durban. (*Vide Report of Durban Grain Elevator Commission*, July, 1924.)

# ORGANIZATION DIAGRAM - PORT OF LONDON AUTHORITY.

CHAIRMAN,  
VICE-CHAIRMAN,  
& MEMBERS OF PORT AUTHORITY.  
(BOARD)



PORT GOVERNMENT

undertakings, with occasional exceptions, are not characterised by a high degree of initiative or enterprise, due in a large measure to the lack of inducement to incur risk or to develop originality. Not infrequently in Government Departments, zeal and initiative are discountenanced by superiors who wish to pursue the even tenor of their way, undisturbed by revolutionary innovations. Moreover, there are the evils of political influence, nepotism, red tape, rigid uniformity and official waste. Despite Sir William Hoy's optimism, Government control does not commend itself in Great Britain, where ports are far more numerous than in South Africa.

(b) EUROPE.

In other countries, there is partial State control. On the Continent of Europe, in France and Italy for instance, the State, generally speaking, constructs the harbour fabric: the breakwaters, quays and other fundamental works; and maintains them, including the dredging of the approach channels and the berths, but leaves the exploitation of the port to the energies of a local chamber of commerce or of an autonomous consortium, which builds transit sheds, and warehouses and provides the craneage and other equipment necessary for carrying on the commercial operations of the port.

Taking the port of Havre as a typical example, the State builds and owns the docks, dry docks and all structures below quay level. It also carries out all harbour and sea defence works and dredging. Towards the cost of dock construction, the State levies contributions from the town and the Chamber of Commerce, amounting usually to one-half the cost of the works, and this contribution represents the merchants' rent for the use of the docks in connection with their trading operations. The State also takes all the harbour and tonnage dues on shipping using the port, as well as pilotage and light dues. The dry docks are let or leased to ship repairing or dry dock companies, who pay an annual rent. The Chamber of Commerce, for its part,



Capetown Docks, South Africa.

[To face page 26.

constructs, owns, controls and maintains the whole of the sheds, warehouses, railways, swing bridges, cranes (fixed and floating), tugs and equipment generally, and receives all dues on goods landed, warehousing charges, crane charges and labour charges on the handling and manipulation of goods. The Chamber also owns and works the hydraulic power installation.

At Marseilles, as an exceptional case, there is an additional body, or Dock Company, the *Compagnie des Docks et Entrepôts*, with separate jurisdiction, administering a part of the dock estate—the Joliette Basin. This Company constructed the basin and its quays, with the exception of the sea wall, which was built by the State. The Company levies its own dues, subject to approval by the State.\*

(c) UNITED STATES OF AMERICA.

This system, in a still more modified form, finds expression in the United States, where Government (National or Federal) control is limited to the means of access to a port; that is to say, the approaches are dredged and maintained by the U.S. Corps of Engineers, but the constructional work

\* There are indications, however, that there may be, in future, a departure from this general exercise of State control over French ports, as is evidenced by the recent announcement in the Press of the formation of a special administrative board to take over the management of the Port of Bordeaux and of its sub-ports on the Gironde River, as from January 1st, 1925. The scope of the jurisdiction of the Board includes Bordeaux, Bassens, Blaye, Panillac-Trompeloup, the landing Port of Verdon (work on which is to be commenced shortly), the banks of the Garonne and Gironde Rivers from Bordeaux to the sea and the banks of the Dordogne River to Bec d'Ambes. The constitution of the new Board brings the Port under the heading of those in which there is Autonomous Control, though the elective principle is on a very restricted basis. " Instead of being centralised under the Ministry of Public Works as at present, the management will be entrusted to a local organisation, known as the *Conseil d'Administration du Port*. This will be composed of 21 members, chosen as follows: Designated by the Bordeaux Chamber of Commerce, 9; Nominated by decree, 9, of whom 3 are selected by the nineteen Chambers of Commerce constituting the *Région Economique de Bordeaux et du Sud-Ouest*, the hinterland of the Port; Selected by the provincial and city councils, 1 each, respectively; Representative of the Workmen's Organisations, 1; and the Director of the Port will be nominated by the Ministry of Public Works, and will be charged with executing the decisions of the Administrative Board. He will exercise control over all the public services interested in the exploitation of the Port, with a view to obtaining the necessary co-ordination." (*Lloyd's List*, December 11th, 1924).

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of the port—piers, sheds and quays—is left entirely in district, municipal or private hands, as also are the working facilities and the general management.

The word "district" has been used in the preceding paragraph in order to avoid the implications of the word "State," which would be technically more correct. A number of United States ports are State-controlled in the sense that they come under the direction of the State Governor or Legislature—which, of course, is entirely distinct from, and subordinate to, the Federal Government or National Administration. The situation may be put in the terms of the following extract from a recent publication of the United States War Department (Corps of Engineers)\*:

"Whether by sufferance, or for convenience, or by necessity, the Congress and its agencies have refrained from occupying the field of port control in several directions. Indeed, it might be said, as a general proposition, that port administration is largely in the hands of local authorities rather than under Federal control. In exception of this statement, the Federal Government has control of the maintenance of safe channels, navigation rules, the collection of customs, establishment of anchorage grounds in several important ports, the lighting of vessels, maintenance of lighthouses and other aids to navigation, quarantine regulations, health inspection, immigration and emigration regulations, issuance of licences to vessels, and all phases of port administration where coast defence and military purposes are involved."

### DISTRICT CONTROL.

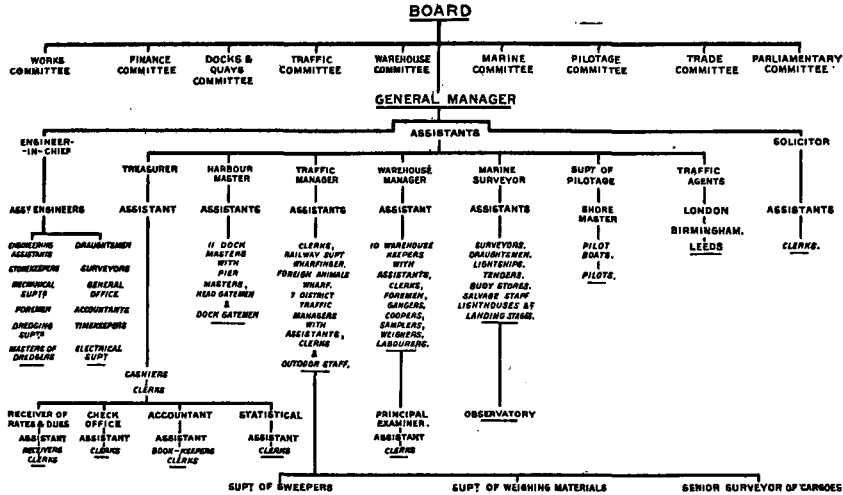
The system of District or Provincial (State) control, as distinct from Federal control, is well exemplified at Boston and San Francisco.

Prior to 1911, the port of Boston was under the jurisdiction of a Board of the Commonwealth of Massachusetts administering all State lands, rivers, harbours, tidewaters and foreshores. An Act of 1911, as amended in 1914,

\* "Shore Control and Port Administration," 1923, p. 136.



**ORGANIZATION DIAGRAM - MERSET DOCK & HARBOUR BOARD.**



PORT GOVERNMENT

provided for a State administrative body of three members, to be known as the Directors of the Port of Boston. In 1916, the two bodies were merged into a single board, designated the Commission on Waterways and Public Lands. In 1919, this Commission became a division of the Department of Public Works. It consists of three members, appointed for three years and removable by the Governor, with the advice and consent of the Council. These members are the administrative officers of the port and (with certain exceptions) have immediate charge of the harbour-front lands of the Commonwealth, and of the construction and administration of port facilities. The Commission, however, must have express authorisation for the initiation of port improvements.

At San Francisco, the water frontage of the Bay around the city, and as far as the county boundary, is controlled by a Board of State Harbour Commissioners, three in number, appointed by the Governor of the State and holding office at his pleasure.

It will be seen from these exemplifications, that there is little to distinguish such provincial control from full State control, and that, while, no doubt, admirably adapted to the principle in view, it is open to the objections already stated against this form of administration. The appointments to the respective Commissions are individual and purely political. They are liable to abrupt termination if a nominee does not see eye to eye with the Governor, who, in popular parlance, is "his political boss."

## II. AUTONOMOUS CONTROL.

The second variety is autonomous control in the form of a **Port Authority** with statutory powers. Here, again, there is great diversity of practice. Taking Great Britain as an exemplification of a country in which the system is widely practised, bodies such as the Port of London Authority, the Mersey Docks and Harbour Board, the Clyde Navigation Trust, have been created by the British Parlia-

ment to take charge of port affairs, but the powers entrusted to them are of a widely differing character.

(a) LONDON.

The Port of London Authority, constituted in 1909, owns and administers the complete dock systems (with one trifling exception) on both sides of the Thames, but, also with one exception (a cargo jetty at Tilbury), it does not own, although it exercises a veto over certain structural alterations to and extensions at, the quays and wharves in the river, which are the private property of wharfingers and merchants. It can licence or construct additional wharfage. In regard to the river, the Authority may be said to own the bed, but not the banks. It dredges and deepens, raises wrecks and removes obstructions, makes bylaws for regulating traffic and maintaining purification, and it licences lightermen and watermen, but it does not provide river police, pilots, sanitary inspection, lighting or buoys. The Authority owns certain warehouses in the city and derives revenue therefrom. It also undertakes at some of the docks the loading and unloading of ships.\*

\* Although the title conferred leads to the impression that the Port of London Authority exercises complete control over the port, yet, as will be observed from the foregoing list of limitations, this is far from being the case. Sir Joseph Brodbank sets forth some rather serious disabilities under which the Authority labours.

" Whilst the Authority is an authority in the docks and in administrative details of navigation, dredging and licensing of embankments in the river, it cannot be regarded as the sole authority in the port whilst the public wharfingers on the riverside are allowed to discharge ships and warehouse goods in competition with the Authority. That this situation was not intended to be a permanent one is evidenced by the fact that, in the Port of London Act, the Authority was given power, subject to certain procedure, to acquire these riverside premises. No action has been taken since the Authority came into existence, except that negotiations have taken place with some few wharfingers, leading to no result. . . . From the port point of view, it is inconvenient that there should be a number of irresponsible rivals in the Port with no obligations and restrictions cast upon them in their methods of doing business, such as the Port of London Act places upon the Authority, and that, moreover, the Authority should be forced to have amongst its members at least one representative of wharfinger interests who is entitled to know and communicate to his

## (b) LIVERPOOL.

The Mersey Docks and Harbour Board, constituted in 1858, owns and administers the dock systems of Liverpool and Birkenhead, and is the Conservancy Authority for the estuary of the Mersey, but not for the upper portion of the river. It dredges the bar and maintains the approach channels of the port. It is the Pilotage Authority for a district extending from Anglesea to the Mersey, and it is responsible for the lighting and buoys of Liverpool Bay, and the port waters. It owns landing stages in the river, both at Liverpool and Birkenhead, but it does not work the ferries. It also does a warehousing business, but while providing the necessary facilities and equipment for the purpose, it does not generally undertake the handling of goods at the quayside. (*Vide p. 92.*)

## (c) GLASGOW.

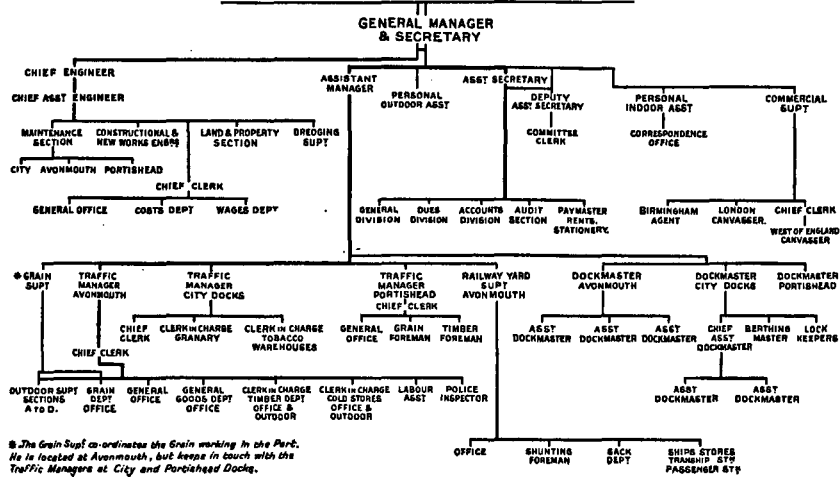
The Trustees of the Clyde Navigation, which has also been in existence since 1858, are constituted by Act of Parliament Conservators of the navigation of the Clyde from Glasgow to Port Glasgow, a distance of eighteen miles, and their functions, as such, are the deepening, straightening, widening, dredging, improvement, and maintenance of the river and its banks, and the installation and maintenance of buoys and beacons. As a Port Authority, they are authorised to construct docks and riverside quays, and to equip them with sheds, cranes and other facilities. The Trustees provide quay cranes and cranemen, but do not themselves handle goods, the discharging and loading of ships being done by stevedores licensed by them, and the landing and delivery by master porters. The only warehousing undertaken by the Trustees is in connection with grain and timber. There are no private wharves within the harbour, but, in the lower reaches of the river, there are oil wharves owned privately.

friends all particulars and projects relating to the Authority's business, without any right on the Authority's part to be present at the councils of the wharfingers." ("History of the Port of London," Vol. II, p. 509.)

# ORGANIZATION DIAGRAM - DOCKS DEPARTMENT - BRISTOL CITY COUNCIL.

2

## CHAIRMAN & MEMBERS OF DOCKS COMMITTEE (ii).



PORT GOVERNMENT

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### RIVER CONSERVANCY CONTROL.

It will hardly be considered necessary to create a special class in order to refer to the systems of port control through a river conservancy board or similar body—which is practically identical with autonomous control. Although different in name, the control of the port of Sunderland by the River Wear Commissioners, of the port of Stockton-on-Tees by the Tees Conservancy Commission and of the port of Newcastle by the Tyne Improvement Commissioners, is indistinguishable in system from that which has been described in the preceding section. There are so many forms of autonomous government and so many variations in designation, that space does not admit of dealing with them all, nor, indeed, is it necessary, since they are constituted on similar lines and exercise similar functions. Sometimes these conservancy bodies share their jurisdiction, so far as dock accommodation is concerned, with railway companies whose lines run to the ports in question.

### REPRESENTATION.

Reviewing the three examples of autonomous control mentioned above, which are fairly typical of all varieties, it may be said that the principle of direct representation of those engaged in shipping and overseas trade is, undoubtedly, an advantage to the governing body of a port. Much depends, of course, on the nature of the representation, in order that it may be effective for its purpose, but, speaking generally, the principle is one which has been increasingly adopted in port undertakings. As regards the exact constitution of such bodies we have the following variations :

(a) The Port of London Authority consists of eighteen elected and ten appointed members, with a chairman and vice-chairman, who may be elected from outside their number. Of the elected members, seventeen are chosen by a general suffrage of payers of rates, wharfingers and owners of river craft and one by the wharfingers separately. The appointed members are nominated as follows: one by the Admiralty, two by the Board of Trade, four by the London

County Council, two by the City Corporation and one by Trinity House. Of these, one nominee of the Board of Trade and one nominee of the London County Council are directly representative of labour interests.

(b) The Mersey Docks and Harbour Board has twenty-eight members, of whom twenty-four are elected by the payers of dock dues and four are nominated by the Mersey Conservancy Commissioners, now absorbed by the Ministry of Transport.

(c) The Clyde Trust is a much larger body, consisting of forty-two members, twelve being chosen by the Corporation of Glasgow, two by the County Council of Lanark, one by the County Council of Dumbarton, one each by the Town Councils of Dumbarton, Renfrew and Clydebank, two each by the Chamber of Commerce, Merchants' House and Trades' House, and eighteen elected by the ratepayers.

In this last case, it will be noted that the representation covers a very wide range of municipal and county interests, though the balance of the voting power remains in the hands of the trading representatives.

#### ADVANTAGES OF TRADE REPRESENTATION.

One of the many advantages of the direct representation of commercial and shipping interests is that the various trades are able to impart their special knowledge at the deliberations of the Board, and the following quotation from an address by the late Mr. A. G. Lyster (Engineer-in-Chief, Mersey Docks and Harbour Board) sets out the special way in which this knowledge is of service in the case of the Port of Liverpool:

"In a large port and commercial city like Liverpool, which is the centre of many vigorous trades, these latter are formed into different representative associations, such as the Shipowners' Association, the Cotton Trade Association, the Grain Trade Association, and many others, and the members of all these associations are qualified voters for the election of members of the Board as provided by the Mersey Dock Acts. There is, therefore, a tacit understand-

ing amongst all these associations, whose interests are vitally connected with the successful administration of the port and harbour, that they shall have respectively a certain number of representatives on the Board. In the selection of candidates they are naturally careful to choose the best men available to promote their respective interests, and in this way the composition of the Board is such as to assure a very effective representation of all the important trade interests of the port.

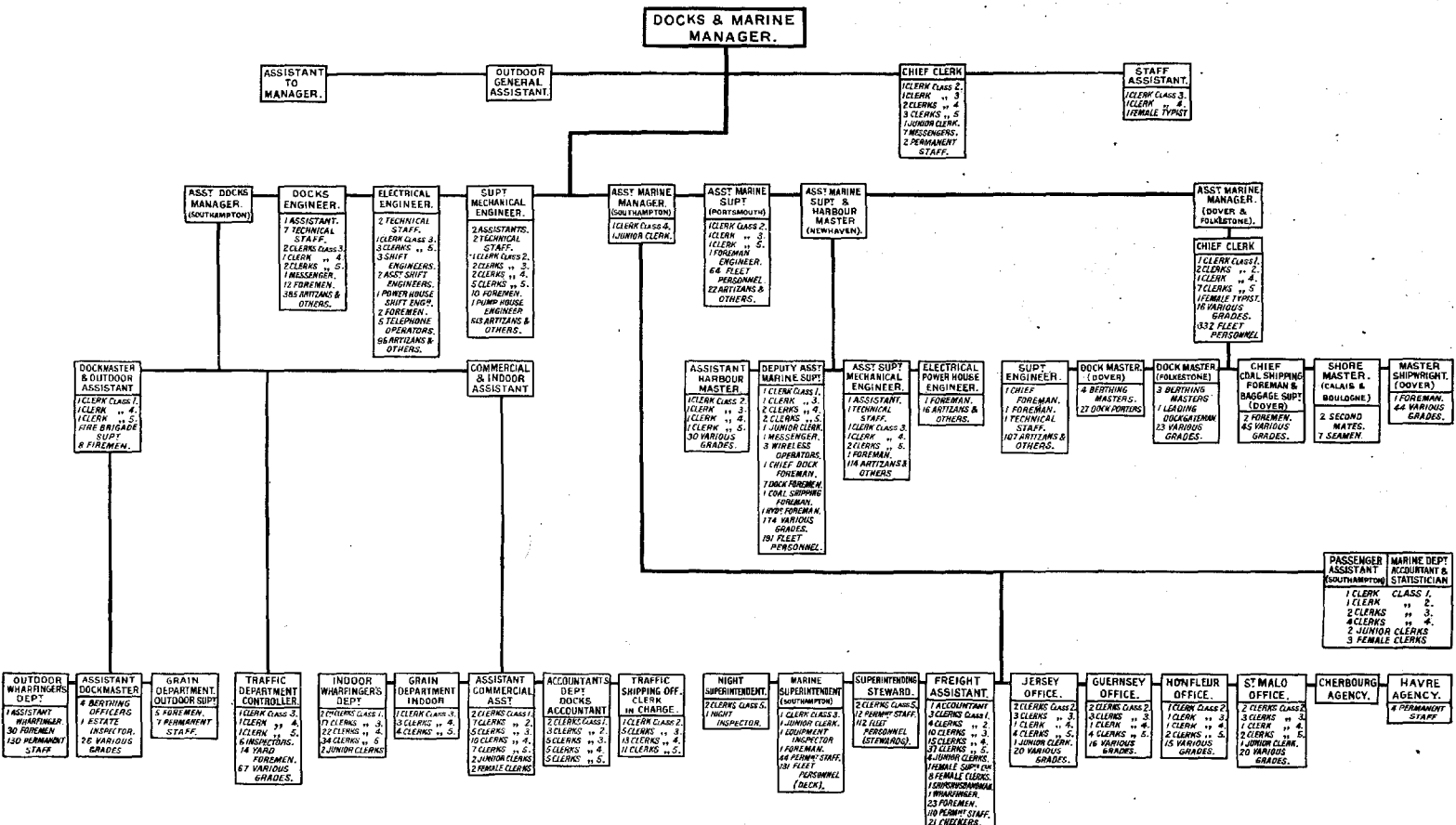
"On every commercial subject, therefore, that comes up for discussion, there are always present at the Board, or in the Committee, members who have an intimate knowledge of the particular trade affected; thus the most direct and accurate information is available on all occasions when the provision of fresh accommodation or the working conditions affecting any trade are being considered. This is one of the most important assets in the constitution of the Board, for accuracy and amplitude of information are essentials in the successful conduct of port affairs. In addition to these advantages, this method of representation ensures a constant supply of the best business men in the port for its management. Moreover, in Liverpool, the status of the Board stands so high that membership carries with it a sort of hall-mark and confers a distinction which the most prominent local men are anxious to achieve."\*

While the foregoing remarks are perfectly and generally true, if the system is carried out in its best and fullest sense, yet it is necessary to point out one or two points which may weaken its efficiency. The first is the tendency of the representative members to consider, in the first place, the interests of their own particular trade and, consciously or

\* Presidential Address, Institution of Civil Engineers, 1913. It is desirable to add that at the date of writing (December, 1924) there is evidence that a number of members of the commercial community in Liverpool hold the view that the constitution of the Mersey Docks and Harbour Board requires revision in order to meet changes which have taken place in trading conditions at the port during the last fifty years. The Council of the Liverpool Chamber of Commerce have had the matter under consideration and have appointed a Committee to study the question and report.



# ORGANIZATION DIAGRAM - DOCKS & MARINE DEPARTMENTS - SOUTHERN RAILWAY.



unconsciously, to subordinate thereto the general welfare of the port, especially if this is at any time associated with some special advantage or concession to a rival trade. It is quite possible, though happily not usual or even noticeable, that a trading representative might take the opportunity of gaining some advantage for his own firm or company, or, at any rate, he might conceivably limit his activities to the rôle of watch dog. This, of course, is putting the matter on a very low level, but the possibility should not be overlooked. The second source of weakness is that, with so many heterogeneous, and sometimes conflicting, interests separately represented, a condition of stalemate may ensue, or the administrative power and influence may fall into the hands of an active and forceful personality, say, the chairman, who in the absence of combined opposition to his views, eventually becomes more or less an autocrat. This phase has actually been experienced at a British port of high standing.

#### NEW YORK.

A somewhat different type of autonomous Port Authority is to be found at New York. It is a body with corporate powers, wide in administrative scope, but restricted in application by the necessity of respecting certain existing executive agencies.\* It was formed in 1921 by joint laws of the States of New York and New Jersey, approved by resolution of Congress, after a protracted enquiry into the needs of the port by a Joint Commission representative of the States in question. The Authority, as constituted, consists of six appointed Commissioners, three from each State, and its jurisdiction extends over the whole of the City and Harbour of Greater New York. Its duties are to prepare and execute plans for the comprehensive development of the port (subject to ratification by the State Legislatures); to acquire and construct terminal and transportation facilities within the port district for moving and handling

\* In this respect it resembles the Port of London Authority. Both have titles which are apt to mislead in regard to the comprehensiveness of their powers.

goods by rail, highway and water and to operate them. The control of the existing "docks" (in English terminology, piers) on the Manhattan Island frontage is, however, in the hands of the Commission of Docks of the City of New York. Pilotage is separately supervised by Boards of Commissioners of the two States. There is also a Harbour Supervisor, appointed by the U.S. President, and acting under the direction of the Secretary of War, who safeguards the harbour waters from illegal dumping or deposits of refuse, while a "Captain of the Port," also a Federal official, assigns anchorage berths, supervises the handling of explosives and issues licences to stevedores.

The creation of the Port of New York Authority may be styled an experiment. It is an effort to secure co-operation among the various interested parties connected with the working of the port, and to promote a scheme of unified development. Much opposition has been encountered during the few years of its existence and the position is such that, as yet, it can hardly be said with confidence, whether, and how far, the experiment is likely to prove a success.\*

A multiplicity of jurisdictions is, undoubtedly, a marked feature of port administration in the United States. As another striking instance, the case of Chicago may be cited, where no less than six separate governmental agencies or offices exercise some control over the harbour waters. "In addition to Federal supervision and maintenance of the river channels and canals, the State of Illinois assumes jurisdiction over the same area through the Division of Waterways, Department of Public Works and Buildings. The Committee on Harbors, Wharves and Bridges of the City Council initiates legislation for the control and improvement of the port by the municipality. An agency known as the Harbor Board, consisting of officials from various related departments, operates the municipal pier.

\* *Vide* an editorial article in *The Port of New York and Ship News*, of July, 1924, indicating some of the obstacles placed in its way. "Each progressive step as yet seems to be beset with difficulties. Inefficiency and extravagance have prevailed so long that it is hard to change things. . . . The merest beginning is being made—but a beginning is being made."



Municipal Pier, Chicago, U.S.A.

*[To face page 38.*

The Bureau of Rivers and Harbors under the harbor master polices the harbor waters, performs certain engineering functions, and may issue certain wharfing permits with the approval of the Commissioner of Public Works. The Commissioner of Public Works exercises control over private construction work in the harbor through the issuance of permits. Two separate Park Boards have certain powers to improve the lake front and reclaim submerged lands. Finally, the Sanitary District, organised to control the disposition of sewage, has been engaged for several years in making important improvements in the navigable channels.\*

### III. RAILWAY CONTROL.

A number of ports in this country are more or less under the jurisdiction of railway companies, to whose systems they form a convenient, though not invariably a directly remunerative, appanage. The Great Western Railway owns and administers the docks of the ports in South Wales; Southampton Docks are the property of the Southern Railway; while, on the East Coast, the dock accommodation of Hull, Hartlepool and Middlesbrough is the property of the London and North Eastern Railway. There are many other instances. Under railway administration, ports are naturally and obviously worked for the benefit of the system to which they belong, and they serve as feeders thereto, bringing traffic to the lines. The direction of their affairs is, accordingly, dominated by this consideration. One benefit, formerly accruing to a port under this system, was that any local working loss, which might be incurred, was met by the ample resources of the railway undertaking, and was overlooked in view of the indirect benefits arising out of increased rail traffic. This placed a railway port in a favourable position for competing with an autonomous port without any resources other than its own direct earnings. To some extent, the position has been modified by the Railways Act of 1921, which insists that losses on railway-owned dock undertakings shall be directly borne by the

\* "Shore Control and Port Administration," p. 91.

shareholders, but there are indirect ways in which the intention of the Act can be frustrated, should occasion arise.

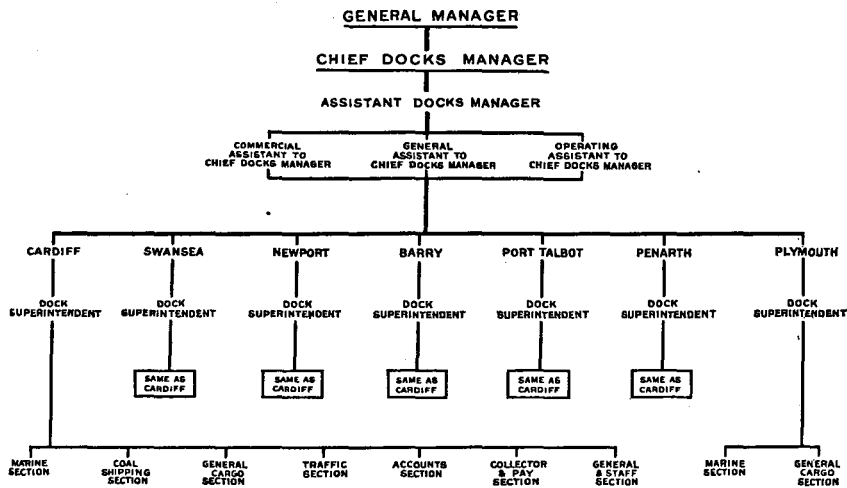
That this discriminatory action on the part of railway companies is equally characteristic of American practice, is evident from the following extract from a Paper on National Port Problems by Major-General Lansing H. Beach, at the time Chief of Engineers, U.S.A.\*:

“Everyone who has come in contact with the port terminal problem, sooner or later has been forced to conclude that perhaps the greatest evil in the situation and one of the principal ‘National Port Problems’ is the undue extent to which the waterfronts of the principal seaports have passed into railroad control or ownership. The effect of such railroad predominance has often been to influence the prosperity of the seaports, some of which have been favoured at the expense of others. The situation in this regard is quite fully covered by the Board of Engineers for Rivers and Harbors in a recent report which relates to the South Atlantic and Gulf Ports, and recommends steps to prevent the railroads from continuing this kind of activity, by compelling them to make rates for terminal services fairly compensatory for the work involved and the use of the facilities concerned. The belief of the Board is, however, that the railroads should be compelled to divest themselves of their ownership of these port terminal properties, and that preferably they should pass to public ownership and control.”

In the foregoing, it should be noted that the jurisdiction of the railway companies mentioned extends only to docks and piers and, in this sense, their port control is incomplete. For, as stated in our opening section, docks are only a portion, albeit a very important portion, of a port. But a railway company is not specially interested in, or, at any rate, rarely, if ever, takes any responsibility for, the approach channel and other external features constituting the harbour section of a port. This is either left to the control of an independent Harbour Board, as at Newport and Southamp-

\* Conference of the American Society of Civil Engineers, 1924.

**ORGANIZATION DIAGRAM—DOCKS DEPARTMENT—GREAT WESTERN RAILWAY PORTS.**



PORT GOVERNMENT

ton, or to a Conservancy, as at Hull. Before the constitution of the Port of London Authority, the river approach was under the jurisdiction of the Thames Conservancy.

This limitation, while it is deserving of note, does not really affect the crucial question, for the activities of a port are centred in its docks and quays, and the control of these virtually means the control of the port.

The advantages claimed on behalf of Railway Controlled Ports are set forth in the following extracts from a Paper\* by Major Gilbert S. Szlumper, Docks and Marine Manager to the Southern Railway Company:

"In their favour it may be said that they do not absorb the ratepayers' money, but, on the contrary, are large contributors to the municipal exchequer; and in some cases, were it not for the railway company there would be no port, for it is owing to the foresight of some of our earlier railway leaders that many of the country's gateways have been discovered and developed, whereas no other form of public or private enterprise would have made a success of them.

"Railway-owned ports are, as a rule, operated by one chief officer, unfettered by amateur control of a body of persons whose individual interests may be diametrically opposed, but who must all be interested in having the port run to suit their own particular requirements. The chief officer is, of course, the servant of the board of directors, who generally only busy themselves with matters of broad policy; he also works under the direction of the general manager of the railway company, and beyond the zest of achievement, he has the necessity of producing satisfactory results to hungry shareholders, and the added incentive of knowing that performance will bring its own reward; in other words, he is working to show, at the end of the year, the largest profit that can be built up by energy, initiative, economic working and progressiveness. To the railway dock autocrat, it seems as if some of these incentives may well be lacking in a municipal or trust-run system."

\* "The Operation of a Railway-owned Port"—*Journal of the Institute of Transport*, Vol. IV, No. 6.



There does not seem to be any precise parallel on the Continent, or in America, to the system of railway control in this country. Railway companies abroad may own a riverside frontage, but it is generally limited in extent, and control is scarcely so complete as at the English ports cited.

#### CANAL CONTROL.

Analogous to Railway Control is Canal Control, with merely the substitution of a Canal, or Inland Navigation, Company for a Railway Directorate. The Goole Docks, constituting all the essential accommodation of the port of Goole, belong to the Aire and Calder Navigation, who exploit them mainly in the interests of their coal traffic from the Yorkshire coalfields. The London, Midland and Scottish Railway Company are also, to some extent, interested in the same port by reason of their continental trade, but they do not participate in the control of the dock system.

A more important instance is the port of Manchester, which is administered by the Manchester Ship Canal Company, who own the docks, sheds and other appurtenances of the port, in addition to the thirty-six miles of waterway connecting it with the River Mersey and the sea. A separate body known as the Trafford Park Estates, Ltd., have constructed a number of warehouses adjacent to the docks, which are largely used in connection with port traffic. The Manchester Ship Canal Company keep and maintain the waterway and provide all accommodation and facilities for shipping at the port, and are, in fact, the statutory Port Authority.

#### IV. MUNICIPAL CONTROL.

Control of a port by the municipality of the town, with which it is associated, is a distinctive feature of certain continental ports, and it is very extensively the practice in America, whereas in Great Britain there is, at present, only one instance of notable importance—that of Bristol, though Preston is also an example among the secondary ports. At one time, prior to the formation of their respective Port Authorities, the municipalities of Liverpool and Belfast

#### 44 PORT ADMINISTRATION AND OPERATION

exercised governance over their port affairs, but this has long since been changed.

##### BRISTOL.

At Bristol, eleven members of the City Council form a committee known as the Bristol Docks Committee, to administer the affairs of the port. Their duties include the management of all the docks at Bristol, Avonmouth and Portishead, the conservancy, within the limits of the port, of the rivers Avon, Frome and Malago and the dredging of the navigable channel. The Committee undertake stevedoring work at the quays and they do a warehousing business.

On the continent of Europe there are several examples of municipal control in various forms.

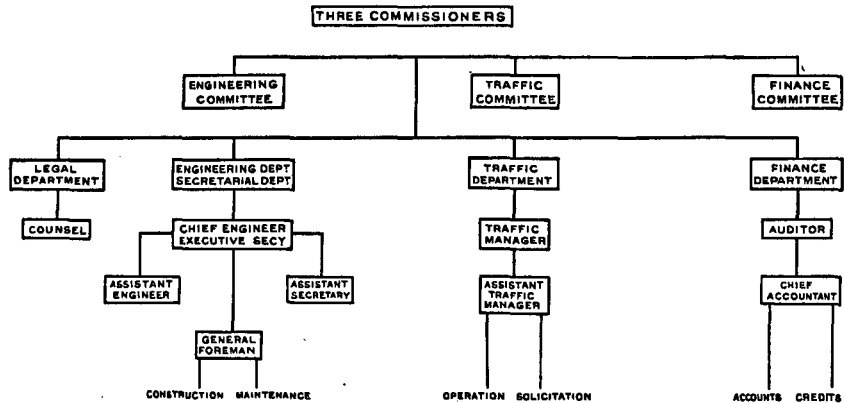
##### ANTWERP.

At Antwerp, the administration and management of the port lies in the hands of the Municipal Council. The Executive Board, consisting of the Burgomaster and Aldermen, examines and prepares all business matters to be placed before the Council, whose decisions in certain cases covered by statute and according to importance, must be approved by the Provincial Permanent Deputation, or sanctioned by the Crown. The City Corporation supervises all the maritime establishments and the land police force, together with the technical and administrative staffs. On the other hand, the river police, the channel lighting and pilotage services, as well as the quay railways and the Customs service, are under State control.

The docks, with the exception of the older basins, are municipal property, having been constructed at the city's expense.

It is the city's liability to maintain the wet docks, together with their adjoining works and appanages, the dry docks, sheds, warehouses, petroleum installations, all the cranes and cargo handling machinery and the towing craft. Other

**ORGANIZATION DIAGRAM—PORT OF SEATTLE.**



PORT GOVERNMENT

obligations are the ballasting and unballasting of vessels, and the framing of the dock and the quay regulations.

The river quays on the Scheldt and the barge docks have been constructed by the State, but are managed by the city under special agreement.

Municipal control is exemplified in America at a number of ports. It is generally the rule on the Atlantic seaboard of the United States and on the Great Lakes. The form usually taken is that of a department of city administration, such as might also be the case with parks or streets. We will take two instances.

#### BALTIMORE.

At Baltimore, general administrative powers over the harbour and waterfront are vested in the Mayor and City Council. The city charter provides for a Harbour Board of five persons, which "shall be the head of the third sub-department of public improvement." The president of the Board has the title of Harbour Engineer and receives a salary, while the other members of the Board serve in an honorary capacity. "The Harbor Engineer is a purely administrative officer, and the Harbor Board is wholly subordinate to the Mayor and City Council. No sharp distinction is made between the administration of the port and other municipal functions."\*

#### PHILADELPHIA.

At Philadelphia, the Mayor has the statutory right to appoint, with the advice and consent of the Select Council, a Director of the Department of Wharves, Docks and Ferries, to hold office during the term for which the Mayor appointing him was elected (four years) and until his successor is appointed. The Director is empowered to establish bulkhead and pierhead lines and to fix the distances between piers (subject to the regulations of the United States Government) "and to adopt and promulgate rules and regulations for the construction, extension, alteration,

\* "Shore Control and Port Administration," p. 97.

improvement and repair of wharves, piers, bulkhead, docks, slips and basins " within the city limits.\*

#### BENEFITS AND DEFECTS OF MUNICIPAL CONTROL.

The advantage of a municipal system of control as affecting ports lies chiefly in the claim which can be made for financial support from the city rates. Bristol actually subsidises its docks with an annual contribution of varying amount from the city revenues. This subvention can be looked upon as a remunerative outlay, in the sense that it fosters trade which is of benefit to the citizens generally. As in the case of railway control, it places an effective weapon in the hands of a municipal port competing with an autonomous authority.

On the other hand, there are attendant evils. Municipal bodies are unavoidably under the influence of party bias. They have been definitely elected on a party programme which may have nothing at all to do with commercial affairs. It is difficult for city councillors to approach questions of port administration otherwise than in a quasi-political fashion, that is to say, with a weather eye on the electorate and popular favour. Apart from this, not only may the grounds of their election to the city council have nothing to do with port affairs, but the councillors themselves may be inadequately fitted to deal with such matters. They may altogether lack the requisite training and experience, for the qualifications which enable a man to gain a seat in a popular civic assembly are by no means identical with those which render him a capable and efficient member of a port authority.

Furthermore, the interests of a municipal council are inclined to be narrow, that is to say, they are generally confined to the benefit of residents within the city boundaries. A town is apt to lose sight of the wider responsibilities of the port, and even to manifest opposition to measures which may be to the advantage of the trade of a district beyond its borders.

\* "Shore Control and Port Administration." p. 128

## 48 PORT ADMINISTRATION AND OPERATION

### PORT CORPORATIONS.

A special form of port control is in existence at a few ports in the United States, which is neither altogether municipal, nor precisely independent or autonomous. It has been designated the Port Corporation.

A Port Corporation consists of a body of port commissioners elected on a municipal franchise, but obviously chosen for special reasons connected with port affairs. Under a statute of the State of Oregon "municipal corporations designated as ports, may be incorporated in countries bordering upon bays or rivers navigable from the sea or containing bays or rivers navigable from the sea."\* To secure such a charter, a petition must be signed by eight per cent. of the legally qualified voters of the county. The authority of the Port Corporation in Oregon is vested in a board of five commissioners, all unpaid, elected for four years at a general election in the district, with overlapping terms of office.

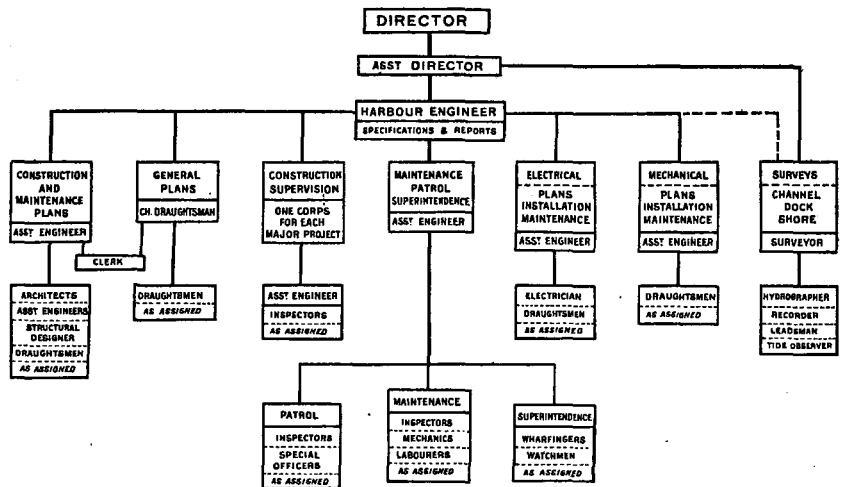
The existence of a port corporation does not, however, necessarily eliminate an independent administrative body for the "docks" (*Anglicé*, piers or wharves) of the port. At Portland, Oregon, the two bodies operate side by side, and the following detailed statement of their respective functions indicates that no very definite distinction is drawn between their spheres of action.†

The powers vested in the "Port of Portland Corporation" are "to promote the maritime, shipping and commercial interests of the port; to make and maintain an adequate ship channel between Portland and the sea and improve the harbor of Portland; to maintain a towage and pilotage service between Portland and the sea; to construct and operate dry docks; to sell coal and supplies to ships . . . to own and operate water transportation units . . . to borrow money, sell and dispose of bonds . . . to construct or purchase docks, wharves, elevators, terminals, dry docks,

\* "Shore Control and Port Administration," p. 128.

† "Shore Control and Port Administration," p. 210; also Paper on "Port Organisation and Port Management," by G. B. Hegardt, at New Orleans Convention of American Association of Port Authorities.

**ORGANIZATION DIAGRAM - PORT OF PHILADELPHIA - ENGINEERING DIVISION.**



PORT GOVERNMENT

or other properties . . . to own, acquire, construct or purchase, lease railroads and to maintain them within the boundaries of the port" . . . etc.

The "Commission of Public Docks" operates under the following instructions: "To cause to be prepared a plan for the reconstruction of the harbor front; to provide for the reconstruction of docks, piers, slips, wharves, basins, cranes and dock apparatus, as needed; to provide for public-owned docks; to purchase or acquire lands for use in the construction of docks, piers, wharves, etc.; to have exclusive charge and control of the wharf property belonging to the City of Portland, the repairing, building, rebuilding, operation, alteration and leasing of the said property . . . to issue and dispose of bonds . . . to fix and regulate from time to time the dockage, wharfage and crantage charges for all publicly-owned docks, piers, etc."

In the State of Washington, the jurisdiction over a similar port district is exercised by a Commission of three members elected for a term of three years. The Commissioners in port districts, having a population of 200,000 or more, are paid a salary; those in other districts are required to serve without pay.

The feature differentiating these bodies from municipal corporations is that, although elected by the same electorate, they are elected on port questions as distinct from politics (presumably) and municipal matters. This, at any rate, is how it seems to the author, who, however, feels some doubt as to the possibility of abstracting port questions from politics in a country where politics are the ruling consideration, entering into almost every department of public life and the administration of all public affairs. Only those who have been in America can quite understand the pervading influence of politics.\*

\* "It seems impossible to divorce port control entirely from politics, and more than one port has suffered by political domination and by the ability, abruptly and without redress, to change the entire policy of its development and operation."—The late B. F. Cresson, Chief Engineer, Port of New York Authority.



## V. PRIVATE CONTROL.

The last system of port government to receive consideration is that of private control, in which the affairs of the port are in the hands of private or limited liability companies, or even of individual proprietors. In the latter case, the undertaking will generally be of a relatively insignificant character.

Several minor ports in the country are administered, at any rate as far as their dock and quay accommodation is concerned, by limited liability companies: Gloucester, Seaham, Ardrossan, Larne, for instance. In such cases, the companies are influenced by the necessity of earning a dividend and of limiting their expenditure, as far as possible, to works of a definitely remunerative character. They can hardly be expected in a spirit of altruism to consider the administration of the port from the point of view of the advantage of the community, though not infrequently the two objects are identical, or perhaps run on parallel lines.

Prior to the creation of the Port of London Authority, the dock systems of the port were the private property of three separate dock companies in business rivalry with one another and with the riverside wharfingers, which led to much undercutting and keen competition. The undertakings suffered and one or two of them found it difficult to pay their way. The fabric was neglected and improvements were out of the question.

There were a number of contributory causes which led to this state of affairs. The dock companies complained that the right of free entry for barges and lighters into their dock systems deprived them of a legitimate source of revenue, and they sought permission to augment their income by levying charges on goods as well as on shipping, a demand which encountered the strongest opposition. The trouble, in fact, was mainly financial, and the problem of satisfying the public outcry against further charges was solved by the creation of a representative body with statutory powers to levy rates on shipping and goods. The "free water clause," however, as affecting barges and lighters, remained intact.

It is only fair to say that the dock companies strongly resented the imputations made against their management. Their case may be stated in the words of Sir Henry Le Marchant, one of the Directors of the London and India Docks Company:

"During the recent agitation, all sections of the community, without any independent examination of the facts, and in many cases disregarding explicit evidence, combined to throw discredit on the Docks and Port of London. Irrational as the agitation may have been, it was strong enough to encourage the Government to declare that the question was a matter of national concern, and in addition to the water legislation to make another move in the socialistic direction, and to bring in a Bill to acquire the three Dock Companies on the Thames. Never did a measure of first-class importance of a most far-reaching character meet with less discussion or argument. The second reading was carried out without opposition and almost without debate. Then slowly and very gradually the common sense of the public commenced to reassert itself, and people began to grasp:

1. That the Dock Companies had up to now fulfilled their purpose;
2. That as regards charges on goods in London (about which the chief outcry had arisen), London is the cheapest port in the United Kingdom, for the simple reason that it is an absolutely free port."\*

The Port of Manchester might conceivably be regarded as a case of Private or Company Control, but it has been dealt with under the heading of Canal Control, with which it seems on the whole to be more appropriately connected, especially as the company have statutory powers placing them more or less on the level of autonomous bodies in sole control.

#### MISCELLANEOUS INSTANCES.

It will be a suitable conclusion to this chapter if a few

\* *National Review*, January, 1904.

miscellaneous instances of port government (principally cases of Trusts or Commissions) in various parts of the world are given to show how extremely variable is the genesis and development of the bodies entrusted with the administration of port affairs, according to nationality, situation, environment, trade and general conditions. Space will not admit of a very large selection.\*

#### NEW ZEALAND.

Many of the Harbour Boards of New Zealand are constituted under the terms of the Harbours Act passed by the General Assembly of New Zealand in 1878, and amended and consolidated in 1923. This general Act provides for the establishment of public bodies as Harbour Boards and vests in them independent control and management of their respective ports. Membership varies in number from six to fifteen. These Boards decide and carry out such policy of harbour improvement and management as they may consider best adapted to the needs of their ports, and are directly responsible for the financing of all schemes and works. Harbour development projects, involving land reclamation, wharf construction, etc., must receive legislative sanction.

The Wellington Harbour Board, which may be cited as an example, consists of fourteen members, ten of whom are elected by the municipality and outlying districts; two by payers of harbour dues on British ships; two by payers of harbour dues on goods; and one is appointed by the Governor-General in Council.

#### AUSTRALIA.

The Melbourne Harbour Trust Act of 1876 was drafted on the lines of similar bodies in Great Britain, that is to say, it consisted mainly of elected members. Of seventeen Commissioners, five were appointed by the Governor in

\* *The Dock and Harbour Authorities' Directory*, published annually at 158, Strand, London, W.C., which contains a complete list of members of dock and harbour authorities throughout the world, may be consulted with advantage, if further information is desired.

Council and the remainder were elected by payers of port dues. In December, 1912, the constitution of the Trust was altered by Act of Parliament. It is now a Commission of five members appointed by the Governor in Council, consisting of a paid Chairman, who is to devote the whole of his time to the business of the Trust, and four representatives, respectively, of the interests of the Shipowners, Exporters, Importers and Primary Producers.

The Sydney Harbour Trust, formed in 1901, is a body of only three members: a President and two Commissioners, all nominated by the New South Wales Government.

#### CANADA.

The Toronto Harbour Commissioners' Act passed by the Canadian Government in May, 1911, provides for the appointment of five Commissioners, three of whom are nominated by the City Council and two by the Dominion Government. Of the latter, one is a direct appointee, and the other on the nomination of the Board of Trade (in England this would be the Local Chamber of Commerce).

The Montreal Harbour Board consists of three Commissioners, nominated by the Canadian Government.

#### INDIA.

By the provisions of the Calcutta Port Act of 1890, as modified by the Calcutta Port (Amendment) Act of 1920, there are sixteen Commissioners for the port, that is to say:

A Chairman, appointed by the Local Government, and a Deputy-Chairman, appointed by the Commissioners, but subject to the approval of the Local Government. Both these officers are paid.

Five nominated Commissioners, also appointed by the Local Government, and

Nine elected Commissioners: six by the Bengal Chamber of Commerce; one by the Calcutta Trades Association; one by the Commissioners of the Town of Calcutta and one "by such body or bodies, or firms, as the Local Government shall, from time to time, select as best representing the interest of the native mercantile community."

## ITALY.

The case of the Port of Genoa is interesting as that of a port administrated by a Consortium of a complex character, the composition of which has been the subject of considerable discussion, and for which proposals of modification are now under consideration.

The present constitution was laid down in a law of the Italian Parliament dated February 12th, 1903, in the following terms :—

Article 1. There is constituted an obligatory Consortium having instructions to provide, with the special funds assigned thereto, for the execution of works, for the administration and for the co-ordination of the services of the Port of Genoa.

The Consortium has a duration of 60 years and provides directly :—

1st. For the administration of the funds and of the assigned income ;

2nd. For the execution of ordinary and extraordinary port works, as well as for the ordinary and extraordinary maintenance and repair of the same works, and of those already existing in the Port of Genoa ;

3rd. For the expense of railway equipment, of whatever kind, on the quays, and for the lines of access assigned to the service of the Port ;

4th. For the port maritime service covered by part 1, section 3, of the Code for the mercantile marine, subject to the exception arising out of the last clause of the present article ;

5th. For the promotion, in legal form and with all the means at its disposal, of the co-ordination of other services for the development of the Port, including the regulation and discipline in similar manner of all kinds of personal service attached to the Port ;

6th. For the costs, of whatever nature, necessary in settling the obligations indicated above.

There is, however, excluded from the competence of the Consortium all that concerns the works and conditions of

military service by land and sea, the pilotage service, the judicial police and the penal maritime jurisdiction of the Port, the public security, the public health and the Customs.

Article 2. The Consortium is constituted by  
 the State ;  
 the Provinces and Communes determined hereinafter ;  
 the Chamber of Commerce of Genoa ;  
 the Undertaking directing the railway service of the Port of Genoa.

Article 3. The members of the Consortium are representatives of :—

1. The State : Five appointed members, viz., the President of the Consortium, nominated by Royal decree on the advice of the Minister of Public Works, in conjunction with the Minister of Marine, and selected from outside the members of the Consortium ; a Councillor of the Prefecture, designated by the Minister of the Interior ; an Inspector of Civil Engineering ; a Senior Technical Inspector of the Royal Inspectorship of Railways and a technical functionary of the Royal Inspectorship of Railways for the Genoa District, nominated by the Minister of Public Works. Five members, *ex-officio*, viz., the Financial Superintendent of Genoa ; the Chief Engineer of the Department of Civil Engineers of Genoa ; the Director of the Hydrographical Office of the Royal Marine at Genoa ; the Captain of the Port of Genoa and the Controller of Customs at Genoa.

2. The Provinces : Elected members, viz., a Provincial Councillor elected by the Provincial Council for the Province of Genoa ; a representative elected by the Provincial Council for each of the other Provinces which share in the expense of the Port of Genoa on a quota of not less than 80 thousandths of the full annual contribution imposed on the provinces by the law of April 2nd, 1885.

3. The Communes : One member, *ex-officio*, viz., the Mayor of Genoa ; elected members, viz., an Engineer selected by the Communal Council of Genoa ; a Communal Councillor



Passenger Pier, Genoa.

[To face page 56.]

elected by the Communal Council of each of the Communes which share in the expense of the Port of Genoa on a quota of not less than 30 thousandths of the full annual contribution imposed on the Communes by the aforesaid law.

4. The Chamber of Commerce : One member, *ex-officio*, viz., the President of the Chamber ; elected members viz., a marine captain and a shipbuilder, nominated at a meeting of commercial electors of the Chamber.

5. The Railway Organisation : Two superior functionaries, nominated by the Organisation.

Article 4. Additional members are included as follows :—

A representative each of the Chambers of Commerce of Milan and Turin ; two representatives of Labour attached to the works, or to the services of the Port.

#### SWEDISH PORTS.

The affairs of the Port of Stockholm are administered by a Harbour Board, consisting of a Chairman appointed by the City Council from amongst its members, and six other Commissioners, of whom one is appointed by the Crown, one by the Stockholm Chamber of Commerce and the remaining four by the City Council. The Crown and the Chamber of Commerce each appoint one substitute, and the City Council, four substitutes.

The Port of Gothenburg is similarly a municipal undertaking, with a Harbour Board constituted on the same lines as that of Stockholm. The same is true of Malmö.

The management of each of these ports is in the hands of a General Manager, or Harbour Director, appointed by the Harbour Board and under its direction. There are generally three administrative departments : a Harbour or Port Office under the Port Captain, who regulates the traffic ; an Audit or Account and Finance Department under the Chief Accountant, and a Technical or Works Department under the Chief Engineer.

#### PORTS OF THE DUTCH INDIES.

In the Dutch Indies, the central direction of ports is in



the hands of the Department of Public Works, which also has charge of the dredging operations. At the large ports, there is a Director of the Port and, in some cases, a Sub-Director, assisted by a deliberative Commission of Management. This, however, is looked upon as a temporary provision until such adjustments have been made as will enable the entire management to be placed in the hands of a Board of Directors, working in correspondence with the Director of Public Works.

As Director of the Port, an engineer attached to the service of Roads and Bridges is usually appointed. He takes charge of the execution of all new works, the maintenance, improvement and extension of the port accommodation and the general working of the establishment.

Projects for development are submitted by him, first to the Port Commission, for an expression of its views, and afterwards to the Director of Public Works. The composition of the deliberative Commission is not the same for all ports. It varies according to local circumstances. Besides the Director of the Port, who is *ex-officio* president and member, there are generally included :

The Captain of the Port,

The head of Customs and Excise,

One member nominated by the Council of the district in which the port is situated, and

Three members nominated by the Governor-General from local, commercial and shipping communities, generally one representative of overseas navigation, one representative of the coasting trade and one representative of commerce.\*

#### THE COPENHAGEN HARBOUR ADMINISTRATION AND THE FREE PORT CO.

The harbour itself has been constructed by, and at the cost of, the Harbour Administration, while the warehouses, rails, cranes, etc., are the property of the Free Port Company, which has secured a concession permitting the Company to use the whole Free Port in return for the payment to the

\* "Wouter Cool on the Ports of the Dutch Indies." *Vide The Dock and Harbour Authority*, May, 1923.

Harbour Administration of a certain percentage of the receipts.

The Harbour Administration, as an institution, is independent in the economic and administrative sense, possessing its own Board and controlling its own finances. Certain arrangements and matters, however, require the approval of the Minister of Public Works. The Harbour Administration consists of a Board and a Management. The Board includes the Mayor of Copenhagen as chairman, and sixteen members selected as follows: one appointed by the Minister of Public Works; one appointed by the Minister of Commerce; two elected by the Upper House of Legislature, and two by the Lower House; two by the Magistracy of Copenhagen; two by the Committee of the Society of Wholesale Dealers; two elected as representatives of shipping, and two of local industries, by the chief organisations for shipowners and industrialism, respectively. The members of the Board are appointed, or elected, for a period of six years.

The Copenhagen Free Port Company, Limited, was founded in July, 1894, for the purpose of carrying on the business of a Free Port in accordance with the rules and regulations embodied in the Commission granted to the Company. The Free Port was opened to traffic in November of the same year. The Board of Directors consists of eight members, two of whom are appointed by the Government Department at the time in authority with regard to harbour matters, two by the Copenhagen Harbour Board from amongst their own members, and the remaining four are elected by the shareholders. The share capital of the company is 4,000,000 kroner.

#### THE "IDEAL" FORM OF GOVERNMENT.

The ideal form (if there be anything of the kind) of port government is obviously difficult of determination, and indeed of definition, so much depends on local conditions and prepossessions. A form of control which would be quite suitable for one port might, for various reasons, be quite

unsuitable for another. But, speaking very generally, and taking into consideration the circumstances attending the growth and development of ports in this country only, the author feels that there is a very strong case to be made out for the adoption of an autonomous trust with a small nominated element, but mainly elected on a commercial and shipping franchise. It must be assumed, of course, that the members so elected would devote themselves in no narrow spirit to the promotion of the general welfare of the port, and there is every reason to believe that such a spirit does, in general, animate the members of existing authorities of this kind. The jurisdiction of the Board would extend over all matters directly affecting the working of the port, including the approach channels, harbour, docks, quays, wharves, jetties, and so much of the shore area as is devoted to port operations.

It is interesting, in this connection, to quote the views of a distinguished and experienced port administrator who throughout a long official life served in various capacities under the Port of London Authority and its predecessors, rising to chairmanship of one of its most important Committees. Sir Joseph Broodbank made the following remarks in November, 1923, in the course of a Presidential Address to the Institute of Transport:

“ My ideal for the management of a great seaport is that which was put before Parliament by Mr. Cater Scott and Lord Knutsford, the Chairman and Vice-Chairman of the London and India Docks Company, some twenty years ago. Shortly put, this was that there should be a supreme authority in the port representing its main interests for controlling all matters relating to the waterways, leaving the quay accommodation and facilities to be provided and managed by a statutory Company; that the supreme authority should have the power to call upon the Company to carry out any new facilities required; that the reasonableness of charges to traders should be subject to appeal to an impartial tribunal; and that there should be a limitation of dividends payable by the Company. The basis of

this ideal is that, while there would be the broad impartial outlook of a public body in the development of the port, the execution of works and the administration of business would be carried out by a commercial body interested in despatch, efficiency and economy. It may be noted that the system which was then put forward as desirable for port administration has, in some of its main features, been adopted in the great measure of 1921 for the unification of the railways of Great Britain."

## CHAPTER V

### PORT ADMINISTRATION

HAVING surveyed, as representatively as space will admit, the various forms of port government to be found throughout the world, our next duty is to consider how these diverse principles of government are transmitted into operation. Whatever be the system of control which is adopted in any locality, there are certain essential features which are common to all port authorities, whether State, corporate or self-controlled, and after enumerating these functions, we will investigate how they may be discharged to the best advantage.

#### FUNCTIONS OF A PORT AUTHORITY.

The functions of a port authority comprise, in greater or less degree, everything that may be necessary for the creation, upkeep and expansion of the port, the working of its system and the control of its affairs. Some of these duties and responsibilities are as follows :

The construction and maintenance of quays, basins, docks (wet and dry), wharves, jetties, breakwaters, moles, piers, locks, passages, bulkheads, retaining walls, slipways, roads, avenues, railway tracks and sidings, bridges, transit sheds, warehouses, buildings, offices, goods depôts, stores, drains, sewers, pumps, machinery, sluices, electric and hydraulic power systems, etc.

The provision and maintenance of equipment and appliances for handling goods and material, such as cranes, jiggers, hoists, elevators, conveyors, trestles, gantries, telephers, runways, trucks, locomotives, wagons, etc.

The making of surveys and taking of soundings in the



Head Office, Mersey Docks and Harbour Board.

*(To face page 1)*

fairway and approach channels, and the preparation and issue of charts, tide tables and meteorological observations.

The dredging and deepening, as may be necessary, of the fairway and approach channels, including the removal or lowering of bars, shoals and obstructions to navigation.

The raising and removal of wrecks.

The lighting and buoying of navigable channels.

The licensing of pilots, watermen, lightermen, master porters, stevedores, etc.

The regulation and management of ferry services.

The issue and enforcement of sanitary regulations and the inspection of vessels and passengers. The provision of medical service and of a quarantine station.

The carrying on of all operations connected with the discharge, storing, warehousing, despatching and loading of goods, including weighing, sampling, cataloguing, arranging for inspection and sale, cooperating, repairing, etc.

The control of labour at the port, and the supervision of conditions of employment, including the preparation of registers.

The fixation, levying and collection of rates and dues on shipping and goods.

The survey of cargoes and assessment of damage claims.

The raising of funds by the issue of stock, or otherwise, for purposes connected with the business of the port.

The acquisition of land for the expansion and development of the port accommodation.

The making and enforcement of bylaws for the proper regulation of the port and its services.

The establishment and control of a police force within dock areas, or for river duties.

The foregoing duties, on account of their heterogeneous character, call for careful and systematic arrangement, in order that they may be effectively carried out. This leads us on to consider the plans which are adopted to distribute them among committees, under the direction of the main or governing body, and to this section we give the title of

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### PORT ADMINISTRATION.

The details of a system of port administration are naturally influenced to a very large extent by the method of government, i.e., whether State, municipal, autonomous or otherwise, and also, as must be fairly obvious, by the particular requirements of any special trade in which the port is engaged.

It would be a matter of some difficulty to examine all the permutations and variations in management which are possible, and which are to be found at some one or other of the important ports throughout the world. A preferable course would seem to be to take as a basis the system of port administration which is most fairly typical of autonomous direction in this country, and to discuss it at length, making reference, as occasion arises, to other systems, where they exhibit alternative, or collateral, advantages.

### COMMITTEES.

An autonomous Port Authority being, as a rule, a fairly large body, and having a considerable amount of work to get through, naturally forms a number of Committees to deal with special questions and report on them to the Board, which then proceeds to adopt and confirm the Committees' conclusions, or to modify or reject them, according to the line of policy favoured by the majority of the members of the Authority. In important bodies, it is customary for Committees on routine, or service, matters to meet weekly or fortnightly, and for the Board to assemble as often in full session, in order to receive such reports as have matured, and to deal with fresh questions as they arise.

**General Purposes.**—The Committee of primary importance will be one which may be called the Senior Standing Committee, the Management Committee or the General Purposes Committee. It takes into consideration all questions which relate to matters of policy, major improvements, extensions and developments, both as regards construction and operation. It considers proposals for enlarging the accommodation and increasing the general



efficiency of the port and, broadly speaking, it deals with all matters of importance affecting trade attraction and service. In the Port of London, there is such a General Purposes Committee, with the Chairman of the Board as Chairman of the Committee. At Liverpool, the functions are very largely exercised by a Works Committee, with the assistance of a Trade Committee. In Glasgow, the appropriate Committee is the Management Committee, which comprises all the members of the Trust sitting in Committee, though there is also a General Purposes Committee for dealing with business not falling specifically under any other Committee.

**Finance.**—Next in importance after the question of policy comes the question of finance. Usually there is a Committee of that name, which supervises the assets and liabilities of the Authority, any fresh capital outlay, the process of raising loans, the receipt of income and the disbursement of expenditure and all other financial and monetary matters. It advises the Board in all cases in which financial provision is necessary. It must ensure that there are sufficient reserves to meet all claims and, generally, provide an income to cover expenditure.

**Docks, Quays and Warehouses.**—Then, probably, there will be a Docks and Warehouses, or Docks and Quays Committee, with a separate Committee for Warehouses where circumstances render it desirable. Such a Committee deals with the berthing and accommodation of ships at the quayside, and the reception, storage and despatch of goods. It concerns itself also, as a rule, with all improvements of a minor character calculated to improve the facilities for shipping and cargo handling. It provides storage capacity to meet trade demands, and fixes the rates and charges for the various classes of accommodation and merchandise, in accordance with the fluctuations of the market.

**Maintenance.**—The important matter of the upkeep and maintenance of the fabric of a port may be entrusted to a Special Maintenance Committee or, so far as it concerns docks, it may form one of the responsibilities of the Docks

and Quays Committee. Sometimes a distinction is made between structural and mechanical maintenance, and while the former, which relates to all buildings and civil engineering work, is dealt with as above, the purely mechanical side of repairs and replenishment of machinery, plant and equipment may be referred to a Mechanical Appliances and Workshops Committee.

**New Works.**—Where the inception and undertaking of new works and extensions to premises and plant do not come under the supervision of a General Purposes Committee, there will probably be a special committee designated for the purpose. This Committee will call for, and consider, designs prepared by the engineering staff, approve schemes which fulfil requirements and, after receiving sanction from the Board, will invite tenders and recommend acceptance of one of them, or arrange for the work to be carried out departmentally.

Other Committees, which will be formed in so far as they may be required, will comprise several or all of the following, the purview of each being fairly clearly indicated by its name.

**Marine.**—This Committee supervises the maintenance of the outer fairway and approaches of the port from the sea, the sounding, charting and marking of the navigable channel, or channels, and the removal of wrecks and other obstructions to navigation. Possibly also, it has control over lighthouses, signal stations and similar external aids to shipping. It may extend its activities to the recording of meteorological observations and the issue of weather forecasts, special navigational directions, tide tables, astronomical data, etc.

**River.**—Such a Committee, as an alternative to the preceding assumes, of course, that the port is, at least, estuarial, if not a river port. The responsibilities of this Committee are very closely identical with those of a Marine Committee, and are principally in regard to dredging and channel maintenance and also buoying and lighting, where

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these duties are not discharged by Trinity House, a Conservancy Board or other kindred body. A River Committee would, furthermore, deal with the management and upkeep of jetties, riverside quays and wharves, and the general supervision of river traffic, including ferries, though these, if of importance, might possibly have a special Committee of that name.

**Pilotage.**—There is usually a special committee, or even a separate Board, to deal with questions of pilots, their licensing and conditions of service. On such a Committee, the pilots generally have direct representation through two, or more, of their own number.

**Traffic.**—A Traffic Committee may or may not be required, where there is a Docks and Quays Committee, but there are many questions connected with the transport of goods which can suitably be dealt with by a Traffic Committee.

**Staff and Labour.**—Among the matters engaging the attention of a Committee so named, would be the appointment, promotion, pay and conditions of service of the Board's officers and employees. It would deal with superannuation allowances, with cases of prolonged sickness, or inefficiency and insubordination. It should also regard the welfare and reasonable comfort of the staff as one of its responsibilities. It is a Committee on which direct labour representation is most desirable, and by tactful and sympathetic action, it can do much to remove causes of irritation and grievances among the men so as to avoid calamitous strikes.

**Law and Parliamentary.**—Such a Committee is necessary to deal with legal matters as they arise, e.g., the acquisition of parliamentary powers for new and additional undertakings, opposition to Bills promoted by rival bodies or measures prejudicial in any way to the interests of the port, the institution of legal proceedings, etc. The Committee will hardly be required to meet as often, or as regularly, as the other Committees, and it is natural to

include in its membership all members of the Port Authority who are Members of Parliament.

**Stores.**—A large consumption of stores in stationery, uniforms and structural material may render it desirable to have a special Committee to handle quotations, accept tenders and generally supervise the consumption of such articles.

**Plant and Appliances.**—Occasionally, a Committee is appointed to superintend the mechanical equipment of a port and see that it is augmented as required and kept up-to-date. A Committee of this type exists at Liverpool, under the designation of Mechanical Appliances Committee. There is a similar Committee at Glasgow.

**Various Matters.**—Apart from the regular and more important activities of port authorities, there will be a number of matters arising from time to time which may require the attention of special Committees, but as these are generally of a transitory character and not a normal feature of port administration, there is no occasion to discuss them here, especially as the range of subjects is likely to be extremely wide and difficult of limitation.

Having thus briefly surveyed the principal responsibilities of the more essential Committees, it will be helpful if a few actual cases cited are by way of example.

#### PORT OF LONDON AUTHORITY.

Under the Port of London Authority there are eight Committees, selected so that each member of the Authority generally sits on two Committees. The Chairman and Vice-Chairman of the Board are *ex-officio* members of all Committees.

I. General Purposes Committee (11 members; meets fortnightly). This Committee deals with matters of general policy and fundamental importance: administration, chief executive appointments, improvement schemes, etc. The chairman of each of the other Committees have seats on this Committee, the chairman of which is the chairman of the Board.



Canada Basin and the Northern Docks, Liverpool.

[To face page 68.]

2. Dock and Warehouse Committee (12 members ; meets fortnightly). This Committee deals with all detail matters connected with the working of the docks and warehouses of the Authority, including lettings and accommodation, goods handling facilities, rates, charges, rebates, etc.

3. River Committee (12 members ; meets monthly). All matters relating to river and riverside supervision, water traffic, dredging and navigation come within the purview of this Committee.

4. Finance (11 members ; meets monthly). All matters affecting revenue and expenditure and the raising of loans, the making of grants, etc., are referred to this Committee.

5. Staff (10 members ; meets monthly). With the exception of a few of the chief official appointments, all staff and labour questions are dealt with by the Staff Committee, including pay, superannuation, sick leave, insurance, discipline, etc.

6. Stores Committee (10 members ; meets monthly). This Committee is the purchasing authority for all stores (including engineering and building material), uniforms, office stationery and supplies.

7. Law and Parliamentary Committee (7 members ; meets as convened).

8. Maintenance Committee (10 members ; meets fortnightly). This Committee deals with all matters relating to the upkeep and maintenance of the undertaking, including premises and plant, roads, rails, floating craft and all equipment.

#### MERSEY DOCKS AND HARBOUR BOARD.

1. Works Committee (13 members). Meets weekly, and deals with all new constructional works, repairs and maintenance of existing works, dredging operations in river channels and docks. It is essentially the engineering department committee.

2. Traffic Committee (13 members). Meets weekly. The dock quays, and all operations connected with the handling and storage of goods are regulated by this Committee.

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3. Marine Committee (11 members). Meeting weekly, and dealing with the control of traffic in the river, marine cartography, wreck removal, ferry service and kindred matters.

4. Finance Committee (13 members). Meeting weekly, with functions as already described for such bodies.

5. Pilotage Committee (8 members and 5 co-opted external members). Meets weekly, and deals with the licensing and duties of pilots.

6. Warehouse Committee (11 members). Meets weekly, regulating the warehousing work of the Board (tobacco, wool, grain, etc.).

7. Docks and Quays Committee (12 members), connected with the Harbour Master's Department and supervising the arrangements for docking and berthing of vessels. Meets weekly.

8. Trade Committee (12 members), dealing with matters affecting the attraction of trade and industry to the port. Meets fortnightly.

9. Parliamentary Committee (11 members). Meets as occasion requires.

10. Mechanical Appliances Committee (13 members). Meets fortnightly.

11. Salaried Clerical Staff Committee (6 members), a special Committee, meeting as occasion requires.

### CLYDE NAVIGATION TRUST.

1. Committee of Management, consisting of all the members of the Trust. "The Committee of Management shall deal with all business which the Trustees may remit, or direct to be reported, to them; subjects which a Committee has under consideration and may wish discussed by the Committee of Management; and any other subject which in the opinion of the Chairman or Deputy-Chairman of the Trust should first be considered by the Trustees in Committee." Meets as often as may be necessary.

2. Committee on General Purposes for business not otherwise provided for.

3. Committee on Law and Parliamentary Bills (15 members). Meets monthly.
4. Committee on Finance (15 members). Meets fortnightly.
5. Committee on Superannuation Fund (15 members). Meets as may be required.
6. Committee on New Works and Maintenance of Harbour and River (15 members). Meets monthly.
7. Committee on Workshops and Mechanical Appliances (15 members). Meets monthly.
8. Committee on Harbour and Graving Docks (15 members). Meets monthly.
9. Committee on Traffic and Storage (15 members). Meets monthly.
10. Committee on Ferries (15 members). Meets monthly.
11. Committee on Rates (15 members). Meets monthly.
12. Committee on Stores (15 members). Meets monthly.

The Clyde Pilot Board consists of six members elected by the Clyde Trustees ; five elected by the Greenock Harbour Trustees and three elected by the River Pilots ; together with, *ex-officio*, the Provosts of Port Glasgow, Dumbarton and Rothesay.

#### BELFAST HARBOUR TRUST.

1. Traffic and Navigation Committee, which has charge of all matters relating to the conservancy of the port (including lighting, buoying, beaconage, etc.) ; the regulation and management of the harbour, docks, basins, graving docks, timber ponds, storage grounds, roadways, railways, tramways, sheds, etc. ; cranes and appliances on the quays and in the sheds ; the lighting, watching and cleansing of quays, roadways, etc. ; the harbour police force, ferries, etc.
2. Finance Committee, dealing with all matters relating to the finances of the Trust ; harbour rates and dues ; agreements for the letting of land and premises ; insurances of all kinds ; superannuations ; examination and certification of accounts, etc.
3. Works Committee, which has supervision of all matters



relating to works of the Trust; plans, proposals and estimates for new works, alterations and improvements and the carrying out of such works; requisitions and contracts for the execution of works and the purchase of appliances, plant, stores, materials, etc.

4. Law Committee, having charge of all matters relating to parliamentary affairs affecting the Trust, proceedings at law, or in equity, and any legal questions which may arise.

5. Salaries and Wages Committee, dealing, as the title implies, with the salaries and wages of the Commissioners' officers, servants and employees.

6. Pilotage Committee, constituted under the Belfast Pilotage Order, 1921, to deal with pilotage matters.

#### INDIVIDUALISTIC ADMINISTRATION.

In contrast with the difusive delegation of administrative powers under the Committee system, prevalent in this country, may be described briefly the concentrated, or individualised, system in vogue at many, if not most, American ports. In place of numerous Committees averaging about a dozen members each, there are a few executive officials, responsible only in a general way to their colleagues, who number perhaps two or three. Thus, taking the Port of Seattle as an instance, where there are three Commissioners in control, viz., a President, a Secretary and an undesignated Commissioner. One Commissioner is chairman of a "committee of three," consisting of himself and his colleagues, in regard to engineering matters; another Commissioner is chairman of the same body of three in regard to traffic matters, and the third is chairman in regard to financial matters. It seems obvious that under such an arrangement, in a port of any importance, each chairman must be more or less independent in his own department, since his colleagues will be too fully occupied with their own affairs to manifest more than a nominal interest in questions not directly concerning them.

Even more striking instances of individualistic control,

without even the semblance of a Committee, may be cited from such ports as Philadelphia and New York.

In the former case, the Director of the Department of Wharves, Docks and Ferries exercises very important powers with statutory sanction. He is given the control over the water terminal properties belonging to the city, including the lands under water and rights appurtenant thereto; and power to control, by licence or permit, private water-front improvements, though there is right of appeal from his decisions thereon to the County Court of Common Pleas. He may require the owners or lessees of water-front terminals to keep the adjoining docks free from obstructions. He is also empowered, subject to the appropriation of funds by the city, to purchase water-front properties, erect storage facilities and fix all rates and charges for their use and occupation. And he is authorised, after hearing the parties interested, to regulate the services and fix the maximum rates of ferriage, craneage and dockage, whether the services are performed by the owners or by the city. Subject to the regulations of the United States Government, he is empowered "to adopt and promulgate rules and regulations for the construction, extension, alteration, improvement and repairs of wharves, piers, bulkheads, docks, slips and basins" within the city limits.\*

Not less extensive and autocratic are the powers of the Commissioner of Docks of the City of New York. He is appointed by the Mayor for a term of office which is dependent on the pleasure of the latter, but is usually four years.

"The Commissioner of Docks is empowered, without review by any other authority, to grant permits for the occupancy of wharf property for a period not exceeding one year; to designate wharves or sections of water-front for various municipal uses and for the use of certain classes of individuals supplying the city with food or other products; to make contracts involving any sum less than \$1,000; to

\* "Shore Control and Port Administration," p. 97. For a fuller statement of the system of government of the port, see Appendix II.

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regulate wharfage and dockage rates ; to make rules to expedite the discharging, loading and clearing of vessels from wharves ; to issue permits for all water-front construction on private property, and to compel private owners to maintain sufficient waterway alongside their wharf structures and keep same in repair. Subject to the approval of the Commissioners of the Sinking Fund, the Commissioner may widen, open, construct, abandon or close exterior streets, and regulate the use of them ; purchase wharf property in the name of the city after agreement with the owners as to purchase price, or request the Board of Estimate and Apportionment to direct the Corporation counsel to institute legal proceedings to acquire such property by condemnation in case of non-agreement ; and lease wharf property for ten-year terms, either by public auction or otherwise, subject to renewal at advanced rentals in ten-year terms aggregating not more than fifty years by public auction or otherwise. Subject to the approval of the Board of Estimate and Apportionment, he may prepare and execute plans for terminal facilities and the equipment thereof.\*

\* " Report of New York-New Jersey Port and Harbour Development Commission," p. 84.

## CHAPTER VI

### THE PORT EXECUTIVE

It is the duty of a Port Executive to carry out the instructions of the Board of Administration ; to report to the latter all matters of which they should be cognisant, and to ask for decisions on important questions of policy and expediency. Within the limits of such general instructions as are issued by the Authority, the executive officers use some discretion in detail, according to the varying and relative importance of their duties.

#### THE GENERAL MANAGER.

The General Manager, or (on the Continent) the Port Director, or (in America) the President of the Harbour Board is the chief executive officer.

As has been shown in the preceding chapter, the American port executive is largely identified with the administrative body, rendering it difficult, if not impracticable, to make any real distinction. Limiting our purview, therefore, for the consideration of this subject to the ports of this country, and using the term General Manager in a comprehensive way, i.e., not identifying it with any particular system of management, it may be said that this officer is the mouthpiece of the Board, and that in transmitting the instructions he receives to the various departments he co-ordinates their several activities and secures smoothness and efficiency of working. He issues all public notices and announcements (with the possible exception that those of a formal and statutory character may be signed, as indicated below, by a Secre-

tary), and generally is responsible to the Board for the satisfactory administration of the undertaking.

The General Manager may be assisted in his attendance at the meetings of the Board, or in disseminating their decisions by a Secretary, whose immediate functions are to send out the notices of meetings and to keep a record of the minutes and to deal with certain official correspondence. Not infrequently, the two offices are combined in a single individual, but this depends, of course, on the condition that the combination of functions shall not be unduly onerous.

Each Committee of the Board is generally attended in addition by a special Committee Clerk, who is responsible to the General Manager (or the Secretary) for the collection and collation of such departmental reports and memoranda as are intended for submission to that Committee, and for the subsequent transmission to the department concerned of the Committee's instructions, as well as for all correspondence arising out of the Committee's proceedings.

The functions of, and the qualities requisite in, a General Manager are so many and so various that it would be impracticable to tabulate them all. A watchful outlook on the tendencies of trade and commerce, on the facilities afforded by competing ports and on the possibilities of securing business either by diversion from external sources or by local development; the formation of timely proposals and recommendations to the Board; readiness to receive suggestions and complaints from traders and business firms so as to rectify anomalies and remove grievances; ability to overcome difficulties; tactfulness in negotiation; competence to appreciate and grasp the essential features of all sorts of problems—financial, technical and commercial, with capacity to organise a large establishment and keep the wheels of the port machine running smoothly, without friction and without retardation—these are in general terms some of the more important of the multifarious demands on a General Manager's time and patience.

In addition to the Committee Clerks, the General Manager

will usually have the services of one or more assistants, who will devote themselves to special branches of routine, and act as intelligence officers, deputising therein in the absence of the General Manager.

#### SECRETARIAT.

The duties of a Port Secretary are so often combined with those of a General Manager that it is a little difficult to differentiate them in kind. They differ in degree, since the greater comprehends the less. In the absence of a General Managership, a Secretary will not necessarily be Chief Officer, though he may be *primus inter pares* and, if he is to secure cordial co-operation, he will exercise tactful discretion in giving effect to the decisions of the Board and in issuing instructions to his colleagues.

Where the Board is elective, it will probably lie within the Secretary's province to prepare and keep the register of the electorate and to make all necessary provision for the holding of elections. The electoral register is prepared generally from the payers of rates and dues, and is an undertaking requiring much care and patient investigation, as is evident from the conditions briefly set out in the case of certain ports in Appendix I.

Some of the leading officials of an Authority, heads of departments, not actually in the front rank, may report to the Secretary in the first instance, instead of to the Manager. It is not unusual for the Statistical, Rates and Dues and Accounting Departments to take this course.

It usually devolves upon the Secretary to prepare and issue the Annual Report of the undertaking, together with the Statement of Accounts. This report may be a statutory requirement, either for general publication or for presentation to the Ministry of Transport or other Government Department. It is drawn up with the assistance of the principal officers of the Authority and is a statement of the trade, finance, works and improvements and general progress of the port during the twelve months under review. The accounts should present a fair and accurate statement of

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the Authority's financial position. The balance sheet bears the signatures usually of the Chairman and the Comptroller, Treasurer, or other chief financial officer, as well as that of the official or statutory Auditor.

The secretarial staff hardly calls for special comment. It will consist of such clerical and typing assistance as may be necessitated by the magnitude of the undertaking and the nature of the official routine.

### THE ENGINEERING DEPARTMENT.

The Chief Engineer is the principal technical officer and it is his duty to advise the Board, sometimes independently, but more often through the General Manager, on all questions of technical and engineering import. He is responsible for the design and execution of all constructional work, for the repair and maintenance of the existing fabric and machinery and for the execution of dredging operations in the channels and at the shipping berths so as to ensure their safe usage and efficient working.

He will generally have the assistance, though not invariably in a subordinate capacity, of a Chief Mechanical Engineer and a Chief Electrical Engineer, whose functions are clearly indicated by their titles. Sometimes also there is a Superintendent of Dredging, or a Superintendent of Floating Craft, with a Marine Engineering Superintendent to deal with marine engineering matters.

Under the Chief Engineer, there will be a staff of assistant engineers, draughtsmen, surveyors and clerks. The assistant engineers may exercise their functions territorially, in which case they are more commonly designated Resident (or District) Engineers. This would probably be the arrangement when dock systems are scattered, or inconvenient for grouping. It is customary to have a Resident Engineer on each important new works undertaking. Such works may be carried out either departmentally or by contract. In the former case, a staff of men will be employed under the Resident Engineer, including foremen, storekeepers, leading hands, tradesmen and labourers.



Princes Dock, Glasgow.

[To face page 78.]



The design and execution of new works for increasing the accommodation and utility of the port are generally looked upon as the highest professional function of the engineering staff. Indeed, it is quite usual to regard such works as the special province of a Consulting Engineer selected from firms of high standing in private practice. The Consulting Engineer is, in that case, personally responsible for the satisfactory execution of improvement or development schemes on special terms arranged with the Board, and the Chief Engineer then either acts in a subordinate capacity, or his purview is limited to works of a minor character and to general maintenance.

Yet while maintenance is often looked upon as a subordinate kind of engineering, it is really quite as important in its way as the carrying out of new designs. The efficiency of the port is largely dependent upon the Maintenance Engineer, whose duty it is to secure the best standard of upkeep compatible with the funds at disposal. For maintenance is a bottomless pit in the way of expenditure unless carefully controlled. It is possible to be extravagantly wasteful and it is also possible to be foolishly parsimonious. The happy mean is the best policy. All essential repairs must be carried out without question, but in regard to what may be termed decorative effects, only so much should be done as is warranted by the circumstances of the case. Painting, for instance, is an operation which spread out over a large estate runs annually into thousands of pounds. Essentially it is done to prevent corrosion and decay in structures. This should be constantly borne in mind, and the temptation to paint more frequently than such a standard demands should be resisted. For dock premises, while they may, and should be, kept neat, clean and tidy, cannot economically attain the same degree of trimness and attractiveness of appearance as may be expected in the case of civic buildings.

The Engineer will generally make a budget of his estimated expenditure at the commencement of the financial year and will assign to each department a sum to be expended in

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accordance with approved recommendations. Special heavy repairs, such as the overhaul of dock gates and the repaving of traffic worn roads, will only be required at intervals, and should be spread out so as not to cause undue financial pressure.

The execution of repairs and the general maintenance of the port fabric and its mechanical equipment by a departmental staff is, in the case of the larger ports, where the establishment admits of this special provision for it and there is adequate work for the men, a desirable system and it is generally adopted. Lesser ports may find it convenient and more economical to place repairs in the hands of local contractors, but the principle of having a trained staff capable of dealing promptly with emergency repairs, and expert in the special difficulties which present themselves in port work is sound. There is, moreover, the consideration that the interests of a contractor cannot be so closely and intimately associated with the welfare of the port undertaking as to ensure absolute promptitude and preference in dealing with breakdowns which may be of serious consequence to the Authority. It is, therefore, in the author's view regrettable that an English port of the first rank\* should (from motives of economy, laudable enough, but not by any means demonstrably well advised) have recently adopted the policy of contracting out its repairs.

### FINANCIAL DEPARTMENT.

The Finance Department is the special domain of the Finance Committee and includes within its activities all matters relating to finance and accounts, the payment and receipt of money, the provision of funds and the discharge of liabilities. For convenience, the detail work of the Finance Committee may be delegated to an Accounts Sub-Committee, provided by rota.

Control over the department is exercised through one or more officers, the principal of whom is variously styled Chief Accountant, Principal Accountant, Comptroller or

\* London.

Treasurer. In some cases, the official control is divided, the book-keeping work being under one chief officer, while the audit or examination work is under another.

The opinion has been expressed to the author, by an experienced and highly competent accountant, that it is desirable, in the interests of security and economy, that one officer should be responsible for the entire supervision and control of all accountancy matters; and that his position in regard to the executive officers should be one of complete independence. This is the more important in that the auditors of a port authority's accounts have to rely to a considerable extent upon the system of an internal check. Under this arrangement, the accountancy officer would not handle any cash either by way of collection or payment, nor would he have charge of local arrangements for receiving or paying money, which would be in the hands of a cashier.

Some of the principal matters which fall within the responsibility of the Chief Financial Officer are :

- (a) The raising of money for capital purposes, the method of procedure being dependent upon the statutory powers of the Authority concerned.
- (b) The arrangements for repayment of money borrowed, also to be made in accordance with statutory provisions.
- (c) The establishment and maintenance of sinking funds and their investment.
- (d) The keeping of all the principal books of account and the compilation therefrom of periodical accounts and statistics for statutory, assessment and administrative control purposes.
- (e) The conduct of all correspondence on matters of finance and accounts.
- (f) The supervision and, where necessary, the auditing of all books of account, including records of traffic.
- (g) Advising the Authority upon all matters of finance and accountancy.

The accounts of the Authority will be subject to audit,

and the appointment of an Auditor is quite distinct from the internal accountancy arrangements. It is usually of an official character, in accordance with the terms of the constitution of the Authority, but does not come within normal staff limits. The Auditor will, however, as already indicated, expect to find proper internal checking arrangements. He certifies the annual statement of accounts.

The staff of the Chief Financial Officer by reason of the special character of the departmental work will comprise a suitable number of qualified accounting assistants in addition to the usual clerical staff.

#### THE HARBOUR MASTER'S DEPARTMENT.

The Harbour Master is the controlling officer with whom the ship's captain comes into contact immediately on reaching a port. He it is who allocates a position for mooring or anchorage, or a berth at which the vessel may discharge or take in cargo. If there is a dock system at the port there will generally be a Dock Master, subordinate to the Harbour Master, for each dock or group of docks. On reaching the entrance of the dock to which it is assigned, the ship comes under the control of the Dock Master, who superintends the operation of docking and berthing alongside the quay. The master of the vessel, or the pilot in charge, must strictly observe and carry out any instructions given by the Dock Master, either personally or through the Pier Masters at the dock entrances.

In the terms of "The Harbours, Docks and Piers Clauses Act, 1847," the Harbour Master may give directions for all or any of the following purposes:

"For regulating the time at which and the manner in which any vessel shall enter into, go out of, or lie in or at the harbour, dock or pier, and within the prescribed limits, if any, and its position, mooring or unmooring, placing and removing, whilst therein;

"For regulating the position in which any vessel shall take in or discharge its cargo, or any part thereof, or shall

take in or land its passengers, or shall take in or deliver ballast within or on the harbour, dock or pier ;

“ For regulating the manner in which any vessel entering the harbour or dock or coming to the pier shall be dismantled, as well as for the safety of such vessel as for preventing injury to other vessels and to the harbour, dock or pier, and the moorings thereof ;

“ For removing unserviceable vessels and other obstructions from the harbour, dock or pier, and keeping the same clear ;

“ For regulating the quantity of ballast or dead weight in the hold which each vessel in or at the harbour, dock or pier shall have during the delivery of her cargo or after having discharged the same.” \*

In brief, the duty of the Harbour Master and his officers is to take all steps that may be necessary to ensure the safety of vessels while in port, to protect the harbour from damage in the movement of shipping, and to afford such accommodation as is necessary and available for the proper loading or discharge of cargo, etc.

In particular, it is the function of the Harbour Master (and of the Dock Master) to ascertain by regular and periodical soundings that the prescribed depths of water are maintained in the fairway, the channels and at the berths. He must remove wrecks and wreckage, charging the cost, it may be, to the owner of the vessel, or obstruction, if the owner or his agent can be traced. He must see that any necessary dredging is done, and, possibly also, supervise and control the dredging craft. Probably, it may also devolve upon the Harbour Master, unless the duty is undertaken by a Special Marine Surveyor or other appropriate officer appointed for the purpose, to see that the requirements of the above mentioned Act are complied with in regard to keeping daily tidal and barometric records and an account of the wind and weather. †

The functions of a Marine Surveyor and a Water Bailiff, in cases where these officers are appointed, are largely a

\* Section LII,

† Section XVIII.

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delegation of certain of the foregoing obligations and responsibilities.

The duty of dealing with wrecks is, of course, an important one, and sometimes it involves a prolonged operation. The position of the wreck, if entirely submerged, has to be located and marked, danger signals and lights have to be exhibited and plant requisitioned, as may be necessary, to raise or disperse the obstruction.

It devolves upon the Harbour Master to survey the river frontage within his jurisdiction and see that no encroachments are made on the waterway, and that no danger is to be apprehended from collapse of banks or of structures of any kind.

He must see that the statutory and other bylaws and regulations made in regard to traffic on the river are duly observed; also those relating to the conveyance of petroleum and carbide of calcium. His department must also watch lest refuse or ashes or other ship's material be thrown overboard within port waters, and report any such cases which occur, and also cases of oil or oil waste discharge, river pollution and the like.\*

The lighting and buoying of the navigable channels at the entrances to the port (except those lights and buoys required in connection with wrecks) do not generally fall within the province of the Harbour Master, these duties being undertaken by Trinity House or a River Conservancy Board or other statutory authority.

#### TRAFFIC DEPARTMENT.

The Traffic Manager, or Dock Superintendent, as the case may be, is responsible for the supervision of operations at the quayside, including the discharge of vessels, the housing and delivery of goods, the despatch of outgoing cargo, and all routine in the process of cargo handling between ship and quay. If the Port Authority undertake loading and unloading operations, he supplies and controls the labour for

\* Inspections for the prevention of river pollution in the Thames under the Port of London Authority during 1923 numbered 6,280.

the purpose. He arranges for the use of the Authority's cranes and lifting appliances when let out on hire, and for supplies of water, artificial light and power to consumers. He is also responsible for seeing that quay rent is charged on goods not removed from the quayside within the prescribed period—48 to 72 hours, or more, as may be the rule.

He supervises the allocation of shed space to shipping firms, either on annual rental or for each occasion of berthage. It is his duty to see that the quays, sheds, roads and standing areas are properly scavenged and swept clean, either departmentally, or, in so far as it is a tenant's liability, by the tenant. He controls the traffic arrangements and must secure absence of congestion on the roads to and from the quayside within the Authority's curtilage.

A distinction should be made here between road and rail traffic. In the case of a railway-owned dock, the direction of the traffic will naturally be in the hands of the Traffic Manager of the railway system, and, even at the docks of an autonomous trust, the railway sidings and their connections with the trunk lines of the country may be so important as to justify the appointment of a special Railway Superintendent to supervise the services. These may cover both passenger and goods traffic on lines which serve an extensive area or a scattered dock system.

In cases where rail traffic is dissociated from ordinary vehicular traffic, the latter only will come within the purview of the Dock Superintendent, but his responsibilities will hardly be less onerous, in view of the great scope for congestion on road bridges and at dock entrance gates.

He has the duty of seeing that the Authority's dock by-laws are duly observed by shipowners, masters of craft and occupiers of premises, particularly in regard to fires and lights, smoking, refuse disposal, ship's ashes, and similar matters.

He acts as an agent between the consignor and consignee. He accepts instructions regarding the working and disposal of merchandise from the firms claiming the goods, and duly lodging all proper documents of title in confirmation of

their claims. The supervision of goods leaving the dock premises generally comes within the jurisdiction of the police.

If the dock is equipped to deal with some special class of traffic, such as coal, grain, etc., he is in charge of the use of the plant and appliances for the purpose, and arranges the periods of working, subject to advice from the engineering department as to withdrawal of machines for overhaul and repair.

Closely associated with the Traffic or Docks and Quays Department are the Surveyors of Cargo who, as servants of the Port Authority, examine, on behalf of either shipowners or consignees, as and when required, the stowage and condition of cargoes in vessels discharging or loading at the quays and furnish certificates in regard thereto. When claims are made, they undertake, if authorised to do so, special surveys, to decide the extent of damage which a parcel of goods may have received. In this way claims can be settled by an independent decision, without troublesome legal processes, and many minor disputes are conveniently dealt with.

#### LAW DEPARTMENT.

If a Port Authority is of sufficient importance, it will have on its staff, as one of its chief officers, a fully qualified Solicitor, with such assistance as may be necessary, in order to deal with the legal business of the Board. His duties are of a miscellaneous kind, including all the steps and procedure in connection with the promotion of the Authority's Bills in Parliament, the preparation of evidence and the engagement of counsel for consideration of a House of Commons or House of Lords' Committee, or both, in support of the Authority's case. He will also inspect and peruse all other Bills, Government notices and proclamations which may possibly affect the Board's interests, and after reporting thereon, wherever necessary, he will take such action as he is directed.

He will prepare leases and agreements in connection with





Avonmouth Docks, Bristol.

[To face page 86.

the letting of the Authority's premises to tenants. He will investigate the title and carry through the legal formalities in cases where the Board acquire property by purchase, and in the event of compulsory acquisition under statutory powers, he will be responsible for the carrying out of the appropriate legal procedure.

He attends to the registration and transfer of bonds in respect of loans to the Board. He deals with all claims of whatever nature arising out of the Workmen's Compensation Act and common law. He issues summonses as may be necessary and prosecutes offenders against the bylaws of the port, and it is his function to advise the Board as to the validity of their position in any matter involving legal proceedings and, if necessary, to arrange for the cases to be submitted for counsel's opinion.

In ports where the legal business is not sufficient to require the whole time service of a solicitor, it is frequently placed in the hands of a local firm of standing, who have a retaining fee, plus a scale of agreed charges.

#### OTHER DEPARTMENTS.

In addition to the foregoing, a Port Authority will have officers and departments to deal with the commercial aspects of its work. It will probably have a Commercial Manager to solicit and attract business, with the assistance of a staff of canvassers and district agents. There will be a Shipping Officer to deal with matters specially affecting shipping. Also there may be a Staff Superintendent or Manager, a Statistical Officer, and essentially, as we shall see in the next chapter, a Department to deal with the reception and collection of rates and dues, under an official Collector. Without going into inordinate detail, it would be impracticable to enumerate or give a notice of all the officials who may have duties to discharge under a Port Authority; the foregoing, it is hoped, will suffice to convey a general idea of the scope of a normal establishment.

## CHAPTER VII

### RATES, DUES AND CHARGES

WHATEVER be the *modus operandi* of the department of a Port Authority entrusted with the collection of rates and dues, it is obvious that the function is a very responsible one and, indeed, as vital to the Port Authority as the process of stoking is to a steam engine. Neither could continue to act without being supplied with fuel, and, generally speaking, rates and dues are the chief source of sustentation to a Port Authority.

The following particulars relate to the incidence of rates and charges at British ports :

#### SHIPPING RATES.

**Dues** is the term applied to charges levied on vessels in return for shelter and accommodation at the port, either (a) in the harbour, in which case harbour dues are charged, or (b) in a dock, in which case dock dues are charged. Combined charges may, or may not, be made for the double accommodation.

Dues on vessels are calculated at a rate per ton on the net register tonnage of the vessel, as a rule, plus the space occupied by deck cargo ; also taking into account her furthest port of departure or destination. Occasionally, the gross tonnage is taken as a basis, but in such cases it will not improbably be found that a fixed deduction is made from the gross, or that the charges are levied on a lower scale.\*

\* The various ways in which tonnage is computed are discussed in the author's "Cargo Handling at Ports." The following brief distinction will serve here. The gross tonnage is the volume of the internal capacity of a vessel, measured in arbitrary tons of 100 cubic feet, including the whole

The **Harbour, or Tonnage, Due**, as it is termed, is a charge, then, of so much per net register ton, accompanied in some cases by a rent charge per day in addition, commencing a certain number of days after entrance into the harbour. A distinction is made, as stated above, between vessels engaged on long and on short voyages, the due being higher (as much as fifty or hundred per cent.) for the former than the latter, and certain special exceptions are also made in favour of small coasting vessels, vessels in ballast and without cargo, and vessels calling at a port and leaving without breaking bulk.

The **Dock Tonnage Due** is levied in cases where a vessel enters a dock to discharge and so makes use of the dock facilities. After a certain period, of varying duration, rent is also charged if the vessel remains in dock. Dock tonnage rates at Liverpool are inclusive of harbour rates, and a vessel pays one or the other, not both. This is not the case at London.

By the provisions of the "Harbour, Docks and Piers Clauses Act, 1847," the Collector of Rates is empowered to enter into any vessel within the limits of the harbour, dock or pier, in order to ascertain the rates payable. He may demand them, and, in the event of non-payment, distrain the vessel (*Clauses XXXIV and XLIV*).

There are other dues which are generally incurred by vessels entering a port, such as the following :

**Light Dues.**—This is the term applied to charges made on behalf of the channel lighting service of the port and levied by the Lighthouse Authority, which may be, but is not necessarily, the Port Authority. These dues are determined by the Merchant Shipping (Mercantile Marine Fund) Act of 1898,\* but dues for local lights may be fixed

space below the tonnage deck, together with permanently enclosed spaces above the tonnage deck. The net tonnage is the residue after deducting from the gross tonnage various allowances for crew space, officers' quarters, navigating appliances and machinery. (*Vide* "Cargo Handling at Ports," p. 18 *et seq.*)

\* *Vide* Scale of Payments in Schedule at end of Act.

by Order in Council on the application of local authorities. Light dues are payable to the Collector of Customs, on behalf of Trinity House, the recognised lighting authority. Vessels become exempt from payment of further light dues for a current year after having paid at any British port on six voyages in that year.

**Pilotage.**—Pilotage charges are made on a rate per foot of ship's draught. There are charges in respect of sea and river services separately, and both may be incurred by a vessel in making certain ports. Port Authorities are sometimes only concerned in pilotage matters, so far as issuing licences to pilots, and, in such cases, they do not receive these dues. At some ports (such as London, Liverpool, Bristol, Glasgow, Dundee, Aberdeen and Belfast) pilotage is compulsory; at others (*viz.*, nearly all the Bristol Channel ports, Hartlepool, the Tyne ports, etc.) it is not compulsory.\*

**Towage.**—Rates for towage are a matter of tariff or of arrangement. Here, also, the service is often catered for and rendered quite independently of the Port Authority, who may, or may not, own a fleet of tugs.

#### GOODS RATES.

The second class of dues relate to the charges made on goods.

**Port Rates on Goods or Tolls** (in Liverpool, Dock Rates and Town Dues, or in the case of coastwise cargoes, Town Dues only) are charges imposed, in accordance with schedules approved by the Ministry of Transport, on all merchandise arriving at a port, unless dealt with on transhipment terms. These are quite distinct from charges for services rendered in respect of discharging, loading or handling goods. Under the terms of the "Harbours, Docks and Piers Clauses Act, 1847," the rates are payable in the case of outgoing goods, before shipment, and in the case of incoming goods, before the removal of the goods from the

\* *Vide* also Chapter XI (Bylaws).

port premises, and before the expiration of two months from date of arrival.\* At London, the rates are payable before the Customs entry is lodged.

Both the tonnage rate and the port rate on goods are to be looked upon as payments (as indeed they are) to meet the cost of maintaining the port, the upkeep of the premises, and the dredging of the berths and navigable channels. In the following paragraph, the charges referred to are made in respect of services rendered :

**Landing Rate, Management Rate and Consolidated Rate** are the initial payments made for the operation of landing and warehousing, and possibly delivering, goods. They are sometimes known collectively as *prime rates*, and include a stated period free of rent charge. In cases where goods can be cleared with despatch from the quays, a reduced *quay rate* is sometimes charged in place of the ordinary landing rate. In the management and consolidated rates are included a number of services in addition to landing, such as weighing, taring, storing, bulking and showing for sale.

When labour is supplied by the importer for special operations, there is often a charge called a *royalty charge*, and for passing goods over quays, under similar conditions as to labour, a *wharfage charge* is commonly made.†

#### GOODS HANDLING.

The practice in regard to the handling of goods at the quayside varies very considerably at different ports.

The **Port of London Authority** are prepared to undertake the discharge of ships by their own establishment labour at all or any of their docks ; and at some of the docks this is almost the invariable procedure, while, at others, the shipowners are in the habit of making their own arrange-

\* Section XLII.

† For a fuller enumeration of dock charges, the reader is referred to Turnbull's "Port and Dock Charges," and there is an excellent manual, "The Importers' Handbook," by Mr. J. A. Dunnage (Pitman & Sons), which describes the whole routine of importation.

ments. In regard to export cargo, the Authority's staff handle it through the sheds and over the quays to the ships' sides, where it is taken in hand by stevedores employed by the shipowners. Labour can be hired from the Authority to work under the direction of a ship's officer at fixed rates, and labour is also available in the same way for stowing barges.

At Liverpool, the **Mersey Docks and Harbour Board** do not, except at certain of the Warehouse Docks, undertake the loading or discharging of vessels or the quay portorage of goods from the Dock Quays, such operations being performed by Master Stevedores, Master Lumpers and Master Porters, respectively, all of whom are licensed, though not employed by the Board. Many of the large Shipping Companies employ their own staffs to do this work, whilst other Shipowners, or Consignees, employ what are known as Working Master Stevedores, Master Lumpers, or Master Porters, i.e., men whose sole business is to undertake such work on behalf of others. The rates charged by the Master Stevedores and Master Lumpers for the loading and discharging, respectively, of vessels are matters of arrangement between the parties concerned, but the Master Porters' rates for the quay portorage of goods, which are, of course, chargeable to the Consignees of such goods are fixed by the Board.

Master portorage is not incurred on outward cargo, as the goods are received on the outward quay by the shipowners' own men, free of charge to the consignees.

When goods are required to be delivered from the quay into railway wagons for conveyance up country, the Master Porter undertakes the loading and sheeting of the wagons, and the Board, by arrangement with the Railway Companies, undertake the haulage of the empty wagons to the berth and subsequent haulage of the loaded wagons to the Railway Depôt.

At Manchester, **The Manchester Ship Canal Act of 1885** provides that the Company shall have the exclusive

right to supply all the labour required for loading and discharging vessels and the handling of the merchandise within the Canal, or Docks, and that the Company may charge for such services an amount equal to the actual cost of labour and a proportionate part of the salary or wages of foremen and of office expenses, plant and material, and in addition thereto, a sum of ten per cent. on such amount, and a premium to cover liabilities for accidents and losses (usually five per cent.). In practical working, the Company have a schedule of rates forming an inclusive charge. The Company, in addition to supplying labour, are prepared to undertake discharging and loading operations under their own supervision, subject to certain reservations in regard to liability.

The procedure followed by the Port of Liverpool in connection with the handling of cargo discharged from or landed into vessels, quoted in detail from the official regulations, is as follows :

*“ Goods discharged from a Vessel from a Foreign or Colonial Port.*

“ The cargo is received on the Quay by a Licensed Master Porter, who performs all operations, with few exceptions, in connection with the goods, including delivery to railway wagons, carts or barges. The charges for these operations are fixed by the Mersey Docks and Harbour Board, but are payable by the Owners of the Goods to the Master Porter who performs the operations.

*“ Goods discharged from Coasting Vessels.*

“ Goods discharged from vessels from Coastwise Ports are usually landed on to the Quay by the Shipowner, and are removed therefrom by and at the expense of the Owner of the Goods.

*“ Haulage or Cartage.*

“ In the instances in which arrangements are made between the Owner of the goods and the Master Porter or the Shipowner for the goods to be loaded into railway wagons alongside, the Mersey Board undertake the haulage of the



wagons between the Docks and the Railway Stations at Liverpool. Where such arrangements are not made, the goods must be carted, but this is not an operation performed by the Mersey Board, unless the goods are intended for storage at one or other of the Board's Warehouses, in which case the Board will undertake the cartage work if requested to do so. At the Birkenhead Docks, railway haulage is performed by the Railway Companies.

*" Goods Shipped Outwards.*

" It is customary for arrangements to be made by the Owner of the goods for delivery either by carts or railway wagons to the loading berth, where they are received and put on board by the shipowner. The same arrangements as regards haulage or cartage exist in connection with outward goods as apply to inward goods.

*" Charges Payable.*

" The charges payable on INWARD GOODS, provided they are removed from the import quay within the free periods allowed for their removal, are Inward Foreign Dock Rates and Town Dues or Inward Coastwise Town Dues, according to the place of origin of the goods, and Master Porters' charges. Certain articles when discharged in the Birkenhead Docks are charged only seventy-five per cent. of the Dock Rates and Town Dues. Exemptions are allowed as respects the payment of certain Rates and Dues upon goods in transit, etc.

" The charges payable on OUTWARD GOODS are Outward Foreign Dock Rates and Town Dues or Outward Coastwise Town Dues, according to the destination of the goods." \*

Other examples might be quoted, but the foregoing are typical of systems generally in vogue at British ports, and also of many other ports throughout the world.

**CRANE HIRE.**

In addition to charges for labour, a Port Authority will generally derive income from the letting of cranes, installed

\* " Traders' Guide to the Port of Liverpool."



The Port of Southampton.

*[To face page 94.]*

on the quays, for the purpose of handling cargo, when these are requisitioned. The usual capacity of such cranes is between 20 and 40 cwts., and they may be actuated by electric, hydraulic or steam power. Although skilled drivers can generally be hired from the Authority to work such cranes under the direction of the hirers, it is not unusual for shipowners to provide their own drivers, especially in the case of hydraulic cranes, for the working of which no very expert knowledge of mechanism is necessary.

A very large proportion of ships' cargoes, however, is discharged by a ship's own cargo-handling gear, consisting of whips, winches, etc. It is often a cause of complaint by Port Authorities that unremunerative outlay is incurred in the provision of quay cranes which are not utilised to the extent which might reasonably be expected.

#### AUXILIARY RATES AND CHARGES.

There are a number of services and supplies which can be furnished by a Port Authority to meet the needs of shipping at a port.

**Police Supervision.**—For valuable consignments, it may be necessary to have special police supervision, either continuously or for short periods. Charges may be made by Master Porters for extra watching in the case of goods remaining on quays after the expiry of the rent-free period.

**Lighting.**—A special charge is made for the use of artificial illumination either by gas or electricity. Portable lamps are also provided as may be required.

**Water Supply.**—Water is supplied to shipping from hydrants on the quays at a charge of so much per tun (of 252 gallons) or per thousand gallons, with an additional charge for connecting hose and attendance. When quay hydrants are not available, the water may be brought to the ship in special barges.

**Dummy Barges.**—Dummy barges are floating rafts, or pontoons, used for breasting ships off quays and for the

reception of goods. These are charged for at a daily or weekly rate.

**Miscellaneous Charges.**—A variety of services of a minor character generally available at ports of standing includes the use of floating cranes (usually for specially heavy lifts of 25 to 100 tons),\* steam winch barges, boats, gear and tackle, supplies of ballast, etc. Surveying of damage to cargoes is often undertaken by officers of a Port Authority whose awards and assessments are accepted by both parties in case of claims.

#### PORT CHARGES IN THE UNITED STATES.

While based generally on the same set of services, rates and dues at North American ports are classified under slightly different terminology, arising partly out of some slight variation in the conditions.

In regard to rates levied on shipping, **pilotage** and **towage** are charged on the same basis as in this country, though, in the case of the former, the unit of charge may sometimes be the gross tonnage instead of the draught. **Dockage** is the designation given to charges levied on vessels for the use of berthage space, whether for loading, discharging, repairs or other purposes. **Harbour dues**, or **Harbour Master's fees**, are administrative charges for allocating anchorage, moving vessels, etc.

In regard to goods, **wharfage** or **tolls** represent charges for the transmission of cargo across a wharf or quay. There is, however, some confusion of nomenclature as between different ports. At New York and Philadelphia, the term **wharfage** is applied to charges made against shipping, and the term **dockage** is not so used, or but rarely.

**Port Warden's fees** include charges for surveys held on board a vessel or on the wharf, to assess damage to

\* Liverpool has a floating crane of 200 tons capacity, and there are floating cranes of 250 tons capacity at the port of Balboa at the entrance to the Panama Canal.

cargo ; and surveys of a vessel, whether because damaged or for valuation or measurement.

#### THE COLLECTION OF RATES AND DUES.

The collection of Port Rates and Dues is in the hands of the Chief Collector of the Port Authority, with the aid of an adequate staff of assistants.

#### TONNAGE RATES.

Within twenty-four hours of the arrival of a vessel at port it is the duty of the master to report the fact to the Harbour Master.\* Immediately thereafter, it devolves upon the master or the owner, or the representative of either, to pay to the Port Collector the tonnage rates due, as a preliminary to the vessel being "entered or cleared inwards" at the Custom House.

Payers of tonnage rates must, under penalty, state correctly the most distant port from which the vessel has arrived or to which it is bound. The Collector is empowered to enter any vessel in order to ascertain the rates payable † and the master is bound to produce the certificate of registry on demand,‡ and also the ship's papers showing the last port of call.

Pending adjustment of the amount due, the Rates Collector is generally prepared to receive by way of deposit such a sum as in his opinion will suffice to cover the amount, and will on such payment furnish a certificate to the Collector of Customs enabling the entry of the vessel to be made, but clearance outwards will not be permitted until a receipt for the full amount of the rates has been produced for the inspection of the Customs Officer. A vessel may be detained by the Port Authority until all rates have been paid, if necessary by distraint.§

#### RATES ON GOODS.

In a number of cases, British ports have their own special Act of Parliament defining their powers and procedure,

\* Harbours, Docks and Piers Clauses Act, Section XXXV.

† *Ibid.*, XXXIV. ‡ *Ibid.*, XXXVI. § *Ibid.*, XLIV.

but, in the absence of such statutory provision, the Harbours, Docks and Piers Clauses Act prescribes the following procedure in reference to the payment of rates or dues on goods arriving at a port :

“When any goods are intended to be unshipped within the limits of the Harbour, Dock or Pier, the Master of the Vessel containing such Goods shall within twelve hours after the arrival within the limits of the Harbour, Dock or Pier deliver to the Collector of Rates the name of the Consignee of the Goods intended to be unshipped, or other person to whom the same are to be delivered, and if the whole Cargo be intended to be unshipped, a copy of the Bill of Lading or Manifest of the Cargo, or if part only of the Cargo be intended to be unshipped, the best account in writing in his power of the Kinds, Weights and Quantities of the several goods to be unshipped; and every such Master shall, if required to do so by the Collector of Rates, give to him twelve hours' notice of the time at which the cargo of such vessel, or any part of the same, is intended to be unshipped.” \*

Similarly in regard to shipment :

“Before any person shall ship any goods on board of any vessel lying within the limits of the Harbour, Dock or Pier he shall give to the Collector of Rates a true account, signed by him, of the Kinds, Quantities and Weights of such goods.” †

The amounts due become payable (a) if the goods are intended to be shipped, before shipment and (b) if to be discharged, before the removal of the goods from the harbour or dock premises and before the expiration of two months from date of unshipment.‡ In case of disputes as to weight or quantity the Collector may require the goods to be weighed or measured.§

In amplification of the foregoing statutory provisions, may be quoted the following regulations made by the

\* Harbours, etc., Act, Section XXXVII. † *Ibid.*, Section XXXIX.

‡ *Ibid.*, Section XLII.

§ *Ibid.*, Section XL.

Mersey Docks and Harbour Board in regard to the mode of charging rates on goods at the port of Liverpool :

“ An Entry of each parcel of Goods imported shall be first exhibited to the Collector of Dock Rates on Goods ; and the Rates payable on such Goods as specified in such entry shall be paid, and the payment thereof attested on such Entry before the Collector of Customs shall permit such Entry to be passed for the payment of Custom Duties or for the landing of such Goods.

“ When the Goods specified in each of such entries shall have been examined and ascertained, and the full quantities known, a further Entry shall be made out of the remaining quantities (if any) of such Goods, and the rates payable in respect thereof shall be paid by the Owner thereof at the time of passing such Entry at the Custom House, and such Entry shall be signed by such Collector of Dock Rates before the same shall be passed at the Custom House.

“ In all cases where Goods are intended to be exported, the Entry intended to be made of such Goods at the Custom House shall be produced to the Collector of Dock Rates on Goods, who shall attest thereon that the Dock Rates have been paid upon the packages or quantities specified therein before the Collector of Customs shall receive such Entry.

“ A duplicate of each Entry required to be produced to the Collector of Dock Rates on Goods shall be left with him at the time of such production, and until such Duplicate shall be so left, no tender on such Rates to such Collector shall be valid.

“ Goods in transit, that is, foreign goods imported from foreign ports in transit to foreign ports and intended for immediate shipment, are charged Inward Dues only. Goods imported coastwise, and afterwards exported, are exempted from Inward Dues.”

#### DEPOSIT ACCOUNTS ON GOODS.

As a convenience for merchants with a multitude of transactions during the course of the year, it is generally arranged for deposit accounts to be kept with the Port

## 100 PORT ADMINISTRATION AND OPERATION

Authority, the balance of which in hand will always suffice to cover the amount of rates and dues payable on goods. The account is adjusted periodically. The procedure is similar in principle to that of keeping an account at the bank to meet demands payable by cheque.

### PORT ACCOUNTS.

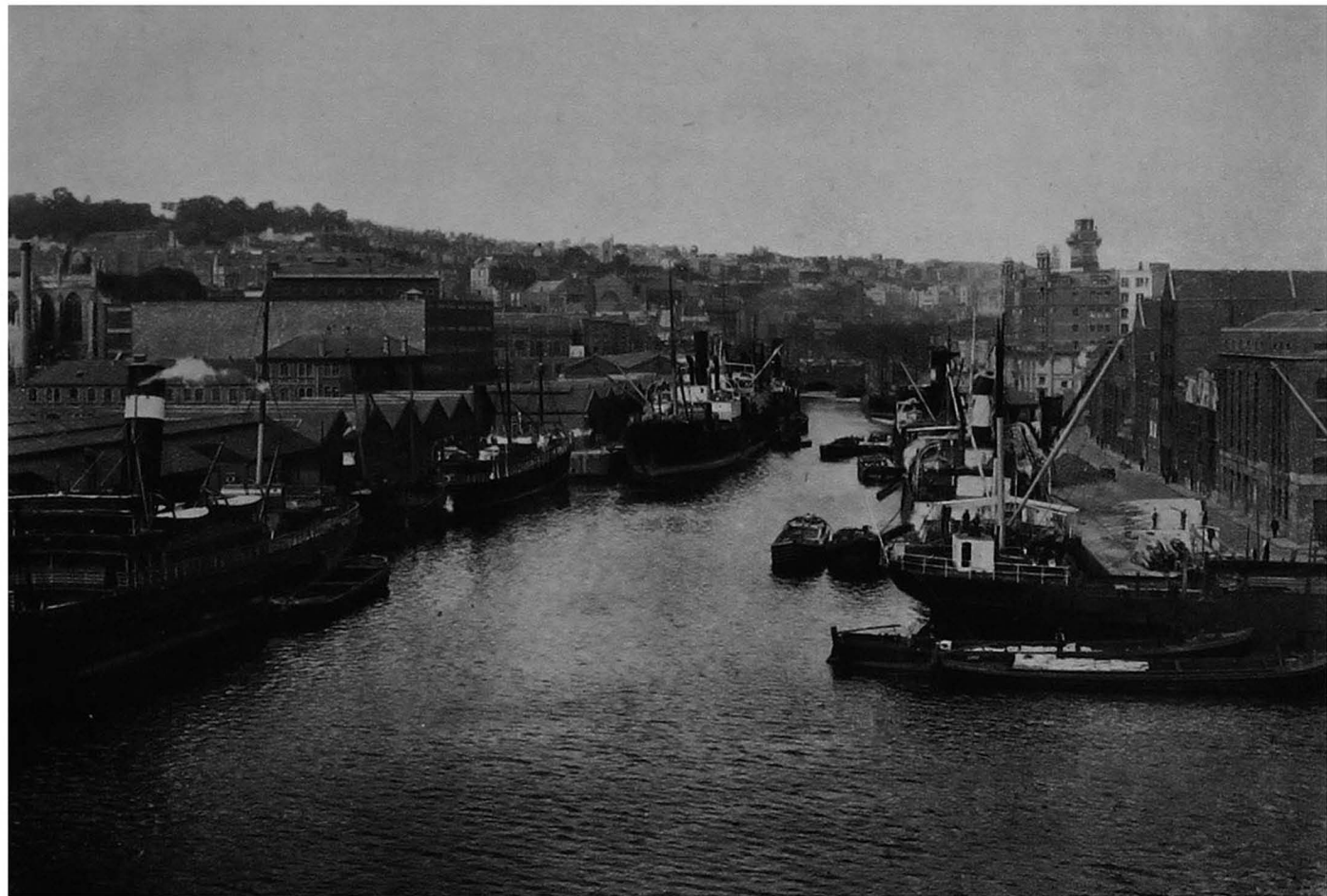
It is an obligation on the Port Authority not only to publish and exhibit a "List of the Several Rates for the Time Being Payable," \* but also to keep "Books of Account in which shall be entered the several sums received by or payable to them for rates in respect of vessels, the tonnage of each vessel for which such rates are received or payable, the name of the master thereof, the port to which such vessel belongs, the place from which on each occasion such vessel arrived, and the place to which on each occasion such vessel is bound, and in respect of the goods landed from or taken on board every vessel within the limits of the Harbour, Dock or Pier." †

An annual account in abstract, showing the total receipt and expenditure for the year, must be prepared and exhibited for public inspection. ‡

\* Harbours, etc., Act, Section XLVII. † *Ibid.*, Section XLIX.

‡ *Ibid.*, Section L.





Shipping at the Port of Bristol.

[To face page 100.]

## CHAPTER VIII

### RENTS AND WAREHOUSING RECEIPTS

Of the secondary sources of income at the disposal of Port Authorities, the chief will generally be in the form of rental for various accommodations, such as the storage of goods for long or short periods, the letting of sites for the establishment of industries (milling, ship repairing, etc.) particularly associated with port work and others which may help to foster the trade of the port in various ways. At certain ports, Venice for example, these industries are specially catered for by setting apart a special zone, called an Industrial Zone. Such zones are becoming recognised as important adjuncts to port activities, creating fresh sources of trade which, by the provision of the requisite facilities, can be utilised to promote water-borne and overseas traffic.

There are two industrial zones in the new Port of Venice on the mainland at Marghera. The northern, occupying an area of 3 sq. km., is served from the sea by a deep water channel leading into two basins. The western, with an area of  $3\frac{1}{2}$  sq. km., has a similar approach, with a single terminal basin. The project is as yet far from complete realisation, but among the industries already established in the zones are a soap manufactory, a xylite factory, a cold storage establishment, a brewery, a manufactory of textile fabrics, two naval repair workshops, an important oxygen works, and others of a similar nature. The authorities have made provision for a great industrial expansion in the vicinity of the port, and their plans include not only accommodation for all kinds of manufacturing establishments, but also for the housing of operatives.

## TRANSIT SHEDS.

In addition, therefore, to the charges for handling goods which have been considered in the previous chapter, there must also be taken into account the receipts from rentals paid for their storage. Transit sheds are only intended, as their name implies, for temporary purposes, and goods required to be deposited in them for sorting to marks, sampling, etc., should be passed through with a minimum of delay. (It is not unusual to allow from 48 to 72 hours free storage; thereafter rent becomes chargeable.) But the policy of a Port Authority will be to keep its sheds as clear as possible of goods on storage—these should be transferred to proper warehouses away from the quayside, where there is less likelihood of causing congestion. Unless quay sheds are used solely for transit purposes, there is risk of delay to incoming shipping, and it happens, from time to time, that a vessel's discharge is held up for some period owing to the congestion which develops in quay sheds for the simple reason that they are not used solely as transit sheds.

Shipping firms, with established lines running regularly between ports, find it convenient to rent quay and shed space on annual tenancies, and the Authority has, in that case, no concern with their domestic arrangements for handling goods in and out of the sheds.

There has been manifested in recent years a tendency to increase the capacity of transit sheds, so as to adapt them for storage purpose, by adding to the number of storeys, with the result that sheds of three, four and five storeys are now in existence at the quayside of a number of ports. The author believes this policy to be a mistake. The quayside shed should have sufficient capacity to receive all the incoming cargo which requires to be temporarily deposited under cover for sorting purposes, and to receive such outgoing consignments as may arrive in advance of opportunity for shipment. This accommodation can generally be supplied by sheds not exceeding two storeys in height, unless they are exceptionally narrow. The use of floors above

these for the reception of goods on storage in the majority of cases must inevitably limit the freedom of movement in the roadways and approaches to the quays; and probably lead to congestion. Moreover, it makes demands on the goods-handling equipment of the shed which curtail the use of the appliances for goods purely in transit. Unless the site be so restricted as to admit of no other treatment, the argument that it is cheaper to build a multi-storeyed shed than a separate transit shed and warehouse is not a sufficient justification for the combination. In the interests of expedition and despatch, the warehouses, wherever it is practicable, should be situated well away from the quay, leaving the transit shed free to receive its own traffic and perform its own functions without additional complication.

The drawbacks incidental to partial storage at the quayside are greatly intensified if there be any attempt to provide whole-building warehouse accommodation, as has been done in several instances. Obviously, the quay is then no longer available for the unrestricted exercise of its special functions. When the warehouse is full of goods, it is useless to think of berthing ships alongside, and the quay becomes idle and unremunerative. It will remain so until the warehouse has so far disgorged its contents as to admit of its receiving more. But this may be a matter of weeks—perhaps of months—and meanwhile the capital outlay expended on the quay is bringing in no return.

#### WAREHOUSING.

At certain ports, London and Liverpool for instance, warehousing is an important feature of the work of the Port Authority. Consignees inland are not always prepared to take delivery of large supplies, for lack of storage space, and they may desire their goods to be detained at the port of entry to suit their convenience. Moreover, it is an advantage for dutiable goods to be left in bond until the merchant is ready to receive them; in this way he saves the necessity of making prematurely heavy payments to H.M. Customs.

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The warehousing business is particularly extensively developed at the Port of London. In addition to the accommodation provided at many private warehouses, the Port Authority has storage for over one million tons of goods, and its receipts from the handling and storage of goods are the largest item in its revenue. The following figures give some idea of the magnitude of the imports at the first port of the Kingdom :

ANNUAL IMPORTS, PORT OF LONDON.

Grain and seed : 2,000,000 tons ;  
 Timber : 1,500,000 tons ;  
 Frozen and chilled meat : 630,000 tons ;  
 Wool : 1,300,000 bales ;  
 Apples and oranges : 6,000,000 bushels ;  
 Wines and spirits : 8,000,000 gallons ;  
 Tea : 430,000,000 lbs. ;  
 Rubber : 156,000,000 lbs. ;  
 Paper millboards and pulp : 750,000 tons ;  
 Sugar : 680,000 tons ;  
 Provisions : 400,000 tons ;  
 Tallow, oils and wax : 293,000 tons ;  
 Iron, steel and metals : 282,000 tons ; and so on.

There are usually in store in the warehouses belonging to the Port of London Authority :

800,000 carcasses or 20,000 tons of meat of the approximate value of	...	...	...	£	.
500,000 bales or 84,000 tons of wool of the approximate value of	...	...	...	1,000,000	
15,000 tons of tea of the approximate value (including duty) of	...	...	...	10,000,000	
36,500 tons of tobacco of the approximate value (including duty) of	...	...	...	1,500,000	
50,000 tons of grain of the approximate value of	...	...	...	45,000,000	
300,000 tons of timber of the approximate value of	...	...	...	1,000,000	
	...	...	...	4,000,000	

RENTS AND WAREHOUSING RECEIPTS 105

92,000 pipes, casks and cases of wines and spirits of the approximate value (including duty) of ... ..	6,000,000
39,000 puncheons of rum of the approximate value (including duty) of ... ..	12,000,000

besides millions of pounds in value of hides, cheese, cigars, carpets, ostrich feathers, coffee, silks, quicksilver, shells, drugs, spices, ivory, and other articles from all parts of the world.\*

Some appreciation of the complicated and laborious processes involved in the carrying on of a warehousing business may be formed from the following detailed statement, extracted from Sir Joseph Broodbank's "History of the Port of London":

"The Authority is the greatest warehouse-keeper in the world. The primary occupation of a warehouse-keeper is that of providing safe custody for goods, but the Authority's operations range from the simple service of merely allowing goods the right of passage through its sheds to the most complicated examination and manipulation of the valuable products of the East. . . . The services rendered by the Authority include, besides the safe custody of the goods, all the operations required by the merchant in the course of the marketing, sale and delivery of his goods. These operations are often various and responsible. The catalogues issued by the brokers describing goods offered by them for sale are prepared from descriptions of the quality and condition, weight and other essential particulars required to be known by the buyers, furnished by the Authority's staff; while the grading and lotting of goods in a way suitable for the market is also done on their advice. Samples to show indication of the bulk have to be drawn, and in such goods as rubber and fibres, the judgment of the expert is necessary to produce fair samples. The examination for damage to goods in order to ascertain liability as between the parties

\* "Recent Improvements in Transport Facilities in the Port of London," by Sir Cyril Kirkpatrick. Paper read before the Institute of Transport, May, 1922.

interested is another duty, demanding not only skill, but the strictest impartiality, and perpetually the Authority is placed in the position of arbitrator between buyer and seller. By the issue of dock warrants to merchants, the Authority affords facilities for financing commercial operations, and by its arrangements with the fire insurance offices, who superintend the design of all warehouses and inspect the work carried on from day to day, with a view to a rigid adherence to regulations, aided by the vigilance of their own police, the Authority has been able to secure such a record of immunity from fire as places the warehouses in the docks at the head of the record in this respect. The weighing and measuring of goods, the mending of imperfect packages by sewing and cooping, the separation of damaged from sound goods, and the making merchantable of salvaged goods, the vating of wines and spirits, are amongst the operations carried on as part of the every day routine work in the warehouses." \*

#### BONDED WAREHOUSES.

Allusion has been made to warehouses where imported dutiable merchandise may be stored without payment of Customs duties until such time as the importer is ready to market his supplies. Such warehouses are known as Bonded Warehouses, and naturally they are under close supervision. Double locks are fitted to each compartment, one of which is in the custody of the local Customs officer. In the case of goods which require no manipulation or treatment before sale, simple storage suffices, and no impediment is offered to inspection beyond the necessity for the attendance of the Customs officer. But in certain cases, manipulation may be necessary, such as the blending and repacking of tea, the bottling and vating of wines and spirits, etc., and this may be done with the sanction of the Customs officials during ordinary working hours in bonded warehouses, or in premises distinguished at certain ports, more particularly in the United States, as bonded manufacturing warehouses.

\* "History of the Port of London," Vol. II, p. 368.



Goods Shed, York Dock, Belfast.

[To face page 106.]



There is another arrangement, more particularly in evidence in America, giving greater freedom to the importer—called the “drawback.” By paying the duty and obtaining possession of his goods in reserved premises, he may manipulate them at will, without reference to hours of Customs attendance, and, finally, re-export them, obtaining a refund of the duty, less a small percentage (about one per cent.). This assumes, of course, that all Customs regulations are complied with. But a grievance of the system is that the drawback, that is, the 99 per cent. of the duty originally paid, does not become due until thirty days after the arrival of the re-export at its foreign destination.\* And it is stated that “many merchants, engaged in the business of importing and re-exporting, find it not worth their while to submit to the Customs routine and claim the drawback.”

The term drawback is also used in this country in connection with a refund of the whole or part of the duty which has been paid on goods, which are re-exported as merchandise or ship's stores, or used for non-dutiable purposes. In principle, however, the drawback is associated with dutiable goods which have undergone some manufacturing process.

The complicated procedure in connection with the re-export of dutiable goods stored and manipulated in bonded warehouses is one of the principal arguments put forward on behalf of the establishment of Free Port Zones (*vide* Free Ports in Chapter III). They enable a very considerable portion of a Customs service to be dispensed with, since a ship berthed in such a zone is exempt from Customs inspection. Moreover, a great deal of valuable time is saved and the freedom of action within the boundaries of the zone is much greater than can be afforded by bonded warehouses. There are collateral advantages. There is “storage at foreign valuation, thus tying up less capital.

\* Capt. F. T. Chambers, U.S.N., on “Free Ports for the United States.” Paper read before the American Association of Port Authorities, December, 1923.

Also, the warehouse receipts are negotiable, again reducing the capital investment." \*

#### IMPORTANCE OF WAREHOUSES.

Adequate warehousing capacity is a matter of considerable moment to this country, dependent as it is on supplies from abroad, any cessation of which would be attended by consequences fatal to the national existence. It was the policy of Germany during the War to endeavour to cut off these external supplies, and, had she succeeded, the fate of this nation would have been sealed. During periods of reduced supplies or of interruption in arrival of shipping, the British and, in fact, all insular peoples, are dependent on such stocks as are available in depôts and warehouses, and if these are allowed to run too low, there is risk both of industrial stoppage and shortage of food. The Royal Commission of 1903 on the supply of food in time of war, called attention to the "unsatisfactory reserves of grain, due very largely to the practice of comparatively recent growth of buying from hand to mouth, sometimes almost from week to week, from the stocks so largely held on the other side of the Atlantic." Mr. Marshall Stevens has pleaded very earnestly that "facilities may be provided for produce to be stored in this country to the advantage of the importer rather than that—as hitherto—he should be penalised for having to warehouse unsold consignments here at much greater cost than if stored overseas until sold here." † Mr. Stevens advocates additional warehouse accommodation, coupled with State assistance, "limited entirely to providing interest upon the cost of the storage part of the buildings to enable the produce to be free from any storage rent."

Owing to the extensive additions made during the War the amount of warehouse accommodation in this country at present is appreciably in excess of its actual needs. There is consequently a considerable quantity of unoccupied space which might be usefully engaged in storing supplies to meet national emergencies such as those indicated above.

\* Capt. F. T. Chambers, *loc. cit.*

† Paper on "Warehousing," read before the North-Western Local Section of the Institute of Transport. *Journal*, Vol. V, No. 1.

## CHAPTER IX

### PORT LABOUR

THE supply of unskilled labour for the general work of a port, under conditions which shall be systematic and humane, is one of the very difficult and perplexing problems connected with port administration. Up to the present, port labour has been in the main a most casual form of employment—intermittent, irregular, and sometimes underpaid. Indeed, until recently, at many ports there had been little or no serious attempt to organise it on lines which would secure to the labourer anything in the shape of a regular wage. Such attempts as were made only succeeded in bringing into greater prominence the difficulties of dealing with the problem and inducing a feeling of almost hopelessness in regard to finding a satisfactory solution.

The methods of handling ships' cargoes have already been briefly alluded to in a previous chapter. In some cases, the work is undertaken by the Port Authority; in others, by the shipowner, either by special labour or by utilising the services of the crew; frequently, the work is contracted out to stevedores and master porters. But, in all cases, except where the work is done by the ship's own crew, it is necessary to have a supply of labour at hand, indeterminate in extent, by reason of the varying conditions, and liable to periods of enforced idleness on account of uncertainties in the movement of ships, and sometimes also on account of adverse weather conditions.

#### CONDITIONS IN LONDON.

The Port of London Authority is a large employer of labour, not only of the unskilled variety working at the

quayside, but also of a more expert class engaged in the warehousing operations described in Chapter VIII. For the present we are dealing only with the former, numbering between six and seven thousand men. They are officially divided into three classes: Permanent men, B men, and casuals, sometimes called C men. The first class are in constant employment on a weekly wage basis and they receive a week's holiday leave every year, in addition to the statutory holidays. Also, they are a mobile body in that they may be transferred from one dock to another and utilised wherever their services are required. The second class are paid a daily rate and are employed only when there is work for them to do. They are, to all intents and purposes, purely casual labourers, since the only distinction between them and the third class, which goes by that name, is that B men receive tickets which entitle them to preference as soon as the permanent men are all occupied and before any C men are taken on. "List numbers" of B men, in order of priority, are posted up at the dock gates each afternoon, so that the B men may know where to present themselves the following morning. Yet, it not infrequently happens, owing to the provision of a necessary margin, that B men may be posted on the list for days in succession without the good fortune of actually getting a job. Obviously, the plight of the less favourably circumstanced C man is much worse.

Outside the jurisdiction of the Port Authority, there are a number of groups of employers of port labour, first in order of whom come the master stevedores, who contract for work to the shipowners. It can hardly be said that they have any organised system of employment, though one or two firms have an arrangement of preference lists and a nucleus of regular men. In most cases, of course, the foreman employed by the firm exercises some kind of selection, which may be termed preferential employment, but it is purely personal and not systematic.

In regard to this class of employment, the fundamental feature is the process of "calling on," which takes place at

the docks at recognised hours, usually first thing in the morning and after the dinner hour. The men present themselves at assigned places, in more or less crowded formation round the foreman, who, calling first the names of such men as he knows and prefers, completes his list from the crowd by some rough and ready appraisal of each individual's capabilities. Many, of course, are left unengaged and retire disappointed time after time.

Next, in importance to the master stevedores, come the wharfingers and granary keepers, whose methods are similar to those described above, with, perhaps, the amplification that the labour is of a more casual description and that it seems to attract the class of men least eligible for any form of regular employment.

#### MAINTENANCE AND REGISTRATION PROPOSALS.

The uncertainty of employment and the almost inevitable disappointment in the majority of cases have given rise amongst the men to a claim for what they call "maintenance," but what is in reality a guaranteed minimum weekly wage. This is to be linked up with a system of registration at each port, prepared jointly by the employers and the men's trade unions, which would result in limiting the number of men available for engagement to the strict requirements of the locality, plus a small "necessary margin." These men would then, in accordance with the scheme, be guaranteed a minimum subsistence wage each week, and the funds to make provision for this would be derived from some ambiguous source, either the employers or the public, probably both, in uncertain proportions. The proposal, as enunciated by Mr. Bevan, the men's leader, in recent strikes and subsequent negotiations, is that national and local joint committees should have power to charge a special rate, or levy, on goods passing through a port, and that the proceeds from this levy should provide the endowment required. This endowment fund would be administered partly locally by the Joint Committee of employers and men at each port, and partly nationally by

the National Committee for the whole industry. The object of the national administration would be to make good deficiencies in local funds, due to seasonal fluctuations, or abnormal causes.

At the time of writing, the scheme has not yet matured, but following the publication of what is generally known as the Shaw Report in 1920, it has been spasmodically discussed, and now, in consequence of the strike of February, 1924, it is receiving serious consideration, as the best, if not the only, way of putting an end to a most unfortunate state of affairs.

#### THE SHAW REPORT.

It may be an advantage to quote one or two salient passages from the Shaw Report, which was the outcome of the appointment of a Court of Enquiry concerning "Transport Workers—Wages and Conditions of Employment of Dock Labour." The members of the Court were the Rt. Hon. Lord Shaw of Dunfermline (Chairman), Sir Joseph G. Broodbank, Sir Lionel Fletcher, Mr. Harry Gosling, C.H., Mr. A. Pugh, Mr. Frederic Scrutton, Mr. John Smethurst, Mr. Ben Tillett, M.P., and Mr. Robt. Williams, M.P. Sir Joseph Broodbank and Mr. Scrutton issued a Minority Report and Mr. Smethurst made reservations.

"The Court is of opinion that labour frequently or constantly under-employed, is injurious to the interests of the works, the ports and the public, and that it is discreditable to society. It undermines all security, and is apt to undermine all self-respect upon the workers' part. It is only among those who have sunk very far, and whom the system itself may have demoralised, that it can be accepted as a working substitute for steady and assured employment. In one sense it is a convenience to authorities and employers, whose requirements are at the mercy of storms and tides and unforeseen casualties, to have a reservoir of unemployment which can be readily tapped as the need emerges for a labour supply. If men were merely the spare parts of an industrial machine, this callous reckon-

ing might be appropriate ; but society will not tolerate much longer the continuance of the employment of human beings on those lines.

" So serious has the position become, that it has evolved habits of mind and body on the part of the workmen themselves which are detrimental to them and on a wide scale deeply injurious. Many workers have got into the habit of thinking that day labour is a sign of independence, and that labour secured even for a week leaves them devoid of that liberty to do nothing which they have come to prize. As in so many other cases mentioned in this Report, this habit of mind is in no respect sanctioned by the leaders of the men, and as properly urged by them, one of the true lines of reform in this trade will be the abolition of the daily wage system and the substitution thereof of the payment of wages weekly.

" The beginning of a remedy, and the condition of it, is a system of registration of all workers at the docks. The Government is not without most substantial aid upon this subject. The Court begs to report its opinion that such a plan of registration should be adopted, and that the plan now in operation at the Port of Liverpool, and that recommended for London in the most valuable Report recently of Mr. Justice Roche's Committee, afford assistance in laying down the lines on which registration should proceed.

" It is not for this Court to enter into these details. As bearing, however, on the financial question before it, it feels that it is its duty also to record its view in favour of the adoption of the principle of maintenance. The amount can be settled by the parties or upon reference to the Industrial Council machinery already alluded to. It may be pointed out that once maintenance is part and parcel of a registration scheme, the objections to registration may quickly disappear. The Court accordingly reports its opinion that registration and maintenance should both be adopted, and this in regard to all the labour employed at all the ports of the kingdom."

Arising out of the promulgation of the Shaw Report and

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in immediate consequence of the strike of February, 1924, a Committee has been set up, consisting of three representatives each of the National Council of Port Labour Employers and of the Transport and General Workers' Union, "for the purpose of developing and strengthening the system of registration and to examine the proposal for a guaranteed week with a view to arriving at an agreement to give effect to the Shaw Report."

In an Interim Report, issued in June, 1924, the Committee made the following recommendations :

"(a) That a registration scheme should be set up forthwith in each port or group of ports specified in an Appendix to the Report ;

"(b) That in the initial registration of dockers under a new scheme, the trade union can best determine in the main what men are qualified ;

"(c) That it should be made clear that initial registration does not confer permanent rights or impose permanent obligations ;

"(d) That registers in operation should be constantly reviewed by the joint body which administers them, in order that they may be made as effective as possible, and only include men who work regularly at the ports ;

"(e) That the scheme of registration should be subject to review in the light of experience."

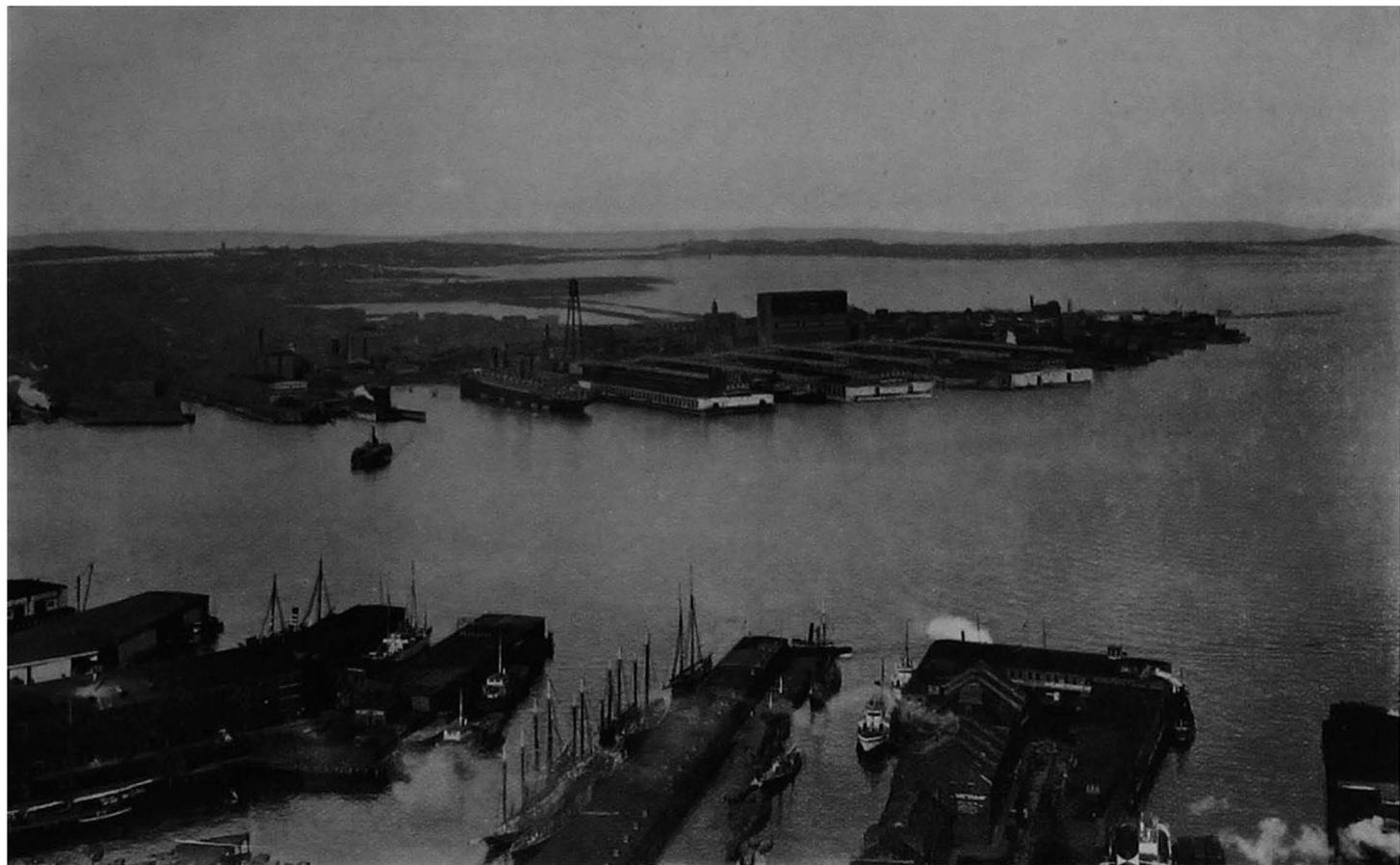
### PRIVILEGED AND SKILLED LABOUR.

Passing now from the consideration of the ordinary form of dock labour, we may briefly review one or two other classes of port workers, closely affiliated, but more favourably circumstanced, in that they are protected by custom and privilege, if not by special training and knowledge.

The *Master lightermen*, whose duties are to transport goods discharged overside from ship into barge and *vice versa*, employ a number of men, who are mainly skilled.

**Watermen.**—These are a privileged body in London, with a regularised calling with two divisions : viz., licensed watermen, who may navigate craft in the waterway, and un-





Eastern Water Front. Port of Boston, U.S.A.

[To face page 114.

licensed men, who undertake any other kind of lighthouse work.

**Porters.**—The list of specialised occupations must also include the porters. Those engaged in handling planks and light timber are known as deal porters. Grain porters, as their name implies, are engaged in handling grain, mainly in sacks. With the increasing development of bulk handling and mechanical appliances, the number of grain porters is to some extent diminishing; at any rate it is not increasing. With deal porters the case is different; conveying plant and automatic appliances for planks cannot dispense with the human element in providing the necessary intelligence to sort to sizes and marks. Lastly, there are the coal porters, employed in discharging colliers and loading coal into ships' bunkers, work of a somewhat special character and arduous nature, for which training and practice are essential.

#### PORT OF LONDON AUTHORITY AND THE LABOUR QUESTION.

One of the obligations laid upon the Port of London Authority in its creation was that of the duty of co-ordinating its port labour upon a proper basis. Stated in terms of the Act of 1908:

"The Port Authority shall take into consideration the existing methods and conditions of engagement of workmen employed in dock, riverside and warehouse labour in connection with the Port of London, and shall either by themselves, or in co-operation with other bodies or persons, by establishing or maintaining or assisting in the establishment or maintenance of offices, waiting-rooms, and employment register, and by the collection and communication, of information and otherwise, take such steps as they think best calculated to diminish the evils of casual employment, and to promote the more convenient and regular engagement of such workmen or any class thereof."

It cannot be said that within the first fifteen years of its existence the Authority has done much in the direction indicated. It maintains a register of permanent and

preference labourers, as already mentioned, but these lists were inaugurated by their predecessors, the London and India Docks Company, and any credit, therefore, belongs to them. The Authority would probably contend that circumstances have not enabled them to discharge their obligation to any greater extent than is already in practice on account of the limitation attached to the above clause, viz. :

“ Provided that nothing in this section shall deprive any person of any legal right which he would otherwise possess with regard to the engagement of labour.”

It must be admitted that in view of the multiplicity of employers at the port, and their different and often conflicting requirements, there are almost insuperable obstacles in the way of securing a common course of action.

In a Presidential Address delivered to the Institute of Transport \* in November, 1923, Sir Joseph Broodbank pointed out the inherent difficulties of the position and the unpopularity of any radical change of system :

“ The many masters in the docks and wharves of London have varying requirements each day. Some discharge ships—others load ships—some work in seasonal trades, such as timber and fruit. The number of men employed by individual masters varies from the small contractor with a staff of twenty to the big man with a thousand. To perform their work efficiently, each master must have a margin of men to draw on, and the smaller his nucleus of men the greater the margin to supplement it during busy times. This margin is the casual element. Hence we get a large body of casual labour coupled with a high rate of pay. With bad trade the drawbacks of the casual system are intensely augmented.

“ Everyone will, I am sure, realise that if one body was responsible for employing or organising the employment of the whole of the labour in every port, the margin of supply to meet the demand of abnormally active times would be much

\* *Journal of the Institute of Transport*, Vol. V, No. 1.

smaller than is now necessary for the aggregate of a large number of employers. In London, there would be no need for casual labour at all, or, at the worst, there would be such an infinitesimal amount of it that any labourer would gladly begin at the bottom of the casual list, in confidence that very soon he would be on the permanent list, but there is objection to this line of reform both by employers and employed. Employers are afraid that the organisation of port labour on a permanent basis would end in creating a close corporation of employees who would dominate the port for their own purposes when they listed. I answer that railway companies and other big industries are all organised on such a basis and yet the employees have not given such trouble to their masters as dockers have in recent years. Employers also fear, by unified control of labour, to lose the services of men who understand their work, but this could be secured to them. As to the men, they object to the interchange of work, which is a necessary part of such a re-organisation. A large number also object to working every day of the week, and others have a genuine dislike to any scheme which would lead (as it undoubtedly would) to fewer men being employed in the industry. These objections must apply to any scheme of decasualisation."

It will be felt that such objections, either on the part of the masters or of the men, must give way before consideration for the common weal. It is not good, or wise, or politic, that the present indiscriminate, haphazard, chaotic lack of system should be allowed to continue. Unemployment is a misfortune which cannot always be avoided, but when it is possible for it, to some extent, to be mitigated by the introduction of method and system, a policy of indifference or inaction is extremely short-sighted and culpable. Both masters and men would gain in the long run by the adoption of an efficient system of registration for the port as a whole. Probably the efforts now being made by the Joint Committee will achieve the object which has so long eluded the endeavours of independent authorities.

## LABOUR REPRESENTATION IN PORT GOVERNMENT.

Of late, the claim has been advanced on behalf of Labour that it is entitled not merely to direct representation on a Port Authority, such as it already enjoys in the case of London, but also, in conjunction with popular municipal and local representation, to a predominant voice in the management. The author feels that the claim, which is characteristic of the socialistic tendencies of present-day teaching, is not substantiated by the arguments adduced in its support. It is beside the point to urge that a port is operated by Labour: that is only one aspect of the matter. The allegation put forward in all seriousness that dock labourers are "producers" is specious, and a fallacy in terms. And the contention that a port should be administered by those who derive their livelihood from its existence without contributing directly to its support, or to the advancement of its trade, is about as reasonable as would be the claim of a maid-of-all-work to regulate the affairs of the household of which she is a paid member.

There can be no objection to the representation of Labour along with other special interests (including even the clerical and executive staff) on the board of a Port Authority. In fact, it is very desirable that there should be such representation in order that due consideration may be given to the welfare and conditions of service of the staff. But to place Labour in a position of definite control over a system, the operations of which are so intricate and involved as to require an intimate acquaintance with commercial and financial transactions, combined with keen business acumen, well-balanced judgment and lengthy experience, is a very different proposition. It is not merely different, it is subversive. It is deliberately inviting disaster to the undertaking. To vary the preceding metaphor, it is equivalent to placing the navigation of an ocean liner in the hands of a committee of stokers, with power to over-rule the captain.

This is an age of democratic control, but democracy is no more free from defects and abuses than is autocracy, and the tyranny of either is an unmitigated evil.

## AMERICAN PORT LABOUR.

In the United States, the designation of the dock labourer is the longshoreman, defined by the National Adjustment Commission \* as "one who carries cargo to the hatch or to the quayside," though, as Dr. MacElwee points out, "this definition is not broad enough, for longshoremen"—as do dock labourers—"also work on the deck and in the hold of the vessel."†

The nationality of the longshoreman is chiefly Irish, but there are many negroes, Italians, and, of course, Americans, among quayside workers in the United States.

There is much in common between the British dock labourer and the American longshoreman. Both are the victims of a system of haphazard and casual employment, and the services of both are engaged by the same means. "At New York the expected arrival of a vessel is heralded by the hoisting of a flag at the pier at which it will dock, and by a notice in the newspapers. Longshoremen, out of work, gather outside the entrance to the pier shortly before the vessel arrives or in the morning following arrival. It is customary for them to form or "shape" in a semi-circle at the pier entrance. When the ship is ready to work, the stevedore or foreman takes a place within the shape and begins picking out men with whom he is familiar or to whom he is attracted. As each man is called out he passes by the timekeeper, gives his name, and receives a numbered check."‡

The only distinction which the author can discover between British and American conditions, is that apparently the Longshoremen's Union has been successful in getting better rates of pay for its members, and that the question of maintenance is, therefore, not so acute.

\* Formed in 1917 to settle wage disputes, and consisting of representatives of the United States Shipping Board, of the Secretary of War, of the Secretary of Labour, of the American Federation of Labour, of the International Longshoremen's Association and of the principal shipping operators on the Atlantic and Gulf Coasts.

† "Wharf Management," p. 55.

‡ *Ibid.*, p. 58.

## CHAPTER X

### PORT JURISDICTION. PORT BELT LINES

IN the preceding pages, and more particularly in Chapter IV, the subject of port jurisdiction and the variations in its scope and effect have been touched upon here and there in connection with descriptions of different systems of port government. The allusions, however, have necessarily been fragmentary and subordinate, and it is desirable that a fuller measure of consideration should be given to a matter which is fraught with issues vital to the well-being of the port. In this chapter, a brief survey will be made of the extent and limits of port jurisdiction and its relation to collateral interests and external agencies.

#### PORTS AND MUNICIPAL SUPERVISION.

In the first place, as regards internal affairs, a port is not invariably a distinct entity. Even when nominally so, it will be found that its own affairs are interwoven with others. It is generally, and even essentially, part of a community which, while it may be principally concerned in business arising out of port matters, has a number of other interests, municipal, industrial and commercial. Accordingly, a Port Authority cannot carry on its work of administration without coming into contact with the activities of the city or town of which it is a part, and there must be some degree of co-operation and association, and also, since the interests of the whole transcend than those of a part, in certain respects, some degree of subordination. This leads to a curtailment of the freedom and liberty of action of Port Authorities, even where it may seem appropriate and desirable that they should have free exercise of their powers.

If reference is made to page 31, it will there be found stated that the Port of London Authority, though nominally the controlling body for the whole of the port, is in reality very much circumscribed in its jurisdictional powers. By way of example, these may be set out in detail, as follows :

The river jurisdiction of the Authority extends from the landward limit of the Port of Teddington for a distance of seventy-nine miles to an imaginary line drawn from Haven-gore Creek in Essex to Warden Point, Sheppey. It includes all islands, rivers, streams and water courses within the flow and reflux of the tides, and so much of the River Lee and Bow Creek as are below certain specified boundary stones. But the Authority have no control over the banks of the river, and only a limited control over the wharves and structures which line or project into the stream.

The Authority own and manage the docks of the port, but, even in this respect, they are not entirely masters in their own house. The observance of local building regulations, although by the tacit concurrence of the borough authorities not actually demanded, is with certain exceptions \* as binding on the Authority as on other property owners. They are certainly subject to the inspection of their dock sanitary arrangements by the Sanitary Authority of the port, which is quite a distinct body, and they are assessed for municipal and borough rates like any other ratepayer.

But it is not in respect of these relatively minor matters that the question of jurisdiction becomes of importance. Drains and building regulations affect but in a slight degree the working of the port machinery. It is in regard to the larger matters of goods handling in transit and the interchange of transport that the issues warrant a consideration of the advantages and disadvantages of a comprehensive port jurisdiction.

\* Under Section 201 of the London Building Act, 1894, " any building or structure or part of a building or structure belonging to a Dock Company constituted by Act of Parliament and situate within the Dock Premises is exempt from the operation of Parts VI (Construction of Buildings) and VII (Special and Temporary Buildings and Wooden Structures) of the Act."



## PORTS AND RAILWAY SERVICES.

The connection of a port with shipping services is obvious enough. Without its fleets of incoming and outgoing vessels a port would be derelict. Not so obvious at first sight, but none the less essential on consideration, is the fundamental association of a port with its land services by road, rail and canal. By far the most important of these is the railway, which feeds the port and acts as its principal distributing agent over an extensive tract of country, reaching remote districts and linking it up with inland towns, with their industries and manufactures, their mills and factories, their markets and their merchants. Too often in the past, except in so far as a port has been railway-controlled, this important and vital factor in the life of a port has been relegated to a place of secondary importance, perhaps from imperfect appreciation of the position, perhaps from mere indifference. Apart from the reception of goods at the quayside, Port Authorities have concerned themselves but little as to *how* goods come (provided they *do* come) and go, or what happens to them *en route* ashore. For business reasons, authorities may have done their best to encourage shipment from and consignment to their own particular port, but this has been the full extent of their concern, and they have certainly considered the selection of land route and the trunk line connection as matters outside their purview.

Whether this attitude is justifiable is seriously open to question. The rail services converging on a port are no less essential to its activities than its fleets of liners, and the co-ordination of the former in relation to quayside operations may well merit attention from a Port Authority to an equal degree with the facilities provided for the reception and despatch of shipping.

And here we have to note an important difference in the point of view of this country and that of America, arising out of the special circumstances governing the situation in the two countries.

In Great Britain the almost invariable rule, except, of



Exchange Sidings, Royal Victoria and Albert Docks, London.

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course, in cases where docks are railway owned (when the question obviously does not arise) is, as already stated, to regard the railway system outside the essential dock premises as extra-territorial, and in no sense the responsibility of the port, either as regards arrangement or service. The practice in operation at the leading non-railway owned ports is as follows :

At London and Bristol (Avonmouth), there are exchange sidings contiguous to, or on, the dock premises, where wagons are disconnected from the railway companies' locomotives and are taken in charge by the Port Authorities' locomotives for haulage to the quayside, and *vice versa*.

At Liverpool, the Mersey Docks and Harbour Board haul by their own locomotives to and from the railway termini, entering the railway companies' premises for the purpose. Sooner or later the practice at Birkenhead, on the other side of the Mersey, where hitherto the railway has hauled to and from the quayside, will be brought into line.

These leading instances illustrate a policy on the part of English Port Authorities of limiting their rail traffic operations and interest to haulage in the immediate neighbourhood of their quays and, indeed, practically within the boundaries of their own premises.

#### BELT LINES.

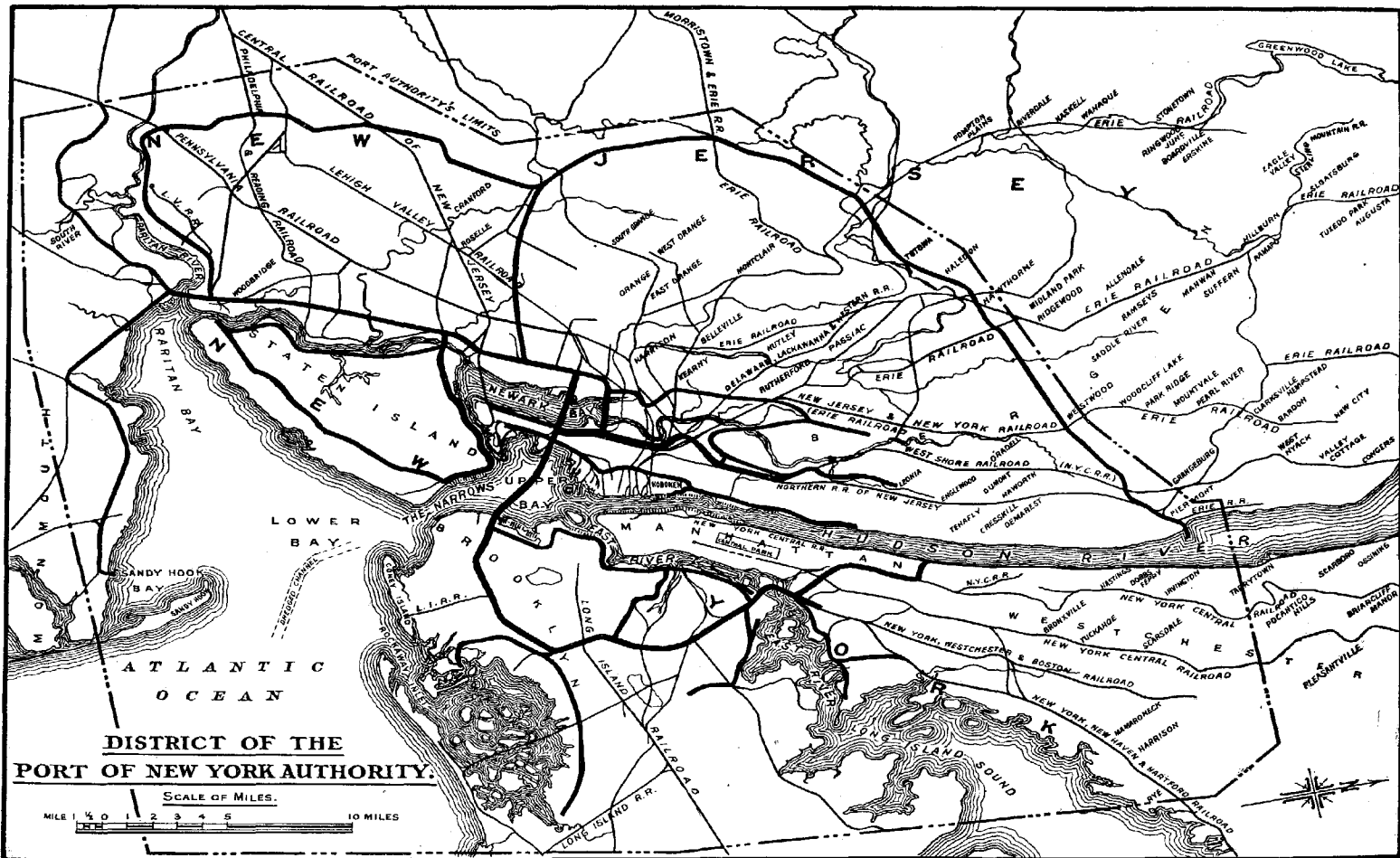
In the United States, on the other hand, the rule, at any rate in recent years, has been the other way ; the goods or freight railway system for a considerable area in the vicinity of a port has been considered a part of the purview of the Port Authority. The system of rail connections within the port district between the various wharves on the water-front and the main, or trunk, lines, linking them all together, is termed a Belt Line, and the supervision and co-ordination of the services of such belt lines (with various extensions and ramifications enabling them to serve industrial and manufacturing areas) is regarded as a function of the Port Authority, or of a co-related body constituted for the purpose. This does not, however, necessarily involve port

ownership of the belt lines, though jurisdiction may be exercised in that form, or, alternatively, under a system of State ownership, municipal ownership, or even a joint organisation. The belt railroad of San Francisco is State owned and operated; the belt railroad of New Orleans is municipally owned and operated; the belt line of Philadelphia is privately owned but publicly controlled; the belt line of Montreal is owned and operated by the Harbour Commissioners; there is a voluntary organisation which operates the belt line at Hampton Roads, and a similar association of interests in control at Houston, Texas.

Although it may justifiably be contended that, in most cases, the quayside rail services at English ports constitute what are virtually belt lines, and that, in fact, in some instances, as at Liverpool, there is little or no distinction, either as regards arrangement and working, compared, say, with Montreal, yet, in a general way, the belt line system at American ports is now conceived on broader lines and has a wider scope and range of action than the purely local connections at English ports. This is best illustrated by the plan of the Port of New York District facing this page, which shows the extensive region of railway trackage coming within the jurisdiction of the Port Authority.

The special functions associated with the operation of a belt railroad in the United States are the reception of outward freight from the trunk lines running to a port and its classification for convenient and expeditious shipment from the quays and wharves, while, in the reverse direction, it receives inward cargo *ex ship*, passes it through the classification yard on to the trunk lines which are to convey it to its several destinations.

As an instance of the constitution of these bodies we may take the case of New Orleans. The Public Belt Railroad Commission of New Orleans consists of the Mayor (who is President) and sixteen members, appointed by him. Eleven of these are chosen from various commercial and civic organisations and five from the city generally. They are an honorary body, serving without remuneration for a period of



**NOTE.**—The thick, black lines indicate the Belt Lines included in the Comprehensive Plan for the Development of the Port.  
*(Report of Port of New York Authority, Dec., 1921.)*

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sixteen years. The Commission operates the line connecting all railroads entering New Orleans (with two exceptions) with the docks and many industries, and it works in conjunction with the Board of Commission of the port.\*

In a paper read before a recent Convention of the Pacific Association of Port Authorities, Major Charles T. Leeds, of Los Angeles, has reviewed the working of port belt lines as carried on in America by means of the three different agencies, which he describes in the following terms †:

"1. **A Terminal Association.**—By this form of operating agency is meant a terminal organisation formed by the association of all the railroads and the city, each member of the association having equal or proportionate rights in the direction of the association's affairs. It is along such lines that the majority of the successful belt and terminal railways in this country (United States) are organised. Under such an organisation the most equitable adjustment of existing railroad holdings is possible and the most effective and efficient operating methods can be inaugurated.

"2. **An Independent Terminal Company.**—Instead of an organisation such as just described, the terminal

\* "The purview of the Public Belt Railroad is to supply comprehensive, economical and non-discriminatory switching service. It transfers cars from railroad to railroad, from railroads to wharves, from wharves to railroads, from railroads to industries and public delivery tracks, from industries to all transportation outlets of the city, and makes available to railroads all of the necessary wharf and individual switching connections at a uniform charge. The Public Belt Railroad receives cars from the several railroad companies at different points and the cars are handled with its own locomotives to the several points of delivery. The operation of any railroad over the tracks of the Public Belt Railroad is prohibited by the organic law of the Public Belt Railroad. It is the policy of the Board of Commissioners of the Port of New Orleans, which has jurisdiction over the public wharves, that all public wharves shall be served exclusively by the Public Belt Railroad. At the present time the operations of the Public Belt Railroad are confined to the active commercial river front and to industries in contiguous territory. Ultimately the entire city will be belted, bringing the outlying districts into close touch with the shipping facilities." (The Port of New Orleans, Louisiana. Port Series No. 5, U.S. Corps of Engineers, 1924).

† "Unification of Port Terminal Railway Facilities." 1924.

agency may consist of an entirely independent operating company, formed and controlled by persons not connected with or representing either the railroads or the city. It would be difficult to form such a company on a sufficiently stable financial basis to insure its uninterrupted future operation. A heavy investment would be required for the purchase of existing properties, their rearrangement and expansion. The placing of such a third operating organisation between the water carriers and the land carriers would probably result in delay in the handling of business through the port. Tariffs would have to be set up by the terminal company sufficient to pay the operating expenses of the company, together with interest charges and a profit.

“ 3. **Municipal Operation.**—The operation of all traffic in a unified zone by a city, or municipality, either directly or through an agency, would necessitate the co-operation and acquiescence on the part of the railroads in the taking over of such of their properties or all of them as lie within the unified area or condemnation (compulsory purchase) of the same, with all objectionable features and delay incident thereto, and would necessitate bond issues for provision of the necessary funds. The relative efficiency of publicly or privately-operated railroads is a debateable question. The same objection inherent in an independent terminal company, namely, the interposition of a third party, would hold with regard to municipal operation. One very material advantage which might result from complete municipal control of the transportation behind the water-front would be the securing to the public of a complete equality or fairness in services and charges in all parts of the harbour. In the event that the city should determine that the end justified the means, a complete absorption of terminal charges could be made by the city, and this could operate as a strong factor in drawing business through the port.”

#### THE PORT OF NEW YORK PROBLEM.

The principle involved is undoubtedly important, if not

actually fundamental. The effectiveness of a port in modern times is, as we have pointed out, dependent to a very great extent on its land services, and the proper co-ordination of these with the overseas services is undoubtedly a matter which concerns Port Authorities very closely. In their latest creation—the Port of New York Authority—the United States Government have put this principle into practice. But it does not meet with unqualified acceptance, and, indeed, in the instance mentioned, the railway companies affected have offered very strenuous opposition to interference with their rights and privileges, such as is necessarily involved in the formulation of a joint scheme of operation for the common benefit. The Port of New York Authority has had to appeal to the Courts to obtain recognition of its powers and, although successful in their application, it remains to be seen how far it can overcome the latent resources of opposition still at the disposal of powerful railway interests.

As the body is somewhat unique among Port Authorities and at the same time is typical of the latest American conceptions on the subject, it will be of interest to transcribe in an abridged form certain of the articles of the compact between the States of New York and New Jersey made in April, 1921, "for the creation of the Port of New York district and the establishment of the Port of New York Authority for the comprehensive development of the Port of New York."

"Article 1.—The States of New Jersey and New York agree to and pledge, each to the other, faithful co-operation in the future planning and development of the Port of New York, holding in high trust for the benefit of the nation the special blessings and natural advantages thereof.

"Article 2.—To that end the two States do agree that there shall be created and they do hereby create a district to be known as the 'Port of New York District' (for brevity hereinafter referred to as 'The District,') which shall embrace the territory bounded and describes as follows."

[*Note.*—The lengthy and involved description is omitted.]



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The plan fronting page 124 gives a clear idea of 'The District' which lies within the boundary lines indicated.]

" Article 3.—There is hereby created 'The Port of New York Authority' (for brevity hereinafter referred to as the 'Port Authority'), which shall be a body corporate and politic, having the powers and jurisdiction hereinafter enumerated, and such other and additional powers as shall be conferred upon it by the legislature of either State concurred in by the legislature of the other, or by act or acts of Congress, as hereinafter provided.

" Article 4.—The Port Authority shall consist of six Commissioners—three resident voters from the State of New York, two of whom shall be resident voters of the City of New York, and three resident voters from the State of New Jersey, two of whom shall be resident voters within the New Jersey portion of the district, the New York members to be chosen by the State of New York and the New Jersey members by the State of New Jersey in the manner and for the terms fixed and determined from time to time by the legislature of each State respectively, except as herein provided.

" Article 5.—The Commissioners shall, for the purpose of doing business, constitute a board and may adopt suitable by-laws for its management.

" Article 6.—The Port Authority shall constitute a body, both corporate and politic, with full power and authority to purchase, construct, lease and /or operate any terminal or transportation facility within the said district; and to make charges for the use thereof; and for any of such purposes to own, hold, lease and /or operate real or personal property, to borrow money and secure the same by bonds or by mortgages upon any property held or to be held by it. No property now or hereafter vested in or held by either State, or by any county, city, borough, village, township or other municipality, shall be taken by the Port Authority without the authority or consent of such State, county, city, borough, village, township or other municipality, nor shall anything herein impair or invalidate in any way any bonded indebtedness of such State, city, borough, village, township or other municipality, nor impair the provisions of law regulating the payment into sinking funds of revenues derived from municipal property, or dedicating the revenues derived from any municipal property to a specific purpose.

" Article 7.—The Port Authority shall have such additional

powers and duties as may hereafter be delegated to it. Unless and until otherwise provided, it shall make an annual report to the legislature of both States. The Port Authority shall not pledge the credit of either State without the authority of the legislature.

" Article 8.—Unless and until otherwise provided, all laws now or hereafter vesting jurisdiction or control in the public service commission, or the public utilities commission or like body, within each State respectively, shall apply to railroads and to any transportation, terminal or other facility owned, operated, leased or constructed by the Port Authority, with the same force and effect as if such railroad, or transportation, terminal or other facility were owned, leased, operated or constructed by a private corporation.

" Article 9.—Nothing contained in this agreement shall impair the powers of any municipality to develop or improve port and terminal facilities.

" Article 10.—The legislatures of the two States will adopt a plan or plans for the comprehensive development of the port.

" Article 11.—The Port Authority shall from time to time make plans for the development of said district, supplementary to or amendatory of any plan theretofore adopted.

" Article 12.—The Port Authority may from time to time make recommendations to the two States or to the Congress of the United States, based upon study and analysis, for the better conduct of the commerce passing in and through the port of New York, the increase and improvement of transportation and terminal facilities therein, and the more economical and expeditious handling of such commerce.

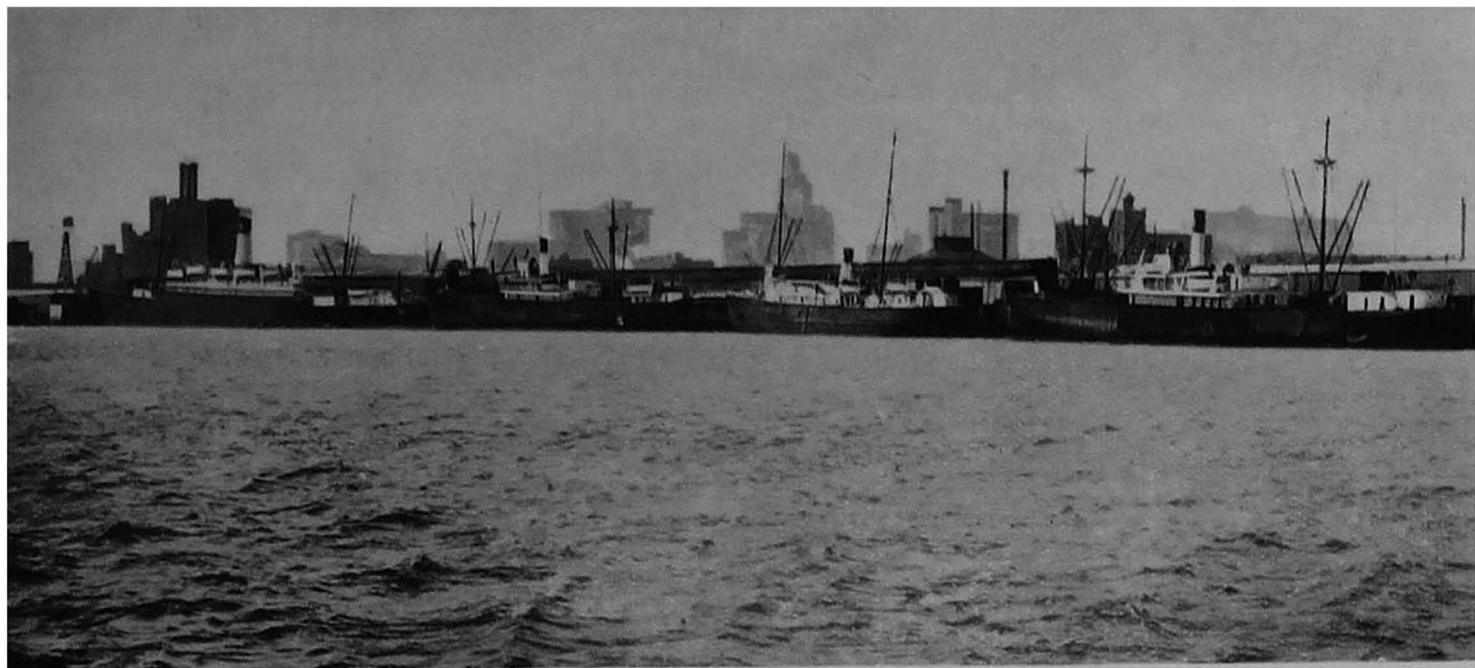
" Article 13.—The Port Authority is authorised to make suitable rules and regulations not inconsistent with the constitution of the United States or of either State, and subject to the exercise of the power of Congress, for the improvement of the conduct of navigation and commerce which, when concurred in or authorised by the legislatures of both States, shall be binding and effective upon all persons and corporations affected thereby."

[*Note.*—In the definitions, " Transportation facility " includes railroads, steam or electric, motor truck or other street or highway vehicles, tunnels, bridges, boats, ferries, car-floats, lighters, tugs, floating elevators, barges, scows or harbour craft of any

kind, aircraft suitable for harbour service and every kind of transportation facility. " Terminal facility " includes wharves, piers, slips, ferries, docks, dry docks, bulkheads, dock walls, basins, car-floats, float-bridges, grain or other storage elevators, warehouses, cold storage, tracks, yards, sheds, switches, connections, overhead appliances and every kind of terminal or storage facility.]

As has already been remarked, the constitution of the Port of New York Authority, though following along the lines of development characteristic of United States Port Administration, is of the nature of an experiment and the outcome will be watched with considerable interest. It will be noticed that while endowed with very wide powers of supervision and control, the Authority is hampered by certain restrictions which may contain elements of friction. In particular, Article 9 seems to afford a very wide degree of latitude to the municipal authorities who work and exploit the piers along the frontage of the Hudson and East Rivers, Newark Bay, Staten Island, etc. The Docks Department of the City of New York is largely independent of the new Authority, and it is not going too far, perhaps, to say that, in its policy, the City Administration has, as yet, adopted a distinctly antagonistic attitude to the Port Authority. Whether time will remove or mellow these differences of opinion remains to be seen.

Meanwhile; in Great Britain, the question of territorial jurisdiction has not arisen and the present system of independent railway control has not been criticised to the extent of suggesting any modification. Since the number of competing trunk lines to ports has been drastically reduced by the recent railway amalgamation, there are only a few ports in Great Britain where rivalry between railway companies can act prejudicially to the interests of the port, and, for that reason perhaps, the question is hardly likely now to be discussed on this side of the Atlantic. Finally, there are so many ports wholly attached to and forming part of railway organisations in this country, that there is less scope for the establishment of a system of independent belt lines



River Front, Port of New Orleans, U.S.A.

[To face page 130.

serving the port quays than would be the case in America, where the number of independent railway systems reaching a single port is often considerable. New Orleans is served by no fewer than twelve trunk lines. New York is the terminus of nine trunk lines and a number of other ports have anything up to half a dozen.

## CHAPTER XI

### BYLAWS

It is one of the most important duties of a Port Authority, on its creation, to draw up a series of bylaws for the regulation of port routine, revising them from time to time to meet fresh conditions as they present themselves and discarding those which become obsolete. These bylaws, which will naturally vary according to local circumstances, will probably be more or less voluminous ; they afford, however, a very serviceable indication of the nature of the work done at ports, and it will repay the student of transport to obtain copies from representative and leading ports, and to peruse them with care and attention.

In regard to certain matters of prime importance to public safety, codes of model bylaws have been issued by the Board of Trade, or Ministry of Transport, and these can be adapted as may be found desirable to suit particular localities.

In this country, the Harbours, Docks and Piers Clauses Act, 1847, which is usually, if not invariably, incorporated in the special Act for each particular port, confers the following powers on Port Authorities in regard to the framing of bylaws \* :

“ The Undertakers may from time to time make such bylaws as they think fit for all or any of the following purposes (that is to say) :

“ For regulating the use of the Harbour, Dock or Pier :

“ For regulating the exercise of the several powers vested in the Harbour Master :

“ For regulating the admission of vessels into or near the

\* Section LXXXIII.

Harbour, Dock or Pier, and their removal out of or from the same, and for the good order and government of such vessels whilst within the Harbour or Dock, or at or near the Pier :

“ For regulating the shipping and unshipping, landing, warehousing, stowing, depositing and removing of all goods within the limits of the Harbour, Dock or Pier, and the premises of the Undertakers :

“ For regulating (with the consent of the Commissioners of His Majesty's Customs) the hours during which the gates or entrances or outlets to the Harbour, Dock or Pier shall be open :

“ For regulating the duties and conduct of all persons, as well as the servants of the Undertakers as others, not being officers of Custom or Excise, who shall be employed in the Harbour, Dock or Pier, and the premises of the Undertakers :

“ For regulating the use of fire and lights within the Harbour, Dock or Pier, and the premises belonging thereto and within any vessel being within the Harbour or Dock, or at or near the Pier, or within the prescribed limits (if any) :

“ For preventing damage or injury to any vessel or goods within the Harbour or Dock, or at or near the Pier, or on the premises of the Undertakers :

“ For regulating the use of the cranes, weighing machines, weights and measures belonging to the Undertakers and the duties and conduct of all weighers and meters employed by them :

“ For regulating the duties and conduct of porters and carriers employed on the premises of the Undertakers, and fixing the rates to be paid to them for carrying any goods, articles or things from or to the same :

“ And the Undertakers may from time, as they shall think fit, repeal or alter any such bylaws: Provided always, that such bylaws shall not be repugnant to the laws of that part of the United Kingdom where the same are to have effect, or the provisions of this or the Special

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Act ; and such bylaws shall be reduced into writing, and have affixed thereto the Common Seal of the Undertakers if they be a body corporate or the signatures of the Undertakers or two of them if they be not a body corporate, and if affecting other persons than the officers or servants of the Undertakers shall be confirmed and published as herein provided."

It would be an extremely difficult matter to give an exhaustive list of all the essential points and matters of port working concerning which bylaws are framed ; so much depends on the local conditions as to whether certain precautions are or are not necessary, and whether certain matters are of greater or minor importance. A comparison of the bylaws published by the authorities of leading ports will show that there is abundant dissimilarity not only in their order and arrangement, but in the scope of the regulations and the degree of precision with which they are drawn up.

It would, therefore, be idle to attempt any systematic analysis, but in order to afford some guidance to the general reader and perhaps to serve as an introductory review for the student, we will attempt a brief outline of some of the more outstanding matters which form the subject of port bylaws.

### HARBOUR BYLAWS

#### (a) *Navigation within Port Waters :*

At some ports, such as London, Liverpool, Glasgow and Dundee, there is compulsory pilotage, while at others, such as Hartlepool and Newcastle, pilotage is voluntary. In the latter case, only due care in navigation is called for in general terms, somewhat as indicated in the following extract from Section 154 of the Thames Conservancy Act of 1894 :

" Every vessel navigating the Thames shall be navigated with care and caution and at a speed and in such a manner as not to endanger the lives of or cause injury to persons or



endanger the safety of or cause damage to other vessels or any moorings or to the banks of the Thames or other property."

At the port of Glasgow, where pilotage is compulsory, the bylaw runs :

"Every vessel of whatever description exceeding 100 tons gross register, navigating the river or any part thereof . . . shall have an experienced Captain or Sailing Master on board . . . and also (unless the Master or person in charge holds a pilotage certificate under the Pilotage Act) a Pilot duly licensed by the Clyde Pilot Board. . . ."

*(b) Towing :*

Towing bylaws define the number of craft which may be towed abreast, the total number and the length of the tow (from stern of tug to stern of aftermost vessel towed); also the mode of towing. Further regulations specify the number of men who must be on board and in charge of lighters.

*(c) General :*

A number of regulations will generally be found indicating various signals (both sound and light) to be made by vessels (a) when about to turn, (b) when being overtaken after dark, (c) when coming to anchor, (d) when coming out of dock, (e) in time of fog, and so on.

Regulations will also be made as to speed (a) when vessels approach or pass one another, (b) when steam vessels overtake sailing vessels, (c) when vessels approach danger areas, etc.

There will be strict prohibition of depositing refuse in the channels or on the banks of a navigable stream, or of allowing material such as cargo fuel, ballast, etc., to fall into the water, for which purpose canvas or tarpaulins should be suspended when discharging operations are in progress.

## DANGEROUS GOODS AND EXPLOSIVES.\*

The bylaws in connection with the loading and discharge of dangerous goods and explosives require attentive consideration. In Great Britain the position is governed by certain Acts of Parliament and regulations made thereunder by the Board of Trade.

In regard to explosives, the statutes referred to are the Explosives Act, 1875, and the Explosive Substances Act, 1883. The term explosive as used in these Acts covers gunpowder, nitro-glycerine, dynamite, gun cotton (also collodion cotton), blasting powders, fulminate of mercury or other metals, coloured fires, fog signals, fireworks, fuses, rockets, percussion caps, detonators, cartridges and ammunition of all descriptions.

Section 34 of the Act of 1875 requires that every Harbour Authority shall with the sanction of the Board of Trade (Minister of Transport) † make bylaws for regulating the conveyance, loading and unloading of gunpowder and other explosives within the jurisdiction of the Authority. The Board have, in fact, issued a model code of bylaws ‡ for harbour authorities, and this should be consulted in drawing up the code relating to any particular port. A careful study should be made of the whole Act and of the subsequent State Orders, as the responsibility for seeing to the safe custody and handling of explosives in port very largely devolves upon the Port Authority, through the Harbour Master.

\* Note on Dangerous Goods. " Dangerous goods include all substances of an inflammable nature which are liable to spontaneous combustion, either in themselves, or when stowed adjacent to other substances, and also which, when mixed with air, are liable to generate explosive gases or gases which produce suffocation or poisoning or the tainting of foodstuffs." (Board of Trade Memorandum.) It is customary for lists of Dangerous Goods and Hazardous Goods to be published in the Rate-books of the Port Authority.

† In general, the Ministry of Transport is now the Department responsible as regards harbours.

‡ " Memorandum relating to the Carriage of Dangerous Goods and Explosives in Ships." H.M. Stationery Office, 1923. Price 1s. 6d.

Some of the salient provisions of the Model Code of Bylaws are :

Ships' ammunition and signals are to be kept in vessels in a manner satisfactory to the Harbour Master. A vessel carrying more than 100 lbs. of explosives is to display a red flag or light on nearing the harbour and while within it.

Notice is to be given to the Harbour Master of the quantity of explosive on board and of the time when, and the place where, it is proposed to land the explosive. Certain rules are to be observed in regard to loading and unloading operations as follows :

- (a) Landing or depositing place on quay to be approved by the Harbour Master.
- (b) No fires or lights on board or at place of deposit.
- (c) Smoking forbidden.
- (d) Boots and shoes of workers to have no exposed iron.
- (e) No drunken person to be admitted.
- (f) Packages to be carefully handled.
- (g) Explosive not to be deposited on quay till vessel or carriage for conveyance therefrom is ready.
- (h) Wharves, stages, holds and gangways to be swept clean after operations.
- (i) Escaped or spilt explosive to be carefully collected and destroyed.

With others.

There are similar model bylaws drawn up under the Petroleum Acts, 1871 to 1881, relating to petroleum and carbide of calcium, for which reference should be made to the same publication.

In regard to petroleum, the Act of 1871 stipulates that every Harbour Authority shall frame and submit to the Board of Trade (Minister of Transport) bylaws for regulating the place or places at which ships carrying petroleum to which the Act applies are to be moored in the harbour over which the Authority has jurisdiction, and are to land their cargo, and for regulating the time and mode of, and the precautions to be taken on, such loading. The Harbour

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Authority is required to publish these proposed bylaws with a notice of their intention to apply for official confirmation, and when confirmation has been obtained of the proposed bylaws, either as originally drafted or in amended form, the bylaws are to be published by the Harbour Authority.

Carbide of calcium, under an Order in Council of August 8th, 1911, comes within the provision of the Petroleum Act, 1871.

### DOCK BYLAWS.

Dock bylaws will forbid, and enact penalties for, allowing vessels or craft to be adrift or insecurely moored or left unattended. Sailing vessels will be required to have their sails furled after sunset, or in squally weather, or when instructions are given by the dock master, who may also require the yards and masts to be struck at his discretion. The moving of vessels from their assigned berths without permission will also be forbidden. Vessels will not be allowed to moor or make fast to any part or projection of bridges, sheds, cranes, lamp-posts, or to fixtures, other than the mooring bollards and rings provided for the purpose. Steam vessels will be forbidden to work their engines in the dock, except under permission from the dock master.

In regards to goods, there will be special dock regulations affecting the handling of hazardous goods such as petroleum and carbide of calcium, while dangerous goods, such as explosives, will almost invariably be excluded. Smoking on board ship, or on the dock premises, will be subject to certain very stringent restrictions and other precautions will be taken in regard to fires and lights, so as to guard against outbreaks of fire, especially in the vicinity of combustible goods.

Throwing refuse or any solid material into dock waters will be strictly forbidden, as also the discharge of oil or bilge water. Precautions will also be required to be taken to prevent objects and material, such as coal, in the process of loading or unloading from falling into the dock.

As regards transit sheds, it will be stipulated that goods are to be deposited where directed, so as to occupy minimum space and allow freedom of access, and that they shall be removed within a certain period unless arrangements are made in regard to rental.

There will also be some bylaws of a general character in regard to loitering, committing nuisances, obstruction, defacing structures, affixing bills, etc., common to all public undertakings.

In drawing up a code of bylaws, advice will be sought from various quarters as to the effect the provisions may have on trade or industry. It is injudicious to make regulations too exacting. For instance, it has in the writer's experience proved a most difficult matter to draw up a series of bylaws governing the admission of motor vessels to docks. The conflicting interests of the fire insurance offices in regard to goods and dock buildings, and those of makers and owners of motor propelled craft were troublesome to reconcile, and the representations of both sides needed most careful consideration in order to arrive at a *modus vivendi* acceptable to all parties.

In drafting a code, attention should also be directed to the definitions, which are most important for a clear understanding of the bylaws.

When the port bylaws have been drawn up, they are in this country generally submitted to the Ministry of Transport for official approval and confirmation,\* on receipt of which they have statutory effect and the prescribed penalties can be enforced. The Harbours, Docks and Piers Clauses Act stipulates

"That no bylaws shall be confirmed unless notice of the intention to apply for a confirmation of the same shall have been given in one or more newspapers of the county in which the harbour dock or pier, or the principal office

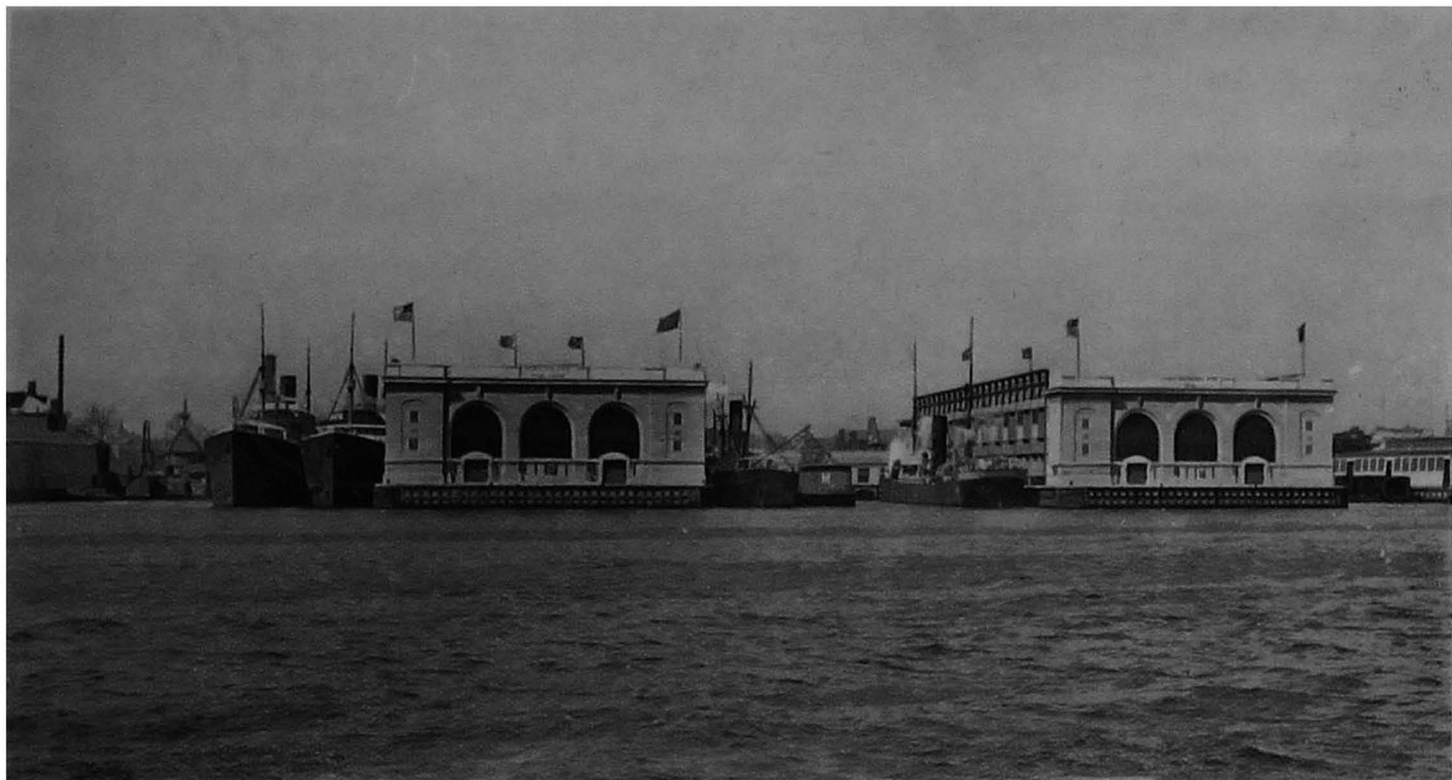
\* Otherwise, "if no means of confirmation be prescribed" to some Judge of one of the Superior Courts, or in England or Ireland to the Justices of the Quarter Sessions, or in Scotland to the Sheriff. Section LXXXV, Harbours Docks and Piers Clauses Act, 1847.

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thereof, is situate, one month at least before the hearing of such application ; and any person desiring to object to any such bylaw on giving to the undertakers notice of the nature of his objection ten days before the hearing of the application for the allowance thereof, may, by himself or his counsel, attorney or agent, be heard thereon, but not so as to allow more than one objecting party to be heard on the same matter of objection." \*

A copy of the proposed bylaws must be open to inspection for a month, at least, before the application for confirmation, and, when approved, they must be published or printed, † displayed and otherwise made public, including the issue of free copies on application. ‡

\* Section LXXXVI. † Section LXXXVII. ‡ Section LXXXVIII.



Steamship Piers, Port of Philadelphia, U.S.A.

*[To face page 140.]*

## CHAPTER XII

### PORT POLICE

AN effective police system is essential to the proper working of a port. It is the only method of checking and preventing unauthorised access to dock premises and of diminishing the evil of pilfering, which has long been one of the most common causes of complaint in connection with the transmission of cargo.

#### RIVER THIEVES.

Among the reasons which led to the creation of enclosed docks at London, rather more than a century ago, was the prevalence of theft from vessels stationed in the river. Of course, port conditions were entirely different at the date in question and there was a disgraceful laxity of control which, happily, cannot be paralleled, or even approached, by anything at the present day. We read that "plundering and smuggling were carried on with the connivance of the revenue officers, who came on board prepared with instruments and bladders to draw off their share of the plunder, giving as their excuse that their pay was inadequate and that they could not subsist without what they termed perquisites. Gangs of thieves went about the river at night, favoured in their nefarious occupations by the darkness and lack of protection to goods. So many and various were these gangs that they were classified. There were 'River Pirates,' who were armed thieves, cutting lighters adrift at night and following them till they drifted on shore, when they disposed of the proceeds; 'Night Plunderers,' who were watermen of the lowest character; 'Scuffle Hunters,' who prowled about the quays; 'Light



Horsemen,' the mates of ships and revenue officers ; ' Heavy Horsemen,' porters and labourers, and ' Mud Larks,' working in concert with labourers, who threw goods overboard at high water from vessels lying near the river bank, the goods being picked up from the mud after the tide had ebbed. ' Mud Larks ' were stated often to earn £5 per night. Several estimates were made as to the amount of the losses, but no satisfactory data existed for making the calculation. The estimates placed the aggregate losses from plunder to merchants and the public revenue at from £250,000 to £800,000 per annum." \*

By the erection of suitable walls, or fencing, round the basins or docks within which ships are berthed, a great step is taken towards the protection of cargoes, either while still aboard or while lying in sheds, warehouses, etc. Ingress and egress is at once restricted to certain gateways and fixed points which can be easily controlled by posting a constable or more at each. In this way, all traffic can be checked, whether on foot or vehicular. Goods passing outwards are covered by a pass from a duly authorised source and all persons are scrutinised. Under the Metropolitan Police Act, police in London are entitled to search and arrest any persons who they have reason to believe are in the possession of stolen property and this power enables them to take action when attempts are made to pass out goods not covered by a proper pass. Similar statutory powers are in force at other ports. At busy times of the day, such as at meal hours, or when the men leave work, additional assistance in inspection and search should be available to the officers on duty at the gates.

The previous steps are, of course, preventive and a detective force is essential in order to deal effectively with organised crime, detect cases which have been committed and to bring the offenders to justice. It is also useful in performing additional watch and ward in regard to irregularities and the watching of suspected persons, etc.

\* Sir J. Broodbank, ' History of the Port of London,' p. 83.

## DOCK AND QUAY PILFERAGE.

Although pilferage at ports is now nowhere in evidence on a scale comparable to the state of affairs referred to by Sir Joseph Broodbank in his work, petty pilferage, especially on ships, is still very rife, although it has been reduced very considerably of recent years. A few years back, one insurance company estimated that upon each round voyage of two cargoes made in a variety of trades the shortage claims, due principally to pilferage and theft, averaged £2,500 per voyage. Another company with a less varied trade put the figure at £2,000 for each ship per voyage. The institution of a detective force at certain ports has, however, proved most convincingly that a great number of the thefts included in the above estimates are committed not within the docks, but amongst the packers, carriers and other agents, before or after the goods arrive at or leave the docks.

Ships within most of the docks of Great Britain are, legally, private places, but in the Port of London (Consolidation) Act, 1920, clauses were included which rendered ships, warehouses, etc., for certain police purposes, public places. This claim has enabled the shipping companies to introduce a police scheme for their own protection during the loading and discharge of cargoes to replace the unsatisfactory and unreliable system of watchmen. This scheme has undoubtedly been the means of reducing ship pilferage to an extraordinary extent. During 1916, within the Port of London, convictions for pilferage numbered nearly 1,200, whilst in 1923, the number had sunk to 161; moreover, the shipping police were successful in completely suppressing gang-thefts of cargo committed by the stevedores working in ships' holds, although, in many cases, the rail thieves consisted of one or two leaders only, whilst the majority of the gang would have been honest, but for fear of their comrades.

The evil was so rampant in 1921, that the Council of the Chamber of Shipping of the United Kingdom appointed a Committee to investigate and report. Part of the responsibility is, of course, with the ships' officers and the remedy,

to that extent, is in the hands of the shipowner, who can enforce a great degree of surveillance during discharging and loading operations. The following recommendations of the Committee were specially addressed to Dock and Harbour Authorities :

" 1. That the authorities should be more strict in the scrutiny of persons allowed to enter and leave dock and harbour premises.

" 2. That the system of triplicate passes should be adopted in all ports for goods taken out of docks (called goods passes), one to be retained in the pass book of the ship and two to be handed to the person in charge of the goods to be given up at the dock gates. The dock authority should retain one of these two for their purposes and send the other to the ship's agent.

" 3. That there should be stricter examination of conveyances by road and water (carts, lighters, etc.) by those who are charged with the duty of doing so.

" 4. That where received by the dock or harbour authorities, they should always give receipts for goods which are tallied by the ship at the ship's rail."

Since public attention has been directed to the matter, there has been a perceptible improvement and a decreased number of claims. Partly, this has been due to the adoption of contrivances which render the rifling of packages more difficult, but, generally, it may be said to be attributable to a closer degree of supervision over the operations of cargo handling at the quayside, and to the institution of special services of police to deal with the evil. Another important cause has been the reduction in the amount of *casual* labour, and the formation of permanent forces of quayside workers.

APPENDIX I  
PORT ELECTORATES

In the case of Elective Trusts, the members are generally chosen on the results of a poll of the payers of rates or dues to the port in some form or other. The following actual examples are quoted by way of illustration :

PORT OF LONDON.

The provisions which relate to the register of electors for the Port of London are as hereunder :

Every person paying dues on his own account to the Port Authority amounting in the aggregate to not less than £10; every occupier of a wharf, quay, warehouse, or granary, adjoining the Port of London, mainly used for warehousing goods, the rateable value of the premises being not less than £50, and every owner of river craft, is entitled to have his name entered on the register. It is further stipulated that he must be resident in the United Kingdom.

Voting power increases per elector according to scale as follows :

(a) Payers of dues :	Votes.
Where dues amount to	
£10 but not to £25	... 1
£25 " " £50	... 2
£50 " " £100	... 3
£100 " " £200	... 4
£200 " " £400	... 5
£400 " " £800	... 6
£800 " " £1,500	... 7
£1,500 " " £3,000	... 8
£3,000 " " £5,000	... 9

with one vote additional for every extra £2,000, but the voting power is limited to 50.

(b) Wharfingers :		Votes.
Where rateable value amounts to	£50 but not to £125	1
	£125 " "	2
	£250 " "	3
	£500 " "	4
	£1,000 " "	5
	£1,500 " "	6
	£2,000 " "	7
	£3,000 " "	8
	£4,000 " "	9
and 10 votes for a rateable value of £5,000 or over.		

(c) Owners of river craft :		Votes.
Where number of craft amounts to	1 but not to 10	1
	10 " "	2
	30 " "	3
	50 " "	4
	100 " "	5
	150 " "	6
	200 " "	7
	300 " "	8
	400 " "	9

and 10 votes for 500 craft and over.

The number of electors is about 7,000.

#### PORT OF LIVERPOOL.

An elected member of the Mersey Docks and Harbour Board must live within the Borough or Customs Port of Liverpool, or within 10 miles of the boundary of the Port, and must pay to the Board within the year preceding his election at least £25 in rates on ships or goods.

To be a qualified elector a person must pay not less than £10 per annum on ships or goods.

There is no plural voting.

The number of electors is between 4,000 and 5,000.

#### PORT OF BELFAST.

The qualifications for an elector are residence within 20 miles from the Harbour Office and one of the two following :—

1. Registered ownership of a vessel belonging to and registered at the Port of Belfast of not less than 50 tons net register or of vessels having an aggregate tonnage of not less than 50 tons net

register or ownership of share or shares amounting to not less than 50 tons; or

2. Rated occupation of premises within the Borough of Belfast on a net annual Poor Law value of not less than £20.

Plural voting is allowed on the following scale:

*For Owners of Vessels.*

	No. of Votes.
50 tons and under 100 tons ... ..	1
100 " " 200 " " " " ... ..	2
200 " " 400 " " " " ... ..	3
400 " " 700 " " " " ... ..	4
700 " " 1,000 " " " " ... ..	5
1,000 " " and upwards ... ..	6 (maximum)

*For Rated Occupiers.*

Valuation £20 and less than £50 ... ..	1
" " £50 " " £100 ... ..	2
" " £100 " " £150 ... ..	3
" " £150 " " £200 ... ..	4
" " £200 " " £250 ... ..	5
" " £250 and upwards ... ..	6 (maximum)

Jointly rated occupiers of premises having a sufficient valuation are entitled to votes, according to scale, in the order in which their names appear in the Rate Books.

Directors of Limited Companies which own vessels or are rated as occupiers of premises—the tonnage or valuation being sufficient—may nominate up to four of their number to have their names placed on the register of electors. Votes to which such nominee or nominees may be so entitled are in addition to any votes he or they may have as individual shipowners or rated occupiers.

A person who is the owner of a vessel, etc., sufficient to confer a vote or votes, and is also the rated occupier of premises of sufficient value to confer a vote or votes, cannot be registered in both capacities. He must elect in which capacity he claims, and if he does not so elect the Revising Barrister may determine for him.\*

The number of electors is about 10,000.

\* Extracted, with what follows, by kind permission from "Notes on the Constitution of the Port Authorities of the United Kingdom," by D. J. Owen. Printed 1918, for private circulation.

## OTHER BRITISH PORT ELECTORATES.

## DUBLIN:

Dublin Ports and Docks Board constituted by Dublin Port and Docks Act, 1898 and 1902. 21 elected members (12 representing traders and 9 representing shipping interests).

Electors.—Occupiers of premises within the city carrying on trade or manufacture and rated for the relief of the poor on an annual value of £20 and upwards.

Wholesale traders within the city.

Persons carrying on business within the city and paying £500 Customs or Excise dues during the year preceding the election.

Registered owners of 50 tons of shipping registered at the port.

Registered owners of shipping not registered at the port but having an office within the city or 15 miles from the boundary and paying tonnage rates to the amount of £100 during the year.

Plural Voting. Electorate about 4,000.

Additional Members: Six appointed by and from City Corporation with the Lord Mayor (*ex-officio*). Total number, 28.

## DUNDEE:

Harbour Trust, constituted by Dundee Harbour and Tay Ferries Consolidation Act, 1911.

Electors.—Persons residing or having place of business within the burgh who shall during the year have paid, as principal, either directly or indirectly, or as agent for any person not entitled as a harbour ratepayer to be registered as an elector, £10 or upwards of rates exigible under the Harbour Acts in respect of goods.

British subjects residing or having place of business within the United Kingdom whose names appear in books of Custom House of Dundee as owners or part owners to the extent of at least 100 tons gross of or in a vessel or vessels registered at the port of Dundee.

Owners or part owners of or in vessel or vessels registered in the United Kingdom who shall during the year have paid £25 or upwards of rates in respect of such vessel or vessels.

Plural Voting. Electorate about 350.

Additional Members: 1 appointed by Admiralty, 8 by Corporation, 4 by County Council, 6 by Chambers of Commerce, 2 by Trades' Guild. Total number, 33.

## GLASGOW :

Clyde Navigation Trust constituted by the Clyde Navigation Consolidation Act, 1858, amended by the Clyde Navigation (Constitution) Act, 1905. 18 elected members.

Electors.—British subjects in the United Kingdom who have paid during the year £10 of dues on vessels, goods, graving docks or cranes.

No Plural Voting. Electorate about 2,200.

Additional Members: 12 appointed by the Corporation of Glasgow, 2 by County Council of Lanark, 1 by County Council of Dumbarton, 1 each by Town Councils of Renfrew, Clydebank and Dumbarton and 2 each by Chamber of Commerce, Merchants' House and Trades House of Glasgow. Total number, 42.

## HUMBER :

Conservancy Board constituted by the Humber Conservancy Act, 1907. 13 elected members.

Electors.—Shipowners whose names appear on the revised list for any one of the ports of Hull, Grimsby, and Goole as owners of not less than 150 tons of shipping.

Plural Voting. Electorate about 230.

Additional Members: 24 appointed by Board of Trade, Hull Trinity House, L. & N.E. Rly. Co., L.M. & S. Rly. Co., Aire and Calder Navigation, Lindsey and Notts County Councils, Hull and Grimsby Corporations, Goole U.D.C., Hull, Great Grimsby and Goole Incorporated Chambers of Shipping. Total number, 37.

## LEITH :

Commissioners for Harbour and Docks constituted by the Leith Harbour and Docks Act, 1875. 6 elected members.

Electors.—Persons whose names appear in books of Custom House at Leith as owners or part owners of 100 tons of or in any vessel or vessels registered at the port for which rates shall have been paid during the year, and persons who during the year have paid £4 or more of rates in respect of vessels or goods.

No Plural Voting. Number of electors about 1,500.

Additional Members: 3 appointed by Town Council of Edinburgh, 3 by Town Council of Leith, 1 by Edinburgh Merchant Company, 1 by Edinburgh Chamber of Commerce and 1 by Leith Chamber of Commerce.



## NEWCASTLE-ON-TYNE :

Tyne Improvement Commission constituted by the River Tyne Improvement Act, 1850, amended by the Tyne Improvement Commission Act, 1875, the Tyne Improvement Act, 1886, and the Tyne Improvement (Constitution and Works) Act, 1898. 15 elected members (5 by shipowners, 6 by coalowners and 5 by traders).

Electors.—Shipowners: Those residing or carrying on business within Tyne district (within 5 miles of port) and registered in books of Custom Houses at Newcastle, North Shields and South Shields as owners of vessels or shares of vessels aggregating not less than 100 tons of net registered tonnage in respect of which tonnage or in respect of any ballast delivered from or shipped on any such vessels in the port, Tyne dues have been paid within 12 months next preceding year of election.

Coalowners: Owners, lessees or occupiers of coal mines who deliver or put on board vessels on the Tyne or in any of the docks thereof 10,000 tons of coal, coke, culm or cinders during 12 months next preceding year of election in respect of which Tyne dues have been paid.

Traders: Those carrying on business within the Tyne district and paying certain specified rates, dues and charges amounting to £10 during 12 months preceding year of election.

Plural Voting. Number of electors about 500.

Additional Members: 2 appointed by Board of Trade, 6 by Newcastle Corporation, 2 by Gateshead Corporation, 3 by Tynemouth Corporation, 3 by South Shields Corporation, 1 by Jarrow Corporation. Total number, 32.

## NEWPORT, MON.:

Harbour Commissioners constituted by Newport (Mon.) Corporation Act, 1889. 23 elected members.

Electors.—Shipowners who own 20 or more tons of shipping.  
Iron Smelters who during one year ship 2,500 tons of iron.

Persons engaged in mining and working coal who during one year ship 7,500 tons of coal.

Plural Voting.

Additional Members: 5 by lords of local manors, 1 by Tredegar Wharf Co., 4 by Great Western Railway Co., 1 by Newport (Mon.) Chamber of Commerce and 12 by Corporation (Mayor *ex-officio* member). Total number, 47.

## SOUTHAMPTON:

Harbour Board constituted by the Southampton Harbour Act, 1913. 6 elected members.

Electors.—Owners of foreign going and coasting vessels.

Plural Voting.

Additional Members: 1 each appointed by Admiralty, War Office, Trinity House, Board of Trade (Labour), County Council, Itchen U.D.C., Traders and Water Frontagers, 7 by Borough Council, 3 by Southern Railway and 2 by Chamber of Commerce. Total number, 26.

## SUNDERLAND:

River Wear Commission constituted by the Wear Navigation and Sunderland Dock Act, 1859. 39 elected members.

Electors.—Registered Shipowners, Coalowners, Importers and Exporters.

Additional Members: 1 each appointed by Sunderland Town Council, Board of Trade and L. & N.E. Rly. Co., 9 landlords by the Commissioners, 1 *ex-officio* (Collector of Customs at Sunderland). Total number, 52.

## APPENDIX II

### THE ADMINISTRATION OF THE PORT OF PHILADELPHIA

THE author has been favoured with the following detailed statement on the administration of the Port of Philadelphia by Mr. Geo. F. Sproule, Director of the Department of Wharves, Docks and Ferries, and this may be taken as a fairly typical example, though there are numerous variations, of American Port Government.

#### MUNICIPAL CONTROL.

*Department of Wharves, Docks and Ferries.*

PH  
N

Under director and assistant director.

#### STATE CONTROL.

*Board of Commissioners of Navigation for the River Delaware and its Navigable Tributaries.*

The commissioners, five in number, consist of the Director of the Department of Wharves, Docks and Ferries, who is *ex-officio* the president, two representatives appointed by the Mayor, one from the Chamber of Commerce and the other from the Maritime Exchange, one elected by the Council of the City of Chester and one by the Burgess and Council of the Borough of Bristol.

#### GOVERNMENT CONTROL.

*Customs District of Philadelphia.*

(Act of Congress approved August 24, 1912.)

The United States Customs District of Philadelphia includes all that part of the State of Pennsylvania lying east of 79 degrees, west longitude; all of the State of Delaware, and all of that part of the State of New Jersey not included in the district of New York, with district headquarters at Philadelphia, in which Philadelphia (to include Camden and Gloucester City), Somer's Point, Thompson's Point, Tuckerton, N.J., Chester, Pa.; Wilmington and Lewes, Del., shall be ports of entry.

I. An Act of the Legislature of the State of Pennsylvania, approved June 8th, 1907, abolished former port controlling bodies and divided their duties between the Department of Wharves, Docks and Ferries, a municipal department, and the Board of Commissioners of Navigation for the River Delaware and its navigable tributaries, a State body. Under the provisions of this Act of Assembly, the Department of Wharves, Docks and Ferries was given jurisdiction over the piers in the City of Philadelphia, the Director of the Department, who is appointed by the Mayor of the City, having large executive powers. The chief difference between these two port authorities lies in their jurisdiction, the authority of the Department of Wharves, Docks and Ferries being confined to the City of Philadelphia, while that of the Commissioners of Navigation is confined to the Delaware River and its navigable tributaries within the State but outside the bounds of the City of Philadelphia.

Statutes and ordinances give the Department powers and duties which may be summarised in four groups :

1. Construction, alteration, repair, and leasing of municipal wharves, bulkheads, and harbour structures, and preparation of plans for port development.
2. Issuance of permits and licences for all private water-front improvements, and general supervision of private docks.
3. Dredging of city-owned docks and all docks into which city sewers empty, maintenance and deepening bulkheading of the Schuylkill River, and maintenance and operation of the municipal dredging plant.
4. Maintenance and operation of the city ice boats, and patrol of the Delaware River from Philadelphia to the sea during ice seasons.

All revenues and incomes from the water-front property, fees from licences, permits, etc., must be paid into the City Treasury. All appropriations for the maintenance and operation of the Department must be made by the Councils out of the general funds of the municipality.

II. The Commissioners of Navigation created by the same Act of June 8th, 1907, have charge of all wharf property on the Delaware River and its navigable tributaries in both Delaware and Bucks Counties ; they have the power to make regulations governing the stationing and anchoring of ships and vessels within the entire limits of the Port of Philadelphia and have had

conferred upon them all the functions exercised by the Harbour Master under the old law ; they are vested with authority to licence and regulate the Pennsylvania State pilots. A harbour patrol of the river is maintained by the Commissioners, under the direct supervision of a port captain appointed by the Board.

A daily supervision is exercised over the entire Delaware River water-front of the State.

III. Certain regulations for the use of the mainship channel of the Delaware River below Philadelphia are prescribed by the Secretary of War under authority of Section 4 of the Act of Congress of August 18, 1894, as amended by Section 11 of the Act of June 13, 1902. These regulations are enforced by the District Engineer, Corps of Engineers, U.S.A., who also has charge of the dredging work in the Delaware River and the maintenance of channels of certain authorised depth. Other Governmental functions as they relate to the Port of Philadelphia are supervised and controlled by the following offices :

Custom House, in charge of a Collector.

U.S. Appraisers' Stores, in charge of an Appraiser.

U.S. Lighthouse Department (Fourth District) in charge of a Superintendent.

U.S. Quarantine Station, in charge of a Surgeon.

U.S. Public Health Service, in charge of a Surgeon.

Branch Hydrographic Office, U.S. Navy, Commander-in-Charge.

U.S. Steamboat Inspection Service, in charge of inspectors of hulls and boilers.

U.S. Immigration Station, in charge of a Commissioner.

U.S. Shipping Commission, in charge of a Commissioner.

IV. Civic support of these several branches of port administration is given, chiefly, through the Port of Philadelphia Ocean Traffic Bureau, organised to secure greater use of the facilities and advantages of the Port of Philadelphia, and founded and maintained through the co-operative efforts of the Board of Trade, Philadelphia Bourse, Chamber of Commerce, Commercial Exchange, Maritime Exchange, Grocers' and Importers' Exchange, Lumbermen's Exchange, Philadelphia Real Estate Board, Philadelphia Export Club and the Department of Wharves, Docks and Ferries.

The organisation of this Bureau has been effected by forming a board of directors, composed of the Director of the Department

of Wharves, Docks and Ferries, and three representatives of each body named. A president, vice-president, treasurer and secretary have been named by the Board, which also agreed that the Bureau should be operated by a salaried manager with necessary staff, under the direction of the Board of Governors.

In order to attain the objects sought it was decided that the Bureau should maintain practical shipping records; follow up causes leading to shipments through ports other than Philadelphia and endeavour to influence via Philadelphia; to observe and study ocean and rail differential rates, their justification or correction from Philadelphia view point; to issue regular sailing schedules; watch I.C.C. operations having to do with rates for or against Philadelphia interests; to be in a position to assist the city trade bodies; cultivate a general acquaintance with merchants and shipping people; establish co-operative relationships, and maintain a system of filing general information on traffic questions.

APPENDIX III  
SPECIMEN PAGE OF DISCHARGING RATES \*  
PORT OF LONDON AUTHORITY

RATES for Discharging, etc., during ordinary working hours, including Survey of Hatches, and Survey of Cargo during the discharge.

Copies of Certificates of Survey on Cargo, Freight Books, Freight Notes, and Receipt Notes for Wood are charged for in addition.

An additional charge will be made on pieces or packages exceeding 30 cwt. each, and on cargoes or portions of cargoes which are *exceptional in character*, arising from the nature, stowage, or condition of the goods, from delivery in other than Bill of Lading quantities, or from any other cause involving extra expense in their unloading.

	Per ton of 2,240 lbs. gross unless otherwise stated.		
	Discharging.		Passing Overside Goods over Quay into Craik.
	On to the Quays.	Overside.	
	s. d.	s. d.	s. d.
All goods in ordinary packages of 40 lbs. or over (other than those specifically mentioned below)			
In bags ... ..	2 4	3 1	3 6
In cases or crates ... ..	2 9	3 8	4 2
In bales or bundles ... ..	2 5	3 2	3 8
In casks or kegs ... ..	2 2	3 0	3 3
All goods in packages under 40 lbs. (other than those specifically mentioned below)			
In bags, bales, or bundles ... ..	3 0	3 9	4 6
In cases, crates, kegs or casks ... ..	3 3	4 6	4 11
Alabaster, in cases or crates ... ..	4 9	6 0	7 2
Arrowroot, in bags ... ..	2 2	2 9	3 3
Asphalte, in casks or kegs ... ..	2 10	3 4	4 3
Asbestos sheets ... ..	3 0	4 0	4 6
Bacon and Hams, in boxes ... ..	2 8	3 6	4 0
"  "  in bales ... ..	2 6	3 0	3 9
Barytes ... ..	2 6	3 3	3 9
Beans, locust, in bags ... ..	2 4	3 1	3 6
Beans, n.o.r., in bags ... ..	1 10	2 2	2 9
Bran † ... ..	2 9	3 6	4 2
Butter, in casks ... ..	2 8	3 5	4 0
Canned Provisions ... ..	2 6	3 3	3 9
Cement, in bags... ..	2 6	3 3	3 9
Chalk, French, or Talc Powder ... ..	2 6	3 3	3 9
Cheese, boxes or crates ... ..	3 0	3 6	4 6
Coconuts, in bags ... ..	2 2	2 9	3 3
Colours and dyes ... ..	3 0	4 0	4 6
Corks ... ..	3 6	5 6	5 3
Corkwood ... ..	3 3	5 0	4 11
Currants, in cases ... ..	2 6	3 6	3 9
Dates ... ..	2 4	3 0	3 6
Eggs, in boxes or crates ... ..	3 0	3 6	4 6

† Consignments exceeding 100 tons ... 2 2 2 9 3 3  
\* Excerpt from fifth edition (April, 1924) of Schedule of Charges.

## APPENDIX IV

### SPECIMEN BYLAWS

By way of illustration of the principles laid down in Chapter XI, the following have been selected for reproduction :

#### BYLAWS RELATING TO THE AVONMOUTH AND ROYAL EDWARD DOCKS, PORT OF BRISTOL.

At a meeting of the Council of the City and County of Bristol, held at the Council House, on Tuesday, the Ninth day of November, One Thousand nine hundred and nine.

We, the Lord Mayor, Aldermen and Burgesses of the City of Bristol, in pursuance of the Harbours, Docks, and Piers Clauses Act, 1847, the Bristol Port and Channel Dock Acts, 1864 and 1877, the Bristol Dock Acts, 1884, and 1886, the Bristol Docks and Railways Act, 1901, the Bristol Corporation Act, 1902, and of all other powers and authorities vested in us in that behalf and relating to the Avonmouth Dock and the Royal Edward Dock in the City and County of Bristol, do hereby make the following Bylaws, namely :

1. In these Bylaws the following terms, except the context shows a contrary intention, have and bear the following meaning :

“ The Corporation ” shall mean the Lord Mayor, Aldermen and Burgesses of the City of Bristol.

“ The Docks ” shall mean and include the Old Dock and the Royal Edward Dock, both situate at Avonmouth, and the entrance locks, junction lock and timber ponds, and the quays, wharves, bridges, sheds, stations, lands and buildings connected therewith respectively.

“ The General Manager ” shall mean the General Manager of the Dock Estate belonging to the Corporation or any deputy or substitute lawfully acting on his behalf for the time being.



“ The Dock Master ” shall mean the Dock Master of the Docks, and “ the Traffic Manager ” shall mean the Traffic Manager of the Docks, and any deputy or substitute of these officers respectively lawfully acting in their stead.

The word “ Master ” when used in relation to any vessel shall be understood to mean the person having the command or charge of a vessel for the time being.

4. Books are kept at the Dock Master’s Office for the names of Masters and Pilots and the Draughts and Registered Tonnage of vessels proposing to enter the Docks, and the Master must furnish those particulars at the Dock Master’s Office.

The Master only is recognised as the person to “ stem ” his vessel for entering the Docks.

5. No Master of a vessel shall absent himself from such vessel while she shall be afloat without leaving such vessel in charge of some person who shall continue in attendance on board her whilst she shall remain afloat, and who shall be qualified and competent to shift or move her and attend to her moorings as the Dock Master may direct or as may be necessary. But this regulation shall not be understood to refer to any barge or lighter which, being empty, shall be laid up in a place set apart for such empty vessels under the directions of the Dock Master.

6. The Master of every vessel whilst in the Docks shall moor, or place and keep moored, his vessel where directed by the Dock Master, and shall moor and place and remove that vessel from time to time under or from any crane, spout, drop, or other berth in accordance with the directions of the Dock Master or other authorised Agent, and shall whilst his vessel is lying in the Docks or passing in or out of or between the Docks or Locks keep on board of her a number of men sufficient to look after and protect or take charge of her, and an ample supply of substantial hawsers, tow-lines, and other like articles for mooring and moving the same.

7. All vessels resorting to the Docks shall use fenders to the satisfaction of the Dock Master, and no fender shall be used that will not float in the water.

8. No vessel, rope, or chain shall be made fast except to mooring posts, rings, or chains placed for that purpose, or to other vessels.

9. No person shall use any spiked boathook against any Bridge, Dock Gate, Caisson, Jetty, Landing Stage, or other Dock property of the Corporation, or against any vessel in the Docks, or interfere with, knock against, or damage the Fence, Posts, or Chains along the Quays and at the approach to Bridges, or any part of the work thereof.

10. No Master of any vessel in the Docks shall suffer sails to be loosened without the permission of the Dock Master.

11. No goods or ballast intended for shipment in any vessel shall be deposited or placed upon any of the Quays or in the approaches thereto without the consent of the Dock Master or Traffic Manager.

12. All empty cases and casks, and all other things of the like description, deposited or placed upon any of the Quays or the approaches thereto, whether landed from vessels or intended to be shipped, must be removed by the owner within 24 hours after the same have been so deposited or placed, or within such extended time as the Dock Master or Traffic Manager shall appoint, provided that the Dock Master or Traffic Manager may extend the said period for any period not exceeding 24 hours, upon payment of such sum and upon such terms as he may deem reasonable.

13. All goods, except such articles as are described in Bylaw 12 hereof, which shall be placed upon any of the Quays, or in the approaches thereto, shall be removed within the period of 72 hours, or within such extended period as the Corporation shall allow as hereinafter mentioned. All duty-paying goods which shall be placed in any transit shed shall be removed within the period of 24 hours after having been passed by the Officers of His Majesty's Customs, or within such extended period as hereinafter mentioned. Provided that the Corporation, acting by their General Manager, in any case where in his opinion it is expedient, may upon a written application signed by the owner of any such goods stating the reason for such application, permit any such goods to remain upon any Quay for any longer period than 72 hours, or any such duty-paying goods in any transit shed for any longer period than 24 hours, such extended period to be fixed and allowed by the General Manager upon payment of such sum and upon such terms and conditions as they may deem reasonable, such permission to be signified by writing under the hand of the General Manager addressed to the Traffic Manager.

Provided further that if such goods are not removed before or at the expiration of such extended time the owner shall be liable to the same penalty as he would have been liable to if such permission had not been granted. Provided also that in computing time for the purposes of this Bylaw, Sunday, Christmas Day, and Good Friday shall be excluded.

14. All goods or other articles deposited or placed upon any of the Quays or in the approaches thereto shall be so deposited or placed as to occupy, according to the judgment of the Dock Master or Traffic Manager, the smallest amount of ground space, and so as not to prevent the free working of the doors or gates of any shed, and so as to cause no obstruction to the use of any weighing machines, cranes or railway or motor trucks, or to the free passage of persons and horses with or without any cart or other carriage between such goods or other articles and the other parts of the Quays.

15. No timber or pig iron or other heavy commodity shall be emptied or tilted out of any cart or other carriage on to any of the Quays or in the approaches thereto, but shall be laid down by crane or hand, and piled up so as to occupy the smallest amount of ground space.

16. No ballast, stone, shingle, cinder, ashes, limestone, dung, rubbish, dust, waste, or refuse of any kind shall be deposited or placed upon any of the Quays, or in the approaches thereto, without the consent of the Dock Master or Traffic Manager being first obtained, and then only at such places and within such limits as he may fix, and so that no part of the same shall be placed within 8 feet of the edge of any Quay wall.

17. No Master of any vessel in the Docks shall permit or suffer any deck to be washed or cleansed until the same shall have been carefully swept to the satisfaction of the Dock Master, or his Assistants, and until such sweepings shall have been removed to the place provided for the reception of sweepings. The washing or cleansing of decks will not be permitted while the vessel is lying in the Locks on any pretence whatever.

18. Any vessel making use of its steam on the main engine while within the Docks will do so at its own risk in all respects.

19. No vessel lying in the Docks shall discharge or load ballast, stones, lime, ore, rubbish, or other loose materials, nor shall such vessel, or her masts, spars, or tackle be repaired or scraped in

such manner as to allow any chips, pieces of wood, or any of the aforesaid or like materials to fall into any part of the Docks, or without having a tarpaulin, cloth, or wooden shoot or some other safeguard secured from the side of such vessel to the satisfaction of the Dock Master during the whole of the time occupied by such loading, discharge, or repairs.

20. No spars, masts, or boats shall be dressed, scraped, made or repaired, no casks, boxes, or packages shall be emptied, nor shall any kind of carpenter, smith, boiler maker, mason, slater, or rigger work be done upon any of the Quays or in the approaches thereto, or in any of the sheds of the Corporation; nor shall any sails, masts, spars, or any other thing be hung up or affixed to or against any part of the sheds or cranes, nor shall any vessel, rope, or chain be made fast thereto.

21. No Master of any vessel loading or unloading or having on board in the Docks any wool, cotton, tar, pitch, resin, hemp, flax, spirituous liquors, turpentine, oil, petroleum, hay, straw, shavings, faggots, or explosive or combustible goods, shall have or permit any person employed in the loading or unloading of such goods or otherwise under his control to have any fire or light on deck, or smoke, or permit any such person as aforesaid to smoke when the hatches are off, or leave or permit any such person as aforesaid to leave any dangerous thing near to or amongst such goods either when on board or when landed on the Quay.

22. No person shall smoke within the Docks.

23. Free access shall be allowed across and over the decks of all vessels lying at the Quays or Docks for goods of every description to be shipped or unshipped into or from vessels berthed outside.

24. No shipping box or ticket box, or any other erection shall be placed at any time upon any of the Quays or in the approaches thereto without the written sanction of the Traffic Manager having been previously obtained; and any such shipping box, ticket box, or other erection shall be removed at any time upon notice to be given by the Traffic Manager to remove the same.

25. No cart, car, wagon, motor vehicle, or other carriage shall be taken into any of the sheds or covered hauling ways of the Corporation except with the consent of the Traffic Manager.

26. No horse or carriage of any kind shall be allowed upon any of the Quays or Piers or in the approaches thereto except while such horse or carriage shall be actually engaged in conveying passengers, goods or ballast to or from any vessel, or to or from any of the sheds of the Corporation.

27. No articles shall be conveyed or drawn upon or over any Dock Bridge except upon a wheeled carriage, and no article conveyed by such carriage shall be suffered to trail or drag upon any Dock Bridge, and no vehicle which with its load shall exceed the weight which any such Bridge is considered capable of bearing, and which weight shall be marked thereon, shall be allowed to go upon any such Bridge.

28. No person having the charge of any vehicle shall proceed or drive except at a walking pace over any movable Dock Bridge, and no person or any animal or vehicle shall be upon any Swing Bridge whilst the same is being opened or closed, or after the supports shall have been withdrawn or after notice from the officer in charge of such Bridge.

29. No person who is not lawfully employed in or about the Docks shall enter the said Docks without having obtained a written authority from the General Manager or from some other person authorised by him for that purpose, and any person committing a breach of this Bylaw shall render himself or herself liable to the penalty hereinafter mentioned for each offence.

30. Every person lawfully employed in or about the said Docks shall, if required, before entering the same, furnish the name of the Company or persons or person by whom he or she is employed, or shall, if required, upon entering the said premises show some printed or written authority to enter the same from his or her employers, or from the General Manager or from some other person authorised by the General Manager for that purpose.

31. No person shall loiter about the Docks without having proper business thereat, whether his or her entry to the said Docks was lawfully obtained or not, and every person, while in or about the said Docks, shall on request of the Dock Master or Traffic Manager or any of their respective assistants give a proper account of himself or herself and of his or her business at the said Docks, and shall submit to or obey the lawful orders of the Dock Master or Traffic Manager or any of their respective assistants, and any person committing a breach of this Bylaw may

be forthwith removed by the Dock Master or Traffic Manager or any of their respective assistants from the Docks and the premises of the Corporation, and excluded therefrom, and shall render themselves liable to the penalty hereinafter mentioned for each offence.

32. No Firearm or Gun shall be discharged on board of any vessel in the Docks.

33. All dust, ashes, and refuse removed from any vessel in the Docks shall be deposited in the dust bins provided by the Corporation, or in such other places as the Dock Master shall direct.

34. All Boats using the Docks must be licensed by the Corporation, and every application for a licence for any boat must be made in writing to the General Manager, and must state full particulars of the boat and the name and address of the owner thereof.

35. No person in charge of an unlicensed boat shall ply for hire within the Docks.

36. A number will be given to every licensed boat, which number must be distinctly painted, at the expense of the owner, upon each bow of such boat, in white letters on a black ground, or black letters on a white ground, such figures to be not less than four inches in height, and the name and abode of the owner must be painted inside the stern in letters and figures of not less than two inches in height.

37. The licences continue in force for one year from the first day of May of each year, and their renewal may be granted or refused at the discretion of the Corporation.

38. Any Boatman disobeying any order of the Dock Master will be liable to forfeit his licence, in addition to the penalty hereinafter mentioned.

39. The Corporation reserve the power of refusing any application for a licence, and a charge of £1 os. 6d. will be made for each licence.

40. Upon a change of ownership the licence of every boat lapses, and it must be re-licensed before it will be again permitted to ply for hire.

41. No person shall commit a nuisance on any part of the

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Quays, Sheds, Slips, Landings or Stairs leading to the water, or on any other part of the Docks.

42. No person shall obstruct the Officers of the Corporation in going on board or being in or upon any vessel whilst in the execution of their duty.

43. No person shall write with chalk or otherwise on any Dock Work, or carve, cut, paint, or disfigure the same, or affix bills or placards thereon except with the consent of the Dock Master or Traffic Manager.

44. No person shall drown any animal, or throw any carcase of any animal in the Docks.

45. No person shall bathe in the Docks or the entrances thereto.

46. No Merchandise, Marine Stores or other goods will be allowed to pass the gates of the premises of the Corporation without production of a permit signed by the Master of the vessel from which such merchandise, marine stores or goods shall have been taken, and countersigned by a person duly authorised by the General Manager in that behalf.

47. No person, without having first obtained the written authority of the General Manager, shall exercise within the Docks his trade or business as buyer or seller of or dealer in, or hawk or expose for sale within the Docks or the approaches thereto any goods or merchandise.

48. The Corporation shall not be responsible for the accidental failure, breakage, or giving way of any mooring ring, or mooring post, mooring or warping buoy, or other fastening, or for the sufficiency of any rope, warp, chain, or other tackle which they may lend or allow to be used, or for any accident which may happen in consequence of any other voluntary assistance rendered by the Corporation, or by their officers or servants, to any vessel entering or leaving, or whilst in the Docks.

49. From and after the confirmation of these Bylaws the Bylaws made by the Bristol Port and Channel Dock Company dated the 30th December, 1880, and the Bylaw made by the Corporation dated 1st January, 1906, shall be repealed.

**PENALTIES.**—Any person who shall commit a breach of, or who shall offend against, any of the preceding Bylaws shall be liable to a penalty not exceeding £5 for each and every such

breach or offence. Provided that the Justices or Court before whom such penalty shall be sought to be recovered may, if they think fit, order the payment as a penalty of any sum less than the full amount of the penalty imposed by these Bylaws.

In witness whereof we the said Lord Mayor, Aldermen and Burgesses have caused our Common Seal to be hereunto affixed this Ninth day of November, One Thousand nine hundred and nine.

(L.S.)

W. H. WISE,  
Acting Town Clerk.

I allow these Bylaws.

A. T. LAWRENCE,  
One of the Judges of His Majesty's  
High Court of Justice.

25th January, 1910.

Published by Order of the Council.

W. H. WISE,  
Acting Town Clerk.



APPENDIX V

COST OF GOODS DISCHARGE AT BRITISH PORTS.

APPENDIX TO REPORT OF PORT FACILITIES COMMITTEE.\*

TABLE A.—Showing the comparative cost of discharging bulk cargoes of Grain, Sugar, Ore and Timber at certain Ports of the United Kingdom and certain Continental Ports for a vessel of 2,200 tons net, 3,500 tons gross, 5,000 dead-weight, light draft 12 feet, loaded draft 22 feet, arriving from the Ports stated and returning in ballast.

PRO FORMA DISBURSEMENT ACCOUNTS.

DETAILS OF CARGO.

- A.—4,300 tons of Grain from the Plate (3,850 tons in bulk and 450 tons in bags).
- B.—4,200 tons of Raw Sugar in bags from Mauritius.
- C.—4,600 tons of Ore from Algiers.
- D.—1,500 standards of Deals, Battens and one-fourth Boards (including 400 standards on deck) from Soderhamn in Sweden.
- E.—1,200 cubic fathoms of Pitprops from Gamlekarleby, Finland (including 320 cubic fathoms on deck).
- F.—4,400 tons of Pit Wood from Bordeaux or Oporto (including 600 tons on deck).

Port of Discharge and date to which account refers.	(1)			(2)			(3)			(4)			(5)			(6)			(7)			(8)			(9)			(10)		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
13/3/24	A.	17	8	11	40	0	0	130	12	6	20	3	4	208	4	9	340	8	4	548	13	1	50	0	0	30	13	6	8	
	B.	17	8	11	40	0	0	130	12	6	20	3	4	208	4	9	332	10	0	540	14	9	70	0	0	45	8	6	6	
	C.	17	8	11	40	0	0	130	12	6	20	3	4	208	4	9	498	6	8	706	11	5	—	—	—	23	6	9	9	
	D.	18	5	6	40	0	0	161	5	0	25	13	4	245	3	10	525	0	0	770	3	10	38	0	0	33	0	0	10	
	E.	18	5	6	40	0	0	161	5	0	25	13	4	245	3	10	420	0	0	665	3	10	30	0	0	33	0	0	7	
	F.	18	5	6	40	0	0	161	5	0	25	13	4	245	3	10	550	0	0	795	3	10	55	0	0	24	12	0	8	

31/3/24	A.	49	6	4	26	0	0	133	3	4	20	3	4	228	13	0	233	15	0	462	8	0	—	20	11	9			
	B.	49	6	4	26	0	0	133	3	4	20	3	4	228	13	0	385	0	0	613	13	0	—	20	11	9			
	C.	49	6	4	26	0	0	103	7	6	20	3	4	198	17	2	450	0	0	658	17	2	—	27	18	2			
	D.	53	13	10	26	0	0	105	6	8	25	13	4	210	13	10	487	10	0	698	3	10	—	25	9	0			
	E.	53	13	10	26	0	0	105	6	8	25	13	4	210	13	10	360	0	0	570	13	10	—	25	9	0			
F.	53	13	10	26	0	0	105	6	8	25	13	4	210	13	10	440	0	0	650	13	10	—	19	3	3				
15/3/24	A.	13	2	0	54	8	0	119	11	0	20	3	4	207	4	4	330	0	0	537	4	4	—	15	0	8			
	B.	13	1	6	54	8	0	119	11	0	20	3	4	207	3	10	280	0	0	487	3	10	—	5	5	0			
	C.	13	1	6	54	8	0	119	11	0	20	3	4	207	3	10	287	10	0	494	13	10	—	—	—	4-5			
	D.	13	1	6	54	8	0	153	13	1	25	13	4	245	5	11	637	10	0	887	15	11	—	—	—	10-11			
15/3/24	B.	11	10	0	40	16	0	189	13	6	29	3	4	262	2	10	266	17	6	529	0	4	21	17	6	27	5	8	
	4.																												
13/3/24	A.	15	0	0	32	13	4	183	6	8	20	3	4	251	3	4	194	1	1	445	4	5	10	17	8	20	9	6	
	B.	15	0	0	32	13	4	183	6	8	20	3	4	251	3	4	331	16	1	582	19	5	56	13	2	—	—		
	C.	15	0	0	32	13	4	183	6	8	20	3	4	251	3	4	472	9	8	723	13	0	35	9	2	—	—		
	D.	15	0	0	32	13	4	157	10	0	25	13	4	230	16	8	622	4	1	853	0	9	—	—	—	—	—		
	E.	15	0	0	32	13	4	157	10	0	25	13	4	230	16	8	426	13	1	657	9	9	—	—	—	—	—		
F.	15	0	0	32	13	4	157	10	0	25	13	4	230	16	8	737	0	0	967	16	8	—	—	—	—	—	—		
13/3/24	A.	22	9	0	36	0	0	165	0	0	20	3	4	243	12	4	300	16	8	544	9	0	—	25	1	6	5		
	B.	22	9	0	36	0	0	165	0	0	20	3	4	243	12	4	262	10	0	506	2	4	15	8	0	25	1	6	
	C.	22	9	0	36	0	0	165	0	0	20	3	4	243	12	4	383	6	8	626	19	0	—	—	19	1	10	6-7	
	D.	22	9	0	36	0	0	163	6	8	25	13	4	247	9	0	300	0	0	547	9	0	20	10	8	27	11	0	7-8
E.	22	9	0	36	0	0	163	6	8	25	13	4	247	9	0	300	0	0	547	9	0	17	19	4	29	13	0	6-7	
20/3/24	A.	43	8	8	42	9	4	210	7	6	20	3	4	316	8	10	196	17	6	513	6	4	13	10	2	19	11	6	4
	B.	33	18	8	42	9	4	255	15	0	20	3	4	352	6	4	472	10	0	824	16	4	43	15	0	19	11	6	4
	C.	33	18	8	42	9	4	112	1	3	20	3	4	208	12	7	613	6	8	821	19	3	—	—	—	16	14	9	6
	D.	43	8	8	42	9	4	108	13	4	25	13	4	220	4	8	581	5	0	801	9	8	43	15	0	24	6	0	12

\* By courteous permission of the Chamber of Shipping of the United Kingdom. Second Edition, 1924.

† By tugs and grabs. Dues on cargo paid by ship.

‡ Half cost.

§ Towage is £40 16s. 8d. if not done by contract.

|| Shore cranes. If ship's winches £546 2s. 4d.

Port of Discharge and date to which account refers.	(1)			(2)			(3)			(4)			(5)			(6)			(7)			(8)			(9)			(10)							
	Pilotage in and out, including boat attendance.			Towage—two tugs in and two out (excluding shifts in dock).			Dock and/or Harbour Dues and local Light Dues.			Light Dues (Trinity House).			Total of 1, 2, 3 and 4.			Discharging (exclusive of tallying).			Totals of columns 1, 2, 3, 4 and 6.			Tallying (where stated).			Other charges (where stated).			Estimated time in days required to discharge the cargo.							
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.		
13/3/24.	A.	4	1	10	11	10	2	0	0	2	16	11	3	20	3	4	380	5	6	371	17	6	752	3	0	—	—	—	—	—	—	4	6		
	B.	4	1	10	11	10	2	0	0	2	16	11	3	20	3	4	380	5	6	446	5	0	826	10	6	—	—	—	—	—	—	—	—	—	
	C.	4	1	10	11	10	2	0	0	1	23	15	0	20	3	4	287	9	3	351	18	0	639	7	3	—	—	—	—	—	—	—	—	3	3
	D.	4	1	10	11	10	2	0	0	2	49	7	6	25	13	4	418	11	9	645	9	4	1064	1	1	—	—	—	—	—	—	—	—	10	10
	E.	4	1	10	11	10	2	0	0	2	49	7	6	25	13	4	418	11	9	794	15	0	1213	6	9	—	—	—	—	—	—	—	—	8	9
	F.	4	1	10	11	10	2	0	0	1	65	7	6	25	13	4	334	11	9	794	15	0	1129	6	9	—	—	—	—	—	—	—	—	—	9
7/3/24	C.	2	4	14	0	2	7	10	0	1	05	1	6	20	3	4	177	8	10	282	14	2	460	3	0	10	7	0	11	7	0	6	7		
	D.	2	4	14	0	2	8	15	0	1	12	4	0	25	13	4	191	6	4	590	12	6	781	18	10	93	15	0	18	18	0	10	11	10	11
	E.	2	4	14	0	2	8	15	0	1	12	4	0	25	13	4	191	6	4	472	0	0	663	6	4	90	0	0	18	18	0	8	9	8	9
11/3/24	A.	2	0	11	0	2	8	0	0	1	32	18	4	20	3	4	201	12	8	258	6	8	459	19	4	—	—	5	7	6	7	6	7	6	
	B.	2	0	11	0	2	8	0	0	1	32	18	4	20	3	4	201	12	8	305	0	0	506	12	8	—	—	0	2	6	4	4	4	4	
	C.	2	0	11	0	2	8	0	0	1	03	2	6	20	3	4	171	16	10	325	16	8	497	13	6	—	—	0	2	6	10	11	10	11	10
	D.	2	0	11	0	2	8	0	0	1	03	6	8	25	13	4	167	11	0	587	10	0	755	1	0	—	—	0	2	6	10	11	10	11	10
	E.	2	0	11	0	2	8	0	0	1	03	6	8	25	13	4	167	11	0	330	0	0	497	11	0	—	—	0	2	6	12	12	12	12	12
16/4/24	C.	1	7	0	0	2	8	0	0	2	03	4	4	20	3	4	268	7	8	306	5	0	574	12	8	—	—	9	9	0	—	—	—	—	
9/4/24	D.	1	6	1	4	3	0	5	0	3	01	0	0	25	13	4	372	19	8	572	0	0	944	19	8	—	—	24	13	6	24	13	6	24	13
	E.	1	6	1	4	3	0	5	0	3	01	0	0	25	13	4	372	19	8	494	11	0	867	10	8	—	—	24	13	6	24	13	6	24	13

23/5/24	A.	22	4	8	23	15	6	42	14	3	—	88	14	5	154	15	1	243	9	6	13	6	7	22	6	3	94-104
	B.	22	4	8	23	15	6	42	14	3	—	88	14	5	190	8	6	279	2	11	23	8	1	17	11	1	94-104
	C.	22	4	8	23	15	6	43	14	3	—	88	14	5	228	14	6	317	8	11	25	10	8	13	16	7	7-9*
Antwerp	D.	22	4	8	23	15	6	42	14	3	—	88	14	5	223	8	6	312	2	11	18	1	8	17	11	1	14-15
	E.	22	4	8	23	15	6	42	14	3	—	88	14	5	224	9	4	313	3	9	21	5	6	17	11	1	14-15
	F.	22	4	8	23	15	6	42	14	3	—	88	14	5	250	0	0	338	14	5	21	5	6	17	11	1	14-15
27/5/24	A.	30	1	8	20	13	10	46	2	2	—	96	17	8	237	1	5†	333	19	1	†Tallying	19	9	10	1	1-2	
	B.	30	1	8	20	13	10	46	2	2	—	96	17	8	271	11	0†	368	8	8	included	19	9	10	1	4-5	
	C.	39	9	7	20	13	10	46	2	2	—	106	5	7	257	15	2	304	0	9	—	19	9	10	1	2-3	
Rotterdam	D.	34	9	7	20	13	10	46	2	2	—	101	5	7	368	10	8	469	16	3	—	19	9	10	1	10-12	
	E.	30	1	8	20	13	10	46	2	2	—	96	17	8	272	10	0	369	7	8	—	19	9	10	1	6-7	
	F.	30	1	8	20	13	10	46	2	2	—	96	17	8	460	13	4	557	11	0	—	19	9	10	1	7-8	
22/4/24	A.	22	12	3	77	0	0	47	8	7	—	147	0	10	187	2	10	334	3	8	55	2	10	57	15	3	
	B.	22	12	3	77	0	0	59	17	2	—	159	9	5	228	11	2	388	0	7	175	14	3	84	13	10	
Havre	D.	20	6	7	57	0	0	47	5	9	—	124	12	4	642	17	2	767	9	6	—	68	16	11			
7/5/24	A.	23	0	0	12	17	5	116	9	8	—	152	7	1	111	18	7†	264	5	8	84	12	10	9	7	2	3-6‡
	B.	23	0	0	12	17	5	103	12	6	—	139	9	11	167	17	2	307	7	1	75	0	0	27	7	2	4-5
	C.	23	0	0	12	17	5	23	1	8	—	58	19	1	287	2	10	346	1	11	67	17	2	24	14	0	4-5
Dunkirk	D.	23	0	0	12	17	5	103	12	6	—	139	9	11	267	17	2	407	7	1	88	5	9	26	2	10	8
	E.	23	0	0	12	17	5	103	12	6	—	139	9	11	257	2	10	396	12	9	112	17	2	27	17	2	8
	F.	23	0	0	12	17	5	50	7	11	—	86	5	4	257	12	3	343	17	7	112	2	10	27	14	3	8

\* According to kind of ore.

† Ship's winches—cost with elevators is greater.

‡ Three days with elevators, six with ships' gear.

The charges included in column (9) are such as agency fee, telegrams, postages and petties, survey fees, watchmen, hospitals, protest, gangway hire, police, administration charges and so forth.

Substantial additional expenditure not recorded in the Table may also be incurred owing to the necessity of shifting in dock.

APPENDIX VI  
SPECIMEN OF PORT ACCOUNTS

**PORT OF LONDON AUTHORITY.**

Dr.	NET REVENUE ACCOUNT for the year ended 31st MARCH, 1924.	Cr.
To FURTHER PROVISION FOR RECREATION GROUND FOR THE STAFF	£ s. d. 3,003 0 0	By BALANCE FROM 31st MARCH, 1923 ... ..
„ INCOME TAX ... ..	41,324 9 9	„ SURPLUS REVENUE BROUGHT FROM REVENUE ACCOUNT ... ..
„ INTEREST :—		„ INTEREST ON INVESTMENTS, held for :—
3 per cent. "A" Port Stock ... ..	281,392 11 2	General Reserve Fund... ..
4 per cent. "B" Port Stock ... ..	528,428 5 6	Redemption Funds—Port Stock ... ..
3½ per cent. Inscribed Port Stock ... ..	70,000 0 0	
4 per cent. Inscribed Port Stock ... ..	80,000 0 0	
5¼ per cent. Inscribed Port Stock, redeemed 2nd July, 1923	14,375 0 0	
6 per cent. Inscribed Port Stock ... ..	120,000 0 0	
Port of London Bills, Discount on ... ..	47,863 11 1	
Temporary Loans and Advances, etc. ... ..	8,067 15 2	
	1,150,127 2 11	
„ SINKING FUNDS FOR REDEMPTION OF PORT STOCK, ETC. :—		„ NET INCOME FROM PROPERTIES PURCHASED FOR DOCK EXTENSION (PENDING DEMOLITION) AND FROM NEW HEAD OFFICE ESTATE, ETC. ... ..
Interest and Instalments ... ..	138,148 11 10	„ TRANSFER FEES... ..
„ PROVISION FOR SINKING FUNDS TO REPLACE THE FOLLOWING EXPENDITURE, VIZ. :—		
(a) Cost of displaced or demolished works in connection with schemes for improvement and extension of Dock Accommodation, etc., in 20 years ... ..	1,503 18 11	
(b) Additional Plant, etc. ... ..	29,657 17 5	
(c) Expenses and Discount on Issues of Port Stock ... ..	14,192 16 10	
	45,354 13 2	
„ BALANCE CARRIED TO GENERAL BALANCE SHEET ... ..	1,315,818 13 1	
	£2,693,776 10 9	£2,693,776 10 9

Dr.	BALANCE SHEET at 31st MARCH, 1924.	Cr.
To PORT STOCK :—	£ s. d.	By CAPITAL EXPENDITURE ... ..
3 per cent. "A" Stock, 1929-99 ... ..	9,379,752 0 0	„ DEBTORS AND DEBIT BALANCES ... ..
4 per cent. "B" Stock, 1929-99 ... ..	13,210,706 16 0	„ ACCRUED CHARGES ON GOODS AND SHIPPING ... ..
3½ per cent. Inscribed Stock, 1949-99... ..	2,000,000 0 0	„ STORES AND MATERIALS ON HAND ... ..
4 per cent. Inscribed Stock, 1940-60 ... ..	2,000,000 0 0	„ INVESTMENTS :—
6 per cent. Inscribed Stock, 1930-40 ... ..	2,000,000 0 0	(a) In respect of Sinking Funds for redemp- tion of Port Stock— Port Stock at Cost: Government, Cor- poration and Railway Stocks at book values (which are in the aggregate less than Mean Market Prices at 31st March, 1924) ... ..
„ TEMPORARY LOANS AGAINST FURTHER ISSUE OF PORT STOCK	28,590,458 16 0	(b) In respect of General Reserve Fund— Government, Corporation and Rail- way Stocks at book values (which are less than Mean Market Prices at 31st March, 1924) ... ..
„ PORT OF LONDON BILLS ... ..	213,000 0 0	(c) In respect of Insurance Fund— Government Stock at book values (which are in the aggregate less than Mean Market Prices at 31st March, 1924) ... ..
„ CREDITORS AND CREDIT BALANCES ... ..	2,500,000 0 0	
„ UNCLAIMED INTEREST ... ..	872,300 12 0	„ CASH BALANCES AT BANKERS AND IN HAND :—
„ INTEREST ON PORT STOCK ACCRUED ... ..	2,563 15 8	At Bankers ... ..
„ PROVISION TO MEET EXPENDITURE ON MAINTENANCE, DREDGING, ETC., postponed in consequence of the War :—	243,419 10 5	In hand ... ..
Amount unexpended at 31st March, 1923 ... ..	2,284,114 12 8	
Less Expenditure during the year (including part of current Dredging outlays) ... ..	471,844 12 2	
„ PROVISION FOR EXPENDITURE ON WORKS OTHER THAN GENERAL REPAIRS AND RENEWALS :—	1,812,270 0 6	
Amount at 31st March, 1923 ... ..	237,934 15 1	
Less Expenditure during the year ... ..	9,666 17 9	
„ REDEMPTION OF DEBT—Debt extinguished ... ..	228,267 17 4	
„ SINKING FUNDS :—	17,499 0 0	
For redemption of Port Stock, etc. ( <i>Investments per contra</i> , £826,485 0s. 10d.) ... ..	964,633 12 8	
For replacing cost of :—		
(a) Displaced or demolished works in connection with schemes for improvement and extension of Dock Accommodation, etc. ... ..	9,543 0 3	
(b) Additional Plant, etc. ... ..	96,204 14 0	
(c) Issues of Port Stock—Expenses and Discount ... ..	20,728 6 4	
„ GENERAL RESERVE FUND... ..	1,091,109 13 3	
( <i>Investments per contra</i> , £1,000,000.)	1,000,000 0 0	
„ INSURANCE FUND :—		
Amount at 31st March, 1923 ... ..	252,093 14 9	
Added since—Income accumulated from Investments ( <i>Investments per contra</i> , £254,542 13s. 5d.)	5,502 3 9	
	257,595 18 6	
„ NET REVENUE ACCOUNT—BALANCE ... ..	1,315,818 13 1	
	£38,144,303 16 9	£38,144,303 16 9

DEVONPORT,                      CHAIRMAN OF THE AUTHORITY.  
RITCHIE OF DUNDEE, CHAIRMAN OF FINANCE COMMITTEE.

HERBERT E. UPTON, COMPTROLLER.

As Auditor appointed by the Ministry of Transport under the 109th Section of "THE PORT OF LONDON (CONSOLIDATION) ACT, 1920," I have examined the Accounts of the PORT OF LONDON AUTHORITY for the year ended 31st March, 1924, with the books and vouchers, and in my opinion the above Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Authority's affairs at the 31st March, 1924, as shown by the books, after charging the Revenue of the year with all expenses which, in my judgment, ought to be paid thereout.

WM. PLENDER, F.C.A.,

8th September, 1924.

APPENDIX VII  
SPECIMEN OF PORT RATES RETURNS

MERSEY DOCKS AND HARBOUR BOARD.

COMPARATIVE STATEMENT SHOWING THE NUMBER AND TONNAGE OF VESSELS WHICH HAVE PAID RATES TO THE BOARD, TOGETHER WITH THE AMOUNT OF RATES AND DUES RECEIVED ON VESSELS AND GOODS, FOR THE TWO YEARS ENDED 1st JULY, 1924.

YEAR ENDED 1st JULY.	NUMBER OF VESSELS.										TONNAGE OF VESSELS.										GRAND TOTAL.		
	PAYING DOCK TONNAGE RATES.					PAYING HARBOUR RATES ONLY.					TOTAL.	PAYING DOCK TONNAGE RATES.					PAYING HARBOUR RATES ONLY.						
	SAILING.		STEAM.			SAILING.		STEAM.				SAILING.		STEAM.			TOTAL.	SAILING.		STEAM.			
	Foreign.	Coastwise.	Foreign.	Coastwise.	NO.	Foreign.	Coastwise.	Foreign.	Coastwise.	NO.		Foreign.	Coastwise.	Foreign.	Coastwise.	TONS.		Foreign.	Coastwise.	Foreign.		Coastwise.	TONS.
1924	NO. 14	NO. 339	NO. 3,835	NO. 9,328	NO. 6	NO. 199	NO. 1,545	NO. 5,582	NO. 20,848	TONS. 12,446	TONS. 32,357	TONS. 12,343,917	TONS. 2,014,057	TONS. 14,402,777	TONS. 4,908	TONS. 19,530	TONS. 2,831,959	TONS. 1,314,970	TONS. 4,171,367	TONS. 18,574,144			
1923	10	475	3,836	8,797	7	156	1,674	5,119	20,974	6,239	46,578	11,839,355	1,933,642	13,825,814	2,532	14,624	2,998,272	1,238,337	4,253,765	18,079,579			
INCREASE	4	...	...	531	...	43	...	463	774	6,207	...	504,562	80,415	576,963	2,376	4,906	...	76,633	...	494,505			
DECREASE	...	136	1	...	1	...	129	...	...	...	14,221	...	...	...	...	...	166,313	...	82,398	...			

NOTE.—The Tonnage shown above represents the Total Net Register Tonnage of Vessels paying Rates to the Board, Inwards or Outwards, as the case may be. To arrive at the total Tonnage which entered, and the total Tonnage which left the River Mersey, it is necessary to double the figures. The approximate total Tonnage, Inwards and Outwards, for the year just ended, would therefore be 37,148,288 Tons.

YEAR ENDED 1st JULY.	RATES RECEIVED ON VESSELS.												RATES AND DUES RECEIVED ON GOODS.												GRAND TOTAL.
	DOCK TONNAGE RATES.				HARBOUR RATES ONLY.				TOTAL TONNAGE AND HARBOUR RATES.	GRAVING DOCK AND GRIDIRON RATES.	DOCK RENT.	TOTAL RATES ON VESSELS.	DOCK RATES.			TOWN DUES.			TOTAL RATES AND DUES ON GOODS.						
	SAILING VESSELS.		STEAM VESSELS.		SAILING VESSELS.		STEAM VESSELS.						FOREIGN.		COASTWISE.	TOTAL.	FOREIGN.			COASTWISE.		TOTAL.			
	Foreign.	Coastwise.	Foreign.	Coastwise.	Foreign.	Coastwise.	Foreign.	Coastwise.					Inwards.	Outwards.	Inwards.		Outwards.	Inwards.		Outwards.					
1924	£ 937 1 6	s. 651 2 3	d. 1,294,834 13 2	£ 61,179 11 11	£ 69 0 2	s. 129 1 6	d. 43,591 16 7	£ 7,502 7 7	s. d. *1,408,894 14 8	£ 65,073 19 8	s. d. 22,250 2 1	£ *1,496,218 16 5	s. d. 513,131 3 9	£ 138,289 4 7	s. d. 72 8 10	£ 651,492 17 2	s. d. 353,349 11 2	£ 146,379 19 2	s. d. 25,188 5	£ 137,790 1 2	s. d. 562,707 16 7	£ 1,214,200 13 9	s. d. *2,710,419 10 2		
1923	422 11 4	1,037 17 10	1,245,218 12 6	60,431 17 5	29 7 4	90 7 11	44,976 14 7	6,807 8 9	*1,359,014 17 8	61,785 5 8	46,064 13 11	*1,469,864 17 3	499,405 12 5	134,785 11 11	90 6 8	634,281 11 0	340,736 19 9	143,869 0 10	23,372 8 0	33,958 2 7	541,936 11 2	1,176,218 2 2	*2,640,082 19 5		
INCREASE	514 10 2	...	49,616 0 8	747 14 6	39 12 10	38 13 7	...	694 18 10	*49,879 17 0	288 14 0	...	*26,353 19 2	13,725 11 4	3,503 12 8	...	17,211 6 2	12,612 11 5	2,510 18 4	1,815 17 1	3,831 18 7	20,771 5 5	37,982 11 7	*64,336 10 9		
DECREASE	...	386 15 7	...	...	...	...	1,384 18 0	...	...	...	23,814 11 10	...	...	...	17 17 10	...	...	...	...	...	...	...	...		

\* These amounts are inclusive of Receipts on Conservancy Account, viz. :—

1st July, 1924	...	£249,407 1 6
1st July, 1923	...	£233,545 4 8
Increase	...	£15,861 16 10

NOTE :—

- (a) The approximate weight of Goods for the year 1924, on which dues were paid, is estimated at 14,400,000 tons.
- (b) On the 1st October, 1922, in addition to large reductions being made in the Dock Rates and Town Dues on certain articles, an all round decrease of 5% was made in the Dock Tonnage Rates and Dock Rates and Town Dues.

DOCK OFFICE,  
LIVERPOOL, 8th JULY, 1924.

L. A. P. WARNER,  
GENERAL MANAGER AND SECRETARY.

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