

PORTS *and* HARBORS

MARCH 1965

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PORT OF LONDON

Special Edition
Interports '65

THE INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS

London

The Site of I.A.P.H. 4th Conference

May 10-14, 1965



A View from the Victoria Tower of the House of Parliament

In the left foreground are the Houses of Parliament and Big Ben. In the right foreground are County Hall, headquarters of the London County Council and the 26-story, 338-feet-high tower of the Shell Centre (administrative headquarters of the Shell Oil Co.), with the dome of St. Paul's Cathedral in the background. The bridges over the River Thames are (front to back) Westminster Bridge, Hungerford Bridge, and Waterloo Bridge. To the right of Waterloo Bridge is the Royal Festival Hall.

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MARCH, 1965 Vol. 10, No. 1

PORTS AND HARBORS is quarterly published by the Central Secretariat of the International Association of Ports and Harbors as an official journal of the Association, to provide its members with information concerning port and harbor developments in the world.

CONTENTS

Messages:	Page
Let's Meet in London, By John P. Davis	2
" " By Viscount Simon	3
London Here and There	4
Port of London, By Dudley Perkins	7
The Port's Role in Area Development, By Thomas P. Guerin	14
Port of Fremantle	16
Port Alberni	22

THE INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS

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Fourth I.A.P.H. Conference

Let's Meet

The dates of the London Conference are fast approaching. Those of us who have been in on the formative plans of this Conference are extremely gratified with the response we have already received.

The organizing committee under the capable leadership of Sir Leslie Ford has developed a program which will have universal appeal. Speakers of international stature plus informative events bid fair to make this Conference the best ever. In addition, there has been developed an interesting ladies' program.

To date, over 20 countries have expressed a desire to attend. May I urge every member to give serious consideration to this appeal. Your early reservation will be deeply appreciated. Even now adequate accommodations are difficult.

The addition of dozens of new members plus the enthusiasm generated by the Port of London will make this Conference a must for Port Authorities the world over.

The registration fee is \$100.00 per delegate with or without your lady.

Please send your reservations at once to:

Sir Leslie Ford
Chairman—Organizing Committee
15 North Audley Street
London W 1
England

See you in London!

Yours sincerely,

John P. Davis
President



in London

In the September 1964 issue of this magazine there appeared a copy of the letter I sent in June last to all members announcing the decision of the Board of Directors of I.A.P.H. to hold their Fourth Conference in London from May 10th to May 14th and that the Port of London Authority would be the host port.

The response to this letter has been most encouraging, and so far eighty delegates—accompanied in many instances by their ladies—from the ports of over twenty countries have indicated their intention to be present. Although the Association has recruited a number of new members as a direct result of the forthcoming Conference, it has been thought desirable also to invite non-member ports to send representatives to London. At the time of writing, over forty invitees from a further ten countries and again accompanied in many instances by their ladies have accepted this opportunity to join us, and I hope that after attending the Conference many will decide to become members.

I cannot help feeling, however, that there are still some who would like to come but have not yet found time to reply. The Conference Secretariat have been hard at work for over six months doing everything they can to ensure that this will be an outstanding Conference, stimulating and satisfying in its business sessions and socially successful at the various luncheons, receptions, tours, etc.

The Port of London Authority look forward with pleasurable anticipation to welcoming all those members who have to date indicated their intention to visit London. To those of you who are still hesitating, we say, 'Please make up your minds quickly and send completed forms to the Secretariat in London without further delay.'

Show your confidence in this unique International Association by your personal presence in London from May 10th to May 14th in support of your President, Vice-Presidents and Board of Directors.

Your visit will be well worth while.

Viscount Simon
Conference Chairman

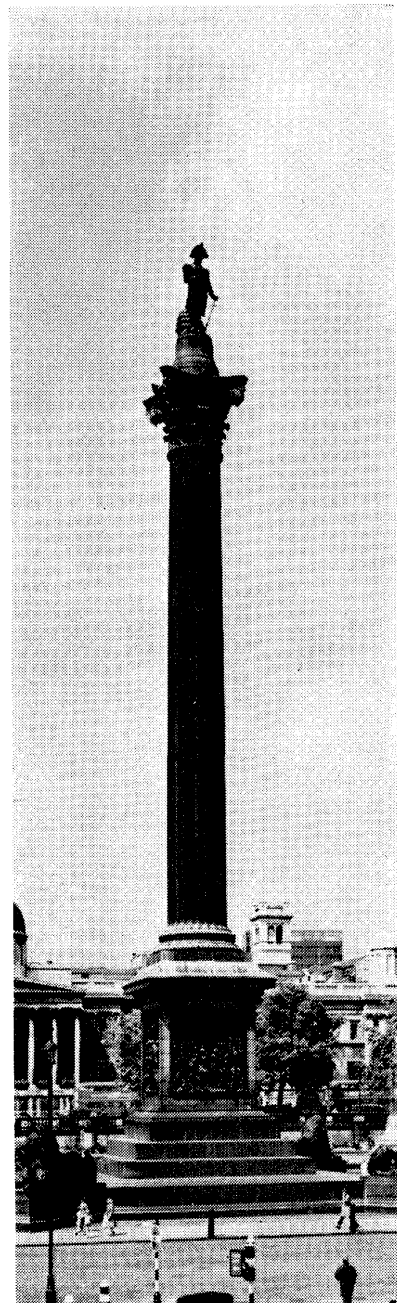
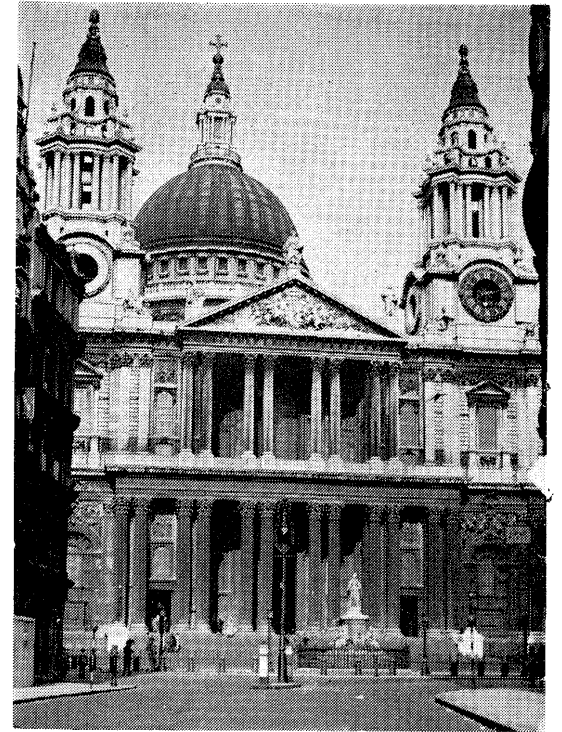


Buckingham Palace

London

Here and There

St. Paul's Cathedral



Trafalgar Square



Royal Exchange and Bank of England



National Gallery



An open air cafe in Victoria Embankment Gardens during the lunch break on a fine Spring day.

Photos by the Countess of British Council, Tokyo.



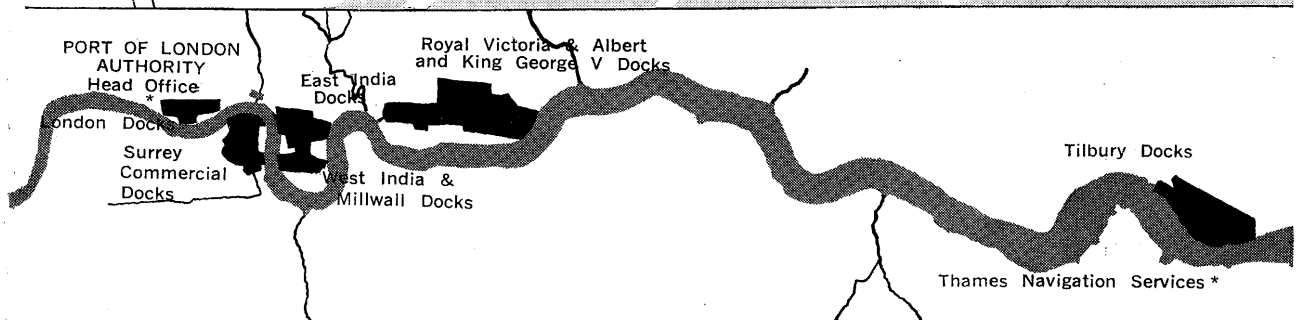
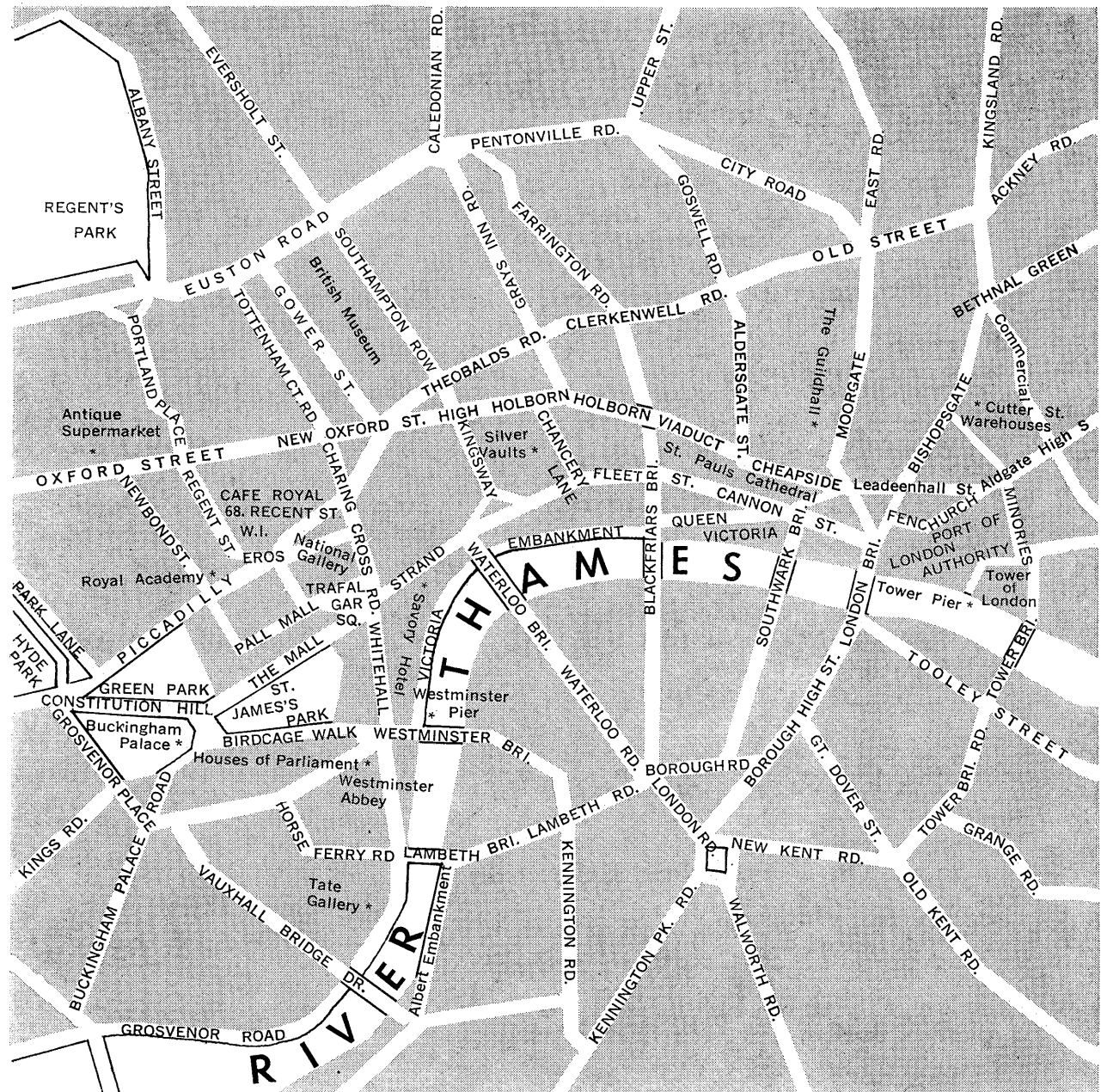
Regent's Park

Tower Bridge



Pan Am. Photo

CONFERENCE LOCATIONS



CONFERENCE PROCEDURE & PROGRAMME

Monday	9.30- 5.00	Registration at Dubarry Suite, Café Royal	
	12.30	Lunch (Board and Conference Staff only)	
	2.30	Board Meeting	
Tuesday	9.45-10.10	Official Opening	
	10.15-11.00	Address by Conference Chairman	
	11.00-11.25	Coffee	
	11.30-12.30	Dr. Chujiro Haraguchi	<i>Development of regions to bring prosperity to ports</i>
	12.30	* Lunch	
Wednesday	9.30-10.30	Mr. Dudley Perkins	<i>Port Management</i>
	10.30-10.50	Coffee	
	10.55-11.40	Mr. Howard Mann	<i>The relative merits of private, state and civic ownership of ports</i>
	11.45-12.30	Mr. V. G. Swanson	<i>The role of the port authority in the changing pattern of cargo move- ment on the Australian coast</i>
	12.30	Lunch	
	2.00- 3.00	Plenary Session	
	3.00- 3.45	Mr. Austin J. Tobin	<i>A port's foreign representative— what is his field?</i>
	3.45- 4.15	Tea	
	4.15- 5.00	Sir Andrew Crichton	<i>The relationship between all those engaged in a port and their em- ployers</i>
Thursday	9.30-10.30	Sir Donald Anderson	<i>What does the user expect from a port authority?</i>
	10.30-10.55	Coffee	
	11.00-12.15	The Rt. Hon. Lord Rochdale	<i>The constitution and functions of the National Ports Council</i>
	12.30	* Lunch—excepting those on Thames Navigation Service visit	
Friday	9.30-10.30	Mr. E. H. Simoes	<i>The role of the port in a developing economy</i>
	10.30-10.50	Coffee	
	10.55-11.40	Captain Stig Axelson	<i>Big ports, small ports—what are their respective roles?</i>
	11.45-12.30	Dr. Heinz Kaufmann	<i>The economic importance of a free port</i>
	12.30	* Lunch	
	2.30- 3.30	Closing Session	
	3.30	Tea	
	4.00	Board Meeting	

N.B. Programme of Wednesday, May 12, partly changed as above.

† Ladies programme

* Denotes functions to which both delegates and their ladies are invited

TOURS, SOCIAL & LADIES PROGRAMME

Monday	6.00- 8.00	* Reception at Port of London Authority, Trinity Square, London, E.C.3
Tuesday	2.00- 7.00	* General tour of the Port of London by river Free evening
Wednesday	10.30- 4.30	† Visit to Hampton Court and Windsor Castle by coach (includes lunch)
	10.00- 6.00	† Visit to Woburn Abbey by coach (includes lunch)
	8.30-11.30	* Reception by Lord Mayor of London at Guildhall, City of London, E.C.2 (formal dress)
Thursday	10.00-12 noon	† Visit by coach limited to separate parties of 20 ladies, to: 1. Cutler Street Warehouses 2. Silver Vaults 3. Antique Supermarket 4. Her Majesty The Queen's Art Exhibition (Royal Mews) 5. Royal Academy
	12.15- 6.30	Visit by river to Thames Navigation Service, Gravesend (limited to 60 delegates—buffet lunch)
	2.30- 6.30	Visit by coach to Tilbury Docks (limited to 60 delegates)
	2.30- 5.00	Visit by coach to London Docks—Wine vaults and bulk wine storage (limited to 30 delegates)
	2.30- 5.00	Visit by coach to Surrey Commercial Docks—Timber storage (limited to 30 delegates)
	2.30- 5.00	Visit by coach to West India and Millwall Docks—New general cargo development (limited to 30 delegates)
	2.30- 5.00	* Visit by coach to Westminster Abbey and Houses of Parliament
	2.30- 5.00	* Visit by coach to the City
	7.45 for 8.15	* Banquet at the Savoy Hotel (formal dress)
Friday		† Free morning

CONFERENCE SPEAKERS AND THEIR PAPERS

Dr. Chujiro Haraguchi, Mayor, City of Kobe	Development of regions to bring prosperity to ports
Mr. Dudley Perkins, General Manager, Port of London Authority	Port management
Mr. Howard Mann, Chairman, Canadian National Harbours Board	The relative merits of private, state and civic ownership of ports
Mr. V. G. Swanson, Chairman, Melbourne Harbor Trust Commissioners	The role of the port authority in the changing pattern of cargo movement on the Australian coast
Mr. Austin J. Tobin, Executive Director, Port of New York Authority	A port's foreign representative—what is his field?
Sir Andrew Crichton, Managing Director, Peninsular and Oriental Steam Navigation Company	The relationship between all those engaged in a port and their employers
Sir Donald Anderson, Chairman, Peninsular and Oriental Steam Navigation Company	What does the user expect from a port authority?
The Rt. Hon. Lord Rochdale, Chairman, National Ports Council	The constitution and functions of the National Ports Council
Mr. E. H. Simoes, General Manager, Bombay Port Trust	The role of the port in a developing economy
Captain Stig Axelson, General Manager, Port of Gothenburg	Big ports, small ports— what are their respective roles?
Dr. Heinz Kaufmann, Manager, Authority for Harbour and Shipping, Hamburg	The economic importance of a free port

PORTS OF LONDON

By Dudley Perkins

*General Manager
Port of London Authority*



Mr. Dudley Perkins

A General View

The range and variety of the Port of London are most readily understood from a chart since this gives definition to what may seem a bewildering complex of enclosed docks, wharves and industries bordering the 92 miles of tidal Thames. The five distinct dock groups (each virtually a self-contained port) are owned and operated by the Port

of London Authority, which is also the Conservator of the tideway; the wharves and industries are mainly in private hands.

By reason of its geographical situation London has the advantage of short-sea links with some of the busiest Continental ports; by reason of its size and prestige it has ties with many of the world's greatest shipping lines serving all oceans;

and it is the terminus for road, rail, coastal and inland-waterway radials from all over Great Britain.

Tilbury Docks

I shall begin my account of the Port of London with the docks. And of our docks, those at Tilbury come first for a number of reasons. Not only are they nearest to the sea (and therefore more convenient to larger ships than the docks in more confined river reaches upstream), but they are also the focal point of the new international terminal which the P.L.A. is creating. Unlike most other dock groups in the Port, where surrounding industrial development forces us to scrap and rebuild on old foundations, enough virgin land is held by the P.L.A. at Tilbury to provide for any likely expansion. And the recent opening of the Dartford/Purfleet Road Tunnel under the Thames together with reconstruction of approach roads to the docks still further sharpen Tilbury's image in the London scene by making it more accessible.

Nearly 50 miles from the Port's seaward limit and 26 below London Bridge, Tilbury Docks are in the County of Essex on the north bank of the Thames. The group consists of a main dock with a depth of 38/42½ feet, three branch docks with depths of 38 feet, and an extension almost completed.

Let us first look at this extension because it foreshadows the new pattern which we hope eventually to achieve. The decision to start



An Aerial View of the River Thames shewing the Tower Bridge and four of the enclosed dock systems administered by the Port of London Authority.

on this £6 million scheme was taken only after a long and detailed scrutiny of the Port's future, for the P.L.A. receives no subsidies and cannot afford unproductive expenditure. Construction began in 1963 on four new berths, two of which will be for deep-draughted vessels and two for the roll-on, roll-off ships, already based at Tilbury, in London's expanding Continental trade. The new dock will be dredged to 38 feet, but if necessary the depth can be readily increased to 42 feet. I record — naturally with some satisfaction — that all the new berths are fully booked. A great deal of ancillary work—a new industrial canteen, new officers, a new impounding station, etc. — is in hand.

But the story will not, I hope, end there. As soon as we foresee a demand for more berths, this new extension will become in effect only the first stage of a more ambitious scheme already in outline.

Tilbury Docks are the London base of the 30,000-ton P & O/Orient Line ships, the largest vessels regularly using the Authority's docks. Other ships in the Far Eastern, Australian, New Zealand and Continental trades also berth here. As part of our plans for the better co-ordination of traffic, we have transferred (with the co-operation of the shipping lines involved) all our West African trade to

Tilbury; and the move has proved highly successful.

The Tilbury group has 20 berths (excluding those shortly coming into service in the Extension). The main entrance lock is 1,000 feet long and 110 feet wide with a depth of 45½ feet. The principal dry dock, 752 feet long and 110 feet wide, has mechanical bilge blocks and a novel leading-in girder.

There are no warehouses at Tilbury, but the quays are backed by transit sheds with a total floor area of about 29 acres. Here the Authority receives export cargo, sorting it to port marks ready for the shipowner to load. Imports, too, are sorted in these sheds, to perhaps a thousand marks and numbers, before delivery to importers or transfer by rail, road or water to the warehousing docks further upstream. We are contemplating the building of an installation for the mechanical handling of packaged timber.

London's seaborne passenger trade is centred at Tilbury. Inside the docks is a rail-equipped berth, 842 feet long, for both passenger and cargo traffic, and a baggage hall/transit shed of 100,000 square feet. In the river outside the docks is the Passenger Landing Stage, a floating structure, 1,142 feet long, where the largest passenger ships using the Port can lie alongside at any state of the tide. Through the

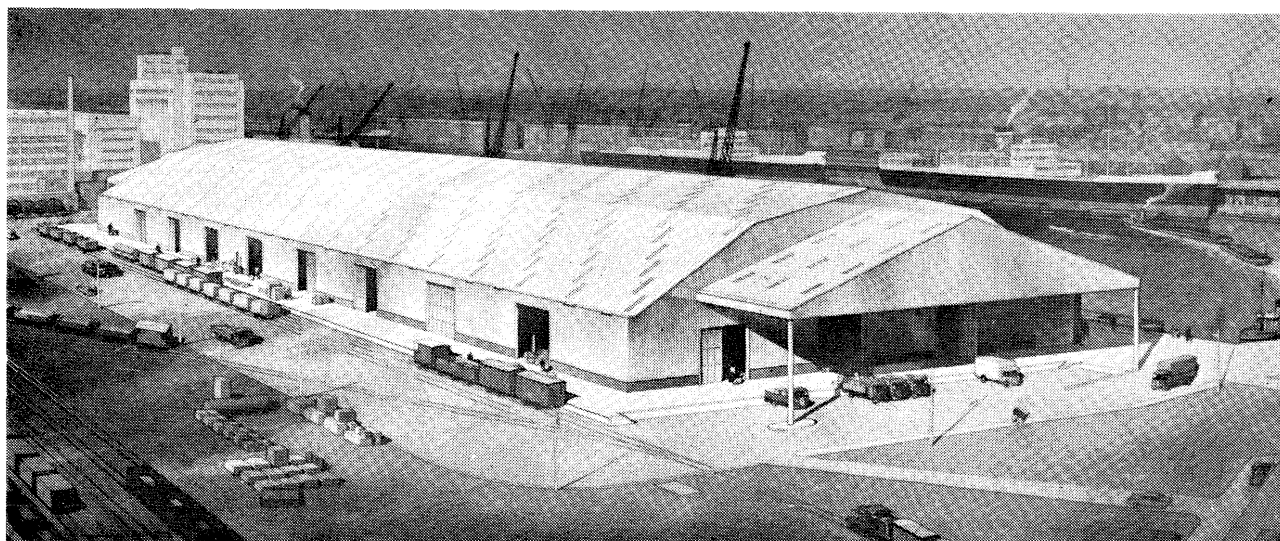
Port pass in the course of a year around 200,000 passengers.

Victoria Dock, Albert Dock and King George V Dock

Moving some 16 miles up river, we come to the Royal group of docks at North Woolwich. It consists of three interconnected basins—the Royal Victoria, Royal Albert and King George V—which, with a total water area of 230 acres and 11 miles of deep-water quay, constitute the largest sheet of impounded dock water in the world. The ships berthing here are far-ranging in their trades.

At the Royal Victoria Dock we are proceeding with reconstruction of the Western Entrance at a cost of £1½ million. This will be used solely by barges, which pay no dues to enter or leave the docks, for the purpose of relieving congestion at the eastern entrances and so achieving a smoother and faster flow of traffic.

Apart from the handling of much general cargo, the principal other trades at the Royal Victoria Dock are the storage of tobacco (in specially designed warehouses where the leaf matures) and the discharge for direct delivery of South American chilled beef and green fruit. On the south side of the dock is a line of privately owned flour mills with deep-water frontages. Number 4 Berth, also on the south side,



No. 4 Berth, Royal Victoria Dock built by the Port of London Authority for vessels of the United States Line. This is the largest transit shed in the Port of London, being 700 ft. long with a 55 ft. canopy and loading platform for road transport at each end. The length of the berth is 1,160 ft. and provides accommodation for two ships, each 470 ft. long with barges fore and aft.



Interior view of the transit shed alongside No. 4 berth Royal Victoria Dock, a recent construction built by the Port of London Authority, for vessels of United States Line.

was built for the United States Lines. It is 1,160 feet long and the transit shed has an uninterrupted area of 700 feet by 200 with a clear internal height of 20 feet.

The Royal Albert Dock, like the Tilbury Docks, is a transit dock, with the exception of its cold-air stores for frozen meat. Here and at other P.L.A. cold stores elsewhere in the Port there is total accommodation for over 11,000 tons. Following the success of an experimental pilot scheme, we are embarking on the complete mechanisation of frozen meat discharge, with electronic sorting and tallying, which will reduce costs and handling time, eliminate possible causes of damage and deterioration, and prevent congestion. Since more than 200,000 tons of lamb and mutton — some 70% of United Kingdom imports — are handled annually in the Port, this project is of the greatest importance.

At Number 35 Shed is a fully mechanised banana berth. In one day, up to 87,000 stems can be

discharged and sent off by road and rail. Export berths at the Royal Albert Dock, as at certain other docks in the Port, have also been completely mechanised; specially designed sheds, dualpurpose pallets and the dovetailing of the of the respective uses of mobile cranes and fork trucks have improved the speed of ship loading from the quay by more than 20%.

The King George V Dock has the principal entrance lock serving all three docks in the group; it is 800 feet long and 100 feet wide. The north side of the dock is lined with warehouses for general cargo. The south side deals only with cargoes in transit. Ships on this side lie at dolphin berths which give a three-point discharge — to barges on each side of the ship and over the inner barges on to the quay. At the western end is the King George V Dry Dock, the second largest in the Port, 750 feet long and 100 feet wide.

India and Millwall Docks

On the Isle of Dogs, a further

four miles upstream, are the India and Millwall Docks with a total water area of 151 acres; four of the five basins berth ocean-going vessels. The main entrance lock is 584 feet by 80 feet. Warehouses accommodate sugar, hardwood, linerboard, canned goods and dried fruit. At the Millwall Dock is the Central Granary—London's largest grain store — with a capacity of 24,000 tons. Two P.L.A. berths have been built for handling green fruit and another berth, leased to private operators, deals with Canary Islands produce.

There has been much interesting reconstruction at this group, notably the three-storey sheds at the fruit berths, the tubular steel and aluminium shed for linerboard, new transit sheds and the complete modernisation of the west side of the Millwall Dock.

Surrey Commercial Docks

Across the Thames at Rotherhithe is the only group on the south bank of the river, the Surrey Commercial Docks, consisting of 11 interconnected basins. Their total water area is over 135 acres and 36 of their 53 berths deal with cargoes of timber. The principal entrance lock is 550 feet by 80 feet with a depth of 35 feet.

The Port handles about one quarter of this country's imports of softwoods, one half of the hardwoods and about two thirds of the plywood, mostly at these docks. A particular problem is that the Baltic softwood trade has to be concentrated into the comparatively short ice-free season of the loading ports. Modern timber sheds at the Surrey Docks can hold 32,000 standards of softwood and 18,000 loads of hardwood, piled by mobile cranes adapted for the work. Open storage ground allows for a further 50,000 standards and 5,000 loads. The 5,000 tons stored in the new plywood shed is piled 16 feet high by fork trucks.

Much general cargo to and from the United States, Canada, Soviet Russia and Finland, is handled in modern sheds by mechanical equipment, notably at the Greenland, Canada, South and Quebec Docks in this group.



New transit sheds and modernisation of the west side of Millwall Dock.

London and St. Katharine Docks

The London and St. Katharine Docks, in the shadow of the Tower Bridge, are the Port's chief warehousing centre. Improvements in the speed and reliability of sea transport and in international communications have brought about a gradual reduction in our old-established warehousing trade. But we still hold about 180,000 tons of imported cargo, much of it in this dock group, to which most goods are barged (some 6,000 such craft are in daily use in the Port) from the lower docks. The P.L.A. processing services on behalf of merchants are believed to be unique among those of the world's ports. Indeed, such is the reputation of our warehouse staff that large consignments are frequently bought unseen on the strength of their representative samples.

These docks are also used by the smaller ships in the Continental and coasting trades; they enter and

leave through a lock 350 feet by 60 feet with a depth of 28 feet. The combined water area of these two separate docks is 45 acres. As at all other P.L.A. docks, much reconstruction and re-equipment have taken place.

Wine has always been of considerable significance in the group. It was at the London Dock that we pioneered the handling of bulk wine in this country with a new berth equipped with glass-lined tanks of more than half a million gallons capacity, hygienic plastic pipes and non-frothing electric pumps with a throughput of 12,000 gallons per hour. The discharge of a wine-tank ship is effected by the push of a button; and when the merchant takes delivery from the storage tanks, the loading of the road tanker is also automatic. Were the contents of the storage tanks to be imported in the traditional manner, the individual handling of some 10,000 casks would be involved. The success of this berth encouraged

us to embark on an extension, now nearly finished.

Nevertheless, casks are still preferred for certain wines and spirits, held in 20 acres of dock vaults and tended by our own coopers. There is also ample accommodation for wines and spirits imported in bottles. At the associated warehouses at Cutler Street in the City of London, the P.L.A. undertakes the bottling and binning of vintage wines for importers. About 1¼ million bottles can be stored there while the wine matures.

Facilities, Services and Some Stories of London

Before leaving the docks, we will glance briefly at the picture as a whole. The docks are impounded to provide tide-free water for the loading and discharge of ships; the tidal rise and fall in the river averages 20 feet. Between them they have some 34 miles of deep-water quay. We have modernized or constructed many miles

of internal roadway and extensive car and lorry parks; unfortunately, the access roads, which reflect some of London's urgent traffic problems, are outside our jurisdiction. Three of the groups—Tilbury, Royal and India/Millwall—are rail-connected and we have completely modernised our 140 miles of dock railway which connects, through our marshalling yards, with the main line systems. All P.L.A. locomotives are now diesel-engined and directed by radio-telephony.

At London's docks there are over 200 mobile cranes, some 600 electric quay cranes (many of a completely new design) and a variety of heavy-lift floating derricks up to 200-ton capacity, about 250 electric platform trucks and more than 100 fork trucks. Throughout the docks, sheds are being replaced or reconstructed and quays widened to allow the full use of mechanical equipment.

Towage in the docks is the responsibility of the P.L.A. and we have a fleet of powerful diesel tugs for both ship and craft work; four more tugs, with Voith-Schneider propellers, are under construction. Most of the units in our fleet of floating pneumatic grain elevators have a rate of over 200 tons per hour; the discharge of as much as

8,000 tons from one ship in one day has been achieved.

Lastly, the docks are policed by our own Force; a mobile, highly scientific body, linked by radio-telephony, which has gone far towards solving the old problem — prevention of dockside pilferage.

Let us now turn to the tidal Thames, the vital lifeline for our docks. As stated earlier, the P.L.A. is only the Conservator of the river, and the wharves along its banks belong to private firms.

The Port's most valuable asset is the dredged channel which begins in the Thames estuary 24 miles below Tilbury with a width of 1,000 feet and a low-water depth of 30 feet. It continues upstream at decreasing widths and depths as far as London Bridge, the first of the fixed bridges and marking the western limit of the Upper Pool where vessels up to 10,000 tons can berth. Above this point river traffic is governed by the height of the bridges; familiar sights are the "Flatirons" — large coastwise colliers with low superstructures and collapsible masts and funnels.

The depths of the dredged channel are continuously checked by the P.L.A. Hydrographic Service. Any indications of shoaling are immediately dealt with by our

dredgers. Obstructions in the channel are removed by our salvage fleet, one of the best equipped in this country; the remarkable speed with which a sunken tug was recently raised reflects the sense of duty towards their fairway felt by the men of this service.

The tideway is patrolled daily, and the greater part of it also at night, by P.L.A. Harbour Service craft. These are modern vessels, all linked by radio-telephony, and those operating in the lower river are equipped with radar. Their main duties are to aid traffic movement and ensure that river bye-laws are observed.

One of the most successful P.L.A. innovations is the Thames Navigation Service. The headquarters at Gravesend (on the south side of the river opposite Tilbury Docks) is the centre of a communications web of land lines, radio telephones and radar, ashore and afloat, all feeding in local information. The Service puts out a regular V.H.F. broadcast of up-to-the-minute details of weather and traffic conditions in the tideway and gives advice, on request, to individual ships. Perhaps the most useful facts disseminated are the actual — as opposed to the predicted — depths of water available, information which the Gravesend headquarters receives instantaneously from a number of automatic radio-linked tide gauges. By this means we have been able to accommodate some of the great tankers drawing over 42 feet.

Like all the world's ports, we are visited by increasing numbers of bulk carriers. I have mentioned the bulk wine and bulk grain dealt with in our docks, but the oil trade is concentrated in the lower reaches of the river where there are sufficient depths of water for the crude oil tankers to lie alongside the refineries. (Crude oil accounts for more than half of London's imports.) Latex is also pumped in bulk to a shore installation from our



Interior View of "G" Shed, Millwall Dock, one of the most modern erections in the Port of London, and part of a major development on the west side of Millwall Dock. Constructed in tubular steelwork the shed is 350 ft. long and its roof is supported by bowstring girders of 150 ft. span, 21 ft. 6 ins. clear above the floor, thus affording ample space for the use of modern mechanical equipment.



The Royal Naval College at Greenwich is one of the finest building to be seen from the river Thames. Built to the design of Sir Christopher Wren, it was first a Royal palace then a naval hospital until assigned to the Royal Naval College in 1873.

River Cargo Jetty at Tilbury, and the new methane gas carriers discharge at Canvey Island, 36 miles below London Bridge.

The constitution of the P.L.A. has served as a prototype for a number of other port authorities. Its Board consists of 28 members, partly elected and partly appointed, representing all users of the Port. Its revenue comes from statutory dues on ships and cargoes, rent for accommodation and charges for services.

The original aim of the Government which conceived the P.L.A. early in the century was to create a dominant administration for the Port, but a number of compromises was introduced into the enabling Parliamentary Act of 1908. As a result, there is some dispersion of control: for example, pilotage is in the hands of the Trinity House Corporation (they maintain the largest pilotage station in the world at Gravesend); port health is supervised by the City of London Corporation; towage (in the river) and lighterage are carried out by private firms; the tideway (but not the docks) is policed by the Metropolitan Force and by other riverside

police authorities; and the P.L.A. is only one of a large number of port employers drawing its workers from the National Dock Labour Board. Although we receive excellent co-operation from all these undertakings, there is no doubt that divided counsels can hinder quick and decisive action.

This leads me to the much publicised criticism of the P.L.A. regarding delays and congestion in London River. I do not, of course, suggest that we are powerless to make any improvements but I do claim that some of the charges of inefficiency have been laid at the door of a house in which the titular head is not the absolute master.

Owing to difficulties with dock labour over week-end working, ships have been delayed in port; at the time of writing we are still trying to reach agreement on the matter. But congestion has been aggravated by the shipowners' practice of accepting cargo after the close of official loading dates. (As I have already said, it is the duty of the P.L.A. to receive exports at our quayside sheds and sort them to port marks ready for shipowners to load.) This has led to our sheds

becoming in effect warehouses for shut-out consignments.

The P.L.A. has no legal power to act in such matters, but we took the initiative and persuaded the shipowners to keep strictly to their advertised closing dates. The results have substantially eased the situation.

Another problem was the pile-up of lorries delivering export cargo to our sheds. Despite our continual requests, the majority of exporters and their transport contractors persisted in sending goods down at or near the end of the official receiving period. This meant that our costly gangs were only half employed during the earlier loading days and then inundated in a last-minute rush. Lorries were inevitably turned away and some cargo shut out. Again, we took the initiative and called a conference of representatives of shipowners, exporters, shipping agents, transport contractors and other interested bodies. An operational research organisation, aided by our computers, is now studying the data supplied by the Conference with a view to levelling out

the traffic on a fair basis.

I have been frank in disclosing some of our problems but it must not be thought that the Port is in decline. Year by year the tonnages of cargo handled reach new records. During the last financial year ended 31st March, 1964, the total was 61,339,000 tons, while the net register tonnage of ships entering and leaving the Port was 93,947,092. The Port annually handles one-third in value (some £3000 million) of the export-import trade of the United Kingdom.

As hosts to the forthcoming International Ports and Harbours Conference, the P.L.A. will show delegates as much as possible of our modern works and methods.

This nation is at last getting out of the bad habit of living on its traditions but for those visitors with a taste for the past the Thames has many historical associations.

At Blackwall is the monument to the adventurers who sailed from here in 1606 to found the Colony of Virginia, the first permanent English settlement in North America and the true beginning of the U.S.A.

The Royal Naval College at Greenwich presents its best elevation to the river, for when its building was begun in 1664 all London usually travelled by water. First a royal palace, then a home the background pageantry of the for aged seamen, it is now, despite

Painted Hall, the modern University of the Royal Navy. Nearby, in contrast, is the old clipper ship, Cutty Sark, preserved in a dry berth as a memorial to 19th century merchant seamen of sail.

At Deptford is the site, now hidden under new development, of Henry VIII's dockyard where Drake was knighted on board the Golden Hind by Elizabeth I after his voyage of circumnavigation, and where Captain James Cook began his last and fatal expedition.

On the opposite side of the river is Limekiln Creek and Dunbar's Wharf where Duncan Dunbar's square-rigged ships loaded Limehouse ale for the early colonists in Australia. The quaint old waterside nearby, "The Grapes," is said to be the original of Charles Dickens's "Six Jolly Fellowship Porters" in "Our Mutual Friend."

In the Upper Pool is the Tower of London, with its White Tower, built by William the Conqueror and today housing the Armoury; its medieval dungeons, theatrical looking Traitor's Gate, and its superb display of the Crown Jewels. Near it stands All Hallows Church, in the crypt of which is a microcosm of London's history—Roman pavement, burned debris from Queen Boudicca's revolt, early Saxon steps, Norman pillars and so on up to damage during the second world war. From its tower in 1666 Pepys watched the Great Fire of London.

But the Thames itself is our chief link with history, for most of our national occasions have world knows that Winston Churchill, the greatest Englishman of his age, passed along it to his last rest on 30th January, 1965.

These are samples from a crowded tapestry;; London has been a port for nearly 2,000 years and its centuries have provided us with a rich heritage. But traditions can be either an inspiration to endeavour or a curb on progress. We in the Port today are determined that respect for the past shall be an incentive for the present and that what our forefathers said or did shall not bar effective preparation for the future.



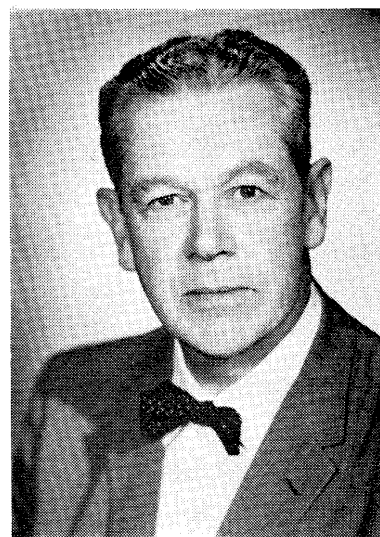
The Cutty Spark—the last of the Sailing tea-clippers, in dry dock at Greenwich. The ship is now fitted as an educational centre for the Merchant Marine and a museum open to the public.

The Port's Role in Area Development

By Thomas P. Guerin

General Manager

*The Commission of Public Docks of
the City of Portland, Oregon*



Mr. Thomas P. Guerin

Any port authority is a key factor in the growth and development of the community and the region which it serves. Portland's history in service of world trade extends over almost 100 years from 1868, when the first ship cleared the harbor with a ship-load of grain for the United Kingdom. In the same year, a cargo of flour was dispatched to New York, and in 1870 the first full load of lumber from the Columbia River area's great forests was marketed in Hong Kong.

Since that time an ever-widening trade has made the agricultural products, timber manufactures, raw materials, and consumer goods of the Pacific Northwest a commonplace throughout the world.

The emergence of Portland as a distribution, financial, and trading center for an area of the western United States that is larger than all of New England began shortly after the turn of the century. A major further stimulus came with opening of the Panama Canal in 1914 and, in the decades since, the development of high-speed highway network, expanded rail services, and the improvements of navigation on the Columbia River have contributed further.

During the same developmental period, and beginning with the completion of Bonneville Dam across the Columbia River 40 miles east of Portland in 1938 and of Grand Coulee Dam in northeastern Wash-

ington in 1941, the Pacific Northwest moved into an era of great economic development. The quarter-century that has passed since these dams were built has seen four more span the main-stem of the Columbia and three dams across its major tributary, the Snake River, bringing slack-water navigation, irrigation, reclamation, and recreation to vast areas of the states of Washington, Oregon, and Idaho.

Almost a million acres of once-desert land in central Washington state have been developed through irrigation into highly productive farmland producing sugar beets, alfalfa, beans, and row crops. This production is processed within a few miles of the farm and almost all is shipped to consumer markets in the central and eastern United States or into foreign markets.

Tree fruits, such as apples and pears, long a mainstay of the area's economy, are exported annually in large quantities principally to European markets. In 1963, more than 770,000 boxes of these fruits were exported through Portland.

Grains, principally wheat and barley, are the backbone of the port's export tonnage. Since the beginning of its trading history, Portland has led the U.S. Pacific Coast in overseas movements of grain products and is exceeded on the west coast only by Vancouver, British Columbia.

In addition to its steady agricul-

tural development, the Pacific Northwest area in particular, and the northern tier of states bordering on Canada, have made great forward strides in manufacturing and processing of minerals. This industry commenced before World War II and mushroomed during the war years because of the huge amounts of hydro-electric power generated by the dams constructed in the Columbia-Snake River basin.

In natural sequence, the population of the region also grew proportionately, reaching a rate more than 10 per cent higher than the national average during the 1950-1960 decade as new workers moved into the Pacific Northwest.

As a result of all these economic factors, it became necessary for the harbor facilities of Portland to keep pace. Consumer demands were climbing because of increased population and buying power, and production of agricultural, timber, and manufactured products provided surpluses that sought world markets.

Between 1954 and 1960, and Commission of Public Docks invested more than \$13,000,000 in new and modernized facilities, including the construction of the largest and fastest bulk unloading tower on the Pacific Coast. An additional \$10,000,000 construction program is financed and planned to further increase the port's cargo handling

abilities in service to both ships and shippers.

Extensive development of industrial lands in the Portland area is underway with both public and private capital. The more than 20 port districts which line the Columbia River between its mouth and the head of navigation some 250 miles inland area similarly expanding their port and industrial properties.

Redoubled sales efforts by the Commission of Public Docks in the northwestern United States have been supplemented by establishment of an overseas office in Tokyo and representatives in New York and Washington, D.C.

As a consequence, Portland has ranked for five of the past six years as the leading port on the U.S. Pacific Coast in the total amount of dry cargo tonnage passing across its public and private docks.

In cooperation with numerous organizations such as the Portland Chamber of Commerce, State of Oregon Department of Planning and Development, United States Department of Commerce, Portland Freight Traffic Association, the Port of Portland Commission, and other local and regional groups, the Commission of Public Docks has assisted in developing every facet of the region's economic growth.

In the United States, responsibility for improvements to navigable waterways in the form of channels and channel protection devices, navigation locks, harbor dredging and revetments, small boat harbors, and breakwaters and jetties rests with the Corps of Engineers of the U.S. Army. Funds are appropriated by the Congress of the United States.

The initiative for development of local projects and the economic justification for them lies, however, with the individual communities. Their proof of need for such improvements must be made to the proper committees of Congress, exposed to searching investigation, and satisfactorily justified economically before funds are provided and before the Corps of Engineers is ordered to perform the work.

The Commission of Public Docks, in its role as the harbor agency for

the City of Portland and the gateway to world markets for the vast region it serves, is constantly called upon to support those improvements to navigation.

Also, the protection of rail and truck freight rates which are advantageous to shipper and receiver in this area fall within the scope of the Dock Commission's responsibility.

The Commission, six year ago, began sponsorship of an Export-Import Conference which annually brings to gether business and community of doing business abroad. Because of this, and other trade development activities, the Commission in 1964 was awarded the coveted "E" for export expansion leadership which was originated by President Eisenhower and has been continued under the Kennedy and Johnson administrations. The Commission of Public Docks was the first port agency on the Pacific Coast to be so honored.

In terms of effective purchasing power, retail sales, per capita income, and other economic measurements, the 20-state area served by Portland through its port offers a diverse and expanding market to foreign and domestic firms.

There are more than 41,390,000 persons living in the area influenced by Portland's trading and distribution activities. The effective buying income of this region is almost \$85 billion annually. Total retail sales exceed \$55 billion annually.

Forecasts indicate that within the next 15 years the population of most of this area will increase more than 50 per cent and that effective buying income will rise by about 65 per cent.

The market reached through Portland is a rich one, composed partly of high-income farm people and of highly-paid industrial labor, plus business and professional persons.

Several important foreign companies have recognized the great value of Portland's distribution facilities and its strategical location in relation to this market. In 1963, Volkswagen placed its headquarters in Portland to serve the Pacific Northwest states of Oregon,

Washington, Idaho, and western Montana.

Early in 1964, Honda opened its distribution center in Portland for the same region. Nissan Motor Corporation in USA, for supplying and servicing of Datsun dealers, has located in Portland, and British Motor Car Distributors, Inc., also has selected Portland for its regional headquarters.

The city is served by 145 truck lines, offering direct service and connections to all U.S. markets. Five major railroads and nine air carriers serve the city, and more than 50 steamship lines regularly call at its terminals.

Destinations up to 450 miles distant can be reached by first morning freight delivery.

Complete transportation service facilities headquarter in the city. All major Federal agencies and commissions, such as Custom Service, Coast Guard, Department of Commerce, Federal Maritime Administration, and Immigration Service maintain offices here.

Extensive ship repair facilities are provided by private firms and three drydocks are available for vessel overhaul or repairs. The largest drydock, with a lifting capacity of 27,000 tons, is ranked as one of the most powerful in the U.S. Vessels more than 650 feet long have been lifted on this dock. The other two have maximum capacities of 18,000 and 14,000 tons.

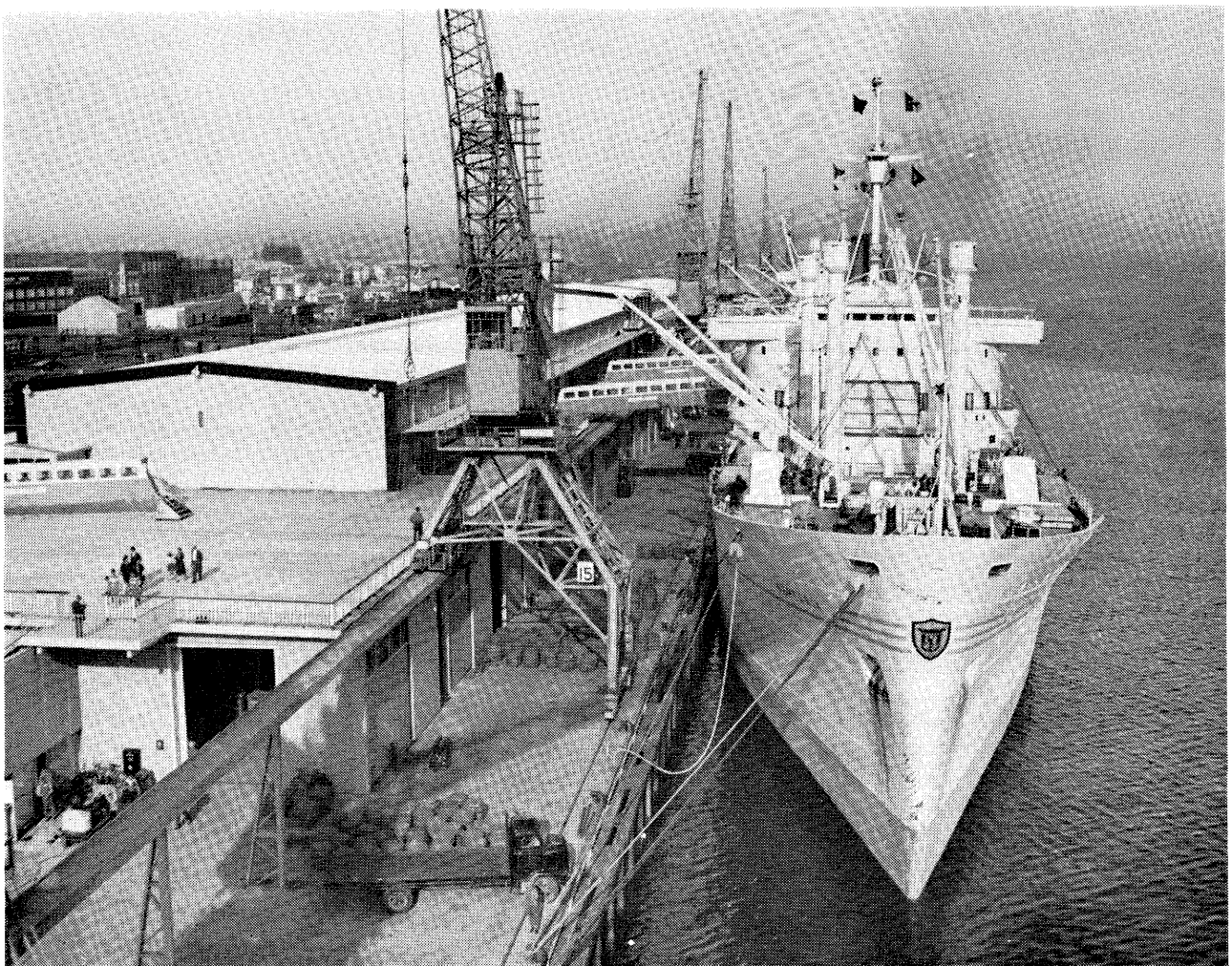
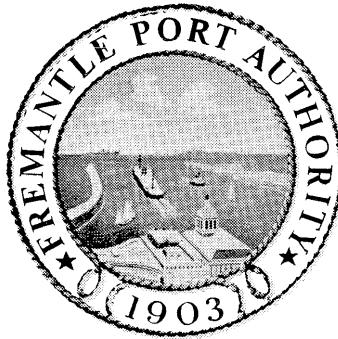
Maritime-connected industry provides a substantial impact upon the community's economy. Direct and indirect payrolls annually amount to approximately \$35 million and more than 13,000 persons are employed in the industry.

It is the responsibility of the Commission of Public Docks, and of the several other public and private agencies deeply concerned with development and nurturing of trade and commerce, to continue the effort. In consequence, Portland will maintain its dominance as a transportation and distribution hub and, as its harbor facilities keep pace, will hold its place as a major world seaport.

Introducing The Crests of Ports

(Each Issue One Port)

THE PORT OF FREMANTLE



"G" Berth, Port of Fremantle Passenger Terminal, showing transit sheds at wharf level and passenger facilities above. "Neptunia" alongside.

PORT OF FREMANTLE

Gateway to Western Australia

By Fremantle Port Authority

H.M.S. 'Challenger', Captain Charles Howe Fremantle, R.N. commanding, ran before the Indian Ocean's westerly wind with all sails set. According to her sailing master's log she was on course well below the Tropic of Capricorn. Her destination, the west coast of Australia. Her mission, to take formal possession "of all that part of New Holland which is not included in the territory of New South Wales".

On the 26th April, 1829, H.M.S.

'Challenger' anchored off the coast of Western Australia near Garden Island. Captain Fremantle sent the ship's Master in a cutter to take soundings of the passage into Cockburn Sound. The Master reported that the admiralty chart was incorrect, and stated the passage was rocky but possible to enter. He placed buoys to mark it, and on the next day 'Challenger' proceeded to enter the passage. However, the Master steered the ship on the wrong

side of one of the buoys, and H.M.S. 'Challenger' struck a rock. Fortunately the sea was calm and 'Challenger' came off immediately without suffering much damage. Captain Fremantle's feelings are best expressed in the following extract from his diary, under date 27th April, 1829:

"Never since I have been at sea have I ever witnessed anything to equal the carelessness and stupidity of the Master; he placed a buoy on a rock and then steered for the buoy and ran the ship immediately on it. It was a thousand chances that we escaped being knocked to pieces, which must have been the case had it not been beautiful weather. The Master deserves to be hanged immediately. Unless I attend to everything myself ever so trifling, something invariably goes wrong; so much for the



A busy scene in the Port of Fremantle Inner Harbour



Aerial looking southwards from Port of Fremantle Inner Harbour to industrial areas adjacent to the Outer Harbour at Cockburn Sound.

assistance a Captain derives from his officers.

If I had had no Master the ship would not have been run on shore. Nothing has annoyed me so much since I entered the Service."

Due to the bar across the mouth of the Swan River, H.M.S. 'Challenger' was unable to enter the river and was obliged to remain outside. Finally on 2nd May, 1829, Captain Fremantle went ashore in his gig and hoisted the Union Jack just south of Arthur Head at a spot since known as Bathers' Beach. There (quoting from his report to the Admiralty) "formal possession was taken of the whole of the west coast of New Holland in the name of His Britannic Majesty".

The first group of 68 settlers who arrived about a month later must have been disappointed. There was little to indicate how they were to make their living in this untried

land. But under the leadership of Captain James Stirling, future Lieutenant-Governor of the colony, they went to work. In spite of early struggles, within three years the roots of a flourishing settlement were down. The climate was so pleasant, that by the mid-eighteen thirties, the new town of Fremantle had become a popular health resort for tourists from India.

The rocky bar across the river turned out to be a major obstacle. For almost 70 years it restricted use of the protected water inside the bar to vessels of shallow draft. Larger vessels were forced to unload at a jetty seaward from Arthur Head. Goods and passengers had to move through sand and scrub to a river jetty for transportation up the Swan River.

Many plans for developing port facilities near Fremantle were submitted. All recommended making use of the ocean front. No one

thought of using the river itself because of the bar and the shifting sand. Only one man had the courage and foresight to realise these were not insurmountable barriers. He submitted a plan that entailed using the Swan River inland from Arthur Head. His name was Charles Yelverton O'Connor.

O'Connor, a brilliant engineer, whose statue is prominently situated adjacent to Victoria Quay, submitted a plan which involved blasting away a bar across the river mouth, widening and deepening the river for a mile upstream thus obtaining a waterway 14,000 feet wide and 36 feet deep, reclamation of adjoining land and the construction of two rubble breakwaters, North and South Moles, at the entrance to the harbour leaving a channel with a minimum width of 500 feet and depth of 36 feet lying between.

Although his plan raised con-

siderable opposition and criticism, he persevered until his ideas were finally accepted.

O'Connor's contribution to the growth of Western Australia bore fruit in May 1897 when S.S. 'Sultan', then on the run between Singapore and Fremantle, steamed into the Inner Harbour in the mouth of the Swan River.

The Port of Fremantle today

The Port of Fremantle on the eastern seaboard of the Indian Ocean is the major of Australia's biggest State, and is ideally situated at the mouth of the Swan River twelve miles from Perth, the capital city of Western Australia.

Fremantle's importance to Western Australia can be gauged from the vast hinterland it serves, an area of 50,000 square miles stretching some 300 miles inland.

Because of its geographical location Fremantle is of great importance to the whole of Australia, being the western gateway to the country and the first and last port of call for ships from or to Ameri-

ca via Suez and South Africa, and for ships from or to India and South East Asia.

The port covers a vast water area of 180 square miles and includes an Inner Harbour and an Outer Harbour.

Inner Harbour

The fully protected Inner Harbour, safe for ships all year round and the hub of general cargo trade, embraces 168 acres of water to a depth of 36 feet at low water.

It has 18 land-backed berths, 8 at Victoria Quay and 10 at North Wharf. The total quayage in the area is 11,148 feet and all berths are equipped with transit sheds, paved areas, roads, railways, lighting, quay cranes and other mechanical equipment to ensure rapid handling of cargo and speedy turnaround of shipping.

Transit sheds occupy an area of more than 700,000 square feet and special paved areas are provided for the open storage of cargo.

Fremantle is an important bunkering port in Australia, and all

berth are equipped for this service. More than 350,000 tons of fuel oil and coal are bunkered from the port each year. All Australian oil companies have storage tanks close to the Inner Harbour.

Mechanically Fremantle is the best equipped port in Australia, and all Inner Harbour berths have quay cranes of 3-ton capacity. In addition two berths at North Wharf are equipped with quay cranes of 7½-ton capacity for unloading dry bulk cargoes by grabs, and one berth at Victoria Quay has a quay crane of 20-ton capacity. Two heavy lift floating cranes, one of 15-ton capacity and the other of 80-ton capacity, are also available.

In all the port operates a fleet of 220 items of mobile mechanical plant including mobile cranes, fork lift trucks, two motors and cargo floats and trailers.

Fremantle is a leading port for the bulk shipment of wheat and mechanised facilities for loading bulk grain at North Wharf can move up to 1600 tons an hour. A wheat



Port of Fremantle Administrative Building.

silo recently completed in this area has a capacity of 4 million bushels of grain.

Other bulk cargoes can be efficiently loaded at North Wharf berths by means of portable conveyors with a joint capacity of 1000 tons per hour.

Slipways with lifting capacity of 100, 600 and 2750 tons respectively are available, together with adequate ship repair facilities.

There are no bridges at the entrance to the port.

Four tugs, privately owned, are available in the Inner Harbour and can proceed to the Outer Harbour if required, although two other tugs are available at the Refinery Jetty.

Future up-river expansion of the Inner Harbour has been planned with the provision for five extra Inner Harbour berths. A new railway bridge has recently been completed and the old railway bridge, which had in the past prevented up-river expansion of the harbour, is being demolished.

Outer Harbour

The Outer Harbour, the western limit of which is the eastern end of Rottnest Island and the southern limit Cockburn Sound, protected

on the seaward side by Garden Island, embraces three main anchorages. In the north lies Gage Roads serving ships entering and leaving the Inner Harbour. In the centre between Success and Parmelia Banks lies Owen Anchorage. In the south lies Cockburn Sound. The three together contain some 73 square miles of deep water. Defense dredging in both world wars cut a channel 300 feet wide through the sand banks. This made both Owen Anchorage and Cockburn Sound available after 1926 to ships of limited size, but the channel was neither deep enough nor wide enough for safe usage by larger ships. In 1951 the Anglo Iranian Oil Co., now the British Petroleum Co. Ltd., decided to build an oil refinery on the shores of Cockburn Sound. This project required an entrance channel to be dredged to admit tankers up to about 32,000 gross registered tons. For this purpose a channel of 500 feet bottom width and with a depth of 38 feet at low water was completed in 1956, thus enabling ships of up to 34 feet draft to enter Owen Anchorage and Cockburn Sound.

Within Cockburn Sound the BP

Refinery (Kwinana) Limited, a subsidiary of British Petroleum Co. Ltd., completed a reinforced concrete jetty consisting of a 1000 ft. shore arm and a 1800 ft. trunkway running parallel to the coast. Three T-heads extending seawards from the trunkway provide berths 40 ft. deep for three tankers simultaneously. Each T-head has an independent pipeline system and can accommodate tankers ranging in size from 8000 to 32,000 tons. The discharge of crude oil at a rate of up 1000 tons per hour and loading of refined products can take place simultaneously at any berth. The jetty heads have mechanised hose-handling equipment, fire fighting towers and drinking water and bunkering facilities.

Although 44 ft. of water is available alongside the Refinery Jetty berths, the channels leading to Cockburn Sound can only accommodate ships of up to 34 ft. draft. However it is proposed that, in the near future, these channels will be dredged to accommodate ships of up to 41 ft. draft.

Besides the oil refinery jetty, two other commercial jetties have recently been built in the Cockburn Sound



**Interior of "G"
Berth — Port of
Fremantle Pas-
senger Terminal**

area. The Broken Hill Pty. Co. Ltd. steelworks adjacent to the refinery is served by a jetty which provides one berth fitted with two 10-ton capacity quay cranes and with 30 ft. of water alongside.

The alumina refinery recently established in the same vicinity is served by a specially constructed jetty, and provides one berth for the bulk loading of refined alumina. This berth has 44 ft. of water alongside.

Due to the limited depth of channels leading to these two jetties, the draft of ships using the steelworks jetty and the alumina refinery jetty is limited to 26 ft. and 28 ft. respectively. A dredging programme recently commenced will eventually enable ships of 34 ft. draft to use both these jetties.

Two commercial jetties are provided in the Owen Anchorage area, the first being a cattle jetty with 14 to 22 ft. of water alongside and the second being an explosives jetty with 17 to 26 ft. of water alongside.

Vast potential for future port expansion lies in the partially protected deep waters of Cockburn Sound. Industrialisation of the immediate hinterland will undoubtedly lead to further port development within the area.

Port Trade

The trade of the port has more than doubled in the past 10 years, oil being the largest single commodity in respect of both imports and exports.

Apart from oil, the principal imports were fertilisers, coal, paper, sugar and general cargo, comprising mainly manufactured articles and machinery. Exports through the port were largely products of primary industry, and included wheat, oats, barley, flour, wool, fruit, meat and minerals.

During the year ended 30th June, 1964, port trade totalled 9,777,892 tons comprising imports 5,226,124 tons, exports 4,195,225 tons and bunkers 356,543 tons.

Passengers

In addition to normal trade the volume of passenger traffic represents a major port activity with up to



Port Inspection Ship "Challenger."

200,000 passengers passing through Fremantle each year.

To provide for the demands of this expanding section of the port's operations, passenger facilities have been greatly improved with the completion of Australia's largest and most modern passenger terminal.

This terminal, with two berths capable of handling ships of up to 45,000 tons, extends for the full length of two adjacent berths aggregating 1350 ft. and can accommodate two large passenger ships at the one time. Facilities provided on the upper floor include a special customs baggage examination section, snack bars, information centres, waiting rooms, lounges, banking and postal facilities, and newsagency and book stalls.

The ground floor of the building is used for ordinary cargo handling operations, while the upper floor caters solely for passengers.

The Ships

Regular callers at the port include mail-passenger, passenger-cargo and cargo liners and tankers from all over the world. In addition, passenger-cargo and cargo ships come from interstate and coastal ports.

During 1963/64, ships from British Commonwealth countries

and 18 other nations berthed at Fremantle.

Signal Station

The movements of the port's shipping are controlled through a modern signal station situated on top of the Port Authority building and commanding an overall view of the Inner Harbour and the Outer Harbour.

The signal station is clearly visible to all ships entering the port and is manned 24 hours a day, 7 days a week. It is equipped with every modern navigation aid, including radar, ship to shore radio telephone communication, signalling apparatus and weather recording instruments.

The Port Authority

The Port of Fremantle is controlled by a corporate body created by Act of Parliament over 60 years ago, the name of which has recently been changed from Fremantle Harbour Trust to Fremantle Port Authority.

The Port Authority has recently erected its new Port Authority Building of eleven storeys topped by the Signal Station and mast. This building is situated adjacent to the Inner Harbour, and is a pro-

(Continued on Page 24)

PORT ALBERNI

By Alberni Harbour Commissioners

Port Alberni, B.C.

City and Port at the head of a narrow deep-water inlet known as the Alberni Canal which leads in N.E. from Barkley Sound, S. W. coast of Vancouver Island. The port is about 24 miles up the Canal from its entrance. Post office, telephone, telegraph, railway, bus, hospital, and port of entry.

TRADE: Export; Lumber, plywood, shingles, pulp, paper, and fish. **POPULATION:** 50,000 including adjacent areas.

The harbour of Port Alberni,

serving the twin cities of Port Alberni and Alberni, is under the administration of a Harbour Commission incorporated by an Act of the Federal Parliament in June 1947. The Chairman of the Commission is Denis P. O'Brien, D.C.M., M.M., a director of the Pacific Coast Association of Port Authorities and an original member and strong supporter of the International Association of Ports and Harbors, which was founded and is commendably guided by Mr. Gaku

Matsumoto, Chief of the Central Secretariat. The other two members of the Commission are J. Bryce Blake, general manager and owner of Alberni Engineering & Shipyard Ltd., and Hugh K. Reid, contractor.

If modern shipping experts had tried to design the perfect deep-water access to the lumber wealth of Vancouver Island's 13,000 square miles, they could not have come up with a better port and waterway than Port Alberni and the Alberni Canal. The Canal, a narrow inlet of the Pacific Ocean, reaches 24 miles directly into the very centre of the large island and one of the greatest timber areas of Canada with a controlling depth of 14 fathoms, terminating in an ample roadstead and western Canada's second largest port, surpassed in annual tonnage handled only by the port of Vancouver.

Port Alberni is the natural outlet for several large lumber corpora-

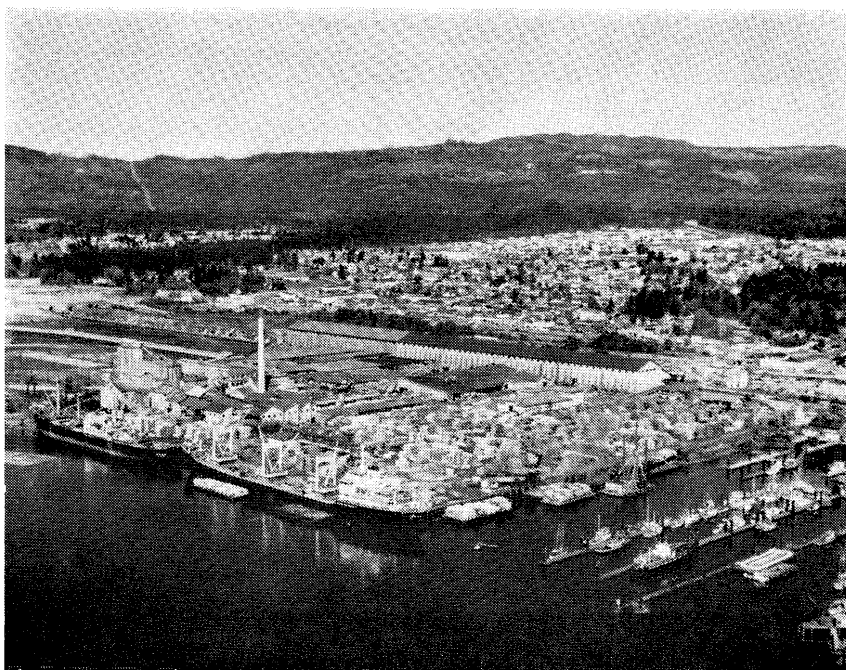


Port Alberni Harbour Commissioners' Assembly Wharf.

tions with their manufacturing plants. It is also Canada's western-most rail terminus, being serviced by the Esquimalt and Nanaimo Railway, a subsidiary of the Canadian Pacific Railway, and major trucking firms. The harbour is free of ice the year round and is accessible to vessels of all sizes.

The site where the city now stands was discovered by a Spanish explorer, Don Pedro Alberni, in 1790. Its first development was based upon a sawmill constructed more than one hundred years ago. This mill known as the Anderson Mill commenced operations in 1861 and by 1863 was exporting 11 million board feet of lumber a year. Some of the hand adzed timbers that were put into the mill one hundred years ago have been salvaged from the original construction, and they are as sound as when they were first put in place. The gavels used today by the Port Alberni Harbour Commissioners and the local Chamber of Commerce was turned from one of these timbers, and presented to the above by Mr. H. R. MacMillan the founder of MacMillan, Bloedel & Powell River Ltd., one of to-days largest lumber producers and manufacturers of the world. The Eastern Asiatic Comapny, a Royal Crown Corporation of Denmark, is also one of our main exporters. With the sawmills, fishing and agriculture, came the birth of the two cities—Alberni and Port Alberni. While Alberni was the first area to be settled, the town of Port Alberni was the first to be incorporated in 1912, with the town of Alberni following in 1913. The first Mayor of teh City of Alberni was Mr. C. F. Bishop, grandfather of the present Mayor Fred A. Bishop who is presently doing an excellent job of administrating the affairs of the City of Alberni. In October 1964 the citizens of the Twin Cities voted to amalgamate into the one city of Port Alberni. The effective date of the amalgamation will be October, 1967.

As the forest and fishing industry has grown, so have the twin cities, Alberni and Port Alberni, and the economy of the District as a whole. One company alone, MacMillan, Bloedel & Powell River Limited,



Somass Sawmill and Single Mill of MacMillan, Bloedel and Powell River Limited. Number of employees approximately 950. Monthly production approximately 16 million F.B.M.

has 4,000 wage earners directly employed in its logging, plywood, sawmills, shingle, pulp, and paper operations. The combined manufacturing operations of MacMillan, Bloedel & Powell River Limited in the Alberni District under General Manager, J. R. Forrest, produces a wide variety of forest products.

For example the annual product of this Company's operations in Port Alberni as shown below gives a general view of the extent of this industry:

Lumber . . .	315,000,000 f.b.m.	Valued at \$24,000,000
Plywood . .	770,000,000 sq.ft. 1/16ths	„ „ 10,000,000
Shingles . . .	192,000 squares (768,000 bundles)	„ „ 2,150,000
Pulp	74,000 tons	„ „ 6,500,000
Paper	104,000 tons	„ „ 11,660,000
Newsprint .	276,000 tons	„ „ 34,200,000

TOTAL: Annual Value of Products Produced (approx.) 90,000,000

To-day expansion is going ahead at a rapid rate in all the wood products plants.

Modern Forest Management practices in reforestation ensures a perpetual yield of raw material to sustain the forest industry on a continuous basis. The exports travel to all parts of the world. There is no doubt this industry is here to stay and will continue to stimulate

and encourage other phases of industry to develop in the Alberni Valley. Fishing is our second largest industry which contributes in large part to the economy of the Alberni District and Canada. Port Alberni is the home port for some three hundred commercial fishing vessels who make their catch on the West Coast of Vancouver Island and use this port for their deliveries and distribution, and where they take on supplies of ice, fuel and stores. Excellent berthing

facilities are provided complete with fresh water, electric power and light, and watchmen's services. Landed value of commercial fish catch West Coast—Vancouver Island—1963 i sas follows:

Salmon	\$6,550,000
Soles	52,000
Halibut	224,000
Grey Cod	72,000
Black Cod	15,000

Ling Cod	101,000
Herring	806,000
Non-food fish	24,000
Clams	11,000
Crabs	25,000
Oysters	87,000
Shrimps	91,000
Miscellaneous	13,000
	<hr/> \$8,071,000

To arrive at the approximate market values of these landings dollars should be doubled.

The Alberni Valley is indeed a forest and fish products community. Its beginnings, its development and its present very solvent economy have all been based upon the growing forest and its lively fishing industry.

to the port by both road and rail.

Pilotage is compulsory for ships in the port area. The Port Authority employs 10 pilots and controls three modern pilot tenders. It also retains full control of shipping movements and the use of berths, and provides all shore labour for the working of ships.

It is constantly improving existing facilities, adding to its comprehensive range of mechanical equipment, and planning for future development. The passenger terminal, the new Port Authority building, and the proposed upriver extension of the Inner Harbour are the results of this far-sighted planning.

In the Outer Harbour the potential of Cockburn Sound is obvious. Further industrialisation of its immediate hinterland seems assured, and this is certain to be followed by future port development within the area.

Port of Fremantle—

(Continued from Page 21)

minent landmark in the City of Fremantle.

The policy of the Authority is to keep the port ahead of trade requirements of the expanding State it serves.

Among its many functions the Fremantle Port Authority provides for the mooring and unmooring of ships, is responsible for the buoyage

and navigational systems, operates the pilotage service and mechanical equipment, maintains signal services, undertakes the construction of quay structures, transit sheds, roads and railways of the port.

It also acts as wharfinger for cargo in transit through the port.

The Authority operates a big warehouse near the Inner Harbour where cargo can be stored for long periods. Bond Stores and other warehouses are also available. Cold storage depots are easily accessible



Aerial view of the Alberni Canal showing the waterfront industrial area with the Alberni Pulp and Paper Mill in the foreground.

INTERPORTS '65

The 4th Conference of the International Association of Ports and Harbors

May 10th . . . 14th, 1965

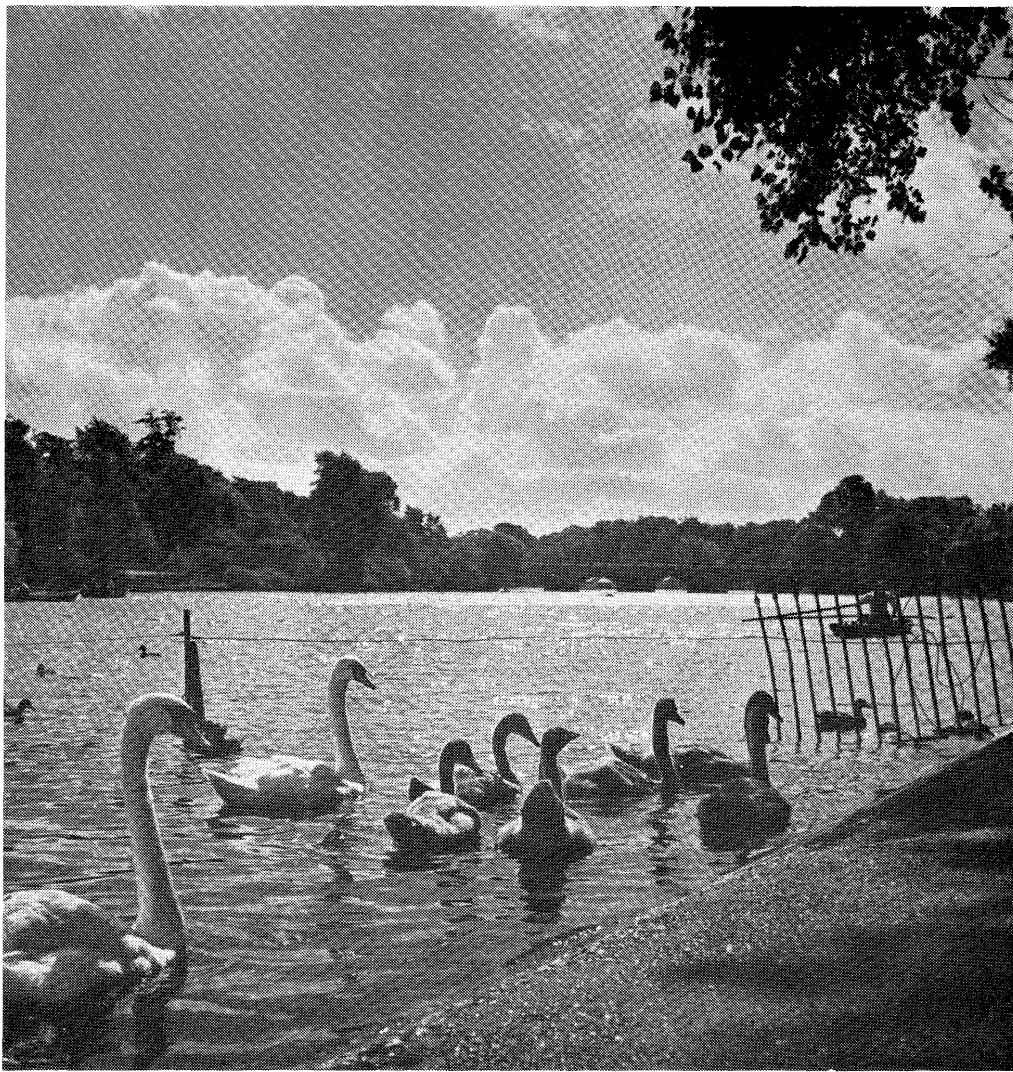
Cafe Royal near Piccadily Circus, London

Patron: H.R.H. The Prince Philip,
Duke of Edinburgh



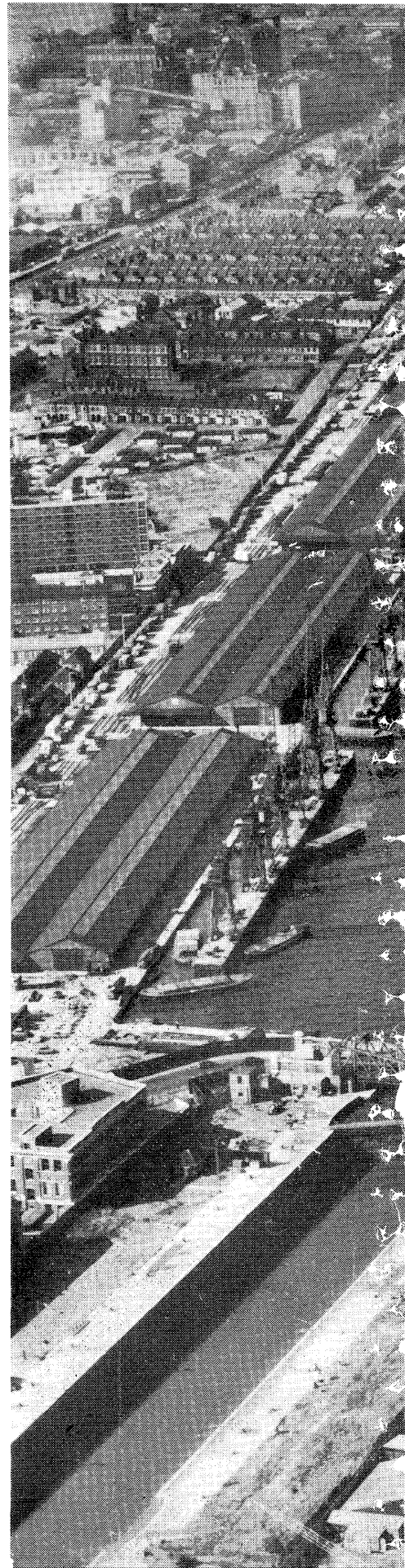
London in 1600 *From an engraving by Hollar*

Central Secretariat of the International Association of Ports and Harbors



The Royal Borough of Kensington

Aerial view shewing the King George V. Dock, the Royal Albert Dock, two of the three docks which comprise the Royal Group and which are the largest enclosed, impounded docks in the world. Situated on the north bank of the Thames, 10 miles downriver from London Bridge, and 62 miles from the seaward limit, the Royal Docks provide 11 miles of quays and a water area of 230 acres.



**Central Secretariat of the International
Association of Ports and Harbors**

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