

VICKERS-ARMSTRONGS LIMITED

VICKERS HOUSE
BROADWAY, WESTMINSTER
LONDON, S.W.1

Press Announcement No. 56/282.

The following is released for publication immediately.S.S. EMPRESS OF ENGLAND

The S.S. EMPRESS OF ENGLAND will be launched by Lady Eden, wife of the Prime Minister, at Vickers-Armstrongs' Naval Yard, Walker, Newcastle-upon-Tyne on 9th May, 1956.

The EMPRESS OF ENGLAND, a passenger liner of 26,000 tons gross, is being constructed for Canadian Pacific Steamships Limited. Her machinery, which will consist of D.R. geared turbines to be built at Vickers-Armstrongs, Barrow, has been designed to develop a maximum of 30,000 shaft-horsepower, giving a service speed of 21 knots.

The principal dimensions are:-

Length o.a.	640' 0"
Breadth (Moulded)	85' 0"
Depth (Moulded)	48' 0"
Draught	29' 0"

She is the sister ship of the EMPRESS OF BRITAIN, under construction by Fairfield Shipbuilding & Engineering Company Limited, whose maiden voyage will be in April.

The first "Empress" liners were constructed at Barrow for the Canadian Pacific as long ago as 1891 and at the Naval Yard two ships, BEAVERDALE and BEAVERBRAE, both lost by enemy action in 1941, were built for this line.

Mr. [Signature]

Mr. Hagg

WHAT THE EMPRESS OF ENGLAND WILL BE

DIMENSIONS

Length Overall	640' - 0"
Length B.P.	600' - 0"
Breadth Moulded	85' - 0"
Depth Moulded	48' - 0"
Max. Draught	29' - 0"
Sea Speed at 26'-6" Draught	21 knots

The ship will be engaged primarily throughout the year on the Company's passenger and freight service between Liverpool and Montreal or St. John, N.B.

She has a modern profile, single funnel and single mast with echelon decks aft, to provide maximum open air deck space, and a raked stem and cruiser stern.

Accommodation is provided for 150 First-Class Passengers and 900 Tourist Passengers. The First-Class Passengers are amidships on Deck 'A', with Premium Tourist Passengers at the forward and after ends of this deck. The remainder of the Tourist Class Passengers are arranged on Decks 'B' and 'C'.

More two berth cabins are available than are in her sister ship EMPRESS OF BRITAIN in the Tourist accommodation.

Generous Public Rooms have been arranged.

First-Class - Club Room and Bar, Drawing Room, Library and Writing Room, Children's Room, Restaurant, and Garden Lounge.

Tourist - Smoking Room, Cocktail Bar, Lounge, Library, Writing Room, Children's Room, Restaurant.

In addition a large Social Lounge is fitted for both First-Class and Tourist passengers, separately or conjointly. There is a Cinema, having separate entrances from the First-Class and Tourist Class. A Swimming Pool for the use of both classes is installed on Deck 'D'.

An enclosed Sun Lounge with its own bar for First-Class Passengers is fitted, with adjoining Sun Deck protected at the sides.

A Beauty Salon and Barber's Shop is available for the use of both First-Class and Tourist Passengers.

EMPRESS OF ENGLAND

A SHORT TECHNICAL DESCRIPTION

Structural Design.

The vessel has been constructed to comply with the latest Ministry of Transport requirements for foreign-going passenger vessels, and also to the highest class of Lloyd's Register of Shipping. In addition, special attention has been paid to the severe conditions imposed by North Atlantic service.

The underwater form is of normal design and is based on model experiments carried out at our Tank in conditions of both smooth water and waves.

The sub-division is based upon a two-compartment standard and the GM is sufficient to enable the vessel to meet the onerous conditions laid down by the Ministry of Transport for side damage.

Special attention was given to the rudder design to ensure manoeuvrability at low speeds, in view of the necessity for good handling in navigating the St. Lawrence. Steering tests were carried out with the model in the Tank and very good manoeuvrability at a speed of $5\frac{1}{2}$ knots was shown.

The modern tendency is to produce a vessel with piled-up super-structure, but in the case of EMPRESS OF ENGLAND this has been avoided, and the silhouette is the lowest of any new vessel of comparable size.

The structural design is more advanced than that of any previous large passenger vessel built in Britain for North Atlantic trade, involving a combination of longitudinal and transverse framing and employing welding to a far greater extent than is general for a vessel of this class. In addition the sheerstrake and two strakes of plating above the waterline are of special welding quality steel and the scantlings of the frames and the shell forward have been increased for ice stiffening.

All butts are welded and there are only four riveted seams on each side, frames in all cases being riveted.

All decks are welded, the beams being angles or tee-bars cut from R.S. joists with continuous full welds.

Special attention has been given to the pillaring arrangements and the stiffeners of all main bulkheads are toe-welded angles, having continuous full welds.

Structural Design (Contd.)

There are seven decks.

The vessel is sub-divided below the bulkhead deck by eleven watertight bulkheads, and above the bulkhead deck by six main fireproof divisions, giving seven main fireproof zones.

The large 3-panelled Promenade Deck Windows are a feature of the design. They have been developed by Beckett, Laycock and Watkinson Ltd. to meet the Owners' requirements and have a built-in handrail which enables passengers to have unrestricted views whether seated or standing. This treatment of large windows has been extended to the Public Rooms on the Promenade Deck, where Henry Hope & Sons Ltd. have produced windows of outstanding size and beauty for a vessel on normal Atlantic service.

Funnel.

The funnel has been designed for smoke elimination, as is the case with all modern ships, and the form (that of a Fireman's Helmet) was decided upon after exhaustive tests at the National Physical Laboratory. It is 51 feet high, 48 feet from forward to aft at the base, and 28 feet across. It is constructed of aluminium alloy and has soot extractors fitted to the uptakes, and it is effective at a speed of 20 knots with a 20 knot wind and an output velocity of 80 ft. per second.

While it cannot be claimed that the funnel improves the profile it is considered that a reasonable compromise between appearance and efficiency has been achieved.

Whistles.

There are two powerful Super Tyfon whistles, fitted one on each side of the funnel, one being steam and the other air-controlled, and provision has been made for these to be operated electrically, automatically, or by hand.

Cargo and Stores.

There are six Holds arranged three forward and three aft, and the Bridge has been so disposed that Nos. 1, 2 and 3 Holds are forward of the Bridge, thus giving unrestricted open deck space abaft the Bridge for passenger accommodation and keeping the cargo working arrangements clear of the passenger spaces to a maximum extent. No.2 Hatch is exceptionally large and is arranged for the carriage of motor-cars in tiers on MacGregor Hatchcovers of new type to facilitate rapid discharge. Nos. 4 and 5 Holds are served by twin hatches and No. 5 Hold is arranged for the carriage of refrigerated cargo. All hatches are served by 5-ton derricks with the exception of No. 2, where 10-ton derricks are fitted.

Cargo and Stores (Contd.)

All weather deck hatches, both flush and normal type, are equipped with MacGregor patent steel covers, and special 'tween deck hatch covers designed by MacGregor have been introduced in each of the cargo trunks, as considered necessary to suit the vessels service. The remaining hatches have been fitted with slab steel covers and roller beams.

Cargo & Provision Chambers.

The insulation medium to the deckheads, ships side and bulkheads is Fibreglass Loose Wool, finished with galvanised steel sheets in the cargo spaces and aluminium alloy sheets in provision chambers, with slab cork on the decks, finished with thick rock asphalt $1\frac{1}{2}$ " thick, reinforced and coved up to bulkheads and sides.

Lifts.

Electric lifts, supplied by Waygood-Otis Ltd., have been fitted for Passengers, Baggage, Stores and Pantry Service. There is also an electric lift between the Engineers quarters and the Engine Room.

Lifeboats and Davits.

There are eight 36 ft. Fleming gear hand-propelled lifeboats, each having a capacity of 146 persons, also one 36 ft. Class 'A' motor lifeboat accommodating 132 persons and one Class 'B' motor lifeboat accommodating 136 persons. In addition there are two 26 ft. emergency lifeboats fitted with Fleming hand propelling gear and each accommodating 46 persons. All lifeboats are of Birmabright alloy and were manufactured by High McLean & Sons Ltd. The motor lifeboat engines are by Thornycroft.

The davits are Welin-Maclachlan overhead gravity type, of latest design, capable of handling the larger boats with 2-part tackle but in the case of the emergency boats using single part falls to facilitate rapid lowering and recovery. The winches, which are totally enclosed, are fitted with Laurence Scott Motors and the controls are arranged so that the lifeboat can be watched from the Boat Deck to the water whilst being lowered.

Fire Protection

In addition to the Wheelhouse there are two fire control stations, one forward and one aft, situated at the Crew Gangways, each complete with electric alarms, telephones, CO₂ detecting and Grinnell automatic sprinkler and alarm equipment, and each capable of being in constant touch with any part of the ship. Furthermore, each station is arranged for direct telephone communication with the local Fire Brigade.

Fire Protection (Contd.)

The vessel is fitted out in excess of Ministry of Transport and Convention requirements. In addition to being sub-divided into fireproof zones it is equipped with a Grinnell automatic sprinkler and alarm system in the passenger accommodation. In cargo holds a Pyrene CO₂ system is fitted and in the machinery spaces there is a separate installation of CO₂ equipment with high and low level supplies.

Navigating Equipment.

The equipment on the Bridge includes twin steering wheels operating telemotors supplied by Brown Bros., who are also responsible for the steering gear of the electro-hydraulic type.

There is an S.G. Brown Gyro Compass in addition to the usual standard Compass, with a repeater in the Wheelhouse, on each Bridge wing, in the Steering Gear Compartment, Monkey Island and also display repeater in the Sun Lounge.

The telegraphs for Engine Room, Steering Gear and Anchor Aft are of Chadburn's Synchrostep type and there is a Radar Installation with a P.P.I. in the Wheelhouse. In addition there is Decca Navigator, Echo Sounding Equipment of the visual recording type and a Chernikeef Indicator in both the Wheelhouse and Chart Room. There are the usual helm indicators of electric type. Docking telegraphs fitted on the After Capstan Deck are of Chadburn's Synchrostep type.

Stabiliser.

The vessel is equipped with the now well-known Denny-Brown Stabiliser. In rough weather this equipment will reduce a roll of 18° to one of less than 6°.

Air Conditioning and Ventilation.

The **EMPRESS OF ENGLAND** is completely air-conditioned.

In the case of the First Class, Senior Officers' and Engineers' accommodation, every room is equipped with thermostatic control and separate air supply control. In the case of Tourist, and remaining Officers' and Engineers' accommodation, every room is fitted with individual manual temperature control and individual air supply control, while the system adopted for the Crew rooms is by block control (although even here the air supply can be individually controlled).

All the Public Rooms are air conditioned with individual thermostatic control.

The system is designed to give pre-determined temperature all the year round, with humidity control, and can be said to be "manufactured weather".

Mechanical ventilation is fitted to all Holds.

Captain's, Officers' and Crew Accommodation.

This is of a very high standard. There are complete suites of rooms for the Captain, Chief Engineer, Staff Commander, Purser and Chief Steward, with furniture constructed of specially chosen woods. All other Officers are accommodated in single-berth cabins equipped as for passenger staterooms, the furniture in this case being of figured mahogany with sycamore edging.

In the Petty Officers' and Women's accommodation the furniture is in oak with walnut edgings, while in Ratings' accommodation there is attractive tubular furniture upholstered in various patterns of "Lionide". Air conditioning is also extended to Ratings' cabins and messrooms.

ELECTRICAL INSTALLATION

The main electrical generating plant consists of two 1200 K.W., 225 volt Allen turbo generators and three 500 K.W., 225 volt Allen diesel generators which feed, in parallel, the main switchboard from which power is distributed throughout the vessel. Two 100 K.W., 225 volt National Gas diesel generators provide emergency power, whilst a further source of emergency power is provided by a Nife battery which is capable of operating all watertight door motors and of supplying all emergency lights for about one hour.

The main engine room and boiler room auxiliaries are operated by means of remote push button control, the Brookhirst contactor gear for same being mounted as a continuation of the main switchboard supplied by Whipp & Bourne.

A ring main switchboard is fitted in each vertical fire zone, and as far as possible, all power requirements in each such zone is supplied from its relevant ring main switchboard.

An extensive air conditioning plant, including four 210 horse power compressors is installed. Motorised valves are fitted throughout the vessel for the control of air temperature, pressure and humidity. A thermostat is fitted in each First Class stateroom and can be set to provide the air temperature as required by the passenger.

Further Nife batteries are distributed around the ship to supply the fire alarm system, automatic telephones, etc.

The ring main cables are 169/.103 V.C., L.C., S.W.A. and Braided, and, in addition, approximately 330 miles of cable of varying types and sizes have been installed for the distribution of the electric power.

The latest types of electronic aids to navigation, such as radar, Decca navigator, echo sounder, logs, etc., are installed.

Fire detecting systems divided into three sections have been installed, with fire gongs positioned in strategic positions throughout the vessel; the three systems are so interconnected that a fire detected on any one system will operate all fire gongs.

Music and speech equipment is installed from which it is possible to relay radio, disc, tape and orchestral programmes throughout passenger public rooms, Officers' wardrooms, Crew recreation and mess rooms, etc.

A 100 line automatic telephone exchange enables ship's business to be speedily conducted and an extensive system of Clifford & Snell loud speaking telephones and land hailing equipment is provided for handling the ship.

The Clarke Chapman windlass and capstans are operated by booster type equipment and twelve Laurence Scott 5 ton winches have been fitted for cargo handling.

A fully fitted cinema including two 35 m/m and one 16 m/m G.B. Kalee projector is a prominent feature for passengers entertainment. The operation of the curtain, screen masking, cinema room lighting also stage foot and overhead lights can be controlled from both the cinema projection room and the stage.

The public rooms are tastefully illuminated by means of twin tube cold cathode lighting and decorative fittings with hot cathode lighting illuminates the Promenade Deck, passenger staterooms, officers' and crew cabins, kitchens, hospital, etc.

Three Mawdsley 120 OKVA motor alternators provide power for the cold cathode lighting installation and also for various small units requiring an A.C. supply. Ten Waygood-Otis elevators are installed of which four are for passengers' use, the remainder being for ships officers and handling of stores and baggage.

The Marconi radio equipment provides full communication facilities. The installation provides all requirements for transmission and reception on the marine medium, intermediate and high frequency telegraphy bands, also for intermediate and high frequency telephony operation for passengers' messages and ship's traffic. The vessel's internal telephone system can be linked with the radio telephony installation and three telephone booths - one in the First Class and two in the Tourist Class accommodation - are fitted and the equipment ensures complete privacy of conversation. A gyro-stabilised direction-finder, also an emergency receiver and automatic keying device will also be provided, whilst a transmitter/receiver is fitted in the Class A life-boat and a portable transmitter/receiver is provided for the Class B lifeboat.

Radar equipment of the latest design will also be installed to facilitate the safe navigation of the ship.

A comprehensive system of Gents electric clocks operated and governed by a master clock is also installed.

In First Class and Tourist passenger accommodation a luminous call bell system has been installed, whilst in social rooms, engineers and officers accommodation, and hospital etc. a drop type indicator bell system is fitted.