

The *Queen Elizabeth* in dock in Southampton as the *Queen Mary* enters.

TELEPHONE SERVICE

in

s.s. QUEEN ELIZABETH



THE completion of building of the world's largest liner, and the start of her first voyage, would in normal times have been headline news for the world's newspapers. But the Cunard White Star liner s.s. *Queen Elizabeth* completed her fitting out in John Brown's Clydebank yard during the early months of war and her first voyage was to take her into waters in which the effectiveness of submarines had been demonstrated by the loss of the *Athenia*. Her completion was therefore not announced, the usual sea trials were not held, and her departure from Clydebank was as secret as her destination. Not until her arrival in New York was the world told of the latest addition to Allied shipping resources. On that first, as on subsequent voyages, reliance was placed on speed and seamanship to give her protection against submarines.

Designed and fitted for high-class passenger service, she was destined for the next six years to serve as a troopship, of such capacity that even in these days of large armies, her full load of 15 000 men could be a military factor of considerable importance in the prosecution of the war

Fitted as a troopship in Singapore, she was stripped of all but essentials. Amongst the fittings retained the telephone system ranked high in im-

portance. This system had been designed by The General Electric Company in consultation with the owners and builders on principles that had been proved in service in s.s. *Queen Mary*. A network of telephones covering the ship and intended for passenger convenience and administrative efficiency proved readily adaptable to the new requirements of a troopship. Through this medium the ship's executives were able speedily and effectively to issue instructions and to receive information essential to efficient operation, in much the same way as was originally planned, but often with the more vital urgency of war. The military forces on board were aided enormously by the ability to telephone throughout the ship and were quick to appreciate the extent to which the telephone shrank distances on board.

The communication provided with shore exchanges when the vessel was in port gained new value, since a quick turn round was a particularly important factor in wartime shipping.

In all, some 850 000 troops were carried during war service voyages that totalled half a million miles over a period of six years, before the *Queen Elizabeth* came into her own in October 1946, when she made her first run as a passenger vessel between Southampton and New York.

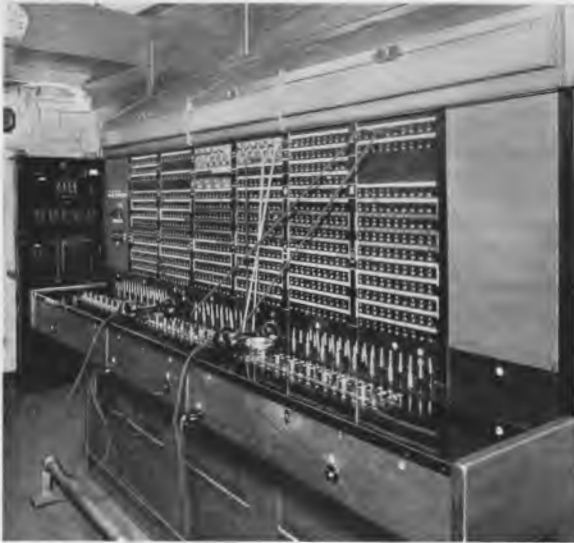


Fig. 1.—Central battery, lamp signalling, three-position telephone switchboard; power-control panel in background.

Passenger Telephone Service

The application of telephony to the convenience of a large community in such a ship as the *Queen Elizabeth* is an interesting study. The members of the community are neighbours but strangers and since they change passage by passage a telephone directory is not practicable. They share a common staff and a wealth of facilities on which they have numerous enquiries and calls to make. The simplest manner in which they may make their wants known is by speech to the parties concerned. By telephony, they may talk without delay from their own cabins, and by manual operation of the telephone system, they are able to contact one who, in the person of the switchboard operator, knows the appropriate members of the ship's personnel with whom to connect them.

Thus the telephone system consists of a manual switchboard, with telephones in cabins and public places for passenger use, and throughout the ship for use by the staff. In addition, there is provision for shore calls by land line extension when the ship is in port and by radio link when at sea.

The design of the switchboard allows inter-

connexion between all lines, any restrictions being controlled by the operators, who act under instructions.

The switchboard is of three operators' positions and is fully staffed during busy periods. The present equipment is for 610 lines, with capacity for 710. Six of the fifteen cord circuits on each end position can be switched for the use of an operator at position 2, in order that during slack periods only one operator need be on duty.

Cabin Telephones

On the various decks, 472 cabins are equipped with ivory-coloured Gecophones. Silk-covered cords connect the handset and a small plug to the telephone set itself. The plug is to enable the instrument to be connected to alternative sockets in the cabins so that the position of the telephone may be varied to suit the passenger's convenience. A plate, in a gold-plated frame, carries the instruction which denotes the main facility for which the telephone is employed:—"Telephone your requirements for room service" Cabin telephones are fitted with soft toned buzzers which give a subdued but effective calling signal.



Fig. 2.—Kitchen clerks' cabinet, at which calls from stewards for room service are answered.



The telephone is an indication and an invitation to make use of the wealth of facilities provided for the convenience of the passenger.



Ivory-coloured Gecophones in first-class cabins are provided with alternative wall sockets to allow the telephone to be plugged in where required.

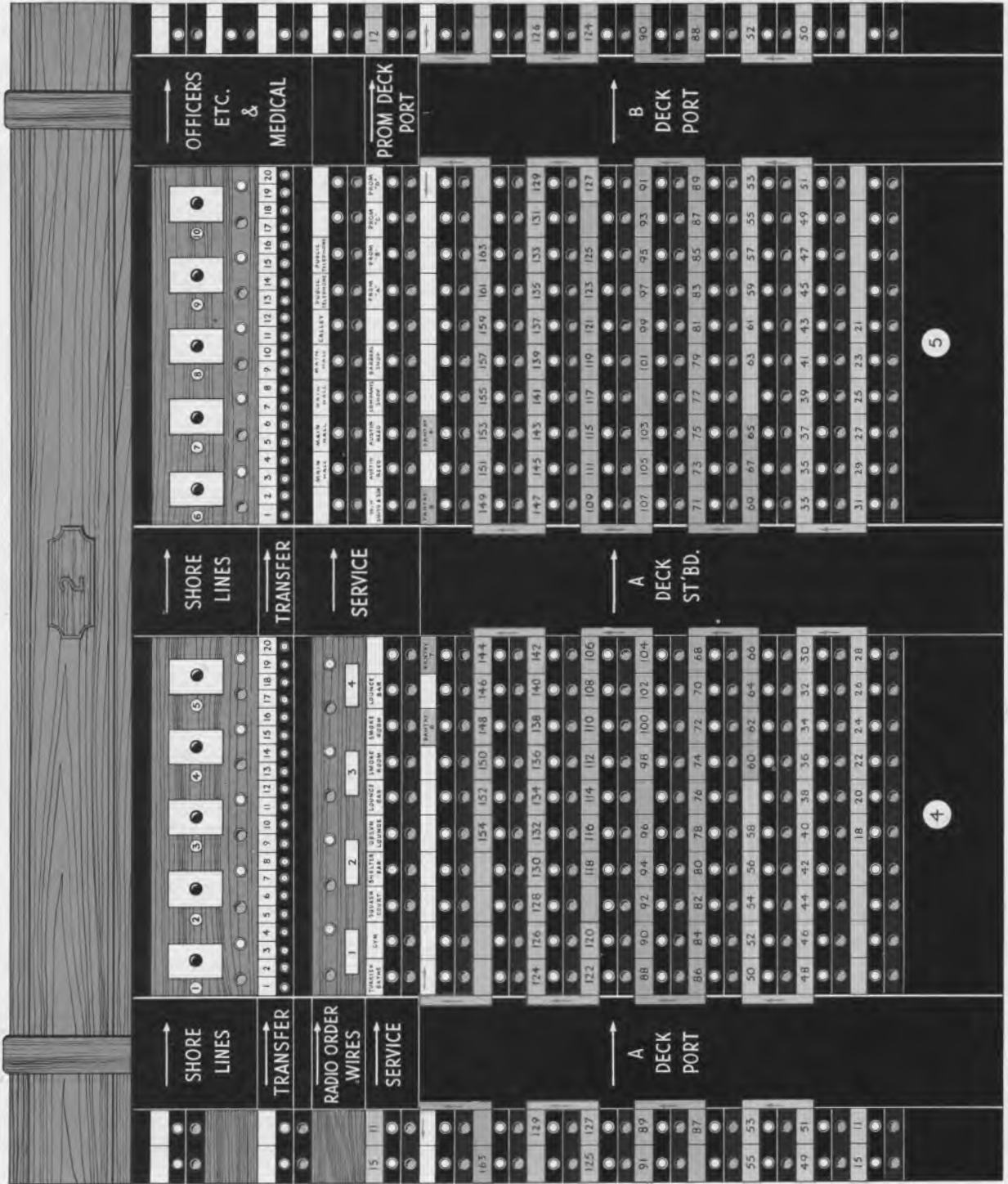


Fig. 3.—Front equipment of position 2, showing colouring of cabin-line labels for quick identification with associated pantry lines.

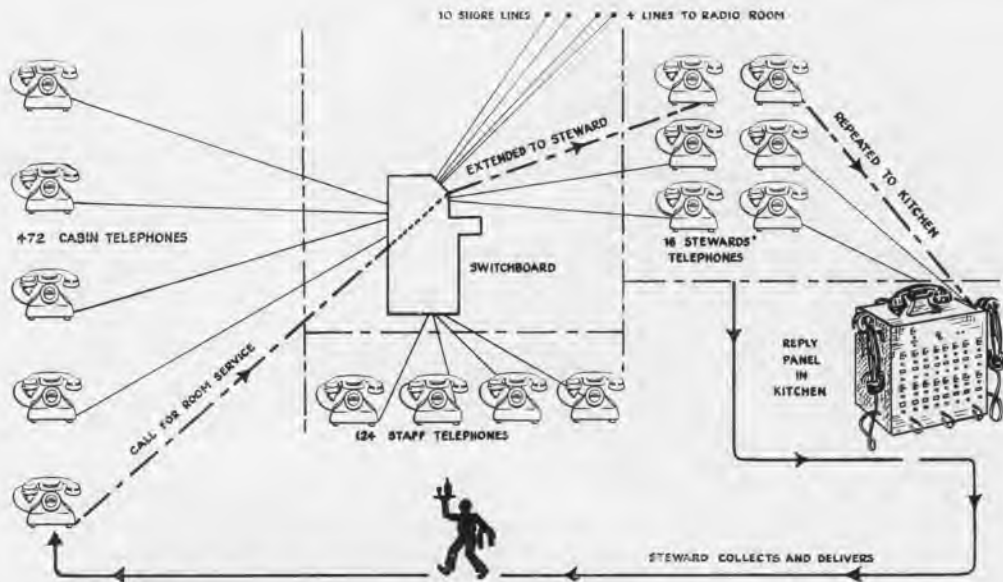


Fig. 4.—Arrangements for room service to passengers.

Room Service

The system employed for providing room service is represented diagrammatically in Fig. 4. A passenger asks an operator for room service and is connected to a pantry. A steward notes the requirements and then telephones them to the kitchen over a direct line in a separate small telephone system. After a suitable interval, he proceeds to the kitchen collects the order, and delivers to the cabin.

This system has several marked advantages, the steward visits a cabin only once for any one order, thus saving time and increasing the passenger's privacy, immediately after a passenger has voiced his requirement the order can be receiving attention in the kitchen, and the distance that the steward has to cover is a minimum.

The switchboard is specially designed to assist the operators in providing expeditious connexions for room service. The three positions of the board serve, respectively, cabins on Main deck, A and B decks, and Sun and Promenade decks. The board is fitted thwart ship so that the operators face forward and each position terminates lines to port cabins (even numbers) on the left-hand panel, and to starboard cabins (odd numbers) on the right-hand panel, thus aiding a mental picture of the layout of the ship. The two panels of position 2 are shown on the opposite page.

For the cabin lines, designations on the vertical

stile strips show the deck and the side of the ship served. Other lines are designated in groups on the stile strips.

Each cabin line terminates on a jack, with which is associated a lamp and label. For service purposes, cabins are grouped, the grouping being shown by the colouring of labels. For each colour group of cabins, there is a pantry, for which the telephone line terminates on a jack above those for the cabins. To identify the pantry jack with its group of cabins, its label is similarly coloured. Thus the operator, receiving a call from a cabin in say, the green group, plugs in to the "green" pantry. Small arrows guide the line of sight of the operator from the calling lamp to the row of four pantry jacks.

Reference has been made to the small auxiliary system by means of which requests are passed from the pantries to the kitchen. Direct lines from 16 pantries terminate on jacks in a cabinet at which three kitchen clerks can attend. Any of the clerks can answer a call by a pantry, which is signalled by a lamp. The clerk answering the call inserts his answering plug into the jack of the calling pantry and answers by his handset and takes the order. For calls in the reverse direction, a pantry may be called (after a plug is inserted) by depressing the appropriate ringing key. As the calls at night or other less-busy periods may not demand continued attention at the cabinet, a switch is provided to bring a bell into operation in the event of a call.

Public and Staff Telephones

In addition to those in cabins, telephones are provided for the use of passengers in public places such as Main Hall and Promenade Deck. Four telephones are fitted with coin boxes for last-minute calls over shore lines when the ship is in Southampton.

For intercommunication between members of navigating, medical, chief steward's, purser's and engineering staffs, 124 telephones are installed in such locations as wheel-house, chief steward's office, purser's office, etc.

Shore Calls

Ten shore lines are terminated on position 2, the equipment of which allows any line to be extended to a shore exchange in Southampton or New York.

Three special lines run to the radio room, together with three order wires. When a request for a radio call is received, the operator passes it to the radio room over an order wire. When the connexion matures, the radio operator advises the switchboard operator and the originating party is connected by a regular cord circuit to the radio room, where the final connexion is established.

Apparatus

To promote economy of space, all relays, fuses, condensers and line terminals are mounted within the switchboard, on hinged frames that can be

swung outwards to give access to apparatus and wiring. The cords are spring controlled to ensure that movement of the ship shall not cause them to foul each other. Materials and finishes for apparatus and wiring were selected to withstand the effects of moist, salt-laden atmospheres.

Power Plant

Alongside the switchboard is fitted a small power panel for controlling the charge and discharge of two twelve-cell batteries. One battery serves the telephone system, whilst the other is charged by a motor-generator set, which operates on the 220-volt D.C. supply. Battery capacity is 120 ampere-hours at the 10-hour rate.

A 2.5-watt dynamotor, running on the battery supply, provides ringing current.

S.S. Queen Mary

A short time before the s.s. *Queen Elizabeth* sailed on her first passenger voyage, the s.s. *Queen Mary* completed her final war-service trip and went into dock in Southampton for re-fitting. The telephone apparatus is being restored in much the same manner as for the *Queen Elizabeth*, again without interruption of that service which experience has shown to be essential to smooth administration.

FACTS ABOUT THE WORLD'S LARGEST LINER

Owners Cunard-White Star Co. Ltd.

Builders John Brown & Co. Ltd., Clydebank. Keel laid December, 1936.

Launched 27th September, 1938, by H.M. Queen Elizabeth.

Length 1 031 feet. Length of Promenade deck 724 feet. Breadth 118 feet.

Height Keel to Masthead—234 feet. Draft 39 feet.

Number of decks . 14. Gross tonnage 83 673.

Number of Passengers First Class—850, Cabin Class—720, Tourist Class—745 ;

Total—2 315.