

C.B. Lamp-Signalling Switchboard specially designed for the S.S. *Queen Mary*.

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Telephone Equipment of the S.S. *Queen Mary*

OF outstanding maritime events in recent years none has so captured the public imagination as the completion of the Atlantic liner *Queen Mary*. The interest displayed in this most recent addition to a long line of famous vessels owned by the Cunard and White Star Companies has continued undiminished since she first began to take shape on the stocks in the Clydeside yard of Messrs. John Brown and Company and, without doubt, finds one of its main focus points in the arrangements made on board to minister to the needs of passengers. The extent and varied nature of the equipment for this purpose is in accordance with the original intention of the Cunard-White Star Company that comfort and service should form the keynote of their policy. The service staff plays a vital part in such a policy and therefore the means provided for enabling passengers to establish contact with its members assume considerable importance. To form this link between passengers and service staff is the principal purpose of the telephone system, the design of which was decided upon after consideration of the facilities the telephone could offer and after co-operation between the Cunard-White Star Company, Messrs. John Brown and Company and The General Electric Company, to whom supply of the equipment was entrusted.

Manual operation was selected for the system, having in mind that passengers aboard ship, possibly not fully aware of all facilities available, and requiring articles or services of a score of different types, may get into immediate communication with one who, in the person of an operator, knows the appropriate member of the ship's personnel with whom contact should be established. The operators become a readily accessible source of information of which passengers may stand in need and as such lend added value to the system.

On the various decks, a total of 430 cabins are equipped with the modern self-contained type of telephone formed of ivory-coloured mouldings (Fig. 1). To a silk-covered cord is attached a small plug which, by means of alternative sockets provided in the cabins, enables the position of the telephone to be varied to suit the passenger's convenience. A plate, in a gold-plated frame, on the front of each instrument, carries the instruction which denotes the chief facility for which the system will be employed—"Telephone your requirements for room service"

In addition to those in cabins, telephones are provided for the use of passengers in such public places as Main Hall, Tourist Entrance, Squash Racket Court, etc. The service staff use telephones in corridors and pantries,

whilst for inter-communication between other members of the ship's personnel, a total of 135 telephones are installed in such locations as Wheel House, Chief Steward's Office, Purser's Office, Engineer's Workshop, Infectious Hospital, etc., etc.

Cabin telephones are fitted with buzzers giving a subdued but effective calling signal, whilst in the case of corridor telephones, lamps replace an audible signal, these measures being adopted to avoid the possibility of disturbance to passengers in adjacent cabins.

Interconnexion between all lines is possible, any restriction being at the discretion of the operators acting under instructions, but the majority of calls may be placed under four heads—room service; intercommunication between staff; shore connexions in port; and shore connexions by radio. The procedure for these calls may conveniently be described with reference to the equipment of the switchboard.

An initial total of 585 lines is terminated on a three-position C.B. lamp-signalling switchboard, illustrated on page 36, which has provision for an ultimate total of 640 lines. The terminations of ten shore lines appear on the board, arrangements being made to enable an operator to call the shore exchange whether this be of the automatic, C.B. manual or magneto type. Apparatus associated with three order wires and three special lines to the radio room, with provision for double these numbers, completes the principal line equipment.

The positions are numbered 1, 2 and 3 from the left, and serve lines to cabins on "A" deck, "Main" deck, and "B" and "Sun" decks respectively. As the actual disposition of the board is such that the operators look



Fig. 1.—Cabin Telephone.

"forward", it was natural to designate the left-hand panel in each switchboard section "port" and that on the right "starboard", wiring arrangements being made accordingly.

The panels on the first position are shown in Fig. 2 in which will be seen designations on the stile strips indicating the deck and side of ship served. Each cabin line is terminated on a jack, with which is associated a calling lamp. In the top row of jacks are three which terminate lines from the pantry serving "A" deck. A passenger requesting the operator for room service is connected to the pantry, where the requirements are noted. By means of a small auxiliary telephone system, described later, these requirements are communicated to a kitchen clerk. Simultaneously a messenger boy is despatched with a copy of the order to the deck waiter allotted to the group of cabins from which the order emanated. On receipt of the order the waiter may complete his duties in hand, then proceeding to the kitchen where the items to be delivered are either ready or approaching completion. This practice has several marked advantages in that it is unnecessary for the waiter to visit a cabin more than once for a given order, thus saving time and increasing passengers' privacy; that almost immediately after a passenger has voiced his

requirements the order is receiving attention in the kitchen, and that the distance to be covered by a waiter is a minimum.

An alternative procedure which may be employed as occasion demands is one in which calls are plugged direct to a steward on the appropriate corridor telephone. This is facilitated by the grouping and designation of jacks on the front equipment. Reference to Fig. 2 shows that vertical arrows on the stile strips denote a certain direction and if this be followed it is seen that after a number of cabin jacks there appears a steward's jack, cabin jacks then continuing until a further steward's jack is encountered, and so on to the top rows of jacks. Each steward's jack is associated with the group of cabin jacks which precede it, this being denoted by the use of designation labels of distinctive colours. If a call is originated for a steward from a cabin in the group the designation strips of which are coloured, say, grey, the operator follows the direction of the arrows until the "grey" steward's jack is found.

A further use of the corridor telephone occurs when a member of the service staff receives an order direct from a passenger. The instruction may be telephoned direct to the kitchen, the items being prepared in the period before the waiter is free to attend to collect them.

The panels of the first switchboard position also carry lamps and jacks for the lines to the radio room, and, above these, lamps, jacks and dial keys for the shore lines. On the

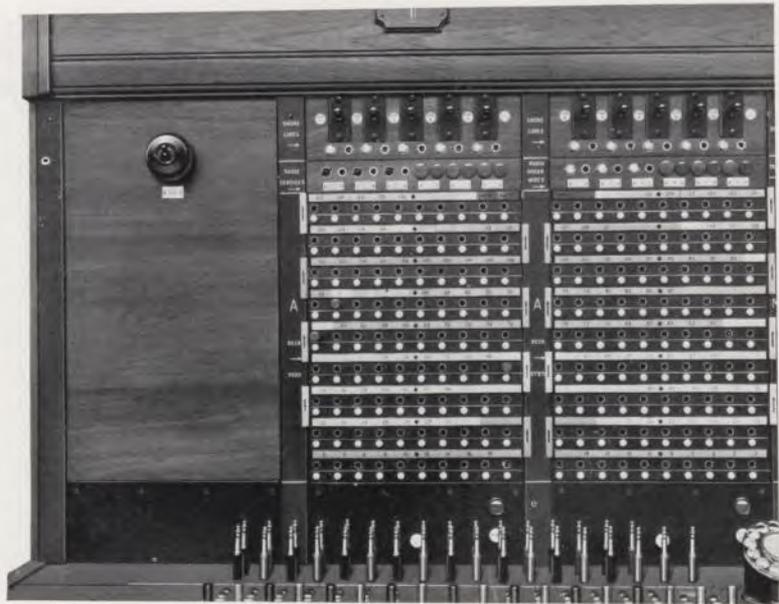


Fig. 2.—Operator's Position No. 1.

operator's right is fitted a dial for use when the shore exchange is of the automatic type.

The middle position, comprising two panels, accommodates lamps and jacks for cabin and pantry lines from "Main" deck, the jacks being identified by means of distinctively coloured designation labels as on the first position. Above the cabin jacks are fitted, on each panel, twenty transfer jacks by means of which calls can be extended from one end position to the other. At the top of the panels appear, on the left, lines to those telephones already mentioned as available for use of passengers in such locations as Main Hall, etc., and, on the right, lines to telephones for the use of the ship's personnel in such places as Cocktail Bar Counter, Restaurant Kitchen, Third Class Dining Saloon Bar, etc.

The third position, in addition to accommodating cabin lines from "B" deck, is also equipped with lamps and jacks for the lines from the "Sun" deck. The top three

rows of jacks and lamps are allocated to the staff lines, typical designations being Purser's Office, Forward Engine Room, etc.

On occasions when traffic through the switchboard is light, necessitating the services of only one operator, coupling keys on the middle position may be thrown to switch six cord circuits from each end position for use by an operator at the middle position.

Since space devoted to equipment on board ship is always at a premium, the switchboard is designed to accommodate relays, condensers, fuses, line terminals, etc. in order to avoid the necessity for a separate apparatus rack. The use throughout of relay B.P.O. type 600 assisted very considerably in the endeavour to economise in space. At the rear of each section (Fig. 3) a frame carries relays and condensers, whilst above the frame are mounted alarm-type fuses serving the various circuits. The apparatus frames are hinged and can be swung forward to disclose the cords and to give access to relay wiring when further lines are added. In connexion with the cords is found one of the differences between standard practice and that followed when a switchboard is required for service afloat, in that freely-suspended pulley weights

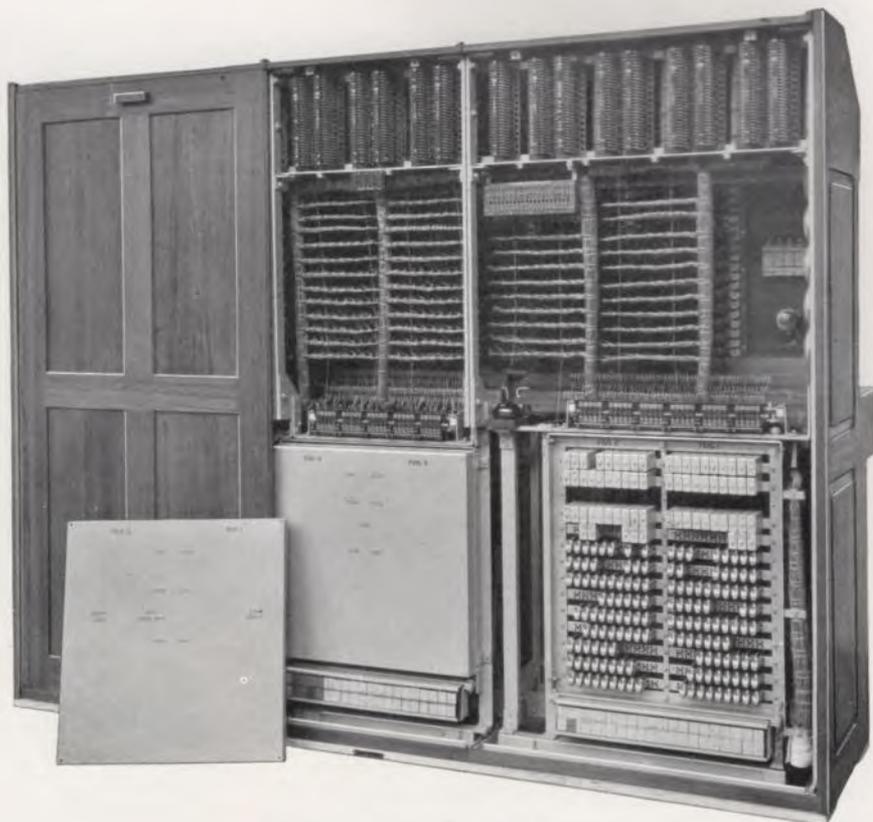


Fig. 3.—Switchboard—Rear View.

are replaced by spring-controlled pulleys with individual vertical guide wires.

To ensure that any possible voyage in the tropics will not result in adverse effect upon the telephone equipment, such materials and finishes have been chosen as experience shows will withstand wide extremes in temperature and climate.

Radio Service.

Any telephone connected to the switchboard may be extended to a radio link for shore communication. An operator calls the radio room over an order wire appearing on Position 1 and, when the connexion is ready for completion, is told which of a number of plug-ended circuits to take into use. The appropriate plug is then inserted in the jack of the calling line.

Experience on other vessels has shown that a large percentage of calls are successful when regular telephones are thus extended to a radio link but that improvement may be obtained if receiving and transmitting circuits of the telephone are separated by the use of a four-wire line. Provision is made for a number of selected cabins to be equipped with telephones linked to the switchboard by four wires and for occupants of other cabins to have access if necessary to a call box similarly equipped. These four-wire lines terminate on pairs of jacks fitted in a cabinet mounted on the right-hand end of the switchboard. The lines also appear as normal two-wire lines in the panel equipment on the switchboard and are operated in the usual way until unfavourable conditions for radio calls make recourse to the four-wire system necessary. Double plugs terminating the four-wire circuits from the radio room are then inserted in the appropriate pair of jacks on the radio cabinet.

Stewards' Line Coupling Cabinet.

Whilst the allocation of service staff to groups of cabins in the manner shown by the designations on the front equipment of the switchboard is calculated to meet normal conditions in the best manner, departures from such allocation may at times be necessary. A degree of flexibility is therefore required and is provided by a stewards' line coupling cabinet. As is seen in Fig. 4 this carries a front panel equipped with a number of jacks associated individually with the corridor telephones in such a manner that when multiple plugs are inserted as shown, two, three or four stewards' lines are coupled together. In all except one of the associated stewards' jacks on the switchboard, plug



Fig. 4.—Stewards' Line Coupling Cabinet.

dummies are then inserted, leaving one jack to serve as a "master" in respect of the lines that are grouped. When an operator plugs into this jack calling signals are given from all the corridor telephones in the group. The steward assigned to duties under this grouping arrangement may answer from the nearest of the coupled telephones.

Kitchen Clerks' Cabinet.

Reference has been made to the small auxiliary system over which passengers' requests are passed from the pantries to the kitchen. Direct lines from the pantries terminate on jacks in a cabinet at which a maximum of three clerks are in attendance. Each clerk is allotted two pantry lines and answers a call, signalled by a lamp, by inserting his plug in the appropriate jack. Conversation is then possible by means of his handset. For calls in the reverse direction, a pantry may be called, after a plug is inserted, by depression of the appropriate key.

Since, in night hours, for example, the number of calls may not necessitate continued attention to the cabinet, a switch is provided on the front panel, which, when thrown, prepares a circuit for the operation of a bell in the event of a call.