

OPERATOR'S EQUIPMENT.

The desks furnished for operators in the semi-automatic System are shown in FIG. 40, while FIG. 41 shows a top view of the keyboard.

The keyboard is equipped with 30 sets of lamps for 30 « connecting circuits », each set consisting of a calling lamp, a ringing lamp and two supervisory lamps. A two-position key is associated with each lamp and serves, thrown in one direction, for listening in on an existing connection, and thrown in the other for releasing a connection with simultaneous message registration, but only when a subscriber has restored his receiver.

The key-set, used for recording the number of the line wanted, consists of four strips of plunger keys each numbered from 0 to 9. A fifth strip of keys is usually provided, bearing the names of the various offices in the exchange area.

To the right, are placed four master keys, which serve respectively, for forced release with the receiver off the hook ; for permitting clearing without registration ; for the hold-over of faulty apparatus that failed to establish a connection ; and for releasing keys in case an operator wishes to correct an error in depressing.

The operator uses the usual head telephone and breast transmitter, which is connected automatically to a connection circuit when a call appears. The keys used to receive excess incoming calls from the neighbouring positions for helping out, are placed to the right and left of the row of listening keys.

SUBSTATION NUMBER SENDER.

In the full automatic system, a mechanism is mounted on the subscriber's set, which allows him to establish his own connections. One form of this mechanism, known as the finger-wheel, is shown in Fig. 43 ; there is a second view with the cover plate removed to display the internal mechanism.

It consists of a finger disc with 10 holes arranged over a plate marked 0 to 9. This disc is mounted on a shaft and held against a stop by a spiral spring. When displaced from normal, the disc returns under the tension of the spiral spring, but does so at a predetermined and constant speed under the influence of a governor. A special loose disc at the center is so fitted that the finger disc may be moved forward as quickly as desired, the governor being disconnected.

The finger disc carries a series of small teeth and one large tooth which operate in passing a contact lever ; the contact lever opens a contact, included in the line circuit, but only on the return movement of the finger disc.

To call a number, the subscriber inserts his finger in the hole of the disc, corresponding to the digit wanted, pulls the disc to the stop and releases it. The

disc returns to normal and, in so doing, opens the line circuit a corresponding number of times, these short interruptions always being followed by a long one, to mark the change-over.

Some views Figs. 44, 45 and 46 of wall and desk sets with finger wheels mounted, are shown. A set suitable for the semi-automatic System is readily converted into one suitable for the full automatic System by adding the finger-wheel.





Figure 43.

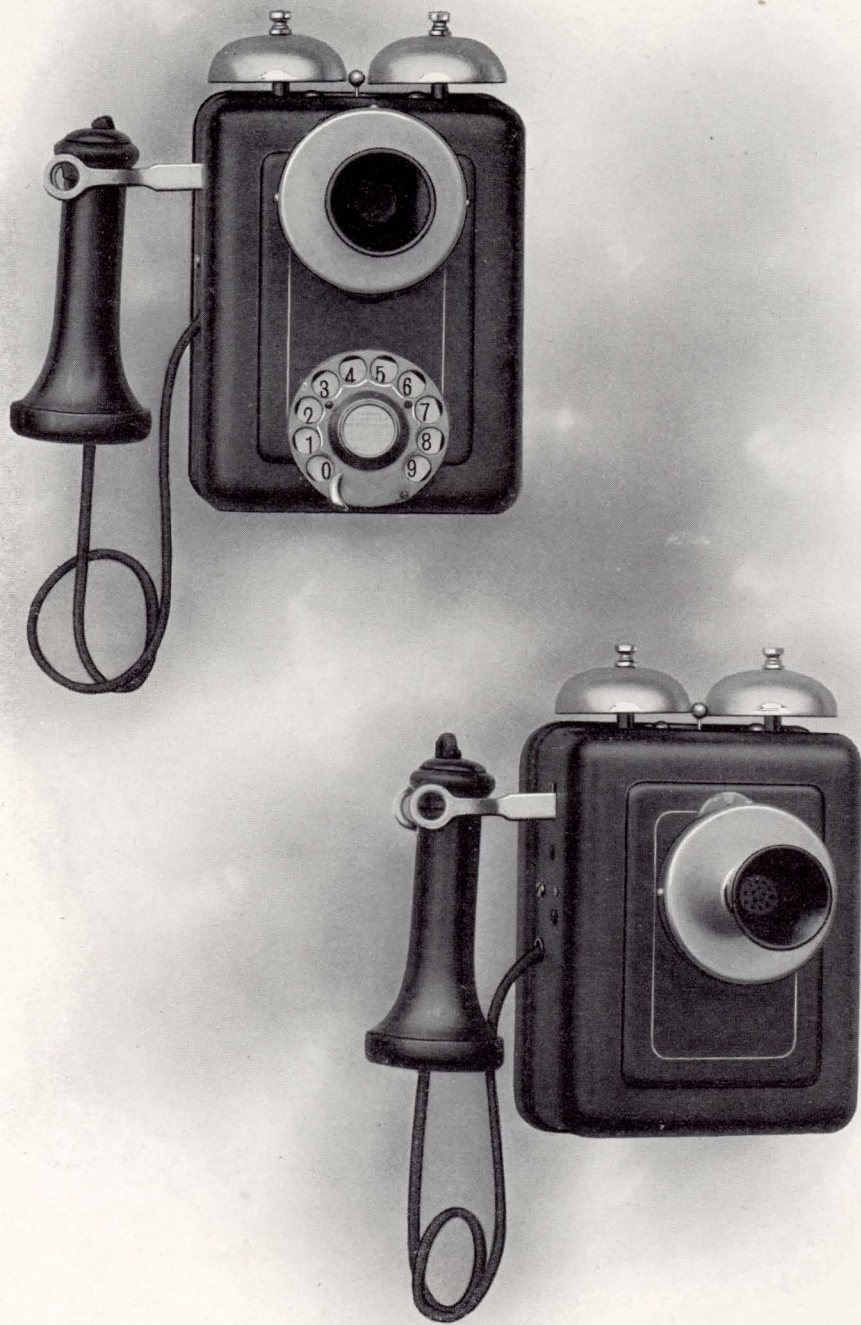


Figure 44.



Figure 45

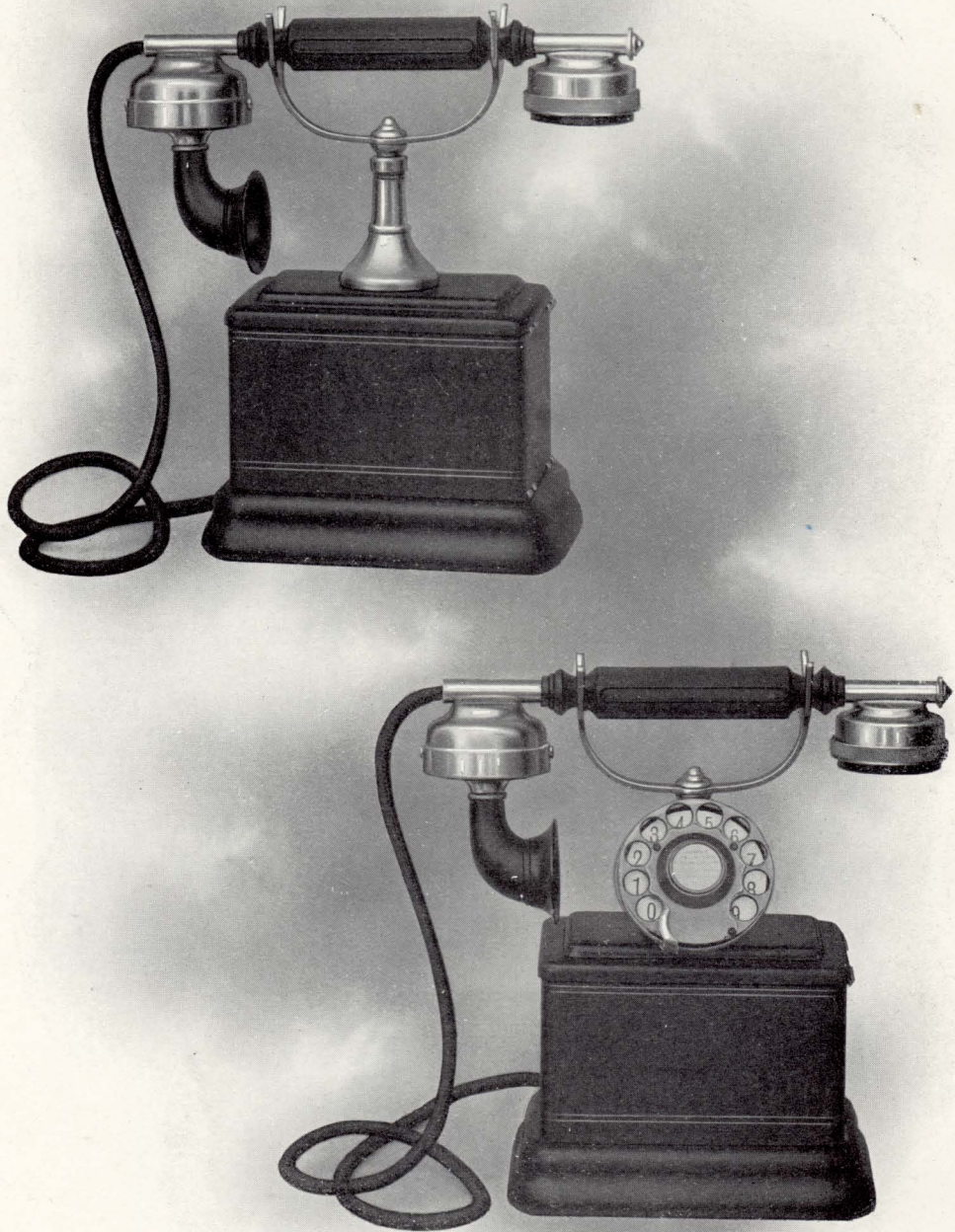


Figure 46.