

are made of a veneer of five layers of wood, securely glued together. The ringing and listening keys are mounted on the bottom of the shelf with the levers extending through nickel-plated swivel escutcheons mounted on the top. All terminals of the International key being at one end, makes it possible to have all wires made up in one cable form, leaving the platinum contact points free and open for inspection. The signal lamp holder is an opaque insulating tube with an opal set in a brass cap. It is provided with slots at the opposite end from the opal, leaving the terminals of the lamp exposed when inserted. The opaque tube with lamp is very easily placed in the bank of lamp jacks direct from the front of the board. The lamp being enclosed, confines all the light to the one opal and prevents any possible chance for a mistake in knowing the right signal.

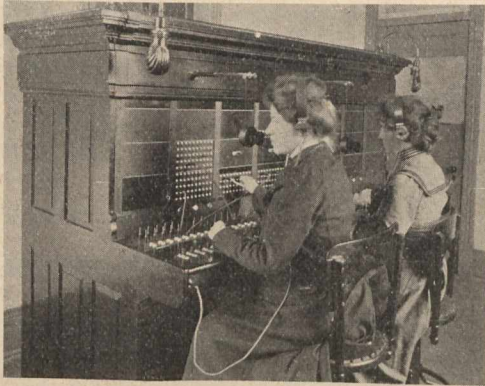


Fig. 4.

The line lamps are mounted in jacks built in strips of ten. The springs of the jacks are made of the best sheet spring German silver. They are provided with a formed projection so that they make a good point connection with the base of the lamp when inserted. The springs are set into a hard rubber strip and firmly clamped with a brass strip insulated with mica. The spring block is fastened to the front piece with heavy brass studs. The front piece is a heavy brass rail faced with hard rubber with the proper holes for receiving the lamps with holders. Each end of the front rail forms a flange which is set into the iron switchboard frame, and to which the banks are clamped from the front with a bolt and nut.

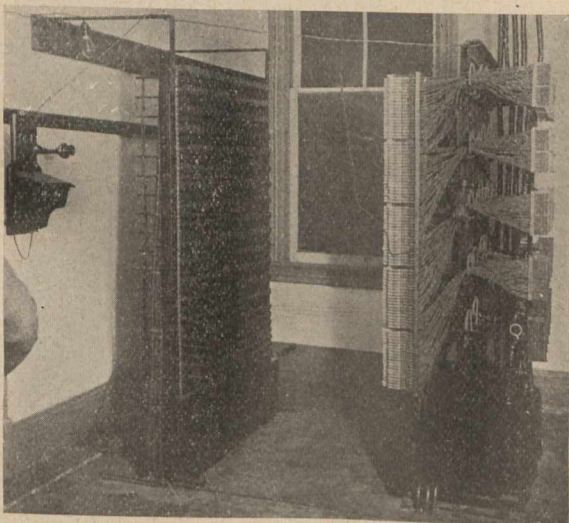


Fig. 5.

The spring jacks, which correspond in number with the line lamps are also mounted in strips of ten. The front piece of the bank of jacks is made of a veneer of hard rubber front and back with a brass rail for its centre. The holes in the brass rail are of sufficient size to receive a hard rubber bushing before inserting the jack ferule. The brass rail provides a means for firmly clamping the banks of jacks to the iron frame and also makes the banks strong and durable.

A pair of supervisory signals are placed in the plug board directly in front of each pair of cords. The clearing-out lamps are mounted in tubes similar to the line lamp holders. These tubes are provided with an opal holding cap on which is placed a small arched wire guard which prevents the opals

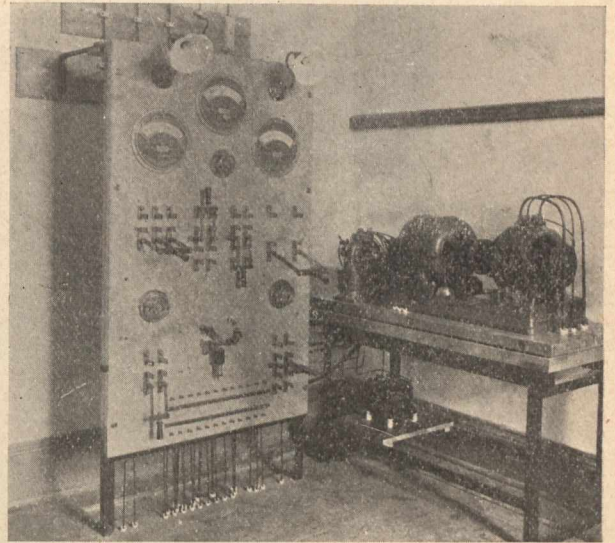


Fig. 6.

being broken by impact from the plugs, and also serves as a means for conveniently taking the tube, with lamp, from their socket. The plug board and the pilot lamp panel located back of the plugs are covered with heavy belt leather. In the centre of the board, between the two operator's positions, are mounted the trunk signals and trunk jacks connecting the two exchanges. The board is provided with a key so that at night, when but few

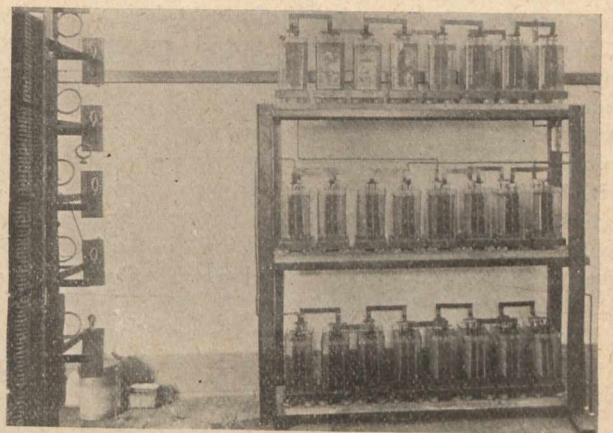


Fig. 7.

calls are received the battery power ringing generator may be switched on at any time and operated only when required.

Fig. 5 shows the relay rack and the combination distributing and lightning arrester rack with heat coil and carbon arresters. On the relay rack are mounted all the line relays, supervisory and pilot relays and coils. The relays are securely mounted on iron strips, supported on an angle iron rack. The relays are securely enclosed in a dust-proof brass shell.

Fig. 6 shows the power switchboard, the charging machine with alternating motor, the main ringing machine with alternating motor, and the auxiliary ringing machine. The auxiliary ringing machine is operated from the storage batteries.

The marble power board is supplied with a charging circuit ammeter, a discharge circuit ammeter, a volt meter, voltmeter switch, starting boxes, field rheostat, circuit breaker, bus bars and all necessary copper knife switches for properly controlling the entire system.

Fig. 7 shows the storage battery plant. The plant consists of a set of twelve cells chloride accumulator, in dupli-