

TERMINALS—INSIDE WIRING CROSS CONNECTING AND WIRING

1.00 INTRODUCTION

This section covers the cross connecting and wiring (including fusing when necessary) of inside wiring terminals. Information is also included pertaining to customer-provided cabinets, the protection of special service lines, and the strapping of binding posts.

2.00 GENERAL

2.01 The general wiring principles covered herein may also be used in wiring the older types of inside wiring terminals.

2.02 The amount of slack in cross-connecting wires is generally satisfactory if the wire is long enough to reach the pair of binding posts beyond that on which it is to be terminated.

2.03 Where frequent movement of station wires is anticipated, consideration should be given to their permanent termination on connecting block(s). Cross connections may be run from the connecting block(s) to the inside wiring terminal.

3.00 GA-, GB-, AND HS-TYPE INSIDE WIRING TERMINALS

Station wiring at the GA-, GB-, and HS-type inside wiring terminals is shown in Figs. 1, 2, and 3.

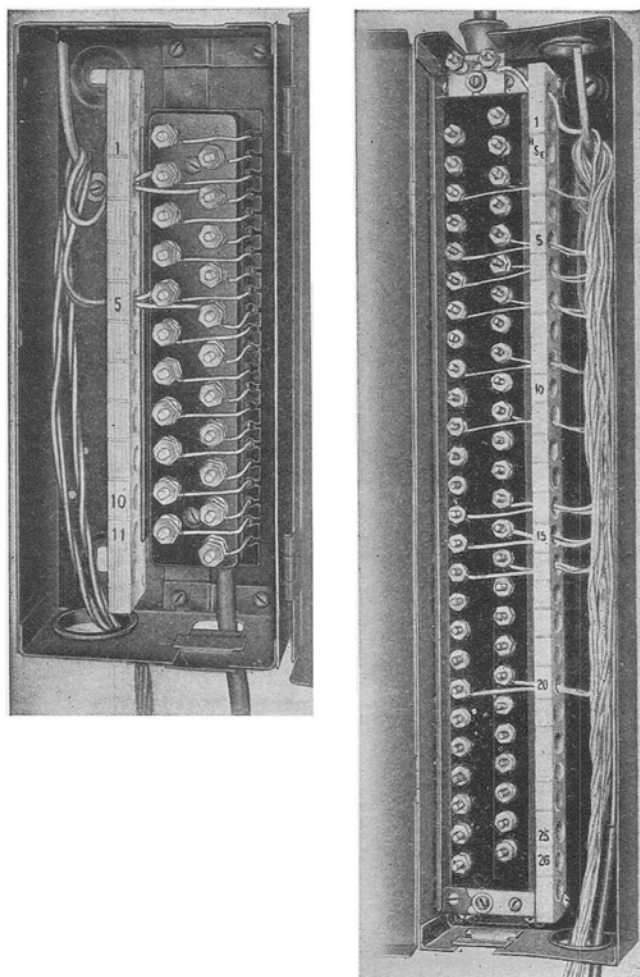


FIG. 1—STATION WIRING OF GA-TYPE TERMINALS

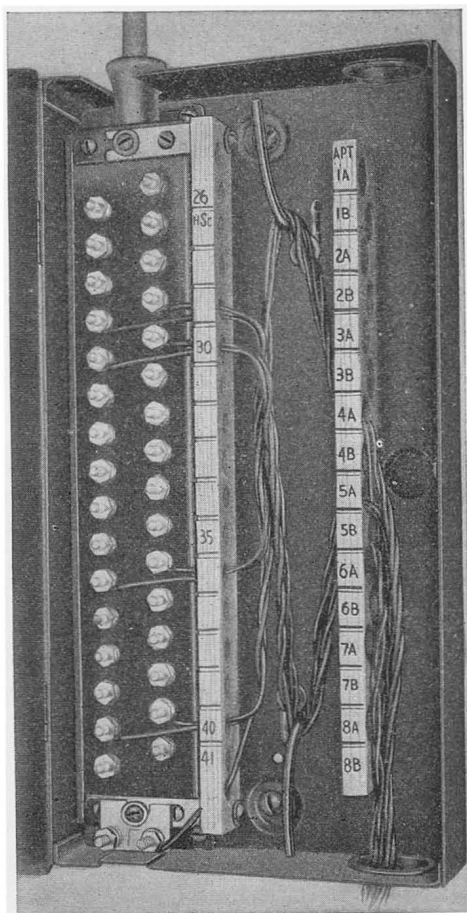


FIG. 2—STATION WIRING OF GB-TYPE TERMINAL

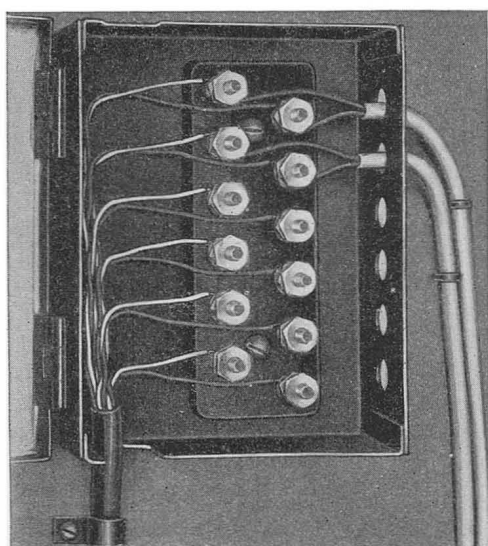


FIG. 3—STATION WIRING OF HS-TYPE TERMINAL

4.00 GC-TYPE INSIDE WIRING TERMINALS

Station wiring and cross connections at a GC-type inside wiring terminal are shown in Fig. 4. Position of binding post chamber and 30- or 31-type connecting block may be reversed, or terminal may house two binding post chambers or two connecting blocks instead of arrangement shown.

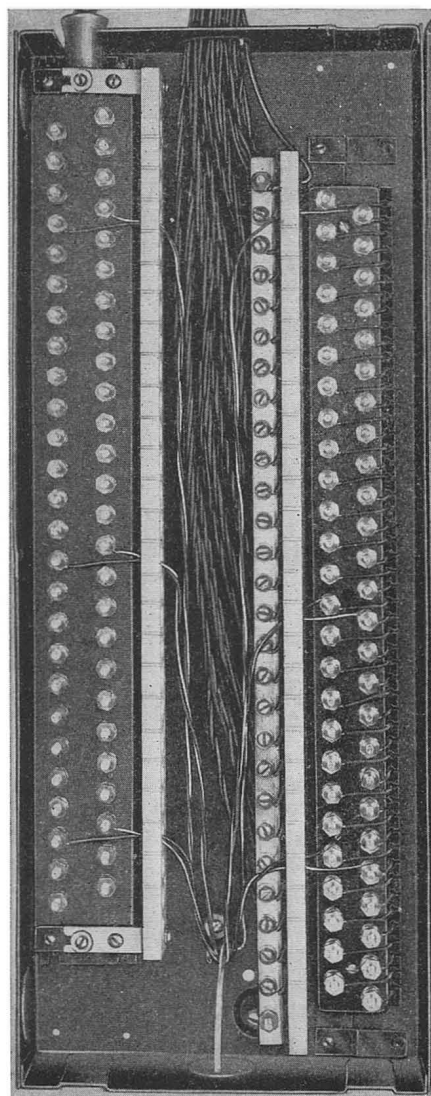


FIG. 4—STATION WIRING AND CROSS CONNECTION OF GC-TYPE TERMINAL

5.00 FRAME-TYPE INSIDE WIRING TERMINALS

5.01 Place cross connections on frame-type inside wiring terminals as shown in Fig. 5 (which shows a typical arrangement of cross connections on a double-sided frame). Cross connections on single-sided frames are the same as the cross connections between binding posts on the same side of a double-sided frame.

5.02 The holes in the binding post chamber fanning strip are arranged to facilitate the termination of conductors in the proper clockwise direction.

5.03 METHOD OF AVOIDING CONGESTION OF CROSS-CONNECTING WIRES

- Divide the frame visually into upper and lower halves.
- Cross connections originating in upper half of frame should be run to the top of the frame.
- Cross connections originating in lower half of frame should be run to the bottom of the frame.
- Cross connections run from one side of a double-sided frame to the opposite side should pass directly through the frame, and then through the distributing rings on the opposite side of the frame to the point of termination.
- Cross connections originating and terminating through the same fanning strip should run through the nearest top or bottom distributing ring.
- Cross connections that run to the opposite side of the frame should pass behind vertical cross connections.

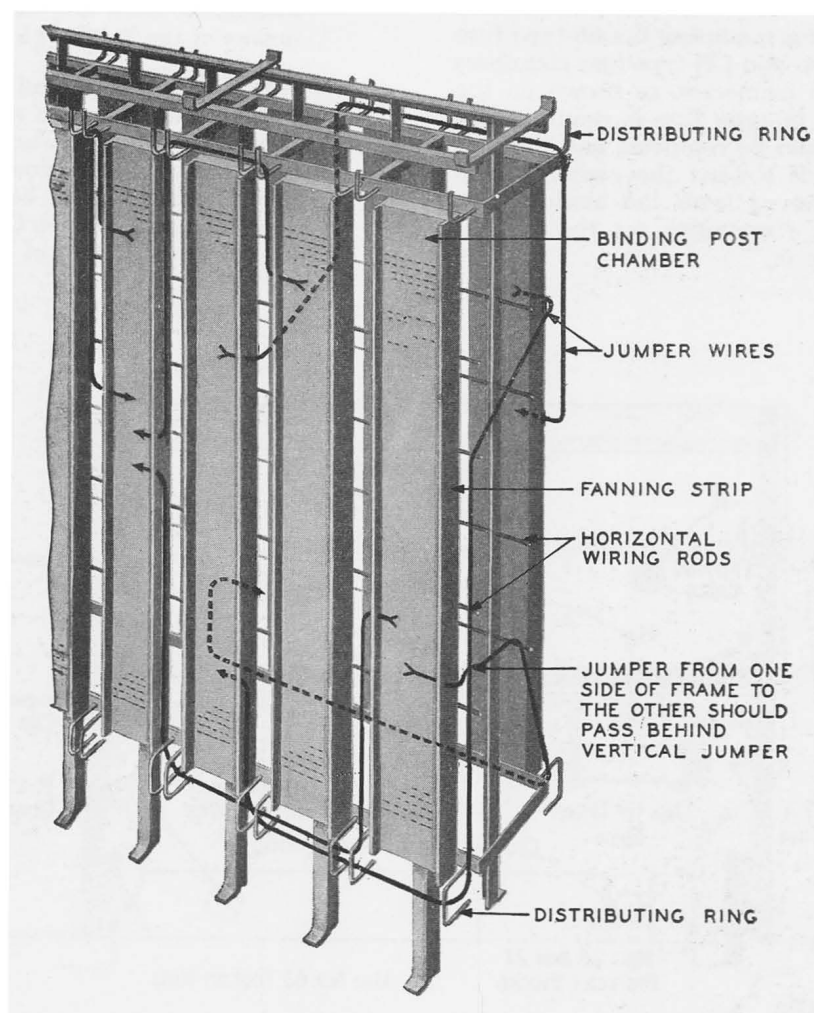


FIG. 5—CROSS-CONNECTION ARRANGEMENT ON A FRAME-TYPE TERMINAL

6.00 LA- AND LB-TYPE FUSE CHAMBERS

6.01 The LA- or LB-type fuse chamber (shown in Fig. 6) is used in inside wiring terminals when protection is required.

6.02 EQUIPPING OF LA- AND LB-TYPE FUSE CHAMBERS

- Feeder cable pairs are terminated on lugs of the fuse chamber designated **F**.
- House cable pairs are terminated on the binding post lugs designated **H** (LB-type fuse chambers only).
- House cable pairs are not terminated in LA-type fuse chambers, but instead are terminated in a separate binding post chamber or connecting block (shown in Fig. 7).
- Feeder cable pairs placed in service must be equipped with 7A fuses and Nos. 26 and 27 protector blocks.

6.03 The 2-piece clip for mounting the 60-type fuse on the front of LA- and LB-type fuse chambers is joined by a P-290225 connector, as shown on the right in Fig. 6. When a 60-type fuse is required, the P-290225 connector should be removed, and the portion of the clip which is toward the center of the chamber should be removed from the binding post and reinstalled to form a mounting for the fuse, as shown on the left in Fig. 6.

6.04 The 60-type fuses should be used as specified in the B series of Bell System Practices governing PBX protection and as follows:

- On regular PBX trunks, tie lines, generator cable feeders, etc, use 60D (red shell) fuses.
- On battery cable feeders use 60E (black shell) fuses.
- On special service and leased line circuits (when specified by service order or other local instruction), use 60D (red shell) fuses.

6.05 The termination of signaling ground wires in a fuse chamber may be facilitated by the following:

- Attach a 2A ground strip to the ground strip located at each end of the fuse chamber by means of the P-290225 connector.
- Attach a 4-type ground strip to the connecting block assembly when connecting blocks have been installed in LA-type terminals for terminating house cables and station wiring. No. 14 ground wire should be used to connect the 4-type ground strip to the P-290225 connector on the ground strip of the fuse chamber.

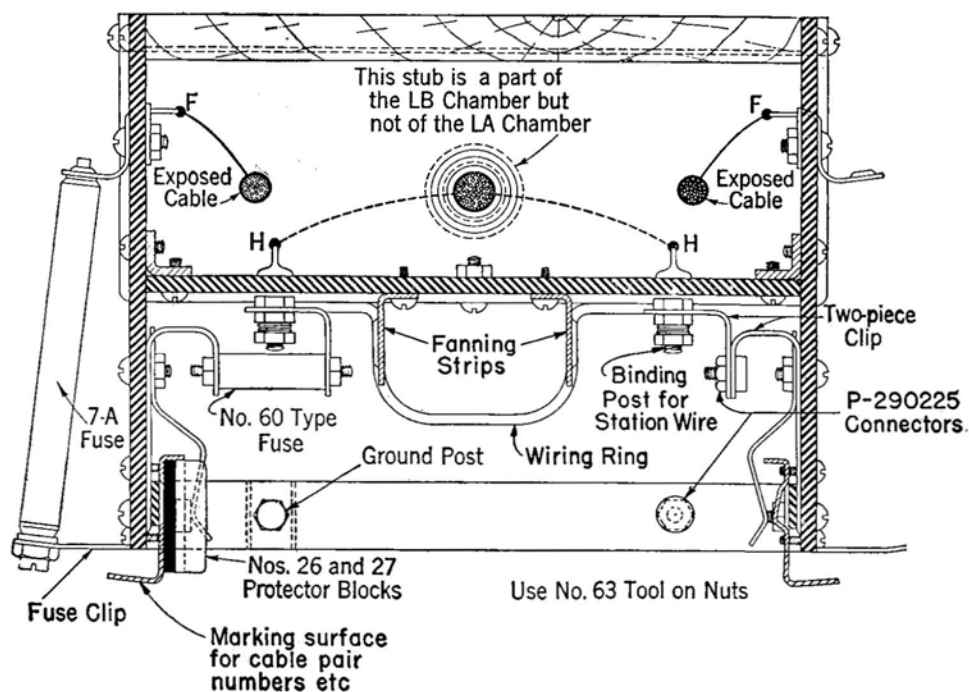


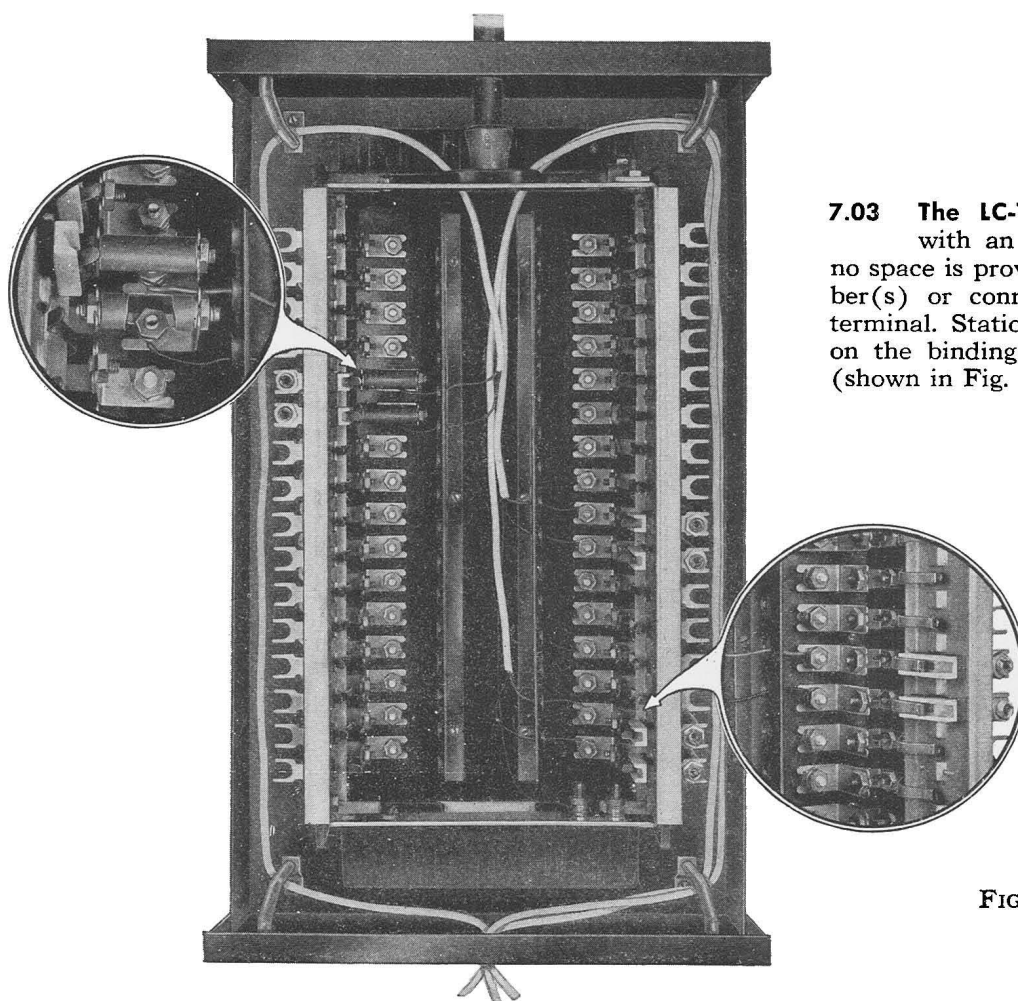
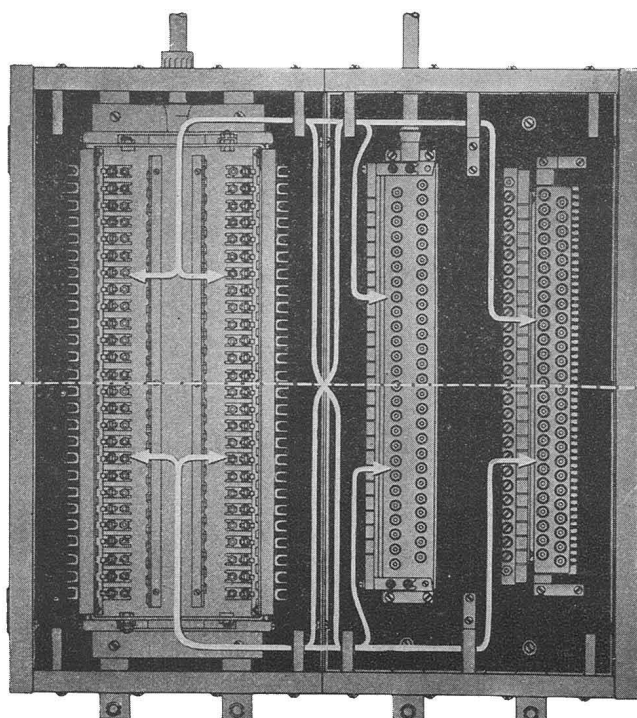
FIG. 6—CROSS-SECTIONAL VIEW OF LA- OR LB-TYPE FUSE CHAMBER

7.00 LA-, LB-, LC-, AND NH-TYPE INSIDE WIRING TERMINALS

7.01 The LA-Type Terminal is equipped with an LA-type fuse chamber, and space is provided for mounting binding post chambers or connecting blocks as shown in Fig. 7. Station wiring is normally terminated in the binding post chamber(s) or on the connecting block(s). Cross connections must be run to the LA-type fuse chamber.

7.02 The LB-Type Terminal is equipped with an LB-type fuse chamber in which both feeder and house cables are permanently terminated. The fuses provide the cross connections between the feeder and house cable pairs.

FIG. 7—TYPICAL
WIRING ARRANGEMENT
IN LA-TYPE TERMINAL



7.03 The LC-Type Terminal is equipped with an LA-type fuse chamber, but no space is provided for binding post chamber(s) or connecting block(s) within the terminal. Station wires may be terminated on the binding posts of the fuse chamber (shown in Fig. 8).

FIG. 8—TYPICAL STATION
WIRING OF LC-TYPE
TERMINAL

7.04 The NH-Type Terminal is equipped with 107C protectors which provide fuseless station protection, and therefore its use is restricted to areas served by grounded metal sheath cable. Where 1094A protectors (60-type fuses) are required in connection with NH-type terminals, they should be installed adjacent to the terminal. A wired NH-type terminal is shown in Fig. 9.

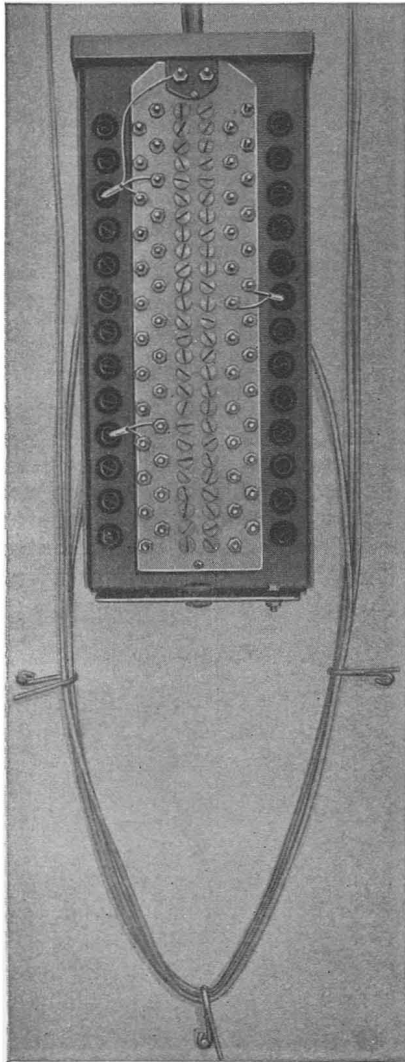


FIG. 9—TYPICAL STATION WIRING OF NH-TYPE TERMINAL.

8.00 CUSTOMER-PROVIDED CABINETS

When a customer-provided cabinet is used in place of an inside wiring terminal, the wiring of the cabinet should be arranged similarly to the wiring of a terminal. Fig. 10 shows a customer-provided cabinet used in place of a GC-type terminal.

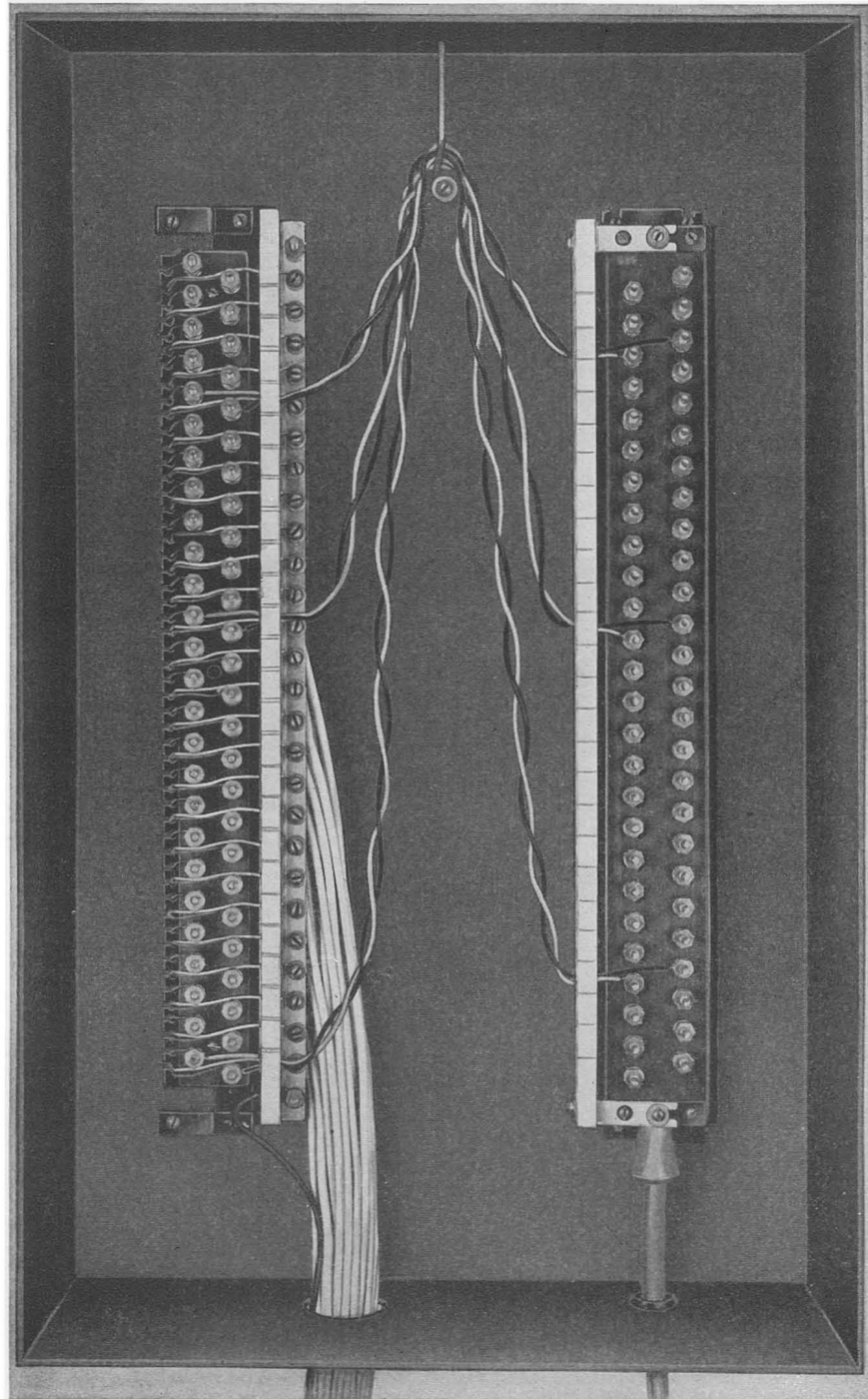


FIG. 10—TYPICAL WIRING OF CUSTOMER-PROVIDED CABINET

9.00 PROTECTION AND IDENTIFICATION OF SPECIAL SERVICE LINES

9.01 Special service lines should be protected from momentary service interruptions caused by accidental contacts at terminals, by placing a terminal-punching insulator, binding post insulator, or a binding post cap on all appearances of the cable pair. KS-6660 indicators may be placed on terminal cross connections to identify those associated with special service lines.

9.02 The following list shows some types of circuits that may be considered as special service lines.

- Fire Alarm
- Watchman's
- Program Service
- Music
- Teletypewriter Exchange Service
- Telegraph or Teletypewriter Leased Line
- Power Company Leased Line
- Telephotograph
- Closed Circuit or Series Operated Lines
- Burglar Alarm
- Picture Transmission
- Short Period Talk
- Armed Services
- Civil Air Raid Warning
- CAA

9.03 A **KS-6660 Indicator** is a bright red split ring designed to clip over terminal cross-connecting wires (shown in Fig. 11) to identify special circuits.

9.04 **No. 4 and No. 5 Terminal-punching Insulators** are used on soldered-type terminal punchings as shown in Fig. 11. The No. 4 insulator is used on short terminal punchings, and the No. 5 insulator is used on the longer terminal punchings.

9.05 The **B and C Binding Post Caps (Red)** are used on terminal binding posts as shown in Fig. 12. The B binding post cap must be placed on vacant binding posts, but the C binding post cap is slotted so that it may be placed on wired binding posts.

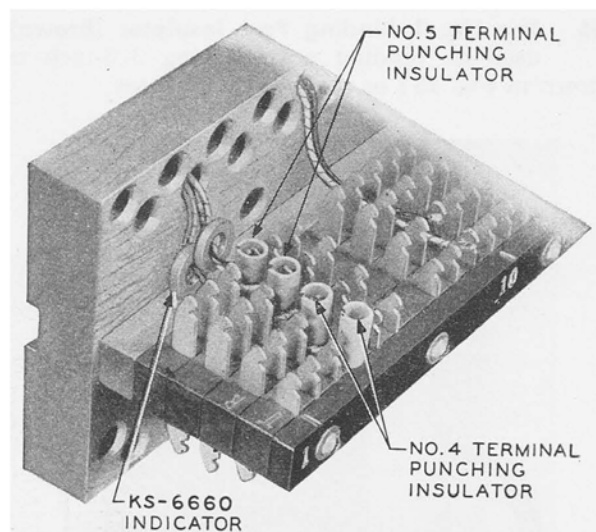


FIG. 11—USE OF NO. 4 AND NO. 5 TERMINAL-PUNCHING INSULATORS AND KS-6660 INDICATOR

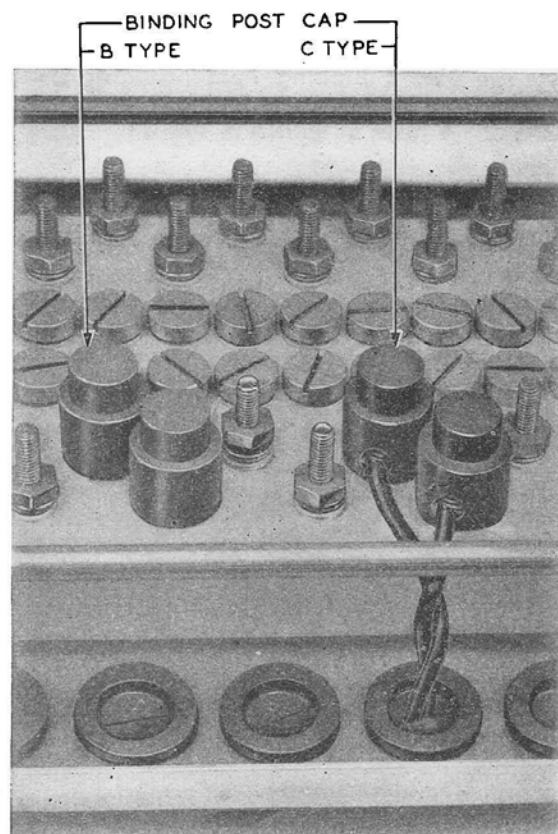


FIG. 12—USE OF B AND C BINDING POST CAPS

9.06 The No. 1 Binding Post Insulator (Brown) is used on binding posts having 3/8-inch nuts (shown in Fig. 13) or on ends of 7T fuses.

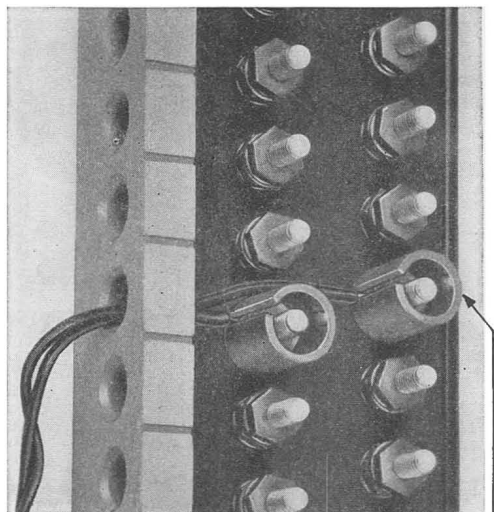


FIG. 13—USE OF NO. 1 BINDING POST INSULATORS

9.07 The No. 2 Binding Post Insulator (Black) is used on binding posts having 7/16-inch nuts or on ends of 7A fuses as shown in Fig. 14.

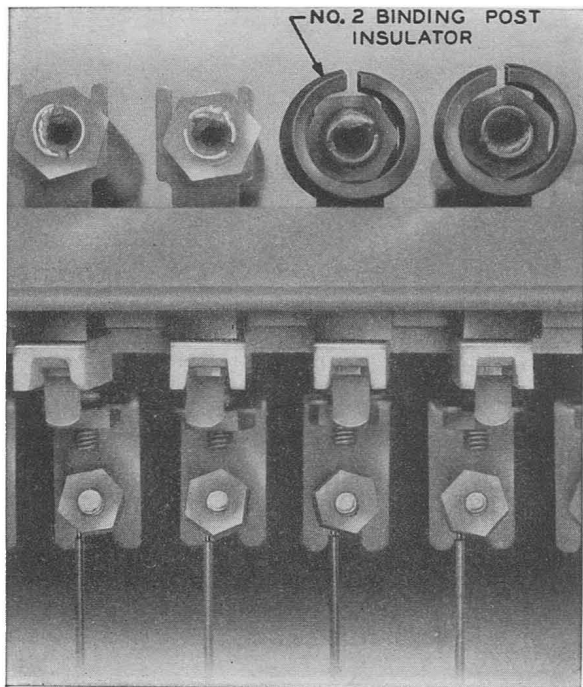


FIG. 14—USE OF NO. 2 BINDING POST INSULATORS

9.08 The No. 3 Binding Post Insulator (Brown) is used on binding posts of BD-type cable terminals (shown in Fig. 15).

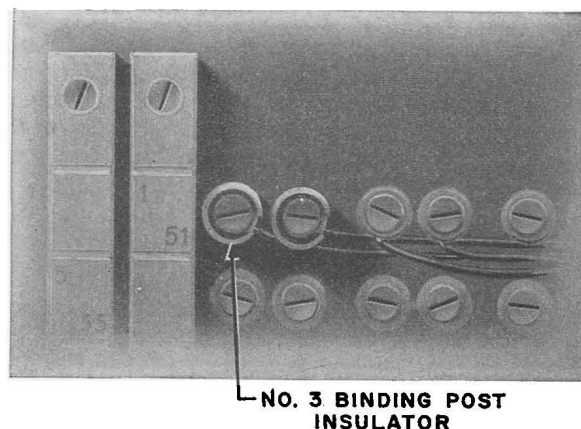


FIG. 15—USE OF NO. 3 BINDING POST INSULATORS

10.00 STRAPPING TERMINAL BINDING POSTS

10.01 The S- and L-type bonding ribbon may be used to strap binding posts (shown in Figs. 16 and 17). The newer S-type bonding ribbon permits the disconnection of any conductor in a bonded group of conductors by backing off the binding post nut to which the conductor is connected.

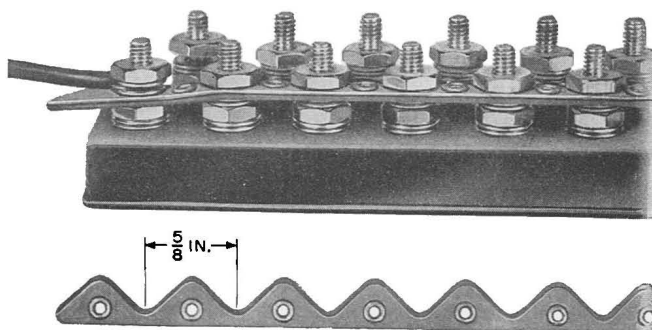


FIG. 16—S-TYPE BONDING RIBBON

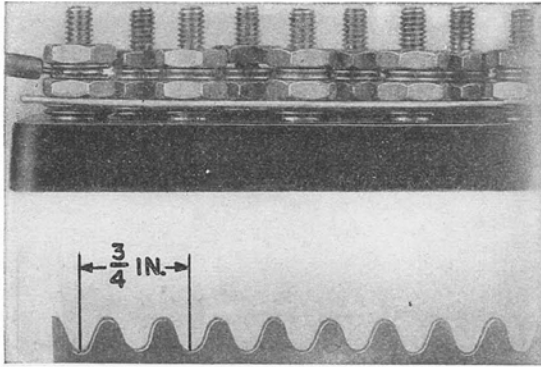


FIG. 17—L-TYPE BONDING RIBBON

10.02 Wire may be used to strap binding posts, as shown in Fig. 18. The same type of wire used in the wiring of the terminal is suitable for strapping binding posts. Insulation should be entirely removed from the wire when strapping consecutive binding posts. When nonconsecutive binding posts are strapped, the insulation should be removed from the strapping wire only at the binding posts, and the wire should be run through holes in the fanning strip (if provided) or through holes in the side of the inside wiring terminal which serve as a fanning strip.

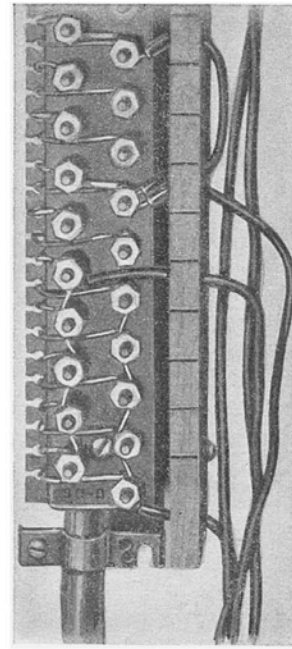


FIG. 18—USE OF WIRE IN STRAPPING BINDING POSTS