

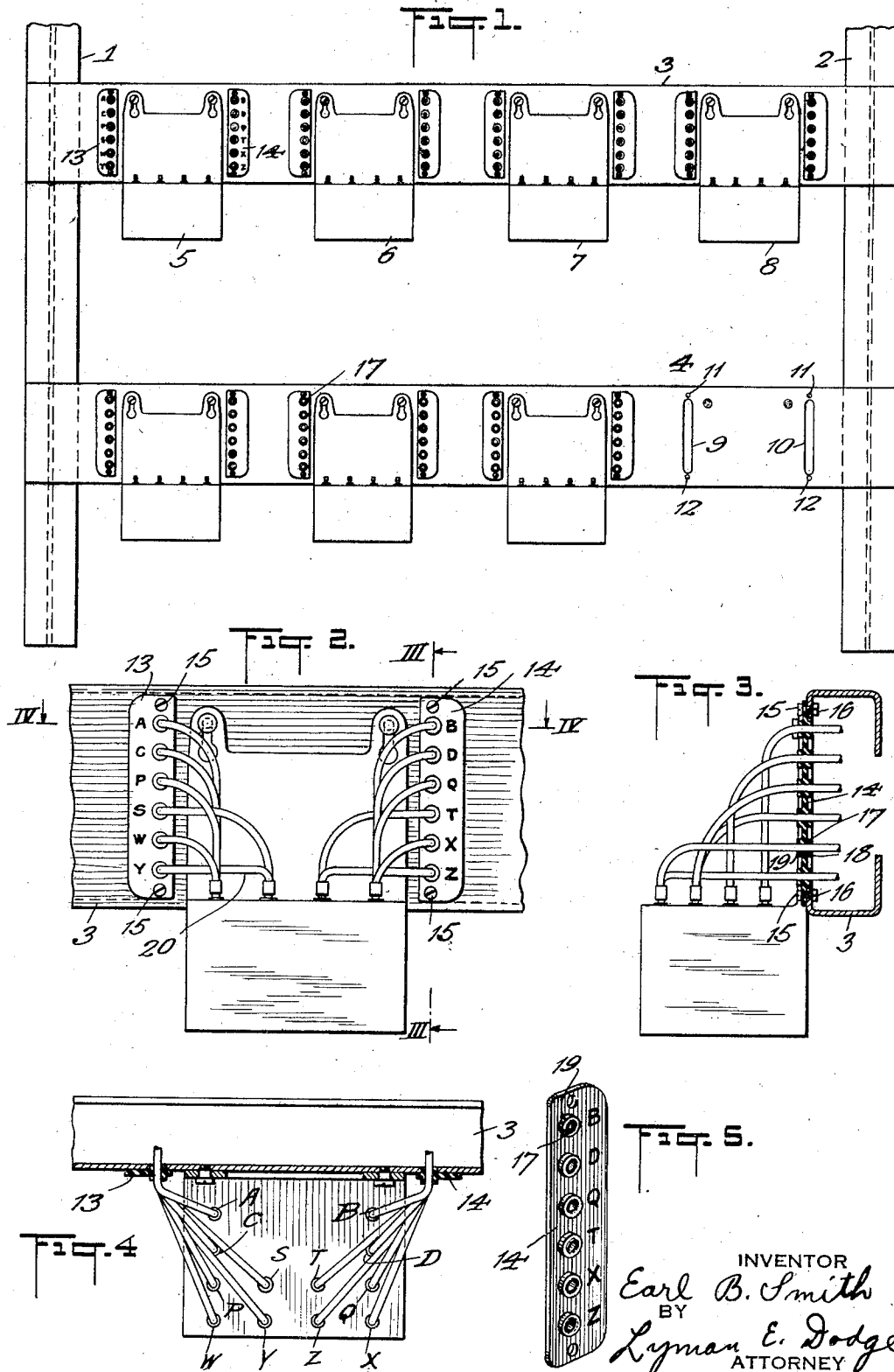
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E. B. SMITH

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WIRING

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WIRING

Earl B. Smith, Bronx, N. Y., assignor to Railroad
Accessories Corporation, New York, N. Y., a
Corporation of New York

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1 Claim. (Cl. 175—298)

This invention relates to wiring devices.

The wiring for many electrical apparatus installations is completed before the apparatus is put in place, and frequently after the installation is completed, in order to make tests or repairs, it is necessary to remove more or less of the electrical apparatus. For these reasons, it is convenient and desirable to have the wiring so arranged that the connection or reconnection of the electrical apparatus may be correctly and expeditiously accomplished, even by one not entirely or at all familiar with the functional relationship of the various wires. This is particularly desirable in connection with electrical apparatus used for railway signalling because mistakes in making electrical connections between wires and apparatus might well result in creating a dangerous signal condition.

Railway signalling, like the majority of other arts, is constantly advancing. Some years ago wooden frames were considered entirely satisfactory for the support of such devices as relays. At the present time, the best approved construction of relay support frames in signalling towers requires metal structural members. This in turn requires a satisfactory insulating means for supporting the wires on the steel frame work, a problem which was not of such moment when wooden frames were used.

A principal object of this invention is the production of a simple inexpensive, easy to assemble and maintain metal structure provided with a simple inexpensive wire support, insulator, spacer and identifier.

Further objects of the invention will appear as the particular physical embodiment selected to illustrate the invention progresses and the novel features of the invention will be particularly pointed out in the appended claim.

In describing the invention in detail and the particular physical embodiment selected to illustrate the invention, reference will be had to the accompanying drawing and the several views thereon in which similar characters of reference designate similar parts throughout the several views, and in which:

Figure 1 is a front elevational view of a fragment of relay support showing the improved wire support, insulator, spacer, and identifier in place thereon; Fig. 2, is an enlarged front elevational view of one relay, the wires connected thereto, and the wire supports on each side thereof, together with a supporting member; Fig. 3, is a cross-sectional view of the device as shown by Fig. 2 on the plane indicated by the line

III—III, viewed in the direction of the arrows at the ends of the line; Fig. 4, is a sectional view of the device as shown by Fig. 2 on the plane indicated by the line IV—IV, viewed in the direction of the arrows at the ends of the line; Fig. 5 is a perspective view of a wiring support.

In Fig. 1, numerals 1 and 2 designate two upright iron or steel members, preferably of T-section. Suitably connected between the standards 1 and 2 at suitable intervals are the cross bars as 3 and 4. The preferred section of these bars is a channel with bent over flanges, as shown in Fig. 3.

Supported at suitable intervals on the cross channels, as 3, are relays 5, 6, 7, and 8. On each side of a relay the channel is formed with elongated slots as 9 and 10, and with wiring support attaching orifices 11 and 12, one at each end of each slot.

On each side of each relay, wiring supports, designated generally by 13 and 14, are positioned. The wiring supports are substantially elongated, narrow, thin, insulating, material such preferably as a phenolic condensation product. They are each provided with orifices at each extreme end through which bolts, as 15, pass for attaching them to the channel cross bars. The bolts as 15 pass through the orifices, as 11, and are provided with nuts, as 16, as shown in Fig. 3.

The wiring supports as 13 are each provided with a plurality of orifices as 17 and each orifice has associated with it an annular wall forming a prolongation of the orifice, situated on each side of the body of the wiring device. These annular walls are designated 18 and 19 in Fig. 3.

Although there is apparently a right hand and a left hand wiring device, if Fig. 2 is viewed, nevertheless, the wiring device is made in only one form, that is, wiring device 13 shows the reverse side of wiring device 14, that is, a wiring device may be turned so that the letters A, C, P, S, W, and Y are presented to view as shown at the left hand side of Fig. 2 or it may be reversed, as shown at 14 in Fig. 2 on the right hand side, so as to expose the letters B, D, Q, T, X, and Z.

The wiring supports as 13 are formed with a number of orifices corresponding to the number of wires which are to be supported. In the case taken for illustration, the relay, as 5, has wires connected thereto so that each wiring device is provided with six orifices, as 17, and one wiring support is positioned on each side of the relay. When the wiring is being done, the wire which functionally should be connected to the binding post A of the relay, as shown in Fig. 4, is brought

by the wireman through the orifice A as shown in Fig. 2; the wire which functionally should be connected to binding post C of the relay, as shown in Fig. 4 is brought through orifice designated 5 C in Fig. 2; and the remaining wires are in a corresponding way positioned in the several orifices of the wire support. The wireman by thus positioning the wires arranges them so that another person may later install a relay and then 10 properly connect that relay with the wires. It will merely be necessary to connect the wires in accordance with the prearranged system. On the other hand a relay may at any time be removed by disconnecting the wires and may again 15 be replaced with the certainty that it may be reconnected conveniently and correctly.

The wiring member 13 not only serves to support the various wires, as 20, but also insulates those wires from the metallic member 3 and so 20 from the ground. It also acts to space the wires properly, and to identify the wires insofar as their proper connection with a relay is concerned.

The use of a steel frame work as 1, 2, 3, and 4 25 for supporting electrical apparatus provides a neat, convenient, fire proof, and practically indestructible supporting structure. The use of the wiring supports in connection with these structures affords a simple, inexpensive, convenient, and easily installed method by which a wire- 30 man may leave the wiring in such condition that the functional relation of the wires is indicated and provides in addition to the support and

identifying feature the virtue of being satisfactory and a means for insulating the wires from the metallic frame.

It is to be understood that my invention has been illustrated and described in connection with 80 relays, merely because they are a convenient electrical appliance by which to indicate the nature of my invention, but by such showing I do not intend to exclude the use of my invention with other electrical appliances. 85

Although I have particularly described one particular physical embodiment of my invention and explained the principle, construction, and mode of operation thereof, nevertheless, I desire to have it understood that the form selected is merely illustrative but does not exhaust the possible physical embodiments of the idea of means 90 underlying my invention. 95

What I claim as new and desire to secure by Letters Patent of the United States, is:

In a relay support and wiring device, in combination: spaced metallic supporting standards, metallic cross bars at intervals thereon, each cross bar being formed with pairs of spaced slots and means for supporting a relay between 100 each pair of slots; wiring devices over each slot; relays provided with binding posts supported by the cross bars between each pair of slots; the wiring devices being provided with wire orifices and annular walls forming continuations of the 105 orifices.

EARL B. SMITH.

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