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TERMINAL MOUNTING MEANS FOR ELECTRICAL CONDUCTORS

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FIG. 1.

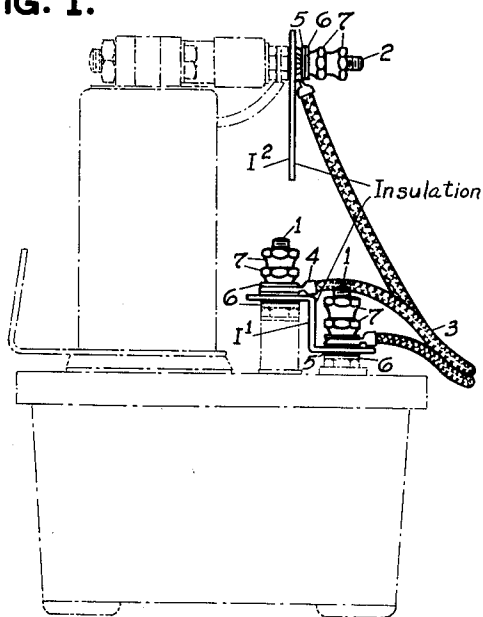


FIG. 2.

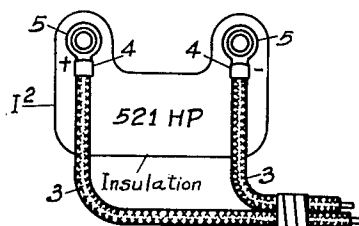


FIG. 4.

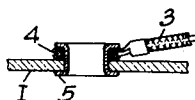
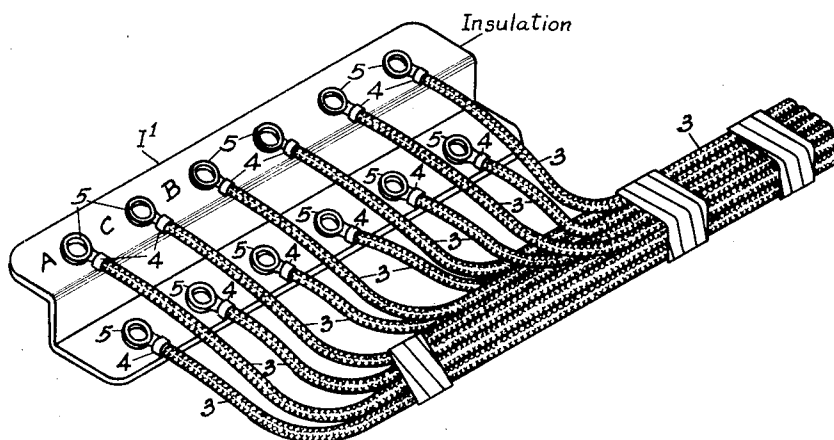


FIG. 3.



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TERMINAL MOUNTING MEANS FOR ELECTRICAL CONDUCTORS

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2 Claims. (Cl. 173—324)

This invention relates to a wire terminal mounting means for relay binding posts and more particularly to a means for grouping the external connection terminals for a relay so as to permit their manipulation in unison.

Relays, used in railway signalling systems and particularly in centralized traffic control systems, are a part of a rather complicated circuit arrangement, thereby making their removal for testing, repair or renewal a difficult task, inasmuch as it is absolutely necessary to return each external connection to its proper relay binding post.

In view of this fact, it is proposed in accordance with this invention to provide a means for assembling the external wire connections in unit groups for conveniently removing these connections from the relay binding posts without deranging their relative positions.

Other objects, purposes and characteristic features of the invention will appear as the description thereof progresses, during which references will be made to the accompanying drawing, which shows the invention in a manner to make it easily understood, rather than with the view of showing the particular construction preferably employed in practice, and in which:—

Fig. 1 shows a side view of the invention applied to a relay (indicated by dot and dash lines).

Fig. 2 shows a front view of a form included in the invention.

Fig. 3 shows a perspective view of a form of the invention.

Fig. 4 shows a detail sectional view of one form of terminal mounting.

The application of the invention illustrated in the drawing comprises a method of terminating the external wire connections of certain relay binding posts which are so associated that their external connections can be grouped and handled in unison. The relay, illustrated by dotted and dashed lines in Fig. 1, has its contact binding posts 1 symmetrically grouped in two rows with the back row raised above the level of the first row and the binding posts 2 of the operating coils are placed above the contact binding posts, as shown, and in horizontally spaced relationship.

The external connections of such relays are usually made of insulated stranded wire and terminated by a round copper eyelet which is crimped and soldered to the strands. Before connecting these eyelet terminals to their respective terminal binding posts, they are secured to an insulating holding member in the manner illustrated in Fig. 4.

An insulated stranded wire 3 is terminated by an eyelet 4, as previously described, and is secured to an insulating holding member I by a second eyelet 5. The holding member I is made of suitable insulating material, such as fibre, which is adapted to be shaped to meet the particular requirements. The eyelet 5 has a cylindrical portion which is adapted to pass through a hole in the holding member I and bush the wire eyelet 4 so that its extreme flared end rests against the lower side of the holding member I. The other extreme end of the cylindrical portion of the eyelet 5 is flared and crimped over the top of the eyelet 4 to securely hold both eyelets on the holding member I.

The inside diameter of the eyelet 5 is suitably selected so that, when assembled, the unit fits easily on the body of its particular binding post where it is securely held and locked between two washers 6 by nuts 7. The clamping force exerted in this way more securely engages the eyelet 5 with the wire eyelet 4 thus insuring a low resistance connection between the two eyelets and between the eyelets and the binding post.

The terminal mounting arrangement shown in Fig. 3 is made up ready to be connected to the relay contact binding posts 1. The holes in the fibre holding member I¹ are properly located so that the complete member can be easily placed over all the contact binding posts 1. Suitable references, such as the letters "A", "C", etc., as shown, may be placed on the holding members near these holes to correspond to the references on the relay thus making it convenient to properly locate the external connections to insure that correct connections are made when the unit is installed on the relay. The external wire connections 3 are usually grouped into a cable, as illustrated, and bound by ties or tape, which is self-supporting and prevents any turning of the wire eyelets 4 on the fibre member I¹.

Another arrangement of terminal mounting is shown in Fig. 2, which shows the external connections for the operating coils of the relay shown in Fig. 1 secured to a fibre member I² in the manner previously described and as illustrated in Fig. 4. References, such as "+" and "-" as shown, may also be placed on the fibre member I² near the terminal eyelets to designate the particular binding posts 2 upon which the connections are placed when the unit is assembled on the relay. The lower downwardly extending portion of the fibre member I² is included to carry the number assigned to the particular relay upon which it is placed, such as "521 HP", as shown.

It is probable that, in many relay installations, a connection will not be made to every binding post, but this will not necessitate that a different form of holding member I be constructed, as one standard form containing the complete number of holes can be employed and eyelets omitted where connections are not to be made. It may also be advantageous to construct the holding member I of material which is slightly flexible in order to tighten on binding posts which may differ slightly in height.

A different form of mounting the wire terminals on the holding member I may also be used, such as a single one-piece eyelet consisting of a cylinder having a central annular outwardly projecting shoulder which permits crimping one end of the cylinder around the wire connection to clamp it between this end and the shoulder, and crimping the other end around the hole of, and against, the fibre holding member I.

From the accompanying drawing and the foregoing description, it can be seen that a means for mounting wire terminals on an insulating member has been provided which enables these wire terminals to be handled as a unit and installed or removed on an associated group of binding posts without disturbing their relative positions. These units are also so arranged that only one way of applying them is possible and in the case of a unit having all the terminals in one plane the possibility of its being connected in a reversed position is obviated by the reference letters on the insulating holding member.

The above description of the forms of the present invention is given solely by the way of example, and is not intended, in any manner, in a limiting sense. It is also to be understood that various modifications, adaptations and alterations may be applied to meet the requirements of practice, without in any manner departing from the spirit or scope of the present invention, except as limited by the appended claims.

Having thus described my invention, what I claim is:—

1. Means for co-ordinating the current conducting wires leading to a relay having two associated rows of binding posts located on different planes comprising, a slightly flexible insulating sheet bent in step-like fashion to be disposed in two substantially parallel planes and provided with two rows of holes one row in each plane of said sheet, a metal eyelet in each of said holes, and a wire connected to each of said eyelets.

2. Means for co-ordinating the current conducting wires leading to a relay having two associated rows of binding posts located on different planes comprising, a slightly flexible insulating sheet bent in step-like fashion to be disposed in two substantially parallel planes and provided with two substantially parallel rows of holes one row in each plane of said sheet, a metal eyelet in each of said holes, and a wire connected to each of said eyelets.

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