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K. J. CHICHESTER

2,391,391

TERMINAL ELEMENT

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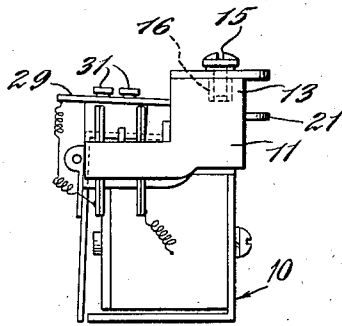


Fig. 1.

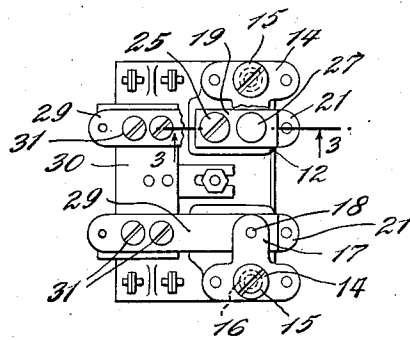


Fig. 2.

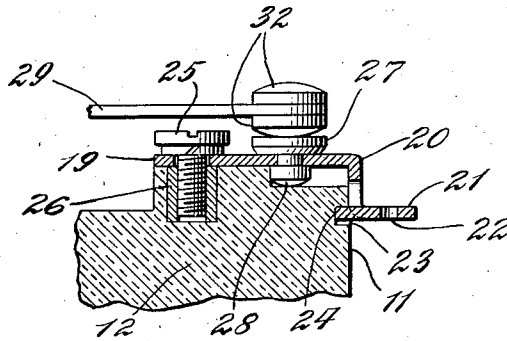


Fig. 3.

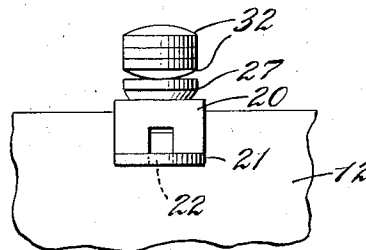


Fig. 4.

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TERMINAL ELEMENT

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Application February 25, 1944, Serial No. 523,805

2 Claims. (Cl. 200—166)

This invention relates to terminal elements and more especially to a combined contact and terminal element suitable for use in a relay of the structure illustrated in the application of Joseph F. Ebert, Serial No. 458,173, filed September 12, 1942.

In this type of relay, a stationary contact is carried by a terminal member and a movable contact cooperates with the stationary contact for controlling a circuit. It is important that the stationary contact remain in fixed position after adjustment of the relay in order that there will be no variation effected in the gap between the two contacts which would impair the operation of the relay. However, where the stationary contact is carried by a terminal member having a projecting portion for connection to a conductor, there is always a possibility of the projection being struck a blow which might distort the terminal element and thus change the position of the stationary contact.

An object of this invention is a combination terminal member and contact attachable to a relay structure with a single screw and having provision for effectively preventing displacement of the contact after adjustment of the gap between the contacts.

A terminal member embodying the invention comprises a metal plate having an aperture for receiving a bolt to attach the terminal element to the relay frame and also having a struck-out portion projecting into a recess in the relay frame. The terminal member is provided with a contact and also has a projecting portion having provision for attaching a conductor thereto. The engagement of the struck-out portion with the wall of the recess effectively prevents displacement of any portion of the terminal member relative to the relay frame thereby effectively avoiding change of position of the contact member to vary the gap between it and the movable contact.

Other objects, novel features and advantages of this invention will become apparent from the following specification and accompanying drawing, wherein:

Fig. 1 is a side elevation of a relay equipped with a terminal member embodying the invention;

Fig. 2 is a plan view of Fig. 1;

Fig. 3 is an enlarged fragmentary section on the line 3—3 of Fig. 2, and

Fig. 4 is a fragmentary elevation of Fig. 3.

The relay 10 illustrated in the drawing is of the same structure as the relay illustrated in the aforementioned Ebert application except with

respect to the terminal members for the bottom pair of stationary contacts. An insulating plate 11 has formed on its upper surface a pair of raised portions 12 providing a recess therebetween. A pair of raised end portions 13 are located above and laterally of the portions 12. Terminal plates 14 are held by screws 15 passing through central openings and into metal inserts 16 in the portions 13. Inwardly extending projections 17 have contact buttons 18 on the lower faces of the projections.

Terminal members 19 are attached to the raised portions 12. Each member 19 consists of a plate resting on the top surface of the portion 12 and having a portion 20 bent at right angles to the remainder and engaging the front wall of the portion 12. The section 20 terminates in a section 21 extending outwardly from the front face of the portion 12 and having an aperture 22 to receive a conductor. Each terminal member, therefore, consists of two parallel end sections 19 and 21 with an intermediate inturned section 20 at right angles to each end section. In the plate 11 is provided a recess or notch 23 in which is received a tab 24 struck out from the terminal member 19. A headed bolt 25 extends through an aperture in the terminal member 19 into a threaded metal insert 26 in the portion 12 to attach the terminal member thereto. A contact 27 is carried by the terminal member 19 and has a portion 28 extending into a recess in the top surface of the portion 22.

A contact arm 29 is fixed at one end to the armature 30 of the relay by bolts 31 and projects between the contacts 18 and 27. The free end of the contact arm carries contacts 32 for engagement with the contacts 18 and 27 depending upon the position of the relay armature 30.

The terminal member 19 is of simple and inexpensive construction and may be quickly and easily assembled with the portion 12. After being placed in the portion 12, it is permanently attached thereto by insertion of the bolt 25. The tab 24 by reason of its engagement with the top wall of the recess 23 effectively prevents upward distortion of the terminal member by reason of the force applied to the portion 21 of the terminal member. Change of position of the contact 27 after assembly of the terminal member with the portion 12 is thus prevented.

I claim:

1. In a relay having an insulating material portion, a terminal element comprising two parallel end sections with an intermediate section at right angles to each end section and one end section

having an aperture, a bolt passing through said aperture for attaching said element to said portion, a tab extending from said intermediate section in alinement with the remaining end section, and a recess in said portion receiving said tab.

2. In a relay having an insulating material portion, a terminal element comprising two parallel end sections with an intermediate section at

right angles to each end section and one end section having an aperture, a bolt passing through said aperture for attaching said element to said portion, a contact carried by said end section, a tab extending from said intermediate section in alinement with the remaining end section, and a recess in said portion receiving said tab.

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