Aug. 18, 1931. A. J. SORENSEN 1,819,271

ELECTRICAL RELAY

Filed May 9, 1930

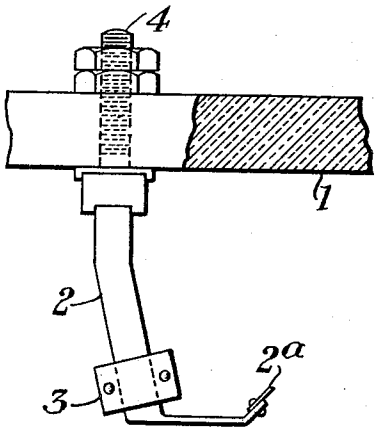


Fig. 1.

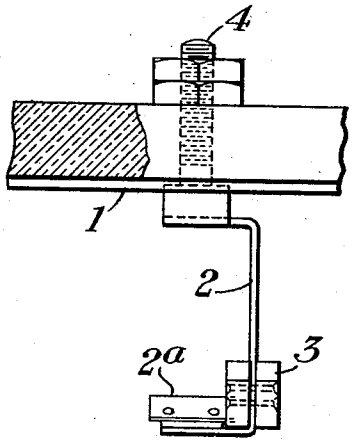


Fig. 2.

INVENTOR

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UNITED STATES PATENT OFFICE

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ELECTRICAL RELAY

Application filed May 9, 1930. Serial No. 451,028.

My invention relates to electrical relays, and has for an object the provision of means for preventing the condensation of moisture on a relay contact during a change in the ambient temperature.

I will describe one form of relay embodying my invention, and will then point out the novel features thereof in claim.

In the accompanying drawings, Fig. 1 is a view showing in side elevation, a portion of a relay embodying my invention. Fig. 2 is an end view of the parts shown in Fig. 1.

Similar reference characters refer to similar parts in each of the views.

Referring to the drawings, the reference character 1 designates the top plate of an electrical relay of the type commonly used in railway signaling. Passing through the plate 1 is a terminal post 4, which carries a fixed contact member 2 the free end of which is provided with a contact tip 2^a for coaction with the movable member of the contact. The movable member and the other parts of the relay are not shown in the drawings, because they form no part of my present invention. It is sufficient to say that in accordance with standard practice, the contact member 2 is located in an enclosure of which the plate 1 forms the top. As here shown, the contact member 2 is in the form of a strip of metal, although this specific type of contact member is not essential to my invention.

Attached to the member 2 is a mass of metal 3, the purpose of which is to cause the temperature of the member 2 to lag behind that of other parts of the relay during a drop in the ambient temperature. When the ambient temperature drops, heat will tend to escape from the contact member 2 through the terminal post 4 and the usual wires attached to this post. The rapidity with which the temperature of the contact member will decrease under this condition, will depend, among other things, upon how much heat has to be conducted out by the terminal post. For a given temperature difference between the inside and the outside of the relay, the temperature of the contact member 2 when equipped with the metallic mass 3 will decrease more slowly than without this mass, so that the contact member will be kept at a substantially higher temperature than other parts of the relay, such for example, as the top plate 1. It follows that any moisture in the relay will tend to be precipitated on such other parts rather than on the contact member 2 and its contact tip 2^a. Consequently, when the temperature drops below the freezing point, there will be less danger of the contact freezing in its closed position when the member is equipped with the metallic mass 3 than when it is not equipped with such mass.

Since the path through which the heat must escape should be made as long as possible, the metallic mass 3 should be placed as close as possible to the contact tip 2^a.

Although I have herein shown and described only one form of relay contact embodying my invention, it is understood that various changes and modifications may be made therein within the scope of the appended claim without departing from the spirit and scope of my invention.

Having thus described my invention, what I claim is:

In an electrical relay, a metallic contact member, and a mass of metal attached to said member to cause the temperature of the member to lag behind that of other parts of the relay during a drop in the ambient temperature.

In testimony whereof I affix my signature.

ANDREW J. SORENSEN.