Jan. 4, 1949. H. SZABO 2,457,941

THERMOCONTACT

Filed Feb. 21, 1946

Fig.1

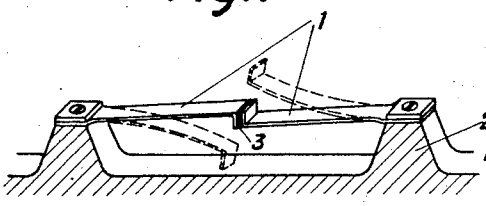


Fig.5

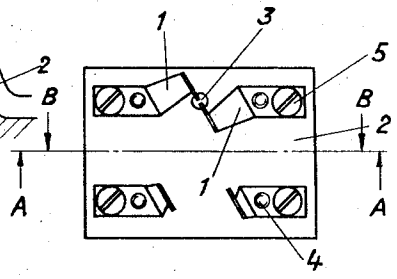


Fig.2

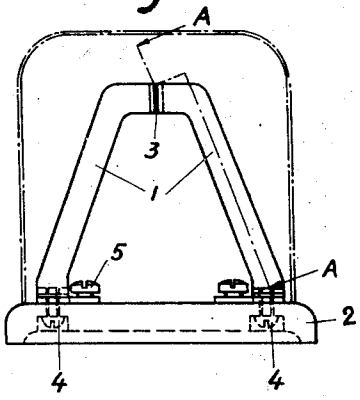


Fig.6

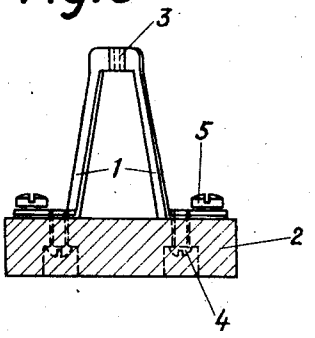


Fig.3

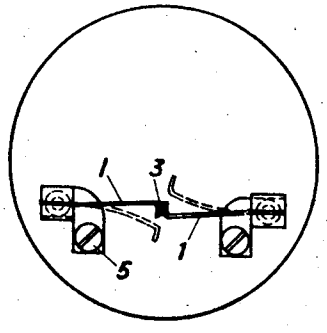


Fig.4

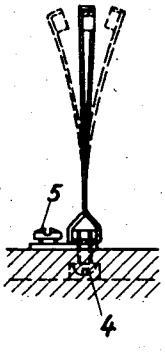
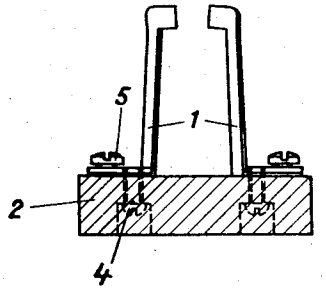


Fig.7



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UNITED STATES PATENT OFFICE

2,457,941

THERMOCONTACT

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1 Claim. (Cl. 200—142)

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The invention relates to thermocontacts intended especially for fire alarm installations and has for a purpose to provide a thermocontact comprising a few simple parts and in which the possibilities of faulty alarms are very small. According to the invention two bimetal strips are entirely arranged on both sides of a plane running substantially perpendicularly to the plane of the springs through the soldering point. Said bimetal strips, being sensitive to the action of heat, are in their one end fastened to a base or the like and in their other end soldered together by means of an easily fusible alloy of metals.

The device according to the invention is very simple. As the spring power of the bimetal strips arises at the heating, the risk of obtaining an insufficient spring power, for instance on account of the aging of the springs, is eliminated, simultaneously as, through the mentioned location of the strips, alarm surely is obtained, irrespective of in which direction the strips will flex. During mounting it is namely not possible surely to see in which direction the springs will flex and if the springs are placed in hitherto known ways the risk exists that the springs, due to defects in manufacture or mounting, upon heating will flex in such a way that they lock at each other instead of being separated, in which case alarm would not be released.

The invention will be described more closely with reference to the annexed drawing showing three embodiments. Fig. 1 shows perspectively a thermocontact in which the plane of the springs is parallel with the base. Figs. 2–4 show a contact in which the spring plane is chiefly perpendicular to the base, Fig. 2 thereby being a side view and Fig. 3 a top plan view. Fig. 4 is a section along the line A—A in Fig. 2. Figs. 5–7 show a further modification, Fig. 5 thereby being a top plan view of a base provided with two pairs of springs. Fig. 6 is a section along the line A—A in Fig. 5, Fig. 7 a section along B—B in Fig. 5.

The contact springs 1, which consist of bimetal, are fastened to the base 2 and soldered together with one another by means of an easily fusible alloy of metals. In the embodiment shown in Figs. 2–4, in which the plane of the springs is perpendicular to the plane of the base, 4 indicates the binding screws, by means of which the bent ends of the springs are fastened to the base 2. 5 indicates connecting screws. As appears from Figs. 1 and 3 the springs are lying chiefly in the same plane. The bimetal springs are suitably so mounted that they at a normal temperature have a low tension striving to separate them

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at the soldering point. On increasing the temperature this tension is increased, so that, on melting of the soldering metal, the springs are separated effectively.

In the embodiments according to Figs. 1–4 the bimetal springs are bent perpendicularly in the ends soldered together with each other. This is not necessary but the springs may be soldered together without at first being bent, the strips thereby lying in one and the same plane in the soldering point and the movement of the strips on heating occurring in a direction perpendicular to this plane. The position to be occupied by the springs, when the soldering metal is melted, is on the drawing indicated by dotted lines. As is shown the springs are so mounted that they upon heating will flex in opposite directions. If the springs have been mismounted so that they flex in the same direction they will in spite of this be separated from each other so that an interruption surely is obtained. Figs. 5–6 show a further embodiment in which those parts of the springs projecting from the base are arranged in separate planes, which planes, when the springs are soldered together, form an angle with each other. Fig. 5 shows a base with two pairs of springs, of which one pair is shown in a soldered condition and the other after melting of the soldering mass. The springs which are hook-shaped consisting of a long portion projecting from the base and a short portion projecting at an angle from said first mentioned portion (see Fig. 7) are soldered together at their upper edges, which are running chiefly perpendicularly to the base and the upper shorter parts of the springs lie in one and the same plane (Fig. 5).

The invention is of course not limited to the embodiments now shown but may be modified in many ways within the scope of the invention.

I claim:

Thermocontact preferably for fire alarm installations comprising two bimetal strips, the inner ends of which are adapted to be fastened to a base or the like, each strip consisting of a long portion projecting from the base and a short portion projecting at an angle from said first mentioned portion, means in the form of an easily fusible metal alloy for soldering the outer ends of the short portions of the strips together, one of the strips, in its whole extent, being arranged on one side of a plane running between the ends which are soldered together and the other strip, in its whole extent, being arranged on the other side of said plane, and said long portions lying in different planes forming an angle with each other

and running substantially perpendicular to said first mentioned plane.

HENRIK SZABÓ.

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