June 13, 1939. E. CHALLET 2,161,781

ELECTRIC HEATING PLATE

Filed Oct. 28, 1937

Fig. 1

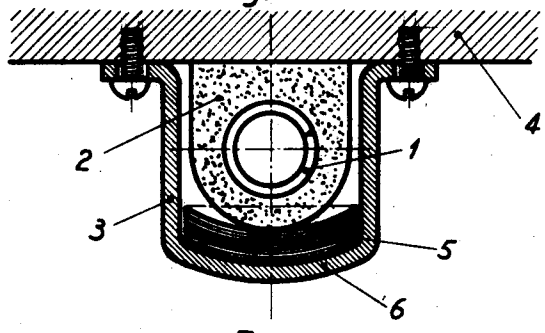


Fig. 2

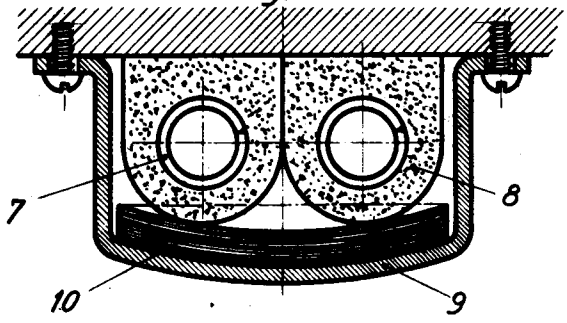


Fig. 3

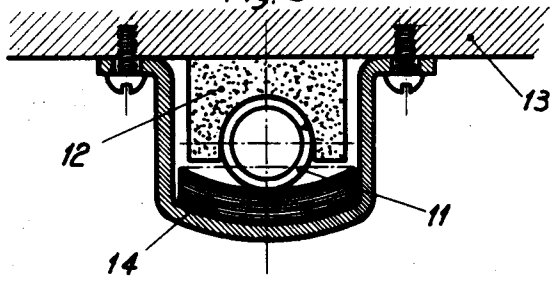
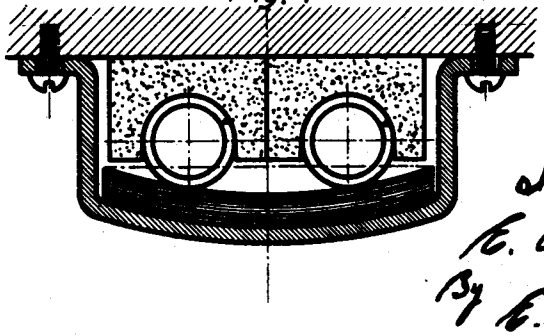


Fig. 4



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ELECTRIC HEATING PLATE

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4 Claims. (Cl. 219—37)

To assure a satisfactory contact of the insulating unit containing the heating element with the under-surface of an electric heating plate, it has already been proposed to utilize a pressing member composed of a series of mica leaves unconnected by binding material; but this material has a disadvantage, i. e. that its pressing capacity will decrease in course of time.

The object of the invention is an electric heating plate, in which the insulating unit containing the heating element is applied against the plate by means of a pad of mica leaves, this heating plate being characterized by the fact that the mica leaves forming the pad are maintained in a cambered position, tend to resume their level and accordingly act as a spring maintaining the insulating unit in contact with the plate.

The drawing (Figs. 1 to 4) illustrates in cross-sectional views four ways, as examples, in which the heating plate forming the object of the invention may be construed.

Fig. 1 is a cross-section of an embodiment construed the first way. It shows a heating coil contained in the closed insulator 2. Cap 3 is attached to plate 4 and maintains insulator 2 in contact with the said plate by means of pad 5 of narrow mica leaves, which is distorted from its flat position by being placed between insulator 2 and the curved cap 6. The leaves forming this pad, because they are not subject to permanent deformation, tend to reassume a flat position and to occupy the position indicated in mixed dotting. The pad thus acts as a spring and keeps insulator 2 in perfect contact with plate 4.

Fig. 2 is a cross-section of the second way in which the convolutions of the heating member are arranged in groups of two. In Fig. 2, we see a group of two convolutions 7 and 8 arranged in two insulating units. A concave cap 9 covers both convolutions of this group and cambers the leaves of pad 10 which is also applied to both convolutions.

Fig. 3 shows a third way, similar to that of Fig. 1, but with an open insulator from which the heating coil 11 protrudes, so that the said coil transmits, first to insulator 12, then to plate 13, the pressure resulting from the camber of pad 14 composed of mica leaves.

Finally, Fig. 4 shows a way similar to that of Fig. 3, in which the convolutions of the heating element are, however, arranged in groups of two, as indicated in the manner shown in Fig. 2.

It is possible to realize the invention with any number of convolutions as regards the heating unit. These convolutions are provided each with a pad of mica leaves, or are arranged in groups of two, with a pad for each group. Other modifications will readily occur to those skilled in the art. The scope of this invention, therefore, is to be limited by the claims only.

I claim:

1. An electric heating plate comprising a supporting plate, an insulating unit applied to said supporting plate, a heating element housed in the insulating unit, a pressing pad of a plurality of narrow mica leaves applied against the insulating unit, said mica leaves being in cambered position and thus tending to reassume a flat position and to act as a spring so as to hold the insulating unit against the supporting plate, and a concave cap covering said insulating unit and pressing pad.

2. An electric heating plate comprising a supporting plate, a plurality of insulating units applied to said supporting plate and arranged in groups of parallel rows, heating elements housed in said insulating units respectively, pressing pads of a plurality of narrow mica leaves, each of said pressing pads being applied against one group of insulating units, said mica leaves being in cambered position and thus tending to reassume a flat position and to act as a spring so as to hold said insulating units against the plate and concave caps, each of said caps covering one group of insulating units and one pressing pad.

3. An electric heating plate according to claim 2, wherein the heating element is housed in an open insulating unit, and wherein the mica leaves press directly against said heating element.

4. An electric heating plate according to claim 2, wherein the heating elements are housed in open insulating units, and wherein the mica leaves press directly against said heating elements.

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