April 21, 1936. E. BANDOLY 2,037,874

THERMOMETER

Filed June 13, 1935

Fig. 1

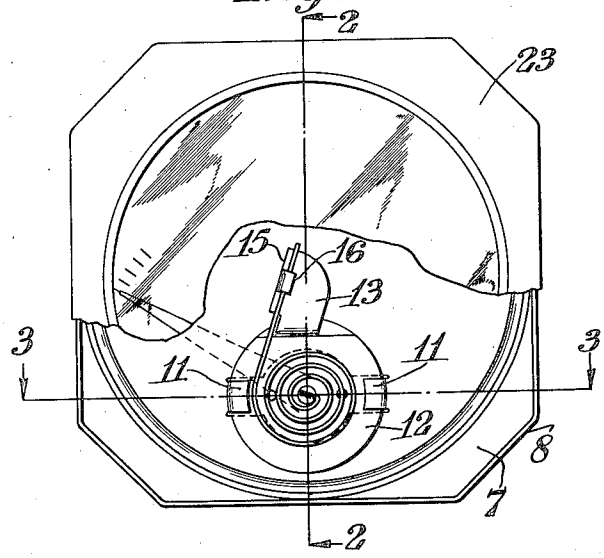


Fig. 2

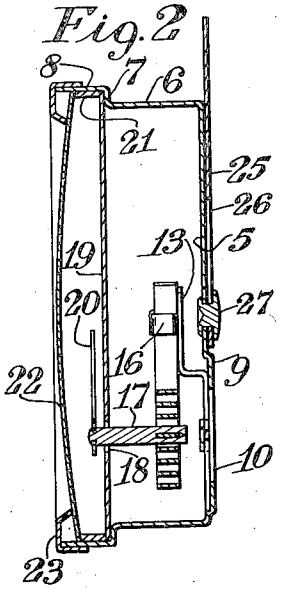


Fig. 3

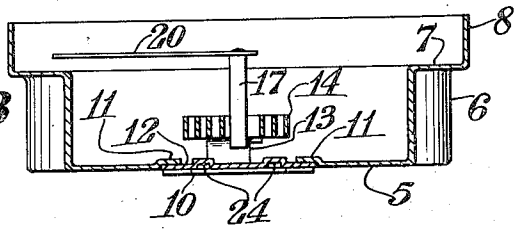


Fig. 8

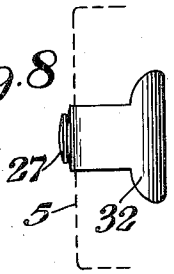


Fig. 5

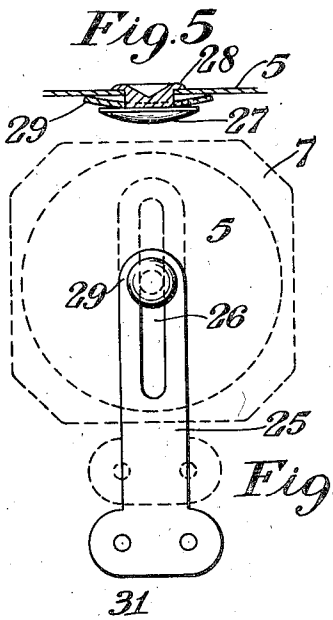
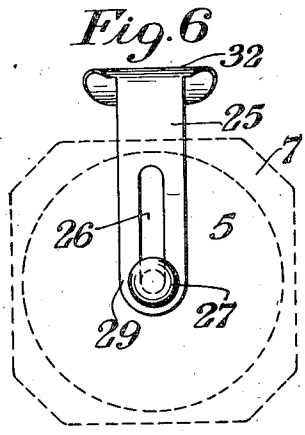


Fig. 4

Fig. 6



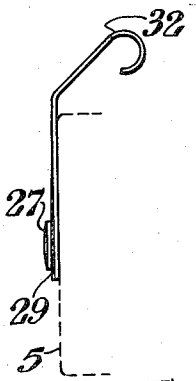


Fig. 7

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THERMOMETER

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Application June 13, 1935, Serial No. 26,319

3 Claims. (Cl. 73—118)

This invention relates to thermometers and more particularly to thermometers employing bimetallic thermosensitive elements.

The present invention has for its purpose the production of a thermometer of the above-mentioned type which is simple in construction and which can be assembled and calibrated at low cost while still providing an instrument that is reliable in operation.

The various features and advantages of the present invention will appear from the detailed description and claims when taken with the drawing in which Fig. 1 is a front view of the present thermometer with a portion of the bezel, crystal, dial and index broken away; Fig. 2 is a section through the thermometer of Fig. 1 taken substantially on the line 2—2 of that figure; Fig. 3 is a cross-section taken on the line 3—3 of Fig. 1; Figs. 4 and 5 are detail views showing the method of attaching a supporting bracket to the thermometer; Figs. 6, 7 and 8 show different views of a slightly differently shaped bracket, attached to the thermometer, by which it can be hung from a rod.

Referring especially to Figs. 1, 2 and 3 of the drawing, 5 generally designates a case for the thermometer which case includes a flat circular back provided with an integral ring 6 extending at right angles thereto. This ring is provided with an integral dial support 7 of octagonal outline extending in a plane parallel to the back of the case 5 which support is formed with a right angular flange or rim 8. The case is preferably made from a single sheet stamping, although it can be made of die-cast or other molded material. The back of the case 5 is provided with an outwardly offset circular portion 9 with an opening 10 therein the offset portion having a pair of opposing ears 11 struck therefrom and extending toward said opening within the case. The offset portion is adapted to receive a disc 12 provided with an integral bracket 13 offset from the disc, on which bracket there is mounted a bimetallic coil spring 14. The specific mounting of the coil spring 14 includes a right angular arm 15 integral with the bracket, a portion 16 of this arm being doubled back on itself to retain the end of the spring 14 therebetween. The inner end of the coil spring is received in a kerf or slot in one end of an arbor 17 with the portions of the arbor at the slot pressed toward each other to grip the mentioned end of the coil spring. The free end of the arbor 17 extends through an opening 18 in a dial 19 which rests on the support 7 and which is provided with suitable graduations over which the index 20, carried by the free end of the arbor 17, swings. A ring 21 has one edge engaging the margin of the dial, while the other edge thereof supports a crystal 22 which is held against the ring by an octagonal bezel 23 frictionally engaging the rim 8 of the case.

In assembling the thermometer, the inner end of the bimetallic coil spring 14 is inserted in the slot in the arbor 17 and the material at this end of the arbor is forced together to grip the mentioned end of the spring. The outer end of the bimetallic spring is inserted between the arms 15 and 16 of the bracket 13, which parts are forced together to grip that end of the spring. The disc 12, integral with the bracket 13, is then inserted under the ears 11, with its rear surface in engagement with the inner surface of the offset portion 9 of the back. The ears 11 are thereupon forced toward the plane of the offset portion so that they frictionally engage this disc to retain it in the position to which it has been adjusted. The dial 19 is then placed on the support 7 of the case with the arbor 17 extending through the dial opening 18 and the index 20 is thereafter riveted on the free end of the arbor. The ring 21 is then placed on the dial plate in the position illustrated, after which the crystal 22 is positioned on this ring and the bezel 23 is forced over the rim 8 of the case.

For convenience in calibrating the thermometer, the disc 12 is provided with a pair of spaced recesses 24 accessible through the opening 10 in the case, which recesses are engageable by a spanner wrench so that the disc and the parts carried thereby, including the index 20, can be rotated to move the index into desired relation to the graduations on the dial.

In a thermometer of this type it is desirable that it be provided with an inexpensive supporting bracket 25 mounted on the back of the thermometer, as shown especially in Figs. 2, 4, 5, 6, 7 and 8. This bracket is provided with a longitudinal slot 26 to receive the shank of a rivet 27 which after insertion through an opening on the back of the case is peened over against the inner surface of the back. It should be noted that the portion 29 of the bracket is made into concave form (Fig. 5) so that when the rivet is forced into this concave portion of the bracket the thermometer will be held frictionally against rotation on the bracket. The other end 30 of the bracket is provided with screw holes 31 by which it may be attached to a window frame or the like. The bracket shown in Figs. 6, 7 and 8 is the same as that illustrated in Figs. 2, 4 and 5, except that

it is provided at its free end with a hook 32 by which the thermometer may be supported from a rod or bar such as in a refrigerator or in an oven.

I claim:

1. In a thermometer, a case having a back, a bracket provided with a disc having one of its surfaces engaging a face of said back, ears struck up from said back to engage the other surface of said disc, a bimetallic element having one end attached to said bracket, an index carried by the other end of said element and a graduated scale carried by said case in operative relation to said index.

2. In a thermometer, a case having a back provided with an outwardly depressed circular portion, a bracket provided with a circular disc with one of its surfaces engaging the face of the depressed portion of the back, ears struck up from said back to engage the other side of said disc, a bimetallic element having one end attached to said bracket, an index carried by the other end of said element, and a dial mounted on said case in operative relation to said index.

3. In a thermometer, a case having a back provided with an outwardly depressed circular portion, said portion having an aperture therein, a bracket provided with a circular disc having one of its surfaces engaging the inner surface of the depressed portion of said back, ears struck up from said back to engage the other side of said disc, a bimetallic element having one end attached to said bracket, an index carried by the other end of said spring, a dial carried by said case in operative relation to said index, and means on said disc accessible through said aperture for effecting rotation of the disc and the parts carried thereby.

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