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L. F. CHANEY ET AL

2,144,103

THERMOMETER

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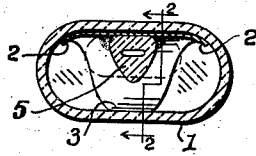


FIG. 3

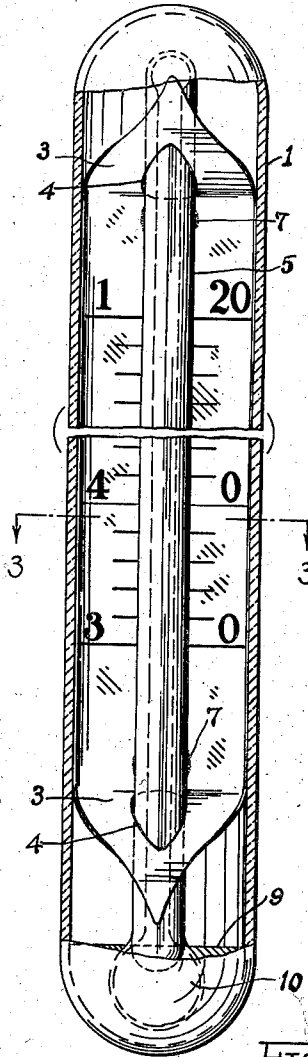


FIG. 1.

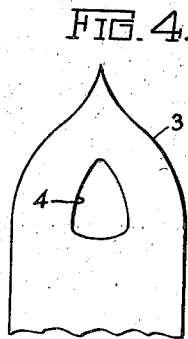


FIG. 4.

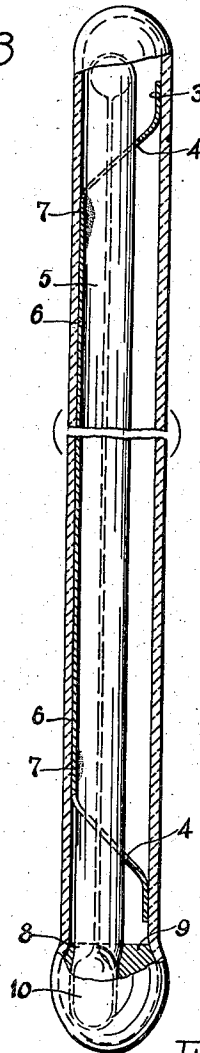


FIG. 2

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THERMOMETER

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Application June 14, 1937, Serial No. 148,061

1 Claim. (Cl. 73—374)

This invention relates to improvements in thermometers, embodying several major features, as will hereinafter appear. One object of the invention is to make the casings of greater width than depth from front to back, so as to form an extended area along the inside of the back of the casing against which to place a reflector, say of paper, Celluloid or thin metal, whereby to make the thermometer fluid, preferably a colored fluid, the more readily and attractively observable from the front of the thermometer.

Another object of this invention is to utilize this reflecting element as a fastening means to center and maintain in position within the casing the fluid tube, which we do by running the tube through the upper and lower portions of the reflector, whereby to position and hold the fluid tube.

The means of carrying out these objects will fully appear in the following specification and the accompanying drawing.

Figure 1 is a front view of the thermometer partially in vertical section to more clearly show the reflector and the manner in which the fluid tube is secured in its place in the casing.

Figure 2 is a vertical section on the line 2—2 of Figure 3.

Figure 3 is a transverse sectional view of the casing on the line 3—3 of Figure 1; this view showing also the mounting of the reflector within the casing.

Figure 4 is a view of the reflector showing the shape of the opening for the fluid tube to pass through.

In the drawing, the numeral 1 designates the casing generally, which is preferably made of glass. One of the novel features of the casing is its cross-sectional shape which has certain functions with respect to one of the interior features.

It will be noticed from Figure 1 that the casing has considerable width, while in Figure 2 it is seen to have relatively small depth front to back. In Figure 3 it will be noticed that the sectional shape of the casing is roughly in the nature somewhat of an ellipse—not a true but a similar outline to an ellipse. The purpose is to give extended lateral dimension so that the reflector 2 will have a relatively large area to make the reflection from it quite illuminating within the casing.

This is best seen in Figure 3. And as the reflector 2 follows the course of the interior shape of the casing, which causes the edges of the reflector to terminate in sharply turned portions which make a sort of shoulder, the reflector is thereby held against movement in the casing. And this re-

lector 2 has also a further important function, as will be understood by observing the upper and lower parts 3 of the reflector where it is provided with openings 4 of a shape to fit closely to the fluid tube 5 where the reflector crosses the tube and grips it as clearly seen particularly in Figure 3. This results in holding the fluid tube 5 centrally of the width of the casing while positioning and maintaining the tube near the back of the casing as indicated at 6, the reflector being between the tube and the back of the casing as clearly seen in Figures 2 and 3.

To further insure the reflector 2 fitting firmly against the tube 5 we may employ an adhesive 7 of any suitable kind. The fluid tube 5 terminates at its upper end a short distance above the openings 4 in the reflector, and at its lower end 8 is embedded in a body of wax 9, or other material of similar nature. If desired the tube may end in a small reservoir 10 to contain ample mercury or other thermometer fluid.

This fluid tube 5 is made of glass so that as the fluid rises and falls in elevation it may be seen to be registering at one or the other of the lines and figures of the scale. These lines and numerals are clearly shown in Figure 1. They are located on the reflector sheet.

The fluid tube has the usual opaque back to more clearly mark a contrast between the upper end of the fluid and the above portion of the tube.

The wax 9 referred to above is introduced as well as the fluid tube before the lower end of the casing is closed in the usual way.

It will now be seen that we have provided a thermometer with a reflector of the maximum size within any given dimensions of the casing; and that this reflector is also utilized to maintain the fluid tube in its desired position, as clearly shown in the drawing. The tube, in cross-section, is three sided as seen in Figure 3, which gives one broad side next to the fluid tube and against the reflector.

Figure 4 is a view of the face of the reflector at one end. The hole or opening 4 receives the tube 5 and the upper part of the reflector as shown at 3 in Figure 2 makes contact with the adjacent wall of the casing. This arrangement is simple and inexpensive yet effective in connecting the reflector with the tube.

It will be understood that the above-described structure is merely illustrative of the manner in which the principle of our invention may be utilized, and that we desire to comprehend within our invention such modifications as come within the scope of the claim and the invention.

Having thus fully described our invention, what we claim is new, and desire to secure by Letters Patent, is:

In a thermometer a casing having an extended lateral dimension, a reflector mounted against such area of the casing and having near its ends

oblique parts each divided with an opening, and a fluid tube held in proximity to the reflector and itself mounted in the openings of the reflector, whereby it is maintained in place.

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