

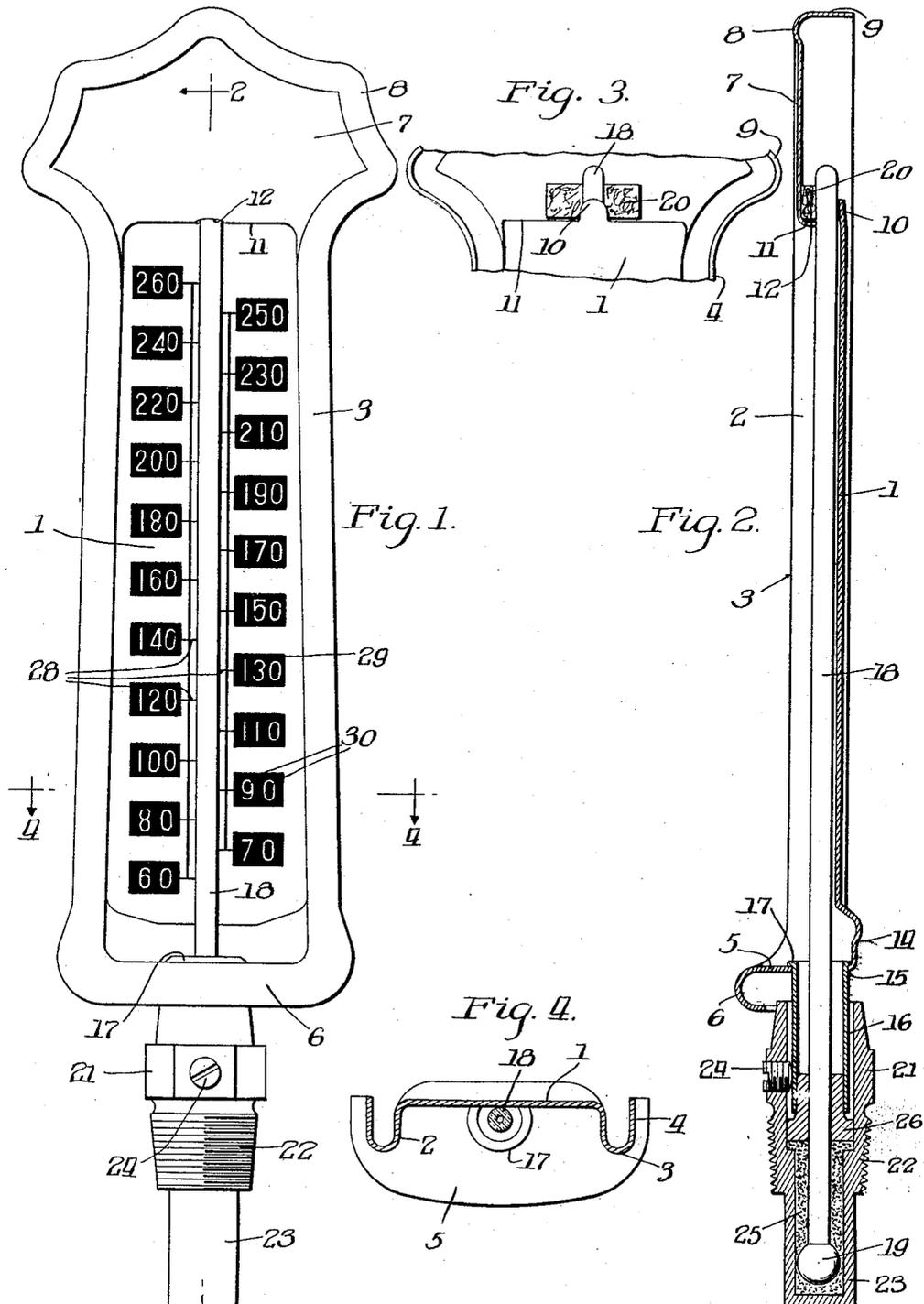
Sept. 6, 1932.

A. D. ROSE

1,875,889

THERMOMETER

Filed Sept. 28, 1928



Witness  
William P. Kilroy

Inventor  
Alexander D. Rose  
By Hill & Hill  
Att'y.

# UNITED STATES PATENT OFFICE

ALEXANDER D. ROSE, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO  
JAS. P. MARSH CORPORATION, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS

## THERMOMETER

Application filed September 28, 1928. Serial No. 309,099.

My invention belongs to that general class of devices known as thermometers and more particularly to an improved mounting for the well-known type of glass bulb thermometer tubes. The invention has among its objects the production of a device of the kind described that is simple, compact, attractive, inexpensive to manufacture and adapted for the easy mounting or assembly of the parts. More particularly the same has as an object the production of a tube mounting wherein the tube may be mounted and adjusted to provide proper calibration, and which tube may be replaced as required and the new tube adjusted without requiring the return of the entire instrument to the factory for re-calibration.

The invention has as a further object the production of an instrument of the kind described that may be easily and conveniently read at a distance and which will not be easily read incorrectly. The invention has as a further object the production of a mounting constructed of a single stamping or body part designed to protect the tube and protect it from injury thereto, the same being so formed as to provide for the printing of the scale directly on the mounting without requiring an additional scale to be attached thereto.

A further object is the production of a mounting so constructed as to provide a space for identifying marks such as the manufacturer, seller or installer's name or trademark. Many other objects and advantages of the construction herein shown and described will be obvious to those skilled in the art from the disclosure herein given.

To this end my invention consists in the novel construction, arrangement and combination of parts herein shown and described, and more particularly pointed out in the claims.

In the drawing, wherein like reference characters indicate like or corresponding parts:

Fig. 1 is a front elevation of my improved device with the connecting member applied thereto;

Fig. 2 is a sectional view taken substantially on line 2—2 of Fig. 1;

Fig. 3 is a rear elevation of a portion of the same; and

Fig. 4 is a sectional view taken substantially on line 4—4 of Fig. 1.

Referring to the drawing in which only one embodiment of my device is shown, the main part of the mounting consists of a stamping formed to provide a back 1, the front face of which provides a space for the imprinting of a scale. At the sides the body part is offset outwardly as indicated at 2 and thence over at 3 and back as shown at 4 to provide a rib, making the part 1 rigid and also affording a finish. At the bottom the same is pressed or formed outwardly as indicated at 5 and then turned over and back as shown at 6. At the top the same is formed with the face portion 7 spaced outwardly from the face of the part 1 and provided with a rib, the extreme edge being turned over as indicated at 9 to correspond with the turned over portion 4 at the sides. This gives the scale portion 1 and space 7 surrounded or enclosed within the bead 3, 6 and 8. The part may be formed in any suitable manner, same being preferably stamped out of a blank to a form substantially as shown in the drawing. The portion 11, connecting face portion 1 and face portion 7, is provided with a struck-up portion 10, which leaves an opening 12 through which the upper end of the thermometer may be inserted as hereinafter described. The bottom or outstanding portion 5 is provided with an opening 15. At this opening is arranged a sleeve 16 which is provided with the flange 17, the parts being held assembled by welding together or by frictional engagement. It is generally preferred to rearwardly offset the portion 1 at this point as indicated at 14 so as to permit the sleeve 16 to be

set inwardly and center with the thermometer tube.

A thermometer tube 18 provided with the usual bulb 19 is inserted in the sleeve 16 with the upper end extended up through the opening 12. At the upper end I prefer to arrange a felt, rubber or other strip 20 which maintains the upper end of the thermometer tube against displacement. The lower end is centered in the sleeve 16 by a rubber gasket 26, the same being so proportioned as to closely fit the inner wall of the sleeve, as well as the thermometer tube which passes through the gasket. The tube is thus maintained against accidental displacement but the mounting is such that it may be adjusted up or down as will be hereinafter described.

For connecting the thermometer with the medium whose temperature is to be indicated, there is provided a fitting or connector 21. Ordinarily this is employed to connect the same with the receptacle or container, tank, boiler or the like, so as to permit the temperature to be taken within the container, thereby showing the temperature of the contents.

As shown, the connector 21 is provided with a threaded portion 22 and with a chambered extension 23, the parts being so constructed that the thermometer bulb 19 is positioned within the chamber. The parts are maintained assembled by a screw 24 or equivalent means. Ordinarily the chamber and the connector is filled with graphite, oil and graphite, mercury or other suitable material that will transmit the heat from the tubular extension 23 to the thermometer bulb 19. It will be noted that the gasket 26 not only secures the lower end of the thermometer in the sleeve 16, but that it likewise forms a gasket or packing within the connector and prevents any leakage between the sleeve 16 and the connector.

On the face of the portion 1 of the mounting are arranged scale lines 28. The scale lines are preferably made of increased width as indicated at 29, and the numerals or scale readings 30 arranged in that enlarged space and in a contrasting color. This permits the readings to be comparatively large so that the same are easily read even from a distance. Intermediate scale lines between the lines 28 may be provided, but generally this is not required as the intermediate readings may be readily estimated. In view of the fact that the tube is readily adjustable on the mounting, these readings may be printed or otherwise formed directly on the face portion 1, it being my practice to enamel the body part 1 and print the readings directly on the enamel generally after the enamel is baked. This affords a permanent scale which cannot become disarranged or out of adjustment. The thermometer tube may then be inserted and calibration made, the tube being moved up or down and a correct reading as-

certained. On a thermometer of this type, the tube is sufficiently uniform and accurate that with an accurate reading at one point the other readings will be correspondingly accurate to a reasonable extent. If the thermometer tube becomes broken, it is only necessary to remove the same and insert a new tube which may be adjusted on the mounting so as to give a correct reading and secure it at that point by means of the gasket 26 and retainer 20. It will be noted that the tube lies below the faces of the bead 3 so that it is protected to a considerable degree. By offsetting the portion 7, the portion 11 may be utilized to provide the struck-up portion 10 and likewise there is provided a space upon which the manufacturer may imprint his name and trade-mark or other matter, or this space may be utilized by the manufacturer's customer to provide his identifying marks. This is very desirable as the manufacturer of apparatus equipped with the thermometers or the installer of apparatus frequently desire to so mark the thermometer as to identify their product or work. If desired, this may be applied at the time of printing the scale or may be done by applying a label to the face 7. It will be noted by referring to Fig. 2 that if a label is applied to the face 7, the same is protected to a more or less extent by the bead 8 surrounding the face 7 at the sides and top.

Having thus described my invention, it is obvious that various immaterial modifications may be made in the same without departing from the spirit of my invention; hence I do not wish to be understood as limiting myself to the exact form, construction, arrangement and combination of parts herein shown and described or uses mentioned.

What I claim as new and desire to secure by Letters Patent is:

1. In a device of the kind described, the combination of a member providing a frame for a liquid carrying tube, said member having a laterally extending portion provided adjacent one end thereof, said laterally extending portion having an aperture in which said liquid carrying tube is located, a tubular member providing an extension mounted in said aperture for support by said laterally extending portion, a member mounted in said tubular extension, said member being apertured to receive and hold said tube relatively to the frame, a chambered member adapted to be passed over an end of said tubular member providing said extension, said member mounted in said tubular extension having means for engaging said chambered member to prevent the passage of fluid between said chambered member and said tubular extension.

2. In a device of the kind described, the combination of a member providing a frame for a liquid carrying tube, said member hav-

- ing an apertured extension in which said tube is located, a tubular member providing an extension, an element mounted in said tubular member, said element being apertured to receive said tube and hold said tube relatively to said frame, a member adapted to be passed over an end of said tubular member and providing an element of a support for said device, said element which is mounted in said tubular member being engageable with the member which is adapted to be passed over said tubular member to prevent passage of fluid between said last mentioned members.
3. In a device of the kind described, the combination of a member providing a frame for a liquid carrying tube, said member having an apertured extension in which said tube is located, a tubular member extending from said apertured extension, a chambered exteriorly threaded member adapted to be passed over an end of said tubular member and over an end of said first mentioned tube, an apertured member mounted in said tubular member and providing an element of support for said first mentioned tube, said apertured member providing means preventing the passage of fluid between said liquid carrying tube, said chambered member and said first mentioned tubular member.
4. In a device of the kind described, the combination of a member providing a frame for a liquid carrying tube, said member being depressed between the ends thereof to provide laterally extending portions adjacent the opposite ends of said member, aligned apertures provided in said offset portions, said liquid carrying tube being located in said apertures, a tubular element arranged in one of said apertures and supported therein by said laterally extending portion, a tubular member secured to said tubular element, an elongated apertured resilient element having an end thereof inserted into said tubular element and providing means for adjustably supporting said liquid carrying tube, the opposite end of said resilient element engaging with the interior of said tubular element and providing means preventing passage of a fluid through the tubular element and said tubular member supported by said element.
5. In a device of the kind described, the combination of a member providing a frame for a liquid carrying tube, said member having laterally extending portions provided adjacent the opposite ends of said member, said portions respectively having apertures which align with each other in which said liquid carrying tube is located, a tubular element arranged in one of said apertures and supported by said laterally extending portion, an apertured member providing an element of a support for said tube, said last mentioned apertured member being arranged in said tubular element and a member providing a support for said device, said member providing said support being adapted to be passed over an end of said apertured member providing said element of support and into cooperative relation with said tubular element, said apertured member having means for engaging said member providing said support to prevent passage of fluid between said support and said tubular element.
- In testimony whereof, I have hereunto signed my name.
- ALEXANDER D. ROSE.

70

80

85

90

95

100

105

110

115

120

125

130