

Feb. 4, 1941.

B. YON

2,230,711

THERMOMETER ALARM

Filed Feb. 12, 1940

3 Sheets-Sheet 1

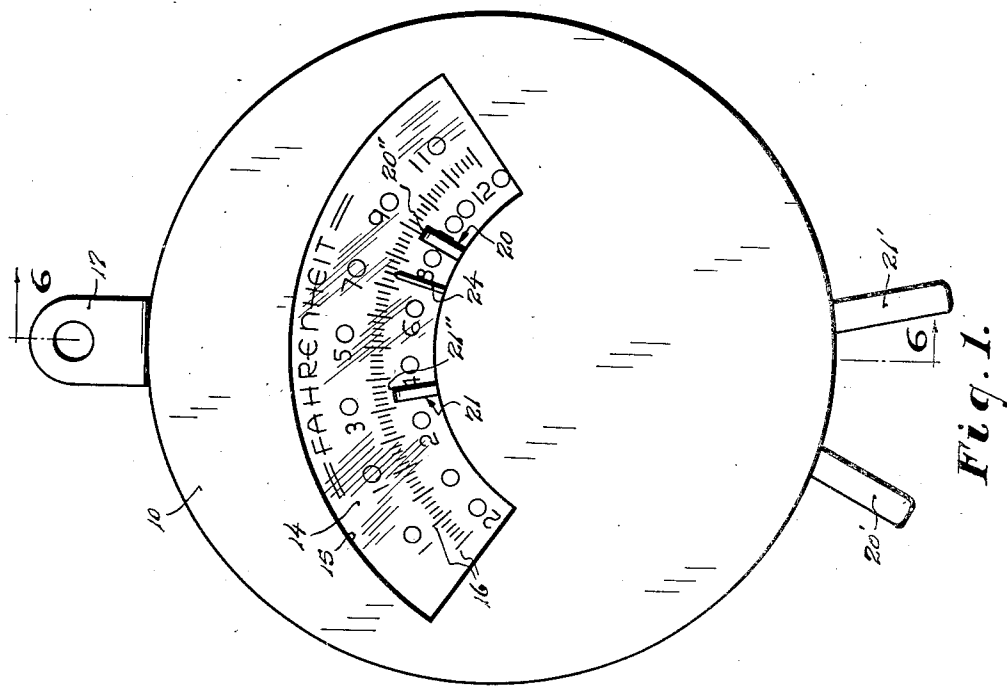


Fig. 1.

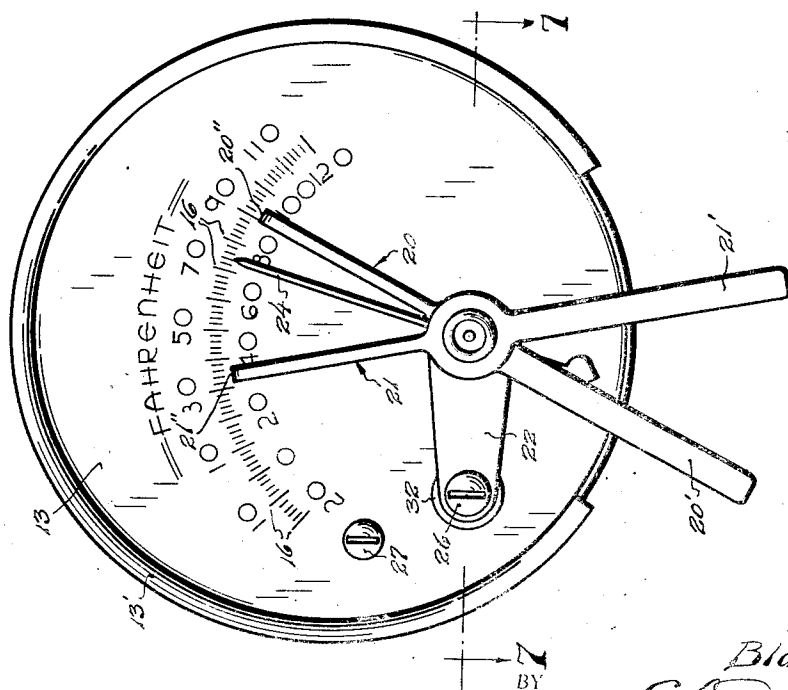


Fig. 2.

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3 Sheets-Sheet 2

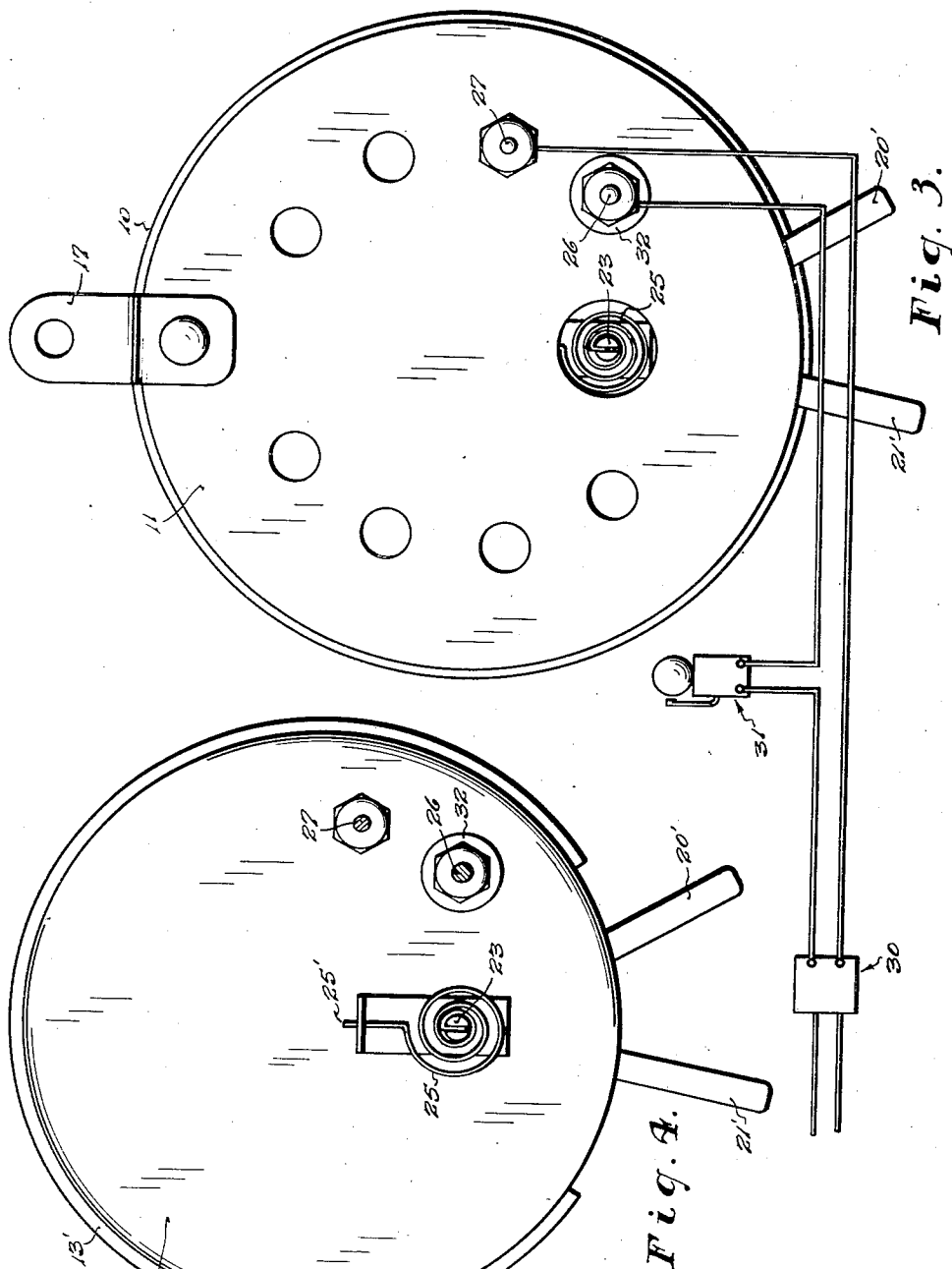


Fig. 1.

Fig. 3.

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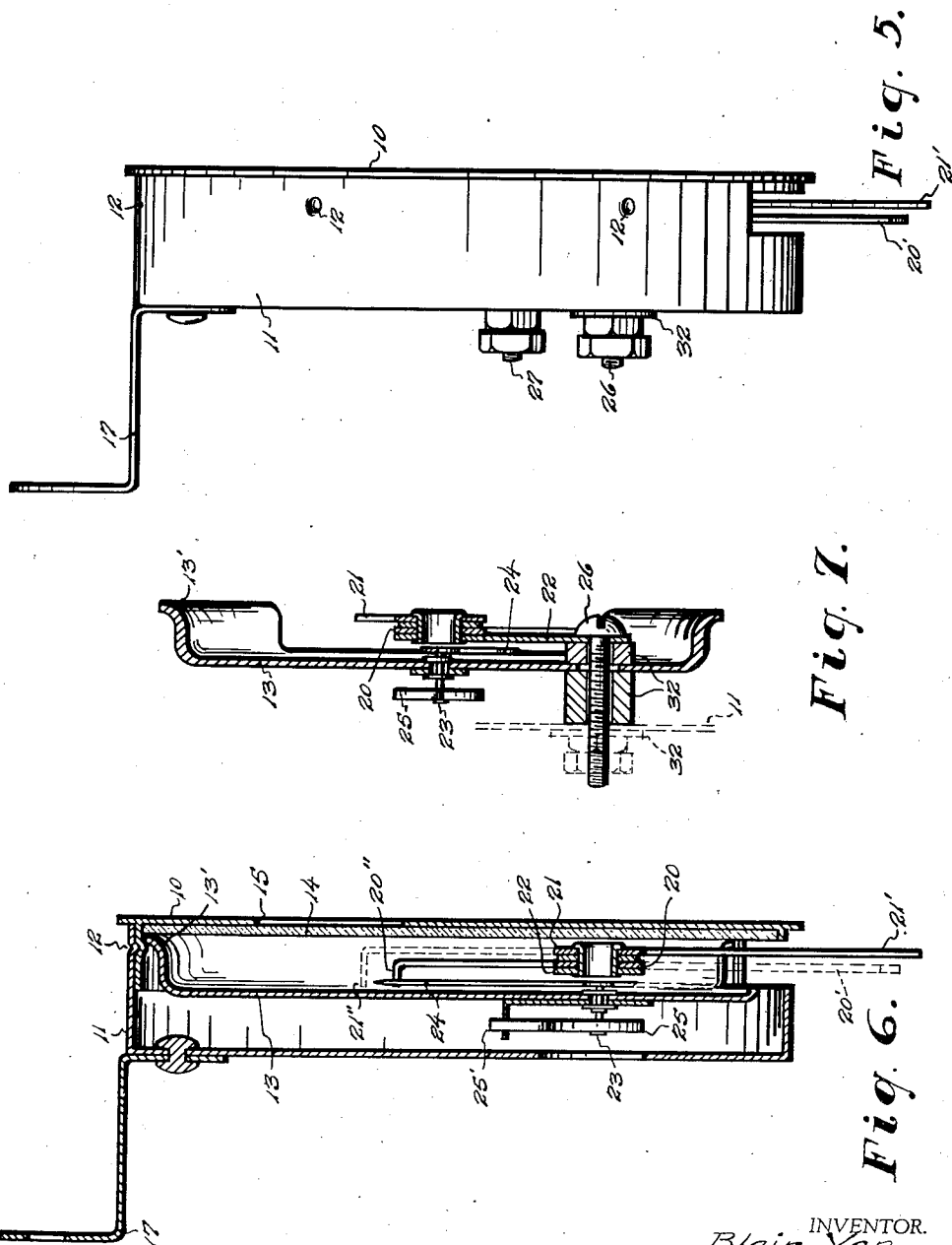
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3 Sheets-Sheet 3



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THERMOMETER ALARM

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Application February 12, 1940, Serial No. 318,457

2 Claims. (Cl. 200—56)

This invention relates to improvements in thermometer alarms and more particularly is directed to a manually-set device actuated by either a rise or fall of temperature beyond a predetermined safety range for giving audible warning of attendant danger, the object of the invention being to provide a conveniently adjustable and relatively fool-proof appliance of this character which, essentially, is of such simple construction as to permit the same to be merchandised at a figure appreciably under the accepted cost of related equipment.

The invention consists in the novel construction and in the adaptation and combination of parts illustrated in the accompanying drawings and hereinafter described and claimed.

In said drawings—

Figure 1 is a front elevational view of a preferred embodiment of my thermometer alarm.

Fig. 2 is a front elevational view of the mounting plate to which the operating parts of the device are applied, shown detached from its containing case.

Figs. 3 and 4 are rear elevational views of the assembled appliance and of the detached mounting plate, respectively, and representing somewhat schematically in the former view an electric alarm circuit including the appliance.

Fig. 5 is a side elevation of the assembled device.

Fig. 6 is a longitudinal vertical section on line 6—6 of Fig. 1; and

Fig. 7 is a transverse vertical section on line 7—7 of Fig. 2.

Represented in the drawings is a containing case of cylindrical form comprised of front and back members 10 and 11 which are sleeved one upon the other and fixedly coupled by punch indentations or the like 12, the punch indentations serving the added office of securing, within the casing, a mount-plate 13 having a peripheral flange 13' which bears against a plate 14 of glass or other transparent material to hold the latter snugly against the underside of the casing front wall. In this front wall is a window 15 for viewing seriate temperature indications 16 appearing on the face of the mount-plate. 17 indicates a bracket for hanging the casing. For clarity in description, it can be here stated that the core-forming mount-plate carries the operating parts of the thermometer alarm and that the casing pieces 10 and 11 act simply as shields to minimize tampering.

Describing now these operating parts, it will

be seen that registering side openings are provided in each of the casing pieces and the mount-plate to form a slot or guideway for the setting arms 20'—21' of a pair of control levers 20—21 which find a common fulcrum at their mid-lengths on the end of a bearing arm 22, which said fulcrum overlies and is co-axial to the arbor 23 for an index hand 24 working from a temperature-governed expanding spiral spring 25. Offset from said arbor 23, an anchoring post for the arm 22 is denoted by 26. The inner ends of the levers 20—21 lie at opposite sides of the index hand 24 and are terminally bent, as at 20''—21'', to occupy positions in the path of movement of the hand. These ends, which is to say the downturned inner ends of the control levers and the contacting inner end of the index hand, are each visible through the window 15 of the containing case.

Being each characterized by electric conductivity, said levers 20—21 contact through their fulcrum with the bearing arm 22 and the latter in turn connects with the anchoring post 26, and these contacting parts, with the index hand and its actuating spiral spring 25, the spring connecting through its anchored end 25' to the mount-plate 13 and the latter in turn carrying a binding post 27 complementary to the post 26, produce a normally incomplete electric circuit in which is included a transformer 30 and an audible electric alarm such as the indicated bell 31. As will be apparent, the binding ends of the two posts 26 and 27 are projected through suitable openings provided in the back wall of the containing case, the former post being isolated, electrically, from both the mount-plate and the casing by fiber washers 32.

The manner of the thermometer alarm's usage is believed obvious, the operator, by movement of the exposed arms 20'—21' of the control levers, setting the device such that energizing of the alarm 31 may be effected upon movement of the thermometer hand 24 beyond either the high or low limits of a predetermined safety range, which is to say upon movement of the hand 24 into circuit-closing engagement with either of the lever ends 20'' or 21'', the former being indicated in the drawings as being set at 89° F. and the latter at 33° F.

To the extent that certain modifications will be apparent, it is my intention that no limitations be implied and that the hereto annexed claims be interpreted with a breadth commensurate with the state of the advance.

What I claim is:

1. A device of the character described providing a mount-plate having on its face a temperature dial; a bearing carried by said plate; an arbor journaled in the bearing and supporting at said facing side of the plate an index hand in electrically conductive relation to the mount-plate and at the other side of the plate a temperature-governed spiral spring functioning to position the hand in temperature-indicating relation to the dial; an arm anchored at one end to but insulated from the mount-plate and extending therefrom into overlying separated relation to the journaled end of the index hand; a pair of crossed levers journaled on said arm for movement about an axis coinciding with that of the index hand, said levers being electrically conductive and mounted such that their inner ends project at opposite sides of the index hand into the path of travel of the latter and their outer ends project laterally from the mount-plate to expose the same for manual setting of said inner ends; and a pair of rigid binding posts of which one is connected with said supporting arm for the levers and the other with the mount-plate, said levers being adapted to operate as one and the index hand as the other circuit-closing terminals of a normally open electric circuit closed upon an interruption by either of said levers of the spring-influenced movement of the index hand.
2. A device according to claim 1 having, as a casing for the mount-plate, sleeve-fitting front and back members snap-coupled one to the other, said casing having a sight opening in its front for viewing the dial and a slot in its side to accommodate the projection therethrough of the setting ends of the levers.

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