W. O. HAYMOND & J. O. POTTER.

INDICATOR.

APPLICATION FILED MAY 29, 1907.

898,643.

Patented Sept. 15, 1908.

2 SHEETS—SHEET 1.

Fig. 2

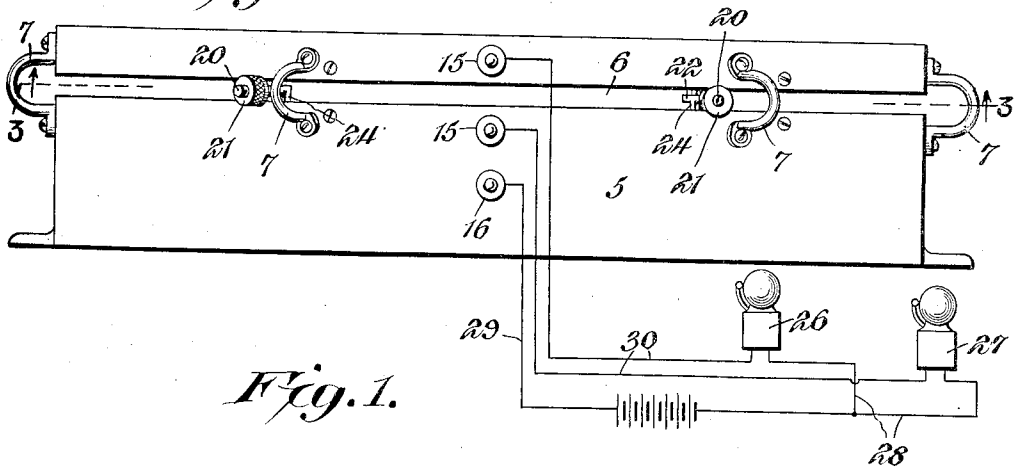
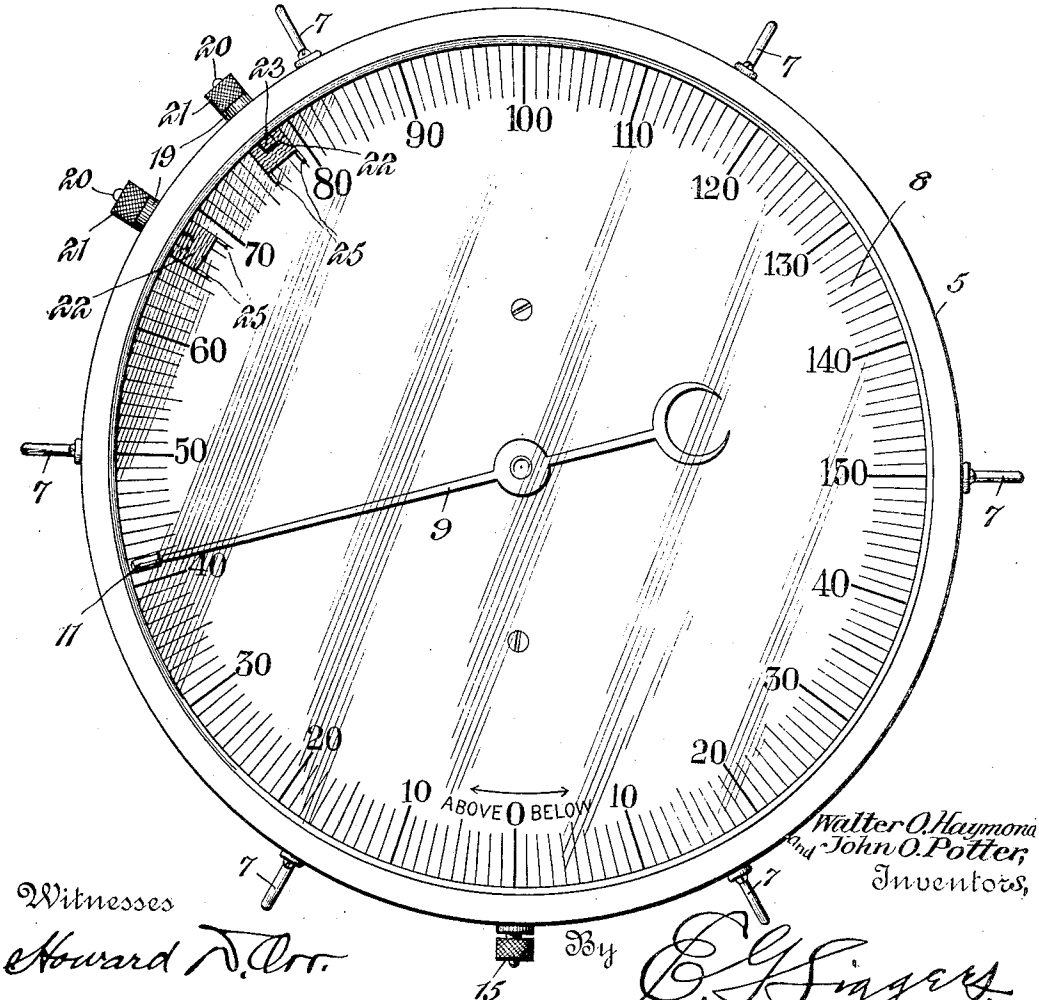


Fig. 1.



Witnesses

Howard N. Orr.

B. A. Foster

Walter O. Haymond and John O. Potter, Inventors,

By E. G. Siggers.

Attorney

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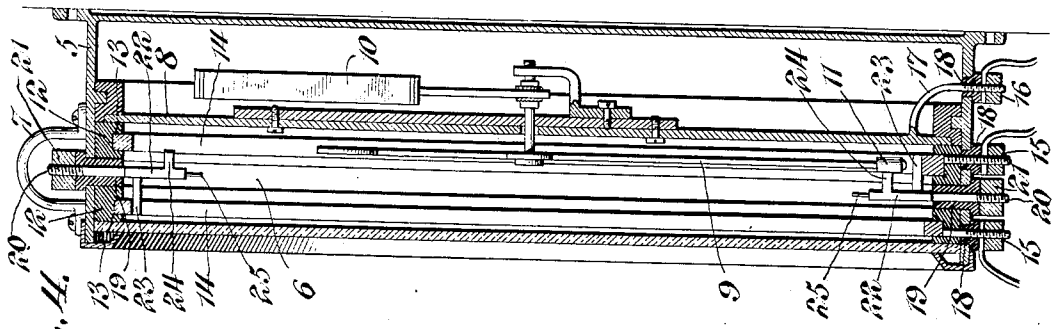

Fig. 4.

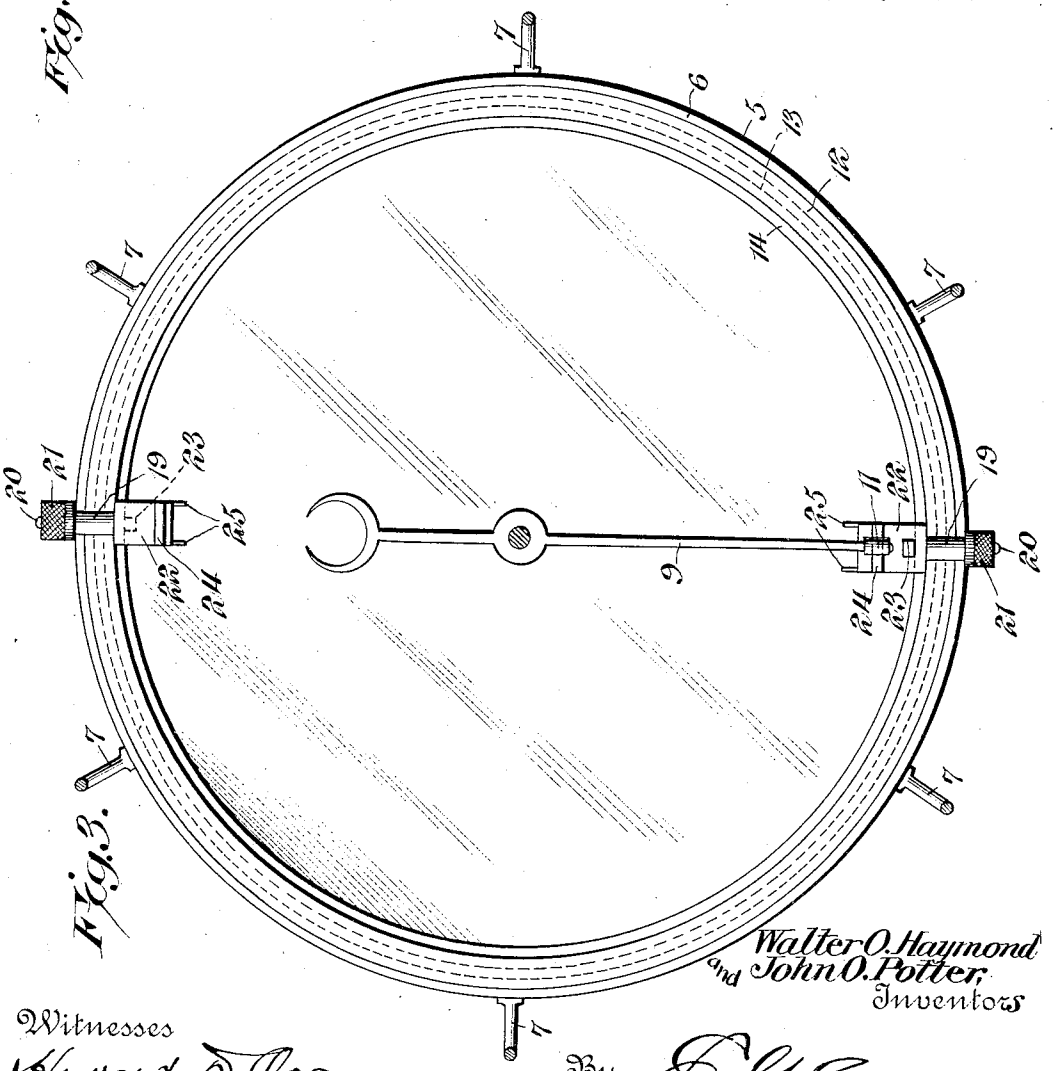

Fig. 3.

Witnesses

Howard D. Orr.

B. G. Foster.

Walter O. Haymond and John O. Potter, Inventors

By E. G. Siggers

Attorney

UNITED STATES PATENT OFFICE.

WALTER OCTAVIOUS HAYMOND AND JOHN ONESS POTTER, OF MUNCIE, INDIANA.

INDICATOR.

No. 898,643. Specification of Letters Patent. Patented Sept. 15, 1908.

Application filed May 29, 1907. Serial No. 376,410.

To all whom it may concern:

Be it known that we, WALTER O. HAYMOND and JOHN O. POTTER, citizens of the United States, residing at Muncie, in the county of Delaware and State of Indiana, have invented a new and useful Indicator, of which the following is a specification.

The present invention relates to means associated with a thermometer, pressure gage, or like indicator for controlling an electric circuit, whereby when the movable member of said indicator reaches a predetermined position, the circuit is closed, thereby operating an alarm or suitable controlling mechanism.

The primary object of the present invention is to provide novel means of the above character that are simple and effective, and permit the ready adjustment of the parts to change the limits at which the circuit is controlled and the mechanism operated.

The preferred embodiment of the invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a front elevation of the indicator. Fig. 2 is a bottom plan view of the same, showing alarm mechanism diagrammatically. Fig. 3 is a sectional view on the line 3—3 of Fig. 2. Fig. 4 is a vertical cross sectional view.

Similar reference numerals designate corresponding parts in all the figures of the drawings.

In the embodiment illustrated, a casing 5 is employed that is provided with an annular slot 6. In the present embodiment, this slot extends entirely around the casing, and therefore sub-divides it into two sections, these sections being connected by bridges 7 fastened thereto. It will be understood that the slot 6 may be of any length desired, and if short enough, the said bridges may be dispensed with. A dial 8 is located within the casing, and has a suitable scale on its exposed face. A rotary pointer 9 operates over said face, and coacts with the scale. Any suitable means may be employed for operating the indicator or pointer. In the present embodiment, a well known type of metallic thermometer 10 is disclosed. Rotatably mounted on the free end of the pointer 9 is a roller 11.

Insulator rings 12 are located within the casing on opposite sides of the slot 6, and are provided in their inner sides with grooves 13, in which are seated conductor rings 14. These rings are electrically connected to binding posts 15, and another binding post 16 is grounded, as shown at 17 on the dial 8, and is thus in electrical communication with the rotary indicator or pointer 9. The binding posts are all insulated from the casing as shown at 18.

Adjustably mounted in the slot 6 are two contact elements. Each element consists of an insulator sleeve 19, through which passes a stem 20 on the outer end of which is threaded a binding nut 21. The inner ends of the stems carry flat plates 22 having offset fingers 23 that respectively engage and clamp against the conductor rings 14. Said plates furthermore have offset flanges 24 that are located in the path of movement of the roller 11 of the pointer, said pointer thus constituting a movable contact element. The plates furthermore have inwardly extending pointers 25.

It is to be understood that the present structure may be employed in connection with any suitable mechanism. In Fig. 2 there is illustrated two alarms to be operated when the temperature rises and falls below certain predetermined limits. These alarms are shown in the form of two bells 26 and 27, each connected by leads 28 to a source of electrical energy, which in turn has a connection 29 with the binding post 16. The bells furthermore have separate connections 30 with the other binding posts 15.

The operation of the mechanism is substantially as follows. The two contact elements are adjusted in the slot 6 until their pointers are disposed at the limits at which the alarms are to be sounded. They are then clamped by screwing the nuts 21 inwardly, which brings the fingers 23 into binding engagement with the conductor rings 14. As long as the roller 11 of the pointer is out of engagement with the flanges 24, the electric circuits will be open, but if the temperature varies sufficiently in one direction or the other to permit the pointer to move so that the roller engages one of said flanges, the electric circuit through one of the bells will be closed, and the alarm thus sounded.

It will be evident that the structure is exceedingly simple and that the limits within which the indicator may operate without closing the circuits can be readily varied by adjusting the contact elements.

From the foregoing, it is thought that the

construction, operation and many advantages of the herein described invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In alarm mechanism of the character set forth, the combination with a casing, of a conductor strip located within the same and insulated therefrom, a rotary indicator, and a contact element adjustably mounted on and supported by the casing independently of the strip, said element being insulated from the casing and having a portion electrically and adjustably engaged with the conductor strip and a portion located in the path of movement of the indicator, said indicator having a clamping portion projecting through a wall of the casing.

2. In alarm mechanism of the character set forth, the combination with a casing having a slot, of a ring of insulating material carried by the casing, a conductor strip mounted on the ring, a rotatable contact element, another contact element adjustably mounted on the casing independently of the strip and movable in the slot, said latter element having an offset finger in electrical contact with the strip, and an offset flange located in the path of movement of the rotary element.

3. In alarm mechanism of the character set forth, the combination with a casing having a slot, of a ring of insulating material carried by the casing, a conductor strip mounted on the ring, a rotatable indicator, and a contact element adjustably mounted on the casing independently of the conductor strip and movable in the slot, said element having a portion in adjustable and electrical contact with the strip and a portion located in the path of movement of the indicator, and binding posts carried by the casing and connected respectively to the indicator and conductor strip.

4. In alarm mechanism of the character set forth, the combination with a casing having a slot, of contact rings located on opposite sides of the slot, a rotary contact member, and a plurality of separate contact elements adjustably mounted in the slot, each element having an engagement with one of the contact rings and having a portion disposed in the path of movement of the rotary element.

5. In alarm mechanism of the character set forth, the combination with a casing and a dial located therein, said casing having a slot, of a rotary indicator operating over the dial and having a roller on its free end, insulator rings located within the casing on opposite sides of the slot, conductor rings mounted in the insulator ring, a plurality of binding posts connected respectively to the conductor rings and to the rotary indicator, insulator sleeves adjustable in the slot of the casing, and contact elements located in said sleeve, each contact element having an offset finger in engagement with one of the conductor rings and having a portion disposed in the path of movement of the roller.

In testimony, that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

WALTER OCTAVIOUS HAYMOND.
JOHN ONESS POTTER.

Witnesses:
GEORGE E. DUNGAN,
JOHN A. JACKSON.