

W. B. WATKINS,
Electrical Thermostats.

No. 156,242.

Patented Oct. 27, 1874.

Fig: 1.

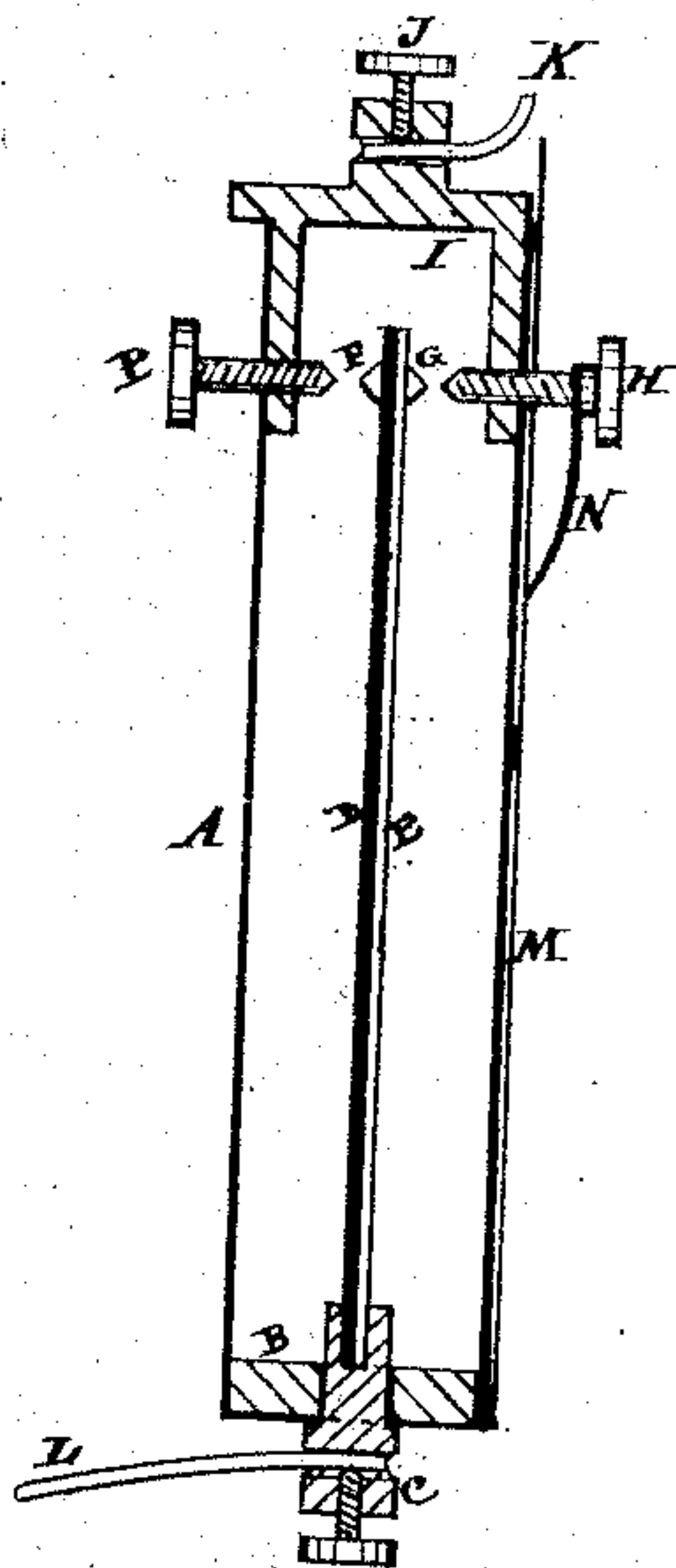
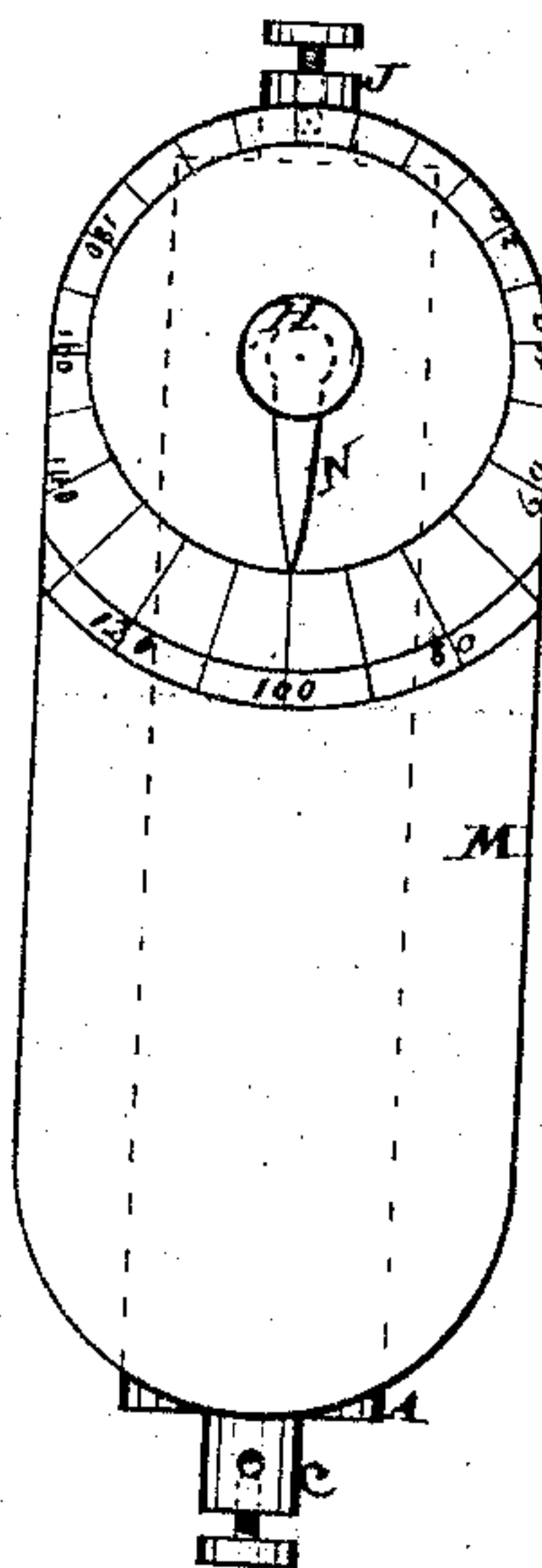


Fig: 2.



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WILLIAM B. WATKINS, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN ELECTRICAL THERMOSTATS.

Specification forming part of Letters Patent No. **156,242**, dated October 27, 1874; application filed November 29, 1872.

To all whom it may concern:

Be it known that I, WILLIAM B. WATKINS, of Jersey City, State of New Jersey, have invented certain new and useful Improvements in Thermostats; and I do hereby declare the following to be a full description of the same.

The nature of my invention consists in combining the compound metal strip with a closed tubular case by means of an insulating base and a metal conducting-cap and indicator set-screws, whereby by the expansion or contraction of the compound metallic strip a galvanic circuit may be closed or opened at any required degree of heat to operate a fire-alarm telegraph instrument.

But, to describe my invention more particularly, I will refer to the accompanying drawings forming a part of this specification, the same letters of reference, wherever they occur, referring to like parts.

Figure 1 is a vertical cross-section of the thermostat. Fig. 2 is a front view of the instrument, showing the face of the dial-plate.

Letter A represents a closed or capped tubular box, which may be made of brass or other thin metal tubing, or of glass or other suitable material, or of any shape, as desired. In the lower end of the tube is secured a hard-rubber, or other non-conducting, substance, B, vertically through the center of which is inserted a binding-screw, C, having secured to its inner end a compound metallic strip, composed of brass and steel, D and E, or other metals or materials, of any shape desired. To each side of the upper end of the compound strip are secured platina points F and G, so as to insure a perfect electrical circuit through the compound strip when it comes in contact with the platinum-tipped indicator set-screw, H, or other circuit-closing point, through the sides of the tube. For the purpose of establishing the electrical circuit with the battery and alarm instrument, a metallic cap, I, having a binding-screw, J, on its upper side, is secured to the upper end of the tube.

It will thus be seen that when the compound strip is deflected by the heat so as to touch the end of the indicator-screw H, the current

of electricity will pass through the metal cap and the wire K, secured thereto by the binding-screw J, to complete the circuit, through the wire L, secured by the binding-screw C, to the lower end of the compound metallic strip.

For the purpose of more readily registering the degree of heat required to give an alarm by closing a circuit through an alarm-instrument, a dial-plate, M, is secured by any suitable means to the outside of the tube, upon the upper end of which is marked the various degrees of heat necessary to operate the apparatus, and a pointer, N, is secured to the indicator set-screw, H, set at any point desired to give an alarm when the indicated degree of heat has been attained in the room or place where the instrument has been adjusted. On the opposite side of the tube is inserted another indicator set-screw, P, for the purpose of giving an alarm of a low degree of heat or a freezing temperature, so that when the instrument is used in green-houses, or conservatories of green-house plants, notice of a sudden lowering of the temperature to a freezing-point will instantly be given to the attendant that an increase of fire in the furnaces will be necessary to save the plants from being killed.

The arrangement described may also be used to regulate the temperature in any apartment by the use of suitable devices connected therewith for this purpose.

The strip may be insulated by any suitable means, different from that described, and will act equally well in carrying out my invention.

I find it more convenient to use the adjusting-screws H and P, but either or both may be dispensed with by bending the strips D and E, or otherwise adjusting the same, so that contact will be made with the case A, and the circuit thus closed at the desired degree of temperature; or, when two opposite circuit-closing points are required, the end of the strip may be forked and the ends pointed, and each prong adjusted by bending the same, or by the use of adjustable screws or arms secured to the end of the strip, so that contact will be made within the case A, as described.

Having now described my invention, I will proceed to set forth what I claim and desire to secure by Letters Patent of the United States.

1. The combination of an insulated metallic strip circuit-closer, with a closed or capped tubular box-case, substantially as and for the purposes set forth.

2. In combination with the tubular case A, the dial-plate M, pointer N, and set-screw H, all arranged and operating as hereinbefore described.

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