

(No Model.)

T. R. DOUSE.
ELECTRIC FIRE INDICATOR.

No. 445,931.

Patented Feb. 3, 1891.

FIG. 1.

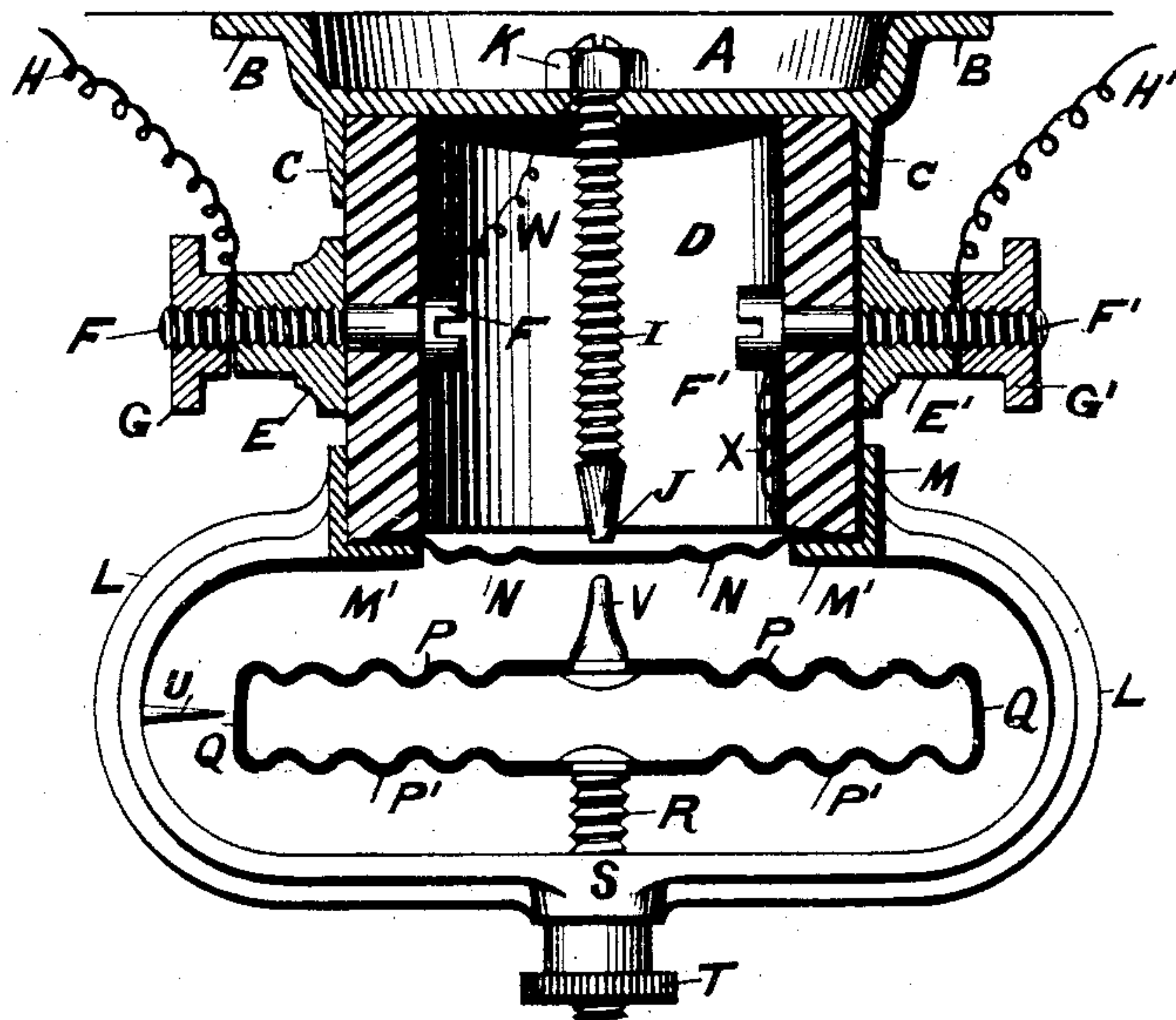
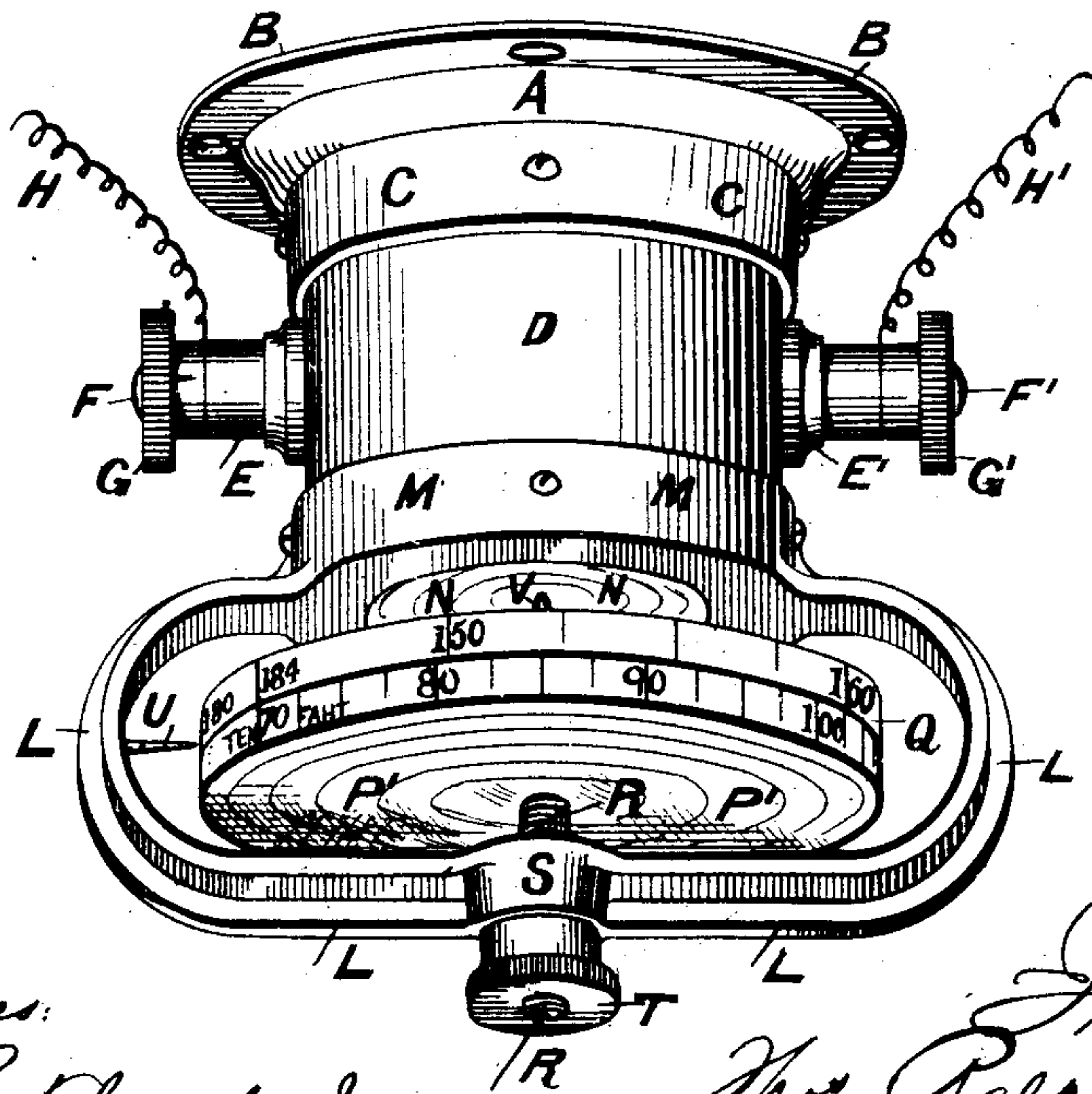


FIG. 2.



Witnesses:
J. A. Rutherford
Leroy B. Hills

Inventor:
Thos. Ralph Douse
By James L. Norris,
Attorney

UNITED STATES PATENT OFFICE.

THOMAS RALPH DOUSE, OF LONDON, ENGLAND.

ELECTRIC FIRE-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 445,931, dated February 3, 1891.

Application filed November 1, 1890. Serial No. 370,008. (No model.)

To all whom it may concern:

Be it known that I, THOMAS RALPH DOUSE, a subject of the Queen of Great Britain, residing at 8 Holborn Viaduct, city of London, England, have invented a new and useful Electric Fire-Indicator, of which the following is a specification.

This invention has for its object a fire indicator or signal capable, by heat expansion of air, alcohol, mercury, or other agent hermetically inclosed in a box, of causing an electric circuit to be closed between a battery and an alarm. The box can be adjusted in its frame and be fixed in its adjusted position to suit the degree of heat at which the sound shall be produced.

The apparatus is intended for stores, depots, warehouses, shops, public and private dwellings, and can be fixed to a ceiling, and the conducting-wires connecting the same can be led to or from any convenient place where help or assistance can be readily obtained.

The apparatus is small and very compact. It can be placed in any out-of-the-way position and be always ready to sound an alarm shortly after the outbreak of a fire in the room in which it is fixed.

Figure 1 of the accompanying drawings is a part-sectional elevation of the apparatus, and Fig. 2 a perspective exterior elevation thereof.

A is a metal base or foundation ring with perforated flange B for enabling it to be fastened to a ceiling or wall by screws.

C is a collar formed from part of the base A and of a depth suitable for the ready attachment of a tube D, of insulating material, by screw-pins.

E E' are metal posts fixed outside on the insulated tube D by long screws F F' from inside the tube D, so that the threaded ends serve also for the punch-buttons G G' to travel on to fasten the ends of the conducting-wires H H'.

I is a screw pin or pillar passed through the center of the base A, and in which it is adjustable to suit the height or length of the tube D, beyond the outer end of which the point J of the pillar projects, and at such position it is locked by the back nut K.

L is a hoop or inverted bridge, also fixed to the tube D by its outer flange M, but at the opposite end to that of the base A. This hoop has a flange M' for confining a concentrically-grooved metal disk N between it and the edge of the insulated tube D in such position that the disk N and pillar-point J are out of touch with each other.

P is the hermetically-closed box, composed of two concentrically-grooved metal plates P P', connected at the edges by a flattish-shaped band Q, on which a thermometer-scale is printed or marked, the divisions or markings between each degree being scientifically prepared to correspond with the pitch of the screw-thread on a pin R, to which the metal plates P P' are fixed, said screw working through and adjustable in the boss S of the hoop or inverted bridge L and affixable by the lock-nut T. The degrees or markings on the band are in two circles, and a pointer U on the inner portion or bend of the hoop L will enable the adjustment to be easily determined and the apparatus set. The other plate P has a stud V projecting centrally from its face axially with the center of the disk N and of the point J of the pillar I, but out of touch with the disk in its normal position, the closeness or distance being governed by the adjustment and set of the box for its expansion to cause them to touch and then to press the disk into contact with the point J of the pillar I.

W is a wire connecting the pillar with the screw F, and X a wire connecting the disk N and screw F'.

The thermometer degrees or markings on the rim or band of the box are in two circles divided by a line, the degrees from 70 to 140 being on the lower circle and those from 150 to 184 on the upper circle, and as the box is turned in one direction—say to the right—the screw R turns with it and lifts the box to place the stud V nearer to the disk N and the numerals of the required degree opposite the pointer U, said box being locked in that position by the nut T.

If the box be turned to the left, it, with the screw R, is lowered for one of the higher-degree numerals to be opposite the pointer U and the stud V at a greater distance from the

disk N. Thus a more intense heat will be required to expand the box to put the stud V into contact with the disk N.

What I claim, and desire to secure by Letters Patent, is—

1. An electrical fire-indicator consisting of a base carrying a pendent pin or pillar, an insulating-tube having metallic screws, one of which is electrically connected with the pin or pillar, a metallic disk arranged at the lower end of the tube and electrically connected with the other screw, a bridge-piece below the tube, a vertically-movable expansible box having a stud to press the metallic disk against the pin or pillar, and an adjusting device for adjusting the expansible box to different heights, substantially as described.

2. In an electric fire-indicator, the box P P' Q, having two rows of thermometer-markings on the periphery and turnable for raising and

lowering in a hoop or inverted bridge L for adjustment to the pointer U and locked by the nut T, as set forth.

3. In an electrical fire-indicator, the base A, tube D, hoop L, and pointer U therein, in combination with a rotatable and adjustable box having stud V for contact by heat with disk N, and also screw K in threaded boss or hoop L with lock-nut T, as and for the purposes set forth.

In witness whereof I have hereto signed my name, in the presence of two subscribing witnesses, this 2d day of October, 1890.

THOMAS RALPH DOUSE.

Witnesses:

GEORGE GLASS,

8 Holborn Viaduct, London.

JANE GRAY RIDGWAY,

19 Change Alley, E. C., London.