

No. 617,326.

Patented Jan. 10, 1899.

G. W. FALLIN.
FIRE ALARM.

(Application filed Jan. 30, 1898.)

(No Model.)

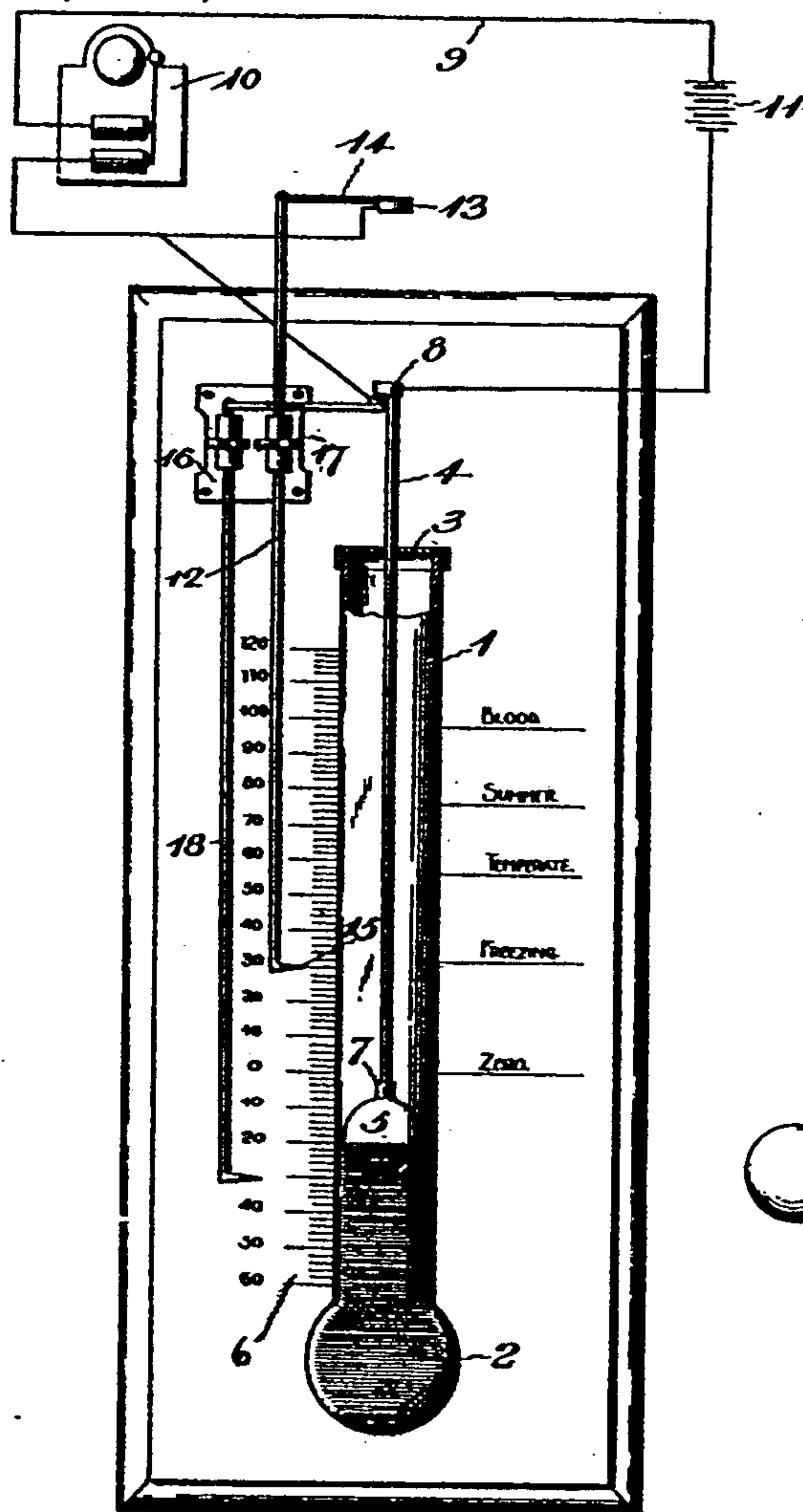


Fig. 1.

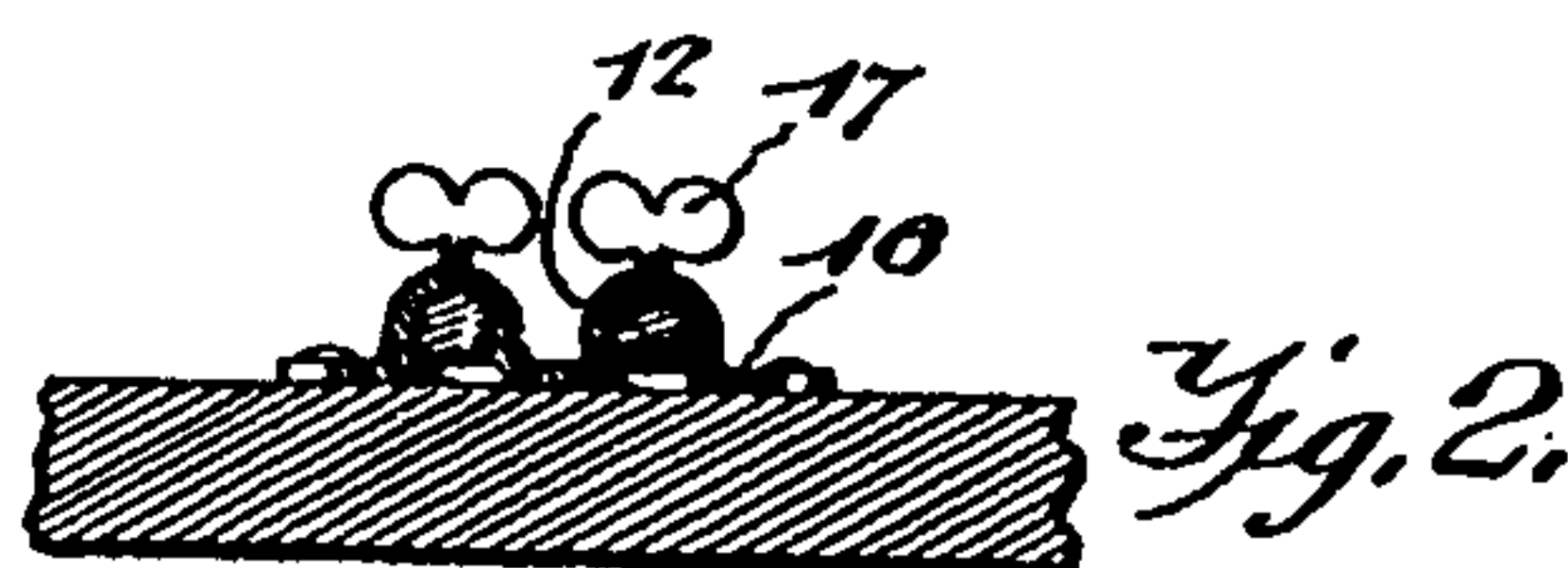


Fig. 2.

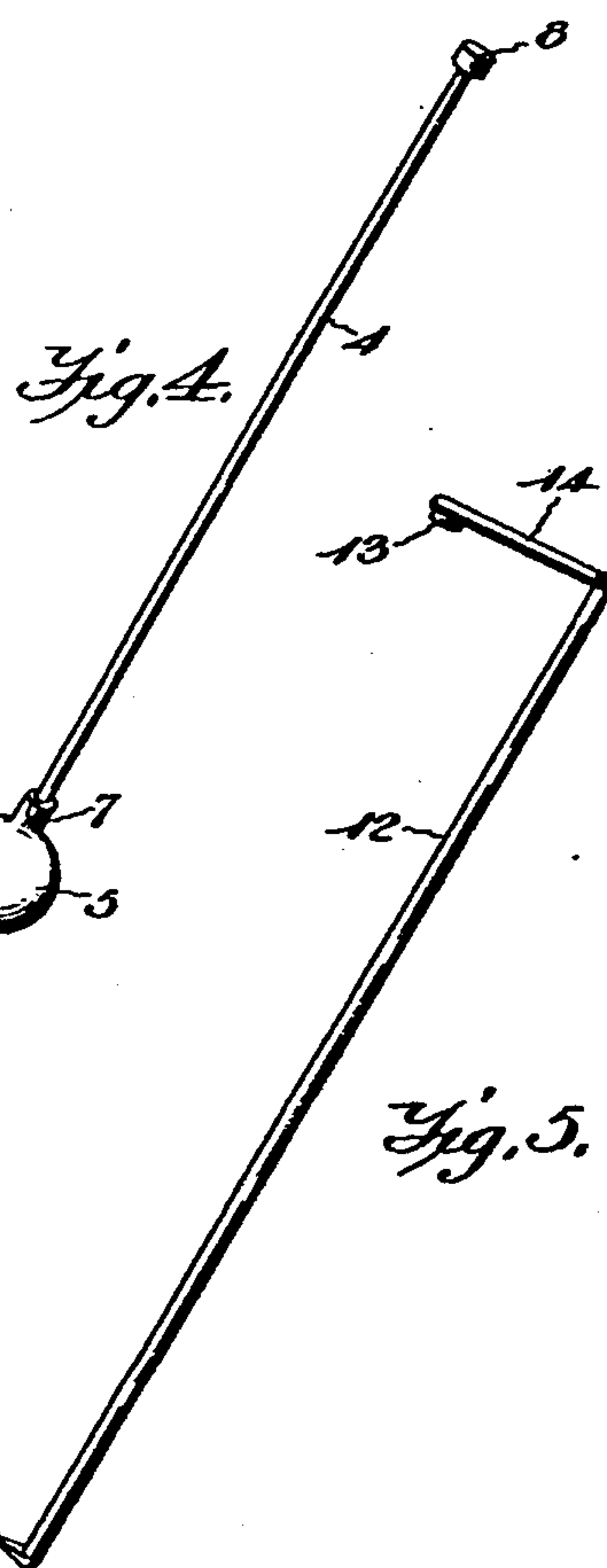


Fig. 4.

Fig. 5.



Fig. 3.

Witnesses

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FIRE-ALARM.

SPECIFICATION forming part of Letters Patent No. 617,326, dated January 10, 1899.

Application filed January 20, 1898. Serial No. 667,295. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. FALLIN, a citizen of the United States, residing at Sherman Heights, in the county of Hamilton and State of Tennessee, have invented a new and useful Fire-Alarm, of which the following is a specification.

This invention relates to automatic means for sounding an alarm in the event of the temperature being raised to a dangerous point, thereby giving warning, so that the cause may be removed, and thereby obviating possible serious results from fire or excessive heat.

The means consist of a bell or like alarm, an electric circuit, adjustable circuit-closers, and a thermal device controlled by variations in temperature, so that when a predetermined temperature has been reached the electric circuit will be closed and the alarm sounded, thereby giving warning of abnormal conditions.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 shows the invention operatively related. Fig. 2 is a sectional detail of the means for holding the adjustable rod bearing the movable contact-point in the located position. Fig. 3 is a detail view of the float. Fig. 4 is a detail view of the rod secured to the float and bearing the movable contact. Fig. 5 is a detail view of the adjustable rod.

Corresponding and like parts are referred to in the following description and indicated in the several views of the drawings by the same reference characters.

The thermal device consists of a tube 1, having a bulb 2 at its lower end and closed at its upper end by a cap 3, which is centrally apertured for the passage therethrough of a rod 4, which is attached at its lower end to a float 5, located within the tube

and buoyed up by mercury or like substance of liquid form and which is susceptible to changes in temperature, whereby its bulk is appreciably varied, and which by the change of level causes the float to rise and fall in the tube. A scale 6 is provided contiguous to the tube 1 and is graduated so as to enable the electric circuit to be closed at any given degree of temperature. This thermal device is located at the point to be protected or from which the alarm is sounded when the temperature reaches the danger-point or the degree to which the device is set.

The float 5 may be of any material and is preferably a hollow glass ball having a neck 7, into which the lower end of the rod 4 is cemented or otherwise secured, and this float is of a size to move freely within the tube without having lateral play. The rod 4 is provided at its upper end with an electrical contact 8, forming one terminal of an electric circuit 9, which includes an electric alarm 10, of any variety or pattern, and a battery or generator 11.

A rod 12 is adjustable with reference to the tube 1 and is provided at its upper end with an electric contact 13, attached to a spring-arm 14, extending laterally from the rod 12 and overhanging the rod 4, the contacts 8 and 13 being in vertical alinement, so that the circuit will be closed upon the float rising to a point corresponding with the degree for which the device is set to cause a sounding of the alarm. By reason of the arm 14 being resilient or adapted to yield the float can continue to rise after the danger-point has been reached without causing breakage of any of the operating parts. The lower end of the rod 12 is provided with a pointer 15, which coöperates with the scale 6 to determine the degree of temperature when setting the alarm mechanism. The rod when adjusted may be secured by any means, and, as shown, it is slidably mounted in a keeper forming part of a plate 16, secured to the base to which the thermal device is applied, said keeper having a binding-screw 17, which when turned up bears against the rod 12 and secures it in place.

A second rod 18, similar in construction to the rod 12, is slidably mounted in a keeper forming a part of the plate 16 in precisely

the same manner as the rod 12 and is in electric connection with a terminal wire of the electric circuit. The position of this rod 18 is determined by the graduations 6 at one side of the thermal device, and its overhanging arm is intended to make electric connection with the contact 8 of the rod 4 when the latter reaches the predetermined limit of its downward movement, thereby sounding an alarm when the temperature falls below a given degree. It will thus be seen that provision is had for sounding the alarm when the temperature exceeds or falls below a given point, thereby enabling the attendant to apply a remedy, so as to obviate either cause.

Having thus described the invention, what is claimed as new is—

1. An alarm mechanism comprising a tube containing mercury or other expansible liquid, a float, a rod attached to the float and bearing an electric contact, a second rod slidably mounted in a keeper and having a pointer at one end cooperating with a scale to set the alarm mechanism for any required temperature, means for securing the rod at an adjusted position, an overhanging spring-arm carried by the adjustable rod and bearing an electric contact in vertical alinement with the first-mentioned contact, and an electric circuit including an alarm and having the aforesaid contacts constituting its termi-

nals, substantially as and for the purpose set forth.

2. An alarm mechanism, comprising an electric circuit including an alarm-bell or like device, a tube containing an expansible liquid, a rod provided with a float and buoyed by the liquid contained in the tube and movable with the change of level thereof, said rod bearing an electric contact forming a terminal of the aforesaid circuit, parallel rods slidably mounted in keepers and provided with pointers to cooperate with a scale common to each to properly position the rods to determine the required extreme temperatures at which the alarm is to be sounded, means for securing the rods in an adjusted position, overhanging spring-arms attached to the upper ends of the slidable rods, and electric contacts carried by the spring-arms and constituting the other terminal of the electric circuit and adapted for conjoint use with the electric contact carried by the floating rod, substantially as specified for the purpose described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GEORGE W. FALLIN.

Witnesses:

LEONARD C. FALLIN,
JOHN L. BRAGG.