

A. GUEST.

Thermostat.

No. 108,352.

Patented Oct. 18, 1870.

Fig 1

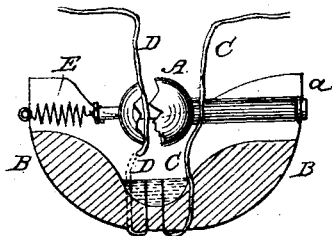
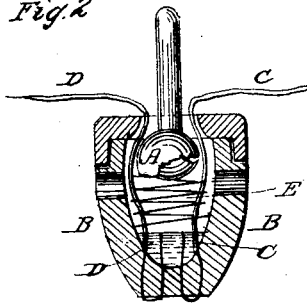


Fig 2



WITNESSES

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AUGUSTA GUEST, OF BROOKLYN, NEW YORK.

Letters Patent No. 108,352, dated October 18, 1870.

IMPROVEMENT IN FIRE-ALARM THERMOMETERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, Mrs. AUGUSTA GUEST, of Brooklyn, in the county of Kings and State of New York, have invented a new and improved Fire-alarm Thermometer; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

Figures 1 and 2 are transverse sections of my improved fire-alarm thermometer, showing modifications in the construction of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to construct an instrument for closing the circuit of an electric fire-alarm, as soon as the atmosphere which surrounds said instrument has reached a certain degree of heat.

The invention relates to the use of a glass thermometer containing quicksilver.

The thermometer is to be broken when the stated degree of heat has been reached, and will then deposit its metallic contents into an outer vessel, which receives the two wires from the alarm instrument and battery.

The quicksilver, uniting the ends of said wires, establishes a metallic circuit, and effects the operation of the alarm.

The alarm-thermometers heretofore in use had the ends of the wires inserted in the respective ends of the glass or other vessel containing the mercury, but were inefficient on account of the unequal expansion and contraction of the wire and glass under the ordinary variations of temperature, whereby air was let into the instrument or the glass broken.

These devices were also unreliable, as the least defect of the platina points inserted in the mercury were apt to corrode the latter, and because, furthermore, rats and mice, by pulling or moving the wires, were apt to render the whole apparatus useless.

My invention consists chiefly in the application of a sealed bulb or vessel, A, containing mercury, to an outer vessel, B, and the wires C D, that lead to a suitable alarm instrument and battery.

The bulb or vessel A, when burst by the action of

the expanding mercury, with or without the aid of an outer spring, E, will discharge its contents into the vessel B, so that the ends of the wires C D will be united by the mercury. The electric current is thereby established, and the alarm operated.

The invention consists also in the combination with said apparatus of a spring or springs, E, of suitable kind. The same serve to break the bulb and open the same for discharging the mercury immediately after the bulb has been burst by the latter.

For this purpose the spring may either be applied to pull at one end of the bulb, as in fig. 1, or to push against the same, as in fig. 2, and it may be concealed within the vessel B, or arranged outside of the same, one end of the bulb being secured by a wire or other fastening, a, when the spring is applied to pull.

The invention consists also in the arrangement of the said vessel B, which contains the bulb A and the ends of the wires C D to connect the latter by the mercury from the former whenever the bulb is burst.

The vessel B may either be made in form shown in fig. 1, *i. e.*, open on top and sides to receive air, or it may be a case, as in fig. 2, perforated to admit air, or of other suitable form.

It will be seen that the condition or disturbance of the wires during inactivity will not affect the utility or effectiveness of my apparatus.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

1. The sealed bulb or thermometer, combined with two wires, so that by the bursting of said bulb a metallic connection between the wires and a consequent electric circuit will be established, substantially as herein shown and described.

2. The spring or springs E, combined with the bulb or thermometer, to aid in parting the same when broken, substantially as herein shown and described.

3. The vessel B, containing the bulb or thermometer A, and the ends of the wires C D, for operating, substantially as herein shown and described.

AUGUSTA GUEST.

Witnesses:

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