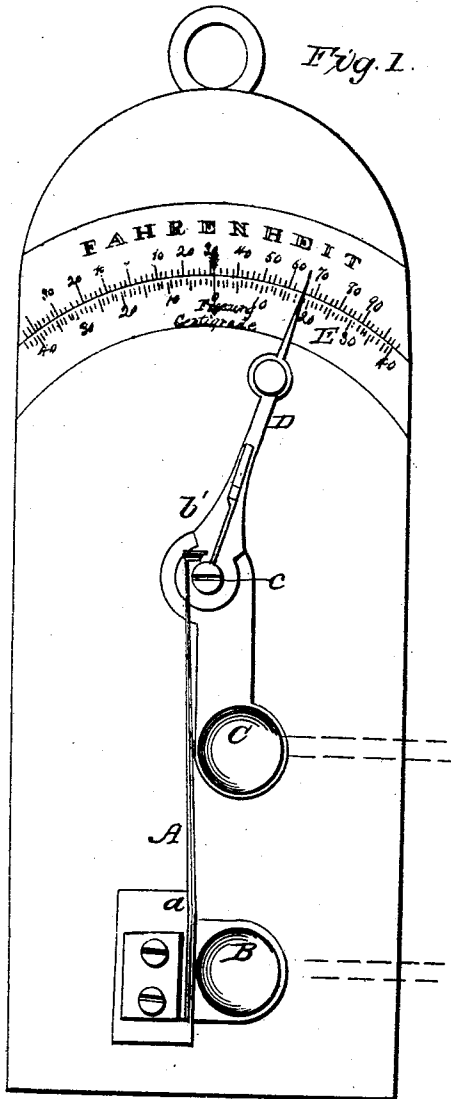


A. ROSS.

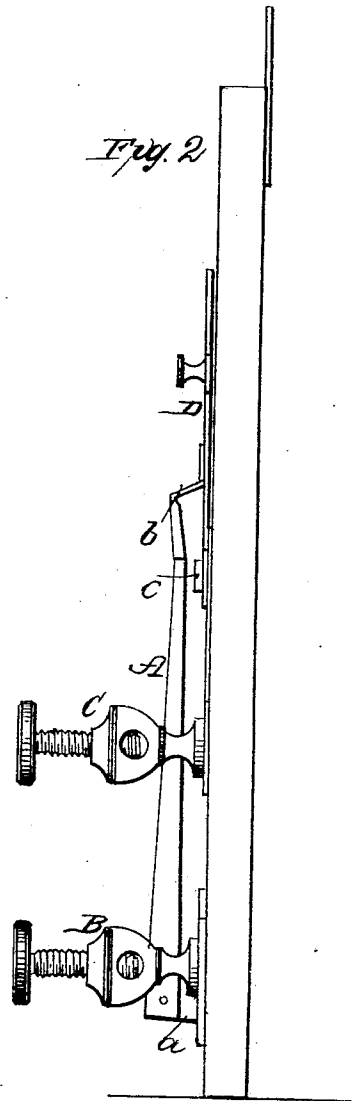
Electric Fire-Alarm.

No. 37,875.

Patented March 10, 1863.



Witnesses
J. W. Coombs,
G. R. Tully.



Inventor
Alexander Ross,
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attorneys.

UNITED STATES PATENT OFFICE.

ALEXANDER ROSS, OF BROOKLYN, N. Y.

IMPROVEMENT IN FIRE-ALARMS AND HEAT-DETECTERS.

Specification forming part of Letters Patent No. 37,875, dated March 10, 1863.

To all whom it may concern:

Be it known that I, ALEXANDER ROSS, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Thermo-Electric Fire-Alarm and Heat-Detector; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a face view of my invention. Fig. 2 is a side elevation of the same.

Similar letters of reference in both views indicate corresponding parts.

This invention consists in the application of a compound strip of two or more different metals or other suitable materials to complete or close the electric circuit by the increase or decrease of heat, and in combination with a movable index on a suitable scale to close the electric circuit at any degree of electric heat corresponding with the point on the scale at which the index may have been set, in such a manner that by inserting into the electric circuit an alarm-bell or other suitable device the alarm is sounded automatically at any increase or decrease of the temperature beyond the desired limits.

To enable those skilled in the art to make and use my invention, I will proceed to describe it with reference to the drawings.

A represents a strip composed of different metals, such as brass and steel or other suitable materials, one of which expands more by heat than the other, so that when one end of the strip is firmly held its other end oscillates to and fro, as the temperature of the surrounding atmosphere or substance increases or decreases. This strip is fastened with one end to a standard, *a*, which is in metallic contact with the clamp-screw B, from which a wire leads to one of the poles of an electric battery. The loose end of the compound strip A stands opposite to a platina point, *b*, which is in metallic contact with a second clamp-screw, *c*, from which a wire leads to the opposite pole of the battery. If the temperature rises the compound strip curves and its point is brought in contact with the platina point, thereby clos-

ing the electric circuit, and if an electro-magnetic alarm-bell is included in the circuit this bell is made to sound whenever the temperature rises high enough to bring the point of the strip in contact with the platina point.

The platina point *b* is secured to an index, D, which has its fulcrum on a pivot, *e*, and which moves over a thermometer-scale, E. By setting this index to a certain point on the scale the alarm-bell is made to sound whenever the temperature in the room rises to or beyond that point.

The platina point *b* may be adjusted on the opposite side of the compound strip from that shown in the drawing. The alarm is made to sound when the temperature sinks below a certain point, and by having two platina points, one on either side of the compound strip, the temperature can be controlled and kept between certain limits, up or down.

When placed in a room this instrument will not only control the temperature, but in case of fire it will sound the alarm before any serious damage can be done. It can be used to prevent spontaneous combustion in store-houses or vessels, and also to prevent damage in green-houses or other places when the temperature sinks to a certain point.

The instrument is very simple; it is not liable to get out of order, and two or more such instruments situated in different rooms may be connected to the same alarm and battery, suitable keys being arranged to detect the room or spot where the cause of the alarm is to be found.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination, with the compound strip, of an index movable on a scale to complete the circuit at any degree of heat corresponding with the point on the scale at which the index may have been set, and for the purpose described.

ALEXANDER ROSS.

Witnesses:

GEO. PRITCHARD,
LOUIS PRITCHARD.