A. D. BLODGETT.

Thermostatic and Manual Circuit Closer.

No. 212,586. Patented Feb. 25, 1879.

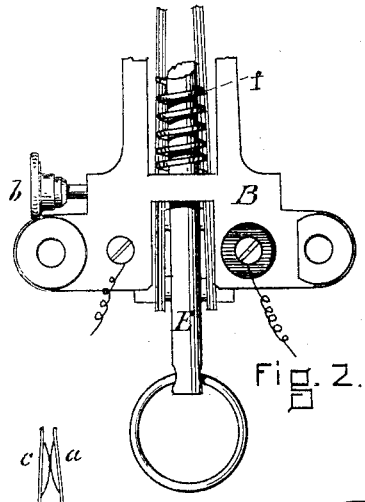

Fig. 2.

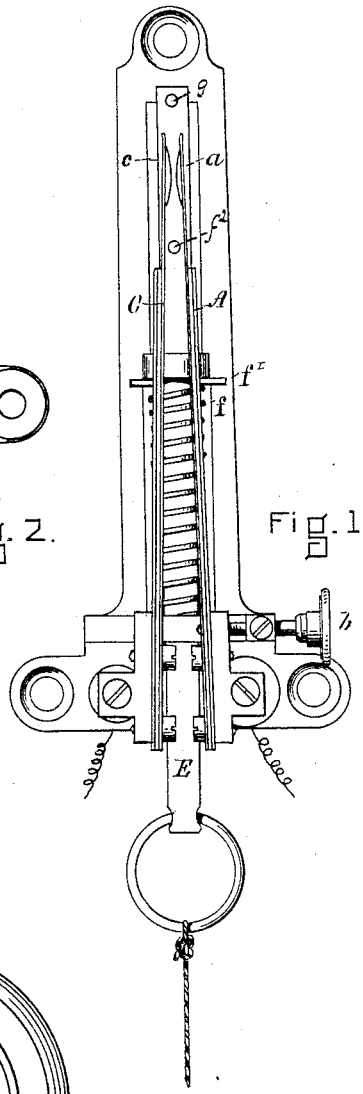

Fig. 1.

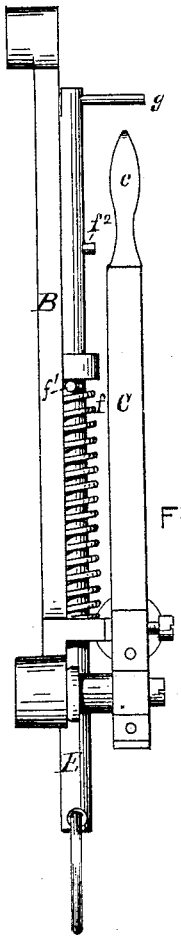

Fig. 3.

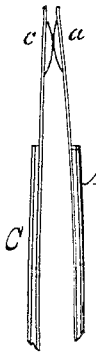

Fig. 4

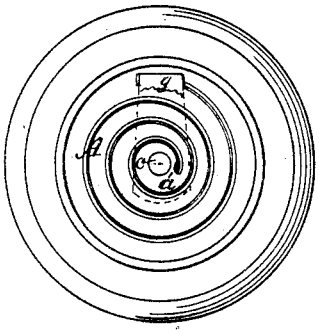

Fig. 5

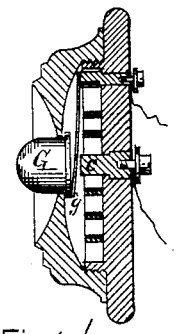

Fig. 6.

Witnesses

Geo. O. G. Coburn

C. H. Slade

Inventor

Aaron D. Blodgett.

UNITED STATES PATENT OFFICE.

AARON D. BLODGETT, OF NEWTON, MASSACHUSETTS.

IMPROVEMENT IN THERMOSTAT AND MANUAL CIRCUIT-CLOSER.

Specification forming part of Letters Patent No. **212,586**, dated February 25, 1879; application filed September 20, 1878.

To all whom it may concern:

Be it known that I, AARON D. BLODGETT, of the city of Newton, county of Middlesex, and State of Massachusetts, have invented a certain new and useful Improvement in Circuit-Closers for Electric Annunciators, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, making a part hereof.

My improvement relates to that class of circuit-closers which are used with call-bells in hotels, &c., to call attendants to a particular part of the house; and it consists in the combination, with the ordinary circuit-closer, of a second circuit-closer, which is automatic, and will only close the circuit in cases when the temperature has altered a given number of degrees from a fixed standard, the purpose of my invention being to make use of the same wires, signal, and battery, first to automatically give notice of a change of temperature in a room, and, second, to enable the occupant of a room to call an attendant whenever he desires.

In the drawings two forms of my invention are shown.

Figure 1 is a plan, and Fig. 3 a side, view of one form of my invention, Figs. 2 and 4 showing details; and Figs. 5 and 6 show another form.

A is a compound bar, attached at one end to the frame B, but insulated from it; or the frame itself is a non-conductor, as in Figs. 5 and 6.

The compound bar shown in Figs. 1, 2, 3, and 4 is composed of three metals, fastened together side by side, in the order of their coefficients of expansion, the metal having the largest coefficient (preferably zinc) being on one side of the bar, that having the smallest coefficient (preferably steel) on the other side of the bar, copper being between the two.

The spiral bar shown in Figs. 5 and 6 is composed of but two metals, preferably copper on the outside and steel on the inside of the curve.

It is well known that the shape of a bar of this description will be altered by every change in temperature, owing to the difference in expansion of the several metals of which it is composed. In the devices shown in the drawings, therefore, with every increase in temperature there is corresponding change in the shape of the bar A. The free end of this bar A forms an electrode, *a*, another electrode being *c*. In Figs. 1, 3, and 4 this second electrode *c* is the free end of another compound bar, C, made in all respects like the bar A, but arranged with its steel side turned toward the steel side of the bar A. In Figs. 5 and 6 this electrode *c* is a post.

In Figs. 1, 2, and 3 the bar C is uninsulated from the frame B, which is of metal, and in which works the rod E, carrying an additional circuit-closer, *g*. This rod is kept in the position shown in Figs. 1 and 3 by the spring *f* and stop f^1, and may be pulled down against the force of the spring *f*, so as to make a connection between the electrodes *a* and *c* by means of the circuit-closer *g*. The downward motion of the rod is limited by the pin f^2.

In Figs. 5 and 6 the circuit-closer *g* may be forced down at pleasure by pressing on the insulated button G.

These two electrodes *a c* are connected with a battery through a signal, so that whenever the circuit is closed, whether by the hand circuit-closer *g* or automatically, the signal will be sounded.

In the apparatus shown in Figs. 1, 2, and 3 the distance apart of the electrodes can be regulated by the adjusting-screw *b*.

My apparatus above described is for use in hotels and other places as a fire-detector and call-bell combined, for by means of it the same signal which is made use of to call an attendant to a particular part of the hotel or warehouse, when desired, will be sounded by the automatic closer in case of the breaking out of a fire, thus utilizing the same wires and same battery-power for the two purposes, and making the electric-bell system doubly useful at but a small additional expense.

The bar A may be made of two or more metals. In practice, bars made of the metals above described are found to be very effective. The electrodes should be of platinum or some other metal which does not easily oxidize in order to make a good connection.

When either of the devices above described

is covered the cover should be of metal or some other good conductor of heat.

What I claim as my invention is—

The improved device above described, consisting of the circuit-closer *g*, compound bar A, carrying the electrode *a* and the electrode *c*, forming a double circuit-closer, one operated by hand in the usual way and the other operating automatically, all combined together in the manner and for the purposes specified.

AARON D. BLODGETT.

Witnesses:

C. H. SLADE,

GEORGE O. G. COALE.