

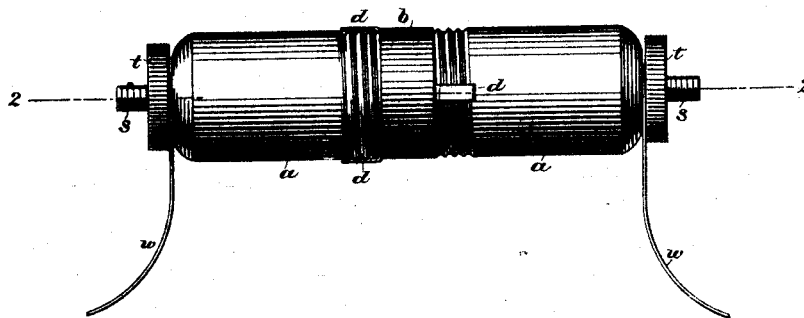
(No Model.)

G. F. BULEN.  
THERMOSTAT.

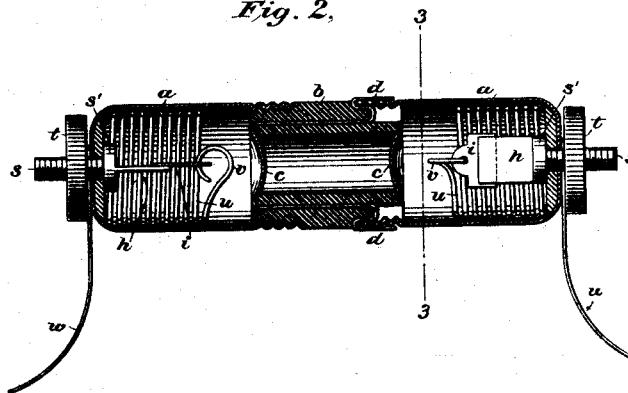
No. 421,852.

Patented Feb. 18, 1890.

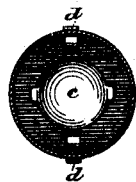
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses

*Geo. W. Brock*  
*Edward Thorpe*

Inventor

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By his Attorneys

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# UNITED STATES PATENT OFFICE.

GEORGE F. BULEN, OF TOMPKINSVILLE, NEW YORK.

## THERMOSTAT.

SPECIFICATION forming part of Letters Patent No. 421,852, dated February 18, 1890.

Application filed June 18, 1889. Serial No. 314,687. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE F. BULEN, a citizen of the United States, residing in Tompkinsville, in the county of Richmond and State of New York, have invented certain new and useful Improvements in Thermal Circuit-Closers, of which the following is a specification.

The invention relates to the class of devices in which the application of heat operates an electric circuit for alarm or similar purposes.

The invention will be readily understood by inspection of the accompanying drawings, in which—

Figure 1 is an elevation of the device. Fig. 2 is a longitudinal section thereof, and Fig. 3 a transverse section across the line 3 3 of Fig. 2.

The instrument consists of two similar end pieces *a a*, which screw upon the central portion *b*. The end pieces *a a* are cylinders of metal or a conducting substance, while the central portion *b* is formed, preferably, of rubber and serves to insulate the two sections *a a* from each other. The screws *s s* pass through the ends of the cylinder, and upon the enlarged head *s'* of each, inside the cylinder, is firmly attached the flat piece of metal *h*. To this piece *h* another piece *i* is attached by a solder which fuses at a low temperature. A spring *u* is coiled within each end of the instrument, one end of the spring resting against the inner end of the cylinder, and the other end *v*, being curved outward, as shown, is hooked into the piece *i*. In making this connection the spring *u* is compressed and the tendency is to separate the pieces *h*

and *i*. The nut *t*, which screws upon *s*, holds the pieces *h* and *i* and the spring *u* in position and serves to make a firm connection of the wires *w* with each end of the device. Fixed to each end of the insulating central piece *b* are the concave metallic pieces *c*, and from each of these end pieces *c* the narrow strips *d* extend to the outside of the cylinder, and are arranged so as to make contact with the end pieces *a a* when the latter are screwed to their places upon the central piece *b*, the connection from *c* at one end of *b* being made with the end piece *a*, which is on the opposite end of *b*. The instrument being connected in circuit by means of the wires *w*, then, in the event of fire occurring near it, causing sufficient heat to melt the fusible solder which connects the pieces *h* and *i*, the springs, one or both of them, will be released, and will cause the ends *v* to strike against the concave pieces *c*, and the circuit is at once established between the two ends of the circuit-closer. Any alarm or other apparatus in the circuit will of course be set in operation.

I claim as my invention—

The combination of the parts *a a* and *b*, the springs *u*, the conductors passing through *b*, and the pieces *h i*, joined by solder fusible at a low temperature.

In testimony whereof I have hereunto subscribed my name this 14th day of June, A. D. 1889.

GEO. F. BULEN.

Witnesses:

DANL. W. EDGECOMB,  
CAROLINE E. DAVIDSON.