(No Model.)

W. H. CHAMBERS.

THERMOSTATIC CIRCUIT CLOSER.

No. 426,917. Patented Apr. 29, 1890.

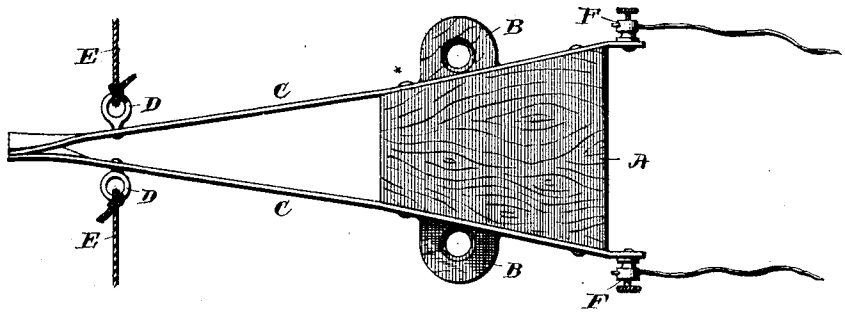


Fig. 1.

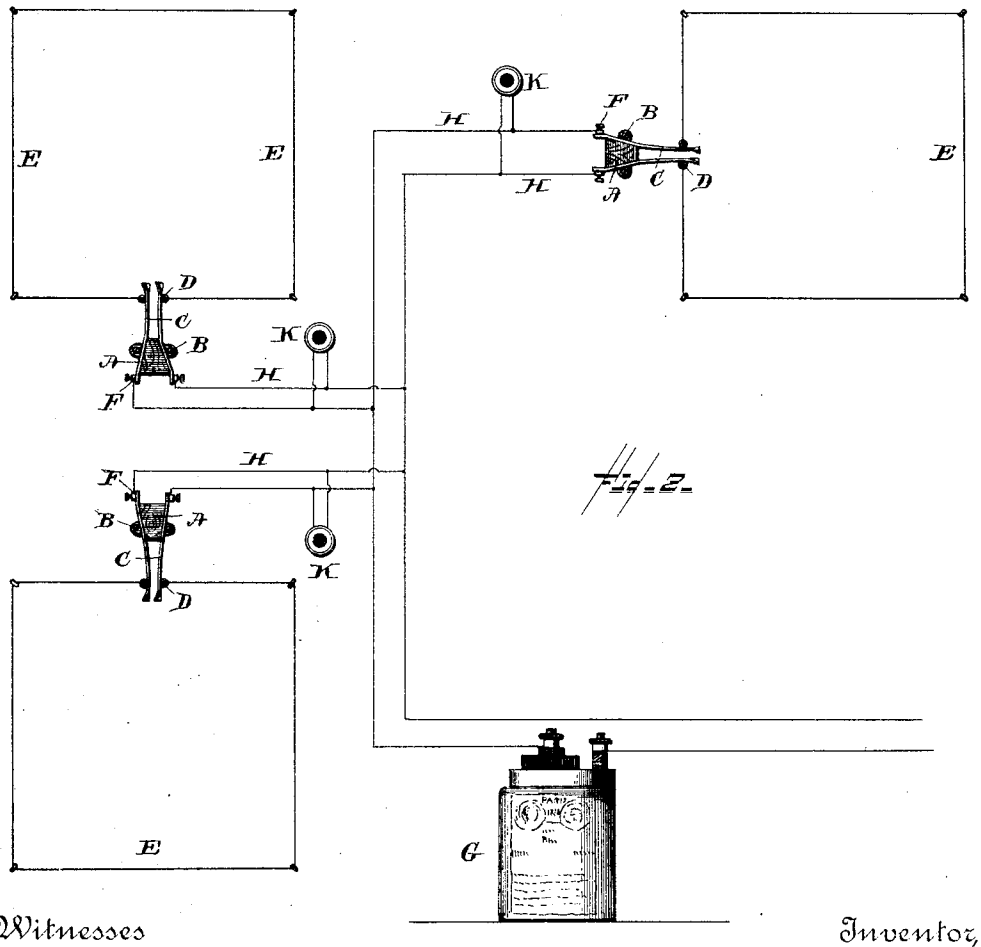


Fig. 2.

Witnesses
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By his Attorney,
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

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THERMOSTATIC CIRCUIT-CLOSER.

SPECIFICATION forming part of Letters Patent No. 426,917, dated April 29, 1890.

Application filed December 21, 1889. Serial No. 334,472. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. CHAMBERS, a citizen of the United States of America, residing at Fulton, in the county of Fulton and State of Kentucky, have invented certain new and useful Improvements in Thermostatic Circuit-Closers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to an automatic circuit-closer rendered operative by an extraordinary rise of heat or the outburst of a fire in the room or other place where it is located. The closure of the circuit operates an alarm suitably located, so that measures may be adopted immediately toward removing the source of danger. Devices of this character are well known, but depend for the most part upon the unequal expansion of metals or the fusion of solders for their operation. In practice the solders are liable to yield from other causes than heat, especially when under considerable strain, while those devices which depend upon the principle of unequal expansion of two metals require so fine an adjustment that dust and other fine deposits interfere somewhat with their reliable action.

In my device the circuit-closing part is made of considerable power, and in its normal condition of use the parts are held under considerable strain by a combustible cord, so that a false alarm is not likely to occur unless the cord is weakened by burning.

My invention embodies features of novelty which will be hereinafter fully described in this specification, and will be definitely indicated in the appended claim.

In the accompanying drawings, which will illustrate my invention, Figure 1 is a view in plan of my thermostatic circuit-closer. Fig. 2 is a diagrammatic view illustrating the manner in which it is used to control an electric circuit.

The circuit-closer comprises a base of insulating material A, provided with ears B B at the sides, perforated, as shown, to permit of the ready and secure attachment of the device to the wall of a room. On the sides of the base are firmly secured two metallic spring-arms C C, the arms being so inclined or shaped as to firmly close at the top. In order to make a reliable contact between the two arms at all times irrespective of the dust and grease deposits which are liable to settle on them in use, I give the tops of the arms a partial twist—a little less than a quarter circumference being sufficient, as shown in the drawings—so that when they spring together they meet with a scraping action, which will effectually rub off the dirt and scratch a clean metallic surface, making a safe electric contact. Near the top of each spring-arm is secured an eye D, to which may be secured cords E E. The lower ends of the springs are provided with binding-posts F F for the convenient attachment of the wires of the circuit to be controlled. The device may be connected up in any open-circuit alarm system. The cords E E are carried around the walls or ceiling of a room and supported on screw-eyes or in any other suitable manner, being drawn sufficiently tight to force open the arms or electrodes C C of the circuit-closer, as shown in Fig. 2. When the cord is weakened by fire or extraordinary heat, the tension of the arms will cause it to part, permitting a closure of the circuit from a suitable source of electric energy, as battery G, to an alarm apparatus located at any desired point. This alarm apparatus may be an electric bell or an electro-mechanical gong located in another apartment of the same building; or the circuit-closer may be connected in circuit with a fire-alarm box, and thus transmit the alarm to the central station of the fire department.

The thermostat may be applied to use directly in hotel-annunciator systems without rewiring the building, as may be understood from an inspection of Fig. 2.

Branch wires H H are connected to the leading-in wires of the push-buttons K K K in the various rooms and to the binding-posts of the spring-arms. They will thus form a series of open branches, any one of which when closed will give the required alarm.

An important incident resulting from the use of the combustible cord for holding the arms of the circuit-closer open is, that it can be used in places of great heat, such as boiler

and fire room, kitchens of houses or dwellings, and other similar places where the high heat which exists at times, although below the real danger-point, is apt to throw other alarms into operation and raise a false alarm.

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

A thermostatic circuit-closer comprising a base made of an insulating material, two spring-arms secured at one end to the base in such manner that their free ends may spring together, the free end of each arm having a quarter-twist, cords attached to the arms for holding them normally apart, and circuit-connections arranged as described, whereby the circuit will be closed when the arms are released.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. CHAMBERS.

Witnesses:

WM. HUNTER MYERS,

ALBERT SPEIDEN.