(No Model.)

G. B. SMITH.

FUSIBLE FIRE ALARM.

No. 484,469. Patented Oct. 18, 1892.

Fig. 1.

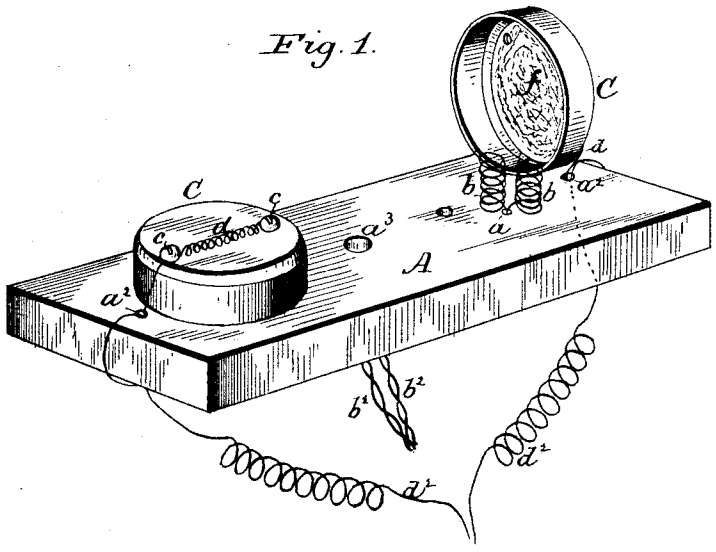
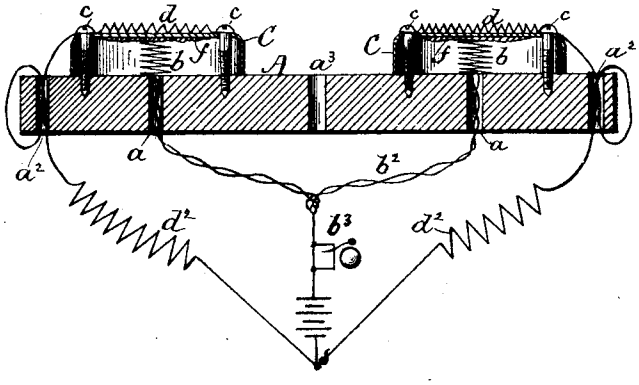


Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE B. SMITH, OF ST. CLOUD, MINNESOTA, ASSIGNOR OF ONE-HALF TO ROBERT ASHWORTH, OF SAME PLACE.

FUSIBLE FIRE-ALARM.

SPECIFICATION forming part of Letters Patent No. 484,469, dated October 18, 1892.

Application filed May 10, 1892. Serial No. 432,460. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. SMITH, a citizen of the United States, residing at St. Cloud, in the county of Stearns, State of Minnesota, have invented certain new and useful Improvements in Fusible Fire-Alarms, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to thermal circuit-closers in which an excessive rise in the temperature will automatically close an electric circuit that is otherwise normally kept open; and the objects of my improvement are to provide a simple, inexpensive, and reliable electric thermostat of this class adapted to be connected with the alarm-bells used in elevators, and also with other electric bells and annunciators in hotels and dwellings. I attain these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a duplex fusible fire-alarm constructed in accordance with my invention, the cover of one of the wire-spring circuit-closers being shown as turned up and standing upon its edge to show said wire springs and also the insulating material in the bottom of said cover. Fig. 2 is a longitudinal central section of the duplex fusible fire-alarm, showing its connection with a bell and battery.

In said drawings, A represents a base, preferably of wood, about three inches long and an inch and a half wide. Upon said base are placed vertically near each end thereof two coils *b*, of tinned spring-steel wire. The upper end of each coil stands free; but the lower end of the wires forming each coil is made to pass through a vertical perforation *a* in the base to the under side thereof, where they are preferably twisted together at b^2 and adapted to be connected with a wire attached to an annunciator or to an electric alarm b^3 and thence to one pole of a battery. To complete the circuit with said bell or electric alarm, a metallic cap or box-cover C is placed over each pair of coils *b*. Each cover is secured to the base A by means of two screws *c*, passing through said cover, and a wire *d* is secured to the neck of said screws and made to bear upon the top of the cover C, the portion of the wire *d* between said screws being bent, preferably, in the form of a coil. The balance of said wire is made to pass through a perforation a^2 in the base A and preferably loosely secured to said base by passing twice through said perforation a^2 and conducted to the under side of the base in the form of a coil d^2. The same arrangement is made for the two covers C, and the two wires d^2 are brought together and connected to the other pole of a battery or electric alarm to make a metallic circuit, in case the temperature becomes above 130° Fahrenheit in the room where the device is placed; but to normally prevent the completion of the circuit there is placed in and secured to the under side of the cover C a coating formed of a non-metallic substance *f*, which melts at or about 130° Fahrenheit. Said substance is preferably streatine. It is a commercial substance worth about nine cents per pound and is one of the best non-conductors of electricity. A few drops of oil of cloves and a small amount of rosin may also be added thereto. To prepare the covers, said substance is first melted and a small quantity—about one-sixteenth of an inch in thickness—is poured into the bottom of each cover, and when congealed it adheres strongly to the tin or metal of said cover. When the covers are screwed to the base A over the coils *b*, the upper ends of said coils press normally against the streatine *f;* but when the device is subjected to a temperature of 130° Fahrenheit or more the substance *f* melts and allows the coils *b* to form direct contacts with the covers, and then a metallic circuit is complete in each alarm on the base A, and if connected with an alarm-bell the latter rings continuously.

The base A can be secured to the ceiling or wall of a room or the frame of an elevator by means of a screw made to pass through the central perforation a^3 thereof. By having a series of coils *b* pressing against the metal cover in place of only one coil the probabilities of a completion of the electric circuit are

greatly increased, and also by having the thermostats duplicated, as shown, on the same base-block.

Having now fully described my invention, I claim—

1. In an electric thermostat, the combination of a non-conductor base-block, a metallic cover C, having non-metallic fusible insulating material secured to the bottom thereof, two springs pressing against said material and having wires attached to said springs, and a wire connected to and in contact with said cover, substantially as described.

2. In an electric thermostat, the combination of a non-conductor base-block, metallic covers C, having non-metallic fusible insulating material secured to the bottom of said covers, two coiled springs pressing against said material, the wires of said springs being extended through the base-block, and a wire connected to and in contact with each cover, substantially as described.

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

GEORGE B. SMITH.

Witnesses:
J. W. WING,
E. E. CLARK.