

(No Model.)

H. LEWERS.
AUTOMATIC CIRCUIT CLOSER.

No. 513,796.

Patented Jan. 30, 1894.

Fig 1.

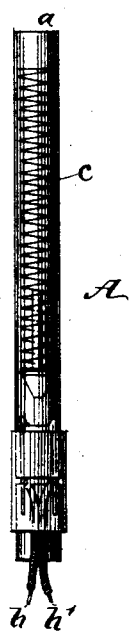


Fig 2.

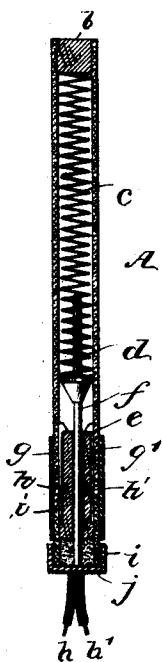


Fig 3.

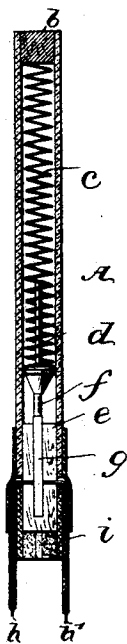


Fig 4.

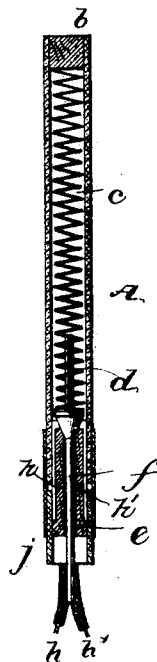


Fig 5.



Fig 6.

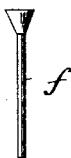
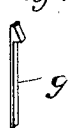


Fig 7.



WITNESSES:

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AUTOMATIC CIRCUIT-CLOSER.

SPECIFICATION forming part of Letters Patent No. 513,796, dated January 30, 1894.

Application filed July 11, 1893. Serial No. 480,130. (No model.)

To all whom it may concern:

Be it known that I, HENRY LEWERS, of Carson City, in the county of Ormsby and State of Nevada, have invented a new and Improved Automatic Circuit-Closer, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a side elevation of my improved automatic circuit closer. Fig. 2 is a longitudinal section of the same. Fig. 3 is a longitudinal section on a plane at right angles to the plane of Fig. 2. Fig. 4 is a longitudinal section showing the circuit closer in a closed position. Fig. 5 is a detail view of the follower fitting in the end of the spring. Fig. 6 is a detail view of the circuit-closing pin; and Fig. 7 is a detail perspective view of one of the contact pieces.

Similar letters of reference indicate corresponding parts in all the views.

The object of my invention is to construct a simple and effective circuit closer for fire alarm circuits.

My invention consists in a tube of insulating material permanently closed at one end and containing a spring, a follower fitted to the spring, a stopper of insulating material fitted to the open end of the tube and carrying two electrical contact pieces, a circuit closing pin inserted in the central bore of the stopper, and a cap containing fusible or explosive material for holding the contact plug away from the contact pieces, all as will be hereinafter more fully described.

The tube A, has the end *a* permanently closed by the plug *b*. In the said tube is inserted a spiral spring *c*, which abuts on the plug *b*, and is provided at its free end with a follower *d*. To the open end of the tube is fitted an insulating stopper *e*, which is axially bored to receive the circuit-closing pin *f*, which is provided with a conical head resting on the follower *d*.

In grooves in the sides of the insulating stopper *e* are inserted contact pieces *g g'*, the inner ends of which are furnished with beveled heads adapted to contact with the conical heads of the circuit closing pin *f*. Wires *h h'* are inserted in the stopper *e*, at one side thereof, and communicate with the contact pieces *g, g'*.

To the outer end of the insulating stopper *e* is fitted a tube *i* of insulating material, and in the said tube is placed a filling of fusible

cement which holds the circuit closing pin *f* in a fixed position, with its conical head away from the contact pieces *g g'*, and against the pressure of the spiral spring *c*, and the said tube *i* is provided with a cap *j* for inclosing the cement. In lieu of filling the insulating tube *i* with fusible material, I may fill the space in the tube *i* around the pin *f* with explosive material, and I confine the same by the cap *j* which is cemented on the tube *i*. The circuit closers thus described are connected with the alarm system by attaching the wires *h h'* to the house wires wherever the device is needed. When a fire occurs and the circuit closer becomes heated, the cement contained in the tube *i* melts and allows the spring *c* to force the circuit-closing pin *f* into contact with the contact pieces *g, g'*, thereby closing the circuit and giving the alarm.

In case an explosive is used in lieu of the cement, it ignites when the temperature rises and blows off the cap *j* thereby liberating the contact pin *f*, allowing the spring *c* to force it down against the contact pieces *g g'*, thereby closing the circuit and giving the alarm.

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

1. In an automatic circuit closer for fire alarm circuits, the combination of an inclosing case, a perforated stopper fitted to one end of said case and provided with contact points, a spring pressed circuit closing pin arranged within the case and adapted to move in the bore of said stopper, a tube fitted to the stopper and extending beyond its outer end, for the purpose specified, and a cap for the outer end of the tube, substantially as described.

2. In an automatic circuit closer for fire alarm circuits, the combination of an inclosing tube permanently stopped at one end, a spring placed in the tube and abutting against the closed end of the tube, a perforated stopper provided with two contact pieces, a circuit closing pin inserted in the perforation of the stopper and resting on the spring, and means for holding the circuit-closing pin out of contact with the contact pieces, substantially as specified.

HENRY LEWERS.

Witnesses:

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G. F. FORD.