(No Model.)

G. G. SMITH.

FUSIBLE COUPLING FOR ELECTRIC FIRE ALARM CIRCUITS.

No. 383,377. Patented May 22, 1888.

Fig. 1.

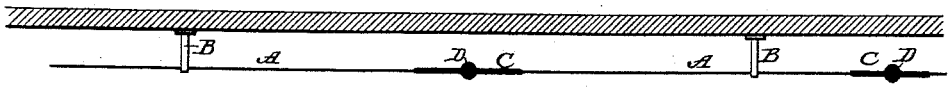


Fig. 2.

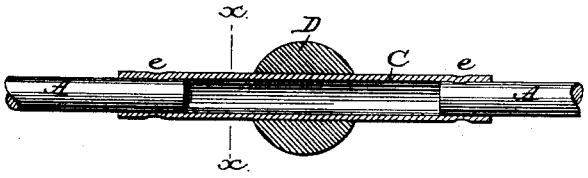
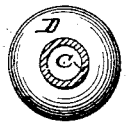


Fig. 3.



Attest:
A. N. Jesberg.
Leland M. Burr.

Inventor:
George G. Smith
By David A. Burr
Atty.

UNITED STATES PATENT OFFICE.

GEORGE G. SMITH, OF ST. ALBANS, VERMONT.

FUSIBLE COUPLING FOR ELECTRIC FIRE-ALARM CIRCUITS.

SPECIFICATION forming part of Letters Patent No. 383,377, dated May 22, 1888.

Application filed September 1, 1887. Serial No. 248,492. (No model.)

To all whom it may concern:

Be it known that I, GEORGE G. SMITH, of St. Albans, in the county of Franklin and State of Vermont, have invented a new and useful Improvement in Fusible Couplings for Electric Fire-Alarm Circuits; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification in which—

Figure 1 illustrates in elevation the wires of a closed electric circuit suspended from a ceiling and connected together by my improved fusible couplings. Fig. 2 is a detached view, on a greatly enlarged scale, of one of my couplings in position. Fig. 3 is a cross section in line *x x* of Fig. 2.

My invention relates to the fusible couplings connecting the several links or sections in the closed circuit of an automatic electric fire-alarm system.

It has for its object to simplify said couplings and render their operation more positive and effective.

It consists in combining, with a coupling-tube made of an alloy fusible at a determinate low temperature and adapted to be readily connected at its ends to the proximate ends of the conducting-wires in an electric circuit, of a weight formed or fitted upon said coupling-tube about midway between its ends, whereby, when the coupling becomes softened and weakened by a dangerous rise in the temperature of the atmosphere, it will operate by its gravity to produce a prompt and complete severance of said coupling.

In the accompanying drawings, A A A, Fig. 1, represent sections of the main conducting-wire, which, when united by suitable couplings, serve to constitute a complete electric circuit in a fire-alarm system designed to operate by the breaking of a closed circuit.

B B are the customary insulating supports for said wires.

C C are short tubes, and which are formed of a metallic alloy which will melt at such temperature as is high enough to become dangerous in the structure to be protected, such an alloy being well known and commonly used in the manufacture of fusible electric connections for fire-alarm circuits.

These tubular fusible couplings are attached to the line-wires A A by simply slipping them over the ends of said wires and clamping down the coupling upon the wire with a pair of pliers, (as illustrated by the indentations at *e e* in Fig. 2 of the drawings,) the internal diameter of the tubing being such as to embrace closely the wire.

A weight, D, is formed in one with the coupling by an enlargement of the latter about midway between its ends, or it may be separately formed and attached thereto by passing the coupling tube through a perforation in the weight, as shown in Fig. 2.

It is evident that the shape or form of the central weight, D, is immaterial.

In the operation of my invention, when the temperature of the apartment in which the coupling is located reaches a dangerously-high point, the fusible coupling C, becoming softened, will no longer have sufficient strength to carry the weight D, and the weight will thereupon operate automatically to sever the coupling and break the circuit otherwise closed thereby through the wires A A.

I do not herein claim, broadly, the attachment of a weight to a fusible coupling, as weights have heretofore been suspended by cords from a fusible wire inserted as a coupling in a closed electric circuit; but

I claim as my invention—

The improved coupling for closed electric fire-alarm circuits, consisting of a tube of fusible metal adapted to receive the ends of the circuit-wire and a weight fixed centrally upon said tube, substantially in the manner and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEO. G. SMITH.

Witnesses:
A. N. JESBERA,
M. E. FINLEY.