

(No Model.)

E. B. TEMPLE.

SAFETY DEVICE FOR ELECTRIC WIRES.

No. 341,289.

Patented May 4, 1886.

Fig. 1.

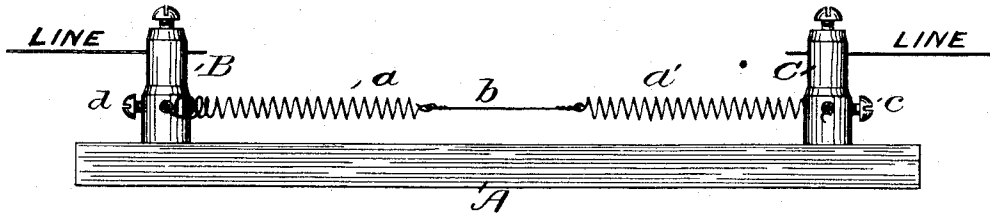


Fig. 3.

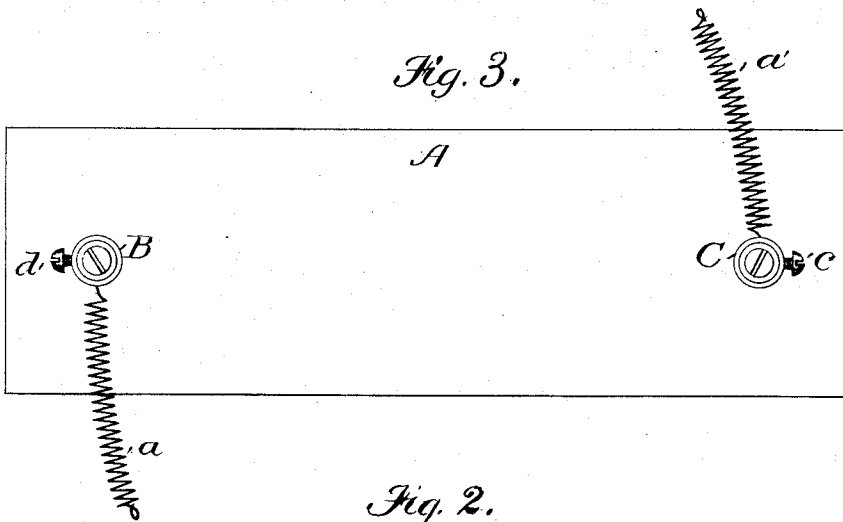
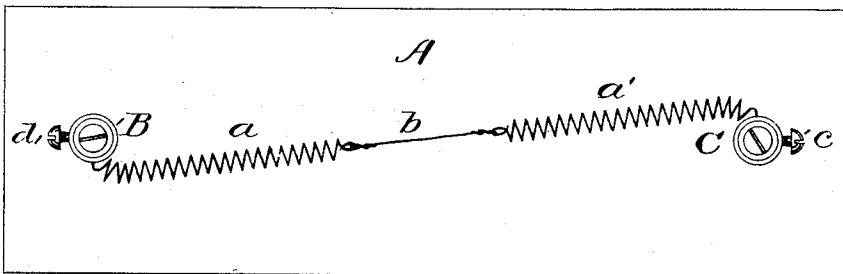


Fig. 2.



Witnesses,
Fred J. Schwarz,
Geo. Willis Reed

Inventor
E. B. Temple,
By his Attorney,
Hold Lockwood

UNITED STATES PATENT OFFICE.

EDWIN B. TEMPLE, OF EVERETT, ASSIGNOR TO THE AMERICAN BELL TELEPHONE COMPANY, OF BOSTON, MASSACHUSETTS.

SAFETY DEVICE FOR ELECTRIC WIRES.

SPECIFICATION forming part of Letters Patent No. 341,289, dated May 4, 1886.

Application filed May 17, 1883. Serial No. 95,330. (No model.)

To all whom it may concern:

Be it known that I, EDWIN B. TEMPLE, of Everett, in the county of Middlesex and State of Massachusetts, have invented certain improvements in Safety Devices for Electric Wires, of which the following is a specification.

My invention relates to devices to be inserted in the line-wires of telegraphic and telephonic or other electric circuits for the purpose of causing such circuits to be automatically opened when they are by any means brought into contact with other electric circuits through which electric currents of greater volume are passing than those which traverse the wires which are to be automatically opened. These are usually composed of conducting-wires small in sectional area, or are fitted with instruments requiring weak or comparatively weak electric currents.

It is desirable, in view of the number of electric circuits crossing or running parallel with each other of so many kinds and for so many purposes, that means should be provided to protect those which are constructed for electric results requiring weak currents from those which convey currents of powerful character when they are by any means brought into electric contact or connection with each other, and form new circuits through each other, to the injury and detriment of the weak-current-conducting wires.

My invention provides new and extremely simple means for automatically accomplishing the desired result, and is embodied in the construction shown by the drawings which form a part of this specification, of which—

Figure 1 represents a side view; Fig. 2, a top view as arranged in a line-circuit, and Fig. 3 a similar view showing the line opened.

A represents a base-board to be screwed to any firm support, serving also as a base, to which the screw-posts B C are secured at its opposite ends. These posts B C are double in their construction and functions. The line-wires enter holes at the upper parts thereof, and are secured by a screw, in the usual manner. At the lower part of the screw-posts other holes are provided also with binding-screws, to which the ends of the springs *a a'* are secured—one to each binding-post. The opposite or free ends

of the springs are connected together by a thin strip or wire of platinum, *b*. The ends of the springs enter the screw-posts in holes drilled approximately at right angles with the line of their axis when connected together, in order that when they are released by the fusion of the wire *b* they will spring away from each other in opposite directions, leaving the space between the two posts B C entirely clear, as shown in Fig. 3. The wire or strip *b* will more readily fuse under the action of an abnormally strong current when in a state of mechanical tension, and this favorable condition is secured by the arrangement of the springs in the manner described and illustrated.

It is obvious that other forms of springs may be used—as, for instance, two flat springs may be connected to their respective screw-posts, and the wire *b* fastened to the free ends of each, so that when the wire is fused by a current of electricity the springs will separate by the resiliency. In such case the flat springs would act precisely as the spiral springs—that is to say, as soon as the wire *b* is broken they would separate in opposite directions until each assumed a position approximately at right angles to that it occupied when under tension, thus producing instantly the widest break possible between the posts B C.

I am aware that it has been proposed heretofore to protect electric circuits from strong currents by circuit-breakers composed of a fusible strip or fine wire attached to a spring, the purpose of the latter being usually to effect a new contact upon the normal circuit being broken; but in no device made prior to my invention (so far as I am aware) have a pair of springs forming part of the circuit and connected under tension by a fusible strip been so arranged as to separate on the strip being broken in opposite directions from their previous positions, so as to produce instantly the widest possible break in the circuit.

Inasmuch as the security of the circuit to be protected depends largely upon the length of the break produced and the promptness with which it is effected, the construction herein described and particularly pointed out and claimed hereinafter possesses decided ad-

vantages over the devices heretofore contrived for the same purpose.

I claim—

The combination of the binding-posts, spiral
5 springs attached thereto, and fine-wire conductor holding said springs in tension in a line approximately at right angles to that which they occupy when free, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 30th day of April, 1883.

E. B. TEMPLE.

Witnesses:

GEO. WILLIS PIERCE,
J. H. CHEEVER.