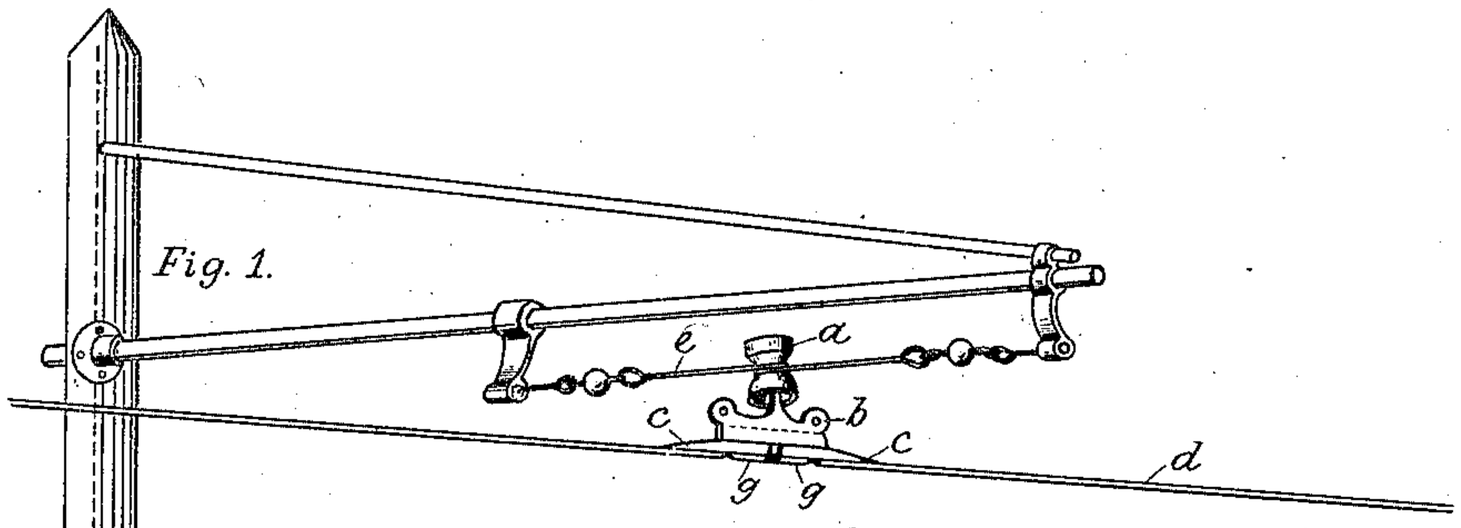
A. BELGODER.

SAFETY COUPLING FOR ELECTRIC CONDUCTORS.

APPLICATION FILED MAY 26, 1909.

987,036. Patented Mar. 14, 1911.

Fig. 1.



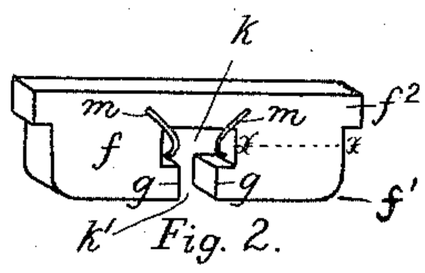


Fig. 2.

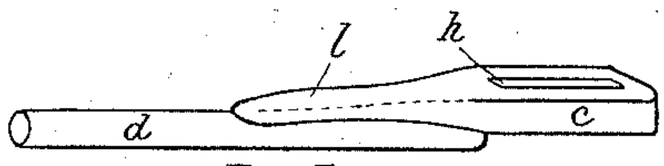


Fig. 3.

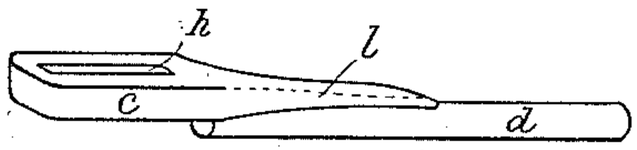


Fig. 4.

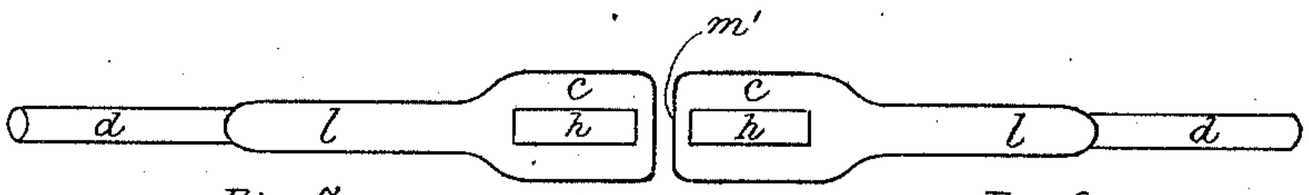


Fig. 5.

Fig. 6.

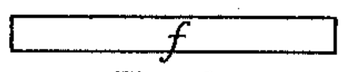


Fig. 7.

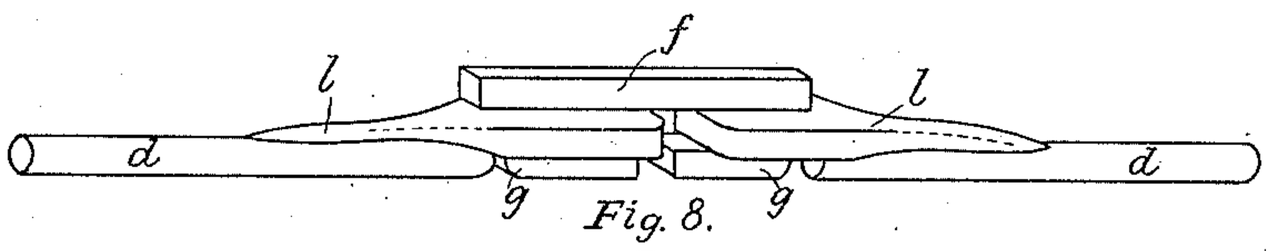


Fig. 8.

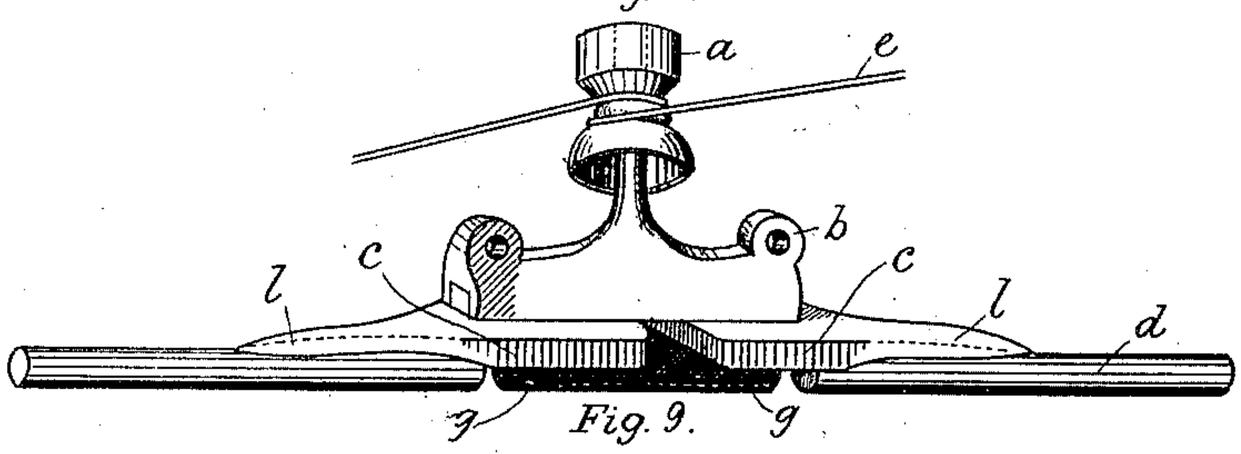


Fig. 9.

WITNESSES.

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SAFETY-COUPLING FOR ELECTRIC CONDUCTORS.

987,036. Specification of Letters Patent. Patented Mar. 14, 1911.

Application filed May 26, 1909. Serial No. 498,589.

To all whom it may concern:

Be it known that I, ANGEL BELGODER, a merchant and a citizen of the Republic of Mexico, residing at Mexico city, Mexico, have invented a new and useful Safety-Coupling for Electric Conductors, and hereby do declare the following to be a complete description of the same.

My invention relates to a device for preventing accidents in the nature of fire or of injury to living beings by contact with the "live" ends of a broken electric cable. This is accomplished by dividing the cable or conductor into a suitable number of sections of adequate length, and inserting into the circuit at each end of each section a coupling having an automatic, mechanically operated, uncoupling device, which, upon rupture of any section, will cause its two parts to fall completely out of and clear of the circuit.

The coupling which forms the subject of my invention is a coupling in the sense that under normal, operative conditions it connects two parts of the cable or conductor; but it is designed so that when either of these parts becomes slack as by breaking of the section its end will fall out of connection, so that it then becomes or acts as an uncoupling device.

As an illustration the coupling is here shown as applied to sections of an electric power main, being suspended from posts, not necessarily the feed wire posts, but at each of which the safety coupling is installed.

In the annexed drawing which represents my invention: Figure 1 is a perspective showing my circuit breaker as it appears set on a post transmission wire or cable and under the bracket which supports such wire or cable. Fig. 2 is the contact breaker. Figs. 3, 4, 5, and 6 show the two yokes that engage the contact breaker. Fig. 7 is a plan view of the circuit breaker. Fig. 8 shows the entire device assembled. Fig. 9 is a perspective drawing of the apparatus set up in place.

The device is made of copper, steel or other suitable metal, either cast, forged or stamped.

In the example here shown, I attach, by any suitable known means, such as soldering, the key or coupling piece *f* to a slot provided in the under side of a shoe *b*, of known construction, attached by a central lug, projecting from its upper face as shown, or by any other suitable known means, to a line wire insulator of glass or porcelain *a* of the common type, secured to one of the aforementioned section-limiting posts in any suitable way, as by the wire *e*.

The key-piece *f* of the coupling consists of a metallic conductor having the general shape of a rectangular prism or parallelepiped, the two lower corners f^1 of which are rounded off to facilitate the disengagement of the coupling eye, while shoulders are formed at f^2, projecting outwardly in the direction of the cable. The outer faces of these shoulders abut against the ends of the transmission wire, where it is cut to admit the insertion of the coupling. At the center of the key-piece a rectangular perforation is provided, having an entrance passing from the bottom of the key-piece to the lower edge of the perforation, and of less width than the latter, whereby lugs *g*, *g*, are formed upon which the flat links *c*, *c*, normally rest. These flat links have tail pieces *l* secured by staples, or any suitable means to the upper side of the two ends *d*, *d* of the transmission wire. Each link has a rectangular opening *h*, corresponding in shape to the section through X X of the downwardly projecting fingers of the key-piece but sufficiently large to provide for the play necessary to permit of the separation of the parts. The end portion m^1, of each link is rounded off at the top and bottom of its inner and outer vertical faces to enable it to pass readily into and out of engagement with the key-piece.

When coupling the ends of the conductor the members *f* and *c* are placed at right angles with each other, member *c* being introduced into the central slot in member *f* and the members then swung to a position in line with each other. The other link is now hooked into the key-piece, or the key-piece into it by an obvious manipulation, and the opposite end of the section is similarly coupled to the main line. When tension is applied to the section thus coupled, each link places its spring under compression. Upon rupture of any part of the section, the tension being released the links will, by reaction, move from their seats toward the other side of the perforation in the key-piece, being assisted in this movement by the pressure of springs *m*. As the other link in each coupling is held back to its seat by the tension of its unbroken section, the passage through entrance h^1 is

clear, so that as soon as the end m^1, of the link reaches the aperture it falls through it to the ground. This will in most cases occur simultaneously at each end of the broken section. If not, the unsupported weight of the end which may still be retained will quickly release it from the coupling, leaving the entire section disconnected from the circuit, so that all accidents from contact with it by persons or inflammable objects are precluded.

While in the description the term "transmission wire" has been used, it is evident that the same device will apply to the return wire, should there be no earth return.

I claim:

1. A safety coupling for an electric conductor comprising a plurality of members secured to the adjacent ends of the conductor, such members being provided with slots and projecting beyond the respective ends of the conductor and a connecting member formed with a slot extending upwardly from its lower edge and with a slot extending at an angle to the slot first mentioned, shoulders adjacent to the meeting point of the slots, and shoulders on the ends of the connecting member, the slotted portions of the members first mentioned receiving portions of the connecting member when the parts are assembled, such members being held against displacement by the several shoulders aforesaid.

2. A safety coupling for an electric conductor comprising a plurality of members secured to the adjacent ends of the conductor, such members being provided with slots and projecting beyond the respective ends of the conductor and a connecting member formed with a slot extending upwardly from its lower edge and with a slot extending at an angle to the slot first mentioned, shoulders adjacent to the meeting point of the slots, and shoulders on the ends of the connecting members, the slotted portions of the members first mentioned receiving portions of the connecting member when the parts are assembled, such members being held against displacement by the several shoulders aforesaid, and means tending to cause the members first mentioned to become disengaged from the communicating slots of the connecting member when the tension on the conductors is released.

3. A safety coupling for an electric conductor comprising a plurality of members secured to the adjacent ends of the conductor and offset therefrom, such members being provided with slots and projecting beyond the respective ends of the conductor, and a connecting member having its lower edge in the same plane with the lower surface of the ends of the conductor, such connecting member being formed with a slot extending upwardly from its lower edge and with a slot extending at an angle to the slot first mentioned, shoulders adjacent to the meeting point of the slots, and shoulders on the ends of the connecting member, the slotted portions of the members first mentioned receiving portions of the connecting member when the parts are assembled, such members being held against displacement by the several shoulders aforesaid.

In testimony whereof I have signed the foregoing in the presence of two witnesses.

ANGEL BELGODER.

Witnesses:

JUAN LOPEZ REVUELTA,

MIGUEL OYARZÁLAL.