B. S. EDDY.

AUTOMATIC LINE CLOSER FOR SERIES ELECTRICAL CIRCUITS.

APPLICATION FILED MAR. 26, 1917.

1,242,333. Patented Oct. 9, 1917.

FIG. 1.

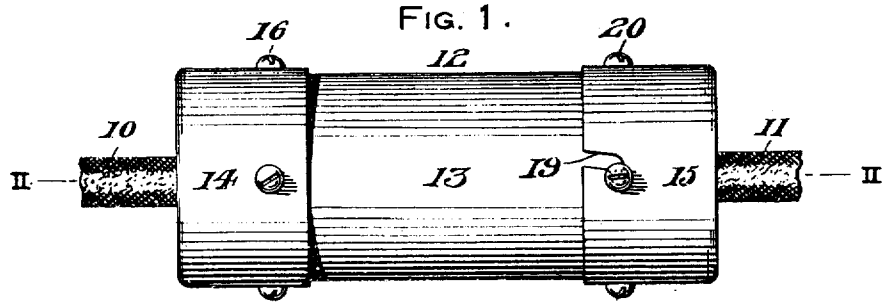


FIG. 2.

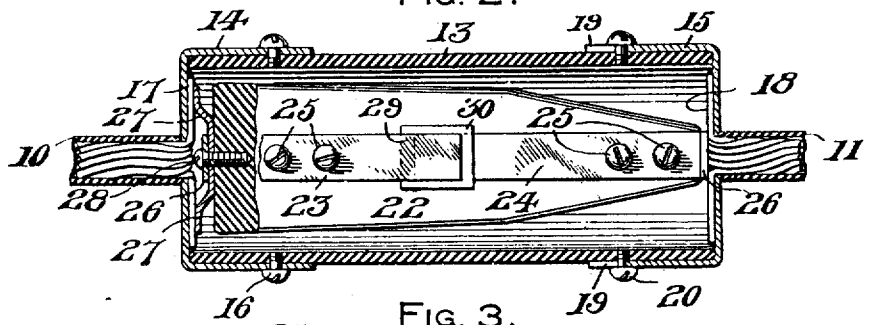


FIG. 3.

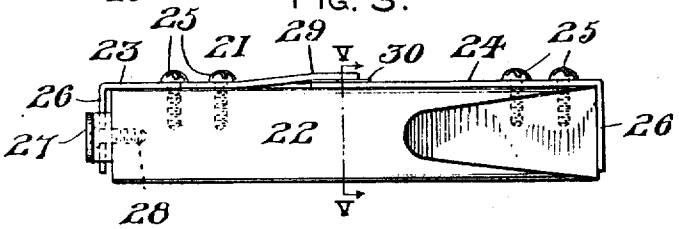


FIG. 4.

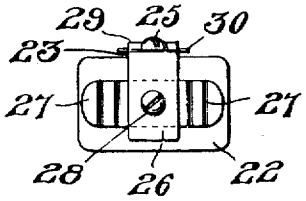
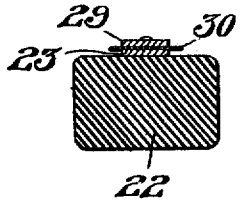


FIG. 5.



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AUTOMATIC LINE-CLOSER FOR SERIES ELECTRICAL CIRCUITS.

1,242,333. Specification of Letters Patent. Patented Oct. 9, 1917.

Application filed March 26, 1917. Serial No. 157,401.

To all whom it may concern:

Be it known that I, BERT S. EDDY, a citizen of the United States, residing at Elmira, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Automatic Line-Closers for Series Electrical Circuits, of which the following is a specification.

This invention relates to certain new and useful improvements in automatic line closers for series electrical circuits.

The primary object of the invention is the provision of an auxiliary normally open circuit for any series lines, the same being automatically closed upon an interruption in the main circuit, provision being made for restoring the device in its open position when the main line is restored.

A further object of the invention is the provision of a normally open automatic closer for series lines that may be readily installed wherever desired, the same being easy and inexpensive to manufacture with renewable and replaceable parts.

With these general objects in view and others that will appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawing and pointed out in the appended claim.

In the drawing forming a part of this application and in which like numerals refer to corresponding parts throughout the several views,

Figure 1 is a side elevation of the device closed.

Fig. 2 is a central longitudinal sectional view thereof.

Fig. 3 is an elevational view of the switch block portion of the device.

Fig. 4 is an end elevational view, and,

Fig. 5 is a transverse sectional view taken upon line V—V of Fig. 3.

It will be understood that the present device is adapted as a line closer in connection with circuit wires of any size, the size of the present device varied accordingly, the device being arranged for automatically closing an interrupted circuit such as a circuit employing a plurality of members or instruments which are liable to become burned out thereby interrupting the main line by opening the electric circuit therein.

The preferable embodiment of the device is herein illustrated as interposed between the end portions 10 and 11 of a severed circuit wire or cable. The device broadly comprises a cylindrical normally closed casing 12 formed of a tube 13 of di-electric material such as fiber having end closure caps 14 and 15 electrically connected with the said cable ends 10 and 11 respectively.

The cap 14 is secured to the tube 13 in a permanent manner by suitable screws 16, the cable 10 having the wire strands 17 thereof extending centrally through the cap 14 and attached preferably by solder to the interior of said cap 14. The opposite cable end 11 is similarly secured to the cap 15 by having the strands 18 thereof centrally extending therethrough secured to the inner face of the cap, while the latter is detachably connected to the tube 13 by a plurality of bayonet slots engaged in the cap for detachable engagement with screws 20 provided upon the tube 13, it being understood of course that the said screws 20 may be tightened upon the cap when desired while the cap 15 may ordinarily be detached when desired to gain access to the interior of the device.

An automatic switch 21 is freely positioned within the casing 12 suitably tensioned between the opposite ends thereof and consisting of a tapered block or base 22 of di-electrical material such as wood having oppositely extending contacts 23 and 24 secured longitudinally to one face of the block by means of screws 25 and with their opposite ends angularly bent as at 26 overlying the opposite ends of the block 22. A U-shaped spring contact or foot 27 is arranged between the extension 26 of the spring 23 and the adjacent end of the block 22, a securing screw 28 being arranged through the said foot and extension threaded into the block.

The inner end portions of the spring contacts 23 and 24 are arranged in overlapped relation as at 29 with a tendency for contacting each other and normally held apart by interposing a suitable non-conductor such as a piece of paper 30 between the end portions of the said springs. The switch 21 is readily arranged within the casing 12 when the cap 15 thereof is removed and the foot 27 being arranged in contact with the cable strands 17 of the cap 14, the cap 15 is then arranged in place which engages the extension 26 of the spring 24 in close contact with the cable strands 18 while the tighten-

ing of the cap 15 by means of the bayonet slot connection herein illustrated, tensioning the switch between the caps 14 and 15 slightly spreading the foot member 27 in its contact forming arrangement and the strands 17 and 18 are positioned in substantially radial arrangement affording ample engaging surfaces for the opposite ends of the switch 21.

It will be readily understood that with the present device installed in a series circuit, with the switch 21 arranged open by means of the papers 30, the opening of the main line causing the current to flow through the cable, 10, and 11 fuses the papers 30 thereby automatically closing the switch for permitting the resilient terminal 23 to flatly engage the terminal 24. The main circuit being thereby restored through the present device, normal conditions may again be maintained when desired by repairing the main circuit and by opening the switch 21 by renewing the paper 30.

What I claim as new is:—

A series line closer comprising a casing having a di-electric body portion and metallic end caps one of which caps is removable, conducting cables attached to the said caps extending therethrough with the strands thereof radially arranged upon the inner faces of the said caps, a switch block freely removably arranged within hte casing, terminal leaf springs carried by the block having overlying ends adapted for the reception of inflammable members therebetween, and resilient electrical connections between the said springs and cable strands.

In testimony whereof I affix my signature.

BERT S. EDDY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."