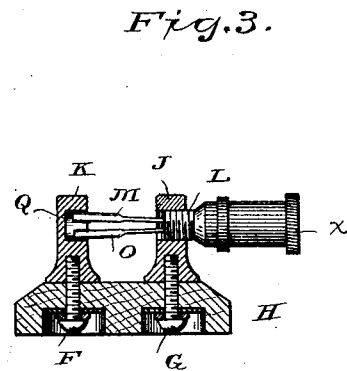
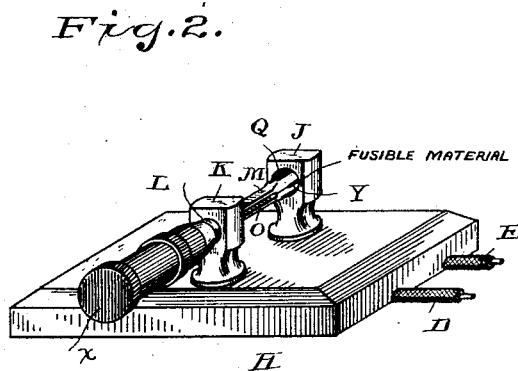
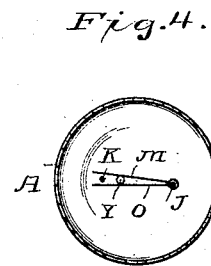
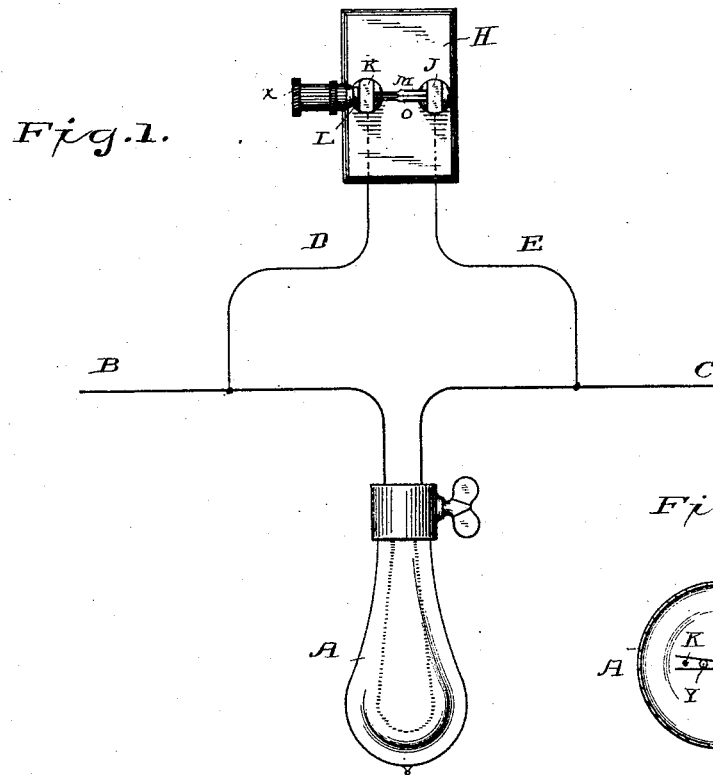


(No Model.)

J. VON DER KAMMER.
AUTOMATIC CIRCUIT CLOSER.

No. 417,758.

Patented Dec. 24, 1889.



Witnesses
H. A. Lamb
J. H. Brown

Inventor
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UNITED STATES PATENT OFFICE.

JOHN VON DER KAMMER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO
JAMES WARD PACKARD, OF SAME PLACE.

AUTOMATIC CIRCUIT-CLOSER.

SPECIFICATION forming part of Letters Patent No. 417,758, dated December 24, 1889.

Application filed April 25, 1889. Serial No. 308,561. (No model.)

To all whom it may concern:

Be it known that I, JOHN VON DER KAMMER, a subject of the Emperor of Germany, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Automatic Circuit-Closers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention consists in the form of an automatic circuit-closer for shunt-circuits, hereinafter to be described and illustrated.

In the drawings, Figure 1 shows in diagram my circuit-closer placed in a shunt-circuit about an incandescent lamp. Fig. 2 shows a perspective view of my circuit-closer. Fig. 3 is a vertical section through Fig. 2, taken on the line of the axis of the plug. Fig. 4 shows a modification.

When incandescent electric lights are connected in series, and in many other cases in electric constructions, it is desirable to have an automatic circuit-closer placed in a shunt-circuit about the lamp or other portion of the main circuit, so that when the lamp breaks or the main circuit is otherwise destroyed the shunt-circuit will be closed and the operativeness of the entire system of electrical connections thereby preserved.

A represents an electric lamp, and B and C portions of the main circuit by which an electric circuit is supplied to the lamp.

D and E are portions of a shunt-circuit in which is placed my improved form of automatic circuit-closer. Upon any suitable insulating-base H are two metallic posts K and J, which, by means of the screws F and G, are connected to the terminals D and E of the shunt-circuit. The post K has a recess Q, into which the other part of the circuit-closer is introduced. This other part of the circuit-closer consists, preferably, of the bifurcated spring, having two branches M and O, which is mounted in any suitable plug X, secured in the post J by means of the thread L, as shown in Fig. 3. The two branches M and O of the bifurcated spring-terminal are held together by a film of fusible material Y. Consequently there is no contact between the spring-

terminal and the recessed terminal in ordinary circumstances. The adjustable plug X is turned and projected into the recess Q, by means of the screw-adjustment L, until the distance between the bifurcated spring and the sides and bottom of the recess Q is just sufficient to permit of the passage of a spark when the lamp A is broken or the main circuit is in any other way suddenly destroyed. The passage of the spark will melt the fusible material between the branches M and O of the bifurcated spring-terminal, and the latter will spread and form a double metallic contact with the sides of the recess Q in the post K. The current will then pass through the shunt-circuit, and the operativeness of the rest of the system of electrical connections will remain unimpaired by the breakage of the lamp A. It is obvious that one of the branches M or O might be rigid and the other branch fastened to it by the fusible material, and released from it on the passage of the spark, as above described.

I am aware that heretofore automatic circuit-closers have been constructed in which the passage of the entire current through the shunt-circuit has acted to melt a certain portion of fusible material and permit a spring to be forced through this melted material, so as to produce metallic contact; but my invention consists in withholding the spring-terminal from contact with the opposite terminal by the fusible material, the latter not being in the circuit, but being so placed as to melt at the passage of a spark. As a result, I always secure a clean broad contact between the metallic surfaces on the release of the spring, and do not run the risk of an imperfect contact, which frequently results when the spring is to be forced through the melting material, and may be arrested by any infusible particle which gets in its path. Moreover, the shunt-circuit is absolutely broken normally, instead of being merely a high-resistance circuit, as in the other arrangement. I am also enabled to choose from a wider range of varieties of fusible material, inasmuch as in my circuit-closer the fusible material need not be also an insulating material. Finally, with my invention the circuit is closed instantaneously, forming a shunt of low resist-

ance, while in the circuit-closers heretofore employed the current is compelled to force its way through a high resistance till the fusible material is melted.

5 If desirable, my circuit-closer may be arranged in the lamp itself, as shown in Fig. 4, where the branches M and O of the bifurcated spring-terminal are connected to one electrode J of the lamp A, and tend to close and clasp
10 the other electrode K, but are prevented from doing so till the breaking of the lamp-carbon causes a spark to pass and melt the fusible material Y. The branches M and O then come together, clasp the electrode K, and
15 complete the circuit.

Having therefore described my invention, what I claim as new, and desire to protect by Letters Patent, is—

20 1. In an automatic circuit-closer for shunt-circuits, the combination of the bifurcated spring, which forms one terminal of the open shunt-circuit, the recessed piece, which forms

the other terminal, and suitable fusible material by which the branches of the bifurcated spring are held together and out of contact
25 with the recessed piece until said fusible material is melted by the passage of the spark, substantially as described.

2. In an automatic circuit-closer for shunt-circuits, the combination of the bifurcated
30 spring, which forms one terminal of the open shunt-circuit, the recessed piece, which forms the other terminal, and suitable fusible material by which the branches of the bifurcated spring are held together and out of contact
35 with the recessed piece, together with the adjustable support for said bifurcated spring, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN VON DER KAMMER.

Witnesses:

• JOS. W. PACKARD,
JAMES BOYLAN.