

(No Model.)

R. M. JONES.
TROLLEY LINE CIRCUIT BREAKER.

No. 459,753.

Patented Sept. 22, 1891.

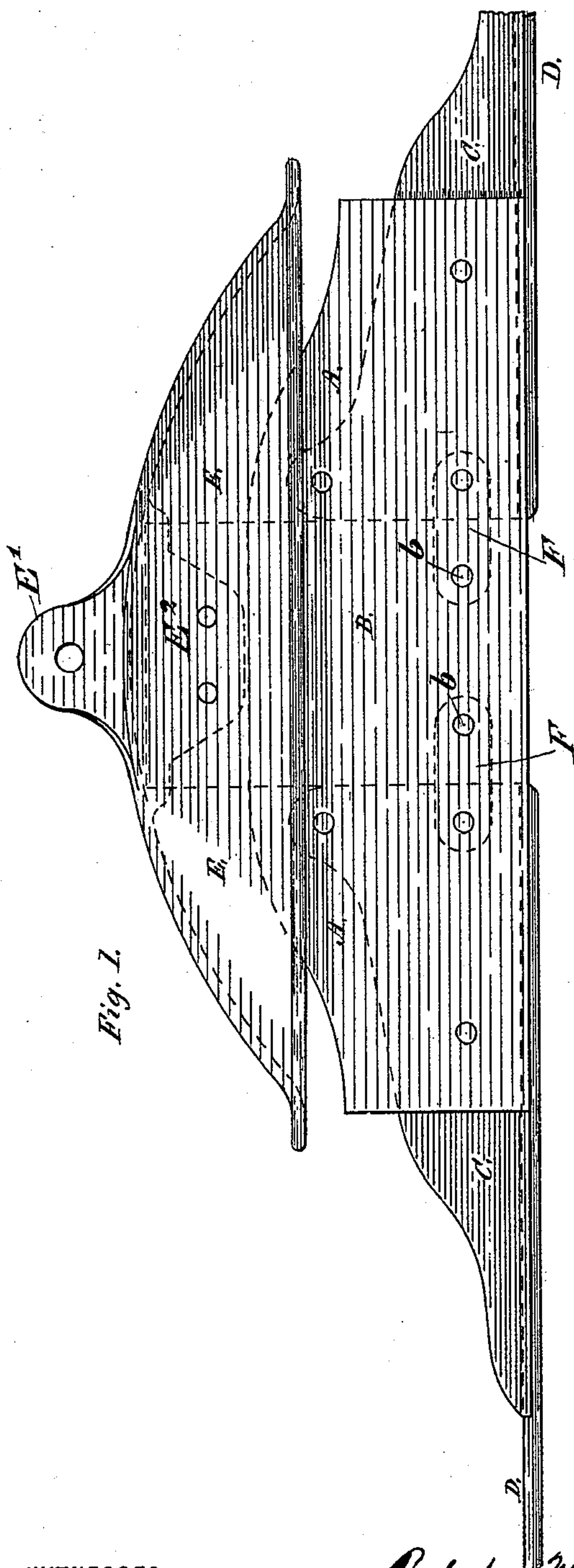


Fig. 1.

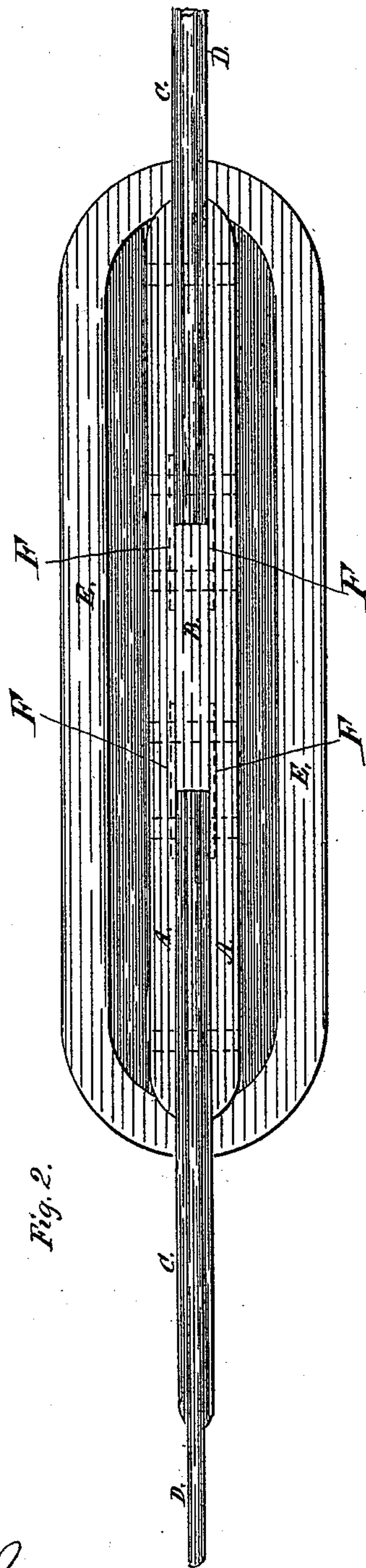


Fig. 2.

WITNESSES:

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ROBERT M. JONES, OF SALT LAKE CITY, UTAH TERRITORY.

TROLLEY-LINE CIRCUIT-BREAKER.

SPECIFICATION forming part of Letters Patent No. 459,753, dated September 22, 1891.

Application filed April 16, 1891. Serial No. 389,172. (No model.)

To all whom it may concern:

Be it known that I, ROBERT M. JONES, a citizen of the United States, residing at Salt Lake City, in the county of Salt Lake and Territory of Utah, have invented certain Improvements in Trolley-Line Circuit-Breakers, of which the following is a specification.

My invention relates to that class of circuit-breakers which are used in electric-railway construction for the purpose of individualizing or separating blocks or sections of long lines from one another, the circuit flowing through one wire being generated from a plant entirely separated and distinct from the plant which supplies the electro-motive force to the other wire; and the object of my invention is to provide a "circuit-breaker" of this general character whereby the line will be practically continuous and it will not be necessary to withdraw or lower the trolley from the wire in passing from one section to another.

My invention will be fully described hereinafter, and its novel features carefully defined in the claims.

In the accompanying drawings, which serve to illustrate my invention, Figure 1 is a side elevation of a circuit-breaker constructed according to my invention, and Fig. 2 is an under side plan view of the same.

In the views, E is the body of the circuit-breaker, which is made of metal and of the bell form illustrated by the dotted lines seen in Fig. 1, in order that any rain or snow falling thereon may be deflected or shed, so as to prevent the breaking of the insulation between the circuit-terminals. This deflector E is also provided at its crown with an eye E' for the wire or rod, to be employed as a support for the line-wire and circuit-breaker, and on its lower side the said deflector E is provided with a rib E² to receive the bolts or screws which secure the other parts of the circuit-breaker thereto.

B is a plate or sheet of paper fiber or other insulating material, which is of substantially the rectangular form shown in Fig. 1, and which has holes formed in its upper end to receive the screws which secure it to the rib E² and other holes *b b* in its lower end, which serve to receive screws or bolts to secure it to the other parts, as will be readily understood.

A A are two elongated plates, also of paper fiber or other insulating material, one of which plates is secured on either side of the plate B and secured thereto by screws or bolts. At either end of the circuit-breaker beyond the plate B, which separates them, are secured thin metallic plates C C, which are held between the plates A A by means of screws or bolts, and which are separated at their adjacent ends by the plate B. To the under side of these metallic plates C C are secured, preferably by solder, the line-wires D D, along which the trolley runs, a semicircular groove being cut in the under side of said plates, by preference, into which the wire is introduced and soldered. Other securing means may, however, be employed.

F F are plates of thin sheet metal, as sheet iron or steel, which connect the several plates together, being provided at their ends with apertures, which receive the screws employed for securing the plates together laterally. These plates will by preference be introduced between the metallic plates C C and the plate B on the inside and the plates A A on the outside, being thereby protected from the weather; but they may also be placed outside plates A. Their object is to connect the several parts together longitudinally in a firm and secure manner.

By this construction it will be readily seen that the terminals D D of the two blocks or sections of the road will be completely insulated from one another, and the bell-shaped cap E will protect the connections from the weather, thereby preventing to a great extent the liability of the insulation being broken by collection of ice or water between the terminals.

My invention is susceptible of considerable modification, and hence I do not wish to limit myself to the precise construction herein shown. For example, the cap E may be constructed in one with the plate B, the whole being made of insulating material, or said cap and plates A and B might be constructed integrally from insulating material. If thought advisable also, the plates C may be constructed of insulating material, the conductors being secured thereto by knotting or bending the wire, as will be readily understood. Such modifications may be made without depart-

ing in the least from the principles of my invention.

Having thus described my invention, I claim—

5 1. In a circuit-breaker for separating the blocks or sections of electric railways, the combination, with the cap E, of the bell form shown, provided with plates or projections of insulating material, of the line-wire terminals
10 secured to said projections, whereby said terminals are insulated one from the other, substantially as and for the purposes set forth.

2. In a circuit-breaker for separating the blocks or sections of electric railways, the
15 combination, with the cap E, of the bell form shown, and the plates A A, of insulating material, secured thereto, of the plates C C, secured between said plates A, and the line-wire terminals secured to said plates C C,
20 whereby said terminals are insulated from one another, substantially as and for the purposes set forth.

3. In a circuit-breaker for separating the blocks or sections of electric railways, the
25 combination, with the cap E, of the bell form shown, and the plates A A, of insulating ma-

terial, secured thereto, of the plates C C, secured between said plates A, the connecting-links F F for connecting said plates longitudinally, and the line-wire terminals secured to
30 said plates C C, whereby said terminals are insulated from one another, substantially as and for the purposes set forth.

4. In a circuit-breaker for separating the blocks or sections of electric railways, the
35 combination, with the cap E, of the bell form shown, provided with the rib E², of the plate B, secured to said rib, the plates A A, of insulating material, secured to plate B, the plates C C, secured between plates A, and the
40 line-wire terminals secured to plates C C, whereby said terminals are insulated from one another, substantially as and for the purposes set forth.

In witness whereof I have hereunto signed
45 my name in the presence of two subscribing witnesses.

ROBERT M. JONES.

Witnesses:

BERNARD J. McCONVILLE,
HORACE ELLERBECK.