

(No Model.)

W. R. COLE.

ELECTRICAL CIRCUIT BREAKER.

No. 376,072.

Patented Jan. 10, 1888.

Fig.1

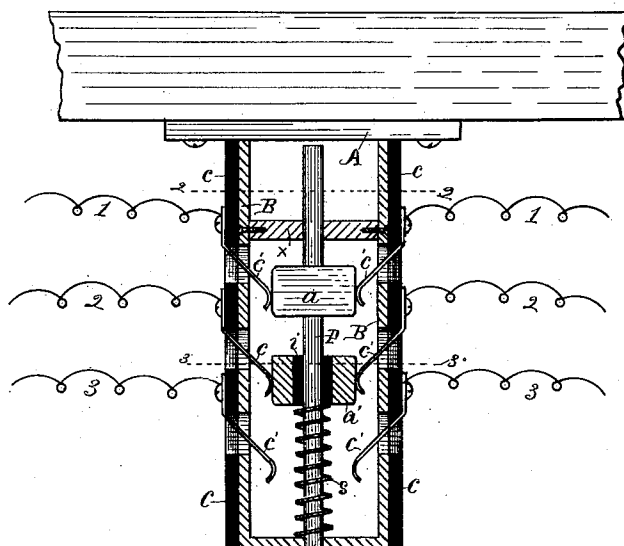


Fig.2

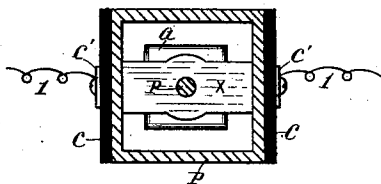
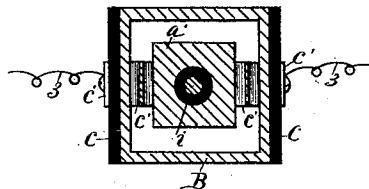


Fig.3



Witnesses.
John B. Perkins
Henry S. M. Howard

Inventor,
William R. Cole
By Lucius C. West
att'y

UNITED STATES PATENT OFFICE.

WILLIAM R. COLE, OF DETROIT, MICHIGAN, ASSIGNOR TO PARRISH BROS.
AND THE PECK ELECTRICAL COMPANY, BOTH OF SAME PLACE.

ELECTRICAL CIRCUIT-BREAKER.

SPECIFICATION forming part of Letters Patent No. 376,072, dated January 10, 1888.

Application filed August 3, 1887. Serial No. 246,077. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. COLE, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a new and useful Electric-Circuit Breaker, of which the following is a specification.

This invention relates to electric-circuit breakers employed in a system of electric signaling in which are a series of circuits, one or more of which it is desired to "break" while "making" one or more of the others, both by the same operation and by the same device, and the object of this invention will appear in the following description and claims.

In the drawings forming a part of this specification, Figure 1 is a side elevation with portions being in vertical section; Fig. 2, a section on dotted lines 2 2 in Fig. 1; and Fig. 3 is a section on line 3 3 in Fig. 1.

Referring to the letters marked on the drawings, A is a support, to which the "breaker" is attached, or it may serve to illustrate the roof of the engineer's room in a steamboat, or other support therein.

The case B, pendent from the support A, is faced on the outside with rubber *c* or other suitable insulations. A series of slots are made through the rubber and through the walls of the case. Through these slots, one in each, are spring-metal fingers *c'*, properly electric conductors. These are attached at the end to the insulation *c*. They are then insulated from the case B. Circuit-wires are attached to the spring-fingers *c'*. A spring-actuated plunger, P, plays vertically through a hole in the lower end of the case and through a hole in the bridge *x*. Thus the plunger is guided and kept in place. The end D is provided with a handle-strap, C; but any suitable handle may be employed. The strap C is here shown broken, but in use hangs in reach of the operator.

The plunger has a collar, *a'*, attached to it, but insulated from it by rubber or equivalent *i*. When the plunger is held up by the spring *s'* in the normal position shown in Fig. 1, the collar *a'* contacts the conductors *c'* of the circuit 2. Above the collar *a'* is a collar, *a*, which

is not insulated from the plunger P. This collar contacts the conductors of the wires 1 1. These wires may represent single circuits, or the wires 1 1 and 2 2 may be of a single circuit. In the latter case, which is the present design, the current would pass over wires 1 and the metal case, plunger, collar *a*, and spring-conductors, and over wires 2, their spring-conductors, and the insulated collar *a'*. This circuit is broken by pulling down on the plunger, which action disconnects the collar *a* from the conductors *c'* of the wire 1 1, at the same time the act of pulling down on the plunger contacts the collar *a* with the conductors *c'* of the wire 2, and establishes a contact of the collar *a'* with the conductors *c'* of the wires 3. A circuit is thus formed of the wires 2 3 by the same operation and means that destroyed the circuit of the wire 1 2.

Having thus described my invention, what I claim is—

1. The circuit-breaker comprising a case having a series of perforations in the sides, a series of spring-metal conductors attached to the case, but insulated from it, and having free ends extending inward through said slots, and a spring-actuated plunger provided with conducting-collars, one being insulated from the plunger and the other not, substantially as set forth.

2. The circuit breaker comprising a case with slotted sides, said case provided with insulating-plates having like slots, spring-conductors attached to said plates and extended inward through the slots, a guide-bridge in one end of the case, and a spring-actuated plunger passed through a hole in the end of the case and through a hole in the bridge, said plunger being provided with collars, one insulated from the plunger and the other not, substantially as set forth.

In testimony of the foregoing I have hereunto subscribed my name in presence of two witnesses.

WILLIAM R. COLE.

Witnesses:

MYRON W. PARRISH,
CHARLES REINKE.

It is hereby certified that in Letters Patent No. 376,072, granted January 10, 1888, upon the application of William R. Cole, of Detroit, Michigan, for an improvement in "Electrical Circuit-Breakers," the name of the assignee was erroneously written and printed "Parrish Bros. and the Peck Electrical Company," and the grant was erroneously made to "Parrish Bros., their heirs or assigns and the Peck Electrical Company, its successors or assigns," whereas the name of the assignee should have been written and printed *Parrish Bros. and Peck Electrical Company*; and the grant should have been made to *Parrish Bros. and Peck Electrical Company, its successors or assigns*; that the proper corrections have been made in the files and records pertaining to the case in the Patent Office and should be read in the Letters Patent to make the same conform thereto.

Signed, countersigned, and sealed this 14th day of February, A. D. 1888.

[SEAL.]

D. L. HAWKINS,
Acting Secretary of the Interior.

Countersigned:

BENTON J. HALL,

Commissioner of Patents.

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