

1,023,183.

Patented Apr. 16, 1912.

Fig. 1.

Fig. 3.

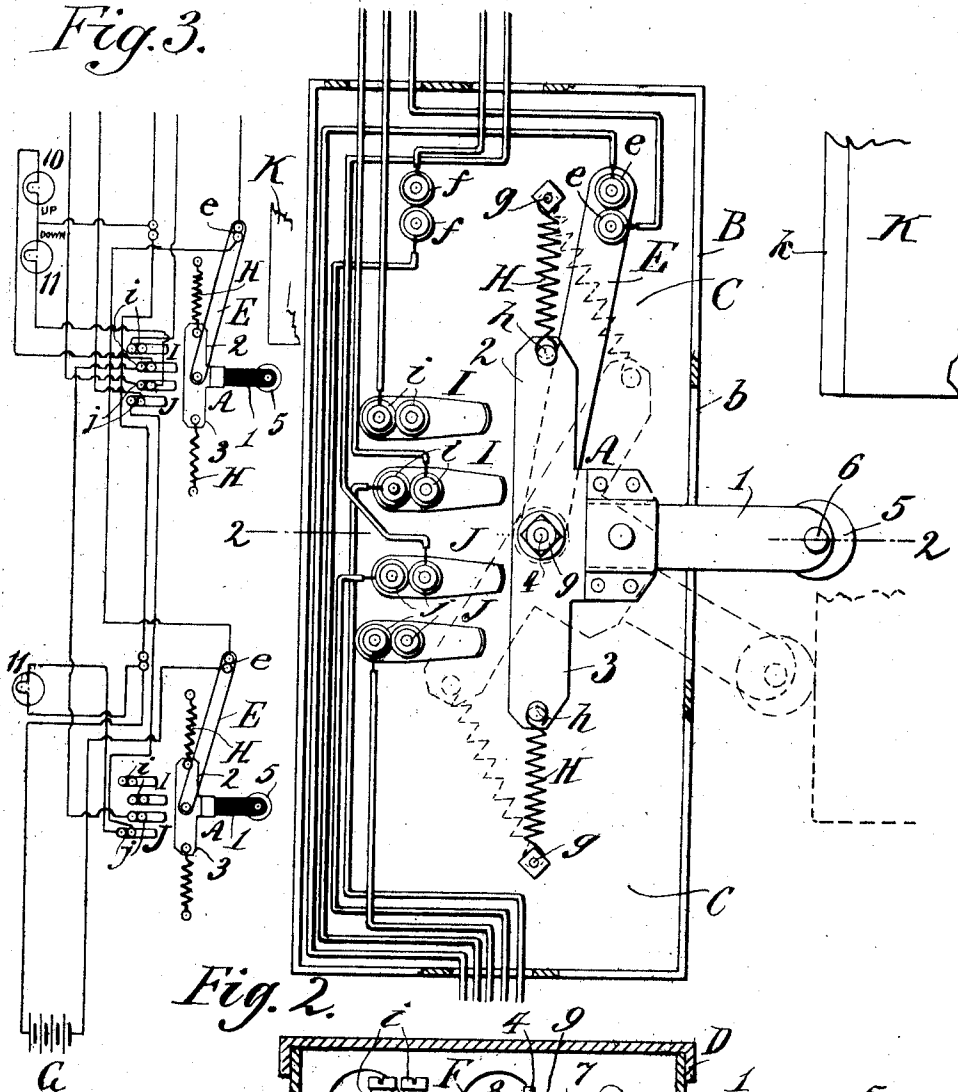
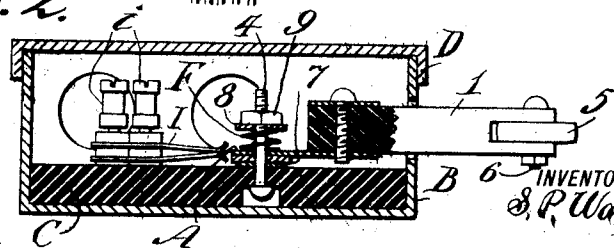


Fig. 2.



WITNESSES:

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CIRCUIT-CLOSER.

1,023,183.

Specification of Letters Patent.

Patented Apr. 16, 1912.

Application filed February 18, 1911. Serial No. 609,461.

To all whom it may concern:

Be it known that I, SIMEON P. WATSON, a citizen of the United States, and resident of Brooklyn, county of New York, and State of New York, have invented certain new and useful Improvements in Circuit-Closers, of which the following is a specification, reference being had to the accompanying drawing, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to circuit closers, and it is especially designed for use in connection with electric signaling systems for elevators. The object of the invention being to provide a device of the character named which automatically acts to maintain a normally open circuit and which is susceptible of operation by a moving elevator-car or other object without necessity of electrical connection therewith, the car in its alternate upward and downward movements operating the device.

The invention will be hereinafter fully described and specifically set forth in the annexed claims.

In the accompanying drawings forming part of this specification, Figure 1, is a face view of my improved circuit closing device; Fig. 2, a cross sectional elevation taken on the line 2—2, of Fig. 1; and Fig. 3, is a diagrammatic view illustrating the application of the invention.

In the practice of my invention, I employ primarily a three-armed lever A, which comprises a horizontally extended arm 1, composed of wood, hard rubber or other non-conducting material, and the two integrally formed metallic arms 2 and 3, extended at right angles from the first named arm in opposite directions. This lever is inclosed within a casing or box B, and is fulcrumed on a spindle 4, which is extended from a block of insulating material C, said spindle being journaled through an opening at the point of intersection between the three arms comprising the lever A. The arm 1, of the lever A, extends through a slot b, of the casing B, which is composed of iron or other suitable material, and it is normally closed by means of a lid D. On the free end of the arm 1, is a roller 5, which is journaled on a metallic pin 6.

As a means for maintaining the lever A in its normal position, as shown by full lines Fig. 1, of the drawings, I employ spiral

springs H; these are located on a line leading through the vertical center of the arms 2 and 3, of the lever A, and are connected at their respective ends to pins, g and h, which are respectively extended from the block C, and the free ends of the arms 2 and 3.

Mounted on the block C, and at one end engaging the spindle 4, is a metallic contact plate E, which is in electrical connection with the lever A, by means of the metallic washer 7, upon which the lever A bears. To maintain perfect contact between the plate E, washer 7 and lever A, I employ a spiral spring F, which surrounds the spindle 4, and is located between the lever A and a washer 8, which is held in place by means of a nut 9, threaded to the upper end of the spindle 4. Mounted on the plate E, are binding posts e, adapted for connection with suitable wires employed as conductors leading from one pole of a source of supply in an electric circuit, as G. Binding posts f, are mounted on the block C, for engaging the conductors leading to the other pole.

The arms 2 and 3 are adapted for being alternately placed in electrical connection with the contacts I, I and J, J, which respectively comprise spring-jaws for maintaining perfect contact with said arms, and are in connection with binding posts i, i and j, j, which are adapted for connection with suitable conductors for supplying a current of electricity to the signaling device. As a means for operating the lever A, I may employ any reciprocating body, as an alternately upwardly and downwardly movable elevator car K, as illustrated, said car having a rail k, for direct contact with the roller 5.

In Fig. 3, of the drawings, I have illustrated, in diagram, one application of my invention in connection with lamps comprising indicators, a circuit and part of an elevator-car. The lamps 10, when lighted, indicating that the car is moving in an upward direction, and the lamps 11, when lighted, indicating that the car is moving in a downward direction. The lamps are connected in circuit, as shown, with a source of electrical supply G.

In operation the car moving upwardly and downwardly oscillates the arm 1 of the lever A, and alternately makes electrical connection with the contacts I and J, to alternately light the lamps 10 and 11. The

lamps 10, are marked "Up" and the lamps 11 are marked "Down". When the car is moving downwardly it swings the arm 1 downwardly and causes the arm 3, to make electrical connection with the contact J, thereby completing the circuit and lighting the lamp 11, or as many of said lamps as are in the series to be lighted; when the car is moving upwardly the arm 1 is swung in an opposite direction to connect the contacts I, with the arm 2, whereby the lamps 10, are lighted.

By the use of this invention it is obvious that the circuit closing device and indicators are arranged entirely independent of electrical connection with the car, whereby they are under separate control and may be shut off at any time desirable. But I do not confine myself to this application of my invention, as it is susceptible of various uses. For instance, it could be placed in horizontal instead of vertical position and be operated by means of a horizontally reciprocating body.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a circuit closer, the combination, with a pivoted three-armed lever, mounted in a casing, one arm composed of insulating material and the other two of metal, said metal arms extended at right angles from the other arm at the pivotal point thereof and in opposite directions from each other, said metallic arms normally vertical, and the other said arm normally horizontal, and springs connected to the free ends of the metal arms and maintaining them in normal position, and a contact plate engaging said metal arms and having binding posts; of contacts adjacent to said metal arms and adapted for alternate engagement therewith, substantially as shown and described.

2. In a circuit closer, the combination, of a pivoted three-armed lever, mounted in a casing, one arm composed of insulating material and the other two of metal, said metal arms extended at right angles from the other arm at the pivotal point thereof and in op-

posite directions, said metal arms normally vertical, and the other said arm normally horizontal, and having a roller on its free end, and spiral springs extended on a line leading vertically through the pivotal point of the lever and connected to the free ends of the metal arms to maintain them in normal vertical position, and an electricity-conducting plate contacting with the metal arms at their point of intersection, and contacts adjacent to said metal arms and adapted for alternate engagement therewith, substantially as shown and described.

3. In a circuit closer, the combination, of a pivoted three-armed lever, mounted on an insulator in a casing, one arm of said lever composed of insulating material and the other two of metal, said metal arms extended at right angles from the other arm at the pivotal point thereof and in opposite directions, said metal arms normally vertical, and the other said arm normally horizontal, and spiral springs extended on a vertical line leading vertically through the point of intersection of the three arms, said springs respectively held at one end by pins and at the other end connected respectively to the free ends of the metal arms of the lever, and an electricity-conducting plate contacting with the metal arms, and a spindle extended through said plate and the three arms at the point of intersection thereof, and a spiral spring surrounding said spindle and bearing on the metal arms and on the lower surface of a nut threaded to the free end of said spindle for maintaining perfect contact between said arms and said conducting plate, and contacts adjacent to said metal arms and adapted for alternate engagement therewith, substantially as shown and described.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this ninth day of February 1911.

SIMEON P. WATSON.

Witnesses:

N. STERN,

E. S. SUTHERLAND.