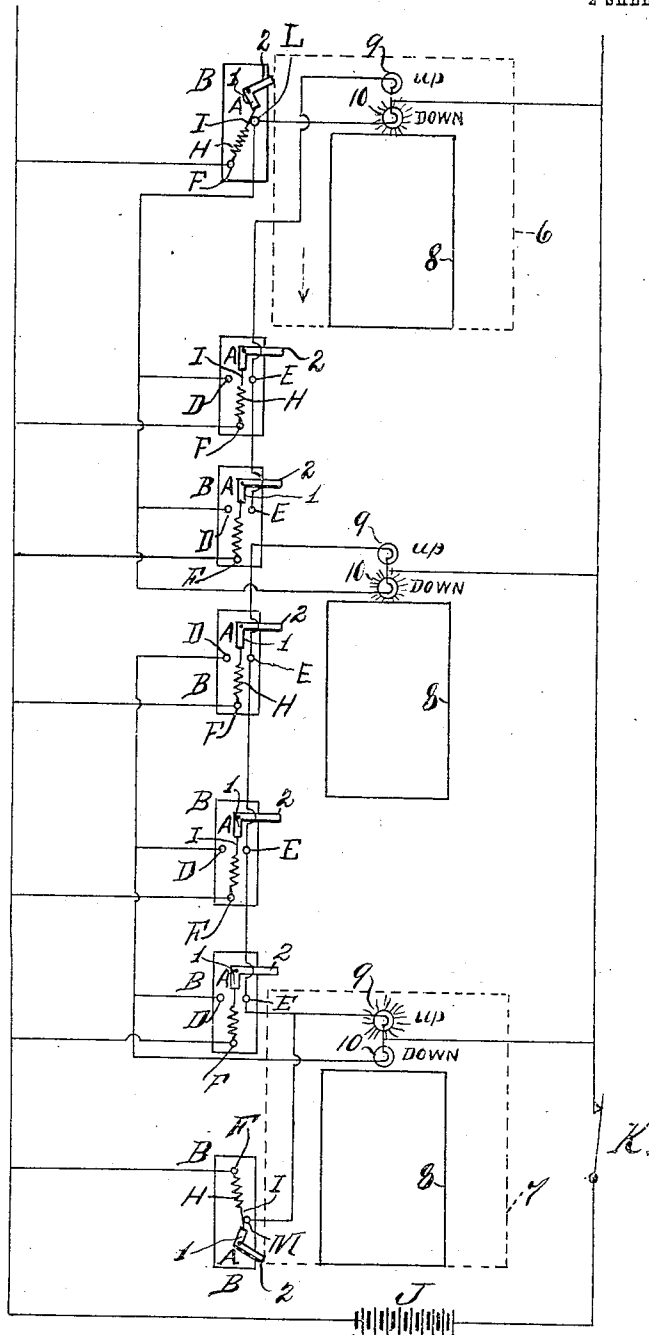


S. P. WATSON.
ELECTRIC SWITCH.
APPLICATION FILED MAY 3, 1909.

971,648.

Patented Oct. 4, 1910.

2 SHEETS-SHEET 2.



Witnesses:
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Fig. 4

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UNITED STATES PATENT OFFICE.

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ELECTRIC SWITCH.

971,648.

Specification of Letters Patent.

Patented Oct. 4, 1910.

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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 Kings, and State of New York, have invented certain new and useful Improvements in Electric Switches, 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 signaling systems for passenger elevators of the class employing electric signal lights forming part of indicators located on the outside of a passenger elevator shaft. The object of the invention being to provide an effective and automatic means for indicating the direction in which the car is moving, and which is susceptible of operation by means of the said car, all of the parts being permanently located outside and independent of said car.

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 front elevation of an elevator car and part of a shaft having my improved switch connected thereto; Fig. 2, is a front view of the switch showing its casing in section; Fig. 3, is a vertical sectional elevation taken on a line 3—3, of Fig. 2; and Fig. 4, is a diagrammatic view illustrating the application of my invention in connection with an electric circuit.

In the drawings A indicates a bell-crank lever which is composed of wood, hard rubber or other non-conducting material. This lever is connected to one wall of the casing B, by means of a pivot *a*.

The casing B is composed of non-conducting material and contains two binding posts D and E, which are located equidistant from a vertical line parallel with and running through the center of the vertical member 1 of the bell-crank lever A. The horizontal member 2, of the said lever A, is extended through a slot *b*, of the casing B.

Located beneath the binding posts D and E, on a line running through the center of the vertical member 1, of the lever A, is a third binding post F; to this binding post F, is connected the lower end of a spiral spring H, which is composed of metallic wire and acts as a conductor for conducting

a current from the binding post F, to a metal plate I, which plate is provided with eyes 3 and 4, which are attached respectively to the upper end of the spring H and the free end of the member 1 of the lever A, the latter named eye engaging a staple 5, which depends from the said member 1, whereby the member 1 of the said lever A, is maintained normally in vertical position, and the member 2 is maintained normally in horizontal position. The said plate I, is adapted for being alternately placed in electrical contact with the binding posts D and E, to conduct a current from the lower binding-post to feed a lamp or other electrical device. As a means for operating the arms 2, of the lever A, I may employ any alternately upwardly and downwardly movable body, as an elevator car.

In Fig. 4, of the drawings, I have illustrated in diagram one application of my invention, in connection with lamps, a circuit and elevator doorways and cars. The dotted-line parallelograms 6 and 7, represent elevator cars, and the full line parallelograms 8, represent doorways. The indicators each comprise electric lamps 9 and 10, the lamps 9, when lighted, indicating that the car is moving in an upward direction, and the lamps 10 indicating that the car is moving in a downward direction. The lights and switches are connected in circuit, as shown, with a source of electrical supply J, and a switch K, is interposed to break the circuit when desired.

In operation the car moving upwardly and downwardly oscillates the arm 2, of the switch A, and alternately makes contact between plate I, and the binding posts D and E, to alternately light the lamps 9 and 10. The lights 9, are marked "Up" and the lights 10, are marked "Down," thus when the car is moving downwardly it strikes the arm 2, and causes the plate I, to contact with the binding post D, thus connecting said binding post with the binding post F, completing the circuit and lighting the lamp 10, or as many of said lamps as are in the series to be lighted; when the car is moving upwardly the arm 2 is oscillated in an opposite direction to connect the binding post E, with the plate I, whereby the lamps 9, are lighted.

At the top of the shaft a single binding post L, is employed for connection with the binding post F, and thence to the main feeders, and in this case the action of the lever

is reversed and the light 10 is maintained in lighted condition showing that the elevator is about to descend. When the elevator is at its lowermost position a single binding post M, is employed and the lever A is placed in reverse position so that the light 9, is lighted to indicate that the car is about to ascend.

By the use of this invention it is obvious that the 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.

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

1. A signal system for indicating the movements of an elevator car, comprising an indicator having two lamps one marked "Up" and the other "Down," a normally open electric circuit for said lamps, and a normally open two-armed switch for alternately closing the circuit of lamps, said switch operated by said car, whereby direction in which the car is moving is indicated, substantially as shown and described.

2. In a signal system, the combination, with a pivoted bell-crank lever composed of insulating material and embodying two arms extended at right angles from each other, and a depending contact plate connected to one of said arms, and a spiral spring connected at one end to said plate, and a binding post connected to the other end of said spring, and two binding posts located one on each side of said contact plate for alternate electrical connection therewith; of an upwardly and downwardly movable body for oscillating one of the said arms of the said lever to alternately make and break contact between the said binding posts which are located on each side of the said contact plate, substantially as shown and described.

3. In a signal system, the combination, with a pivoted bell-crank lever composed of

insulating material and embodying two arms extended at right angles from each other, and a depending contact plate connected to one of said arms, and a spiral spring connected at one end to said plate, and a binding post connected to the other end of said spring, and two binding posts located one on each side of said contact plate for alternate electrical connection therewith, and an upwardly and downwardly movable body for oscillating one of the said arms of the said lever to alternately make and break contact between the said binding posts which are located one on each side of the said contact plate; of lamps to be alternately lighted, and a circuit and source of electrical supply, substantially as shown and described.

4. In an indicating system, the combination, with a switch comprising a pivoted lever embodying two arms extended at right angles from each other and composed of insulating material, and a depending contact plate connected to one of said arms, and a spiral spring connected at one end to said plate, and a binding post connected to the other end of said spring and two binding posts located one on each side of said plate, and a casing of insulating material inclosing the said parts; of an alternately upwardly and downwardly moving body for oscillating one of the said arms of the said lever to alternately make and break contact between the said binding posts which are located one on each side of the said contact plate, and lamps in circuit, conductors and a source of electrical supply, 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 29th day of April, 1909.

SIMEON P. WATSON.

Witnesses:

DAVID MORRIS,
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