No. 788,539. PATENTED MAY 2, 1905.

G. C. KLOPF.

DEVICE FOR CONTROLLING ELEVATOR LIGHTS.

APPLICATION FILED FEB. 4, 1903.

FIG. 1.

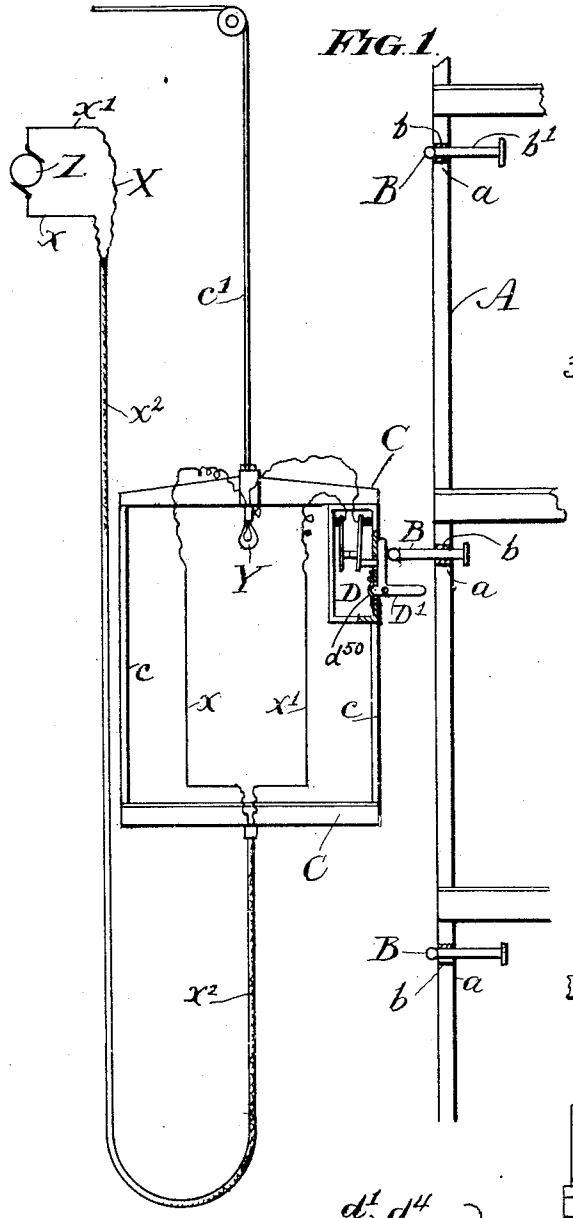


FIG. 2.

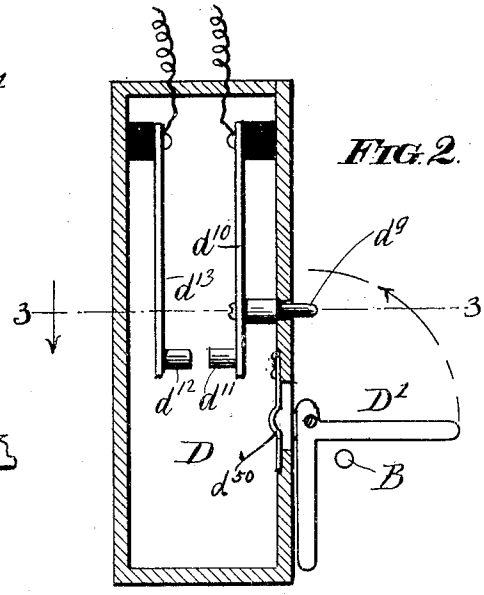
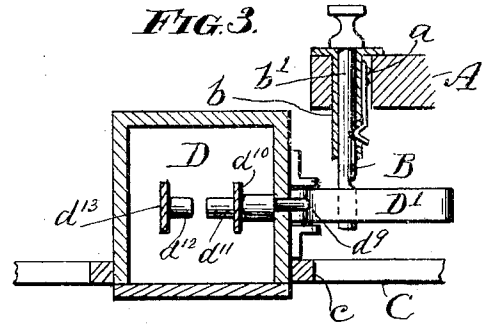


FIG. 3.



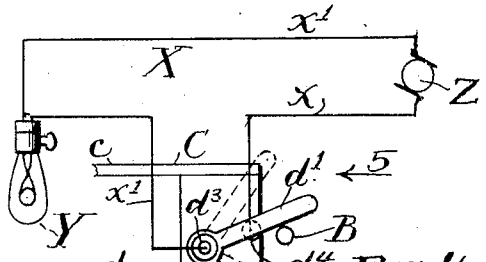


FIG. 4.

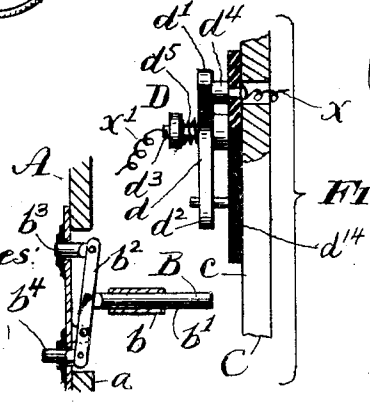


FIG. 5.

Witnesses:
H. Kemp,
D. Reeder

Inventor:
George C. Klopf
By J. B. Halpenny
Atty.

No. 788,539. Patented May 2, 1905.

UNITED STATES PATENT OFFICE.

GEORGE C. KLOPF, OF CHICAGO, ILLINOIS.

DEVICE FOR CONTROLLING ELEVATOR-LIGHTS.

SPECIFICATION forming part of Letters Patent No. 788,539, dated May 2, 1905.

Application filed February 4, 1903. Serial No. 141,846.

To all whom it may concern:

Be it known that I, GEORGE C. KLOPF, of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Devices for Controlling Elevator-Lights, of which the following is a specification.

The present invention relates to a device for controlling electric lights in elevators, the object being to provide means for automatically turning on or off the lights in the cars at such floors of a building as may be desired Thus, for instance, the lamp in a car may only be required to be lighted in the two lower stories of a building; but as the elevator conductor's attention is usually required for running the car he cannot conveniently shut off the light at the second floor when the car is going up nor turn on the light when the car is going down. Hence the light is usually allowed to burn throughout the entire trip, thus causing a considerable waste of electric current. The device I employ automatically switches the light in a car on or off at such floors as may be desired, or the light may be allowed to burn or not throughout the trip when so required. This I accomplish by means having some novel features of construction which I have illustrated in the accompanying drawings and will hereinafter fully describe.

In the drawings, Figure 1 is a diagrammatic view representing the sectional elevation of a portion of an elevator-shaft and an elevator or car, the same being equipped with apparatus embodying features of my invention. Fig. 2 is a vertical section of a case and the apparatus. Fig. 3 is a cross-section of same, taken on the line 3 3 of Fig. 2. Fig. 4 is a diagram showing a preferable form of apparatus; and Fig. 5, a sectional elevation of same, viewed in the direction indicated by the arrow 5, Fig. 4, the position of the switch-levers and the movable tappet being shown in a position apart to more clearly show construction of same.

A refers as a whole to the casing, walls, or inclosing structure of an elevator-shaft. On a stationary part of same, as at a, I attach a bearing b, in which is mounted a tappet or striking device B.

The device B is for actuating a switch or circuit-controller D, attached to the elevator-car, and consists, preferably, of a movable bar or rod b', which may be set in a position so as to strike an arm on the switch D, so as to open or close the circuit in which said switch is located while the elevator-car is passing the device B. One of these devices is placed on the side of the shaft at such floors of the building as may be desired to regulate or control the lights in the elevator at these points. This device consists, preferably, of the bar b' and a lever b^2, provided with two shifting-buttons b^3 b^4, as shown in Fig. 5.

C is an elevator-car, and as it may be of any well-known construction a detailed description of same will not be given.

c represents the framework of the car, and c' is a cable for elevating the car.

D represents as a whole a switching device or circuit-controller which is attached to a part of the car, and is actuated by one of the tappets B when the car is moving or passing a point where one of the said tappets is located. This circuit-controller is preferably constructed as follows, referring more particularly to Figs. 4 and 5: d is an angular lever having arms d' and d^2, and is pivoted at d^3 to an insulating-plate d^{14}, attached to a part of the car C. d^4 is a contact-point which is engaged by the arm d' when the circuit X is closed. d^5 is a tension-spring. This consists of the wires x x', a portion of which is inclosed in a cable x^2 and having a lamp Y in same and a suitable source of electricity Z.

The construction of the apparatus may be modified to certain extents without departing from the spirit of the invention. In Figs. 1, 2, and 3 I have shown a pivoted lever D', which strikes a projection d^9 on a spring d^{10}, carrying a contact-point d^{11}, when the lever is actuated by the device B. This contact-point when the circuit is closed connects with a point d^{12} on a spring d^{13}.

The operation of the apparatus is as follows: A tappet or striking device B having been set in an outward position so as to strike an arm of the lever D will open the circuit X when the car is ascending, thus putting out the light

in car, say, above the second floor, and on the car reaching same point on the downward trip it will close the circuit, thus turning on the light. Such floors as may be desired may thus be lighted or left unlighted, thereby effecting considerable saving in the cost of electric current.

In Fig. 1 I have shown a bent spring d^{50} for retaining the lever D′ in its upper position. While this construction has some advantages, the preferred means of the light-controlling device as a whole is that shown in Figs. 4 and 5, where bar b' actuates the lever d' d^2, a spring d^5 supplying sufficient tension to hold the lever in any position, as shown in Fig. 5. It will strike one or the other of the arms d' and d^2 and move the lever so as to change the position. I preferably employ two push-buttons b^3 and b^4 for moving the bar b'. These are connected to a lever b^2, to which is attached the bar b'. The button b^3 moves the lever b^2 so as to shove the bar into the position as shown in Fig. 5. When in this position, the arm b' will engage the arm or lever d', as shown in Fig. 4, and shove the said arm or lever off the contact-piece d^4, open the circuit X, and which embraces the lamp Y and a suitable source of electricity, thus putting the lamp out, and if the circuit is open the device B will close the circuit. By shoving in the lower push-button (shown in Fig. 5) the slide b' will recede and not engage the arms of the lever D, and the elevator will thus ride past a floor without the light being affected. At such floors as is desired to have the light shut off the device B is put in its forward position so as to engage the arms of the lever D.

b^{10} refers to a spring attached to a stationary part of the shaft structure, the said spring being provided with a shoulder or bent portion b^{11}, which engages one of the notches b^{12} or b^{13} in the slide b', so as to retain the said slide in its outer or inner position.

A distinctive feature of the present invention is that the controlling-switch or circuit-closer is carried by a moving part—viz., the elevator—while the means for operating the circuit are placed on stationary parts of the elevator-shaft.

What I claim is—

1. In combination, an elevator-car provided with an electric cable x^2 having wires in the car, a lamp and a switch attached to the car and controlling the current of said wires, the said switch opening or closing the said circuit and consisting of an angular pivoted switch-lever d having arms d' d^2, a contact-piece d^4 and a series of slides or bars B for actuating the lever d, the said slides being located at the various stationary points on floors of the elevator-shaft, as set forth.

2. In combination, an elevator-car provided with an electric lamp and an electric circuit and means for operating the same, a switch attached to the car and controlling the circuit, the said switch consisting of an L-shaped lever d having arms d' d^2, a contact-piece d^4 and a series of slides B attached to stationary parts of the elevator-shaft, each of said slides being provided with a shifting-lever b^2 having push-buttons b^3, as set forth.

3. In combination in a system of the class described an elevator-car, a stationary lamp attached to same, the said lamp being in a circuit controlled by a switch attached to the car, the said switch consisting of an L-shaped lever one of the arms of which closes or opens the circuit so as to actuate the lamp, the said lever being actuated by sliding bars on stationary parts of the elevator-shaft, as set forth.

4. In combination, in a device of the class described, an elevator, an electric light in same, a circuit containing said electric light, an L-shaped lever for switching said light out or in of circuit, the said lever being actuated by sliding bars or similar mechanism attached to stationary parts of the elevator-shaft as set forth.

In testimony whereof I have hereunto set my hand this 15th day of January, A. D. 1903.

GEORGE C. KLOPF.

In presence of—

J. B. HALPENNY,
HENRY KAMP.