Aug. 28, 1928.

H. E. BILLERBECK

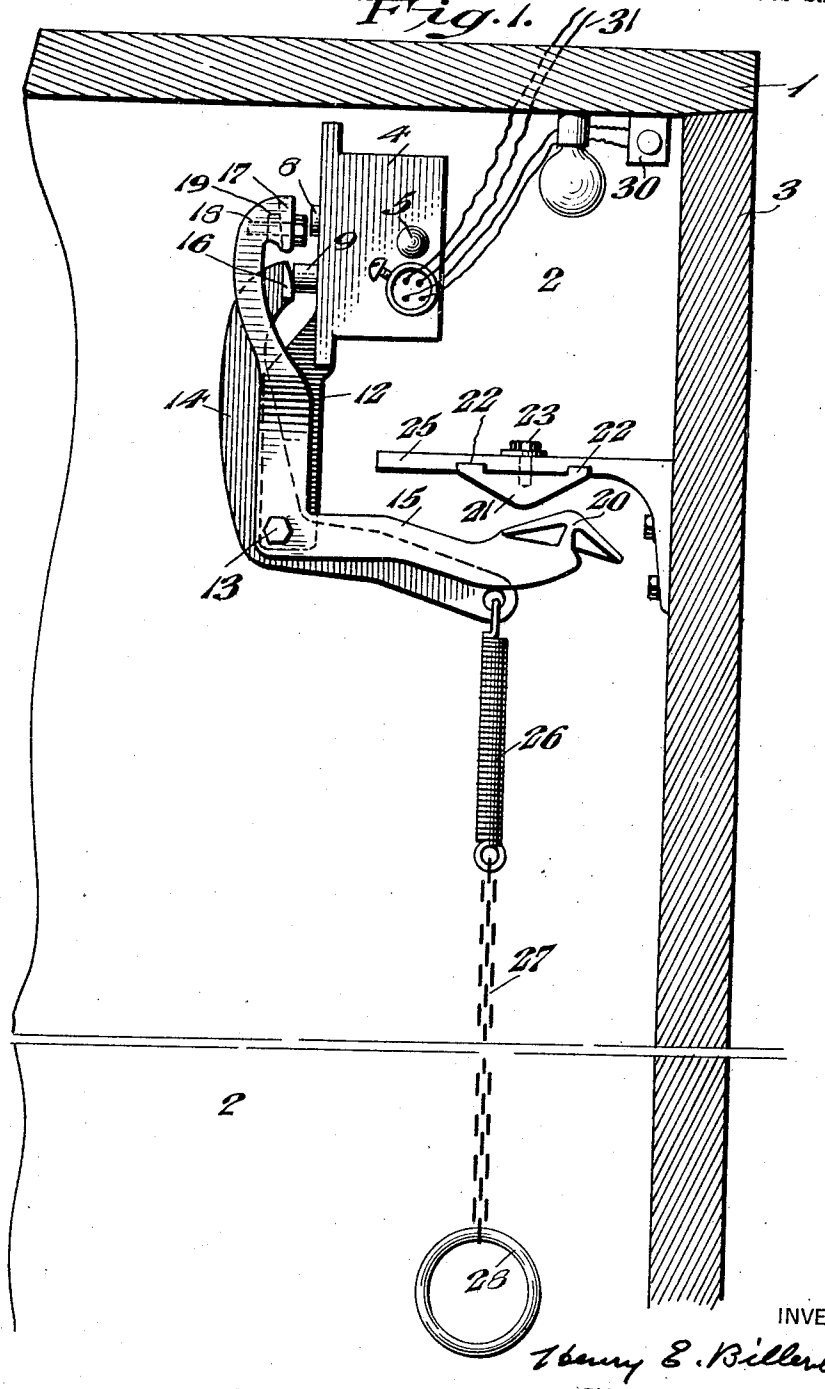
1,682,549

ELECTRIC CIRCUIT CONTROLLER

Filed July 15, 1927

2 Sheets-Sheet 1

Fig. 1.



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2 Sheets-Sheet 2

Fig. 2.

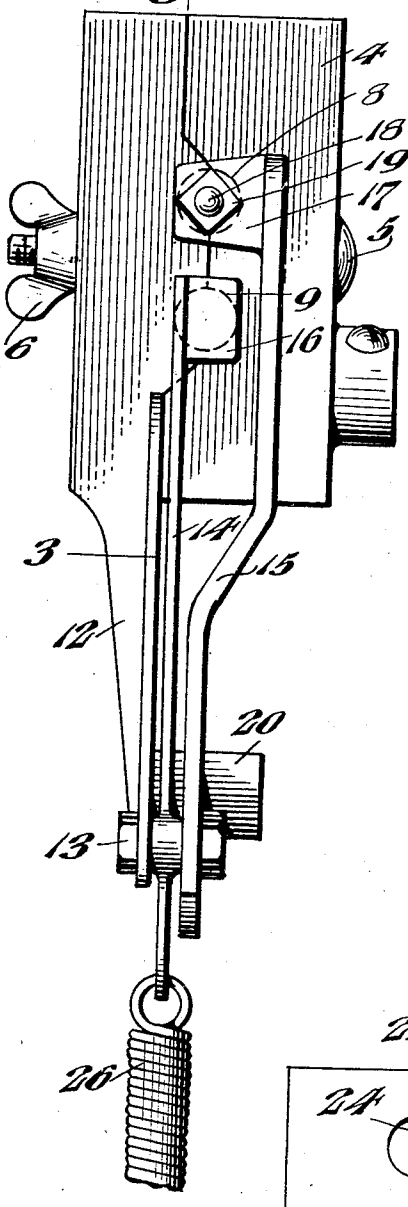


Fig. 3.

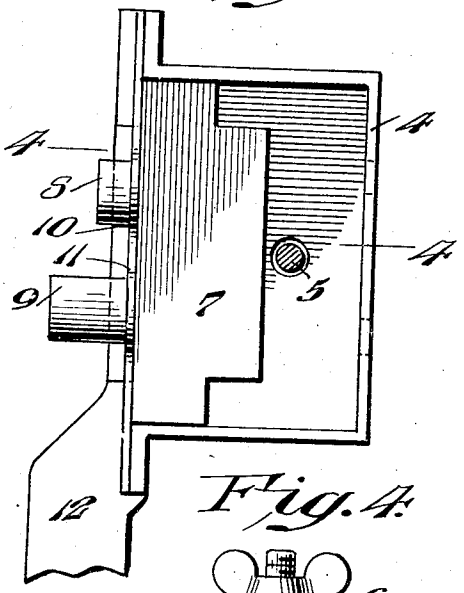


Fig. 4.

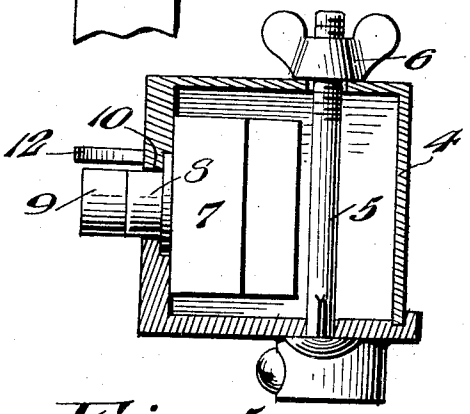
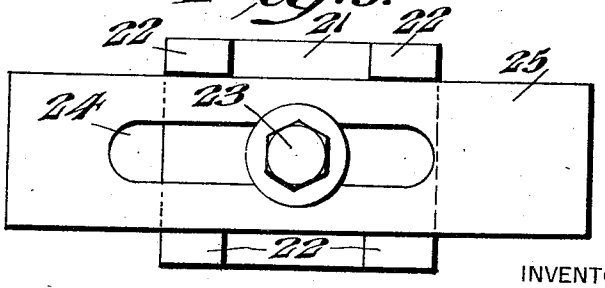


Fig. 5.



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ELECTRIC-CIRCUIT CONTROLLER.

Application filed July 15, 1927. Serial No. 205,864.

In many places of business due to the carelessness of the operators the electric lights are left on when there is no use for them. For example, in the refrigerators and ice boxes used by butchers, the lights are often left burning all night, the result of which there is not only a waste of electric current but the heat from the lamp or lamps raise the temperature in the ice box and there is an unnecessary waste of light.

It is also desirable in many places to provide a signal which can be set or unset by the opening of a door.

With the above and other objects in view as will hereinafter more fully appear my invention comprehends a novel construction and arrangement of an electric circuit controller.

It further comprehends a novel electric circuit controller wherein depending upon the arrangement of the switch the circuit can be either opened or closed whenever a door is opened or closed, and provision is made whereby, for example, if the device is adjusted for the automatic closing of the circuit, the circuit can be manually opened or vice versa.

Other novel features of construction and advantage will hereinafter more clearly appear in the detailed description and the appended claims.

For the purpose of illustrating the invention, I have shown in the accompanying drawings a typical embodiment of it, which, in practice, will give satisfactory and reliable results. It is however, to be understood that the various instrumentalities of which my invention consist can be variously arranged and organized, and my invention is not limited to the exact arrangement and organization of these instrumentalities, as herein set forth.

Figure 1 represents a sectional elevation of a closed compartment having a door which controls an electric circuit controller embodying my invention.

Figure 2 is a side elevation of the controller.

Figure 3 is a section on line 3—3 of Figure 2.

Figure 4 is a section on line 4—4 of Figure 3.

Figure 5 is a top plan view of the bracket adapted to be connected to a door.

Similar numerals of reference indicate corresponding parts.

Referring to the drawings:—

1 designates the outer casing of a compartment 2 which is provided with a door 3, controlling entrance to and exit from such compartment. The casing 1, for example, may be an ice box or refrigerator, or it may be the wall of a room, admission to which and from which is controlled by a door such as 3.

The electric controller consists of a sectional casing 4, the sections of which are connected together in any desired manner, for example, by means of a bolt 5 which is provided with a thumb nut 6. In practice the sections of the casing 4 could be fixedly connected together for example by riveting or spot welding within the casing in any desired manner. The casing has secured within it in any desired manner, a conventional electric light switch 7 having a push button 8 which effects the opening of the electric circuit, and a push button 9 which effects the closing of the electric circuit.

It will be apparent that by reversing the switch, the operation will be reversed. The push button 8 extends through an aperture 10 in the casing 4, and the push button 9 extends through an aperture 11 in the casing 4. The casing 4 has a depending arm 12 on which is fulcrumed at 13, a lever 14 and a lever 15. The upper end of the lever 14 has a lateral extension 16 which is adapted to contact with the push button 9, and the lever 15 is provided with a lateral extension 17 with which a bolt 18 is in threaded engagement, the head of said bolt being adapted to contact with the push button 8, and the head of said bolt is provided with a nut 19 to secure it in the position to which it has been adjusted.

The lever 15 is provided at its lower end with a cam 20 which travels in the path of a stationary cam 21, which latter is provided with guides 22 and is secured in position by means of a bolt 23 which passes through a slot 24 in an angle bracket 25, which latter is secured to the door 3. Due to the provision of the slot and bolt connection, the cam 21 can be adjusted on the bracket as may be desired.

The lever 14 at its lower end has connected with it a spring 26 to which latter is connected a chain 27, the chain being provided as illustrated, with a grasping handle 28 in the form of a ring. It will be apparent that the chain can be connected to a foot treadle or a loose board in the floor so that a person leaving and entering the room and stepping

on such board will actuate the chain 27 and thereby effect the opening of the electrical circuit. The switch 7 is in series with a light 29 and also if desired with a buzzer 30, which latter may be located outside the room 2 if desired, so that a signal will be given if the lever 15 is actuated.

31 is the electrical conductor leading from the electrical current supply to the switch 7.

In the operation, it will be apparent that, if the top push button is effective to close the circuit, that each time the door is opened or closed the cam 20 riding over the cam 21 will rock the lever 15 and cause it to move in the direction to move inwardly the upper push button, and, in the arrangement shown in the drawings, this will cause the circuit to be closed.

When the operator causes the chain 27 and spring 26 to move downwardly, it will be apparent that the lower push button is actuated to effect the opening of the electrical circuit.

As before explained, the switch can be reversed so that the movement of the door will automatically open the circuit, and the circuit can be manually closed by the operator.

My device is adapted to be used for garage doors so that the light will be extinguished automatically when the door is opened or closed. It can also be used in many places as a burglar alarm, or in cases where the cam 21 and its bracket can be supported on a movable part to effect the desired actuation of the electric control and the desired signal will be given.

It will now be apparent that I have devised a new and useful electric circuit controller which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description, and while I have, in the present instance, shown and described a preferred embodiment thereof which will give in practice satisfactory and reliable results, it is to be understood that this embodiment is susceptible of modification in various particulars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

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

1. In an electrical control, the combination with a switch having a push button to close the circuit and a push button to open the circuit, of a door controlled lever to actuate one of said push buttons, and manually actuated means to actuate the other of said push buttons.

2. In an electrical control, the combination with a switch having a push button to open the circuit and a push button to close the circuit, of a lever to control one of said push buttons and provided with a cam, a cam movable to cooperate with the lever cam to actuate said lever, and a mechanically actuated lever to control the other of said push buttons.

3. In an electrical control, a switch having a push button to open the circuit and a push button to close the circuit, a casing within which the switch is mounted, a lever fulcrumed on said casing and controlling one of said push buttons and provided with a cam, a second lever mounted on said casing and controlling the other of said push buttons, means to automatically actuate one of said levers, and means to manually control the other of said levers.

4. In an electrical control, adapted to be placed with a chamber, access to which is controlled by a door, a switch located within said chamber, having a push button to open the circuit and a push button to close the circuit, a lever controlling one of said push buttons and provided with a cam, a cam carried by said door to cooperate with same cam to actuate said lever when said door is either opening or closing, a second lever to control the other of said push buttons, and means to actuate said second lever.

5. In an electric control, adapted to be placed in a chamber, access to which is controlled by a door, a switch having a push button to open the circuit and a push button to close the circuit, means controlled by the opening or closing of said door to actuate one of said push buttons to open the circuit, and means controllable at the will of the operator to actuate said push button to close the circuit through said light.

6. In an electric control, a casing adapted to be placed within the chamber, access to which is controlled by a door, a switch within said casing having a push button to open the circuit and a push button to close the circuit, a cam carrying member to actuate one of said push buttons, a cam adjustably carried by said door to control said cam, and means controllable at the will of the operator to actuate the other of said push buttons.

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