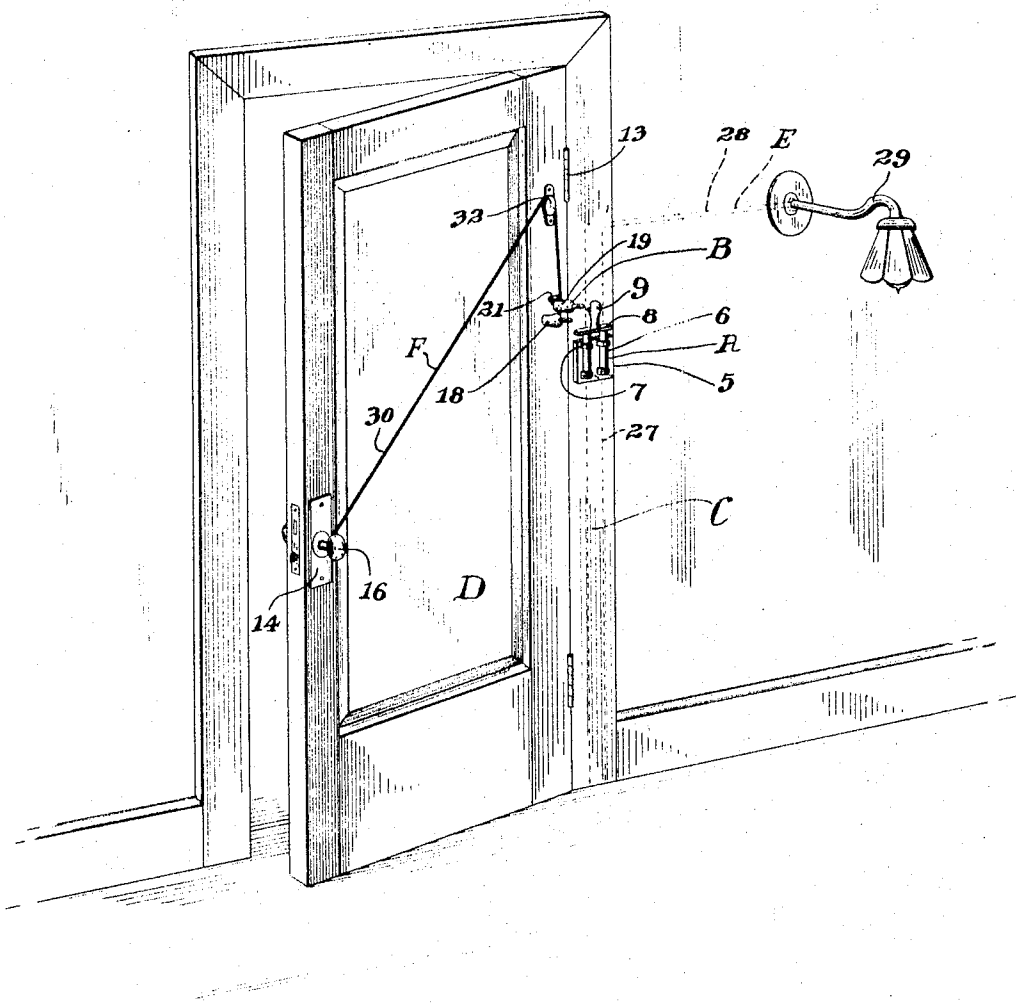
Aug. 14, 1923. 1,464,788

T. WAKEFIELD, SR

AUTOMATIC LIGHT CIRCUIT CONTROL

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Fig. 1.



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Fig. 2.

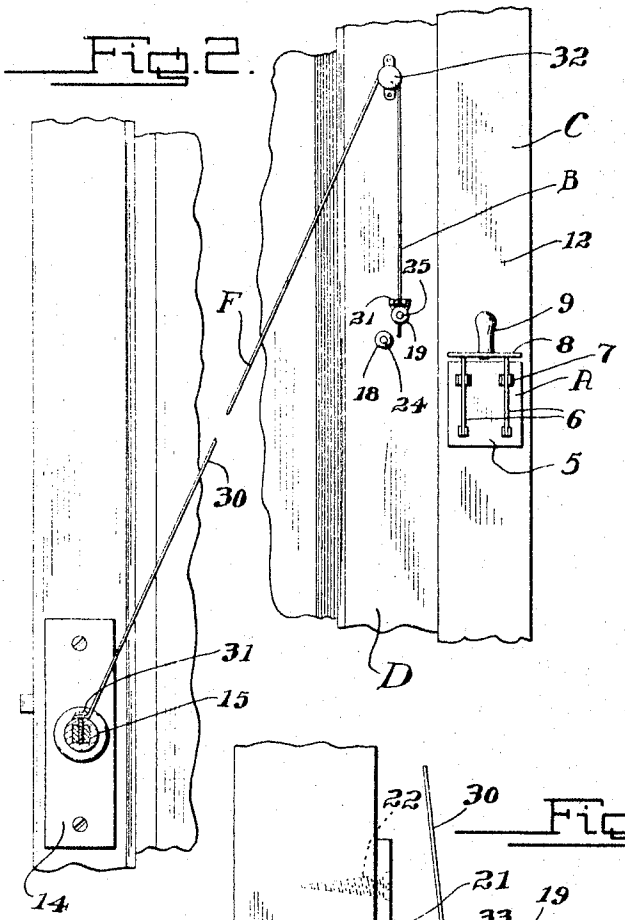


Fig. 3.

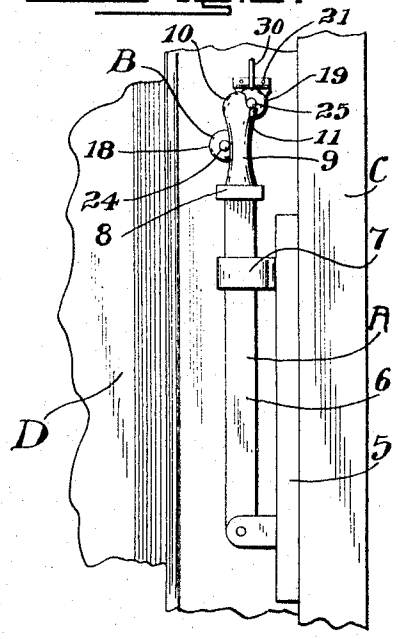
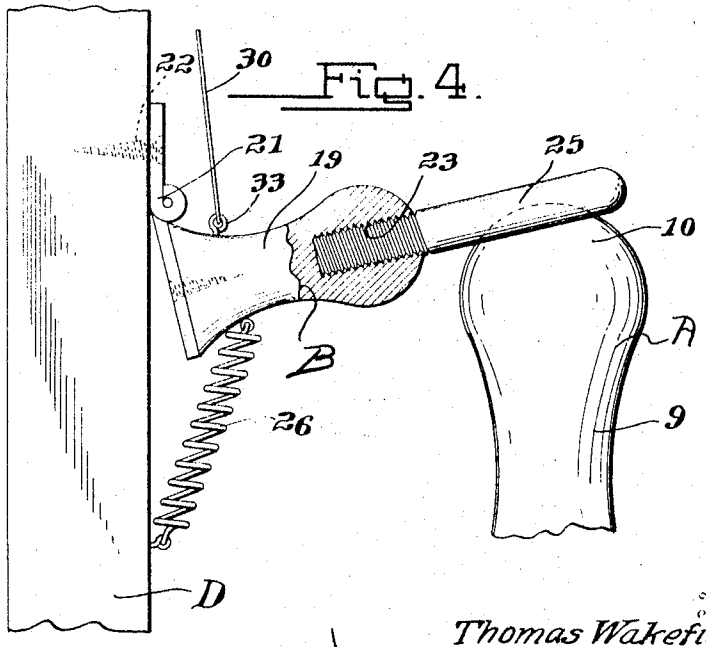


Fig. 4.



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UNITED STATES PATENT OFFICE.

THOMAS WAKEFIELD, SR., OF MIAMI, ARIZONA.

AUTOMATIC LIGHT-CIRCUIT CONTROL.

Application filed February 3, 1921. Serial No. 442,205.

To all whom it may concern:

Be it known that I, THOMAS WAKEFIELD, Sr., a citizen of the United States, residing at Miami, in the county of Gila and State of Arizona, have invented certain new and useful Improvements in Automatic Light-Circuit Controls, of which the following is a specification.

This invention relates to a device for automatically controlling a light or burglar alarm circuit, of a house, bank, vault or the like, and the primary object of the invention is to provide a simple and novel device for operating an ordinary type of switch during the opening and closing movement of a door, so that the circuit controlled by said switch will be automatically opened and closed during the operation of the door.

Another object of the invention is to provide a novel means for opening a lighting circuit of a house by the movement of a door to a closed position, so that the house lights will be automatically extinquished, thereby effectively preventing the burning of the lights and the consequent waste of current in case the lights were inadvertently left burning by persons leaving the house.

A further object of the invention is the provision of a novel door carried device for operating a common type of wall carried switch for closing the switch during the opening movement of the door and the opening of the switch during the closing movement of the door, the device also embodying means, operable when so desired, for preventing opening movement of the switch when the door is moved to a closed position, so that the lighting circuit can be maintained closed when a person is entering the house.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described, claimed and illustrated in the accompanying drawings, forming a part of this specification, in which:

Figure 1 is a perspective view of the improved automatic circuit controlling device showing the same in operative position on a door and door frame, the door being shown in partly opened position.

Figure 2 is a fragmentary view illustrating the switch and the switch control members in front elevation, and illustrating the means for operatively connecting one of the switch operating members to the door knob spindle, the spindle being shown in cross section.

Figure 3 is a fragmentary side elevation of the door frame showing the switch carried thereby and the position of the door carried members in relation to the switch operating lever when the door is in its fully open position, and

Figure 4 is an enlarged fragmentary view of the improved mechanism illustrating the position of one of the switch operating members when the door is being moved to an open position the said member being shown partly in section.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter A indicates the common type of switch; B the operating means therefor; C a door frame; and D a door mounted in said frame.

As shown the switch A is employed for controlling the closing and opening of the usual house lighting circuit designated by the letter E, but it is to be understood that the switch can be used for controlling the closing and opening of a burglar alarm circuit embodying an audible signal. The switch is of the common knife type, although other types of switches may be utilized, and as shown the same includes the base plate 5, to which are pivotally connected in the ordinary manner the blades 6, which are adapted to engage the contact jaws 7. The blades 6 are connected by the cross bar 8 which carries the handle 9. The handle 9 has the outer end thereof curved as at 10, for a purpose which will be hereinafter more fully described. The inner surface of the handle may be provided with a shoulder and rest 11, the purpose of which also will be hereinafter more fully described. The switch A is adapted to be mounted in any preferred manner upon one of the side posts 12 of the door frame C adjacent to the hinged portion of the door D.

The door D is of the usual construction and is connected to the post 12 by the usual type of hinges 13. The opposite edge of the door is provided with the usual type of knob controlled lock 14 which includes the spindle 15 and the knob 16.

The means B for actuating the switch A is carried by the door D and includes an operating arm 18 and an operating arm 19.

These arms 18 and 19 are arranged in

spaced relation to each other and on the inner face of the door adjacent to the hinged portion thereof and are disposed, so as to be in direct alignment with the handle 9 of the switch A. The arm 19 is arranged slightly above the arm 18 and is adapted to engage the upper portion of the handle 9, while the arm 18 is adapted to engage the intermediate portion thereof, and these arms are so shaped as to snugly lie on the opposite sides of the switch handle 9 when the door C is in its fully opened position. The arm 18 is rigidly secured to the door, while the arm 19 is connected thereto by a suitable hinge 21, which as shown is of the strap type, screws 22 being employed for connecting the hinge respectively to the door and to the arm. The outer ends of the arms 18 and 19 are provided respectively with threaded sockets 23 which are adapted to receive the outstanding operating pins 24 and 25 respectively, which constitute the means for engaging the switch handle. The arm 19 is adapted to be normally held in an operative position in a horizontal plane, by means of a contractile coil spring 26, which is connected respectively to the lower surface of the arm 19 and to the door D. The lighting circuit E has only been partly shown and as illustrated includes the feed wires 27 which lead to the knife blades 6. The lead wires 28 thereof extend from the contact jaws 7 to the lights, one only being shown and indicated by the numeral 29.

In operation of the improved device, when the door is in its closed position and the switch is in its open position, upon opening movement of the door, the pin 25 of the arm 19 will strike the curved surface 10 of the switch handle 9 and ride over the same, while the pin 24 of the arm 18 will engage the central portion of the handle 9 and move the same to its closed position, thus closing the circuit through the lights. The pin 25 will now rest on the shoulder 11, as clearly shown in Figure 3, while the pin 24 will engage the intermediate portion of the handle. Upon closing movement of the door, the pin 25 engaging the abrupt face of the shoulder 11 will operate the handle and move the knife blades 6 from out of engagement with the contacts 7, thus opening the circuit.

In some instances, such as when persons are entering the house, it is not desirable to open the switch during the closing movement of the door and to allow for this contingency a means F is provided for operating the arm 19 and the pin 25 so as to swing the same over the handle 9 during the closing movement of the door. This means F includes a flexible cable 30 which may have one end secured as at 31 to the spindle 15 of the door knob 16. This cable 30 is trained around a suitable guide pulley 32 and has its opposite end connected by an eye 33 to the arm 19. Thus when the door is being closed and it is not desired to open the switch, the knob 16 is grasped and rotated in the usual manner, which will wind up the cable 30 on the knob spindle, thus exerting a pull on the arm 19 which will swing the same on its pivot and above the handle 9 of the switch. This effectively prevents the operation of the switch.

From the foregoing description, it can be seen that an improved and simple device has been provided for effectively controlling the closing and opening of a light circuit of a house, by the operation of a door.

Changes in details may be made without departing from the spirit or scope of this invention; but,

I claim:

1. In a door controlled switch mechanism, a switch secured to a door casing, and a pair of spaced operating arms carried by the door and disposed in the path of the operating portion of said switch and so mounted as to operate the same during the closing and opening movement of the door and means for mounting one of said arms in place to permit the same to idle over the operating portion of the switch during movement of the door in one direction.

2. In a door controlled switch mechanism, a knife switch including a swinging handle, means for securing the switch to a door frame, a pair of spaced actuating arms carried by the door and arranged in the path of said handle for operating said switch during the closing and opening movement of the door, and means for mounting one of said arms to permit the same to idle over said handle when the door is moving in one direction.

3. In a door controlled switch mechanism, a knife switch secured to the door casing including a swinging handle, of a pair of spaced arms carried by the door arranged in the path of said handle, means hingedly securing one of said arms to the door to permit the same to ride over the handle during the opening movement of the door, the handle having a notch formed in the rear face thereof for receiving said hinged arm when the door is in its fully open position, so as to permit the actuation of the handle by said arm when the door is moved to its closed position.

4. In a door actuated switch mechanism, the combination with a door and door frame, of a knife switch secured to the door frame including an operating handle having a curved head, and a shoulder formed in rear of said head, a pair of outstanding spaced arms secured to the inner face of the door in the path of said switch handle, one of said arms being hingedly secured to the door and arranged above the other arm, spring

means normally holding the hinged arm in its lower operative position, and outstanding pins carried by said arms.

5. In a door actuated switch mechanism, the combination with a door and door frame, of a knife switch secured to the door frame including an operating handle having a curved head and a shoulder formed in rear of said head, a pair of outstanding spaced arms secured to the inner face of the door in the path of said switch handle, one of said arms being hingedly secured to the door and arranged above the other arm, spring means normally holding the hinged arm in its lower operative position, outstanding pins carried by said arms, and means for manually raising said hinged arm when so desired.

6. The combination with a door and door frame, of a knife switch carried by the door frame including a handle having a rounding head and a seat formed on the rear portion of said head, a pair of outstanding arms arranged in spaced relation and secured to the inner face of said door adjacent to the switch and arranged in the path of said switch, one of said arms being hingedly connected to the door and arranged above the other arm, outstanding pins carried by the other ends of the arms, the pin carried by the hinged arm being arranged in the path of the curved portion of the handle, spring means engaging said hinged arm for normally holding the same in operative position, a knob and spindle for said door, and a flexible cable connected to said hinged arm and to said spindle.

7. In a door controlled switch mechanism, a switch secured to said door casing, a pair of spaced operating members carried by the door and disposed in the path of the operating portion of said switch, and so mounted as to operate the same during the closing movement of the door, means for securing one of said members in position to permit the same to idle over the operating portion of the switch during movement of the door in one direction, and means for actuating one of said members to move the same out of the path of the operating portion of said switch.

THOMAS WAKEFIELD, SR.