Nov. 18, 1924. 1,516,144

H. L. BOGGS

ELECTRIC CHAIN PULL SWITCH

Filed Feb. 20, 1923

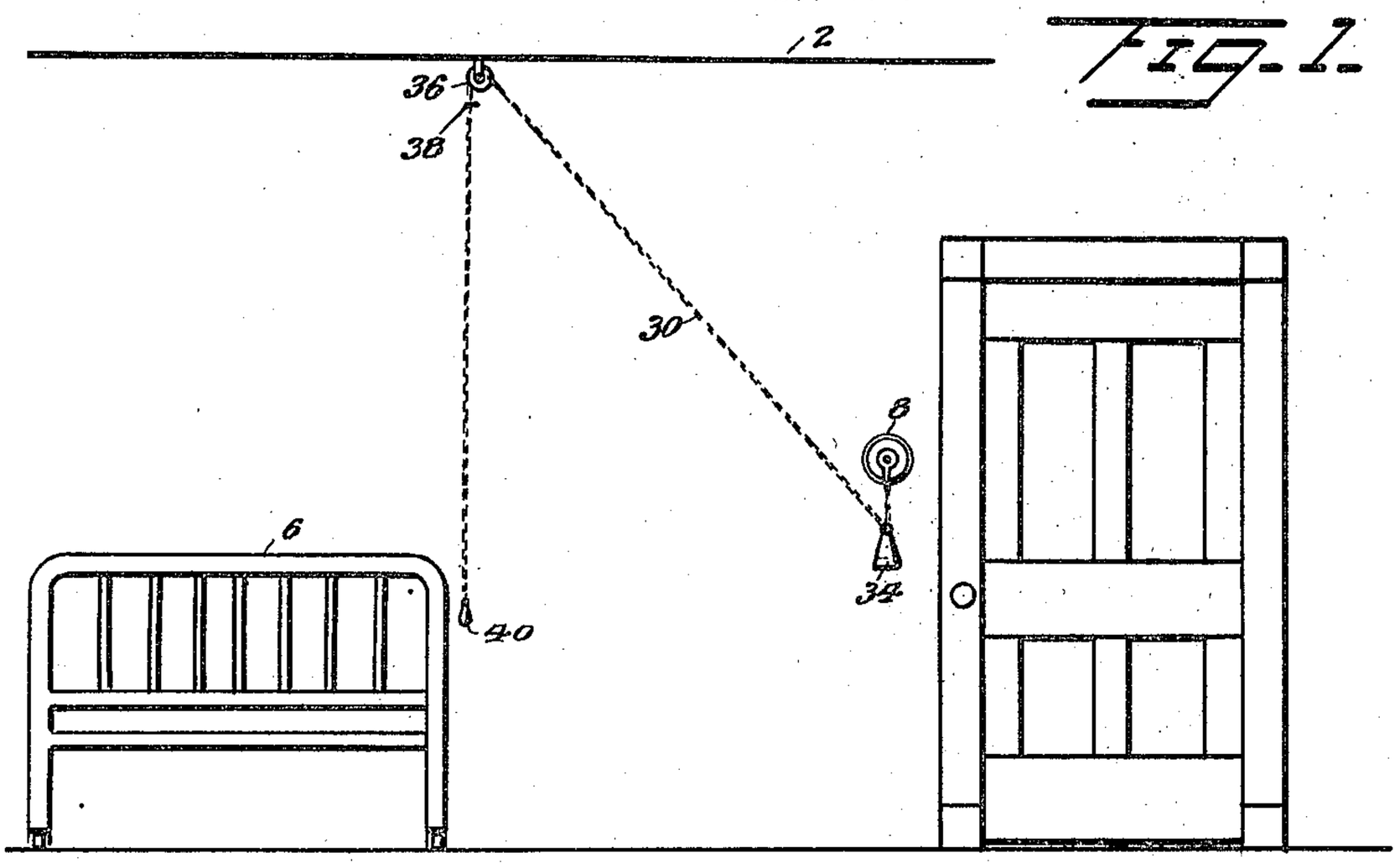


Fig. 1.

Fig. 2.

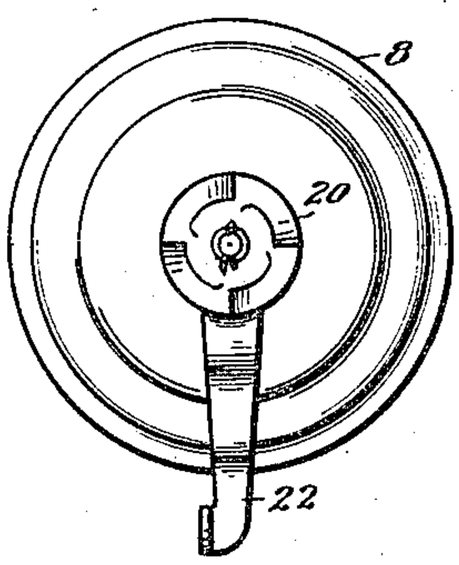
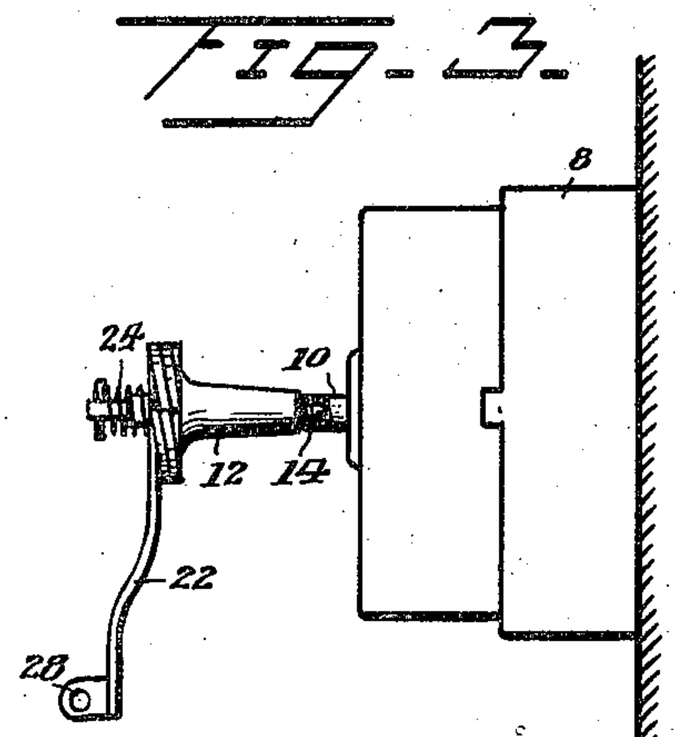


Fig. 3.



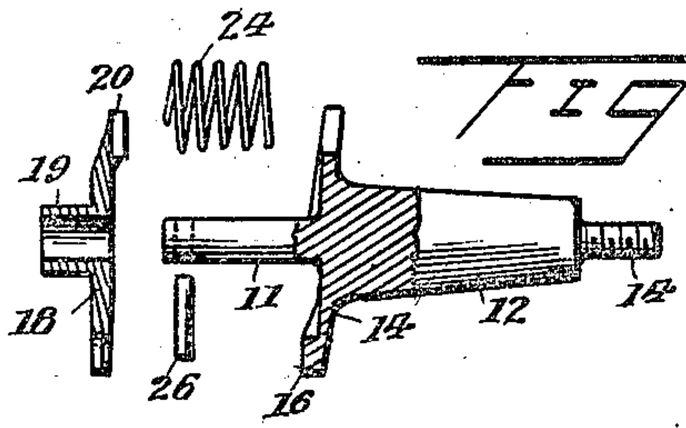


Fig. 4.

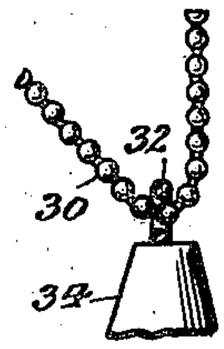


Fig. 5.

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UNITED STATES PATENT OFFICE.

HUGH L. BOGGS, OF MUNCIE, INDIANA.

ELECTRIC CHAIN-PULL SWITCH.

Application filed February 20, 1923. Serial No. 620,258.

To all whom it may concern:

Be it known that HUGH L. BOGGS, says he is a citizen of the United States of America, residing at Muncie, in the county of Delaware and State of Indiana, has invented certain new and useful Improvements in Electric Chain-Pull Switches, of which the following is a specification.

My invention relates to electric switch operating mechanism, and particularly to an arrangement whereby a person at a distance from the switch may operate the latter to control the illumination within a room or building.

The main object of my invention is to provide a switch operating mechanism whereby a pull chain or cord conveniently accessible to a person, for instance in a bed at a distance from the lamp controlling switch, may by a pull in one direction operate said switch to open or close the lighting circuit.

A further object of the invention is to provide a gravity actuating device for returning the operating means for the switch to initial position.

Other features reside in the particular construction and arrangement of elements illustrated, in the accompanying drawings in which:—

Figure 1 represents the interior of a room equipped with my invention.

Figure 2 is an end elevation of the switch receptacle and operating device;

Figure 3 is a side view thereof;

Figure 4 is an expanded view, partly in section, of the operating device, and

Figure 5 is a detail view of the weight and chain.

Referring now more specifically to the accompanying drawings the room in which my switch arrangement may be applied, is designated at 2, one wall thereof at 4, and for sake of illustration, a bed 6 from which the switch may conveniently be operated.

Mounted upon the wall 4, at the desired location, is an electric switch receptacle 8, containing the usual rotary snap switch mechanism, unnecessary to be shown, the spindle for operating the same being shown at 10, and also of standard construction.

The operating knob or finger-piece which usually carries a threaded metallic extension, adapted to be screwed into an axial threaded recess in the spindle 10, is in the present arrangement removed, and in lieu thereof is placed a mechanical switch operating mechanism, which comprises in part, a metal hub 12, a threaded extension 14 on one end of which is adapted to be screwed, into the metallic recess in the switch spindle 10, while the other end is reduced to provide an axial stub-shaft or journal 11.

At the juncture of the stub-shaft with the hub, the device is provided with an annular flange 14, the outer face of which is provided with a series of ratchet teeth 16. Rotatably mounted upon the stub-shaft 11, through the medium of a bearing 19, is a disk 18, the inner face of which is provided with an annular series of ratchet teeth 20, which cooperate with the ratchet teeth 16 of the hub member 12. The disk 18 is provided with a radial operating arm 22, and for the purpose of maintaining the ratchet faces of the flanges in engagement, I employ the coiled compression spring 24, surrounding the stub-shaft 11, and seated at its ends respectively against the outer face of the disk 18, and a transverse pin 26 on the outer extremity of the shaft 12.

The end of the radial operating arm 22, is attached at 28, to a pull chain or cord 30, the latter passing through the ring 32 of a weight 34, over a pulley 36, secured to the ceiling from which it hangs in a position conveniently within reach of a person on the bed. If desired, the chain or cord may be provided with a stop device 38, to limit the movement thereof, in an upward direction.

In operating the device, the operator by grasping the handle 40, and pulling down on the chain or cord, rocks the disk, 18, the ratchet teeth of which latter, being in an engagement with the ratchet teeth of the flange 14, results in a movement in a clockwise direction of the hub 12, and the switch spindle 10 to which it is secured. This operation either causes the switch contacts to be opened or closed dependent upon the condition thereof, prior to the said operation. The operator then releases the handle 40, and the weight 34, depresses the arm, turning the disk in a counter-clockwise direction. During this operation, the spring 24, will yield, permitting the teeth on the disk 18, to override those of the hub flange 14 as will readily be appreciated.

Having described the construction of my invention, it will be seen that I have provided a simple, inexpensive, and efficient means for carrying out the objects of my ap-

paratus, and while I have particularly described the elements best adapted to perform the functions set forth, it is obvious that various changes in form, proportion and in the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the principles of the invention.

Having described the construction and operation of my invention, what I claim as new and desire to protect by Letters Patent is:—

1. In a switch operating mechanism for a rotary snap switch having a spindle, a hub on said spindle, a ratchet faced flange on said hub, a stub-shaft carried by said hub, and in axial alinement therewith, a ratchet faced disk journaled on said stub-shaft, means for rocking said ratchet faced disk in clockwise direction to impart a like movement to said hub and a weight for rocking said disk in counter-clockwise direction.

2. In a switch operating mechanism for a snap switch having a rotary spindle, a hub having a threaded connection with said spindle, a stub-shaft rigid with said hub in axial alinement with said rotary switch spindle, an annular flange on said hub at its juncture with said stub-shaft a series of ratchet teeth on the outer face of said flange, an oscillatory disk journaled on said stub-shaft and having an inner series of ratchet teeth adapted to cooperate with the teeth on said hub flange, a coil compression spring, on said stub-shaft and yieldingly engaging the outer face of said disk, a radial arm on said disk, an operating cord connected with the outer end of said arm for moving said disk in one direction, and a weight carried by said cord adjacent said arm for moving said disk in the opposite direction.

In testimony whereof I affix my signature.

HUGH L. BOGGS.