Jan. 30, 1923. 1,443,485.

J. C. LEWIS.

SWITCH.

FILED DEC. 17, 1921. 2 SHEETS—SHEET 1.

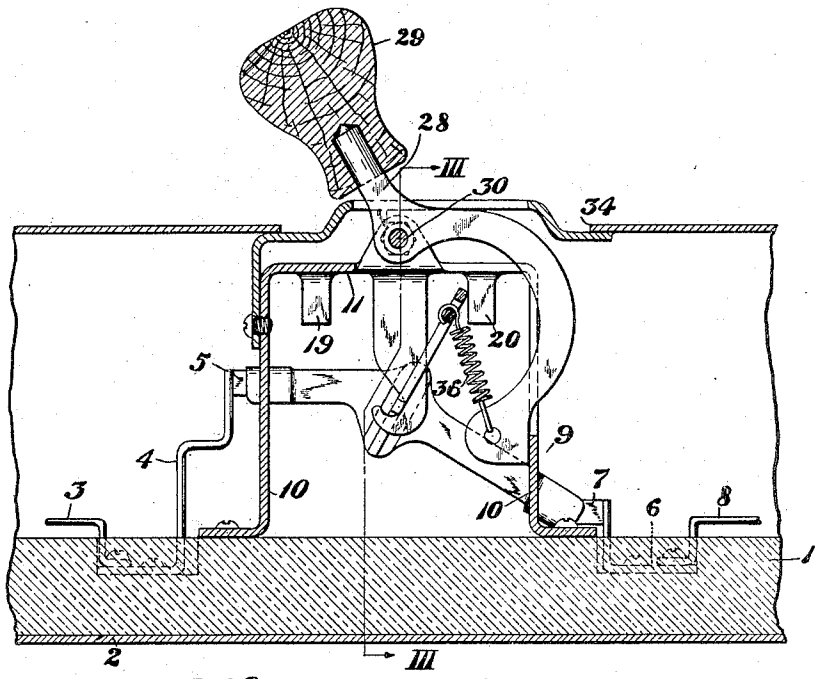


Fig. 1.

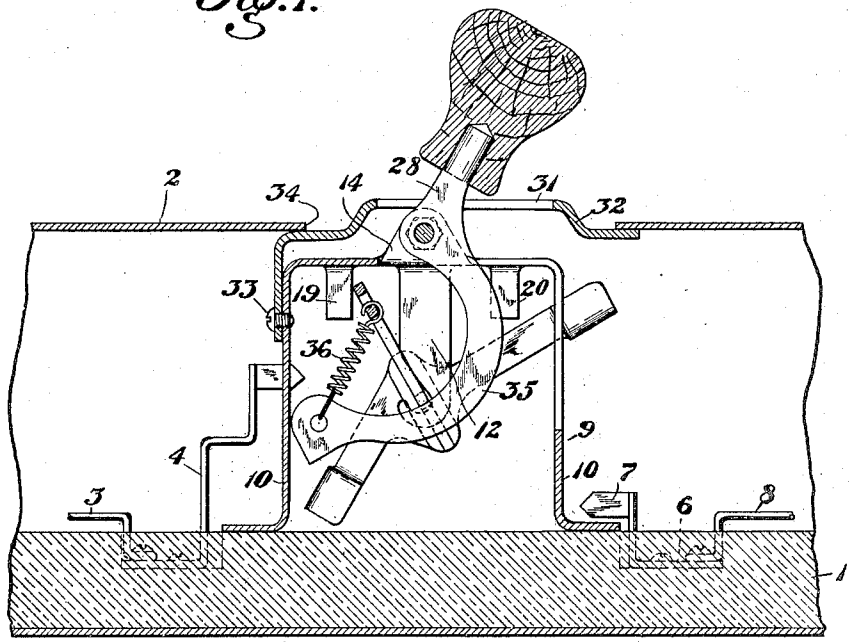


Fig. 2.

Inventor

Joseph C. Lewis.

By Frease and Bond

Attorneys

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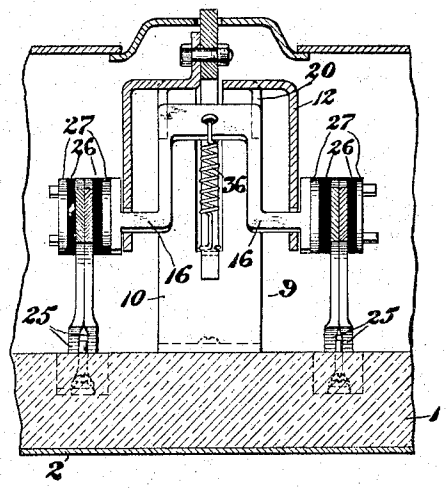


Fig. 3

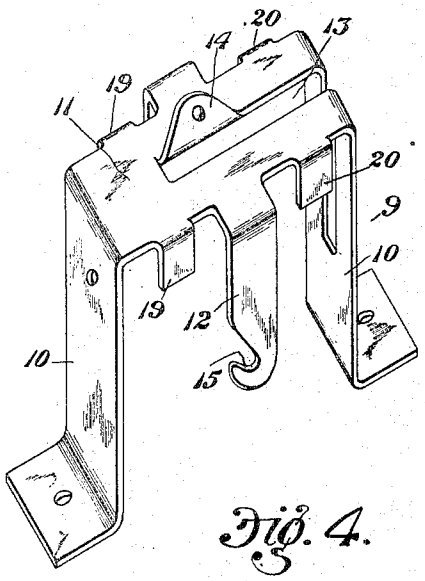


Fig. 4.

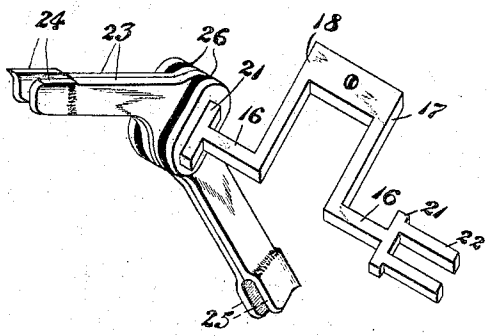


Fig. 5.

Inventor

Joseph C. Lewis.

By Frease and Bond

Attorneys

Patented Jan. 30, 1923.

1,443,485

UNITED STATES PATENT OFFICE.

JOSEPH C. LEWIS, OF MINERVA, OHIO.

SWITCH.

Application filed December 17, 1921. Serial No. 523,181.

To all whom it may concern:

Be it known that I, JOSEPH C. LEWIS, a citizen of the United States, residing at Minerva, in the county of Stark and State of Ohio, have invented a new and useful Switch, of which the following is a specification.

This invention relates to improvements in switches and more particularly to a quick action switch of the toggle type, especially adapted for use in service entrances, and is illustrated in the drawings forming a part of this specification, as being located within a service entrance box.

The objects of the invention are to provide a quick action switch of the toggle type which is so constructed that it will operate rapidly to throw the switch blades from the open to the closed position, or vice versa, and which is arranged to stop only at a fully opened or closed position.

With these objects in view, the invention consists in the construction and arrangement of parts hereinafter described and illustrated in the accompanying drawings, it being understood that various changes in the form and details of construction may be made within the scope of the appended claims.

The invention thus set forth in general terms is illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal, sectional view through a switch embodying the invention, showing the same in the closed position;

Fig. 2, a similar view showing the switch in the opened position;

Fig. 3, a section on the line 3—3, Fig. 1;

Fig. 4, a detail perspective view of the switch bracket; and

Fig. 5, a detail perspective view of the switch arm and one of the switch blades.

Similar numerals of reference indicate corresponding parts throughout the several figures of the drawings.

The switch is shown mounted upon the block 1 which is contained within the entrance box 2 formed of sheet metal and constructed in any desired manner. The line wires 3 are attached to a pair of terminals 4 mounted upon the block 1 upon which terminals are provided the contact clips 5. Terminals 6 are connected to the block, at the other side of the switch, and provided with the contact clips 7, said last named terminals being arranged to be connected to the line fuses as by the wires 8.

An inverted U-shaped switch bracket designated generally by the numeral 9, is mounted upon the block 1 between the terminals 4 and 6 and comprises generally the vertical legs 10, the cross bar 11 and the depending arms 12. A longitudinal slot 13 extends through the upper portion of one of the legs 10 and through the adjacent end portion of the cross bar, an upwardly disposed lug 14 being provided upon the cross bar at the extremity of said slot.

The lower end portions of the arms 12 are provided with the inclined open bearing notches 15 within which the journal portions 16 of the switch arm 17 are journaled, said switch arm having the central, substantially U-shaped portion 18 arranged to engage the depending stops 19 and 20 formed upon the cross bar 11.

Each of the journal portions 16 of the switch arm terminates at a cross bar 21, the bifurcated portion 22 extending outwardly therefrom for the purpose of attaching the switch blades. Each switch blade comprises two angular plates or strips 23, opposite extremities thereof being offset at 24 and 25 in order to receive the contact clips 5 and 7 respectively.

The switch blades are mounted upon the bifurcated portions 22 of the switch arm, an insulated washer 26 being provided upon each side of each of the plates insulating the same from the washers 27. The journal portions 16 of the switch arm extend through the inclined bearing notches 15 formed in the arms 12, and the upper portion of the switch arm is arranged to engage the stops 19 and 20, as shown in Figs. 1 and 2 of the drawings, when the switch is thrown from one position to the other.

The switch lever 28 is provided upon its upper extremity with an insulated handle 29 and is pivoted at 30 to the lug 14 upon the bracket 9, the upper portion of said lever extending through the slot 31 in the plate 32 which is connected to the bracket as by the screw 33 and closes the opening 34 formed in the upper wall of the box.

The lower portion of the switch lever is curved as shown at 35 and extends through the slot 13 in the bracket, the free end there-

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of being connected by the coil spring 36 with the U-shaped portion 18 of the switch arm. As shown in Figs. 1 and 2, the spring 36 holds the switch arm in engagement with the stops 19 or 20, depending upon the position of the switch.

In operating the switch, it is only necessary to rock the lever 28 from the position shown in Fig. 1 to that shown in Fig. 2, in order to throw the switch from the closed to the open position or vice versa. As the lever is rocked from one position to the other, the spring 36 will be expanded until the lower end of the lever passes beneath the pivotal point of the switch arm at which time the spring will throw the switch arm quickly into the opposite position and into engagement with the stops 19 or 20 as the case may be, the off-set end portions 24 and 25 of the switch blades quickly engaging with or disengaging from the contact clips 5 and 7 respectively.

Although the drawings and above specification discloses the best mode in which I have contemplated embodying my invention, I desire to be not limited to the details of such disclosure, for, in the further practical application of my invention, many changes in form and construction may be made, as circumstances require or experience suggests, without departing from the spirit of the invention, within the scope of the appended claims.

I claim:—

1. A switch including an inverted U-shaped bracket having a longitudinal slot therethrough, a curved lever pivotally mounted upon said bracket and extending through the slot therein, arms formed upon opposite sides of the bracket, a U-shaped switch arm provided with journal portions journaled through said arms, stops formed upon the bracket for limiting the movement of the switch arm in each direction, switch blades fixed to the outer extremities of the switch arm and a spring connecting the free end of the lever with the switch arm.

2. A switch including an inverted U-shaped bracket having a longitudinal slot therein, a curved lever pivotally mounted upon the bracket and extending through said slot, depending arms upon said bracket provided with inclined bearing notches in their lower portions, a U-shaped switch arm provided with oppositely disposed journal portions located in said notches, switch blades mounted upon the extremiites of said journal arms, stops formed upon the bracket for limiting the movement of the switch arm in each direction and a spring connecting the free end of the curved lever with the switch arm.

In testimony that I claim the above, I have hereunto subscribed my name.

JOSEPH C. LEWIS.