H. P. DONLE.

ELECTRIC SWITCH.

APPLICATION FILED MAY 21, 1921.

1,424,809. Patented Aug. 8, 1922.

Fig. 1.

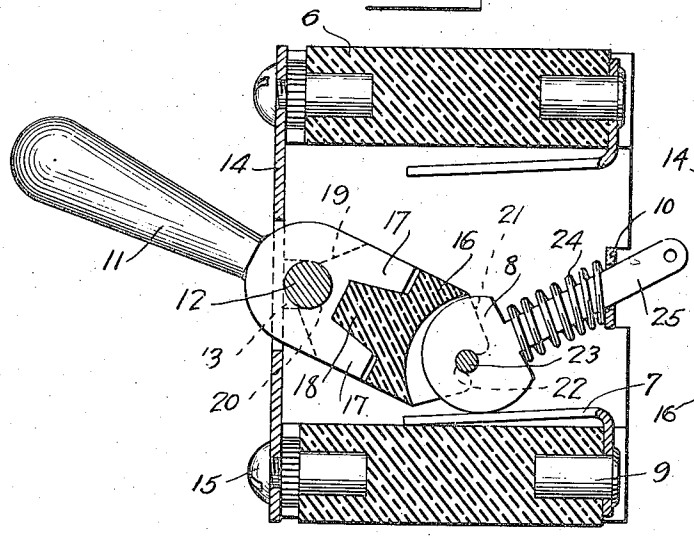


Fig. 2.

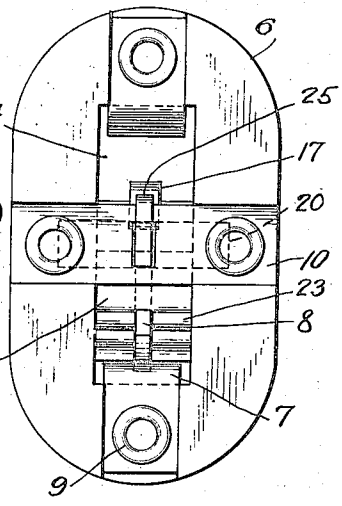


Fig. 3.

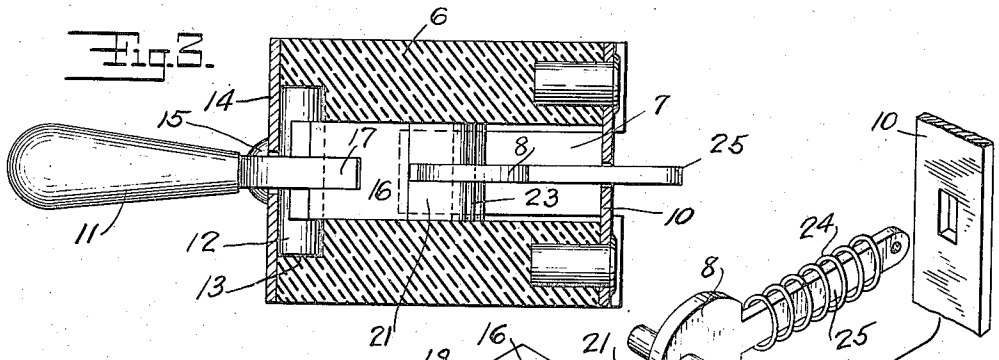


Fig. 4.

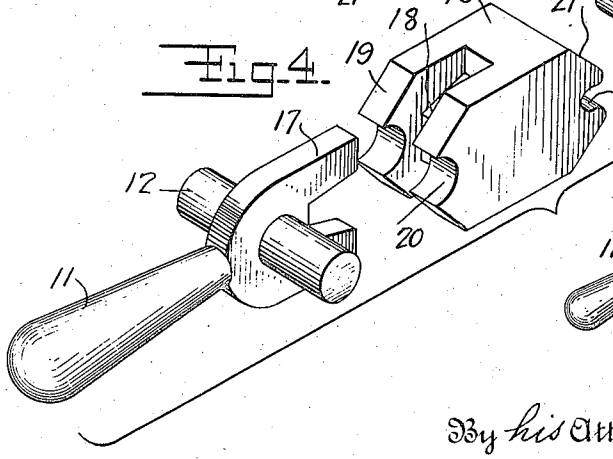
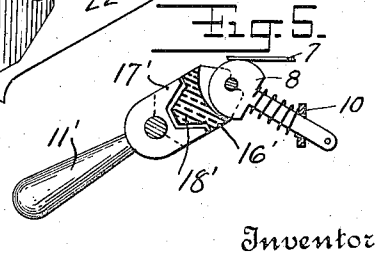


Fig. 5.



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ELECTRIC SWITCH.

1,424,809. Specification of Letters Patent. Patented Aug. 8, 1922.

Application filed May 21, 1921. Serial No. 471,437.

To all whom it may concern:

Be it known that I, HAROLD P. DONLE, a citizen of the United States of America, residing at Meriden, Connecticut, have invented a new and useful Electric Switch, of which the following is a specification.

My invention relates particularly to switches intended to be used for lighting and ignition work, but it will be obvious that the particular use of the switch is immaterial.

The main object is to provide a simple, inexpensive, but reliable mechanism, which may be readily operated. The invention relates particularly in the construction and arrangement of parts facilitating manufacture and assembly, and at the same time ensuring proper strength and insulation.

Fig. 1 is a sectional view and side elevation of a switch embodying improvements of my invention.

Fig. 2 is a rear view of the same.

Fig. 3 is a horizontal section and plan view.

Fig. 4 is a perspective view showing the parts of the operating mechanism separated.

Fig. 5 is a sectional view of a modification.

The switch mechanism proper is preferably mounted in a body or housing 6 formed of insulating material and having a central passage or recess for the movable parts of the switch. The switch may have one or more stationary contacts, such as 7, preferably of a resilient character. The movable switch member 8 is adapted to engage these stationary contacts. The stationary contacts may be secured in place by studs or eyelets, such as 9, forming one pole or terminal of the switch. The movable switch member is preferably guided in a cross bar 10 at the rear which forms the other terminal or pole of the switch.

The operating handle 11 is pivoted on a pin 12 which rests in notches or bearings 13 in the front of the body of the switch. This handle and the bearing pin are held in place by the front plate 14 which is secured to the body 6 in a suitable manner, for instance, by one or more screws such as 15.

The operating handle is connected to the movable switch member by an insulating piece 16. The handle preferably has two fingers 17—17 spaced apart from each other to receive the lug 18 of the connector. The connector also has flanges 19—19 which fit on the opposite sides of the fingers 17 so as to hold the parts in their proper relative positions. The ends of the flanges 19 have bearing surfaces 20 engaging the pin 12 adjacent the handle. The opposite end of the connector has flanges 21 which fit on opposite sides of the contact member 8 and are provided with bearing notches 22 for the hinge pin 23 of the switch member 8. The spring 24 which surrounds the arm 25 of the switch member 8, is interposed between the head of the switch member and the stationary guide bar 10 so as to hold the contact member yieldingly in the position of Fig. 1. When the operating handle or lever 11 is depressed, the lower finger 17 exerts pressure on the underside of the part 18 of the connector 16 so as to swing the connector upwardly about the pivot pin 12, carrying with it the hinge pin 23 and the switch member 8, and compressing the spring 24. When the pin 23 passes above the line of centers of the pin 12 and the bar 10, the pressure spring 24 tends to push the contact member 8 upwardly and hold it there when the handle is released.

It will be seen that when the cover plate 14 is removed, the operating handle or lever and its pin 12 may be withdrawn from the front of the insulating body 6 together with the connector 16, the movable switch member 8 and the spring 24, and that the pin 12, connector 16, pin 23, switch member 8 and spring 24 may then all be separated without the use of tools. Obviously, the parts may be readily assembled in the reverse order without the use of tools.

By making the projection 18′ of the connector 16′ somewhat smaller than the space between the fingers 17′ as shown in Fig. 5, it is possible to allow relative freedom of motion between the connector 16′ and the operating handle or lever 11′, so that when the handle is moved, the switch member may move under impulse of its spring without control by the operator, thus producing what is commonly termed a quick break action.

I claim:

1. In an electric switch, an insulating body having a passage extending from the front to the rear thereof with bearing notches in the

front, a cross bar in the rear, a relatively stationary contact in said recess, a movable contact guided by said bar, a spring interposed between said bar and said contact, an operating handle pivoted in said bearing notches, an insulating connector interposed between said handle and said movable contact member, and a face plate holding said handle, said connector and said movable contact in place.

2. In an electric switch, a housing, a pivoted operating handle having two spaced apart fingers, an insulating member having a portion interposed between said fingers and pivoted on the same axis as said handle, a movable switch member hinged to said insulating member and movable therewith, a resilient stationary switch contact adapted to be engaged by said movable contact, a guide for said movable contact and a spring interposed between said guide and a portion of said movable contact.

3. In an electric switch, a housing, an operating handle, a pivot therefor, an insulating member having an open bearing engaging said pivot, connecting means between said operating handle and said insulating member whereby said insulating member is moved by said handle, said insulating member having open notch bearings, a movable member, a hinge pin for said movable member seated in said open notch bearings, and a spring cooperating with said movable member.

4. In an electric switch, a pivoted operating handle having spaced apart fingers, an insulating member having a portion interposed between said fingers and having side flanges embracing the sides of said fingers, a movable member pivotally connected to said insulating member, said insulating member having side flanges embracing opposite faces of said movable member.

5. In an electric switch, an insulating housing having a recess opening at the front, a circuit terminal at the rear, a spring contact connected to said terminal and arranged in said recess, a face plate for the front of said housing, a crossbar at the rear of said housing, a finger lever pivoted in said housing and projecting through said face plate, a contact member guided in said crossbar, a spring carried by said contact member and pressing against said crossbar, and an insulating block connected with said lever to oscillate therewith and pivoted to said contact member.

6. In an electric switch, a pivoted operating handle, an insulating member carried thereby and having spaced apart flanges with open notch bearings, a movable member pivoted in said bearings, a guide for one end of said movable member and a spring interposed between said guide and a part of said movable member.

7. In an electric switch, an insulating housing, a finger lever, a pivot therefor said finger lever having forked arms projecting into said housing, an insulating block having side flanges on opposite sides of said forked arms with open bearing surfaces engaging said pivot and a lug located between said forked arms, a switch member pivoted to said insulating block, lateral abutments for said switch member, and a spring for pressing said switch member against one of said abutments and thus holding said insulating block in connection with said finger lever and its pivot.

HAROLD POTTER DONLE.