C. D. PLATT.

ELECTRIC SWITCH.

APPLICATION FILED JUNE 23, 1917.

1,254,067.

Patented Jan. 22, 1918.

2 SHEETS—SHEET 1.

Fig 2

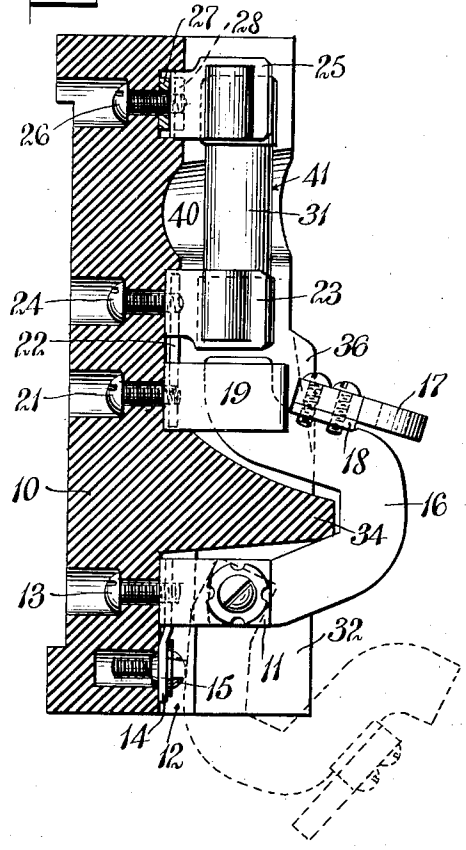


Fig 1

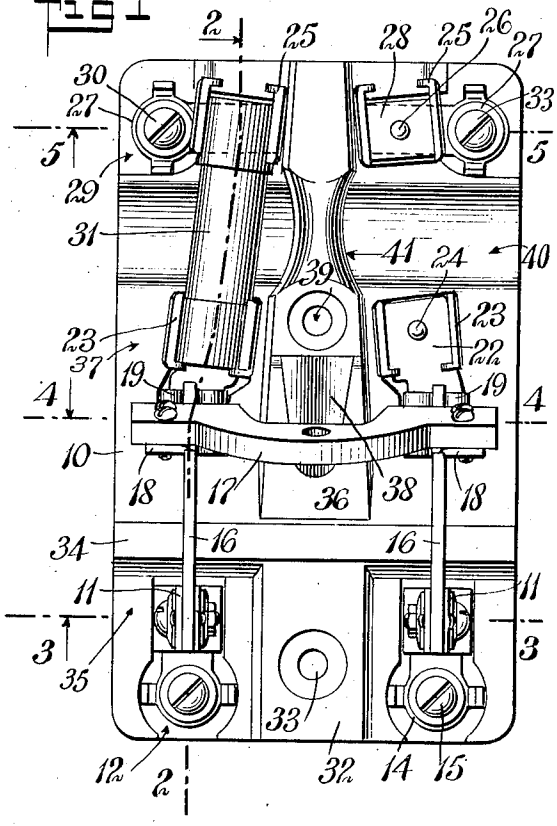


Fig 3

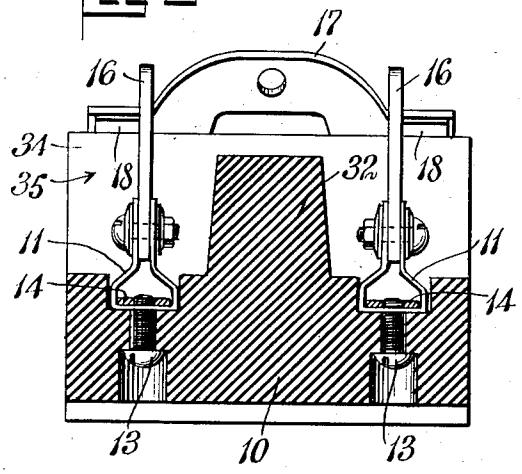
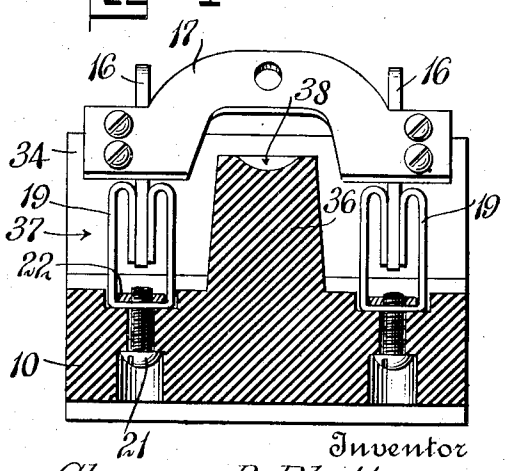


Fig 4



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2 SHEETS—SHEET 2.

Fig 5

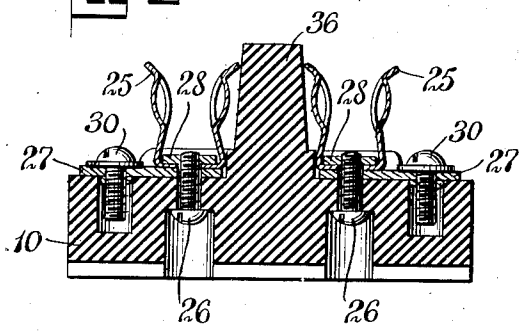


Fig 6

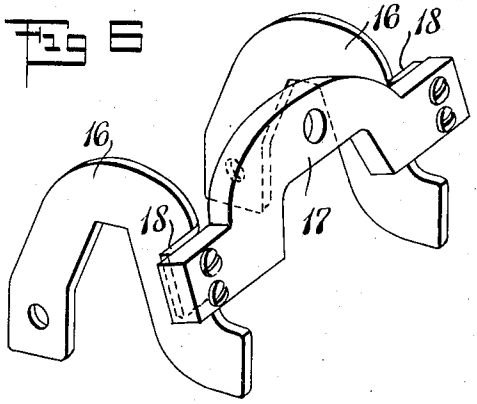


Fig 8

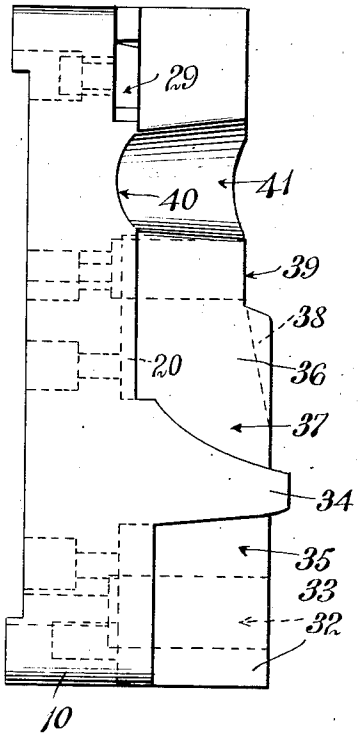
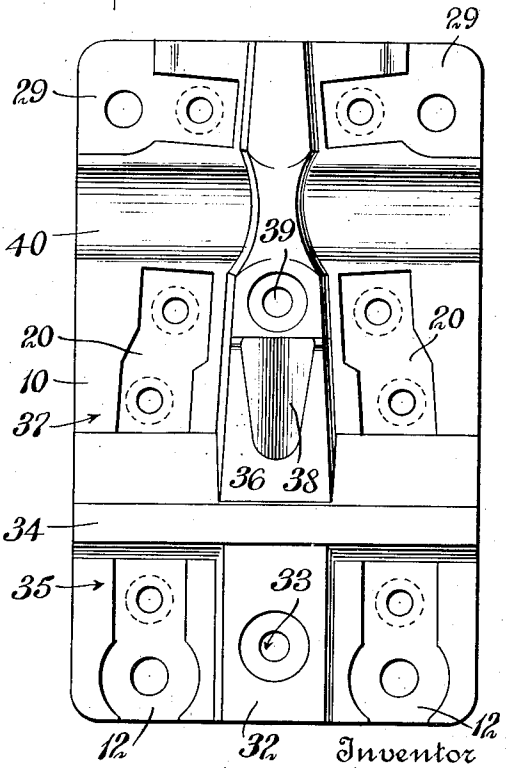


Fig 7



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UNITED STATES PATENT OFFICE.

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ELECTRIC SWITCH.

1,254,067. Specification of Letters Patent. Patented Jan. 22, 1918.

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To all whom it may concern:

Be it known that I, CLARENCE D. PLATT, a citizen of the United States of America, residing at Bridgeport, Connecticut, have invented a new and useful Electric Switch, of which the following is a specification.

My invention relates particularly to a construction which is commonly termed an entrance switch.

The main object is to provide a simple compact construction which is capable of carrying 250 volts. I endeavor to make the switch so small and compact that it may be used in the same small sized cabinet or box which is commonly used to contain lower voltage switches.

Switches of this character ordinarily have two pivoted switch blades and sockets for cartridge type fuses in line therewith.

By my invention I have produced a switch materially smaller than the standard type of 250 volt switch. I have constructed the parts so that the switch blades are little more than half the length of the standard switch blades, and yet the contacts are safely insulated from each other. I have also provided a finger-guard between the stationary switch contacts. I have also materially reduced the length of the switch base by placing the outer cartridge fuse sockets nearer together than the others, and extending the terminals laterally therefrom instead of endwise.

Figure 1 is a plan view of a switch embodying the improvements of my invention shown in the closed circuit position but with one of the fuses removed.

Fig. 2 is a side view and longitudinal section of the base on the plane of the line 2—2 of Fig. 1, also showing dotted the switch blades in open circuit position.

Fig. 3 is an end view and transverse section of the base on the plane of the line 3—3 of Fig. 1.

Fig. 4 is an end view and transverse section of the base on the plane of the line 4—4 of Fig. 1.

Fig. 5 is a transverse sectional view on the plane of the line 5—5 of Fig. 1, but with the fuses omitted.

Fig. 6 is a perspective view of the movable switch member.

Fig. 7 is a plan view of the insulating base with the metal parts removed.

Fig. 8 is a side view of the same.

The base 10 is of insulating material such as porcelain preferably molded in one piece. Posts or brackets 11—11 are mounted in recesses 12—12 in the ends of the base. These posts are secured to the base by screws 13—13 which pass upward through the base and screw into terminal plates 14—14 which carry the binding screws 15. One end of each switch blade 16 is hinged to a post 11. Each switch blade is arched in the center to substantially the height of the insulating hand piece 17. Each blade has a lug 18 projecting outwardly from one inclined edge to which the insulating cross piece 17 is secured by screws or rivets in a suitable manner. Stationary switch contacts 19—19 are mounted in recesses 20—20 being secured therein by screws 21 which pass upward through the base and screw into plates 22.

The plates 22—22 also serve to hold in place the fuse sockets 23—23. An additional screw 24 may be employed to hold the plate and each fuse socket more securely. The fuse sockets 25—25 are held in place by screws 26—26 which pass through the terminal plates 27—27 and screw into the nuts 28—28. These fuse sockets 25—25 and terminal plates 27—27 are preferably mounted in recesses 29 which face outwardly at the corners of the base. Binding screws 30—30 are provided at the sides. It will be noted that the sockets for the fuses such as 31 are arranged on converging lines so that the outer ends of the fuses are much closer together than is customary in switches of this character. By having the terminal plates and binding screws at the sides instead of at the ends the base is made materially shorter.

The heavy insulating barrier 32 projects upwardly between the two opposite hinge posts 11—11 and the connected terminal plates 14—14. A hole 33 extends through the barrier 32 for the passage of a screw for connecting the switch to a suitable support. A transverse barrier 34 extends between each post 11 and the corresponding switch contact 19. This barrier 34 in conjunction with the barrier 32 forms a corner recess 35 for the post 11. The barrier 36 extends longitudinally between the switch contacts 19—19 and in conjunction with the transverse barrier 34 forms pockets or recesses 37 for the contacts 19—19. This barrier 36 is also preferably grooved as at 38 and forms a finger-guard in conjunction with the arched insulating cross piece 17 so as to readily direct the finger in its engagement with the

cross piece and prevent the finger from coming in contact with the switch contacts 19—19. The barrier 36 is tapered toward the outer end of the base and is provided with a hole 39 for the passage of a screw for securing the base to a suitable support. The base is preferably grooved as at 40 and the barrier grooved at 41 so as to direct the fingers and facilitate gripping the fuse when it is desired to remove the same.

When the switch is closed, each side of the circuit may be traced as follows: binding screw 15, terminal plate 14, hinged post 11, blade 16, contact 19, plate 22, socket 23, fuse 31, socket 25, terminal plate 27 and binding screw 30.

The construction is such that when the switch is in the closed circuit position, the height is substantially the same as that of a standard 250 volt switch. The standard type of such switch however is approximately 50% higher when the switch blades are swung so as to project at right angles to the base. When the switch blades are thrown back into the fully open position the standard type of switch is more than $\frac{1}{3}$ longer than the switch of this application. The width of the base of a standard 250 volt switch is more than $\frac{1}{8}$ larger than the base of my switch. It will thus be seen that the switch is much smaller and lighter than the standard switch for the same purpose and can be used in a much smaller outlet box. It is so small in fact, that it may be used in the same size box that would be required for a 110 volt switch.

I claim:

1. A switch comprising an insulating base having integral upstanding longitudinal and transverse barriers on the face thereof, hinge posts on one end of the base at opposite sides of the longitudinal barrier, contacts on opposite sides of the longitudinal barrier and on the side of the transverse barrier opposite to the hinge posts, arched switch blades hinged to said posts, separated by the longitudinal barrier and arching over the transverse barrier and an insulating cross piece connecting said blades.

2. In a switch, an insulating base having longitudinal and transverse barriers, hinge posts at one end of the base on opposite sides of said longitudinal barrier, contacts secured to the base at the opposite side of the transverse barrier and spaced apart by the longitudinal barrier, arched switch blades hinged to said posts and adapted to engage said contacts, an insulating cross piece connecting said blades and extending across the longitudinal barrier, a part of said longitudinal barrier serving as a finger guard acting in conjunction with the insulating cross piece.

3. In a switch, an insulating base having integral upstanding longitudinal and transverse barriers on the face thereof, hinge posts secured near one end of the base on opposite sides of the longitudinal barrier and at one side of the transverse barrier, arched switch blades hinged to said posts, contacts secured to said base on opposite sides of the longitudinal barrier and on the side of the transverse barrier opposite to said hinge posts, an insulating cross piece connecting said blades for operating the same, said longitudinal barrier having holes for the passage of screws for securing said switch to a support, one of said holes being at one end of said barrier between said posts and the other hole extending through said longitudinal barrier adjacent said contacts.

4. In an electric switch, an insulating base having longitudinal and transverse barriers, hinge posts secured to said base at opposite sides of the longitudinal barrier at one end of the base, stationary contacts secured to the base on opposite sides of the longitudinal barrier, and spaced apart from the hinge post by the transverse barrier, arched hinged blades connected to said posts, fuse sockets connected to said contacts respectively, fuse sockets secured to the base at opposite sides of the longitudinal barrier and spaced apart from the first mentioned fuse sockets but nearer to each other than said first mentioned fuse sockets, and circuit terminals extending laterally from said last mentioned fuse sockets.

5. In an electric switch, an insulating base, hinge posts and stationary contacts secured thereto, insulating barriers integral with the base and upstanding from the face thereof so as to space each post and contact from each of the other posts and contacts, arched switch blades hinged to said posts, separated by one of the barriers and arching over another of the barriers, and an operating member connecting the movable ends of said arched blades.

6. In an electric switch, an insulating base, hinge posts and stationary contacts secured thereto, insulating barriers integral with the base and extending therefrom so as to space each post and contact from each of the other posts and contacts, arched switch blades hinged to said posts, an operating member connecting the movable ends of said arched blades, fuse sockets secured to said base on converging lines, means for connecting one fuse socket to each contact and terminal members extending laterally from the other fuse sockets and having binding screws at the sides thereof.

7. A knife switch comprising an insulating base, integral longitudinal and transverse insulating barriers upstanding from the face of said insulating base, hinge posts on the base at one side of the transverse barrier and disposed at opposite sides of the

longitudinal barrier, contacts on the base on the opposite side of the transverse barrier and disposed at opposite sides of the longitudinal barrier whereby all of said current carrying parts are isolated from each other by integral insulating portions of the base, switch blades hinged to the hinge posts separated from each other by the longitudinal barrier and arched to bridge over the transverse barrier to engage the switch contacts, and a handle for operating said switch blades.

CLARENCE D. PLATT.