No. 778,531. PATENTED DEC. 27, 1904.

L. W. DOWNES.

ELECTRIC FUSE SWITCH BOX.

APPLICATION FILED MAY 20, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

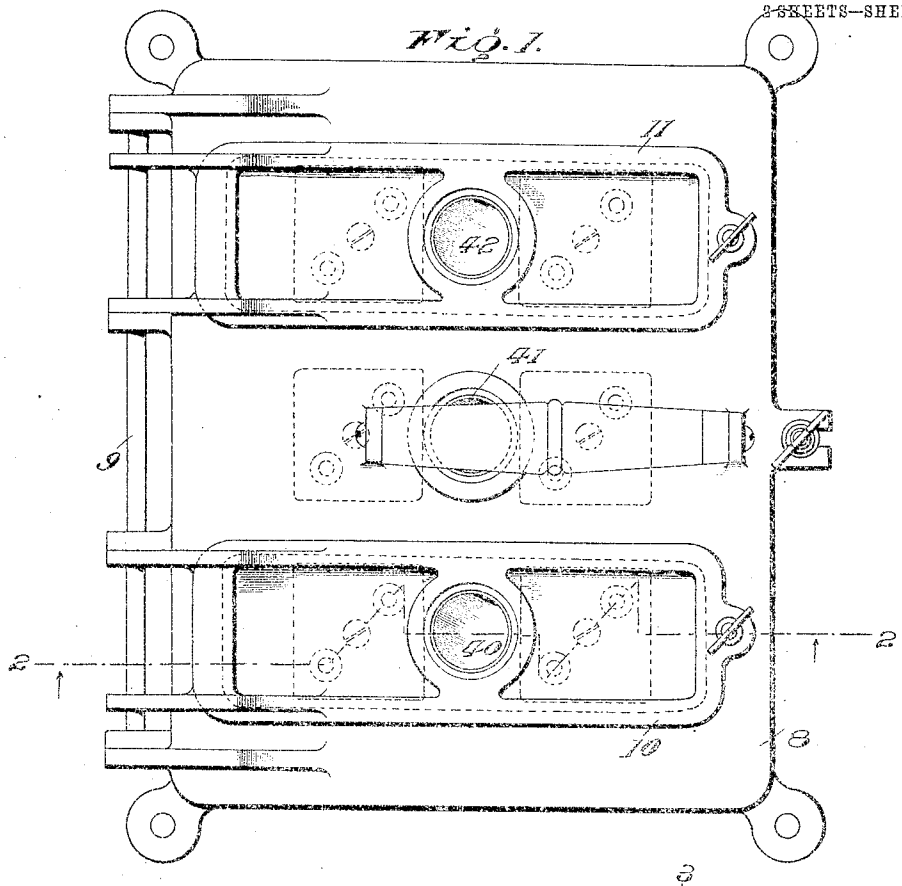
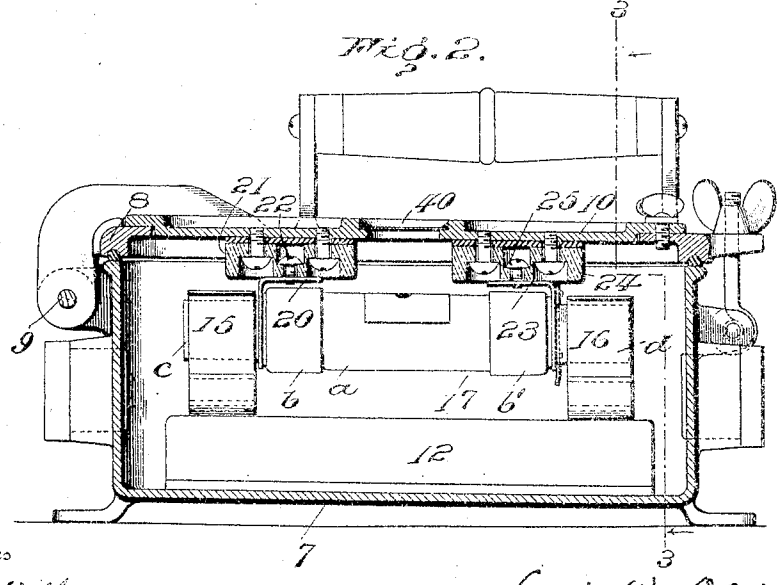


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

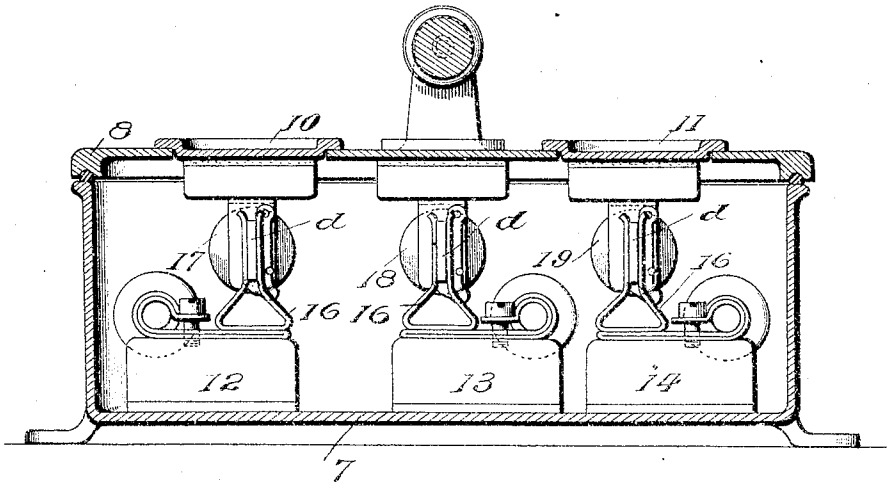


Fig. 4.

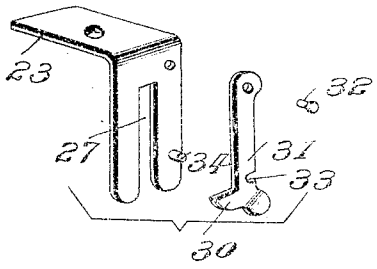
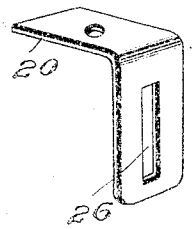


Fig. 5.



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UNITED STATES PATENT OFFICE.

LOUIS W. DOWNES, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO THE D. & W. FUSE COMPANY, OF PROVIDENCE, RHODE ISLAND, A CORPORATION OF RHODE ISLAND.

ELECTRIC-FUSE SWITCH-BOX.

SPECIFICATION forming part of Letters Patent No. 778,531, dated December 27, 1904.

Application filed May 20, 1904. Serial No. 208,939.

To all whom it may concern:

Be it known that I, LOUIS W. DOWNES, of Providence, Rhode Island, have invented a new and useful Improvement in Electric-Fuse Switch-Boxes, which invention is fully set forth in the following specification.

My invention relates generally to electric switches or to electric-fuse switch-boxes, each comprising two separable members (usually hinged together) adapted when brought together to close an electric circuit between terminals on one member through an electric fuse mounted upon and movable with the other member and further adapted when separated to remove the fuse from engagement with said terminals.

My invention consists in certain special means on one member of the switch or switch-box for firmly and securely holding the fuse in proper position for projecting terminals thereon to accurately engage circuit-terminals on the other member when the two members are brought together.

The improvements constituting this invention are especially useful in connection with electric-fuse switch-boxes of the character defined in my Patent No. 743,471, of November 10, 1903.

In the accompanying drawings, wherein I have shown the invention applied to such a switch-box, Figure 1 is a plan view; Fig. 2, a section on line 2 of Fig. 1; Fig. 3, a transverse section on line 3 of Fig. 2, and Figs. 4 and 5 details.

7 is a box or casing, and 8 is a main cover hinged thereto on axle 9. 10 and 11 are auxiliary covers, also hinged on axle 9 and each closing and opening in the main cover.

12, 13, and 14 are porcelain blocks secured in casing 7, each supporting two circuit-terminal clips 15 and 16.

17, 18, and 19 are electric fuses mounted on the under sides of covers 10, 8, and 11, respectively, and adapted to be engaged with and disengaged from the terminal clips by closing and opening the covers, as fully set forth in my said patent. Similar means are shown for securing each of the three fuses to their covers. As described with reference to fuse 17, said means are as follows: Fuse 17 comprises a cylindrical casing *a*, closed at its opposite ends by caps *b b'*. (See Fig. 2.) *c* and *d* are fuse-terminals, preferably in the form of blades, connected with the usual fuse-link (not shown) within the casing and projecting from the caps *b b'*, respectively. As shown in Figs. 2 and 3, the blade-terminals *c* and *d* are in engagement with clips 15 and 16. 20 is a bracket-arm secured to a porcelain block 21 by a screw 22. A second bracket-arm 23 is secured to porcelain block 24 by a screw 25. Both blocks 21 and 24 are screwed to the under side of cover 10. Bracket-arm 20 has a slot 26, through which terminal blade *c* projects, and bracket-arm 23 has a notch 27, through which terminal blade *d* projects. The point 30 of a hook or catch device 31, pivoted to bracket 23 by a pin 32, is adapted to engage across notch 27 when said hook is moved to the position shown in Fig. 3, with its notch 33 in engagement with a pin or boss 34, raised on the bracket. With the parts in this position the fuse is securely locked to its cover and when the latter is opened will be withdrawn from engagement with clips 15 and 16 and firmly held in position to be accurately reëngaged therewith when the cover is closed. To remove the fuse when the cover is open, the outer end of hook 31 is drawn to one side to disengage notch 33 from pin or boss 34. The hook is then turned on its pivot 32 and the point 30 removed from across notch 27. The fuse is then moved laterally at one end until blade-terminal *d* is disengaged from notch 27, whereupon blade-terminal *c* may be withdrawn from slot 26 by longitudinal movement of the fuse. These movements are reversed in putting a fuse in place.

In place of bracket-arm 20 I may of course employ a second bracket-arm and hook similar to 23 and 31.

The condition of the fuses 17, 18, and 19, which are provided with well-known indicating means, may be observed through the windows 40, 41, and 42 in the covers 10, 8, and 11, respectively.

What is claimed is—

1. An electric switch or fuse switch-box, comprising two separable members, circuit-terminal contacts on one member, a fuse having projecting terminals adapted to engage said circuit-terminals when the members are together and to be disengaged therefrom by separation of the members, and means on the other member engaging the projecting fuse-terminals to removably secure the fuse to its member in accurate coöperative relation to the terminal contacts on the other member.

2. An electric switch or fuse switch-box, comprising two separable members, circuit-terminal contacts on one member, a fuse having projecting terminals adapted to engage said circuit-terminals when the members are together and to be disengaged therefrom by separation of the members, and bracket-arms on the other member engaging the projecting fuse-terminals to secure the fuse to its member in accurate coöperative relation to the terminal contacts on the other member.

3. An electric switch or fuse switch-box, comprising two separable members, circuit-terminal contacts on one member, a fuse having projecting terminals adapted to engage said circuit-terminals when the members are together and to be disengaged therefrom by separation of the members, and bracket-arms on the other member having openings therein in which the projecting fuse-terminals engage to secure the fuse to its member in accurate coöperative relation to the terminal contacts on the other member.

4. An electric switch or fuse switch-box, comprising two separable members, circuit-terminal contacts on one member, a fuse having projecting terminals adapted to engage said circuit-terminals when the members are together and to be disengaged therefrom by separation of the members, bracket-arms on the other members having openings therein in which the projecting fuse-terminals engage to secure the fuse to its member in accurate coöperative relation to the terminal contacts on the other member, and a catch device normally locking one fuse-terminal in engagement with its bracket-arm but adapted to be withdrawn to permit disengagement of said fuse-terminal and bracket-arm by lateral movement of the former.

5. An electric switch or fuse switch-box comprising two separable members, circuit-terminal contacts on one member, a fuse comprising an inclosing casing and fuse-terminals projecting from opposite ends of the casing adapted to engage said circuit-terminals when the members are together and to be disengaged therefrom by separation of the members, bracket-arms on the other members one having an opening and the other a notch or recess through which the fuse-terminals respectively project, and a catch device normally locking one fuse-terminal in the notch.

6. An electric switch or fuse switch-box comprising separable members, circuit-terminal contacts on one member, a fuse comprising an inclosing casing and fuse-terminals projecting from opposite ends of the casing adapted to engage said circuit-terminals when the members are together and to be disengaged therefrom by separation of the members, bracket-arms on the other members one having an opening and the other a notch or recess through which the fuse-terminals respectively project, and a catch device for normally closing the open side of said notch to lock the fuse-terminal therein.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

LOUIS W. DOWNES.

Witnesses:
JAMES H. THURSTON,
CATHERINE G. BRADLEY.