

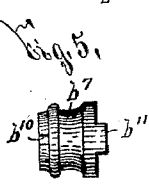
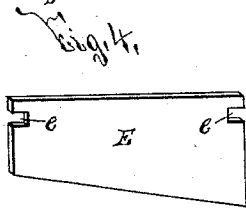
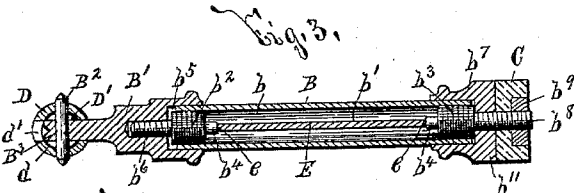
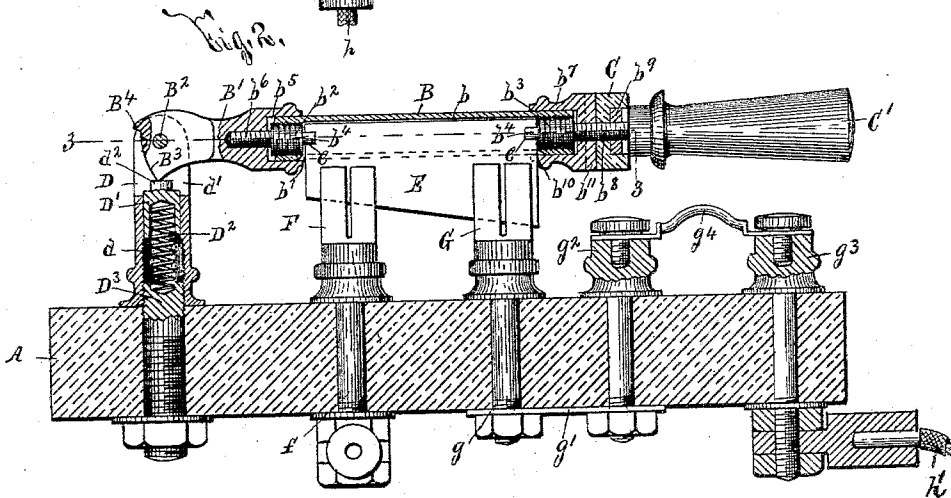
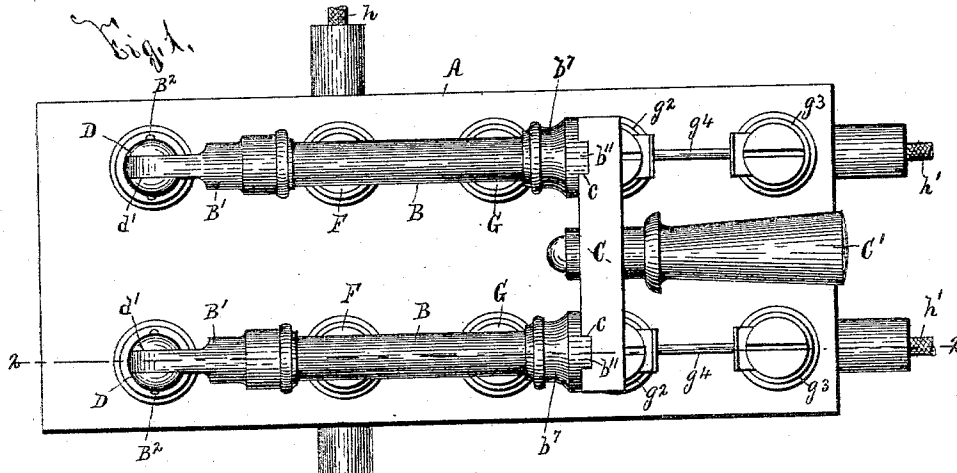
(No Model.)

2 Sheets—Sheet 1.

J. L. HINDS. ELECTRIC SWITCH.

No. 597,979.

Patented Jan. 25, 1898.



WITNESSES:

H. C. Chase,
A. A. Theobald.

INVENTOR
Jesse L. Hinds

BY
Wells & Parsons
ATTORNEYS.

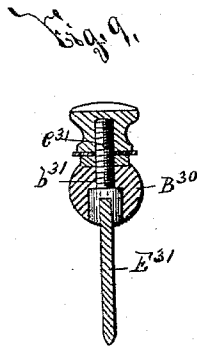
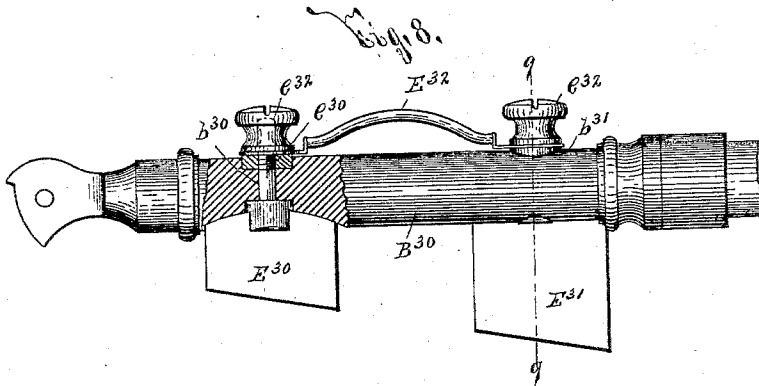
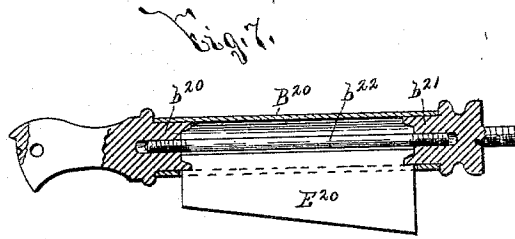
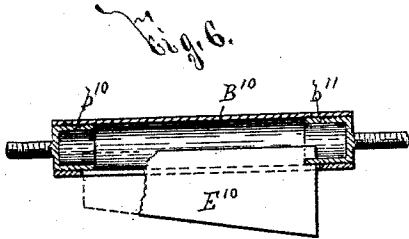
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2 Sheets—Sheet 2.

J. L. HINDS.
ELECTRIC SWITCH.

No. 597,979.

Patented Jan. 25, 1898.



WITNESSES:

*W. C. Chase,
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INVENTOR

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UNITED STATES PATENT OFFICE.

JESSE L. HINDS, OF SYRACUSE, NEW YORK, ASSIGNOR OF ONE-HALF TO
HUNTINGTON B. CROUSE, OF SAME PLACE.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 597,979, dated January 25, 1898.

Application filed February 1, 1896. Serial No. 577,704. (No model.)

To all whom it may concern:

Be it known that I, JESSE L. HINDS, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful
5 Improvements in Electric Switches, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to improvements in
10 electric switches particularly applicable for use upon a wall or switchboard, and has for its object the production of a device which is simple in construction, economical in manufacture, pleasing in appearance, and durable
15 and effective in use; and to this end it consists, essentially, in the combination, construction, and arrangement of a movable back or support, the terminal or blade carried by the
20 back or support, and the means for securing the back or support to a base and holding the same in its adjusted position.

In describing this invention reference is had to the accompanying drawings, forming
25 a part of this specification, in which like letters indicate corresponding parts in all the views.

Figure 1 is a top plan of my improved
30 switch. Figs. 2 and 3 are longitudinal, vertical, and horizontal sections taken, respectively, on lines 2 2, Fig. 1, and 3 3, Fig. 2. Figs. 4 and 5 are respectively an isometric view of one of the movable terminals or blades and
35 an elevation of a collar for engaging said terminal or blade, and Figs. 6 and 7 are longitudinal vertical sections of slightly-modified forms of the means for securing the terminals
or blades to the movable backs or supports.

A is the switch-base, which is of any desirable form, size, and construction and is preferably
40 composed of insulating material.

B B are separated backs or supports arranged substantially parallel with the base
45 A and having corresponding ends secured to a suitable cross-bar C and their opposite ends pivoted to supports or pillars D D.

E are movable terminals or blades detachably secured to the backs or supports B in
50 any desirable manner, and F G are terminals fixed to the base A for making contact with the terminals or blades E. The wires leading to and from the switch may obviously be

connected thereto in any desired manner, and I have here illustrated outgoing wires *h* as secured to sockets mounted on the shanks *f* of
55 the terminals F, the shanks *g* of the terminals G as electrically connected by plates *g'* to terminals *g*², and the incoming wires *h'* as secured to sockets mounted on the stems of terminals *g*², which are connected by fuses *g*⁴ to
60 the terminals *g*².

The backs or supports B preferably consist
65 of slotted tubes, being formed with longitudinal internal chambers *b* and having their sides nearest the base A provided with longitudinal slots *b'*, opening into the chambers
70 *b*. Corresponding edges of the terminals or blades E are inserted through the slots *b'* into the chambers *b* and are secured to the backs
75 or supports B by engaging means, preferably arranged within the chambers *b*. This engaging means usually consists of opposite
heads *b*² *b*³, adjustable lengthwise within the
80 chambers *b* and having their adjacent end faces provided with cylindrical centrally-arranged shoulders *b*⁴, adapted to enter cut-outs
85 or notches *e* in the opposite end edges of the terminals or blades E and engage the shoulders formed by said cut-outs or notches.

B' are detachable extremities for the backs
80 or supports B, having their outer ends pivoted at B² to the supports or pillars D and their opposite ends formed with sockets *b*⁵
85 for receiving the adjacent ends of the main portions of the backs or supports B. These extremities B' are secured in position by screw-
90 threaded stems *b*⁶ provided upon the adjacent end faces of the heads *b*² *b*³. The opposite or free ends of the backs or supports B are encircled by collars *b*⁷ and are suitably secured
95 to the cross-bar C, which is arranged at an angle to the backs or supports B and is provided with a suitable handpiece C'.

The backs or supports B and the cross-bar
95 C are preferably secured together by screw-threaded stems *b*⁸, which are provided upon the heads *b*³, are passed through the collars
100 *b*⁷ and the adjacent ends of the bar C and are engaged with nuts *b*⁹, arranged in recesses in the outer face of the bar C. In order to prevent revoluble movement of the
end faces adjacent to the terminals or blades

E are provided with shoulders b^{10} for engaging said terminals or blades, and their opposite end faces are formed with shoulders b^{11} for engaging corresponding shoulders c , provided upon the cross-bar C.

The supports or pillars D previously mentioned are preferably formed with internal longitudinal chambers d and lengthwise slots d' , extending from their outer ends to said chambers. Arranged within the outer ends of the chambers d are plungers D' , having corresponding ends provided with shoulders d^2 , which are formed of less diameter than the plungers D' and are engaged by cams B^3 and stop-shoulders B^4 , formed upon the attaching extremities of the backs or supports B. The cams B^3 engage the end faces of the shoulders d^2 , and the stop-shoulders B^4 engage the upright faces or peripheries of said shoulders d^2 . The plungers D' are preferably forced toward the pivots B^2 of the backs or supports B by springs D^2 , interposed between the plungers D' and securing-pieces D^3 and having their opposite ends arranged in sockets in the adjacent faces of said plungers and securing-pieces. Corresponding extremities of the securing-pieces D^3 are adjustable longitudinally within the chambers d' of the supports or pillars D, and their opposite extremities are suitably secured to the base A, being preferably provided with shoulders engaged with the rear face of said base.

It is obvious that the movable backs or supports of my improved switch may be provided with terminals or blades and securing means therefor different in construction from those seen at Figs. 1 to 5, inclusive, and at Figs. 6 and 7 I have shown modified forms of these securing means for the terminals or blades.

At Figs. 6 and 7 the backs or supports B^{10} are provided with securing-heads b^{10} b^{11} b^{20} b^{21} , having their adjacent end faces formed with inwardly-extending sockets for receiving shoulders provided upon the terminals or blades E^{10} E^{20} . The heads b^{10} b^{11} are screw-threaded for effecting their longitudinal adjustment within the back or support B^{10} , and the heads b^{20} b^{21} are adjusted toward each other by a bolt b^{22} .

The operation of my improved switch will now be readily understood upon reference to the foregoing description and the accompanying drawings, and it will be particularly noted that the movable backs or supports and the terminals or blades may be economically formed by screw machinery and stamping-dies and that these parts are readily assembled and afford contacting faces of considerable area.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an electric switch, the combination of a base to which the switch-terminals are secured, a blade for closing the circuit between the terminals, and a back or support consist-

ing of a slotted tube to which the blade is removably secured, substantially as and for the purpose described.

2. In an electric switch, the combination of a base, a pillar for the switch, a slotted tube forming a back or lever for the blade and pivotally secured to the pillar, notches in the blade, and means engaging with the notches to hold the blade in position, substantially as and for the purpose specified.

3. In an electric switch, the combination of a base provided with a terminal, a back or support consisting of a slotted tube, and a movable terminal for engaging the former terminal, said movable terminal being removably secured to the back or support, substantially as and for the purpose set forth.

4. In an electric switch, the combination of a base provided with a terminal, a movable terminal for engaging the former terminal, said movable terminal being formed with an engaging shoulder, and a back or support consisting of a slotted tube provided with means for engaging said shoulder of the movable terminal and holding the movable terminal in position, substantially as and for the purpose described.

5. In an electric switch, the combination of a base provided with a terminal and a support or pillar, a movable terminal for engaging the former terminal, said movable terminal being formed with an engaging shoulder, and a back or support consisting of a slotted tube pivotally secured to the support or pillar and provided with means for engaging said shoulder of the movable terminal and holding the movable terminal in position, substantially as and for the purpose set forth.

6. In an electric switch, the combination of a base provided with a terminal, a back or support consisting of a slotted tube having an internal engaging shoulder, a movable terminal for engaging the former terminal, said movable terminal being inserted into the slot of the back or support and engaged with said shoulder, substantially as and for the purpose specified.

7. In a switch, the combination of a base provided with a terminal, a movable back or support consisting of a slotted tube, a movable terminal for engaging the former terminal, said movable terminal being inserted into the slot of the back or support, and movable means supported by the back or support for engaging the movable terminal and securing the same to the back or support, substantially as and for the purpose described.

8. In a switch, the combination of a back or support provided with an internal chamber and a longitudinal groove opening therein, a terminal carried by the back or support and having one edge inserted through the groove into the internal chamber, and means within the internal chamber for detachably engaging the terminal and securing the same to said back or support, a base for the back or support, and a second terminal for contacting

with the former terminal, substantially as and for the purpose specified.

9. In a switch, the combination of a back or support provided with an internal chamber and a longitudinal groove opening therein, a terminal carried by the back or support and having one edge inserted through the groove into the internal chamber, a head movable within the internal chamber for detachably engaging the terminal and securing the same to said back or support, a base for the back or support, and a second terminal for contacting with the former terminal, substantially as and for the purpose set forth.

10. In a switch, the combination of a back or support provided with an internal chamber and a longitudinal groove opening therein, a terminal carried by the back or support and having one edge inserted through the groove into the internal chamber, said terminal having one end formed with an engaging shoulder, a head movable longitudinally within the internal chamber and provided with a shoulder for interlocking with the former shoulder and securing the terminal to the back or support, a base for the back or support, and a second terminal for contacting with the former terminal, substantially as and for the purpose specified.

11. In a switch, the combination of a back or support provided with an internal chamber and a longitudinal groove opening therein, a terminal carried by the back or support and having one edge inserted through the groove into the internal chamber, said terminal having its opposite ends formed with inwardly-extending notches, oppositely-arranged heads movable longitudinally within the internal chamber and having their adjacent end faces provided with centrally-arranged shoulders for entering the notches and securing the terminals to the back or support, a base for the back or support, and a second terminal for contacting with the former terminal, substantially as and for the purpose described.

12. In a switch, the combination of a base provided with a terminal, a movable back or support consisting of a slotted tube, a bar arranged at an angle with the back or support, said bar being secured to the back or support and provided with an engaging shoulder, a movable terminal for engaging the former terminal, said movable terminal being inserted into the slot of the back or support, movable means within the back or support for engaging the movable terminal and securing the same to the back or support, and a collar encircling the back or support and having one end provided with a shoulder for engaging the shoulder of the bar and its opposite end provided with a second shoulder for engaging the movable terminal, substantially as and for the purpose specified.

13. In a switch, the combination of a base provided with terminals, separated backs or supports each consisting of a slotted tube, a cross-bar for connecting the backs or supports, movable terminals for engaging the former terminals, said movable terminals being removably secured to the backs or supports, and collars encircling the backs or supports, and having corresponding ends provided with shoulders for engaging the cross-bar and their opposite ends provided with shoulders for engaging the movable terminals, substantially as and for the purpose described.

14. In a switch, the combination of separated backs or supports provided with internal chambers and longitudinal grooves opening therein, a cross-bar for connecting the backs or supports, terminals carried by the backs or supports and having corresponding edges inserted through the grooves into the chambers, heads movable within the chambers for engaging the terminals and securing the same to the backs or supports, said heads being provided with threaded stems projecting beyond the arms through the cross-bar, collars encircling said backs or supports and having corresponding ends provided with shoulders for engaging the cross-bar, and their opposite ends provided with shoulders for engaging the terminals, and nuts movable on the threaded stems of the heads and engaged with the cross-bar for securing said cross-bar to the backs or supports, substantially as and for the purpose set forth.

15. In a switch, the combination of a base, a support or pillar engaged with the front face of the base and having an internal chamber, a plunger movable within one end of the chamber and provided with a lengthwise socket in its end adjacent to the base, a securing-piece passed through the base and having one extremity provided with a shoulder engaged with the rear face of the base and its other extremity arranged in the opposite end of the chamber and provided with a lengthwise socket, a spring having its opposite ends arranged in said sockets, and a terminal-carrying back or support pivoted to the support or pillar and engaged with the plunger, substantially as and for the purpose specified.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 23d day of January, 1896.

JESSE L. HINDS.

Witnesses:

K. H. THEOBALD,
E. A. WEISBURG.