(No Model.)

H. P. DAVIS & E. F. HARDER.

SWITCH FOR ELECTRIC CIRCUITS.

No. 599,930. Patented Mar. 1, 1898.

Fig. 1.

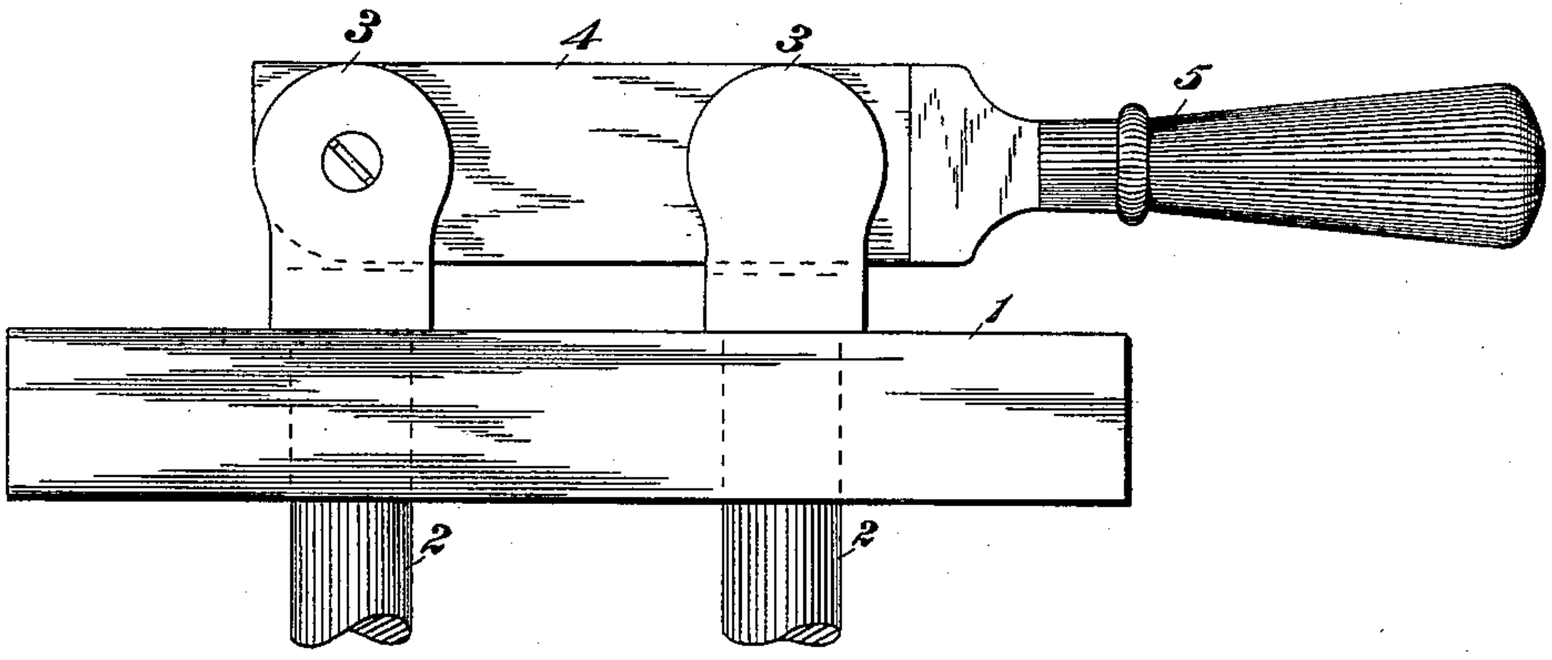


Fig. 2.

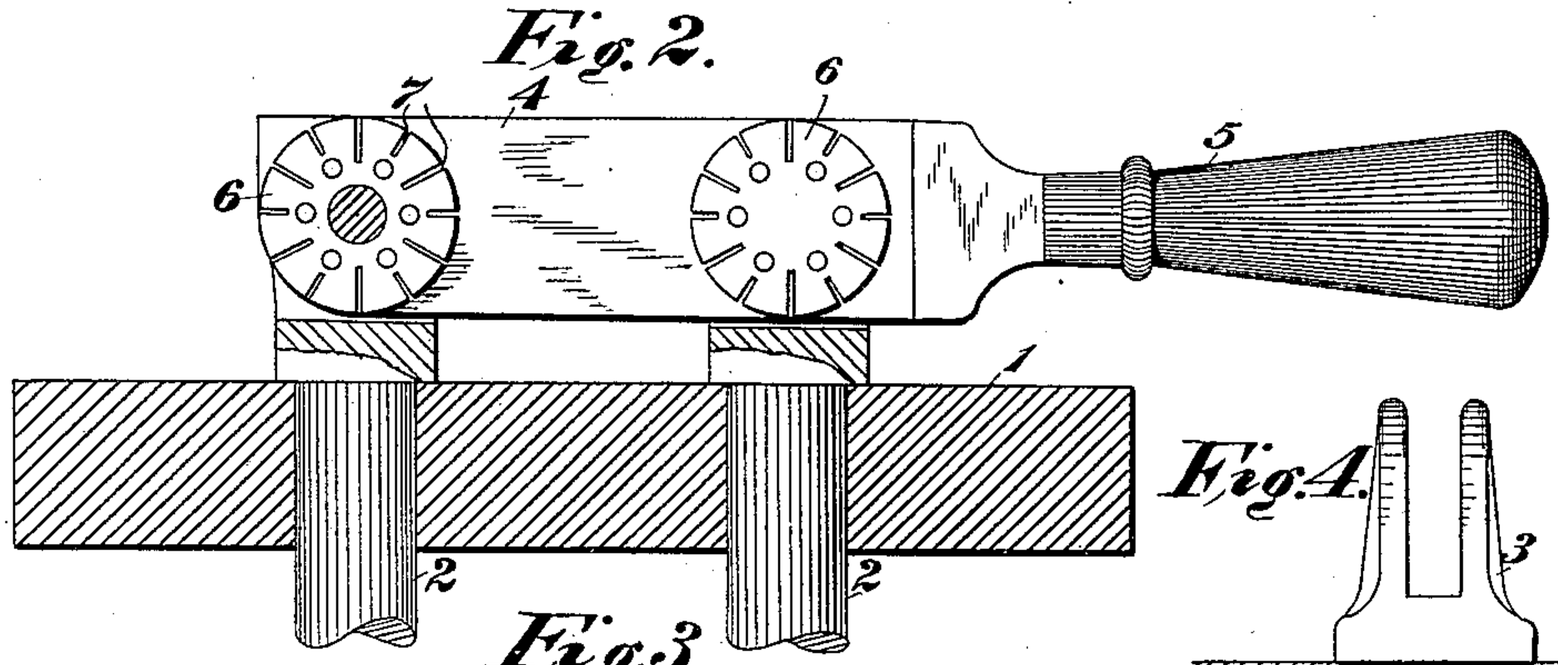


Fig. 3.

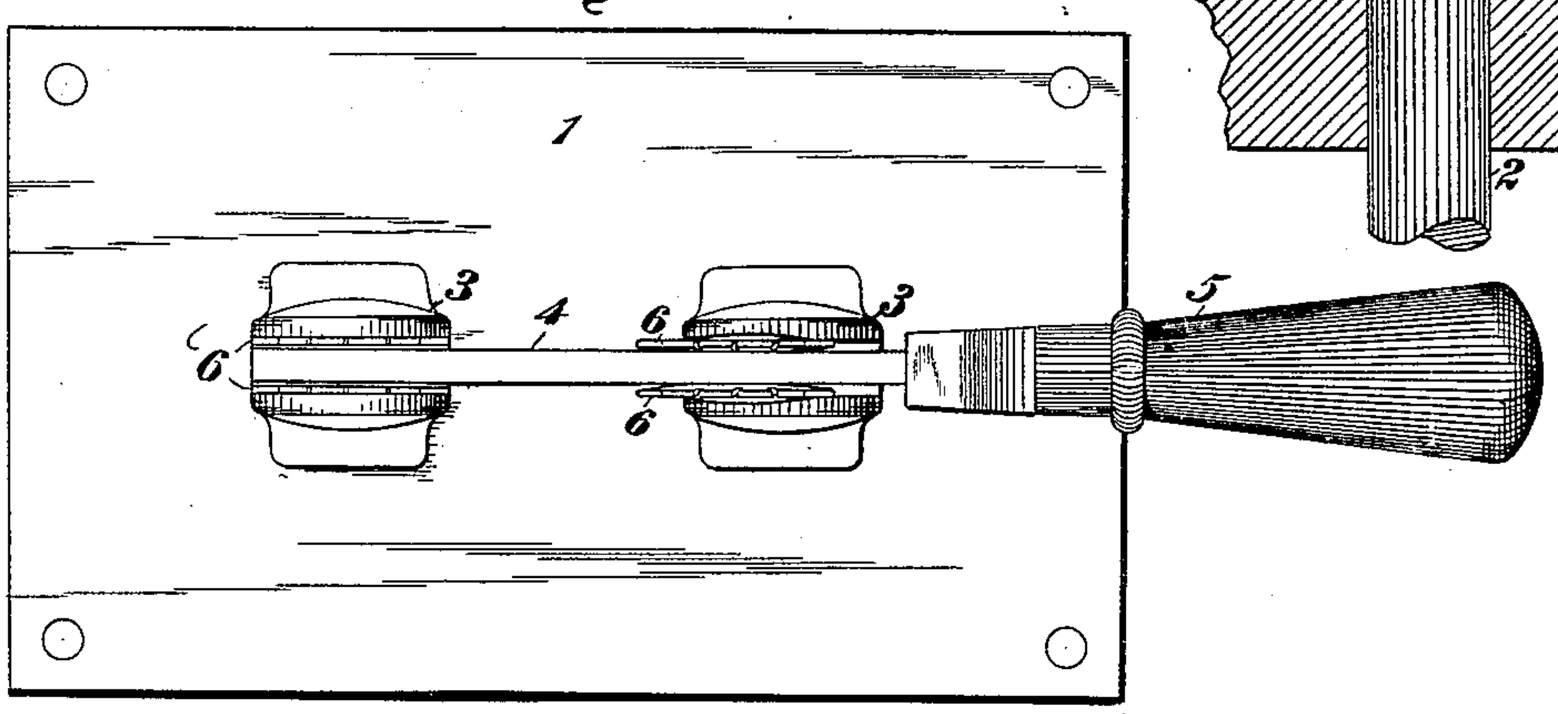
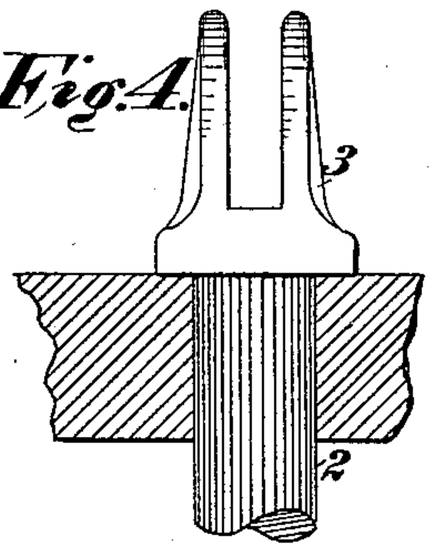


Fig. 4.



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UNITED STATES PATENT OFFICE.

HARRY P. DAVIS, OF PITTSBURG, AND ERNEST F. HARDER, OF WILKINSBURG, PENNSYLVANIA, ASSIGNORS TO THE WESTINGHOUSE ELECTRIC AND MANUFACTURING COMPANY, OF PITTSBURG, PENNSYLVANIA.

SWITCH FOR ELECTRIC CIRCUITS.

SPECIFICATION forming part of Letters Patent No. 599,930, dated March 1, 1898.

Application filed October 28, 1896. Serial No. 610,331. (No model.)

To all whom it may concern:

Be it known that we, HARRY P. DAVIS, residing at Pittsburg, and ERNEST F. HARDER, residing at Wilkinsburg, in the county of Allegheny and State of Pennsylvania, citizens of the United States, have invented a new and useful Improvement in Switches for Electric Circuits, (Case No. 715,) of which the following is a specification.

Our invention relates to contact-making devices for electric circuits; and it has for its object to provide a device of this character which will be simple and inexpensive in construction and which at the same time will insure good contact between the coöperating terminals without any special care being taken to adjust or fit the terminals with reference to each other.

In the accompanying drawings, Figure 1 is a side elevation, and Fig. 2 is a longitudinal vertical section, of a switch provided with our contact-making devices. Fig. 3 is a plan view of the switch, showing the separable terminals out of contact with each other; and Fig. 4 is an end elevation of the stationary jaw-terminal with which the movable contact member coöperates to open and close the circuit.

Referring now to the details of construction as illustrated in the drawings, 1 is an insulating base-plate, which may be one of the panels of a switchboard, and 2 are terminal studs projecting through such base-plate. Each of the studs 2 is provided at the front of the base 1 with a jaw-terminal 3, which is preferably formed as an integral part of the said stud and fastened to the base-plate by screws or other suitable means. (Not shown.)

4 is the movable switch-blade, and 5 the insulating-handle by which it is operated. The end of the blade 4 opposite the handle 5 is provided at each side with a plate or washer 6. These plates may be stamped or punched from sheet-copper and are preferably made slightly dish-shaped or concave. They are also provided with a plurality of slits 7, which extend from the periphery, preferably in radial lines, inward toward the center a suitable distance. They are fastened to the blade 4 by means of rivets which extend through both plates, thus serving to make the current-carrying capacity of the switch approximately equal to what it would be if the plates were integral parts of the blade.

It follows from the construction described that the edges of the plates or washers will yield sufficiently to permit of their insertion between the inner faces of the jaws and will at the same time exert a spring-presssure against said faces. When the switch is closed, the outer faces of the spring plates or washers are in close contact with the inner faces of the jaws over a considerable extent of surface, thus insuring great current-carrying capacity by the employment of only two plates in connection with each jaw.

In the form of switch shown the pivot on which the blade turns extends through one of the jaw-terminals and the centers of one pair of spring-plates. By reason of the concave form of these plates and the comparatively narrow space in which they are located it will be readily seen that the outer portions will exert a spring-pressure against the inner faces of the jaw-terminal, and consequently make excellent contact therewith. Near the other end of the blade 4 are located two plates of like or similar construction, which are fastened together and to the blade in the manner above described. The upper inner edges of the jaw-terminal with which these plates engage are preferably rounded or beveled, as indicated in Figs. 3 and 4, in order that the switch may be readily closed without injury to the contact-surfaces. The peripheries of the plates are also slightly rounded in order to preclude any possible cutting of the engaging parts.

It will be understood from the construction described that when the switch is closed the edges of the plate 6 will be sprung inward somewhat by the inner faces of the coöperating jaw-terminal 3, since the space between the sides of the latter is somewhat less than the normal distance between the edges of the said plates.

The several parts of the switch here illustrated and described are entirely machine-made, and no fitting of the parts by hand in order to secure a good contact is required.

While we have found that the plates shown

are easily constructed and are well adapted for use in this connection, we desire it to be understood that plates of other form than those shown may be employed, if desired.

We desire it to be also understood that our invention is adapted and intended for use in other relations than those herein specifically illustrated and described.

We claim as our invention—

1. A switch for electric circuits comprising a stationary jaw-terminal and a movable blade having spring plates or washers riveted to its sides the outer side faces of which make contact with said stationary jaw-terminal.

2. In a switch for electric circuits, the combination with a pair of stationary jaw-terminals, of a movable blade having two pairs of spring washers or plates, the outer side faces of one of said pairs being permanently in engagement with the adjacent faces of one of said terminals and the outer side faces of the other pair being movable into and out of engagement with the adjacent faces of the other terminal.

3. In a switch for electric circuits, the combination with two jaw-terminals, of a pivoted blade provided with four spring plates or washers located opposite each other in pairs which are connected together by rivets extending through the blade, the outer side faces of said plates or washers being in engagement with the inner faces of said jaws when the switch is closed.

4. In a switch for electric circuits, a blade provided with two pairs of spring contact plates or washers having slitted edges in combination with two jaw-terminals in one of which one end of the blade is pivoted, one pair of the contact-plates being permanently located therein and the outer side faces of the other pair being movable into and out of engagement with the inner faces of the other jaw to close and open the circuit.

In testimony whereof we have hereunto subscribed our names this 26th day of October, A. D. 1896.

HARRY P. DAVIS.
ERNEST F. HARDER.

Witnesses:
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HUBERT C. TENER.