

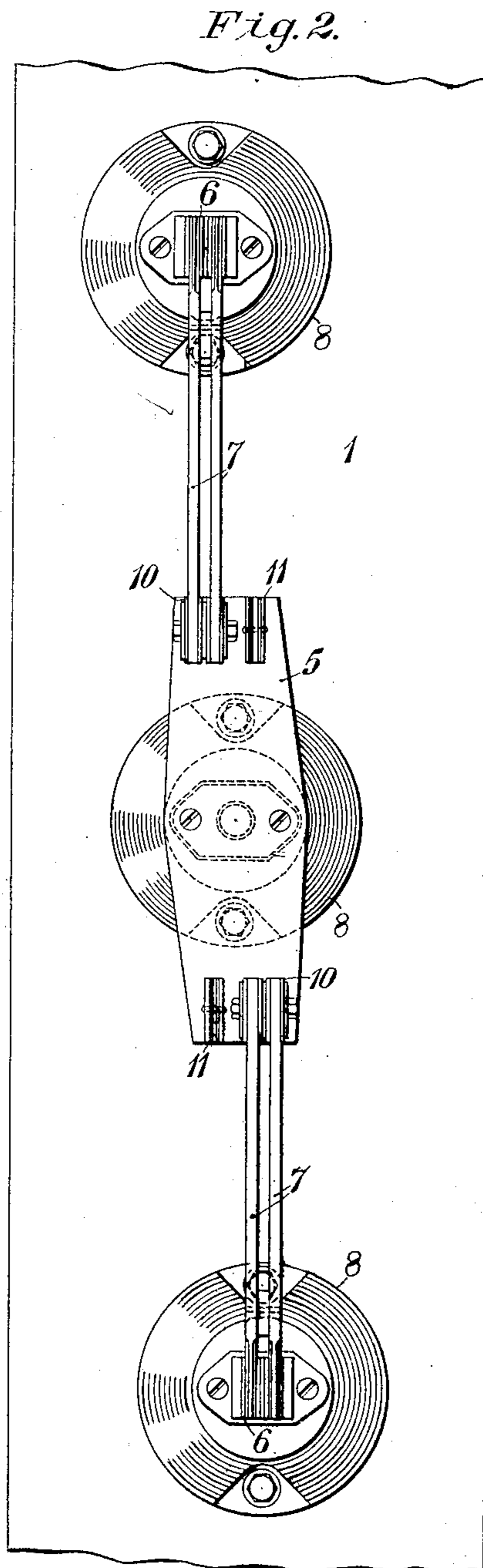
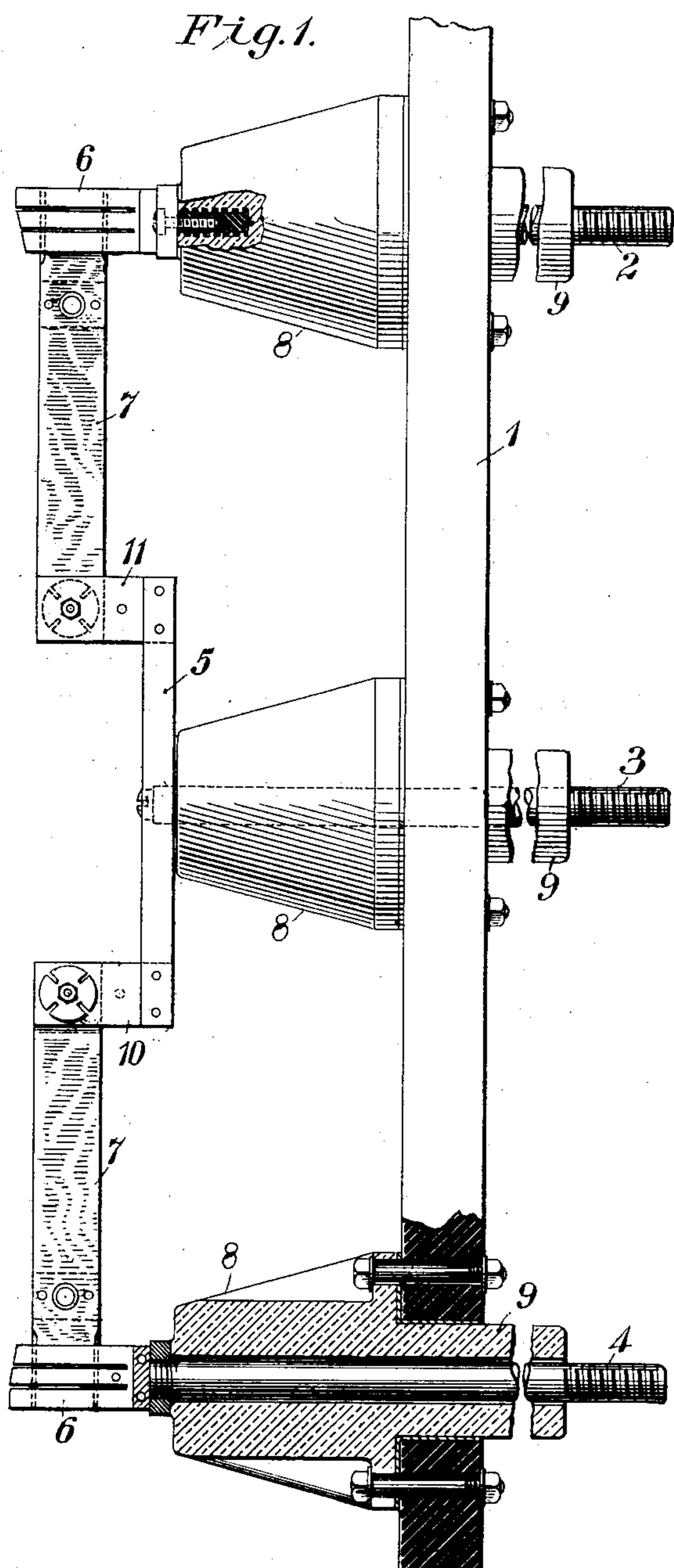
No. 685,507.

Patented Oct. 29, 1901.

H. P. DAVIS.
SWITCH FOR ELECTRIC CIRCUITS.

(Application filed Nov. 9, 1900.)

(No Model.)



WITNESSES:

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SWITCH FOR ELECTRIC CIRCUITS.

SPECIFICATION forming part of Letters Patent No. 685,507, dated October 29, 1901.

Application filed November 9, 1900. Serial No. 35,995. (No model.)

To all whom it may concern:

Be it known that I, HARRY P. DAVIS, a citizen of the United States, residing in Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Switches for Electric Circuits, of which the following is a specification.

My invention relates to electric apparatus, and more particularly to devices employed for making and breaking electrical circuits.

The object of my invention is to provide a switch which shall be adapted for use in connection with the generation and distribution of electrical energy and one that at the same time shall be more simple, inexpensive, and compact in construction than the devices of this general character heretofore employed.

With these ends in view I have devised the form of switch shown in the accompanying drawings, of which—

Figure 1 is a view, partially in side elevation and partially in section, of the switch; and Fig. 2 is a front elevation of the same.

The switch is designed for and intended to be used in connection with switchboard-work and the non-conducting base plate or slab 1, on which the switch is mounted, will in general be a switchboard-panel. Projecting through this base plate or slab 1 are the switch-terminal studs 2, 3, and 4, upon which bus-bars (not shown) may be mounted. The rod 3 is connected at its front end to a plate or block 5, here shown as of conducting material; but, if desired, it might be made of non-conducting material and provided with suitable conducting wires or strips for completing the electric circuits. Each of the rods 2 and 4 is fastened at its front end to switch-jaws 6, which may be of any well-known or suitable construction and are here shown as adapted for the reception of the outer ends of two blades 7, which are fastened together so as to be moved in unison and act as a single blade so far as mechanical operation is concerned. It will be understood that a single blade 7 or more than two of such blades may be employed in lieu of the two shown, the number of such blades being determined

by the current-carrying capacity desired. The jaws or sets of jaws 6 and the plate 5 are severally mounted upon pillars 8, of porcelain or other suitable non-conducting material, which are bolted to the slab 1, and each is provided with a tubular extension 9, that projects rearwardly through the base plate or slab 1 a suitable distance to provide the desired insulation for the rod that projects through it and the body portion 8. The blades 7 are pivotally mounted at their inner ends between plates 10, projecting laterally from the plate 5 at its ends, the plates 10 being of such length as to permit of mounting the blades at a sufficient distance from the plate 5 to make feasible the turning of the blades through an angle of approximately one hundred and eighty degrees, so as to bring them when the circuit is open into positions parallel with each other and directly over the plate 5. The latter plate is also provided at each end with jaws 11, located in alinement with a blade 7, pivoted at the other end of said plate, so that when the switch is opened the free end of the blade will rest in and be held in position by the jaw 11. The plates that form the jaws 11 may of course be of such length that the path of movement of the blades 7 is considerably less than one hundred and eighty degrees; but symmetry of structure and economy of space will generally render a throw of approximately one hundred and eighty degrees both feasible and desirable. The switch-blades 7 are unprovided with handles, but may be opened and closed by means of suitable implements employed for that purpose, and when the switch is open the blades will extend over the plate 5 and will be securely held in that position, the relation between the plate 5 and the blade 7 being much like that existing between the handle and blades of a pocket-knife.

Where the number and arrangement of bus-bars and switches make it desirable to provide electrical connections between switches at the front of the board, the rearwardly-projecting terminal studs may be omitted at such points, as will be readily understood.

I desire it to be understood that the inven-

tion is not limited to a switch having the number of blades shown in the drawings or to the employment of pillars for supporting the switch members, since these devices may be omitted where the energy is of sufficiently low potential to permit of mounting the switch members directly on the slab.

The form of switch constituting my present invention is such that it occupies a minimum amount of space on a switchboard-panel and insures a maximum degree of separation of cooperating contact-terminals and a compact and safe disposition of the blades when in open-circuit position.

It will be further understood that my invention may be embodied in single-pole switches and that it may be otherwise modified within the scope of the claims, if desired.

I claim as my invention—

1. A switch for electric circuits comprising a base-plate, a middle terminal post having a conducting block or plate, and two terminal posts provided with contact-jaws at opposite sides of the middle post and laterally offset with reference to said middle post and each other, in combination with switch-blades pivotally supported at their inner ends on the middle post, block or plate, the latter being provided with clips or jaws to receive the free ends of the blades when thrown to open-circuit position.

2. In a switch for electric circuits, the combination with a block or plate having jaws at its opposite ends, of blades, the length of which is approximately the same as that of the block or plate, pivotally mounted in said jaws in staggered relation so as to be thrown into engagement with the alined jaws for open-circuit conditions, and terminal posts having jaws with which the free ends of the blades engage in closed position.

3. In a switch for electric circuits, a conducting block or plate having jaws at its opposite ends and terminal posts having jaws in alinement with corresponding jaws on the block or plate but out of alinement with each other, in combination with blades pivotally mounted at their inner ends in jaws on the block or plate so that their outer ends may be

thrown to engage alined jaws on either the terminal posts or the block or plate.

4. A switch for electric circuits, comprising a block or plate, blades hinged to opposite ends of said block or plate out of alinement so as to be swung into side-by-side position on the block or plate, means for holding the blades in the side-by-side position and stationary contact-terminals in alinement with the blades.

5. A switch for electric circuits comprising a conducting-plate, terminal jaws oppositely disposed with reference to said plate and out of alinement and blades hinged at their inner ends to the opposite ends of the plate so that they may either bridge the spaces between the plate and the terminal jaws or occupy a side-by-side relation on the plate.

6. A switch for electric circuits comprising two blades pivotally supported a distance apart approximately equal to their individual length so as to be moved in parallel planes through an angle of approximately one hundred and eighty degrees and stationary contact-terminals respectively in alinement with said blades.

7. A switch for electric circuits comprising a plurality of blades, and a support to the opposite ends of which the blades are pivoted in alternation so as to be capable of movement in parallel planes through an angle of approximately one hundred and eighty degrees and stationary contact-terminals respectively in alinement with said blades.

8. A switch for electric circuits comprising a plurality of blades, a support to the opposite ends of which the blades are independently pivoted out of alinement and terminal jaws respectively arranged in alinement with the blades that are pivoted to the corresponding ends of the support.

In testimony whereof I have hereunto subscribed my name this 5th day of November, 1900.

HARRY P. DAVIS.

Witnesses:

WESLEY G. CARR,
BIRNEY HINES.