

(No Model.)

G. WRIGHT.
SWITCH FOR ELECTRIC CIRCUITS.

No. 599,954.

Patented Mar. 1, 1898.

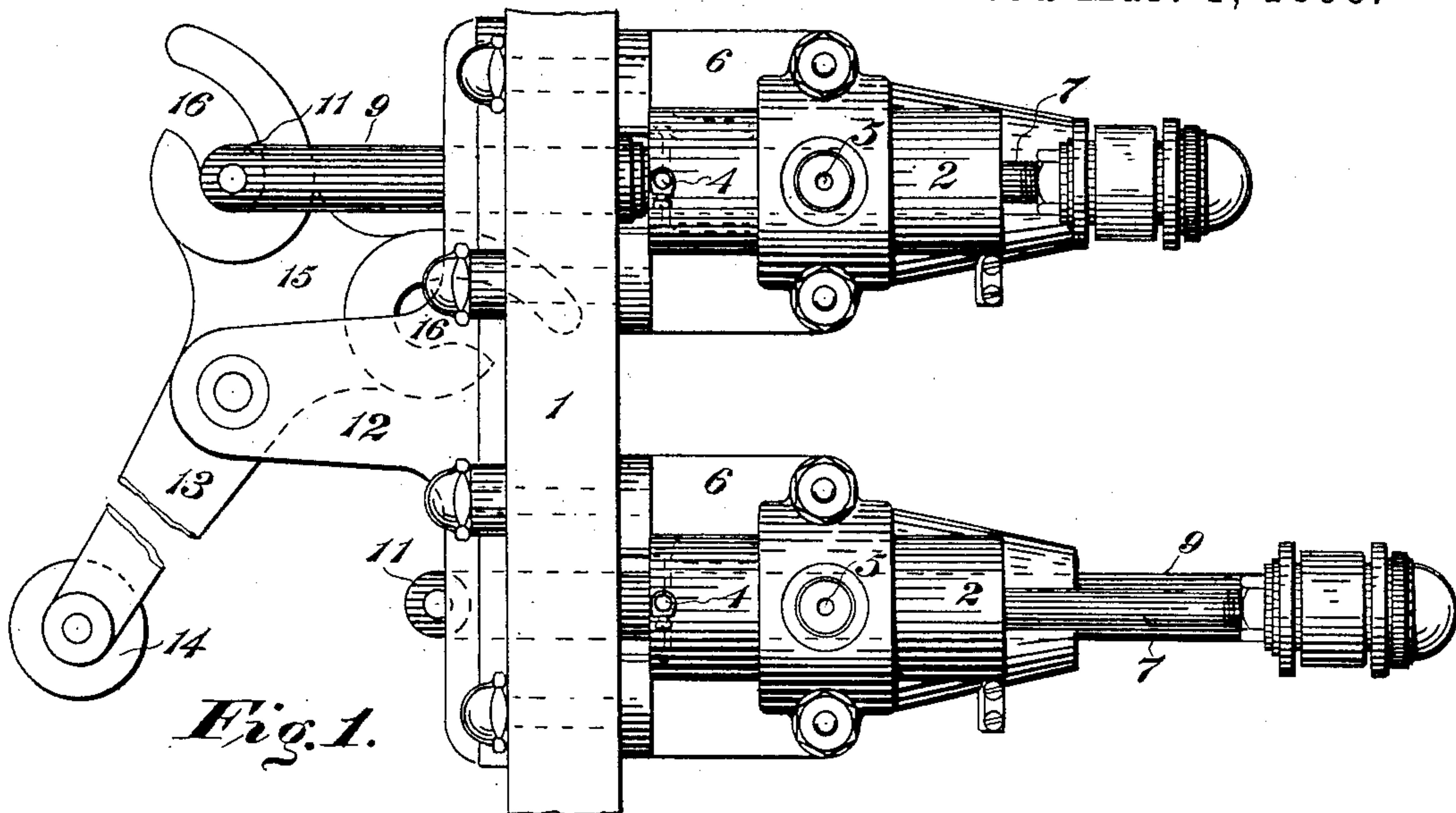


Fig. 1.

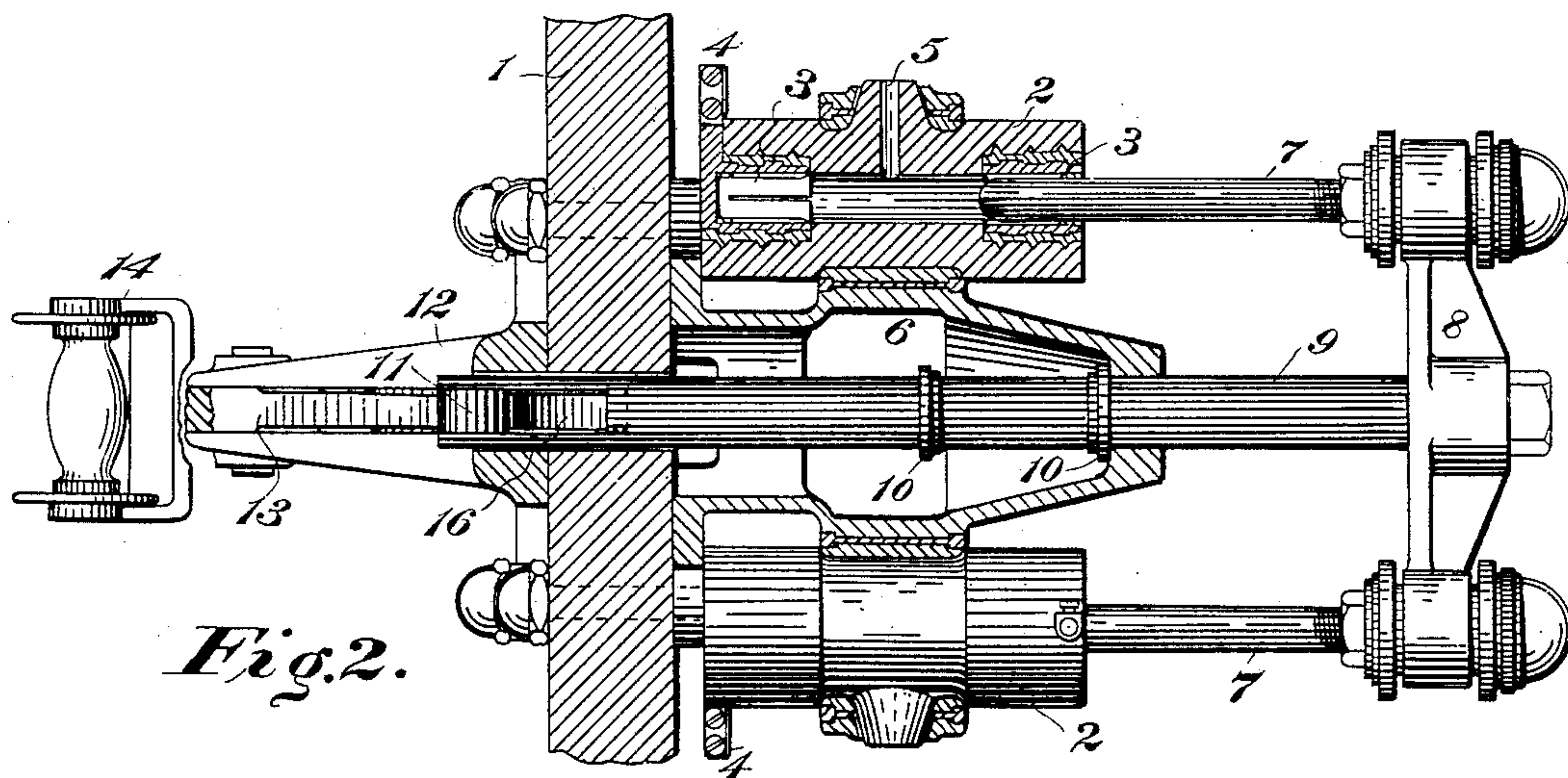


Fig. 2.

WITNESSES:

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GILBERT WRIGHT, OF WILKINSBURG, PENNSYLVANIA, ASSIGNOR TO THE WESTINGHOUSE ELECTRIC AND MANUFACTURING COMPANY, OF PENNSYLVANIA.

SWITCH FOR ELECTRIC CIRCUITS.

SPECIFICATION forming part of Letters Patent No. 599,954, dated March 1, 1898.

Application filed September 18, 1897. Serial No. 652,188. (No model.)

To all whom it may concern:

Be it known that I, GILBERT WRIGHT, a citizen of the United States, residing at Wilkinsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Switches for Electric Circuits, (Case No. 751,) of which the following is a specification.

My invention relates to double-throw switches for electric circuits; and it has for its object to provide a switch of this character with operating mechanism which shall be simple and durable in construction and which may be easily and satisfactorily manipulated.

My invention is primarily intended for connecting either of two dynamos in circuit with a single pair or set of feeders or for connecting a single dynamo with either of two pairs or sets of feeders; but it is not my desire or intention to limit its use to any specific relation or location.

In the accompanying drawings, Figure 1 is a plan view of a switch constructed in accordance with my invention; and Fig. 2 is a view, partially in side elevation and partially in section, of the switch when thrown to the reverse position from that shown in Fig. 1.

The details of construction are as follows:

1 is the switchboard base-plate, formed of suitable insulating material, on which are mounted the operating parts of the switch. In the form of switch shown there are two double-pole switches of the kind known as the "plunger" type. Each stationary switch member comprises a tube 2, of insulating material, having at each end a bush or socket 3, of suitable conducting material, the one at the inner end, adjacent to the base-plate, being provided with suitable binding-screws and sockets 4 for attaching the ends of the circuit-conductors to the switch. Each of the tubes 2 is also provided intermediate its ends with a blow-out opening 5.

Each pair of tubes 2 is clamped to a combined support and guide 6, which is in turn bolted to the base-plate 1. The movable contact members of the switch are in the form of plungers 7, there being two tubes 2 and two plungers 7 for each circuit. The plungers 7 for each circuit are connected together at one end by a suitable cross-head 8, as is clearly

indicated in Fig. 2. An actuating and guiding rod 9 projects from this head through the combined guide and support 6 and the base-plate 1 and is provided with limiting stops or collars 10. The free end of each rod 9 is bifurcated and provided with a roller 11. A bracket 12 is mounted upon the front of the plate 1, and between the arms of this bracket is pivoted a lever 13, having at its outer end a suitable handle 14. At the opposite side of the pivot from the handle 14 is a head 15, which branches in opposite directions and is provided with two cam-shaped jaws 16, of like form and dimensions. The operating cam-surfaces of these jaws are so located and are of such form that they will engage with the roller 11 of the corresponding rod 9, according to the direction in which the lever 13 is moved.

When the lever 13 is in the position shown in Fig. 1, the switch shown at the top is closed and that at the bottom open. If the lever 13 be thrown over to its other extreme position, the cam-shaped jaws of the closed switch will first move the corresponding plungers 7 to the position shown in Fig. 2, and immediately thereafter the other cam-shaped jaws will engage the adjacent roller 11 and force the corresponding plungers inward to close the circuit.

It will be readily understood that the switch may be opened and closed with ease and certainty by the means above described. I desire it to be also understood that the switch-operating means is not limited to the particular variety of switch shown or to any other specific type, and I make no claim to the switch-contacts and their inclosing tubes except in so far as they cooperate with other elements specified in the claims.

I claim as my invention—

1. A double-throw switch comprising stationary socket-terminals, cooperating plungers and a pivoted operating-lever having arms provided with cams for engaging and actuating said plungers alternately in opposite directions.

2. A switch for electric circuits comprising a base, a non-conducting tube provided with terminal sockets and a lateral blow-out opening between the same, a metal plunger-adapt-

ed to closely fit said sockets and a lever provided with a cam for actuating said plunger.

3. A double-throw switch comprising a base, a plurality of sets of non-conducting tubes each of which has a terminal socket at each end and an intermediate blow-out opening, sets of plungers corresponding to the sets of tubes and closely fitting the terminal sockets, and a lever pivoted to the base and having cams for alternately moving the sets of plungers in opposite directions.

4. A double-throw switch comprising two pairs of stationary terminals, two corresponding pairs of sliding contacts, a base and a pivoted lever having a pair of cams which move one pair of contacts to open and the other to close the corresponding circuit in

succession by a single movement of the lever in one direction.

5. A double-throw switch comprising two stationary terminals, two corresponding movable contacts, a base and a pivoted lever having two cams which respectively engage the movable contacts and directly and positively actuate them in opposite directions in succession by a single movement of the lever in one direction.

In testimony whereof I have hereunto subscribed my name this 17th day of September, A. D. 1897.

GILBERT WRIGHT.

Witnesses:

WESLEY G. CARR,
H. C. TENER.