

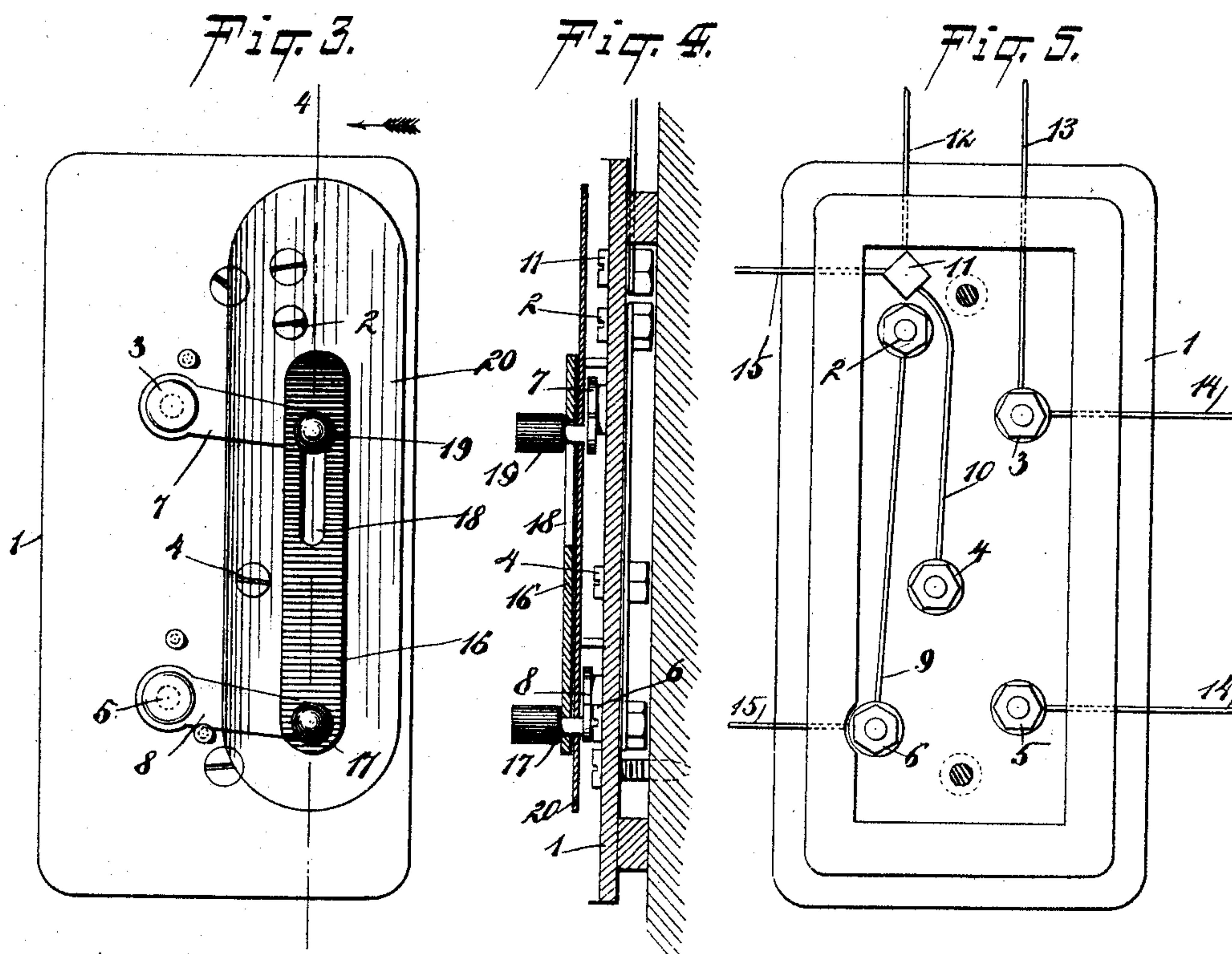
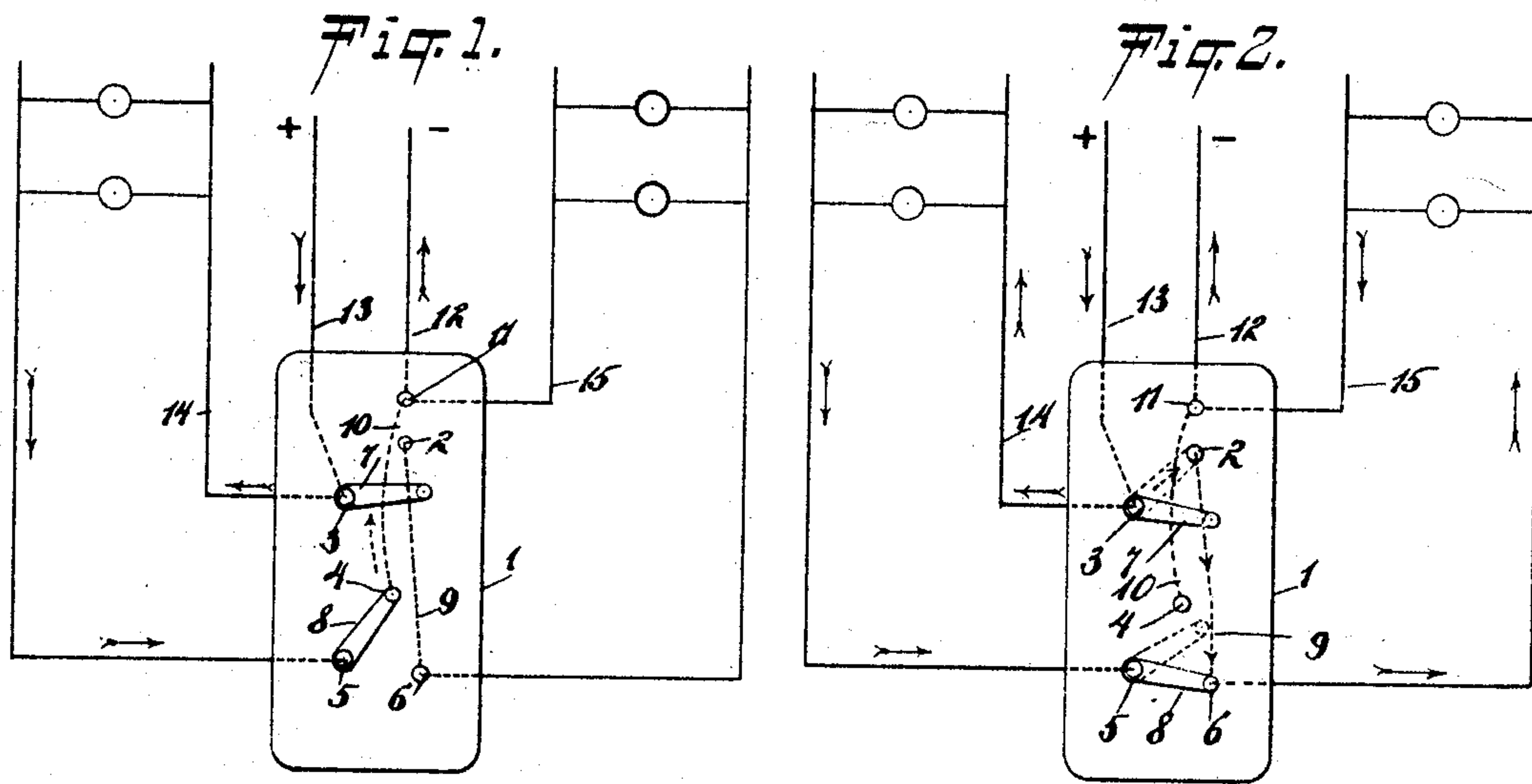
No. 619,900.

Patented Feb. 21, 1899.

A. H. MILLER.
ELECTRIC SWITCH.

(Application filed Dec. 9, 1897.)

(No Model.)



WITNESSES:

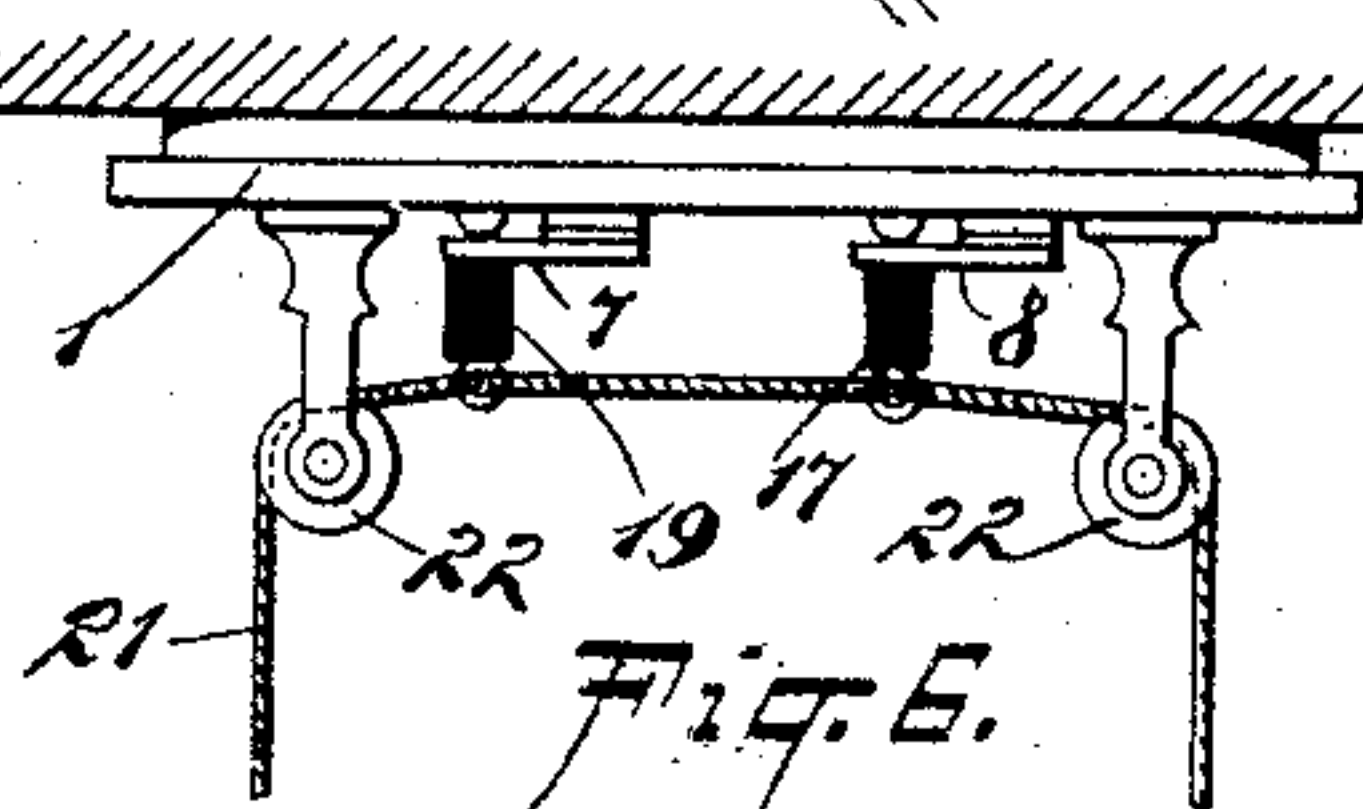
William P. Goebel,
C. R. Ferguson

INVENTOR

A. H. Miller.

BY *mm*

ATTORNEYS.



UNITED STATES PATENT OFFICE.

ANDREW H. MILLER, OF CENTRAL CITY, COLORADO, ASSIGNOR OF ONE-HALF TO ERNEST H. FONTAINE, OF SAME PLACE.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 619,900, dated February 21, 1899.

Application filed December 9, 1897. Serial No. 661,305. (No model.)

To all whom it may concern:

Be it known that I, ANDREW H. MILLER, of Central City, in the county of Gilpin and State of Colorado, have invented a new and Improved Electric Switch, of which the following is a full, clear, and exact description.

This invention relates more particularly to switches for electric-lamp circuits; and the object is to provide a switch by means of which the lamps in two circuits may be readily placed in series of multiple distribution and whereby the switch may be so manipulated as to throw the whole voltage into one circuit to produce the full power of light in the lamps of the circuit, and also to so manipulate it as to divide the current and distribute the voltage in the two circuits, thus causing the lamps of the two circuits to burn low, as may be desirable in hospitals, sick-rooms, hotels, and other places where it is desired to have lights all night, thus resulting in economy of current and consequent expense.

I will describe a switch embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a diagrammatic view of a circuit and a switch embodying my invention. Fig. 2 is a similar view, but showing the switch in a different position. Fig. 3 is a front view of the switch. Fig. 4 is a section through the line 4 4 of Fig. 3. Fig. 5 is a back view of the switch, and Fig. 6 shows a modification.

The switch comprises a base 1, of any suitable insulating material, upon which are placed contact-points 2, 3, 4, 5, and 6. A switch-arm 7 is pivoted on the contact 3 and is designed to be moved into and out of engagement with the contact 2. A switch-arm 8 is pivoted on the contact 5 and is designed to close the circuit between said contact 5 and the contact 4 or between the said contact 5 and the contact 6 for a purpose to be hereinafter described.

From the contact 2 a wire 9 leads to the contact 6, and from the contact 4 a wire 10 leads to a binding-screw 11, with which the outgoing main wire 12 connects. These wires 9

and 10 may conveniently be made of fusible material, so that the device will not only be a switch mechanism, but will be a fuse-box that will protect the lamps in the circuits from being burned out or destroyed. The leading-in wire 13 connects with the contact 3, and one lamp-circuit 14 connects with the contact 3 and also with the contact 5. The other lamp-circuit 15 connects with the contact 6 and with the binding-screw 11. These lamp-circuits may be placed in different parts of a building or in different rooms and be regulated or controlled by means of a switch placed in any convenient position.

To prevent both of the switch-arms from being thrown to their closed position at the same time—that is, connecting the contacts 2 and 3 and 5 and 6—which would cause a short circuit and burn out the fuse in the switch or other fuse-box, I connect the two switch-arms by means of a link 16. This link 16 has a pivotal connection with a finger-piece 17 of the switch-arm 8, and at its opposite end it has a slot 18, through which the finger piece or screw of the finger-piece 19 on the switch-arm 7 extends.

Obviously when the switch-arm 7 is in contact with the contact-point 2 the finger-piece 19 will engage with the upper end wall of the slot 18 and the switch-arm 8 will be moved out of engagement with the contact 6. Then when the switch-arm 8 is moved into engagement with the contact 6 the switch-arm 7 will be moved out of engagement with the contact 2, and when in this position the switch-arm 8 may be moved into engagement with the contact 4 without imparting motion to the switch-arm 7, because the finger-piece 19 will move along the slot 18.

A cover 20, of insulating material, is carried by the switch-arms. This cover is designed to extend over the several contact-points, and thus prevent a person from accidentally touching them and receiving a shock. The cover 20 will preferably be made of transparent material—such, for instance, as mica—so that the contact-points may be readily seen.

The operation is as follows: When it is desired to burn the lights in one circuit (here shown as the circuit 14) at full voltage, the contact-points 4 and 5 will be put in connec-

tion by means of the switch-arms 8, the switch-arm 7 being out of contact with the contact 2. The current will then flow through the wire 13, circuit 14, the switch-arm 8, the wire 10, and out through the wire 12, as indicated in Fig. 1. When it is desired to distribute the voltage to the two circuits, as indicated in Fig. 2, the contacts 2 and 3 will be disconnected and the contacts 5 and 6 will be connected by the switch-arm 8. The current will then enter through the wire 13, pass through the circuit 14, thence through the switch-arm 8, the circuit 15, and back to the outgoing wire 12. Of course when the current is thus divided the lamps, because of increased resistance, will be caused to burn low or dim.

In Fig. 6 I have shown how the switch may be secured to a ceiling and used as a junction-box. When so used, the two switch-arms are connected by a cord 21, and this cord is extended over rollers 22, so that by pulling on either end of the cord the switch-arms may be shifted to open or close the circuit.

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

1. A switch for controlling two electric circuits, comprising contact-points, two switch-arms, and a link having pivotal connection with one arm and sliding connection with the other arm, substantially as specified.

2. A switch for controlling two electric-lamp circuits, comprising a switchboard, contacts thereon, switch-arms for closing the circuit

through the contacts, lamp-circuits leading from the contacts, and a link connection between the switch-arms, consisting of a bar having a pivotal connection with one of the switch-arms and a sliding engagement with the other of the switch-arms, substantially as specified.

3. A switch for controlling two electric-lamp circuits, comprising a switchboard, contacts thereon, switch-arms for closing the circuit through the contacts, lamp-circuits leading from the contacts, a link connection between the switch-arms, consisting of a bar having a pivotal connection with one of the switch-arms and a sliding engagement with the other of the switch-arms, and a cover of insulating material carried by the switch-arms, substantially as specified.

4. A switch for controlling two electric-lamp circuits, comprising a switchboard, contacts thereon, switch-arms for closing the circuit through the contacts, lamp-circuits leading from the contacts, a link connection between the switch-arms, consisting of a bar having a pivotal connection with one of the switch-arms and a sliding engagement with the other of the switch-arms, and a cover carried by the switch-arms and consisting of a transparent insulating material, substantially as specified.

ANDREW H. MILLER.

Witnesses:

CHAS. B. FROMENT,
JOS. H. STEWART.