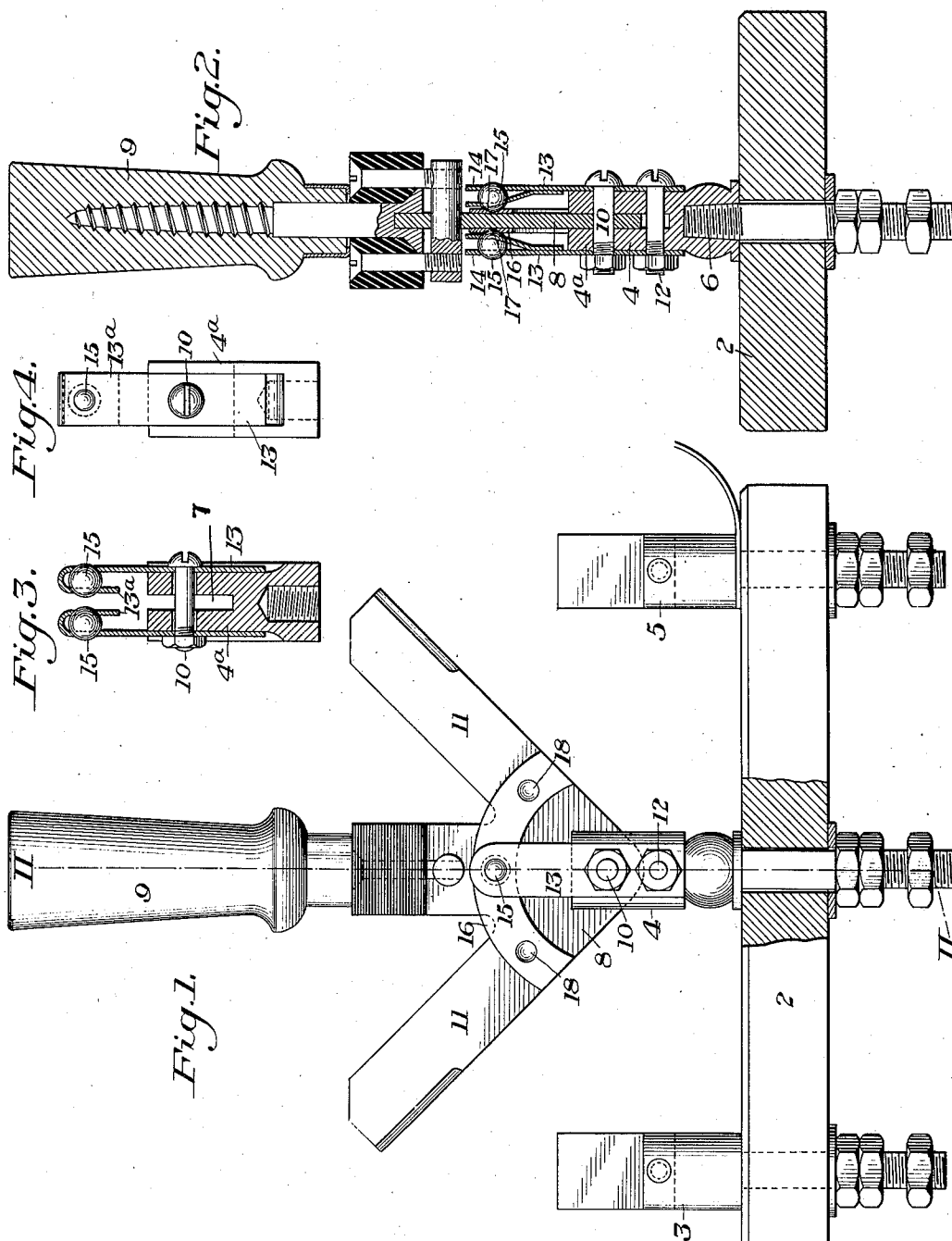


L. J. PIERCE.
ELECTRIC SWITCH.
APPLICATION FILED SEPT. 24, 1912.

1,062,185.

Patented May 20, 1913.



WITNESSES

R. H. Balderson
Jesse B. Hiller

INVENTOR

L. J. Pierce
by Balaban, Rymer & Samuels
his attys

UNITED STATES PATENT OFFICE.

LONNIE J. PIERCE, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR TO WINDOW GLASS MACHINE COMPANY, OF PITTSBURGH, PENNSYLVANIA, A CORPORATION OF NEW JERSEY.

ELECTRIC SWITCH.

1,062,185.

Specification of Letters Patent.

Patented May 20, 1913.

Application filed September 24, 1912. Serial No. 722,028.

To all whom it may concern:

Be it known that I, LONNIE J. PIERCE, a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Electric Switches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view, partly broken away, of a double-throw switch embodying my invention. Fig. 2 is section of the same on line II—II of Fig. 1. Figs. 3 and 4 are details showing a modification of a portion of the switch.

My invention has relation to electric switches; and is designed to provide means of simple and effective character for insuring a good electrical contact between the movable, or blade member of the switch and the terminal member to which it is attached, at the time when such contact is most necessary. My invention also provides means of this character which remains effective notwithstanding wear on the pivotal connection between the movable or blade member and the terminal to which it is pivoted.

The nature of my invention will be best understood by reference to the accompanying drawing, in which I have shown the preferred embodiment thereof, and which will now be described, it being premised, however, that various changes can be made in the details of construction and arrangement of the several parts without departing from the spirit and scope of my invention, as defined in the appended claim.

In these drawings, the numeral 2 designates the base of the switch, of any suitable or usual character, and which is provided with three terminals 3, 4 and 5. Each of these terminals is preferably formed in two sections having a screw connection at 6, as shown in Fig. 2, and clamping the base between them. The upper portion 4^a of the central terminal 4 is formed with a slot or socket 7 to receive the lower end of the shank 8 of the switch handle 9, said shank being pivoted in said socket on the bolt or screw 10.

11 are switch blades which are shown as forming a part of the shank 8, one of said blades being adapted to engage the upper portion of the terminal 3 and the other

blade the upper portion of the terminal 5. Secured to opposite sides of the upper portion 4^a of the central terminal 4, by means of the bolt or screw 10 and another bolt or screw 12, are contact plates 13. Each of these contact plates has a forked portion 14 at its upper end, these forked portions each forming a cage for a contact ball 15. The contact balls project loosely through openings in the inner members of the fork and contacting with the segments 16 of the shank 8. These segments are provided each with a central depression 17 adapted to receive the balls when the switch is in the open position shown in Figs. 1 and 2, and with other similar depressions 18 which receive the balls when the switch is in one or the other of its closed positions. The engagement of the balls with the central depressions 17 of the segments tends to hold the switch in its open position; but during the time that the switch is being moved from its open position to one or the other of its closed positions, the balls have a minimum contact with the segments 16, thereby reducing the friction of movement to a minimum. When either of the blades 11 engages with its cooperating terminal, the balls snap into the corresponding end depressions 18, which increases the contact surface between the balls and segments and insures a good electrical contact while the switch is closed, the contact members 13 being of spring character.

In the modification shown in Figs. 3 and 4, instead of providing these contact members 13 with forks at their upper ends by securing separate pieces thereto, their upper ends are bent backwardly and inwardly, as shown at 13^a to form the ball-containing cages.

The advantages of my invention will be apparent to those skilled in the art, since it provides a switch in which the maximum electrical contact is obtained when the switch is in either of its closed positions and notwithstanding considerable wear which may occur at the switch pivot.

While I have shown my invention as applied to a double-throw reversing switch, it is obvious that it is also applicable to switches of various other forms.

I claim:

An electric switch having a terminal member and a blade pivoted thereto, said ter-

minal member having parallel spring contact members between which the blade is adapted to move, and each of the said contact members having a ball-retaining seat or
5 cage near its free end portion, together with balls seated therein and adapted to contact with the blade, the latter having depressions to receive portions of the balls when the

blade is in certain positions, substantially as described.

In testimony whereof, I have hereunto set my hand.

LONNIE J. PIERCE.

Witnesses:

ROBT. J. WHALEN,
WM. L. WARDLE.