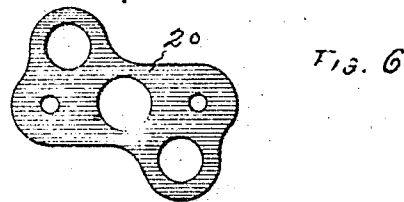
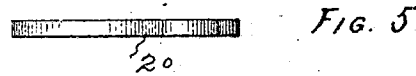
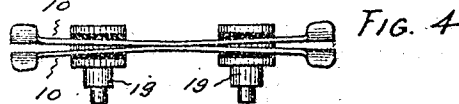
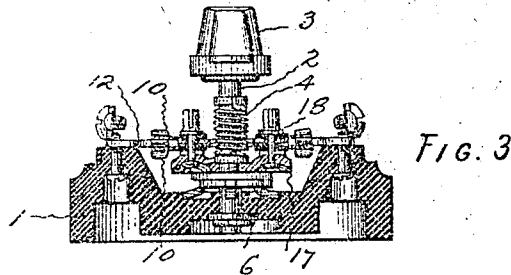
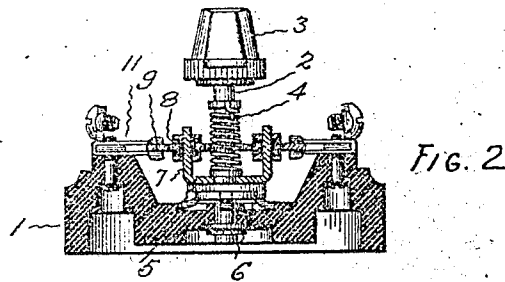
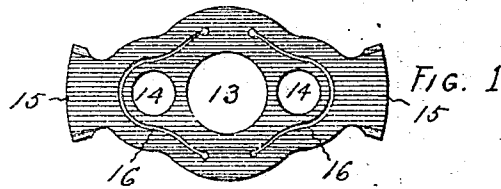


C. G. PERKINS.
MOVABLE CONTACT FOR ELECTRIC SWITCHES.
APPLICATION FILED JAN. 14, 1909.

946,685.

Patented Jan. 18, 1910.



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UNITED STATES PATENT OFFICE.

CHARLES G. PERKINS, OF HARTFORD, CONNECTICUT. ASSIGNOR TO THE ARROW ELECTRIC COMPANY, OF HARTFORD, CONNECTICUT. A CORPORATION OF CONNECTICUT.

MOVABLE CONTACT FOR ELECTRIC SWITCHES.

946,685.

Specification of Letters Patent.

Patented Jan. 18, 1910.

Application filed January 14, 1909. Serial No. 472,193.

To all whom it may concern:

Be it known that I, CHARLES G. PERKINS, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented new and useful Movable Contacts for Electric Switches, of which the following is a specification.

This invention relates to the construction of the movable contacts of a rotary snap electric switch.

The object of the invention is to construct a movable contact plate in such manner that while it can be supported adjacent to the contact ends and can be comparatively short so that the switch may be compact, the contact ends are permitted a maximum amount of yielding in order that they may conform to the location and shape of the stationary contacts and make close engagement therewith.

Figure 1 of the accompanying drawings shows on enlarged scale a plan of a contact plate which embodies this invention. Fig. 2 shows a central vertical section of a switch provided with a single contact plate which embodies the invention, and has its ends designed to engage pairs of stationary contact fingers. Fig. 3 shows a section of a switch provided with a pair of contact plates which embody the invention, that are adapted to engage single fixed contacts. Fig. 4 shows on larger scale, a pair of contact plates which embody the invention, mounted on studs adapted to be secured to such a supporting plate as is shown in Figs. 5 and 6.

The base 1 of the switches may be any size and shape, and may be made of any suitable material, such as porcelain. Rotarily mounted centrally of the base is the usual operating spindle 2 with its handle 3 and coil spring 4, which is made tense by turning the handle, for throwing the movable contact supporting plate 5, when the lock mechanism 6 is released. The lock mechanism is not shown and described in detail, for any common form of mechanism may be used, and this forms no feature of the present invention.

The movable contact supporting plate which is shown in the first form of switch that is illustrated, has upwardly turned integral arms 7. Mounted on these arms and suitably insulated therefrom by insulating

washers 8 is the movable contact. This movable contact may be a single plate 9 of substantial thickness and rigidity, as shown in Fig. 2, or may be a pair of plates 10, which are much thinner and have more resiliency, as shown in Fig. 3. Where a single plate is used, the base is usually provided with a pair of yielding contact arms 11, as shown in Fig. 2, but where two yielding plates are mounted on the supporting plate that is thrown by the spring, the base is provided with a single contact plate 12, as shown in Fig. 3. Each of these movable contact plates, whether it be a single thick plate, as shown in Fig. 2, or two thin plates as shown in Fig. 3, has a central opening 13 which spans the actuating mechanism, and two openings 14 in line with the longitudinal axis, that is, the axis which extends through the contact ends 15 of the plate, as shown in Fig. 1. This plate is provided with slots 16, which encircle the openings 14 that receive the insulating bushings and the supporting arms, and these slots desirably extend parallel with the outer edges of the plate from outside of the openings for the supports toward the middle a greater or less distance, as shown in Fig. 1. When this plate is mounted, the arms from the supporting plate and the insulating bushings are passed through the openings 14 in line with the axis, and are secured tightly in place by heading over the upper ends of the arms. Although these supporting points are rigid and are in line with the axis of the plate so that the contact ends of the plate are but a short distance from the rigid supports, as a result of the slots, the ends of the plates have much resilience and can yield so as to readily accommodate themselves to the stationary contacts.

As shown in Fig. 3, the supporting plate 17 may be provided with studs 18, instead of having arms turned up, as previously described, which studs are insulated from the contact plate or plates they support. If desired, studs 19 may be first fastened to the contact plate or plates, as shown in Fig. 4, and then attached to such a supporting plate 20, as is shown in Figs. 5 and 6.

This invention, as stated, relates to the construction of the movable contact, whether it is made up of a single plate or of two similar plates, and whether those plates are mounted singly or in pairs, on arms pro-

jecting integrally from the supporting plate, or on studs projecting from the supporting plate, or studs made fast to the supporting plate after the contact plate or plates have
5 been secured thereto.

The invention claimed is:

1. A movable contact plate for an electric switch formed of a piece of flexible conducting material with contact ends, a central
10 opening, openings for the supports between the central opening and the contact ends in line with the longitudinal axis of the plate, and slots extending in the plate between the support openings and the contact ends, so
15 the said contact ends will yield independently of the portions of the plate provided with said support openings.

2. A movable contact plate for an electric switch formed of a piece of flexible conducting material with contact ends, a central
20 opening, openings for the supports between the central opening and contact ends in line with the longitudinal axis of the plate, and slots encircling the support openings between the said openings and the contact ends
25 and extending back of said openings so that the said contact ends are connected with the supporting portion of the plate at the sides only, whereby the contact ends will yield in-
30 dependently of the portions of the plate provided with the said support openings.

3. A movable contact for an electric switch comprising a pair of plates, each formed of a piece of flexible conducting material with contact ends, a central opening, openings for
35 the supports between the central opening and contact ends in line with the longitudinal axes of the plates, and slots extending in each plate between the support openings and the contact ends so the said contact ends
40 will yield independently of the portions of the plates provided with the said support openings.

4. In an electric switch, the combination of an actuating spindle, a supporting plate.
45 a pair of contact plates formed of flexible conducting material mounted on said supporting plate, each of said contact plates having contact ends, a central opening for the passage of the spindle, openings for the
50 supports between the central opening and the contact ends in line with the longitudinal axes of the plates, and slots extending between the support openings and the contact ends so the said contact ends will yield
55 independently of the portions of the plates provided with said support openings.

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