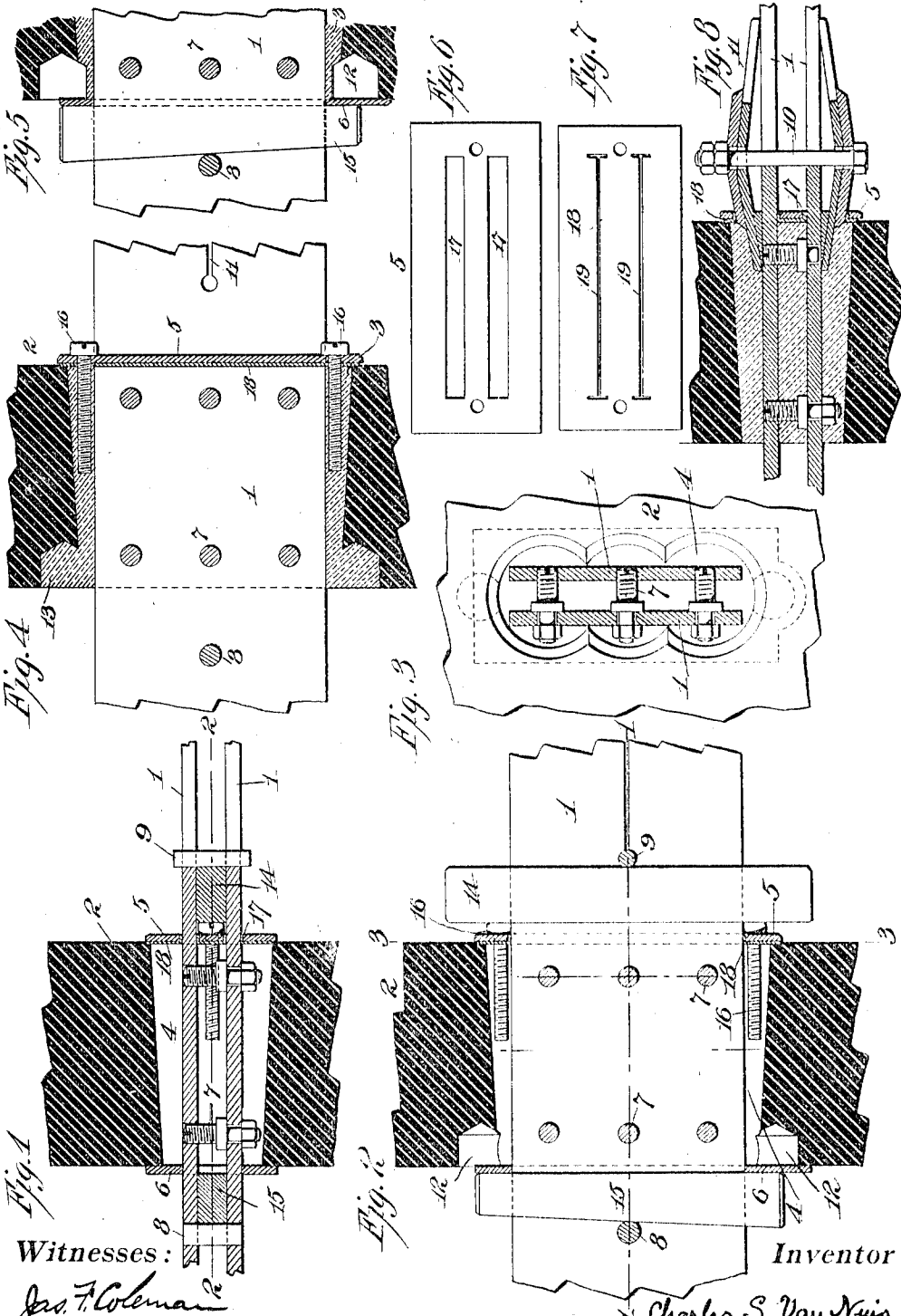


C. S. VAN NUIS.
ELECTRIC SWITCH.
APPLICATION FILED JULY 26, 1907.

983,660.

Patented Feb. 7, 1911.



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UNITED STATES PATENT OFFICE.

CHARLES S. VAN NUIS, OF PHILADELPHIA, PENNSYLVANIA.

ELECTRIC SWITCH.

983,660.

Specification of Letters Patent.

Patented Feb. 7, 1911.

Application filed July 26, 1907. Serial No. 385,621.

To all whom it may concern:

Be it known that I, CHARLES S. VAN NUIS, a citizen of the United States, and a resident of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented Improvements in Electric Switches, of which the following is a specification.

The object I have in view is the production of an electric switch of a type disclosed in my Patent No. 825,091, dated July 3, 1906. In that switch the stationary contact members are secured to the base by a molded mounting. By my present invention I seek to make the stationary contact members removable from the base if such is desired.

Other objects consist in improvements in details of construction, as will more fully appear from the following specification and accompanying drawings.

In the drawings Figure 1 is a vertical section on the line 1—1 of Fig. 2, showing the plates arranged within the base before the mounting is molded. Fig. 2 is a vertical section on the line 2—2 of Fig. 1. Fig. 3 is a section on the line 3—3 of Fig. 2. Fig. 4 is a view similar to Fig. 2 but with the mounting molded in place. Fig. 5 is a detail view similar to Fig. 4, showing the fixed contact members of the switch movably secured to the base. Fig. 6 is a plan view of the front escutcheon plate. Fig. 7 is a plan view of the dam used in connection with the plate; and Fig. 8 is a vertical section showing the invention applied to a different form of construction.

In all of the views like parts are designated by the same reference characters.

In carrying out my invention I provide the usual plates 1—1, which constitute the fixed contact members of the switch which are held within the base 2, which constitutes the base of the switch by means of the molded mounting 3. The molded mounting lies within a slot 4 formed in the base 2. The front of the mounting is defined and shaped by the front escutcheon plate 5 while the rear is similarly defined by the back escutcheon plate 6. These plates have slots within which the plates 1 lie. The plates 1—1 are held in alinement by the bolts 7 in the manner disclosed in my co-pending application for patent No. 353,584, filed Janu-

ary 23, 1907. In addition the plates are connected together by a pin 8 at the back of the base, such pin being ordinarily fixed and by a pin 9 on the front of the base. This latter pin may be a fixture or may be temporarily substituted in place of a pin or bolt, which becomes a fixture of the switch. Such bolt is shown in Fig. 8 at 10, and is for the primary purpose of imparting tension upon the springs 11, which assist the plates 1 in contacting with the knife-blade. Such structure is disclosed in my co-pending application above referred to.

The slot 4 is made with tapered walls, as is shown in Figs. 1, 2 and 3. I prefer to make it of three round holes bored through the base and connected together, although the slot may be made in other ways. After the holes are bored they are tapered with a suitable tool so that the taper is in the direction from the front to the back of the base. In addition to the slot I prefer to make one or more notches 12 at the back of the base so that the mounting will enter such slots and form fingers 13, Fig. 4, and hold the plates and molded mounting firmly within the slot. By cutting away that portion of the molded mounting which constitutes the fingers, as shown in Fig. 5, the plates 1—1 together with the mounting may be removed from the front of the base.

In order to hold the plates 1—1 and the escutcheon plates properly within the slot I first assemble them with the front escutcheon plate surrounding the plates 1—1. The plates 1—1 are then introduced within the slot 4 and the back escutcheon plate 6 put in place. A block 14 is now introduced between the pin 9 and the front escutcheon plate, and a wedge 15 is introduced between the back escutcheon plate and the pin 8. By means of the wedge 15, the parts may be clamped together, thus pressing the two escutcheon plates against the front and the back of the base. The rear escutcheon plate preferably extends downward a sufficient distance to inclose the lowermost of the two notches 12, but it is best not to inclose all of the upper notch 12 so that sufficient space is left to form a gate for introducing the molten metal which constitutes the molded mounting. After the mounting has set, the

block 14 may be removed and the pin 9 taken out and its substitute bolt, if used, placed in position. The wedge 15 may be left in place, if desired, or removed, together with the back escutcheon plate, and the molded mounting will be firmly held in position by the fingers 13 within the notches 12.

To remove the plates and molded mounting, the fingers 13 are cut away; a drill similar to that which is used for making the notches 12 can be employed for this purpose. The side plates and the molded mounting can now be driven out of the front of the base. To replace the plates with the molded mounting they are returned to position from the front to the back, the escutcheon plate 6 is then introduced in place and the wedge 15 is driven in between the escutcheon plate and the pin 8. This serves to lock the parts in position so that the plates are immovably held within the base.

In order to support the front escutcheon plate the screws 16 may be employed, which will become embedded within the mounting when the latter is molded. It is desirable in fitting the plates 1—1 to use the escutcheon plates with the slots 17 somewhat wider than the thickness of the plates 1—1. This permits sufficient latitude of adjustment of the relative position of the two plates 1—1. To prevent escape of the molten material which constitutes the mounting at the points where the plates 1—1 pass through the slots 17—17, I provide a dam 18. This dam preferably is made of flannel or felt or other fabric and is best made slightly smaller than the escutcheon plate. It is formed with slits 19, which lie directly behind the slots 17. The dam is pasted or otherwise secured to the back of the escutcheon plate with the slits 19, registering with the slots 17. The escutcheon plate with the dam thereon can therefore be readily slipped over the ends of the plates 1—1, and the dam will be ready in position. When the mounting is molded, the fabric at the slits 19—19 will effectively prevent the escape of the molten material through the slots. In some instances the pressure of the molten material may force the fabric at the sides of the slits through the slots 17—17 against the sides of the plates 1—1.

Where the construction shown in Fig. 8 is employed the front escutcheon plate and dam are modified accordingly. In this figure I have shown springs 11 which bear against the plates 1 and tend to make a more intimate contact between the plates and the knife blade. The ends of the springs 11 are embedded in the molded mounting and are provided with washers which also enter the mounting. Tension is given to the springs by a bolt 10 which passes through the springs and plates, and

the slots 17—17 in the front escutcheon plate 5, and the slots 19—19 in the dam 18 are made wide enough to accommodate the ends of the springs and washers.

In accordance with the provisions of the patent statutes, I have described the principle of my invention, together with the apparatus which I now consider to represent the best embodiment thereof, but I desire to have it understood that the apparatus shown is merely illustrative and that the invention can be carried out in other ways.

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

1. A switch in which a stationary contact member is retained within the base by means of a molded mounting, there being additional means to retain the mounting within the base.

2. A switch having a stationary contact secured to the base by means of a mounting molded in the base and secured thereto, the mounting being mutilatable, and when mutilated, it is removable from the base, and means for securing the mounting in the base after mutilation of the mounting.

3. A switch having a stationary contact member secured within the base by means of a molded mounting, the opening in the base being tapered toward the back so as to permit of the removal of the mounting and of its return to the base, and means for securing the mounting to the base after its return.

4. A switch having a stationary contact member secured within the base by means of a molded mounting, the opening in the base being tapered, there being means operating on the wedge principle exerting stress in the opposite direction to the taper.

5. A switch in which a stationary contact member is secured in the base by means of a molded mounting in a slot which tapers toward the back, and means for permitting of the removal of the mounting from the base and a wedge for securing the mounting to the base.

6. A switch in which a stationary contact member is held in place by means of a molded mounting extending through the base, the said mounting having integral fingers engaging the back of the base.

7. A switch in which a stationary contact member is held in place by means of a molded mounting extending through the base, the said mounting lying within a tapered opening, there being integral fingers on the smaller end of the mounting engaging the back of the base.

8. A switch having a stationary contact member secured within the base by means of a molded mounting, there being an escutcheon plate with a large slot and means to

prevent escape of the molten material constituting the mounting through the slot.

9. A switch having a stationary contact member secured within the base by means of a molded mounting, there being an escutcheon plate with a large slot and a fabric dam secured to the back of the plate and having a slit behind the slot, to prevent

escape of the molten material which constitutes the mounting.

This specification signed and witnessed
this 25th day of July, 1907.

CHARLES S. VAN NUIS.

Witnesses:

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10