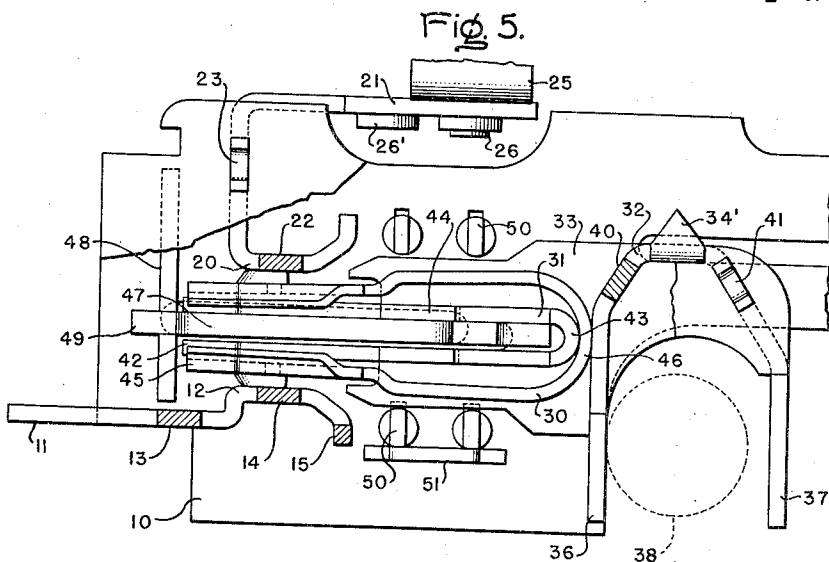
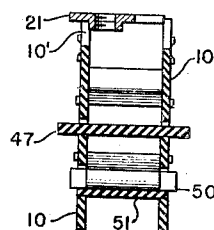
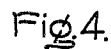
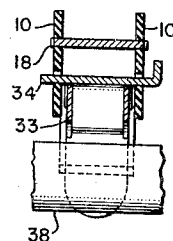


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by H. S. Allen
His Attorney.

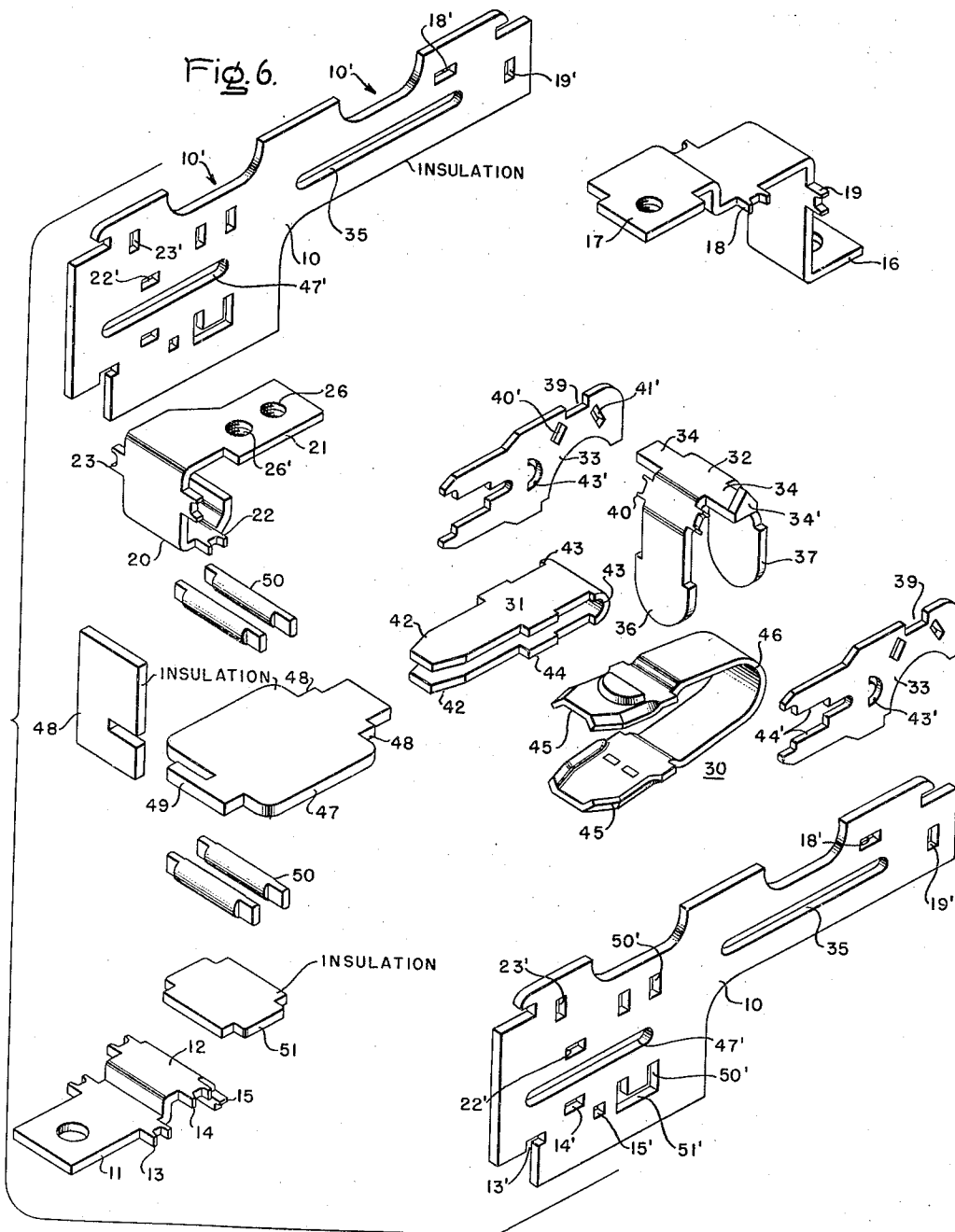
Jan. 10, 1950

R. N. ROWE
ELECTRIC SWITCH UNIT

2,494,315

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,494,315

ELECTRIC SWITCH UNIT

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Application September 8, 1948, Serial No. 48,270

5 Claims. (Cl. 200-163)

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My invention relates to the circuit opening and closing mechanism of a switch which is adapted to be actuated by suitable mechanism such as set forth in my application Serial Number 713,194 filed November 30, 1946.

Such units must be simple, compact and effective and readily assembled on a base usually with one or more similar units. In other words the unit is completely assembled for insertion in a single line independent of other lines. Each unit has its own protective fuse.

The main object of the present invention is to provide simple mechanism that is durable, effective and self contained and when assembled with other similar units is unaffected by them.

A special object is to provide a movable switch member which is capable of withstanding repeated operations without damage.

Another object is to ensure smooth operation of the switch member without damage of arcing.

Fig. 1 is a side view and partial section of a switch unit embodying my invention, the parts being shown in the open circuit position.

Fig. 2 is a horizontal section and plan on the plane of the line 2-2 of Fig. 1.

Fig. 3 is a cross sectional view on the plane of the line 3-3 of Fig. 1.

Fig. 4 is a cross sectional view on the plane of the line 4-4 of Fig. 1.

Fig. 5 is a fragmentary side view and partial section showing on a larger scale the switch parts in the closed circuit position.

Fig. 6 is an exploded perspective view showing parts of the switch unit.

The side plates 10, 10 are formed of suitable insulating material and serve to support the various other parts in perforations or recesses suitably located to receive them. For instance the circuit terminal strap 11 has a switch contact 12 and is supported by lugs 13, 14 and 15 upset in the perforations 13', 14' and 15' on each side plate. The other terminal strap 16 has a fuse clip support 17 and they are supported by lugs 18 and 19 in the recesses 18' and 19'. The switch contact 20 opposite 12 is integrally connected to the fuse clip support 21 and they are supported by the lugs 22 and 23 in the recesses 22' and 23'.

The supports 17 and 21 carry respectively the fuse clips 24 and 25. Support 21 may have provisions for attachment at either of two points 26 or 26' so as to accommodate clips for either of two sizes of fuses, edges of the side plates being cut away at 10', 10' to provide clearance for the attaching screws.

The movable switch member consists of the

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contact member 30, the guide 31, the saddle 32 and the side pieces 33, 33 which carry the members 30, 31 and 32. The saddle has an extension 34 at each side by which it is guided in a slot 35 of a side plate 10 and side arms 36, 37 to embrace the operating crank shaft 38 (Figs. 1 and 2). A pointer 34' may be provided on the end of one of the extensions.

The side pieces 33, 33 have notches 39, 39 to position the extensions 34, 34 of the saddle and recess 40', 41' to receive the lugs 40, 41.

The guide member 31 has two parallel arms 42, 42 spaced apart at one end and connected at the other where it has projections 43 which fit in holes 43' in the side pieces of the switch member.

The lugs 44, 44 of the guide member fit in the notches 44' of the side pieces. The switch member 30 also has two arms 45, 45 connected at 46 where it is held between the arm 36 of the saddle 32 and the end of the guide member 31. The free ends 45 are guided laterally between the side plates 10, 10 and biased away from each other in order to provide a spring pressure against the stationary contacts 12 and 20 when the circuit is closed.

Between the contacts 12 and 20 is located an insulating barrier 47 whose edges are positioned in the slots 47', 47' of the side plates 10, 10 and centered by the shoulders 48, 48 between the plates 10, 10. The two arms 42, 42 of the guide member 31 slide above and below this barrier 47 so as to ensure proper action of the switch member 30. Adjacent the contacts 12 and 20 is an insulating back stop 49 which is slotted and interlocked with a slotted end 49 at the end of the barrier 47 and positioned between the side plates 10, 10 and extends above and below the contacts 12 and 20.

Above and below the path of movement when the switch member 30 leaves the contacts 12 and 20 I provide arc dissipating guide members 50, 50 of metal which are positioned in the holes 50', 50'. I also provide an insulating barrier 51 positioned in the recesses 51', 51' of the side plates 10, 10 to assist in snuffing any arc that might tend to form when the circuit is opened.

I claim:

1. A switch unit comprising insulating side plates, two spaced contacts mounted between said plates, an insulating barrier plate extending between said contacts, a guide member having arms guided by said barrier plate, to slide above and below said barrier plate, side pieces mounted between said side plates and supporting said

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guide member, a switch member connected to said guide member and a saddle connecting said side pieces and supporting said switch member and slidable between said side plates.

2. A switch unit comprising insulating side plates, two spaced contacts mounted between said plates, a barrier plate extending between said contacts, a saddle slidably supported in said side plates, a guide member having arms guided above and below said barrier plate and a resilient switch member mounted between said guide member and said saddle and having arms for coacting with the spaced contacts.

3. A switch unit comprising insulating side plates, two spaced contacts mounted between said plates, a barrier plate extending between said contacts, a saddle slidably supported in said side plates, a guide member having arms guided above and below said barrier plate, side pieces mounted on said saddle and supporting said guide member and a switch member mounted between said guide member and said saddle and positioned between said side pieces.

4. A switch unit comprising insulating side plates, two spaced contacts mounted between said plates, an insulating barrier plate extending

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between said contacts, a saddle slidably supported in said side plates, a guide member having arms guided above and below said barrier plate and a switch member connected to said guide member and said saddle and having arms for coacting with the spaced contacts.

5. A switch unit comprising insulating side plates, two spaced contacts mounted between said plates, an insulating barrier plate extending between said contacts, a member slidably supported in said side plates, a guide member having arms guided above and below said barrier plate, side pieces mounted on said slidable member and connected to said guide member and a switch member connected to said guide member and positioned between said side pieces.

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