F. B. HOLT.

KNIFE BLADE SWITCH.

APPLICATION FILED AUG. 28, 1915. RENEWED AUG. 25, 1916.

1,229,750. **Patented June 12, 1917.**

Fig. 1

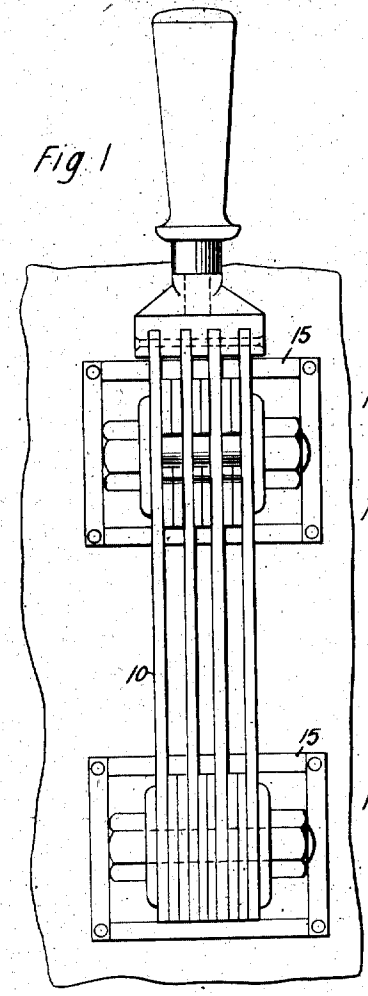


Fig. 2

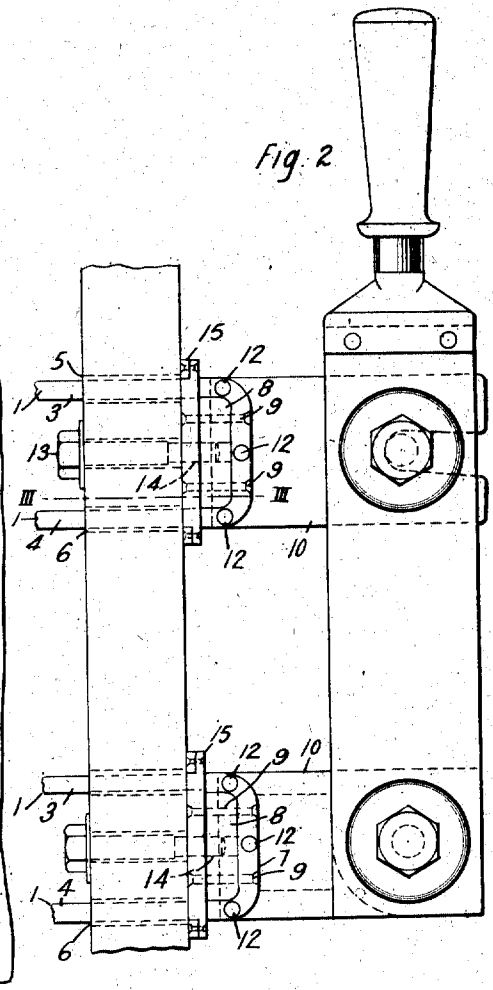
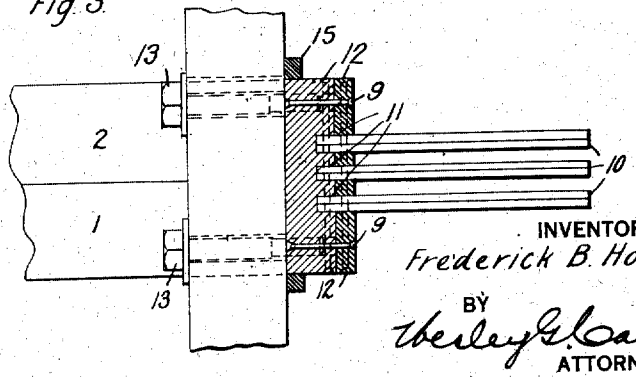


Fig. 3.



WITNESSES:

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KNIFE-BLADE SWITCH.

1,229,750. Specification of Letters Patent. Patented June 12, 1917.

Application filed August 28, 1915, Serial No. 47,883. Renewed August 25, 1916. Serial No. 116,837.

To all whom it may concern:

Be it known that I, FREDERICK B. HOLT, a subject of the King of England, and a resident of Greenfield Farm, Antrobus, in the county of Chester and country of England, have invented a new and useful Improvement in Knife-Blade Switches, of which the following is a specification.

My invention relates to electric switches and it has for its object to provide jaw members of an improved construction for knife-blade switches.

In my invention the terminal members are formed of a continuous piece of strap copper that extends from the front to the back of the panel or base, the bus-bars or other connections being attached to the strap at the back and the jaw member of the switch being attached to the strap at the front; the resistance is thereby considerably reduced and the manufacture very much cheapened.

A strap of copper or other good conducting material is bent to a U-shape and its limbs are passed through slots formed in the panel or base so that the bent portion or bottom of the U-shaped member is on the front thereof. Between the bottom of the U-shaped member and the panel, a filling-piece, preferably of drawn copper, is provided, which fills up the intervening space; this filling piece is secured to the bottom of the U-shaped member by rivets so that a solid block is formed. Slots are then milled in this block that extend completely through the bottom of the U-shaped strap into the filling-piece for the reception of the fixed jaw members of the switch. The jaw members are secured by rivets passing through the strap, and, by reason of the fact that the slots extend completely through the latter, a very close contact between the jaw members and the strap may be obtained. The strap, filling-piece and jaw members may then be sweated or soldered together.

The complete jaw-member thus constituted is secured to the panel by bolts that project from behind through holes in the panel into tapped holes in the filling-piece, and a ring may be provided around the jaw member on the front so as to hide the rough edges of the slots through which the limbs of the U-shaped members are passed and thus give a neat appearance.

In the accompanying drawings, Figure 1 is a side elevational view of a knife-blade switch having terminal or jaw members constructed in accordance with my invention; Fig. 2 is a front elevational view of the switch shown in Fig. 1, and Fig. 3 is a section taken on the line III—III of Fig. 1. Since the same construction is applicable to both the hinge-jaw members and break-jaw members of the switch shown in Fig. 1, it will be necessary to describe only the break-jaw members by way of example.

Two pieces, 1 and 2, of strap copper are bent to U-shape and the parallel limbs 3 and 4 thereof are passed through holes 5 and 6, respectively, in the panel, the bottom 7 of the U-shaped member being in the front of the same. Between the bottom of the U-shaped member and the panel is disposed a filling-piece 8 that is secured by rivets 9 to the bottom of the U-shaped member. The inner ends of break-jaw members 10 are inserted in slots 11 that are cut completely through the bottom 7 of the U-shaped piece and into the said filling piece 8. The jaw members are secured in position by rivets 12. Bolts 13 project through the panel from behind and are threaded into tapped holes 14 in the filling piece 8, to thus secure the complete terminal firmly to the panel. A frame or ring 15 is secured to the terminal in any suitable manner, in order to hide the rough edges of the slots 5 and 6.

The construction of my invention shown, although specially intended for multiple-blade knife-blade switches, may obviously be employed for the fixed terminals or jaw members of knife-blade switches having a single blade, and I desire that only such limitations be imposed as are set forth in the appended claims.

I claim as my invention:

1. In a knife-blade switch, the combination with a base member and jaw members, of a U-shaped conducting strip inserted through the base member, and a conducting block inserted between the base member and the U-shaped strip, said U-shaped strip and the conducting block being slotted to receive the jaw members.

2. In a knife-blade switch, the combination with a base member and jaw members, of a U-shaped conducting strip inserted through the base member, and a conducting block inserted between the base member and the U-shaped strip, said U-shaped strip and the conducting block being slotted to receive

the jaw members, said jaw members, U-shaped strip and conducting block being sweated together to insure good electrical contact.

3. The combination with a base member, of a U-shaped member inserted therein, a conducting block disposed between the U-shaped member and the base member, and a plurality of conducting members disposed in slots cut in the said block and in the U-shaped member.

4. The combination with a base member, of a U-shaped member inserted therein, a conducting block disposed between the U-shaped member and the base member, means for securing the block to the base member, means for securing the U-shaped member to the block member, a plurality of conducting strips disposed in slots cut in the said block and in the U-shaped member, and means for securing the said strips in position.

5. The combination with a base member, of a U-shaped member having portions of its legs inserted through the base member, a conducting member disposed between the U-shaped member and the base member, and conducting strips disposed in corresponding slots in the conducting member and in the U-shaped member.

6. A terminal stud comprising a U-shaped member, a conducting block secured to the U-shaped member at its inner side, conducting strips disposed in corresponding slots in the conducting block and in the U-shaped member, and means for securing the conducting strips in position.

7. The combination with a base member, of a member of substantially U-shape inserted therein, and a plurality of conducting members disposed in slots cut in the said member of substantially U-shape.

8. The combination with a base member, of a member of substantially U-shape inserted therein, and a contact member secured in a slot cut in the said member of substantially U-shape.

9. A terminal stud comprising a member of substantially U-shape, a block secured to the member of substantially U-shape at its inner side, and a contact member disposed in corresponding slots in the block and the member of substantially U-shape.

10. The combination with a base member, of a conducting member having a main portion and two legs that extend through the base member, and a contact member disposed in a slot in the said conducting member.

11. The combination with a base member, of a substantially flat conducting member having its end portions so bent as to constitute legs that are adapted to extend through the base member, and a contact member secured to the said flat conducting member.

12. The combination with a base member, of a conducting member of substantially U-shape inserted therein, means for reinforcing the said member of substantially U-shape, and a conducting member disposed in slots cut in the said member of substantially U-shape and in its reinforcing means.

13. The combination with a base member, of a conducting member of substantially U-shape the legs of which are adapted to extend through the base member, and contact members operatively secured to the said conducting member of substantially U-shape.

14. The combination with a base member, of a conducting member of substantially U-shape the legs of which are adapted to extend through the base member, means for securing the conducting member to the base member, contact members disposed in slots in the conducting member, and means for securing the contact members in position.

In testimony whereof, I have hereunto subscribed my name this 18th day of Aug., 1915.

FREDERICK BRERETON HOLT.