

A. K. SUTHERLAND.
 LOCK FOR SWITCH HANDLES.
 APPLICATION FILED MAR. 29, 1918.

1,305,178.

Patented May 27, 1919.

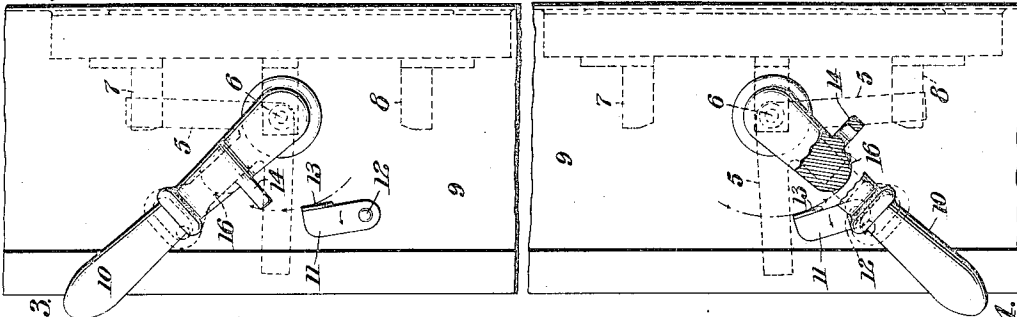


Fig. 3.

Fig. 4.

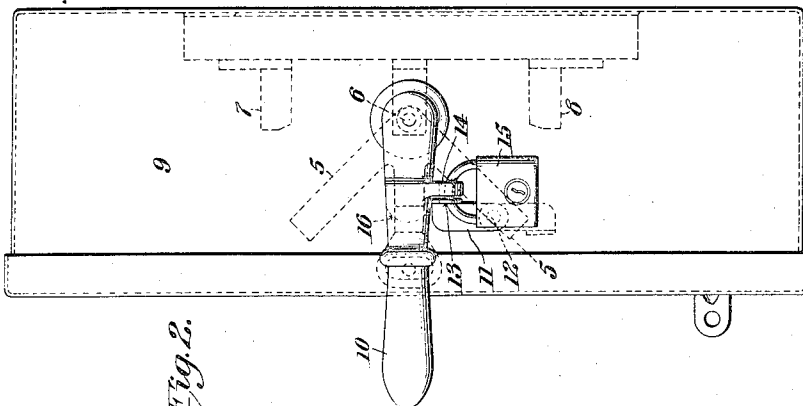


Fig. 2.

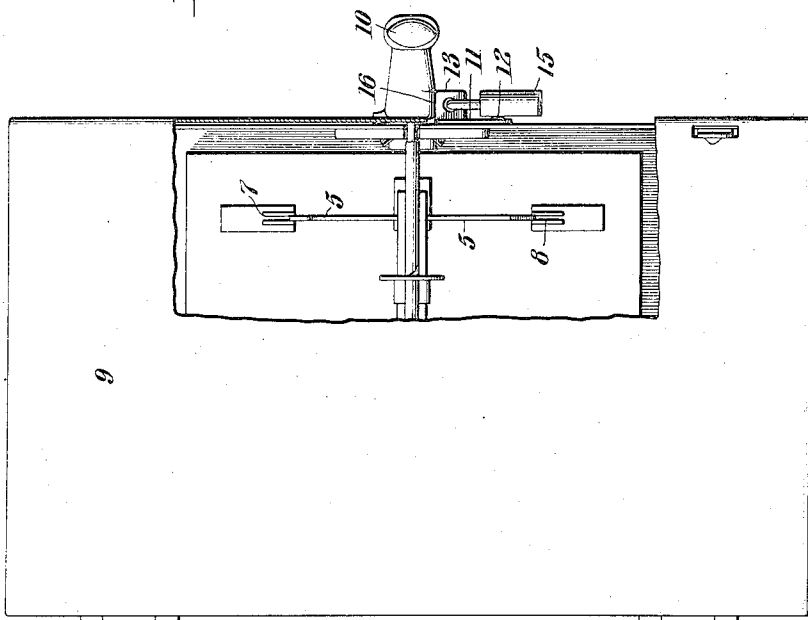


Fig. 1.

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UNITED STATES PATENT OFFICE.

ALEXANDER K. SUTHERLAND, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO THE TRUMBULL ELECTRIC MANUFACTURING COMPANY, OF PLAINVILLE, CONNECTICUT, A CORPORATION OF CONNECTICUT.

LOCK FOR SWITCH-HANDLES.

1,305,178.

Specification of Letters Patent.

Patented May 27, 1919.

Application filed March 29, 1918. Serial No. 225,449.

To all whom it may concern:

Be it known that I, ALEXANDER K. SUTHERLAND, a subject of the King of Great Britain, residing at New Britain, Connecticut, have invented a new and useful Lock for Switch-Handles, of which the following is a specification.

This invention relates to means for locking switches in inoperative condition and special objects of my invention are to provide simple, practical and inexpensive means for locking switches of the so-called double throw type wherein a switch handle may be rocked in one direction to establish certain circuit conditions and may be rocked in the reverse direction to establish a different set of circuit conditions.

Switches of this character are used to a large extent, for starting alternating current motors and I have therefore chosen to illustrate the invention herein as applied to a switch of that character, it being understood however, that the invention is not necessarily limited to a switch of this or any other particular character.

Briefly the invention resides in providing, in combination with the switch operating handle, a pivoted locking member arranged when not in use to be swung out of the way of the switch operating handle and provided with a lug which, by the turning of the locking member on its pivot can be brought into registry with a locking lug on the switch handle. These lugs on the handle and the locking member respectively, will ordinarily be perforated so as to take the hasp of a padlock or other suitable locking or sealing means.

The accompanying drawing illustrates the invention embodied in a practical, commercial form wherein,

Figure 1 is a front view of an inclosed double-throw switch with the invention applied thereto, a portion of the cover of the switch box being broken away to better illustrate the parts.

Fig. 2 is a side view of the same, this view and Fig. 1 showing the switch locked in the off position.

Fig. 3 is a broken side view showing how the locking member is partially rocked out of the way when the switch is rocked forwardly, and

Fig. 4 is a similar view showing how the

locking member is completely shifted out of the way when the switch is rocked in the reverse direction.

The switch illustrated is of the A. C. motor starting type embodying a set of switch blades 5 pivoted on the center 6 and adapted when rocked in one direction to engage with a set of contact clips 7 and when rocked in an opposite direction to engage with another set of contact clips 8. This switch, as is usual in such cases, is mounted within a box or casing 9, and the handle 10 by which the switch is operated is journaled directly in the side wall of said box and suitably connected with the movable switch element.

The locking member before alluded to, is shown in the present disclosure as a relatively flat plate 11 pivoted on the side wall of the box at 12 and provided with an angularly turned lug 13 for registry with an outstanding locking lug 14 on the handle. These two lugs are preferably perforated as indicated to receive the hasp of a padlock 15 or other suitable locking or sealing means.

When not in use the pivoted locking member may be swung on its pivot down to the position indicated dotted in Fig. 2, wherein it will not interfere with the free movement of the switch operating handle in both directions. When the switch is to be locked in the circuit-open condition, the switch handle is shifted to the intermediate position shown in Figs. 1, 2, wherein the switch blades are free of both sets of contacts and the pivoted locking member is swung up into position with the lug thereon overlying the locking lug on the handle and the perforations in the two in registry. The locking member, such as the hasp of the padlock, or the like, is then passed through the registered perforations, whereupon the switch will be securely locked. The switch may be quickly unlocked, by one authorized to do so, by opening the padlock or otherwise releasing the locking means employed and if under these circumstances the locking member should not swing down out of the way, or the operator should fail to turn said member down out of the way, the first movement of the switch handle in an upward or forward direction will cause the locking lug on the handle by engagement with the lug

on the locking member to thrust said member away from it and then as the switch handle is brought backward to engage the second set of clips, a shoulder 16 provided
 5 on the handle will engage the lug on the locking member and throw said member entirely clear of the handle. As the handle is swung downward from the upper position (Fig. 3) back to the intermediate position
 10 (Fig. 2) the locking member, standing then as it does in the path of further downward movement of the handle, serves as a stop, temporarily arresting the further movement of the handle and indicating to the operator
 15 that the neutral position has been reached. This indicates to the operator even in the dark when the switch is thrown back to the neutral position. This stop member acts in the further capacity of a stop when the padlock is removed, to prevent the handle being
 20 first thrown downward. This function will be clear from Fig. 2, wherein it will be seen that when the padlock is removed the stop member will prevent the handle from being rocked downwardly, it being impossible to rock the handle downward until the same has first been rocked upwardly to
 25 deflect the stop partly to one side as indicated in Fig. 3. When thus deflected the stop is placed in position to be engaged

by the inclined shoulder 16 on the handle which will operate in the downward movement of the handle as a cam to shift the stop member entirely out of the path of the handle as in Fig. 4.

The locking device while thus quite simple, is effective for securing the switch in inoperative condition and is so constructed as not to interfere with the free operation of the switch when once the locking element
 40 has been removed.

I claim:—

The combination with a double-throw switch, a box inclosing the same, and a switch operating handle rocking in opposite
 45 directions for operating the double-throw switch in reverse directions, of a stop member pivotally mounted on the side of the box and provided with an outstanding lug, said switch handle having a cooperating lug
 50 adapted to be engaged by the locking lug of the stop member and to rock said stop member out of its path when the handle is rocked in one direction, and a shoulder on the handle arranged to engage the locking
 55 lug on the pivoted stop member and to shift said stop member when the handle is rocked in the reverse direction.

ALEXANDER K. SUTHERLAND.