

T. E. MURRAY,  
PROTECTIVE SWITCH BOX.  
APPLICATION FILED JAN. 13, 1914.

1,135,130.

Patented Apr. 13, 1915.

2 SHEETS-SHEET 1.

Fig. 1.

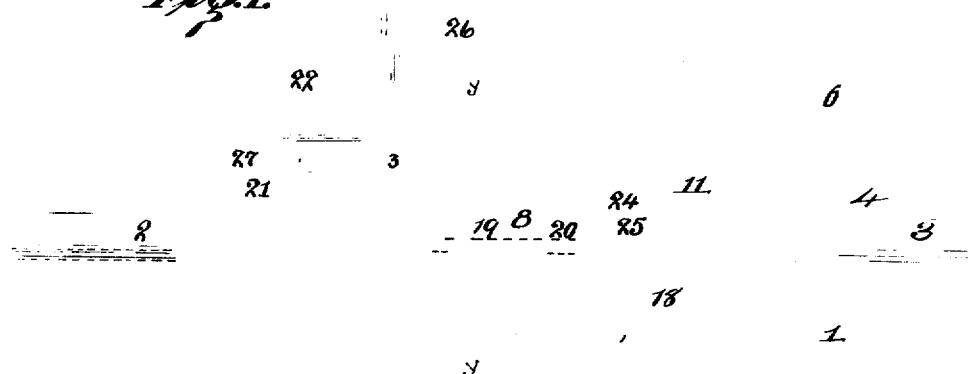


Fig. 2.

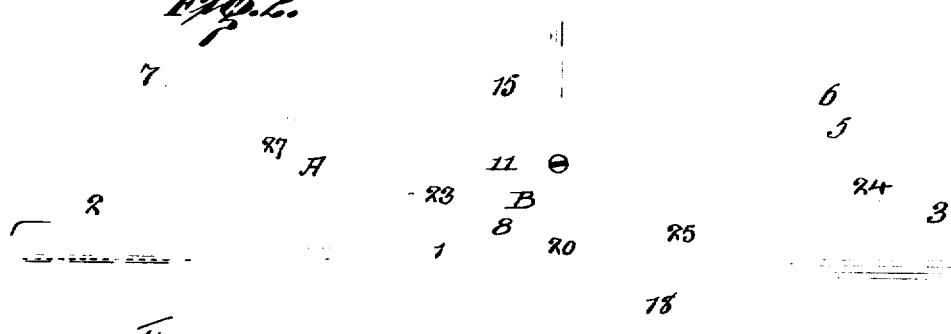
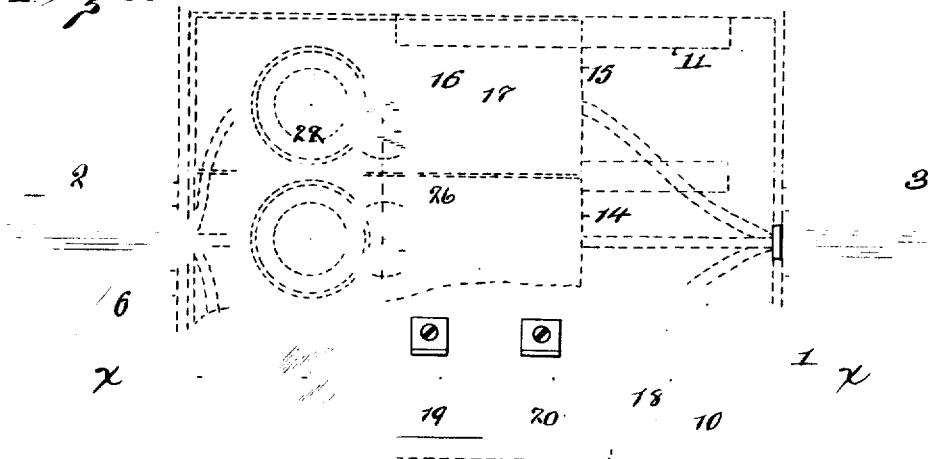


Fig. 3.



Witnesses:  
May J. Mcarry,  
M. L. Bradlin

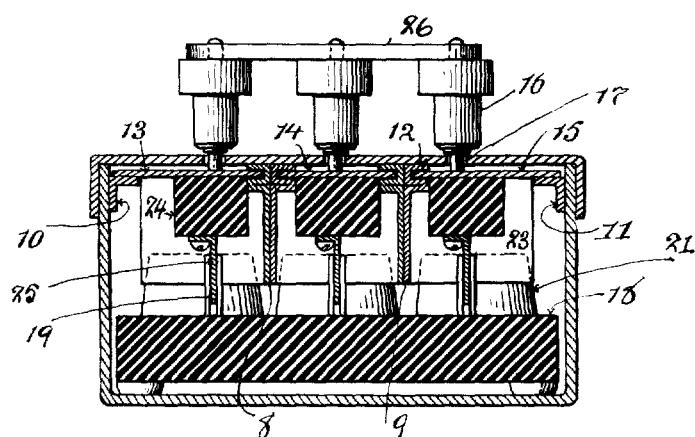
Inventor  
Thomas E. Murray  
By his Attorney  
Paul Remond

T. E. MURRAY,  
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2 SHEETS-SHEET 2.

Fig. 4.



Witnesses:  
May T. McGarry  
W. L. Srechir

Inventor  
Thomas E. Murray  
By his Attorney  
Park Benjamin

# UNITED STATES PATENT OFFICE.

THOMAS E. MURRAY, OF NEW YORK, N. Y.

## PROTECTIVE SWITCH-BOX.

1,135,130.

Specification of Letters Patent.

Patented Apr. 13, 1915.

Application filed January 13, 1914. Serial No. 811,821.

To all whom it may concern:

Be it known that I, THOMAS E. MURRAY, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Protective Switch-Boxes, of which the following is a specification.

The invention has for its object to prevent access to a compartment in a box, which compartment may contain a fuse or any other electrical device to be protected, without first opening a circuit, which may include said fuse or device.

The invention consists in the construction hereinafter set forth, whereby the fuse compartment is provided with a sliding lid closing the same, which lid cannot be moved to open said compartment without actuating a switch to open circuit; which switch is connected to said lid and inclosed in another compartment in said box inaccessible to the operator.

In the accompanying drawings—Figure 1 is a longitudinal section of my protective switch box on the line  $x, x$  of Fig. 3, showing the cover closed and switch contacts closed. Fig. 2 is a similar view, showing the cover and switch contacts open. Fig. 3 is a plan view, with a portion of the cover broken away, and the switch bar and sliding support therefor removed. Fig. 4 is a transverse section on the line  $y, y$  of Fig. 1.

Similar numerals and letters of reference indicate like parts.

1 is the containing box, preferably of sheet metal, having in each of its end walls an opening to receive the tubes 2, 3, which inclose the circuit leads. Said tubes are threaded at their ends and secured in said openings by nuts 4, or in any other suitable way. As the device is here shown adapted to a three-wire system, each tube contains a three-wire cable, the wires being separated in the box and connected, as hereinafter described. On the box is a downwardly flanged cover 5, having openings to receive upwardly extending projections 6 on the end walls of the box, said projections having apertures through which the shackles of seal fastenings, indicated at 7, Fig. 2, may be passed in order to prevent unauthorized removal of the cover. On the under side of said cover are soldered or otherwise secured two longitudinal partitions 8, 9, Fig. 4. On the inner sides of the longitudi-

nal walls of the box are secured slideways 10, 11. Each partition 8, 9, as shown in Fig. 4, may be formed of two metal plates placed together and suitably bent at their upper portions to form channels 12. Resting on the slideways 10, 11 and engaging in the channels 12 are three sliding lids 13, 14, 15, operable by handles 16, the shanks of which pass through slots 17 in cover 5. On the bottom of the box is a base block 18. In each of the three spaces between the partitions 8, 9 and between said partitions and the box walls are two pairs of vertical contacts 19, 20. The partitions extend downwardly, as shown in Fig. 4, to a point above the base block and below the tops of said contacts. Also on the base block and in line with said contacts are three threaded sockets 21, which receive fuse plugs 22. Between the fuse plugs and the ends of the partitions 8, 9 is a transverse partition 23, carried by partitions 8, 9. The partition 23 practically divides the box into two compartments A, B, Fig. 2, so that compartment A contains the fuses, and compartment B, the partitions 8, 9, contacts 19, 20 and, as will now be explained, the switch bars. On the under sides of each of the three sliding lids 13, 14, 15 is secured a block of insulating material 24, which carries a switch bar 25 adapted to coöperate with the vertical contacts 19, 20, when the lids are moved into position to close the fuse compartment A, as shown in Fig. 1, but to slide out from between said contacts when the lids are moved into the position to open said fuse compartment. The terminals of the leads entering the box through tube 2 are connected through the fuse plugs 22 to one member of the pairs of contacts 19, 20. The leads leaving the box through tube 3 are connected to the other member of said pair of contacts.

It will be apparent from the foregoing that when the lids 13, 14, 15 are pushed back to permit of access to the fuse compartment A, the transverse partition 23 prevents any access to the switch compartment B. Hence the fuse plugs can be removed or others substituted by any unskilled person without danger from any live conductor: nor can he get access to the fuse compartment A without first sliding back the lids and so moving the switch bars to open circuit at the contacts.

I have described three switches and fuses

here because the device illustrated is intended for use on a three-wire system, but, of course, where but two wires or one wire are used, but two switches or one switch, as the case may be, will be requisite. Where two or more fuses and switches are employed there will preferably be a plurality of lids, each, as here shown, operable independently of the others, so that any fuse may be examined or repaired without uncovering the remaining fuses. If it be desired that the lids should all be moved simultaneously, a cross bar 26 secured upon the handles 16 may connect them all together. The forward edges of the lids when closed pass over a bracket 27 which is secured to the inner side of the end wall of the box. This bracket prevents the bending down of the lid, in order to obtain improper access to the fuse chamber in order to steal current.

I claim:

1. A box, having two compartments, a sliding lid normally closing both compartments and movable to open one of them without opening the other, a switch in said last-named compartment, and means connected to said switch for actuating the same to break circuit upon the movement of said lid to open said first-named compartment.

2. A box having two compartments, containing respectively a fuse and a pair of contacts in circuit with said fuse, a sliding lid for said fuse compartment, and a longitudinally movable switch bar in said contact compartment and actuated by said lid to coöperate with said contacts.

3. A box having two compartments, a sliding lid closing one of said compartments and entering the other compartment, and in said last-named compartment, circuit terminal contacts, and a switch bar carried by said lid and coöperating with said contacts.

4. A box having two compartments, a fuse in one of said compartments, a sliding lid closing said compartment and entering the other compartment, and in said last-named compartment, circuit terminal contacts in circuit with said fuse, and a switch bar carried by said lid and coöperating with said contacts.

5. A box, a partition therein dividing the same into two compartments, a cover having an opening communicating with one of said compartments, a lid slidably supported in said box and adapted to close said cover opening, and in the other compartment, circuit terminal contacts, and a longitudinally

movable switch bar carried by said lid: the aforesaid parts being constructed so that when said lid is moved to open said cover opening said switch bar shall be moved out of coöperation with said contacts.

6. A box, a partition therein dividing the same into two compartments, a fuse in one of said compartments, a cover having an opening communicating with said compartment, a lid slidably supported in said box and adapted to close said cover opening, and in the other compartment, circuit terminal contacts in circuit with said fuse, and a longitudinally movable switch bar carried by said lid: the aforesaid parts being constructed so that when said lid is moved to open said cover opening said switch bar shall be moved out of coöperation with said contacts.

7. A box, a partition therein dividing the same into two compartments, a cover having an opening communicating with one of said compartments, a plurality of fuses in said compartment, a plurality of lids slidably supported within said box and each extending over one of said fuses and adapted to close the cover opening, and in the other compartment, a plurality of pairs of circuit terminal contacts respectively in circuit with said fuses, and a plurality of longitudinally movable switch bars carried by said lids and respectively coöperating with said pairs of contacts.

8. A protective connection box divided into two compartments, a switch inclosed in one of said compartments, a door affording access to the other compartment only, exposed means carried by said door for manually opening and closing the same, and mechanism actuated by said door for controlling said switch to open circuit coincidently with the opening of said door.

9. A protective connection box divided into two compartments, a switch inclosed in one of said compartments, a sliding cover affording access to the other compartment only, exposed means carried by said cover for manually opening and closing the same, and mechanism actuated by said cover for controlling said switch to open circuit coincidently with the opening of said door.

In testimony whereof I have affixed my signature in presence of two witnesses.

THOMAS E. MURRAY.

Witnesses:

GERTRUDE T. PORTER,  
MAY T. McGARRY.

**DISCLAIMER.**

1,135,130.—*Thomas E. Murray, New York, N. Y. PROTECTIVE SWITCH-BOX.*

Patent dated April 13, 1915. Disclaimer filed February 12, 1917, by the patentee.

Enters this disclaimer—

“To said claim 8, which claim is as follows, **to wit:**

“A protective connection box divided into two compartments, a switch inclosed in one of said compartments, a door affording access to the other compartment only, exposed means carried by said door for manually opening and closing the same, and mechanism actuated by said door for controlling said switch to open circuit coincidently with the opening of said door.”

[*Official Gazette, February 20, 1917.*]