

(No Model.)

E. H. MONTGOMERY.  
COMBINED SWITCH AND FUSE BLOCK.

No. 559,340.

Patented Apr. 28, 1896.

Fig. 1.

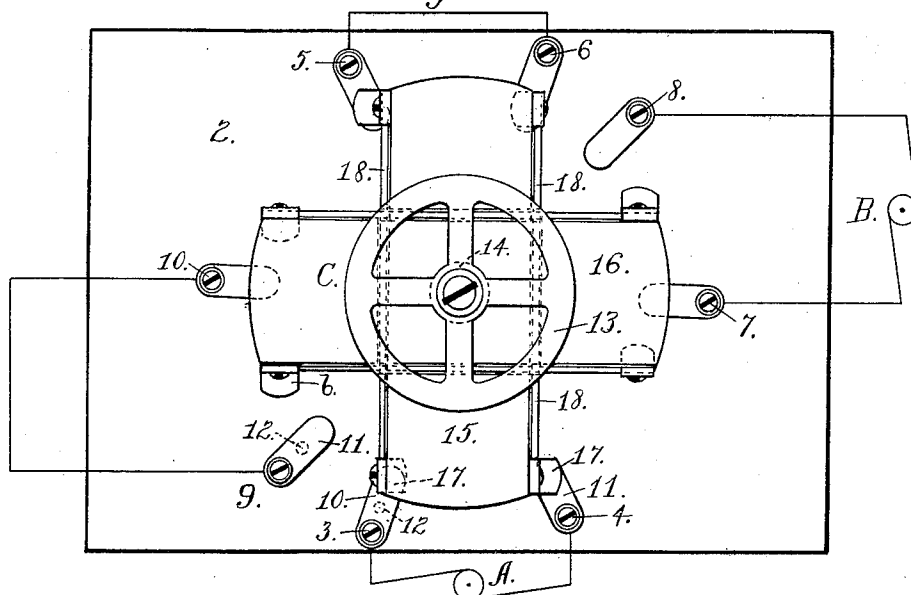


Fig. 2.

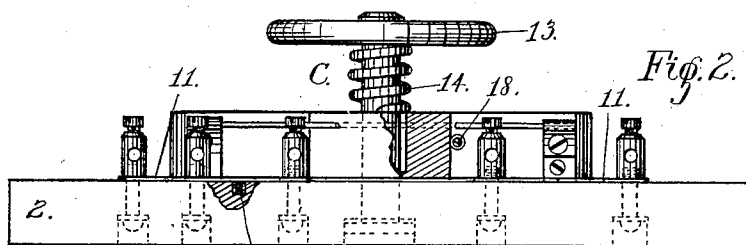


Fig. 4.

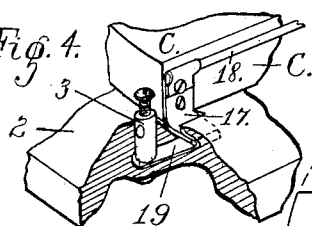
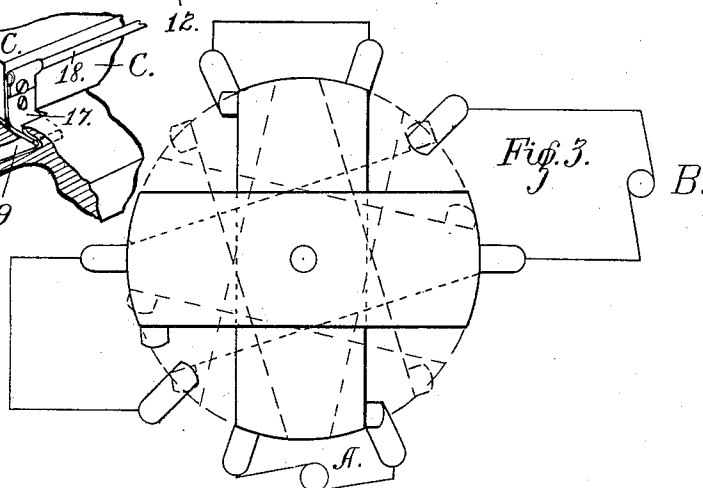


Fig. 3.



Witnesses.

O. G. Bradbury.

H. S. Johnson.

Inventor.

Edwin H. Montgomery.

per.

J. D. Merwin  
Attorney.

# UNITED STATES PATENT OFFICE.

EDWIN H. MONTGOMERY, OF ST. PAUL, MINNESOTA, ASSIGNOR, BY MESNE ASSIGNMENTS, OF ONE-HALF TO MATHIAS THOMMES, OF SAME PLACE.

## COMBINED SWITCH AND FUSE-BLOCK.

SPECIFICATION forming part of Letters Patent No. 559,340, dated April 28, 1896.

Application filed October 2, 1893. Serial No. 486,953. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN H. MONTGOMERY, of St. Paul, Ramsey county, Minnesota, have invented certain Improvements in a Combined Switch and Fuse-Block, of which the following is a specification.

My invention relates to improvements in electric-line switches and fuse-blocks, its object being to provide a simple device which will serve as a single or double throw switch and also as a fuse-block; and it consists of a rotatable block mounted upon a base, with suitable binding-posts and circuit-terminals for the line-wires and dynamos. Said block is provided with contacts for closing the circuit between either dynamo and its line-wires if used as a double-throw switch, or with a single dynamo and its line-wires if used merely as a single-throw switch, and is also provided with sets of fuses connecting the contacts carried by the block. Its fuses are so arranged that in case one set be burned out the circuit can be instantly closed again by turning the block to bring another set of fuses into connection, when the burned-out fuses can be replaced.

My invention further consists in the specific construction and combination hereinafter described and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan view of my improved device, showing conventionally a pair of dynamos, their binding-posts and those for their line-wires, and the fuses carried by the block, the position of the block showing the circuit of the dynamo A closed, the dynamo B being cut out. Fig. 2 is a vertical central cross-section of the same. Fig. 3 is a conventional line-drawing, indicating by full lines the position of the switch with the circuit of the dynamo A closed, and by dash-lines the position of the switch when both dynamos are cut out, and by dotted lines the position with the circuit of dynamo B closed; and Fig. 4 is a detail of a modified form of circuit-terminal.

In the drawings, 2 represents the base of the device, which is provided with a series of binding-posts 3 and 4 in electric connection with the dynamo A, the opposite binding-posts 5 and 6 being connected to its line-wires.

Other binding-posts 7 and 8 are in connection with the dynamo B, and the posts 9 and 10 are likewise connected to its line-wires. To each of the binding-posts is connected a terminal 11, which is shown as a piece of sheet metal having underneath the spring 12 to press it upward and insure good contact. Pivoted centrally upon the base 2 in the ordinary manner is the block C, preferably in the form of a cross, made of wood or any other suitable non-conductor, and provided with a handle 13, by which it may be turned, and the spring 14 for pressing it down and insuring good contact. Each of the members 15 and 16 of the block carries at each end a pair of contacts 17, adapted to brush the terminals 11. Connecting the contacts at opposite ends of each member, as shown, are the fuses 18. These fuses are preferably slipped through openings in the block, the fuses of one member of the block being above the other, so as to be entirely insulated therefrom. By loosening the fastening which secures the fuses to the contact any one can be quickly removed and its place supplied by a new fuse. While but two sets of fuses are shown in the drawings, it is evident that the device may be constructed so that any desired number of sets may be employed without departing from the idea of my invention.

In Fig. 4 is shown a modified form of terminal, consisting of a folded strip 19, set in a depression or socket in the base, between the jaws of which the knife-edge contact carried by the block wedges when connection is made. With this construction the base is formed of porcelain or other suitable non-conductor.

While the switch is turned to the right no circuit is closed, but when turned to the left the contacts 17 drop into the first sockets reached and slip between the jaws of the terminals 19. When it is desired to throw the machine into circuit, the switch is turned till its contacts pass over the terminals with which they are to be connected, when the movement is reversed until perfect contact is made. This construction is preferable for switches where high voltage is required.

Operation: The switch being set so as to couple a machine with its line-wires, as shown

in Fig. 1, in case the fuses 18 are burned out all that is necessary to do in order to reconnect the machine is to turn the switch through a quarter-revolution, when the fuses in the other member of the block serve to close the circuit. The burned-out fuses can then be replaced. As shown conventionally in Fig. 3, the block can be turned so as to throw the other machine into circuit or set at an intermediate position to cut both out.

I claim—

1. A multiple-fuse block and switch, comprising in combination the rotary block of insulating material, the pairs of fuses arranged transversely thereof and of each other, the contacts connected to said fuses, and the sets of circuit-terminals in the path of the contacts whereby the pairs of fuses may be successively switched into circuit by the rotation of the block, substantially as described.

2. A combined fuse-block and switch, comprising in combination, the pivoted block of insulating material, provided with series of horizontal openings transverse of the block and of each other, the fuses arranged in said openings, the contacts connected to said fuses, and the circuit-terminals arranged in the path of said contacts, substantially as described.

3. In a switch, the combination of the base of insulating material, the circuit-terminals arranged in sockets therein, the projecting lip upon the corresponding side of each of the sockets, the switch-block pivoted to said base, the contacts carried by said block, adapted when the block is rotated in one direction to be carried over the terminals without making connection but to drop into the sockets and make connection therewith when the movement of the block is reversed, substantially as described.

4. In a switch, the combination of the rotary block of insulating material, laterally-projecting knife-contacts carried thereby, the base of insulating material, the terminals arranged in sockets therein in the path of the contacts, and the projecting insulating-lips partially covering said terminals whereby the contacts are carried over the terminals with-

out making connection therewith when the block is rotated in one direction, but engaging and making connection with them when the block is oppositely rotated, substantially as described.

5. In a switch, the combination of the switch-block, its laterally-projecting knife-contacts, the base provided with sockets in the path of said contacts, the terminals consisting of folded strips arranged in said sockets, the insulating-covering for the upper jaws of the strips, whereby the block can be rotated in one direction continuously without making connection between the contacts and terminals, but connection may be made with any selected set of terminals by carrying the contacts just past the terminals and then reversing the movement of the block, substantially as described.

6. In a multiple-fuse block and switch, the combination of the rotary block, the plurality of pairs of fuses arranged transversely of it and of each other, their knife-contacts, the base of insulating material, the terminals arranged in the path of said contacts, the insulating-protectors for said terminals preventing connection between the contacts and terminals when the block is rotated in one direction, but permitting connection when the movement of the block is reversed.

7. In a multiple-fuse block and switch, the combination of the rotary block, its plurality of sets of fuses arranged transversely of it and of each other, their laterally-projecting knife-contacts, the base of insulating material provided with sockets in the path of said contacts, said sockets being provided with overhanging lips on corresponding sides, and the circuit-terminals formed of folded strips arranged in said sockets with their folds extending underneath the overhanging lips of the sockets, substantially as described.

In testimony whereof I have hereunto set my hand this 20th day of September, 1893.

EDWIN H. MONTGOMERY.

Witnesses:

T. D. MERWIN,  
H. S. JOHNSON.