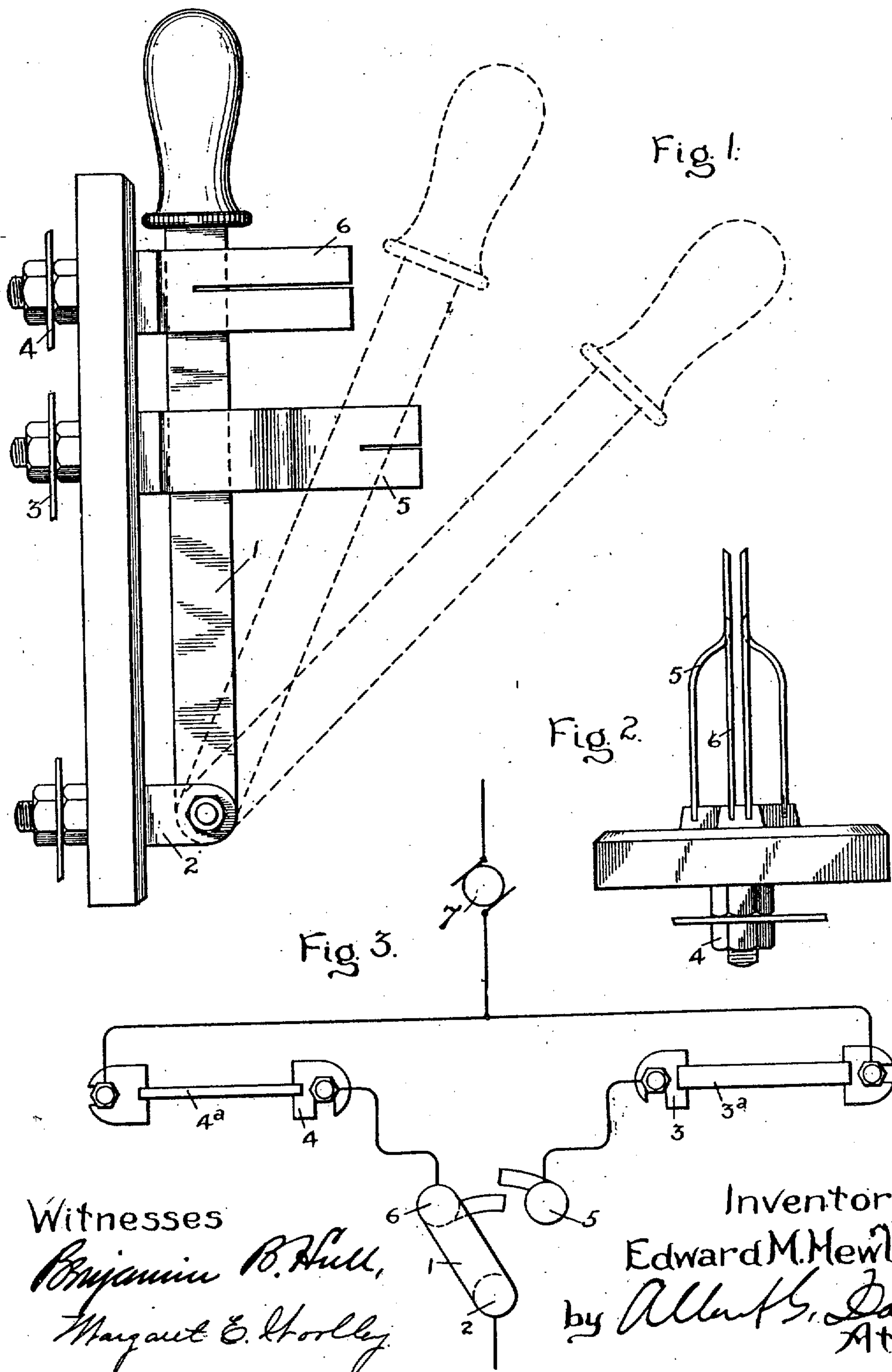


No. 849,684.

PATENTED APR. 9, 1907.

E. M. HEWLETT.
ELECTRIC SWITCH.
APPLICATION FILED MAY 1, 1901.



Witnesses

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UNITED STATES PATENT OFFICE.

EDWARD M. HEWLETT, OF SCHENECTADY, NEW YORK, ASSIGNOR TO
GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

ELECTRIC SWITCH.

No. 849,684.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed May 1, 1901. Serial No. 58,242.

to all whom it may concern:

Be it known that I, EDWARD M. HEWLETT, citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Electric Switches, of which the following is a specification.

This invention relates to the switches for putting into circuit electric translating devices of variable current-consuming capacity.

The invention is of particular value in connection with electric motors where the starting-current is so heavy that a fuse of large current-carrying capacity must be employed and which for that reason does not cut out the motor on such overloads as if they continue for a considerable period of time would damage the armature. A motor-armature will safely withstand a heavy starting-current by reason of the rapidity by which its counter electromotive force is developed; but if a fuse sufficient to withstand the starting-current be inserted in circuit with the motor it will permit the motor to carry sufficiently heavy current to damage the winding.

It is the object of my invention to provide a simple switch which will guard against damage to the armature and which will quickly blow the fuse and open the motor-circuit in case of overload.

I carry out the invention by providing the starting-switch with the two contacts 5 connected in circuit *seriatim*, one of which is connected with a fuse of relatively smaller current-carrying capacity to interrupt the motor-circuit at a predetermined overload. The two fuses are connected in parallel relation with one leg of the circuit, the one which is closed first being opened when the switch is fully closed.

The novel features of this invention will be more particularly hereinafter described and will be definitely indicated in the claims 45 appended to this specification.

In the accompanying drawings, which illustrate the invention, Figure 1 is a side elevation of a switch embodying my improvements. Fig. 2 is a front view of the 50 contacts, and Fig. 3 is a diagram showing the circuit relations.

1 represents an ordinary knife-blade switch pivoted on a standard or lug 2, 55 formed integrally with or electrically con-

nected with one circuit-terminal, and 3 and 4 represent terminals in parallel relation with a lead of the circuit. Electrically connected with these terminals are conducting-clips 5 6, so arranged that the switch in 60 closing first passes between the jaws of the clip 5 and completes the circuit through a fuse 3^a of relatively great current-carrying capacity and subsequently opens at this point when the blade 1 comes in contact 65 with the clip 6, connected with a fuse of smaller current-carrying capacity.

7 represents an electric motor or other translating device of a wide range of current-carrying capacity at different periods 70 of its starting operation. Thus in closing the circuit the translating device is first cut in through a heavy fuse until the translating device is put in action, after which a lighter fuse is cut in and the heavier one cut out. 75 The circuit connections will be readily understood from an inspection of Fig. 3, where current enters the switch through the fixed terminal 2, and while closing the latter is first connected through the fuse 3^a and later 80 through the fuse 4^a, the former being cut out when the latter is cut in, thus leaving the lighter fuse in circuit when the translating device is in its normal condition and permitting a prompt opening of the circuit 85 in case of overload.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with an electric motor, 90 two automatic cut-outs of different current-carrying capacity and means for cutting said cut-outs into circuit with the motor consecutively and compelling the cut-out of lesser current-carrying capacity to be cut in 95 later than the other.

2. The combination of an electric motor, with a switch having a single open position, two thermal cut-outs of different current-carrying capacity, and means for compelling 100 the transfer of the current from that of greater current-carrying capacity to that of lesser each time the circuit through said motor is closed.

In witness whereof I have hereunto set my 105 hand this 29th day of April, 1901.

EDWARD M. HEWLETT.

Witnesses:

BENJAMIN B. HULL,
CHARLES STEINER.