No. 707,843. Patented Aug. 26, 1902.

J. A. HEANY.

ELECTRIC SWITCH OR CUT-OUT.

(Application filed Dec. 11, 1901.)

(No Model.)

Fig. 1.

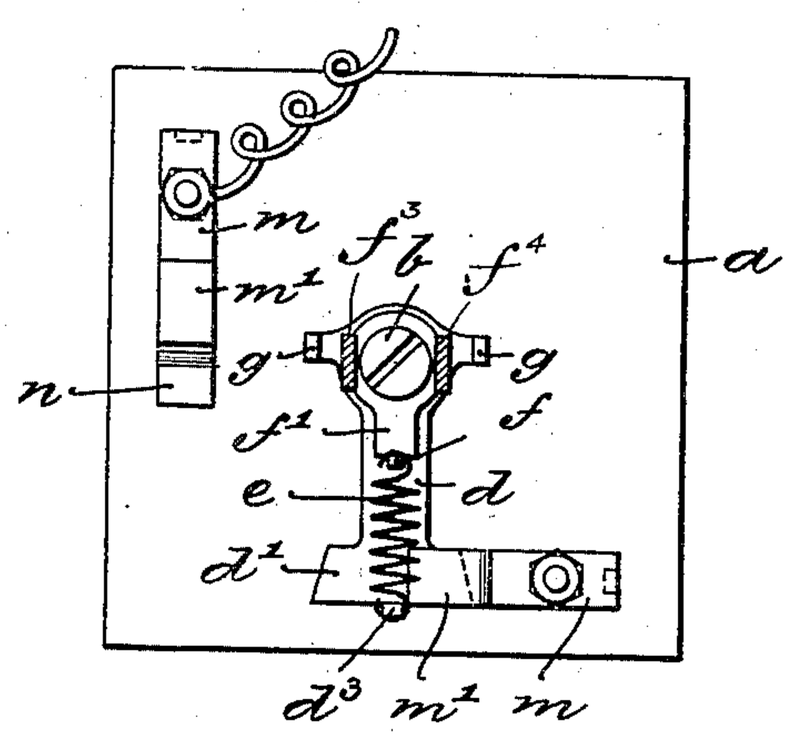


Fig. 2.

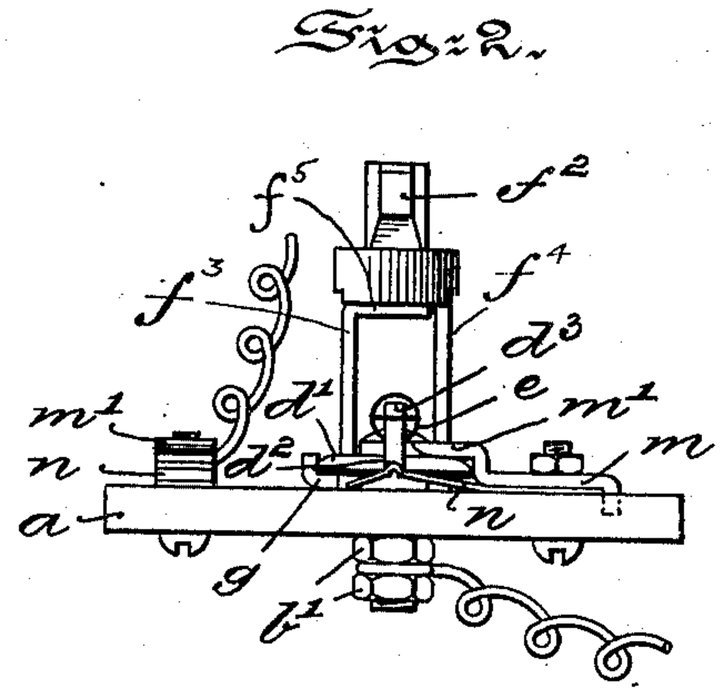


Fig. 3.

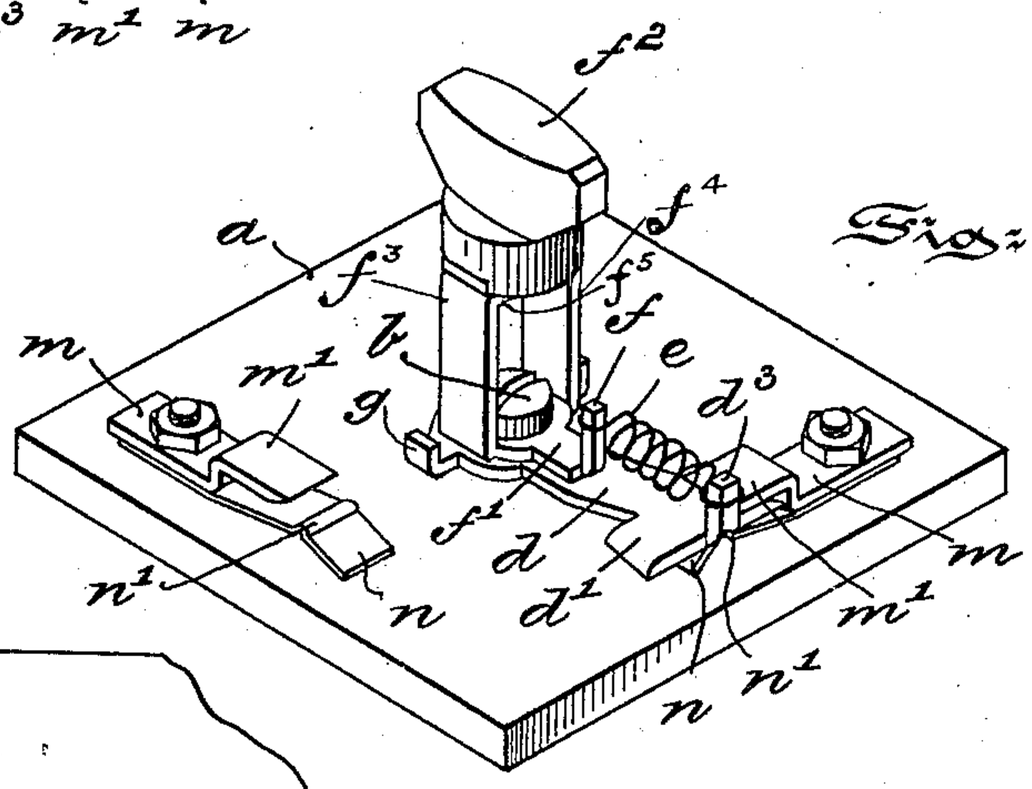


Fig. 4.

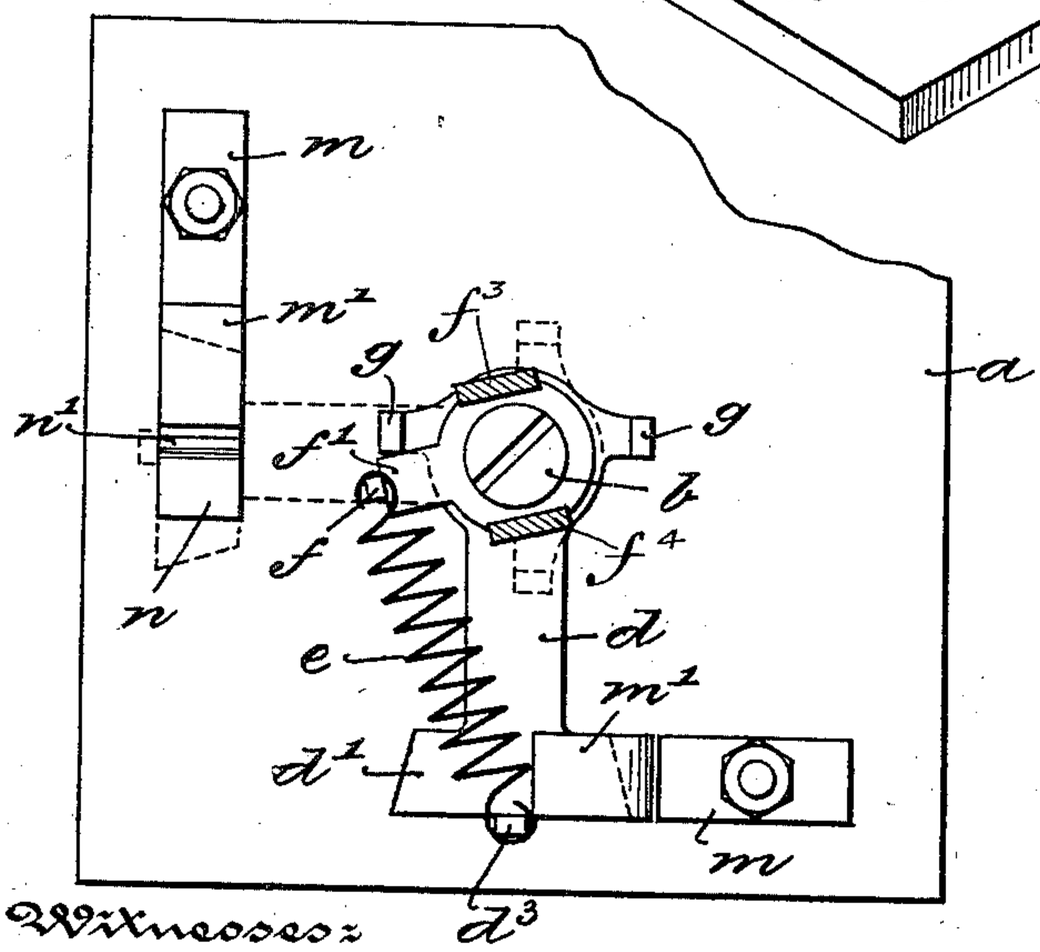
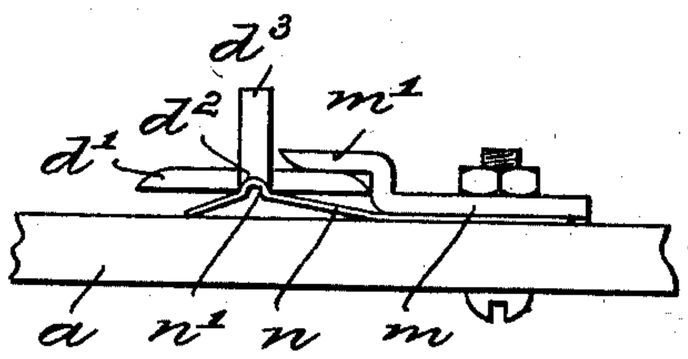


Fig. 5.



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UNITED STATES PATENT OFFICE.

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ELECTRIC SWITCH OR CUT-OUT.

SPECIFICATION forming part of Letters Patent No. 707,843, dated August 26, 1902.

Application filed December 11, 1901. Serial No. 85,424. (No model.)

To all whom it may concern:

Be it known that I, JOHN ALLEN HEANY, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Electric Switches or Cut-Outs, of which the following is a specification.

My invention has relation to an electric switch or cut-out of that type or class wherein the switch or contact-bar is to be moved quickly with a snap from contact to contact, and in such connection it relates to the construction and arrangement of such a switch or cut-out.

The principal object of my invention is to provide in a switch or cut-out a contact bar or member adapted to be locked to a contact-piece to prevent accidental displacement, said bar adapted to be first released from the contact-piece by the turning of an operating device or rod and thereafter snapped by a spring to another contact-piece, with which it is locked, the spring being extended by the preliminary turning of the operating device necessary to first unlock or release the traveling contact-bar from a stationary contact-piece.

The nature and scope of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, in which--

Figure 1 is a top or plan view, partly in horizontal section, of a cut-out or switch embodying main features of my invention. Fig. 2 is a side elevational view of the same. Fig. 3 is a perspective view of the switch complete. Fig. 4 is a view similar to Fig 1, but enlarged and showing the operation of the switch; and Fig. 5 is an enlarged detail view illustrating in side elevation the locking means for connecting the traveling contact-bar to a contact-piece.

Referring to the drawings, a represents a base of insulating material supporting the metallic part of the switch or cut-out. Approximately central of the base a is a bolt b, traversing the base and locked thereto by nuts b' b'. This bolt b forms the axis or pivotal point upon which a traveling contact-bar d is adapted at one end to turn. The free end of this contact-bar d is preferably enlarged, as at d', and the under face of the enlargement d' is provided with a notch or recess d^2 for a purpose hereinafter explained. From the top of the enlargement d' projects a pin or projection d^3, to which one end of a spring e is secured. The other end of said spring e is secured to a pin or lug f, carried by an operating-plate f', which swings on the bolt b as a pivot and which plate f' is provided with two struck-up integral arms f^3 and f^4, one of which, f^3, is bent, as at f^5, to form an extension, so as to support a button f^2, of insulating material. The said button f^2, arms f^3 and f^4, with the extension f^5, supporting said button, form the means whereby the plate f' may be turned upon said bolt b. Upon either side of the traveling contact-bar d, adjacent to its pivotal connection b, is formed a lug or projection g, against either of which, respectively, the side of the plate f' is adapted to strike as the button f^2 is manipulated. The stationary contact-pieces m are each formed by a metallic plate bent upward, as at m', to form a socket to receive the enlarged end d' of the traveling contact-bar d and also of a spring-plate n, bent upward, as at n', to enter the recess or notch d^2 in the under face of the enlargement d', as clearly shown in Figs. 2 and 5. The engagement of the bend n' of the spring-plate n in the notch d^2 serves to lock the enlargement d' of the traveling contact-bar d in the socket formed by a contact-plate m.

In operation, with the traveling contact-bar d locked to a contact m, the button f^2 is first turned to distend the spring e and to cause the side of the plate f' to strike against a lug or projection g upon the traveling contact-bar d. A further turning of the button f^2 causes the plate f' to turn the contact-bar d out of locking engagement with the spring-plate n, and the distended spring e then snaps the traveling contact-bar d quickly over into locking engagement with a spring-plate n and socket of the next contact m in series.

Where only two contacts m are used, as illustrated in the drawings, the button f^2 must be turned in a reverse direction to bring the traveling contact-bar d to the original position. In this movement the plate f' first distends the spring e until its side strikes the opposite lug g of the bar d and then turns the bar d sufficiently to release its free end from the spring-plate n and to thereby permit the distended spring e to snap the bar d over to the first contact m.

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

1. In an electric switch or cut-out, a traveling contact-bar, a series of stationary contacts, means for locking the contact-bar to each contact, an operating-plate, a spring connecting the operating-plate to the contact-bar, means controlled by the movement of the operating-plate for distending the spring, and means carried by said operating-plate and adapted to engage and force the contact-bar from the contact to permit the distended spring to further move the contact-bar into locking engagement with the next contact in series.

2. In an electric switch or cut-out, the combination of a traveling contact-bar pivoted at one end in an insulating-base, the free end of said bar having locking means, a plate also pivoted upon the pivotal connection of the contact-bar, a spring connecting the free ends of the contact-bar and said plate, lugs formed on the contact-bar adjacent to its pivotal connection and adapted to be engaged by the plate in the turning of said plate, and a series of stationary contacts, each adapted to receive the free end of the contact-bar and to lock the same in the contact, all arranged so that when the plate is turned, the spring is distended until the plate strikes a lug upon the traveling contact-bar and thereafter the bar is released from a contact and is snapped into locking engagement with the next contact by said spring.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

JOHN ALLEN HEANY.

Witnesses:
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