

F. MACKINTOSH.
COMBINED SWITCH AND FUSE PLUG.
APPLICATION FILED SEPT. 30, 1907.

940,174.

Patented Nov. 16, 1909

Fig. 1

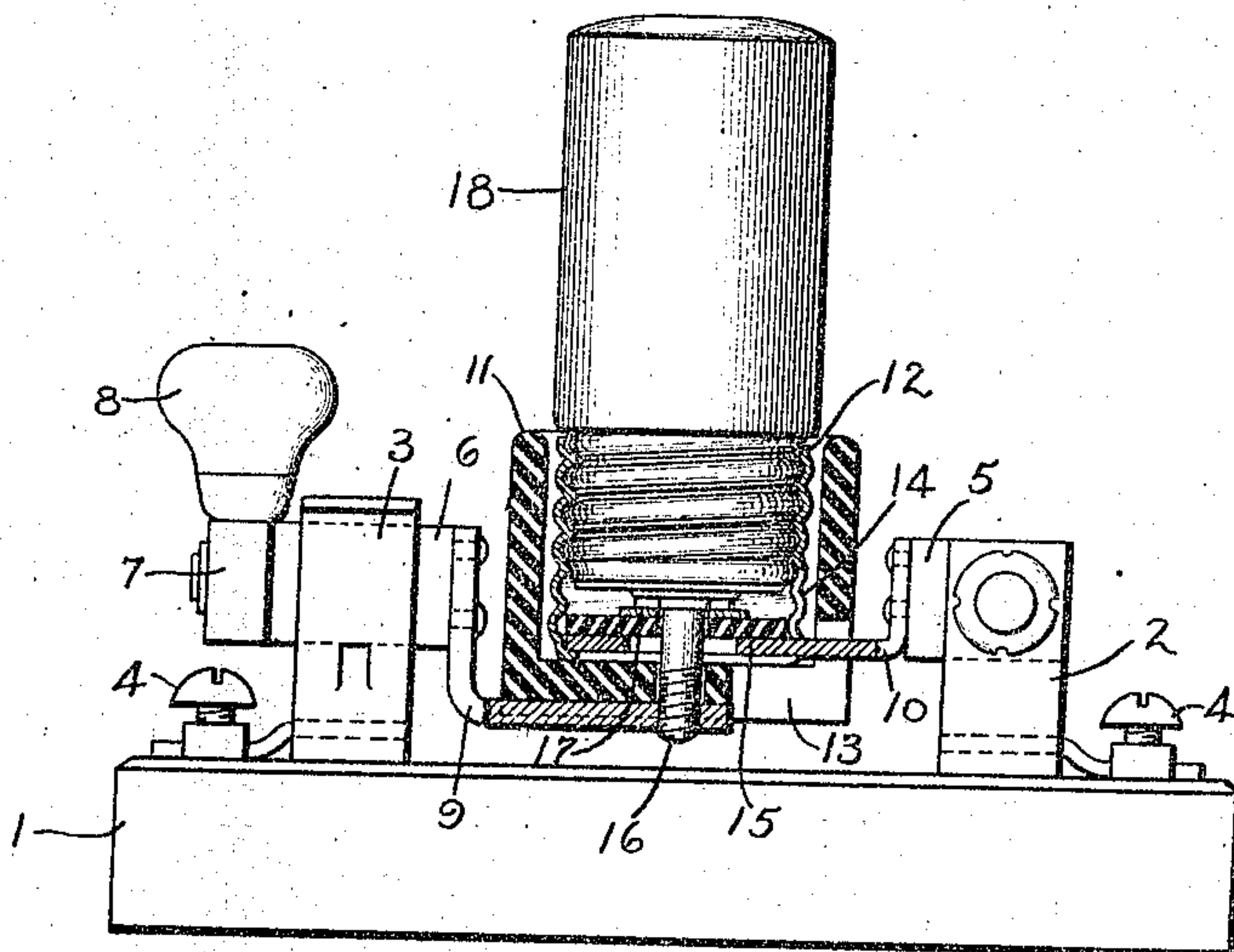
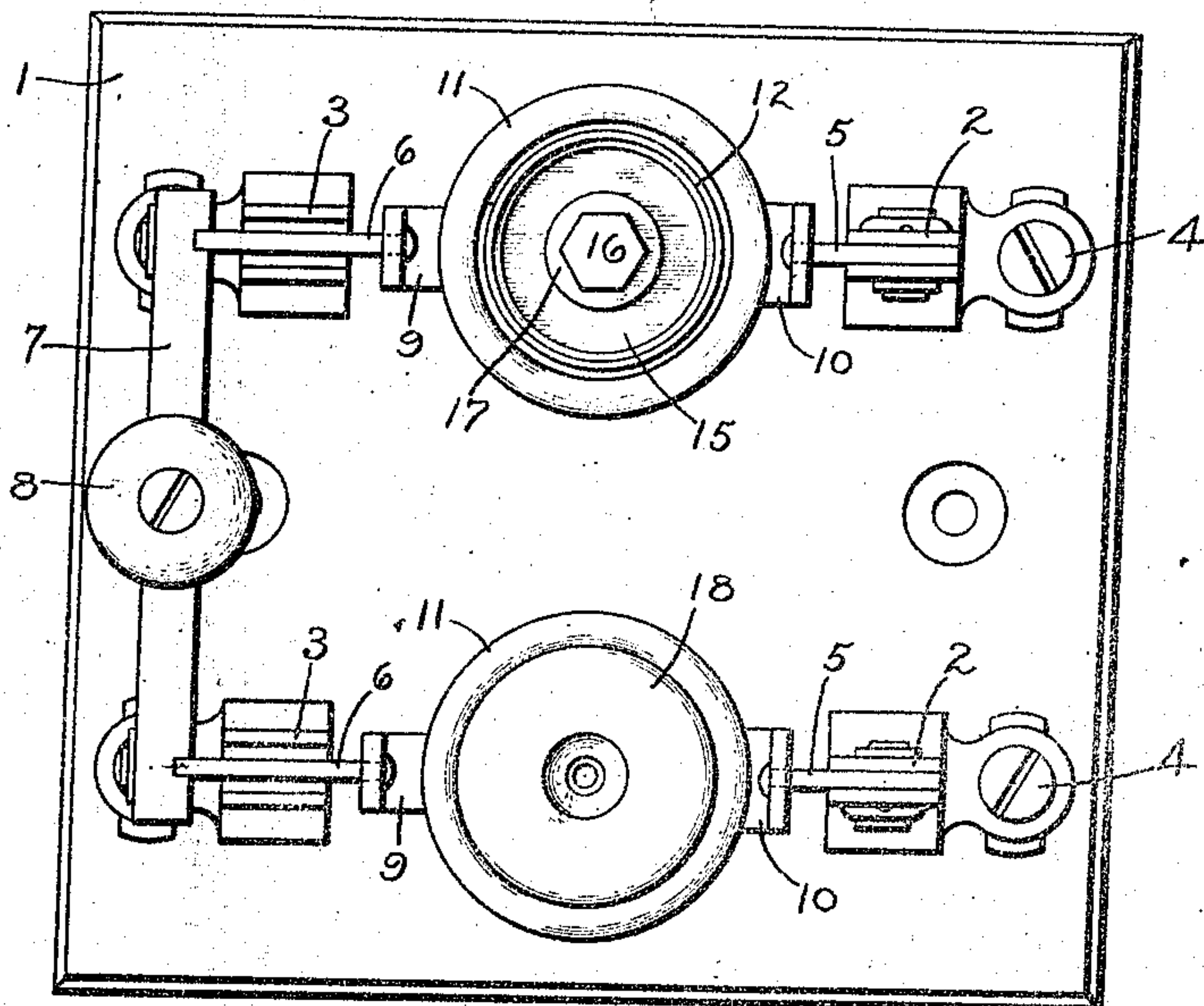


Fig. 2



WITNESSES:

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UNITED STATES PATENT OFFICE.

FREDERICK MACKINTOSH, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

COMBINED SWITCH AND FUSE-PLUG.

940,174.

Specification of Letters Patent.

Patented Nov. 16, 1909.

Application filed September 30, 1907. Serial No. 395,112.

To all whom it may concern:

Be it known that I, FREDERICK MACKINTOSH, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Combined Switches and Fuse-Plugs, of which the following is a specification:

This invention relates to mechanical cut-outs, and its object is to provide a switch of the perpendicular-blade type carrying a fuse which will open the circuit automatically in case of an overload. Various structures of this general nature have been heretofore proposed, but the novel feature of my invention lies in the use of a commercial screw-threaded fuse-plug inserted in a suitable receptacle on the switch-blade, and capable of easy removal and replacement in a manner familiar to every one accustomed to dealing with ordinary electric lighting circuits.

In the accompanying drawing, Figure 1 is a side elevation, partly in section, of a switch embodying my improvement, and Fig. 2 is a plan view of the same, showing a double pole switch with one of the fuse-plugs removed.

The base 1 is made of suitable insulating materials, and supports one or more hinge-clips 2 and contact clips 3 each provided with the usual binding-screws 4 for the attachment of line terminals. In each hinge-clip is pivoted a switch blade, comprising a hinge-portion 5 and a contact-portion 6. In the case of a double-pole or triple-pole switch, the several contact-portions 6 are united by a cross-bar 7 of insulation; carrying a handle 8.

Rigidly secured to each portion of the blade is an arm 9 10 one overlapping the other. One of these arms as 9 supports a receptacle comprising a cup or socket 11 preferably of porcelain, containing a screw-threaded metallic shell-contact 12. The other arm as 10, projects into said socket through an opening 13 in its side and is in contact with the shell 12, preferably by passing through an opening 14 in said shell and resting upon an internal flange at the bottom thereof. A plate 15 of insulation is laid upon said arm 10, and a screw 16 is passed down through a washer 17, the plate 15 and

suitable holes in the arm 10 and the bottom of the receptacle, finally entering a tapped hole in the arm 9. This screw therefore secures all these parts rigidly together, and it also serves as the center-contact of the receptacle.

An ordinary screw-threaded fuse-plug 18 is screwed into the shell 12, making contact therewith and with the center-contact 16 and completing the electric circuit between the two portions of the switch-blade. When the fuse in said plug is blown, it is a simple matter to unscrew the plug and insert a fresh one. Inasmuch as screw-plug fuses are commonly used in domestic wiring and in many other installations carrying comparatively small currents, the advantages of a switch of this kind are apparent.

What I claim as new, and desire to secure by Letters Patent of the United States, is,—

1. A switch-blade composed of two sections with their adjacent ends arranged to overlap, insulation interposed between said ends, means for rigidly clamping said overlapping ends together, and plug contacts respectively connected to said ends.

2. A switch-blade composed of two sections with their adjacent ends arranged to overlap, an insulating socket having its bottom portion interposed between said overlapping ends, a screw shell contact within said insulating socket and in engagement with the upper section, and a center contact bolt connected to the lower section and extending through the bottom of the insulating socket and operating to clamp the several parts together.

3. A switch-blade composed of two insulated portions overlapping each other, a socket of insulation supported on one of said portions, a screw-threaded shell contact having a flange interposed between the other of said portions and the socket, a central screw contact securing said parts together, and a fuse-plug screwed into said shell and making contact therewith and with said screw.

4. A switch-blade composed of a hinge-portion and a contact-portion, an arm secured to each portion, a socket of insulation supported on one of said arms and having an opening to permit the other arm to project into it, a screw threaded shell in said

socket in contact with the arm therein, a central screw tapped into the socket supporting arm, a plate of insulation between the head of said screw and the other arm, and
5 a fuse-plug screwed into said shell.

5. A switch blade in two sections, insulation interposed between the adjacent ends thereof, together with plug contacts re-

spectively connected to said ends, and means for rigidly uniting said parts together. 10

In witness whereof, I have hereunto set my hand this 28th day of September 1907.

FREDERICK MACKINTOSH.

Witnesses:

MARGARET E. WOOLLEY,
HELEN ORFORD.