

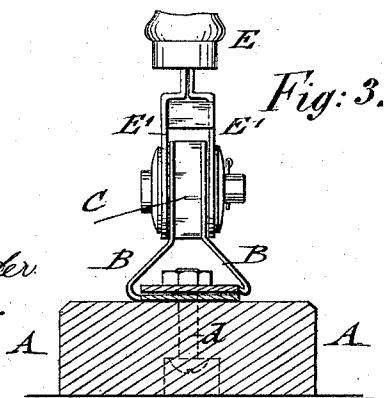
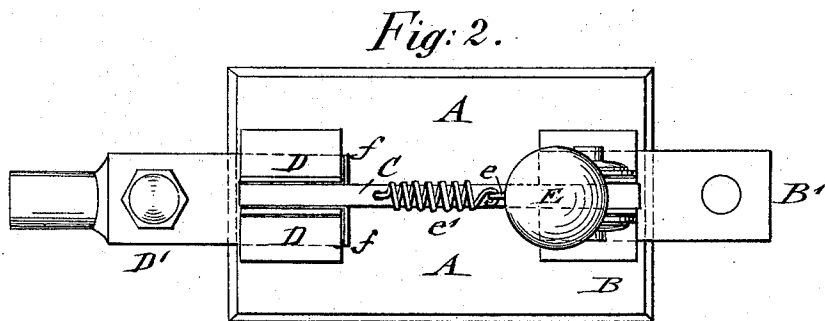
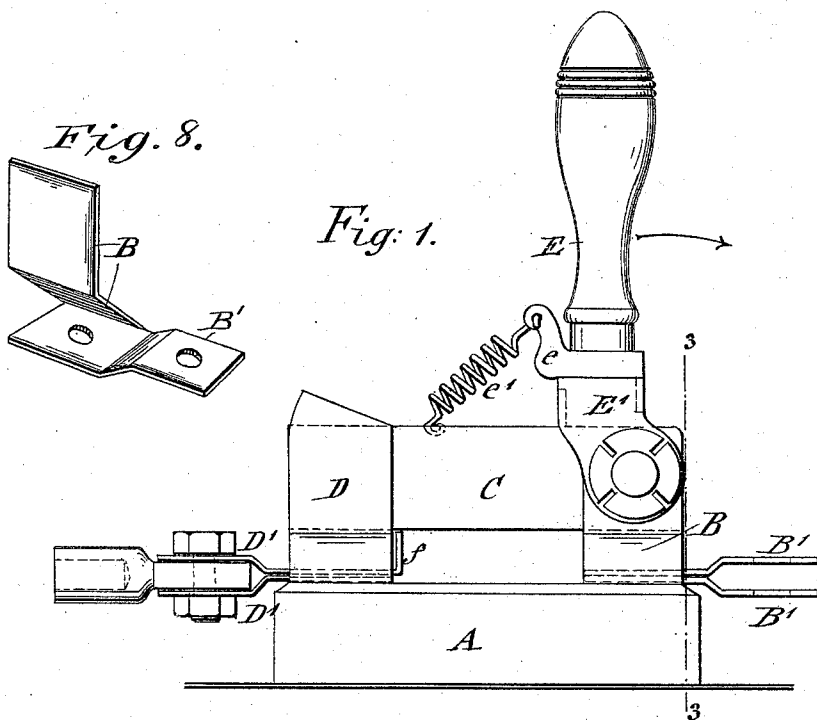
(No Model.)

2 Sheets—Sheet 1.

A. METZGER.
ELECTRIC SWITCH.

No. 537,539.

Patented Apr. 16, 1895.



WITNESSES:
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William Griffiths

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(No Model.)

2 Sheets—Sheet 2.

A. METZGER.
ELECTRIC SWITCH.

No. 537,539.

Patented Apr. 16, 1895.

Fig. 4.

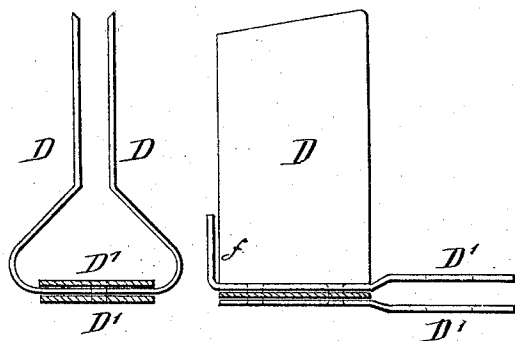


Fig. 5.

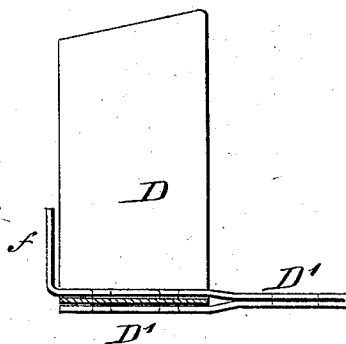


Fig. 6.

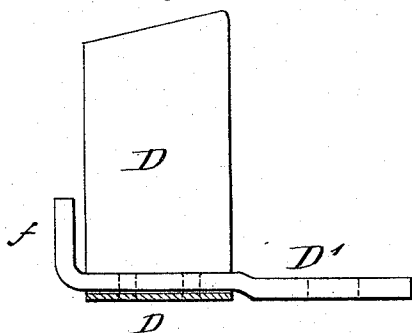
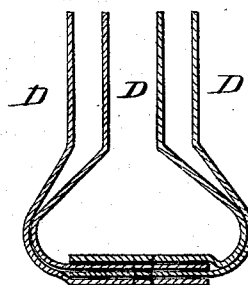


Fig. 7.



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UNITED STATES PATENT OFFICE.

AMANDUS METZGER, OF SCHENECTADY, NEW YORK.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 537,539, dated April 16, 1895.

Application filed April 15, 1893. Serial No. 470,476. (No model.)

To all whom it may concern:

Be it known that I, AMANDUS METZGER, a citizen of the United States, residing in Schenectady, county of Schenectady, and 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 electric switches in which the circuit terminals are adapted to be connected by a pivoted switch blade, and are constructed of sheet metal and formed from sheet metal blanks struck out to the proper shape.

The invention has for its object to provide an improved electrical switch of this class so constructed and arranged as to provide an economical as well as practical switch for its purpose.

The invention consists in an electrical switch of this character, constructed and arranged as hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 is a side elevation of an electric switch constructed in accordance with this invention. Fig. 2 is a plan view of the same. Fig. 3 is an end view partly in section on line 3, 3, Fig. 1, and Figs. 4, 5, 6 and 7, show different modifications of the circuit terminal. Fig. 8 is a detail view in perspective illustrating one of the clips.

Referring to the drawings, A represents a porcelain or other insulating block, to which the metallic parts of my improved switch for electric circuits are attached.

B represents a circuit terminal which is punched from suitable sheet metal, preferably from sheet copper, of suitable thickness and bent into shape by means of suitable dies made for this purpose.

To the circuit terminal B is pivoted a contact blade C, the opposite end of which is placed in electric contact with a second circuit terminal D, which is in line with the first circuit terminal B and the blade C, the second terminal D being likewise formed of sheet metal that is bent into shape by suitable dies.

A handle E is attached by a yoke-shaped carrier E' to the blade C or to the pivot, by which the same is connected with the circuit terminal B, said carrier E' being also bent up from sheet metal by means of suitable dies

and provided with a lug *e* that is connected by a helical spring with the blade C, as shown in Fig. 1, so that the contact-blade is withdrawn from the circuit terminal D when the handle is moved on its pivot connection with the circuit terminal B in the direction shown in the arrow of Fig. 1.

The clips of the terminals B and D are made either of two pieces each of which is formed with an overlapping base portion and double projections B' and D', respectively, as shown in Fig. 1, forming an extension for attaching the blocks, by which connection with the conducting wires or cables is made; or the clips are each made in one integral piece and attached at their base to projecting plates B' and D' that are connected by screws *d*, *d* to the base block A, said plates forming an extension for the connection with the conductors, as shown in Fig. 4; or the projecting plates may be made in one piece and doubled up so as to extend over and under the base of the clip, as shown in Fig. 5; or the extension may be made in one piece of metal of greater thickness, as shown in Fig. 6.

In all the different constructions, a projecting plate D' of the terminal D is provided at its inner end with a bent-up stop *f*, by which the movement of the contact-blade is limited when the same is moved into contact with the circuit terminal D.

When the contact of the blade C with the clips, or its so-called "carrying capacity" is to be increased, two or more blades C may be arranged parallel with each other, in which case, a double switch is used, as shown in Fig. 7, which consists of two or more pairs of clips that overlap at their base and are attached to the supporting block, each pair forming contact with one of the blades, which enters into the upper parallel portions of two clips, so as to form thereby a double or triple set of clips into which all the blades are inserted simultaneously.

My improved switch for electric circuits has the following advantages. First, the circuit terminals, made as set forth, provide an electrical switch which can be manufactured at less expense than when the parts are made of cast metal as heretofore; secondly, a higher degree of conductivity is obtained, as the switch can be made of sheet copper, which is

a better conductor than brass, which is usually used for electric switches of this kind; thirdly, the clip is made practically in one conducting piece with the extension plates or terminals; fourthly, the switch can be assembled from the different parts composing the same without requiring specially skilled hands.

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

1. In a knife-blade electrical switch, a circuit terminal consisting of sheet metal vertical arms or clips formed with oppositely overlapping base portions, the latter being provided with an extension projecting from the base for attachment of the circuit wire.

2. In an electrical switch, as herein set forth, a circuit terminal formed with vertical arms or clips having overlapping base portions and an extension for attachment of the circuit wire, said extension consisting of overlapping plates projecting from the base.

3. In an electrical switch, as herein set forth, a circuit terminal of sheet metal, formed with vertical arms or clips having overlapping base portions and an extension for attachment of the circuit wire, consisting of plates projecting from the base, each plate being integral with one of the overlapping base portions.

4. In an electrical switch, as herein set forth, a circuit terminal of sheet metal, formed with vertical arms or clips, having a vertical projection serving as a stop for the switch blade, and overlapping base portions with a base extension for attachment of the circuit wire.

5. An electrical switch, consisting of the combination, with an insulating base, of circuit terminals and a hinged switch blade, said circuit terminals being formed of sheet metal vertical arms or clips with overlapping bases and each having a base extension projecting beyond the insulating base for attachment of the circuit wire.

6. An electrical switch, consisting of the combination, with an insulating base, of circuit terminals of sheet metal, formed with vertical arms or clips having overlapping bases, a hinged switch blade, a vertical stop for the switch blade, and portions projecting from the base constituting an extension beyond the insulating base for attachment of the circuit wire.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

AMANDUS METZGER.

Witnesses:

PAUL GOEPEL,

H. WILLARD GRIFFITHS.