

(No Model.)

A. METZGER.  
TIP FOR ELECTRIC CONDUCTORS.

No. 533,910.

Patented Feb. 12, 1895.

FIG. 1.

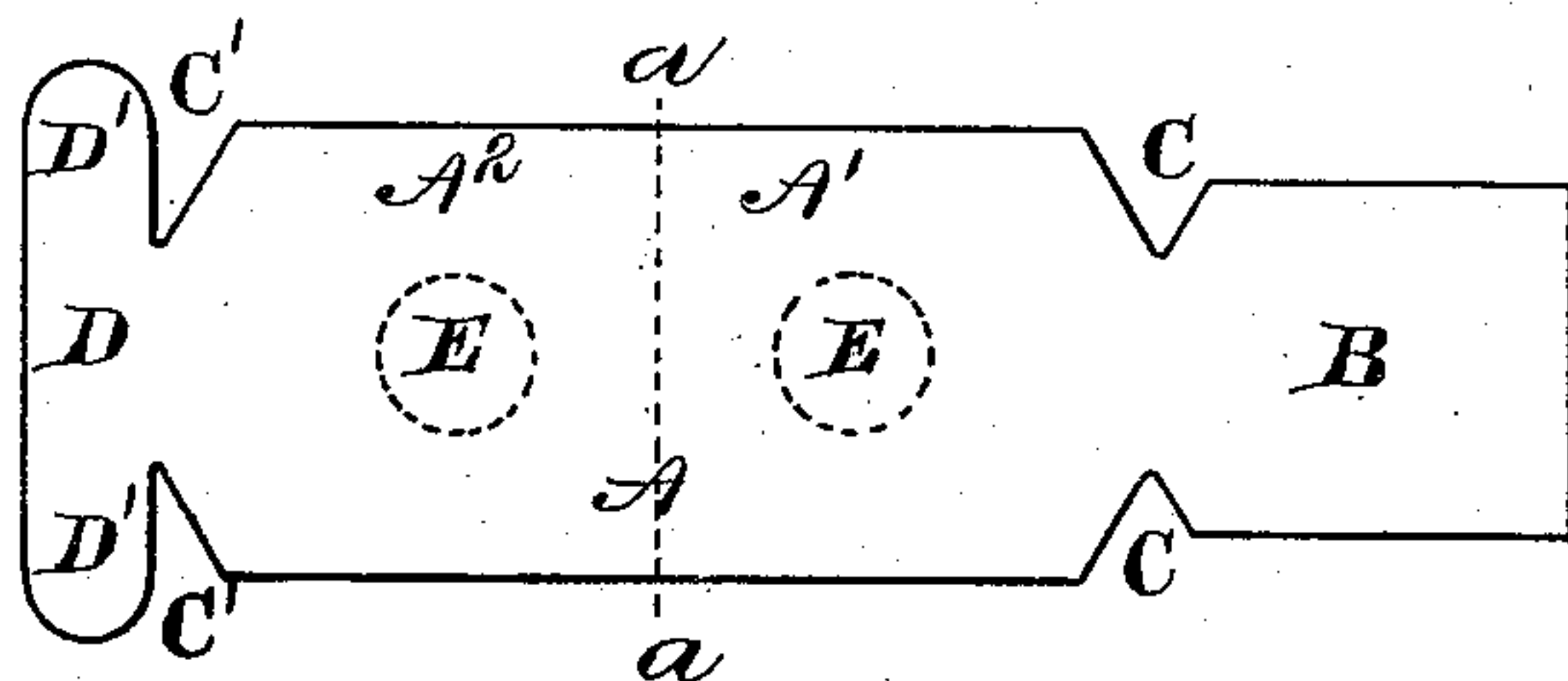


FIG. 2.

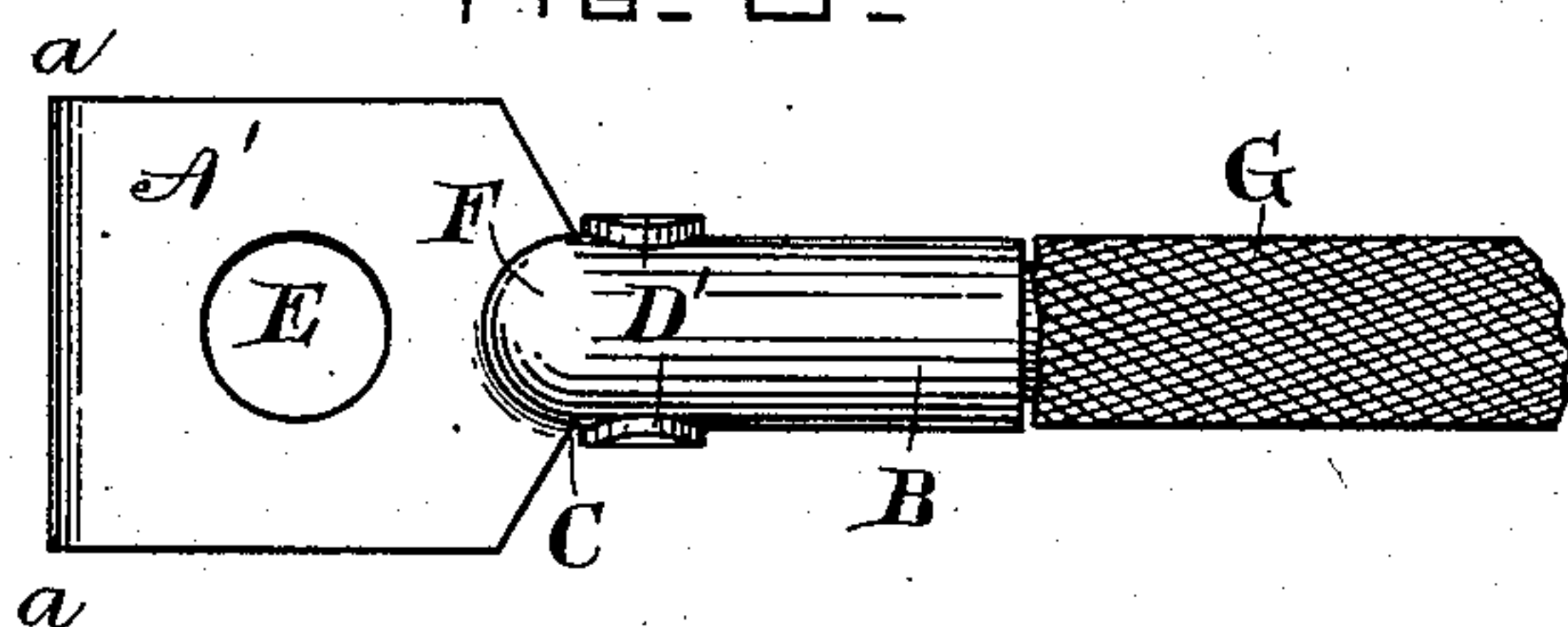


FIG. 3.

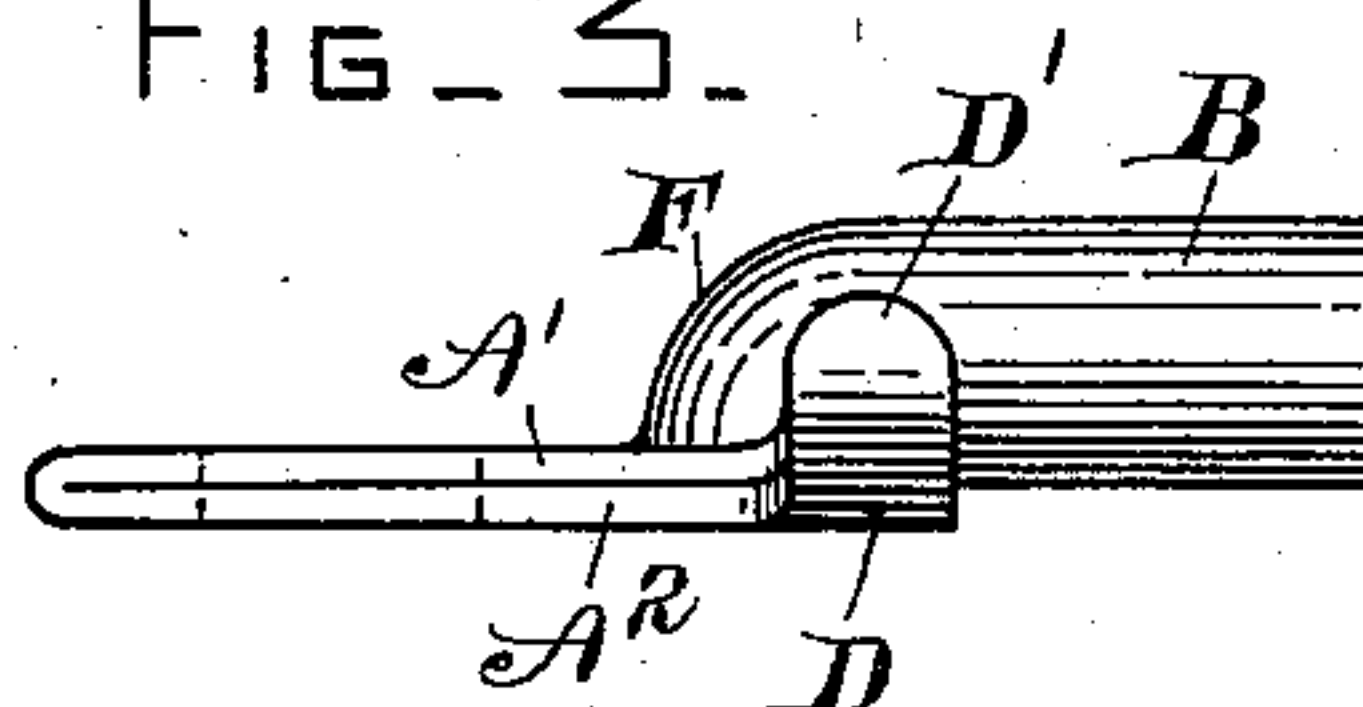
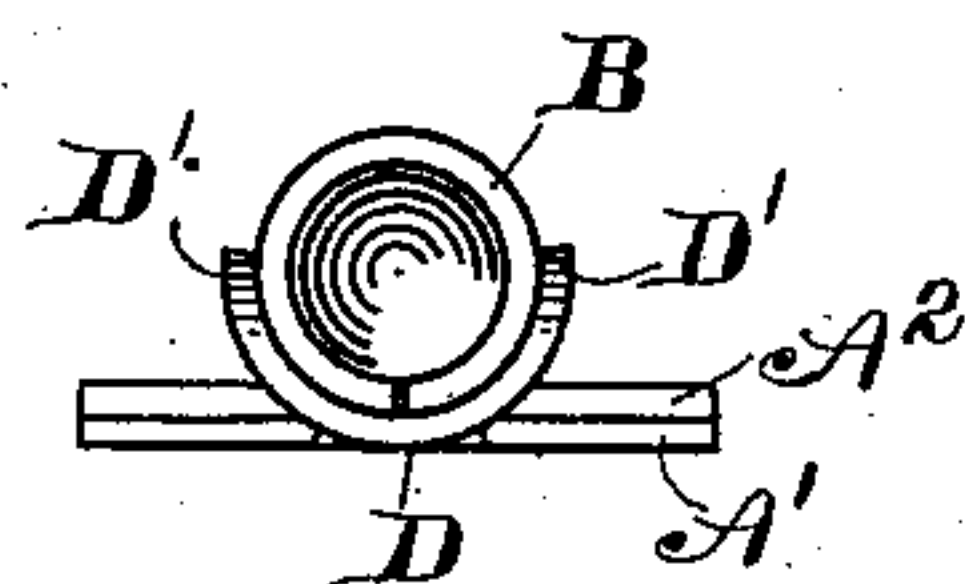


FIG. 4.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

AMANDUS METZGER, OF SCHENECTADY, NEW YORK, ASSIGNOR TO THE THOMSON-HOUSTON ELECTRIC COMPANY, OF BOSTON, MASSACHUSETTS.

## TIP FOR ELECTRIC CONDUCTORS.

SPECIFICATION forming part of Letters Patent No. 533,910, dated February 12, 1895.

Application filed November 26, 1894. Serial No. 529,896. (No model.)

*To all whom it may concern:*

Be it known that I, AMANDUS METZGER, a citizen of the United States, residing at Schenectady, in the county of Schenectady, State of New York, have invented certain new and useful Improvements in Tips for Electric Conductors, of which the following is a specification.

My invention relates to electric conductors and particularly to flexible conductors which are to be joined to permanent contacts of any kind; and has for its object to provide a tip which shall be a ready means of making such an electrical connection as I have referred to, and which shall, while affording ample contact area for both the conducting cable or wire and the connection to the fixed or permanent contact, at the same time be constructed cheaply both as regards amount of material therein and the labor necessary to make the tip.

To the ends pointed out I form my tip of a strip of sheet copper or other good conducting material, and in its preparation I first form a blank having a body portion composed of two similar parts adapted to register with each other when bent about a central line, an extension which may be bent into the form of a tube for encircling the conductor, at the same time being upset so that the bottom line of the conductor is substantially in the plane of the body part of the tip, and a third part consisting of two small lugs or lips which, when the similar parts of the body portion of the strip are brought together, may be wrapped around the extension or tube for the conductor, locking the whole construction securely. All the steps in this process may be readily performed mechanically and the entire construction of the tip is within the width of a single strip of copper.

The accompanying drawings show an embodiment of my invention, Figure 1 showing the blank as at first made; Fig. 2 a plan view, Fig. 3 a side elevation, and Fig. 4 an end elevation, of my improved conductor tip.

Referring by letter, A is the base or body portion of the tip, composed of two similar trapezoids A', A<sup>2</sup>, registering with each other when the base is bent on the line *a-a*.

B is the extension adapted to form the tube encircling the conductor.

C, C, C', C' are cut-away portions or nicks

facilitating the bending of the tube and of the lugs securing it in place.

D is the end portion having the lugs D', D' for the purpose already pointed out in the statement of invention.

In Figs. 2 and 3, the completed conductor tip is shown and in this case a hole E is shown also provided for the bolt adapted to secure the conductor to the permanent contact; and in Fig. 2 G represents the conductor with its inclosing insulation. In these figures F represents the distortion or upsetting of the metal of the part A'. The object of this is to move the conductor above the plane of the two parts A', A<sup>2</sup>, so that its bottom may be approximately in the plane of those two parts, and thus a flat contact may be assured, as when the conductor has to pass over a plane surface of any kind and be affixed to a contact in the plane of that surface.

In Fig. 4 I show in end view the same parts shown in Fig. 3. It will be seen that the lugs D', D' are slightly longer than is necessary to pass across the center of the tubular portion B, so that they embrace a little more than half the circumference of the tube. By the construction described I attain the ends of lightness, cheapness, and good electrical contact, so much to be desired in devices of this class.

Where I use the term "permanent contact," I do not necessarily mean to limit myself to the use of my conductor tip in this relation, as it may be used in any manner for which it is adapted, and still be within the scope of the claims.

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

1. As a new article of manufacture, a blank for the formation of a conductor tip, comprising a body portion composed of two similar figures adapted to register when the body part is bent about its center, an extension from such body part and an end portion provided with lugs adapted to be wrapped about the extended portion when the conductor is completed.

2. As a new article of manufacture, a blank for the formation of a conductor tip, comprising a central body portion composed of two similar figures adapted to register when the body portion is bent about its central line, an



extension at one end of such body portion, an end part at the other end of the body portion provided with lugs, and nicks or cuts between the body part, extension and end portion.

5 3. As a new article of manufacture, a conductor tip formed of a single piece of metal comprising a flat portion doubled upon itself, and a tube formed integrally with the flat portion for embracing the conductor end.

10 4. As a new article of manufacture, a tip for an electrical conductor, comprising a flat part provided with means for securing it to the contact, a tube for the conductor formed integrally with the flat portion, and lugs formed  
15 integrally with the flat portion, adapted to embrace the tube.

5. As a new article of manufacture, a conductor tip comprising a flat body portion doubled upon itself and provided with a hole for a bolt or screw, a tube formed integrally with  
20 the flat portion of the tip and upset or bent so that one side of the conductor is in the plane of the flat portion, and lugs also formed integrally with the flat part of the tip and adapted to embrace the tube and secure the  
25 whole together.

In witness whereof I have hereunto set my hand this 24th day of November, 1894.

AMANDUS METZGER.

Witnesses:

B. B. HULL,  
GENEVIEVE HAYNES.