

No. 871,686.

PATENTED NOV. 19, 1907.

A. FREIER.
PLATINUM CONTACT.
APPLICATION FILED MAY 13, 1907.

Fig. 1,

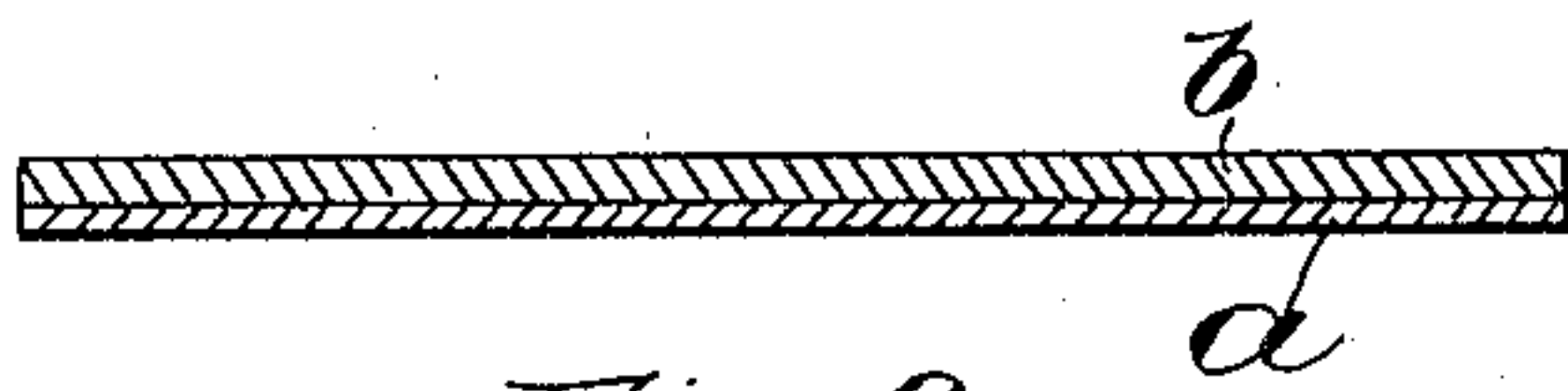


Fig. 2,

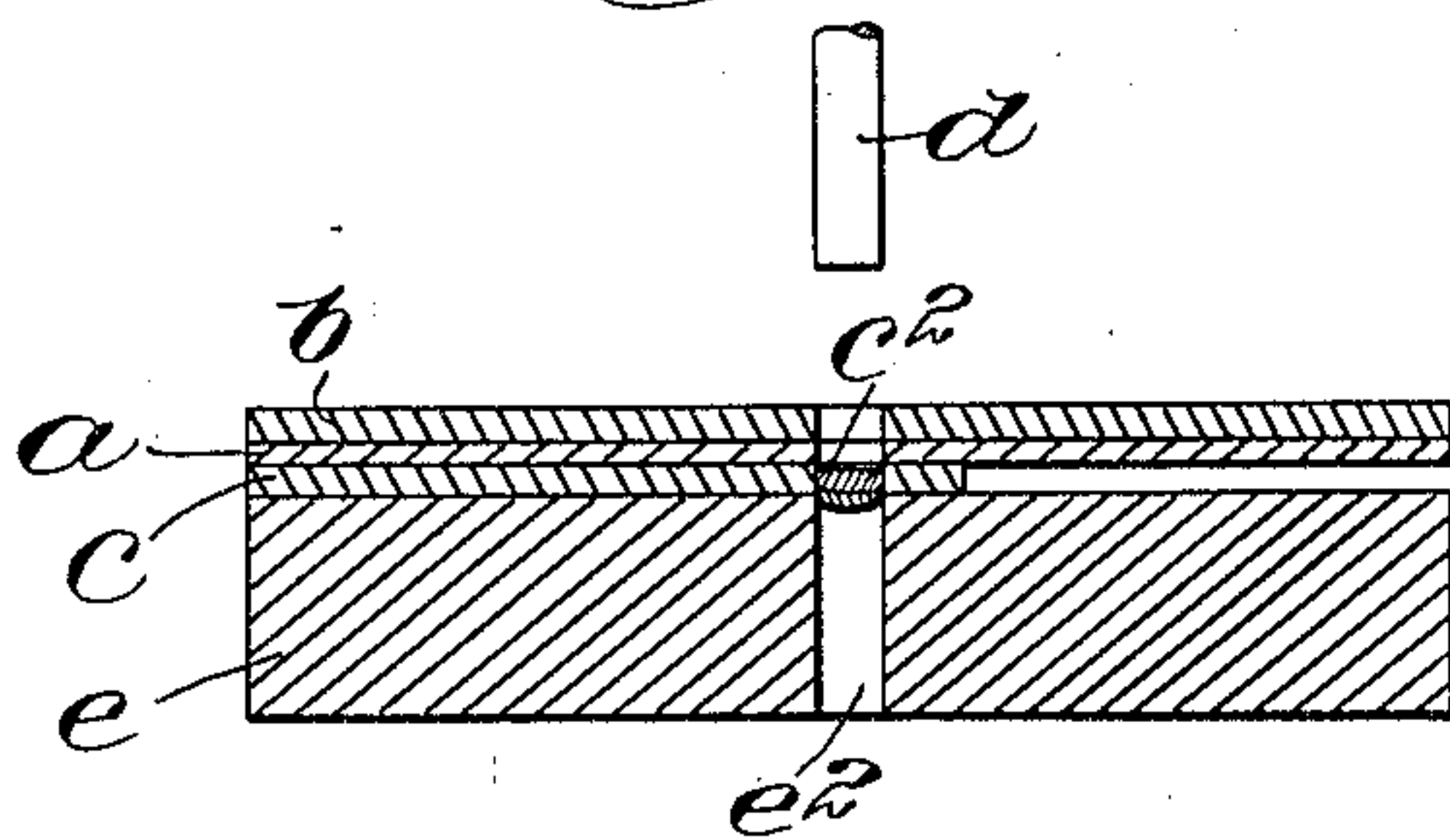


Fig. 3,

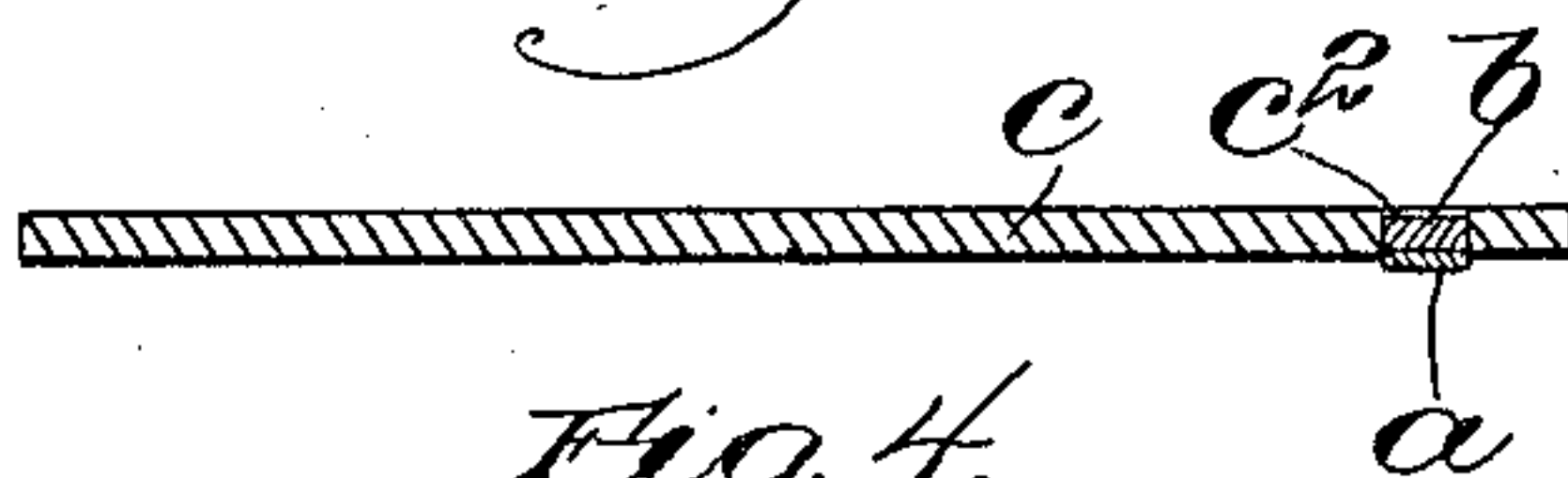


Fig. 4,

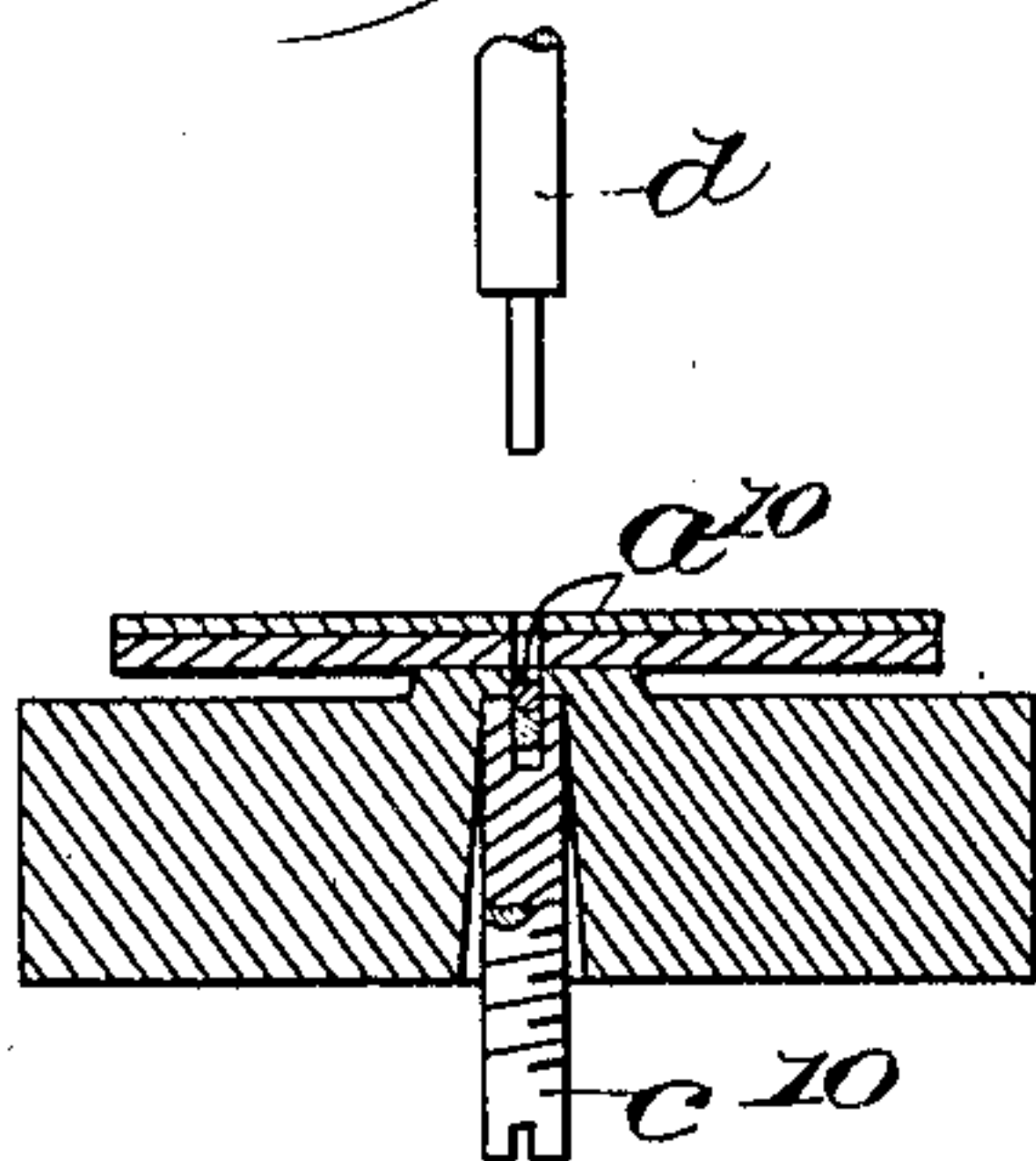


Fig. 5,



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UNITED STATES PATENT OFFICE.

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PLATINUM CONTACT.

No. 871,686.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed May 13, 1907. Serial No. 373,210.

To all whom it may concern:

Be it known that I, ANTON FREIER, a citizen of the United States, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Platinum Contacts, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The present invention relates to a contact tip, and is shown embodied in an electrical contact in which a very thin piece of sheet platinum is applied to the contact member at the actual point of contact, the purpose of the invention being to utilize the qualities of the platinum to advantage, with the employment of the least possible quantity of platinum to save expense.

For convenience in the following description, the term "platinum" will be employed, with the understanding that this is the metal now commonly employed for electrical contact tips, it being within the invention to employ other metals for similar or other purposes.

In accordance with the invention, the platinum is applied as a thin coating to a different and less expensive metal such as German silver, by brazing, or any suitable process, which provides the necessary body or support for fastening purposes, and the compound sheet thus formed is then secured in the metallic contact member by frictional engagement therewith. The frictional engagement is secured by inserting a piece of the compound strip of platinum and other metal in an opening formed in the contact member, with a driving fit, so that the parts are firmly held together, the covered portion protecting the surface of the contact member to form the actual contact portion thereof.

A simple and practicable method of applying the platinum tip consists in punching a piece out of the compound strip of metal, and, at the same operation, forcing the punched-out part into or partly through a hole in the contact member, so that the platinum surface projects slightly beyond the surface of the main member while the body of the punched-out part is securely held by a frictional fit in the hole.

While it is obvious that the same result may be obtained in other ways, the article embodying the invention will be described as made in accordance with the aforesaid

method, in order to facilitate the understanding of the invention.

Figure 1 is a section of a compound strip formed of platinum and other metal, such as German silver, which forms the base or support for the platinum; Fig. 2 is a sectional view showing a punch and die with the contact member and platinum strip applied thereto, and the platinum contact part forced into position; Fig. 3 is a sectional view of the finished contact member; Fig. 4 is a view similar to Fig. 2 showing a modified form of contact member; and Fig. 5 is a view partly in section and partly in elevation of such modified contact member finished.

The article embodying the invention consists, as best shown in Fig. 3, of the thin coating *a* of platinum which is caused to adhere to a supporting body *b* of a different metal such as German silver, or other metal less valuable than platinum, the parts *a* and *b* being frictionally secured in a metallic contact member *c* with the surface of the platinum part *a* shown as protruding beyond the surface of the member *c* to form the actual engaging part of the contact arm.

In constructing the contact member, the parts *a* and *b* may first be united in the form of a sheet, as shown in Fig. 1, and the actual portion of said sheet which is to form the engaging part of the contact member *c* may be cut out by means of a punch *d*, and, at the same time, inserted in a hole or opening in the member *c*.

As indicated in Fig. 2, the member *c*, previously provided with a hole *c*² of the right size, may be placed upon a support *e* with a compound strip *a, b* between it and the punch *d*, the support *e* being provided with an opening *e*² in alinement with the punch *d* and with the opening in the member *c*, so that the punched-out part of the compound strip can be forced entirely through the member *c* until the part *a* projects beyond the under surface thereof. In the actual punching process, the hole *c*² in the member *c* constitutes the female punching die, so that the piece cut out will be forced with a tight frictional fit through the hole, and the platinum strip will be drawn back around the edge, so that while the metal protrudes far enough to form the projecting contact tip, the platinum itself will be partly within the opening and frictionally held therein so that it will not become separated from the rest of the contact

if unduly heated. For this reason, the thin strip of platinum can be brazed to the surface of the body portion *b*, and the two can be separated after a number of contact pieces have been punched out by dissolving off, or otherwise removing the German silver, or other metal, so as to waste none of the more costly material. By this construction, though a minute quantity of platinum is used, so that all the advantages of a platinum tip are obtained, at a great saving in cost.

In cases where the contact portion is at the end of a projecting member, instead of on the surface of an arm or spring, the same construction can be employed, the compound strip being punched and the punched out piece forced into an opening with the platinum portion on the outside. Such a construction is illustrated in Figs. 4 and 5 in which the actual platinum contact part *a*¹⁰ is shown as at the end of a pin or screw *c*¹⁰.

Claims.

1. A platinum contact consisting of a contact member provided with a tip having a thin surface coating of platinum united to a support of different metal, the compound tip thus formed being frictionally secured in an opening in the contact member, with the edge of the platinum coating within the opening.

2. As an article of manufacture, a metallic member provided with an opening, and a connected part formed of two metals joined together and fitted tightly in the opening with the edges of both metals within the opening and the surface formed of one of said metals projecting outward from the surface of the metallic member.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

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Witnesses:

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