

V. LÖWENDAHL.
ELECTRIC SLIDING OR OTHER CONTACT.
APPLICATION FILED MAR 16, 1908.

924,804.

Patented June 15, 1909.

Fig. 1. *Fig. 2.* *Fig. 3.*

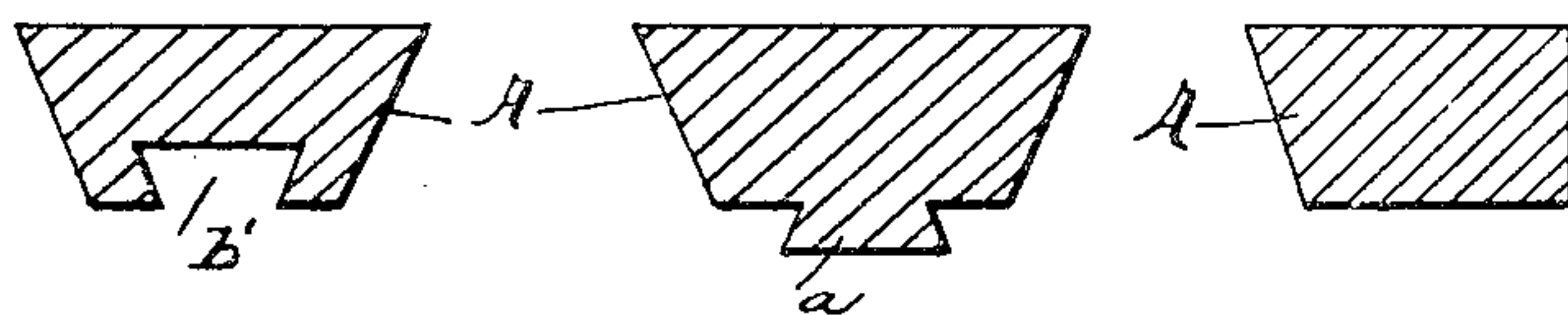


Fig. 4. *Fig. 5.* *Fig. 6.*

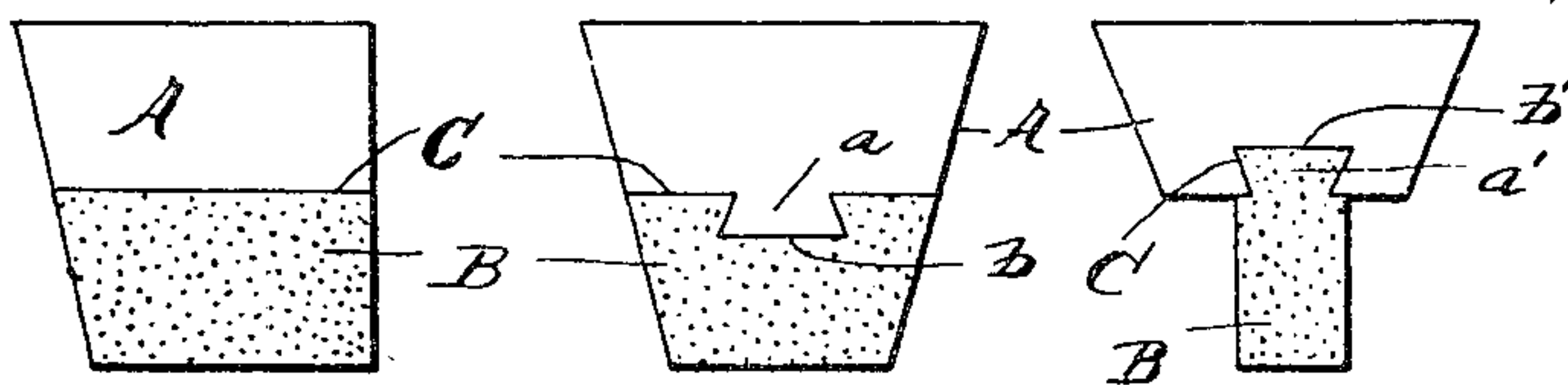


Fig. 7. *Fig. 8.* *Fig. 9.*

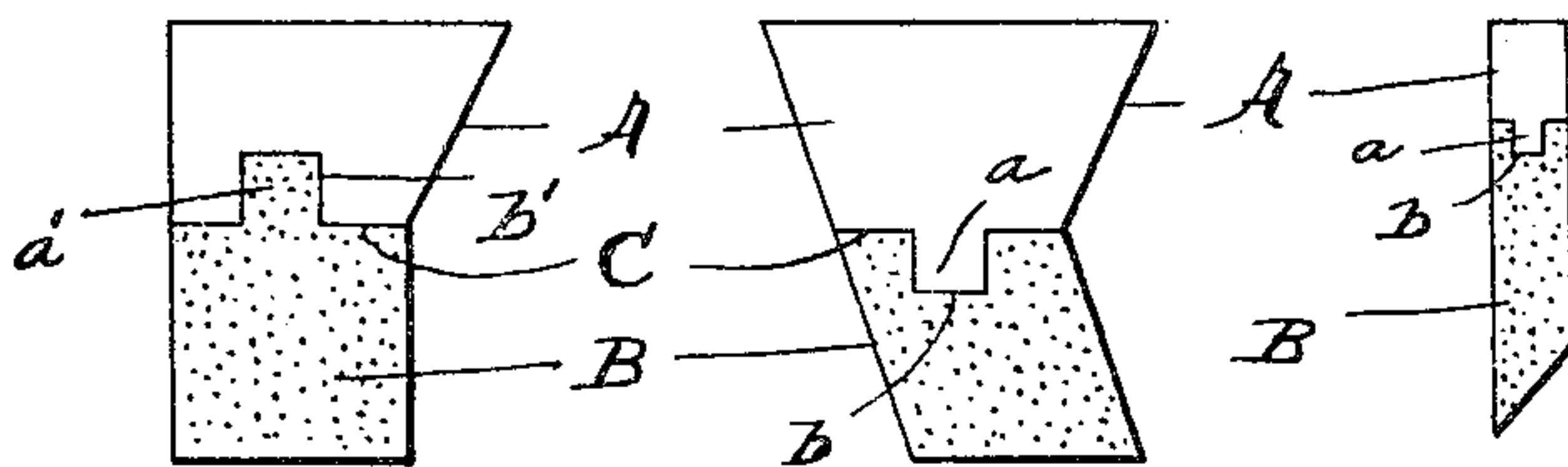
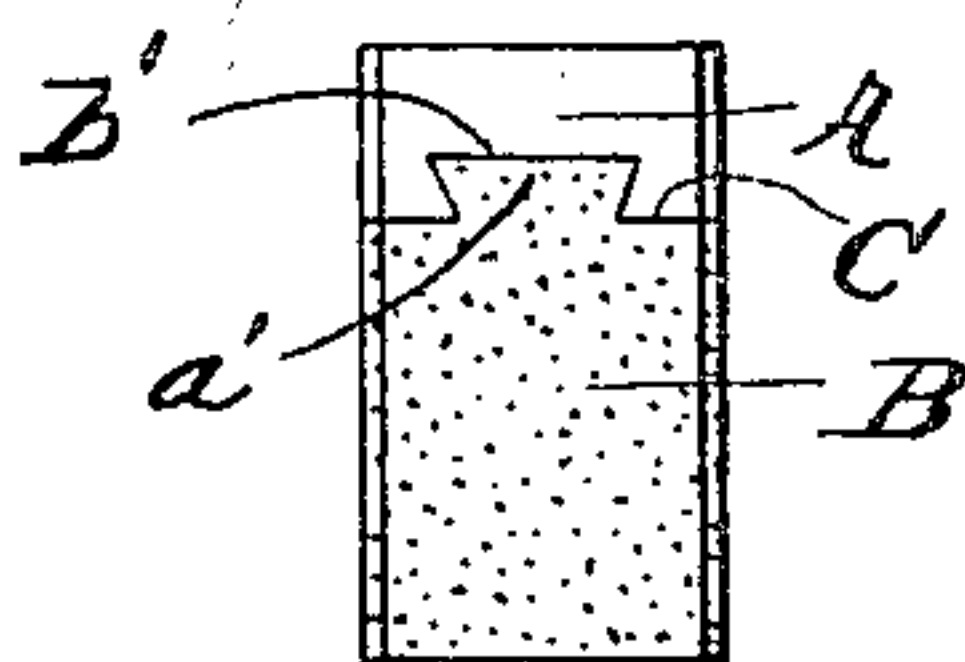


Fig. 10.



Witnesses.
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UNITED STATES PATENT OFFICE.

VICTOR LÖWENDAHL, OF STOCKHOLM, SWEDEN, ASSIGNOR TO THE FIRM OF C. CONRADY, OF NUREMBERG, GERMANY.

ELECTRIC SLIDING OR OTHER CONTACT.

No. 924,804.

Specification of Letters Patent.

Patented June 15, 1909.

Application filed March 16, 1908. Serial No. 421,422.

To all whom it may concern:

Be it known that I, VICTOR LÖWENDAHL, a subject of the King of Sweden, and resident of Stockholm, Sweden, have invented new
5 and useful Improvements in Electric Sliding or other Contacts, of which the following is a specification.

This invention relates to improvements in such electric sliding or other contacts as are
10 composed of two parts of different materials, viz. the head, adapted to be inserted in a usual brush-holder or the like, and the contact body proper.

The object of the invention is to improve
15 the quality of such contacts with respect to their capacity of withstanding jerks, vibrations and the like, and my invention consists, principally, in that the two parts of the contact, the one made of metal or alloy and the
20 other of a compressed pulverous mixture of carbon and metal or alloy, and each part of the contact forming a body of homogeneous material, are rigidly and inseparably connected to each other so that the contact as a
25 whole forms a coherent body. I would have it understood at this point that the term homogeneous as herein employed is intended only to positively express the idea that each part of the brush consists of one and the
30 same material throughout, as distinguished from a part or element composed of different pieces of various materials. Inasmuch as the metal and carbon particles of the brush-body proper are extremely small, the ma-
35 terial can be considered to be homogeneous.

In the accompanying drawing I have shown different forms of brushes for dynamo machines embodying my invention.

Figures 1-3 show different shapes of
40 brush-heads, while Figs. 4-10 show complete brushes.

Similar letters of reference designate corresponding parts in all of the views of the drawings.

45 The brush-head A may be manufactured in any well known or suitable manner, for instance by casting, rolling, pressing and so on. In most cases it may be made from suitably profiled metal-bars (Figs. 1, 2 and 3)
50 which are cut into pieces of desired length before (or after) being secured to the brush or contact body proper B. The latter may be made separately and then secured rigidly and inseparably to the brush-head. The
55 simplest manner of connecting the two

brush-parts together is by soldering as indicated by C. In order to strengthen in this case the connection between the brush-parts it is suitable to provide the latter with small
60 projections *a a'* and corresponding recesses *b b'* engaging with each other, as shown in Figs. 5-10.

In the soldering of the brush-head and the brush-body proper together, the meeting
65 faces of the said elements are coated with soldering material such as tin or an alloy of tin. The surfaces thus coated are held under pressure against each other while heated to the melting point of the soldering material. The brush is thereupon cooled while
70 the meeting faces are still held under pressure together. When the pulverous material is, in a suitable press-mold, pressed directly into and around the recesses and projections respectively of the brush-head and brush-
75 body proper, only the brush-head is previously coated with soldering material, which material is melted by heating the brush. Obviously the material of the brush-
80 body can be soldered very easily, and when necessary the usual soldering means can be employed in the ordinary manner.

If the material of the brush body proper is ductile or elastic and the projections and
85 recesses described are suitably proportioned relatively to each other, the two parts may be rigidly connected to each other simply by being pressed together. Further the pulverous material may in a suitable press
90 mold be pressed directly into or around the recesses or the projections respectively of the brush-head at the same time as it is compressed to a brush-body of desired shape. The brush made in this way may eventually
95 be heated (in an indifferent or reducing atmosphere or together with substances developing such atmosphere,) until a sufficient strong connection between the brush-parts is obtained. In each case the surfaces of
100 the brush-head, that are to be brought into contact with the brush-body proper, may be coated with soldering metal.

The above described contacts or brushes are not to be confounded with brushes that
105 are composed of two parts loosely connected together only by means of pins or screws, nor with brushes having a thin metal plate applied to the one end, serving only to receive the spring pressure.

It will be gathered from the foregoing 110

that my invention resides in the soldering to a metallic part of a second part comprising a body of homogeneous material formed entirely of a pulverous mixture of carbon and
5 metal or alloy, whereby the solder is enabled to strongly and durably join the second named part to the metallic part.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:
10

An electric contact comprising a metallic part forming a body of homogeneous material, and a second part formed by a pulver-

ous mixture of carbon and metal or alloy, and also forming a body of homogeneous material; the meeting surfaces of the said parts being soldered together, whereby the parts are strongly and durably connected and constitute one coherent body. 15

In testimony whereof I have signed my name to this specification in presence of two subscribing witnesses. 20

VICTOR LÖWENDAHL.

Witnesses:

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