

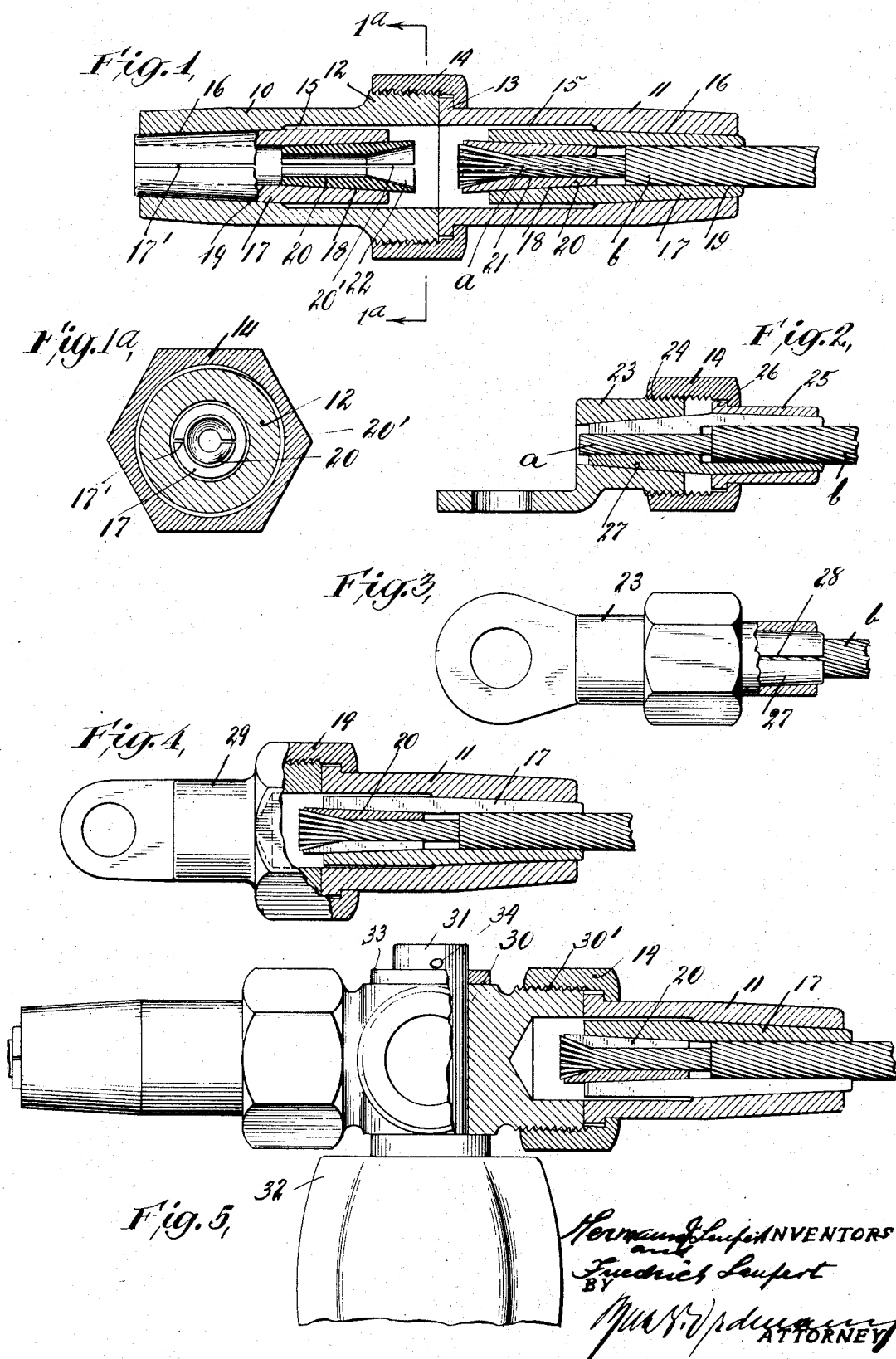
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MEANS FOR CONNECTING BIMETALLIC CONDUCTORS

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UNITED STATES PATENT OFFICE.

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MEANS FOR CONNECTING BIMETALLIC CONDUCTORS.

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To all whom it may concern:

Be it known that we, HERMANN J. SEUFERT and FRIEDRICH SEUFERT, citizens of the United States and Germany, respectively, the former being a resident of Brooklyn, county of Kings, and State of New York, and the latter a resident of Munich, Bavaria, Germany, have invented certain new and useful Improvements in Means for Connecting Bimetallic Conductors, of which the following is a specification.

The present invention relates to means for connecting bi-metallic conductors for electric high current installations.

The heretofore employed clamping means for bi-metallic conductors have been found objectionable because of their complex nature and the difficulties arising in the installation thereof. The object of our invention is to obviate these drawbacks.

In the accompanying drawing, in which similar reference characters denote corresponding parts, Fig. 1 is a longitudinal section of one embodiment of our invention; Fig. 1^a is a section on line 1^a—1^a thereof; Fig. 2 is a longitudinal section of a modification thereof; Fig. 3 is an elevation of said modified form and Figs. 4 and 5 are similar sections showing different applications of the invention.

According to the construction shown in Fig. 1, 10 and 11 denote two sections of a bushing of which section 10 is formed with a threaded head piece 12 and section 11 with an end flange 13 and which are adapted to be separably joined together by a nut 14 as shown in the drawing. Each of these sections at its inner end is internally cylindrical as at 15 and conical at its outer end as at 16, and is adapted to bear a sleeve 17, which externally is shaped to conform with the internal shape of said sections of the bushing and which internally is conical at its inner end as at 18 and cylindrical at its outer ends as at 19. In the conical portion of each sleeve is adapted to bear a nozzle 20 in form of a truncated cone having a cylindrical bore 21, which at its inner end terminates in an outwardly widening mouth 22. This nozzle 20 is adapted to receive the steel portion *a* of the bi-metallic conductor, the free end of which is widened or bent in form of a knot. The copper or aluminum portion *b* of the conductor is received

by the cylindrical part of the outer portion of the sleeve 17.

Both the nozzle 20 and the sleeve 17 are longitudinally split as at 20', 17' to be resilient. The conical outer face of the nozzle 20 on the conical inner face 16 of the bushing are parallel, whereby the tension exerted on tightening the cable or conductor is uniformly distributed to the steel and aluminum or copper portions thereof and the stronger the pull on the conductor the more does its part become wedged in the bushing and nozzle. This construction has the advantage that, owing to the greater expansiveness of aluminum, the tension is chiefly taken up by the steel portion as desired, while the tightening of the aluminum portion and the resulting electric contact are insured.

The construction is also advantageous because of its comparative simplicity, there being only two parts having threads so that the manufacture and assembling of the device are rendered extremely simple.

For the connection of a bi-metallic conductor to collecting shoes, etc., the following constructions may be used. According to Figs. 2 and 3, the shell serving as shoe 23 is formed with a threaded head piece 24 and the rigid bushing or shell 25 with a flange or collar 26 and the same are adapted to be joined and tightened together by a nut 14, as is in the first construction. Internally the shoe and bushing are conical in opposite directions and bear a correspondingly shaped single sleeve 27, split longitudinally as at 28. The inner bore of this sleeve is cylindrical, one part being wider to bear the copper or aluminum portion *b* of the conductor and the narrower part, the steel portion *a* thereof. It will be seen that by tightening the shoe and bushing through the nut, the resilient sleeve will clench the two portions of the conductor and insure perfect contact.

This construction is designed to be used only when little pull is exerted on the conductor. Where strong pull is exerted on the conductor a construction similar to that of the first modification may be used, that is, the shoe 29 and bushing 11 are joined together by the nut 14 and the bushing 11, sleeve 17 and nozzle 20 are constructed and assembled as heretofore described. In case

of strong pull in axial direction the nozzle 20 is pressed against the conical portion of the sleeve 17, while the conical portion of the latter is pressed against the corresponding surface of the bushing 11, thereby effecting electric contacts and insuring a connection which increases with the pull.

For special branch connections, a turnable cross shaped body 30 is mounted on a bolt 31 of the insulator body 32 and held in position by a washer 33 and pin 34. Each branch of the body 30 is threaded at its end as at 30' and has connected to it by a nut 14 a bushing 11 constructed and bearing sleeve 17 and nozzle 20 as per modification shown in Fig. 1.

What we claim and desire to secure by Letters Patent is:—

1. Connecting device for bi-metallic conductors, comprising a rigid outer shell and interposed resilient inner shells, the latter being adapted to bear the inner and outer parts of said conductor and on being compressed in said outer shell to tighten said conductor and insure a good electrical connection.

2. Connecting device for bi-metallic conductors, comprising a rigid outer shell composed of two separably joined sections and a pair of interposed inner longitudinally split shells in each section, said inner shells being adapted to bear the inner and outer parts of said conductor and on being compressed in said outer shell to secure the same and insure a good electrical connection.

3. Connecting device for bi-metallic conductors, comprising a rigid outer shell and a pair of interposed resilient sleeves in each section, said sleeves being adapted to bear the inner and outer parts of said conductor and when compressed by said outer shell

to tighten said conductor and insure a good electrical connection.

4. Connecting device for electric bi-metallic conductors, comprising a rigid shell formed with an inner conical portion, a resilient conical inner shell in each section and a resilient conical nozzle in said inner shell, said nozzle being adapted to receive the inner part of the bi-metallic conductor and said inner shell the outer part of said conductor, so that when the conductor is drawn tight said nozzle is compressed in said inner shell and the latter in the outer shell insuring a good electrical connection.

5. Connecting device for electric bi-metallic conductors, comprising a rigid shell formed internally with oppositely directed conical parts an externally conical split sleeve slidably engaging the internal conical part of each outer shell section and having an internal conical portion, a second externally conical split sleeve slidably engaging the internal conical portion of said first named sleeve, said two sleeves being adapted to separately engage the inner and outer parts of said conductor and when compressed by said outer shell section to insure a good electrical connection.

In testimony whereof I affix my signature in presence of two witnesses.

HERMANN J. SEUFERT.

Witnesses:

MAX S. ERDMANN,
JOSEPH T. MCMAHON.

In testimony whereof I affix my signature in presence of two witnesses.

FRIEDRICH SEUFERT.

Witnesses:

ALEXANDER DE SOTO,
THEA JOHANNA KELLER.