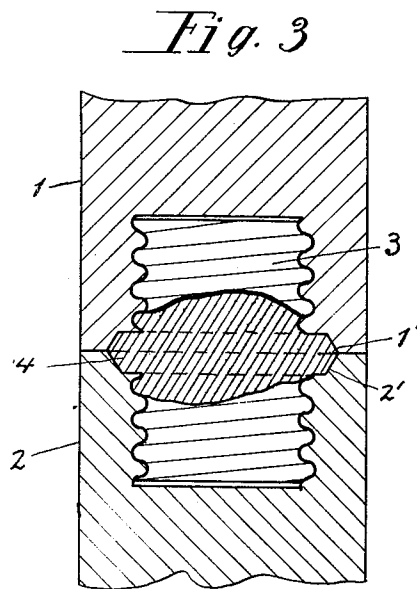
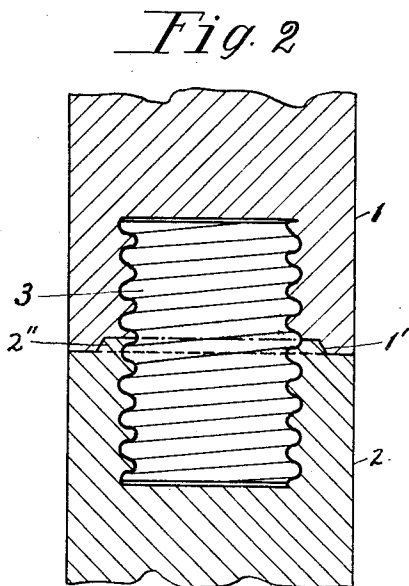
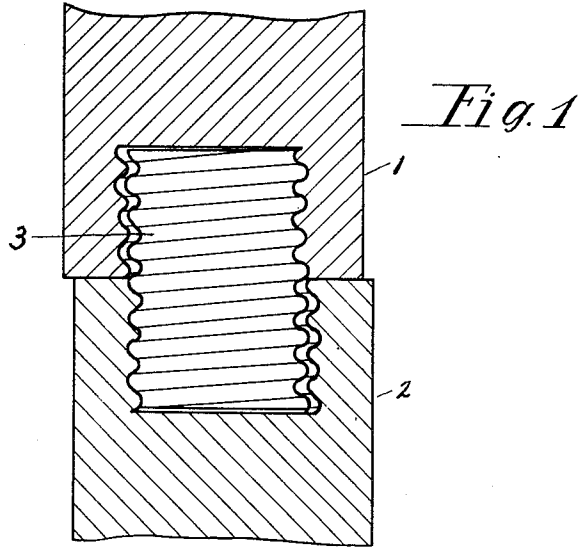


E. & H. VIERTEL.
 MEANS FOR JOINING ELECTRODES.
 APPLICATION FILED MAR. 21, 1912.

1,049,624.

Patented Jan. 7, 1913.



Witnesses
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UNITED STATES PATENT OFFICE.

EDUARD VIERTTEL, OF TREPTOW, NEAR BERLIN, AND HERMANN VIERTTEL, OF LICHTENBERG, NEAR BERLIN, GERMANY, ASSIGNORS TO GEBRUEDER SIEMENS & CO., OF LICHTENBERG, NEAR BERLIN, GERMANY, A GERMAN COPARTNERSHIP.

MEANS FOR JOINING ELECTRODES.

1,049,624.

Specification of Letters Patent.

Patented Jan. 7, 1913.

Application filed March 21, 1912. Serial No. 685,305.

To all whom it may concern:

Be it known that we, EDUARD VIERTTEL and HERMANN VIERTTEL, citizens of the Empire of Germany, and residing, respectively, at Treptow and Lichtenberg, near Berlin, Germany, have invented certain new and useful Improvements in Means for Joining Electrodes, of which the following is a specification.

Our invention relates to means for joining electrodes particularly for use in electric furnaces.

Electrodes for working electric furnaces are in many cases provided with a female screw-thread and nipple in order that several electrodes may be joined together whereby unused ends are avoided and continuous working is enabled. Now as screw-threads can be made exactly in the carbon or graphite of the electrodes only with very great difficulty, as a rule the screw-threaded nipples are made a little smaller than the appertaining screw-thread. Consequently, there is play between the nipple and electrode so that the joined electrodes are frequently not in alinement.

A primary object of our invention is to remedy this defect. To this end we provide the tapped ends of the electrodes with centering means as described hereinafter and pointed out in the claims.

One illustrative embodiment of our invention and a modification thereof are represented by way of example in the accompanying drawing, wherein:—

Figure 1 is a section showing the known means for joining electrodes referred to above, Fig. 2 is a like view showing electrodes joined according to our invention, and Fig. 3 is a like view showing a modified connection of electrodes according to our invention.

Referring to the drawing, Fig. 1 shows two tapped ends of electrodes 1, 2 joined in the known defective, above-described manner by the nipple 3.

According to our invention we provide the tapped ends of the electrodes with cylindrical, conical or otherwise shaped centering means which may be, for example, projections or recesses.

In an embodiment shown in Fig. 2 an annular centering member is constituted by the projection 2'' of the electrode 2 which

fits into the corresponding recess 1' in the electrode 1. As embodied in Fig. 3 the electrodes 1 and 2 have recesses 1' and 2', respectively, and a centering annulus is constituted by a separate member 4 which exactly fits the two recesses. In this manner it is possible to join the electrodes exactly coaxially, the exact alinement being guaranteed even when the screwed connections are inexact, *i. e.* are made with play.

The exactness of the alinement or centering is increased still more when the centering faces are turned on a lathe. On the other hand, it is, in general, not necessary to true the screw-threads on the lathe, whereby considerable saving in labor is obtained.

We claim:—

1. The combination, with two electrodes each having a tapped end, of a nipple screwed into the tapped ends, the tapped end of each electrode being provided with centering means, substantially as described, for the purpose specified.

2. The combination, with two electrodes each having a tapped end, of a nipple screwed into the tapped ends, the tapped ends of said electrodes being provided with centering means adapted to interact between said ends to aline said electrodes.

3. The combination, with two electrodes each having a tapped end, of a nipple screwed into the tapped ends, the tapped end of one electrode being provided with a recess, and means adjacent the tapped end of the other electrode and provided with a projection adapted to fit exactly in said recess, substantially as described, for the purpose specified.

4. The combination, with two electrodes each having a tapped end, of a nipple screwed into the tapped ends, the tapped end of one electrode being provided with an axial recess, and a centering wedge adapted to fit said recess exactly and to bring the tapped end of the other electrode into exact alinement with the first electrode.

5. The combination with a pair of electrodes provided with means for drawing them endwise into close abutment, said means being adapted to approximately aline the axes of said electrodes, of a centering member interposed between said electrodes, and adapted to perfect the alinement of said axes.

6. The combination with two electrodes having abutting ends, of a threaded connection adapted to approximately aline the axis of said electrode, said abutting ends being provided with means adapted to perfect the alinement.

In testimony whereof, we have signed our

names to this specification in the presence of two witnesses.

EDUARD VIERTEL.
HERMANN VIERTEL.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.