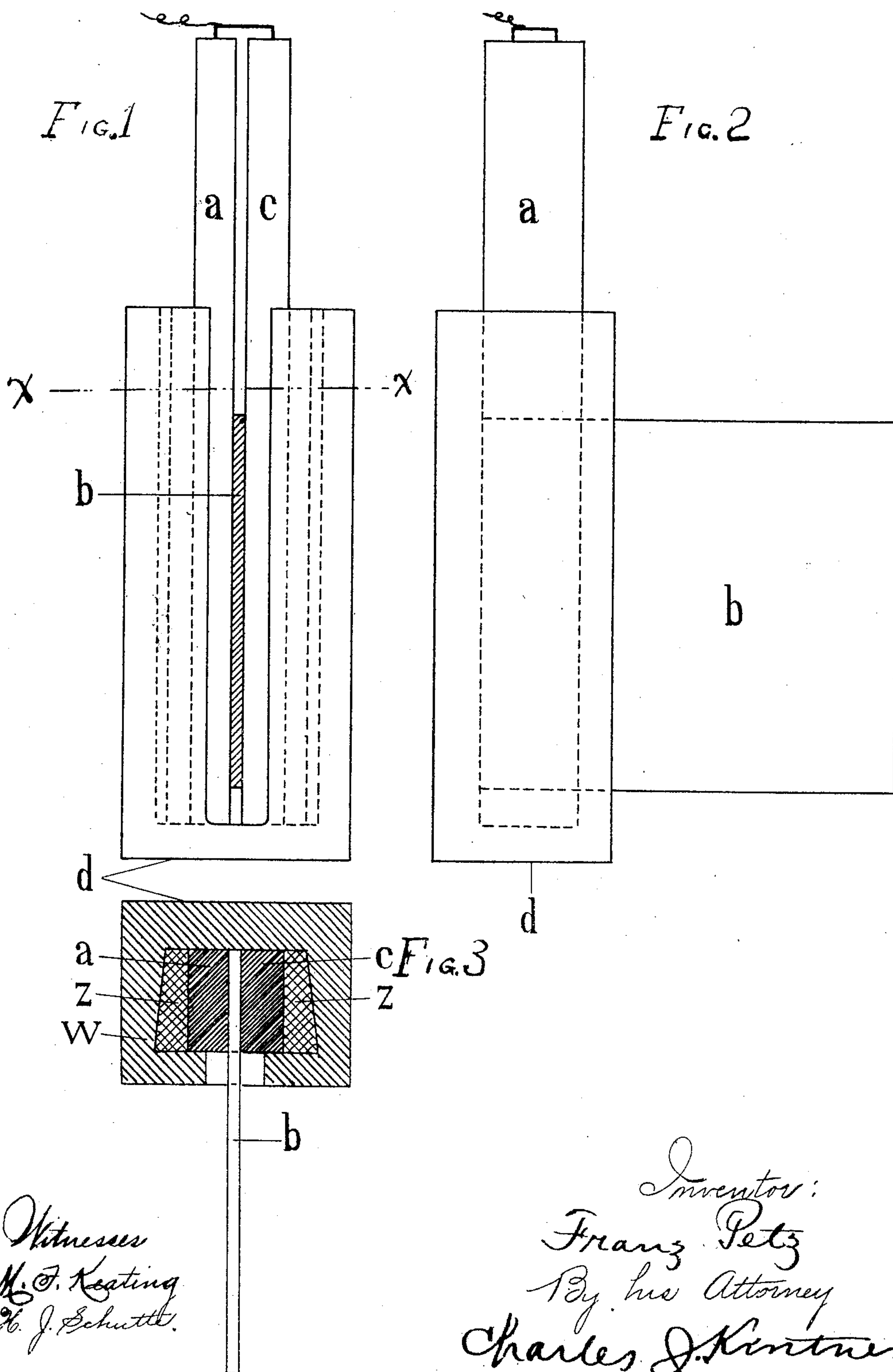


F. PETZ.

PROCESS FOR MAKING CONTACTS.

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Witnesses
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UNITED STATES PATENT OFFICE.

FRANZ PETZ, OF NUREMBERG, GERMANY.

PROCESS FOR MAKING CONTACTS.

No. 804,429.

Specification of Letters Patent.

Patented Nov. 14, 1905.

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To all whom it may concern:

Be it known that I, FRANZ PETZ, a subject of the German Emperor, residing at Nuremberg, in the Kingdom of Bavaria, German Empire, have invented a new and useful Improvement in Processes of Forming Electrical Contacts, of which the following is a specification.

My invention is directed particularly to a novel process of making good electrical contact between metallic conductors having the form of strips or plates and which owing to the peculiar character of the material cannot be soldered or secured together by screws or similar devices.

The specific application to which I wish to apply this invention is in connection with the electrodes of electrolytic apparatus. If, for instance, I wish in an electrolytic apparatus to substitute for one of two metallic electrodes, such as platinum, an electrode of carbon, in order to cheapen the manufacture of such an apparatus, it would be found extremely difficult to establish good electrical contact between the platinum and the carbon electrodes by reason of the fact that such materials cannot be soldered together. If it be attempted to form a good conducting union between the two by means of screws or clamps, the carbon electrode is liable to become disrupted or broken. However, by employing the method hereinafter set forth I have ascertained that the very best electrical connection may be effected between such electrodes.

For a full and clear understanding of the invention, such as will enable others skilled in the art to practice this method, reference is had to the accompanying drawings, in which—

Figure 1 is a side elevational view illustrating the manner of practicing the invention of uniting two carbon conductors to a metallic conductor in accordance with my novel process. Fig. 2 is a side elevational view as seen looking at Fig. 1 from left to right, and Fig. 3 is a transverse sectional view taken through Fig. 1 on the line X X and as seen looking thereat from the top toward the bottom of the drawings.

Referring to the drawings in detail, *a* and *c* indicate two conductors of a relatively fragile material, such as carbon, which are to be connected electrically to a second conductor

b of metal, such as platinum, by establishing a good contact between the three conductors so that the resistance due to imperfect contact, as ordinarily held together, is practically a negligible quantity.

d is a retaining medium in the nature of a rectangular tube slitted on one side and provided interiorly with inclined walls *w w*, said tube being constructed, preferably, of a material which is not attacked by an electrolytic solution, such as slate, stone, china, cylinder-charcoal, or the like.

In effecting the process of uniting the conductors *a*, *c*, and *b* together they are slipped into position in the manner shown in Figs. 1 and 3, with the conductor *b* extending laterally through the slot, the two conductors *a* and *c* fitting snugly against the parallel walls on the interior face of the tube, the free space between the conductors *a c* and the adjacent inclined walls being filled up with an adhesive substance *z*, as cement, which expands in solidifying, whereby the outer conductors *a* and *c* are forced with great pressure and equally at all points against the intervening inner conductor *b*, thus securing absolutely perfect electrical connection between them.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The described process of making good electrical contact between two or more conductors, which consists in confining said conductors in contact with each other within a rigid retaining medium and surrounding the conductors with an adhesive material and finally allowing said adhesive material to expand as it solidifies.

2. The described process of forming good electrical contact between a metallic conductor and two relatively fragile non-metallic conductors, consisting in inclosing the metallic conductor between the two non-metallic conductors in a confining space and subjecting the inclosed conductors to the compressive action of an adhesive material which expands on solidifying.

Signed at Nuremberg, in the Kingdom of Bavaria, this 30th day of September, 1904.

FRANZ PETZ.

Witnesses:

ALOIS GOBANZ,
OSCAR BOCK.