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 ARMATURE FOR UNIPOLAR MACHINES.  
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900,771.

Patented Oct. 13, 1908.

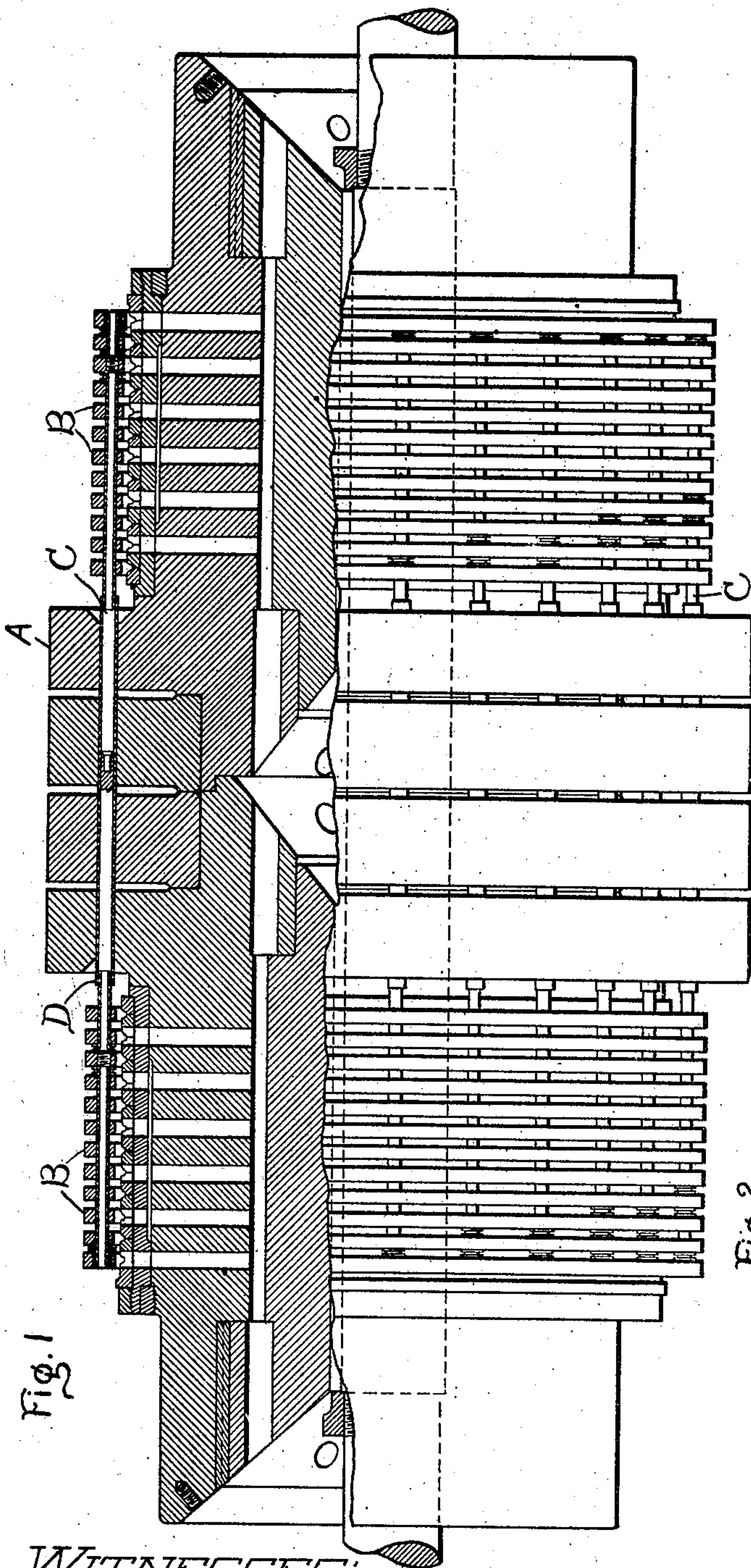


Fig. 1

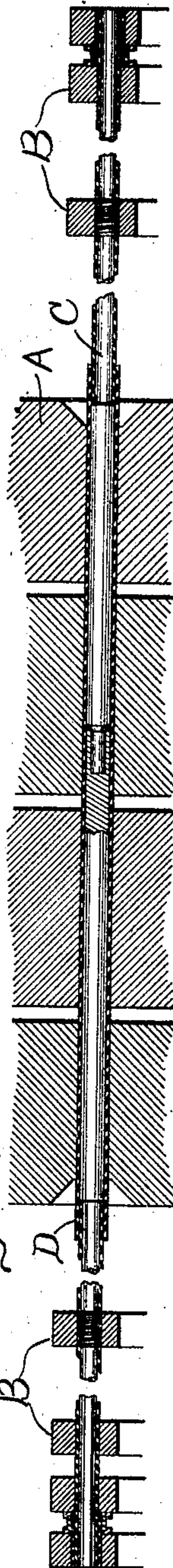


Fig. 2

WITNESSES:

Lester H. Fulmer.  
 J. Ellis Glen.

INVENTOR

JAKOB E. NOEGGERATH.  
 BY *Albert S. Davis*  
 ATTY.



# UNITED STATES PATENT OFFICE.

JAKOB E. NOEGGERATH, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

## ARMATURE FOR UNIPOLAR MACHINES.

No. 900,771.

Specification of Letters Patent.

Patented Oct. 13, 1908.

Application filed April 25, 1907. Serial No. 370,192.

*To all whom it may concern:*

Be it known that I, JAKOB E. NOEGGERATH, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Armatures for Unipolar Machines, of which the following is a specification.

My invention relates to armatures for unipolar machines, and its object is to provide a novel arrangement of the armature conductors such that the two sets of collector-rings at the opposite ends of the armature may be separated without disconnecting the armature conductors from the collector rings.

My invention consists in forming the armature conductors in separable parts so that the two sets of collector rings may be drawn apart without disturbing the connections between the conductors and collector-rings. Aside from the joint in the conductor itself, the conductor may be made continuous from one collector-ring to the other, thereby greatly facilitating its proper insulation.

My invention will best be understood by reference to the accompanying drawings, in which

Figure 1 shows a side elevation, partly in cross-section, of an armature for a unipolar machine arranged in accordance with my invention; and Fig. 2 shows an enlarged cross-sectional view showing a single armature conductor.

In the drawings, A represents the armature core, which is divided at its center into separable parts which may be moved away from each other along the shaft. The particular construction of core shown forms no part of my present invention, but is the construction disclosed in my former application, Serial No. 279,624, September 22, 1905. A set of collector-rings B is carried at each end of the armature, and the two sets are movable away from each other either by moving either set on the core or by separating the two parts of which the armature is composed.

C represents an armature conductor which is secured at each end to a collector-ring. The conductor is divided at a point between the two sets of rings into separable parts, the inner end of one part being arranged to enter the inner end of the other. With this construction of the armature conductors, it will

be seen that the halves of the armature core may be pulled apart or either set of collector-rings removed without disconnecting the armature conductors from the collector-rings.

I have found that the conductor construction shown in the drawings gives a sufficiently good electrical connection between the two parts of the conductor, because of the contact pressure between them, produced by centrifugal force. Therefore no special means for binding the meeting ends of the conductor parts together is necessary. The joint may accordingly be made inside the armature core as shown, and since the conductor is of uniform diameter through the core a continuous sleeve of insulation, D, may be employed as shown, most effectively insulating the conductor.

What I claim as new, and desire to secure by Letters Patent of the United States, is,—

1. An armature for unipolar machines having two sets of collector rings, and armature conductors between said sets of rings and connected thereto, each conductor being divided at a point between said sets of rings into separable parts.

2. An armature for unipolar machines having two sets of collector rings, and armature conductors between said sets of rings and connected thereto, each conductor being divided at a point near its center into separable parts.

3. In an armature for unipolar machines, armature conductors divided near their centers into separable parts, one of said parts being adapted to enter the other at their meeting ends.

4. In an armature for unipolar machines, collector-rings at opposite ends of the armature, armature conductors divided at a point between the two sets of rings into separable parts, each of said parts being secured near its outer end to one of said collector-rings.

5. In an armature for unipolar machines, collector-rings at opposite ends of the armature, armature conductors divided at a point between the two sets of rings into separable parts, each of said parts being secured near its outer end to one of said collector-rings, and the inner end of one of said parts being adapted to enter the inner end of the other part.

6. An armature for unipolar machines, comprising a core, sets of collector-rings at



opposite ends of the core, said sets being movable away from each other, and armature conductors each formed of separable parts secured respectively to collector-rings at opposite ends of the core.

7. An armature for unipolar machines, comprising a core, two sets of collector-rings at opposite ends of the core, and armature conductors connected at both ends to collector-rings, both core and conductors being separable between the sets of collector-rings into two parts.

8. An armature for unipolar machines, comprising a core, two sets of collector-rings at opposite ends of the core, said sets being movable away from each other, and armature conductors connected at both ends to collector-rings and separable between the sets of collector rings into two parts, the inner end of one of the conductor parts being adapted to enter the inner end of the other part of the conductor.

9. An armature for unipolar machines,

comprising a core divided into separable parts, armature conductors extending through the core and divided within the body of the core into separable parts, and a continuous sleeve of insulation surrounding the conductor and extending through the core.

10. An armature for unipolar machines, comprising a core divided into separable parts, armature conductors extending through the core and divided within the body of the core into separable parts, the inner end of one of the conductor parts being adapted to enter the inner end of the other part of the conductor, and a continuous sleeve of insulation surrounding the conductor and extending through the core.

In witness whereof, I have hereunto set my hand this 23rd day of April, 1907.

JAKOB E. NOEGGERATH.

Witnesses:

BENJAMIN B. HULL.

HELEN ORFORD.