

(No Model.)

3 Sheets—Sheet 1.

J. T. LISTER.

ARMATURE FOR DYNAMO ELECTRIC MACHINES.

No. 283,624.

Patented Aug. 21, 1883.

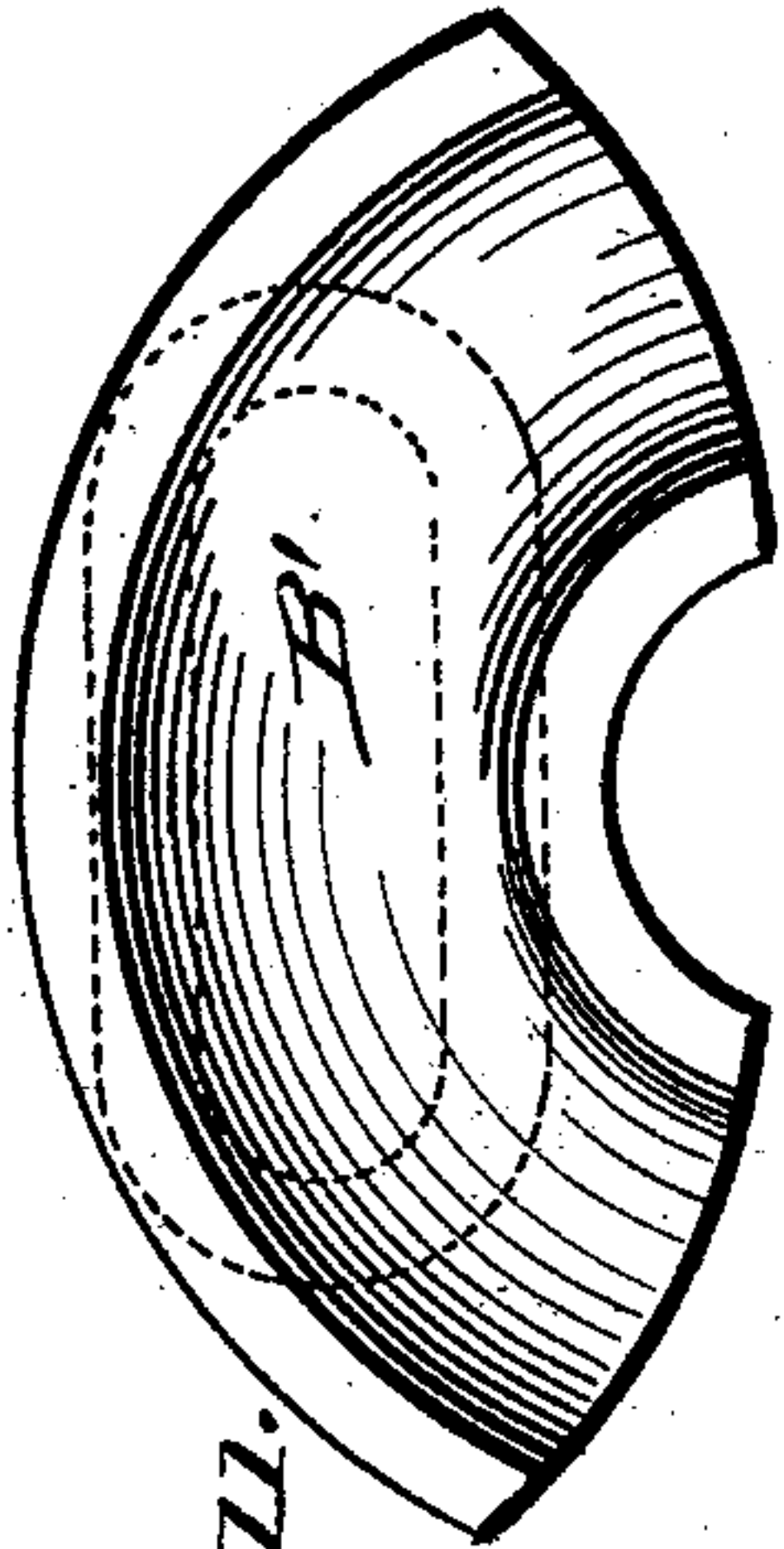


Fig. 11.

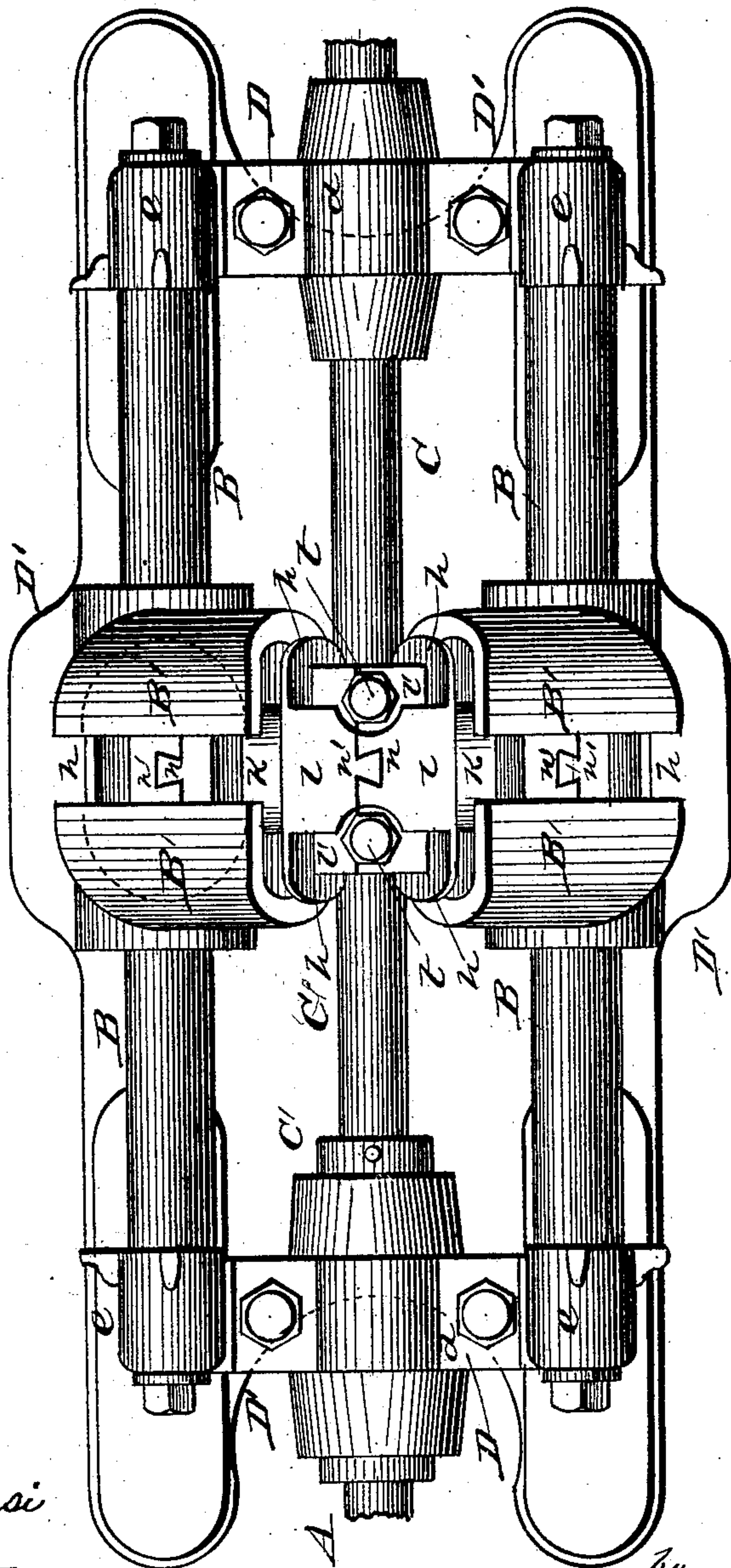


Fig. 1.

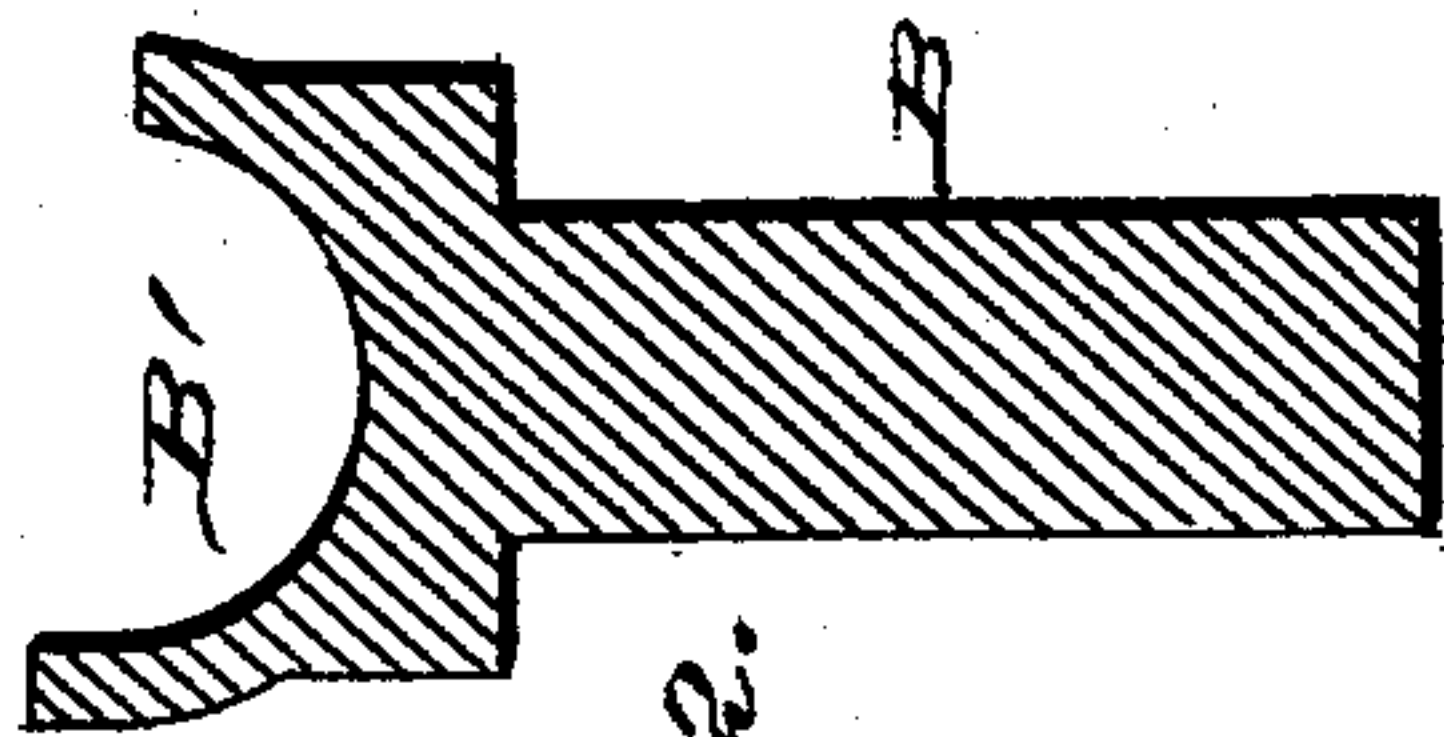


Fig. 12.

Witnesses:  
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E. L. Bates.

Inventor:  
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Attorneys.

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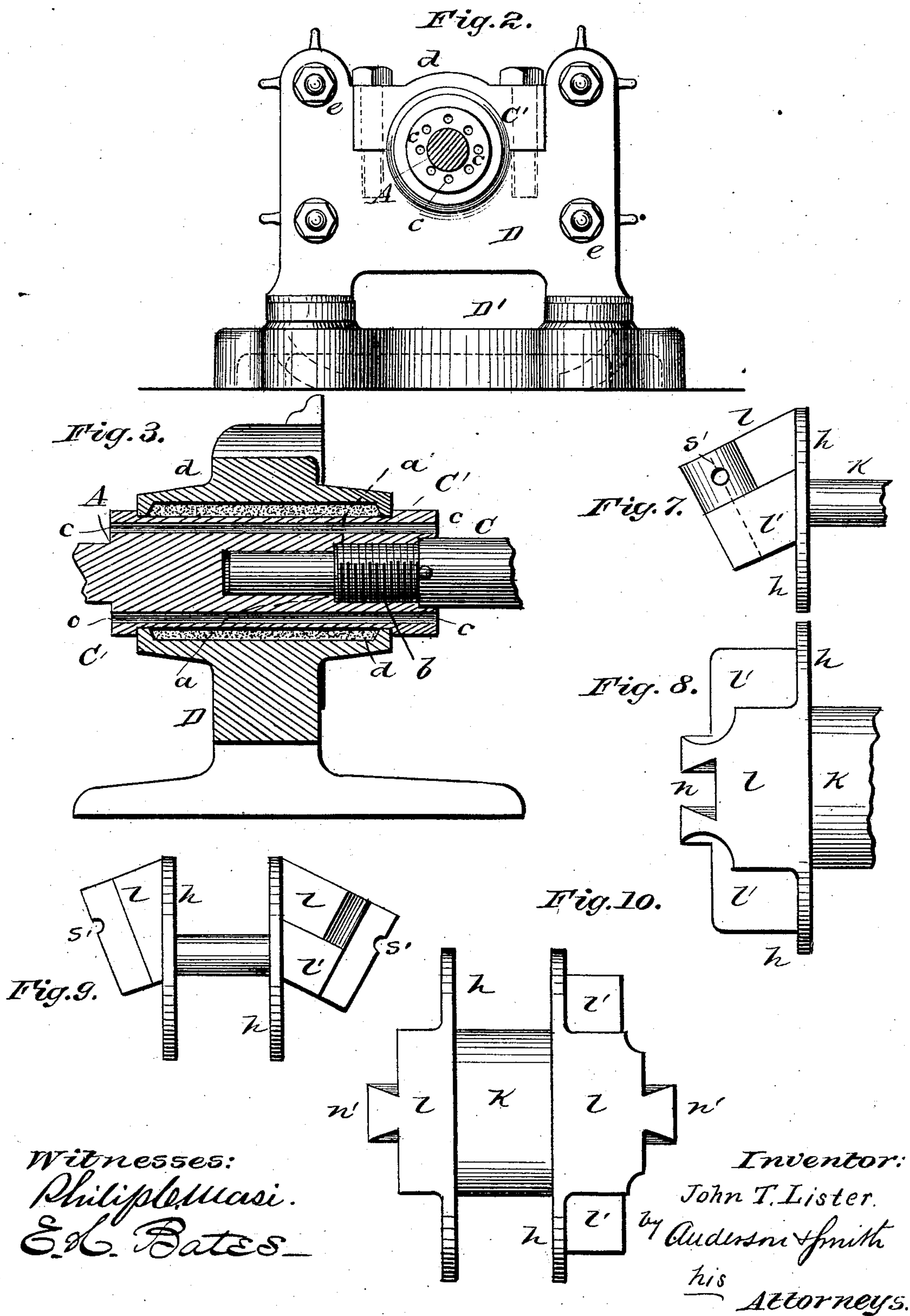
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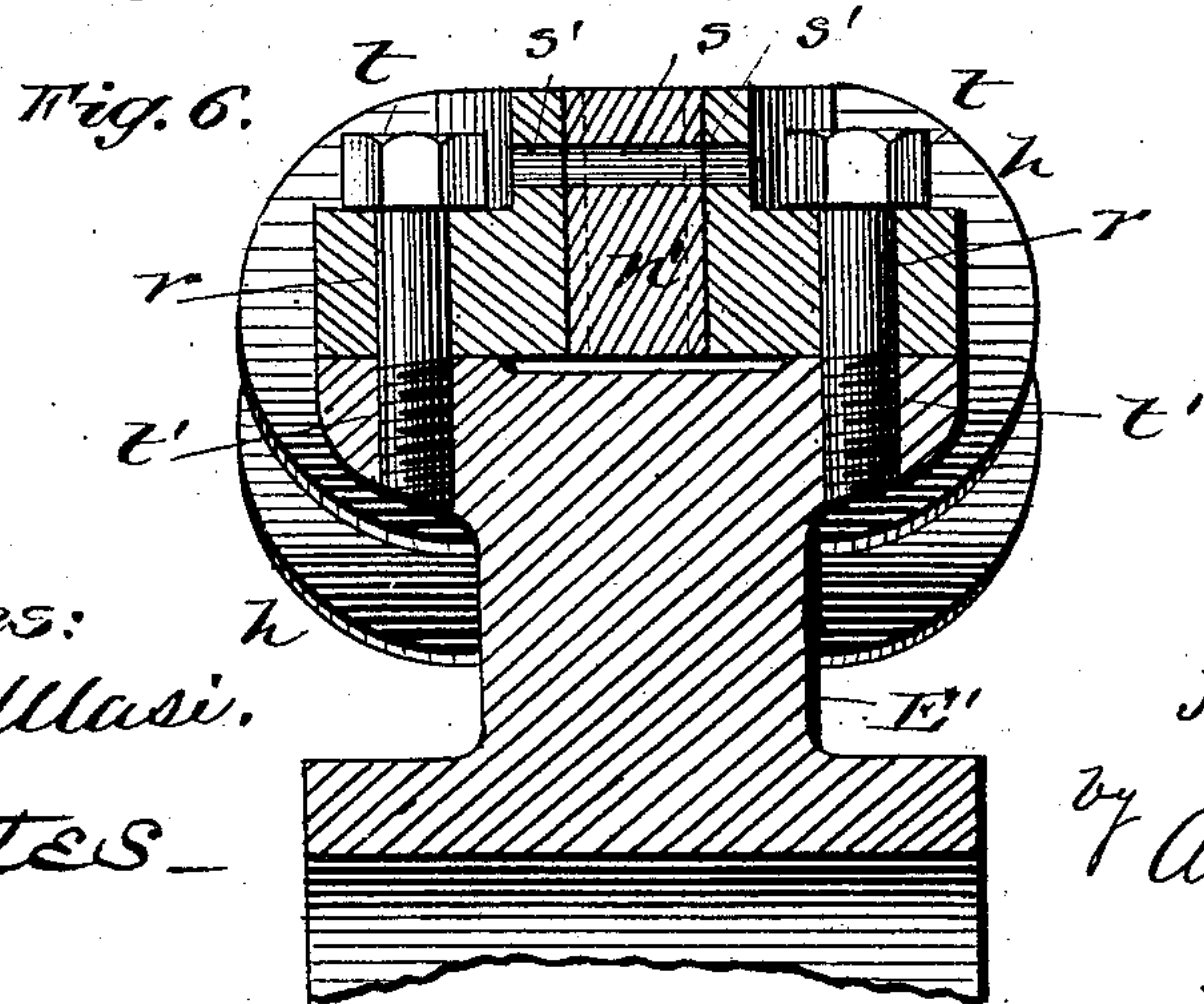
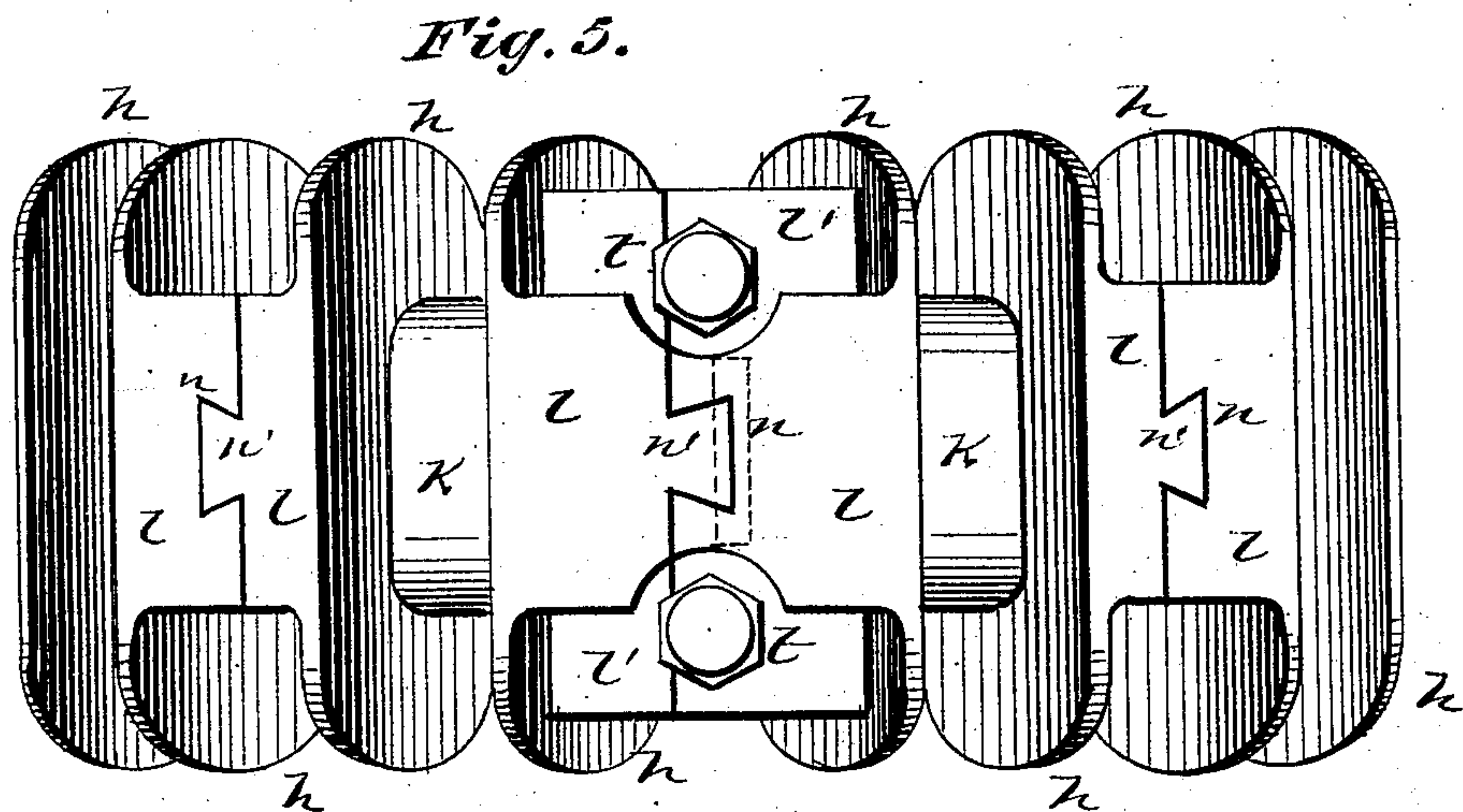
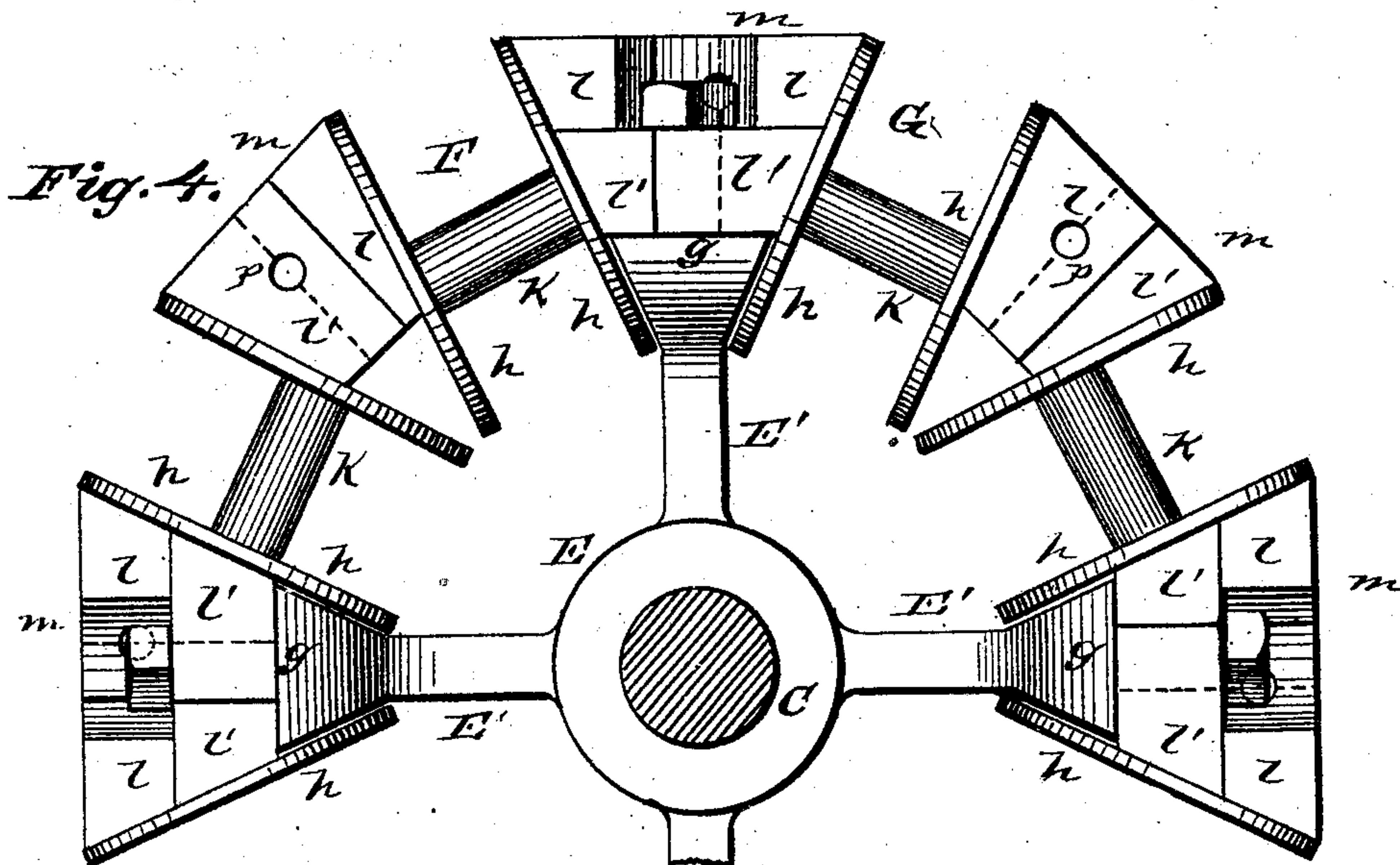
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# UNITED STATES PATENT OFFICE.

JOHN T. LISTER, OF CLEVELAND, OHIO.

## ARMATURE FOR DYNAMO-ELECTRIC MACHINES.

SPECIFICATION forming part of Letters Patent No. 283,624, dated August 21, 1883.

Application filed February 24, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN T. LISTER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Armatures for Dynamo-Electric Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a plan view. Fig. 2 is a side view. Fig. 3 is a vertical section. Fig. 4 is also a vertical section. Fig. 5 is a top view. Fig. 6 is a sectional detail view. Figs. 7, 8, 9, 10, 11, and 12 are detail views.

This invention has relation to electric generating-machines; and it consists in the construction and novel arrangement of a sectional armature connected by dovetail or other groove-and-tenon joint formed at the ends of the sections, all as hereinafter set forth.

In the accompanying drawings, the letter C designates the middle or main section of the shaft on which the armature is mounted. A represents the commutator end of this shaft, which is made separately from the main section C, and is provided with an axial recess, *a*, in its end, which is threaded to engage the threaded end *b* of the middle section, C. The journal portion *C'* of the section C is of larger diameter than the section A, and is provided with longitudinal perforations *c*, forming guide-passages for the wire leading from the armature to the commutator.

The journals of the armature-shaft are seated in bearings *d* of the stands or chairs D, which are located at the ends of the base-plate D'. Each stand D is also provided with bearings *e*, arranged at the same radial distance from the axial center of the armature-shaft, and serving to receive the ends of the magnet-cores B.

E designates the hub of the armature, having the radial arms E', which are formed with outwardly-flanged or dovetail ends *g*, designed to be seated between the end flanges, *h*, of the adjacent armature-sections, as indicated in the drawings.

F and G represent adjacent armature-sections. Each consists of a core, *k*, having at each end a guard-flange, *h*, and beyond said flange a joint-lug, *l l'*, having a radial or nearly radial end face, *m*. The joint-lugs are provided with groove-and-tenon connections, usually and preferably of dovetail form, as indicated at *n* and *n'*; but the T-form may be employed. Each section embracing the core, flanges, and connection-lugs, is made in one piece, so that it is not liable to come apart when the armature is revolving at a high rate of speed. Transversely through the connection-lugs *l* are made registering seats *s* and *s'*, for the transverse interlocking pin *p*, whereby the groove-and-tenon joint is locked and the adjacent ends of the sections held firmly and positively in position. Through the connection-lugs, or in the adjacent portions thereof, are made bearings *r* for the screws *t*, the threaded ends of which engage threaded perforations *t'* of the arms E', which extend from the hub E.

It will appear from the above description that the armature-sections are firmly secured together by interlocking joints, which depend for their strength upon the construction of the sections, so that said sections will hold together securely under high rates of speed. In order to form the ring, four sections of the armature are put together, respectively, to form two halves or semi-circles, when the outer face of each outer section will be on a diametrical line. The halves are then connected together and to the radial arms of the hub by simply sliding the dovetail projections *n'* into the corresponding grooves *n* and applying the transverse interlocking pins.

The magnet-cores B are formed with longitudinally-arched and transversely-concave heads B', adapted, when said magnet-cores are placed in proper position relative to the armature, to cover the ends of or partially inclose the bobbins of the armature as they are carried by the rotation of the armature between the pole-pieces or heads of the magnet-cores.

It is designed by this invention to provide a cheap, safe, and durable sectional armature, which may be run at high rates of speed without flying; also, to facilitate communication between the armature and the commutator, to

protect the bobbins, and to provide the magnets with heads or pole-pieces which will almost envelop the bobbins as they pass between, and will tend to increase the influence  
5 of the magnets and bobbins upon each other.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

10 In a sectional armature, the sections F G, respectively consisting of the bobbin-cores, flanges, and end lugs, having dovetail grooves

and tenons, and transverse bearings in connection with said grooves and tenons for transverse interlocking pins, substantially as specified.

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

JOHN T. LISTER.

Witnesses:

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T. C. PECK.