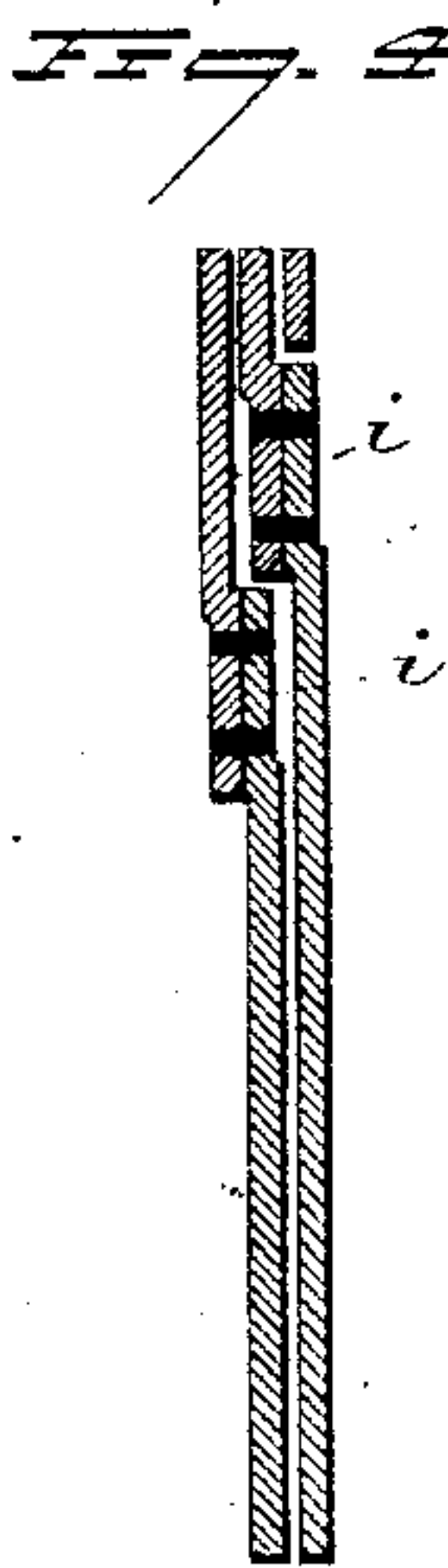
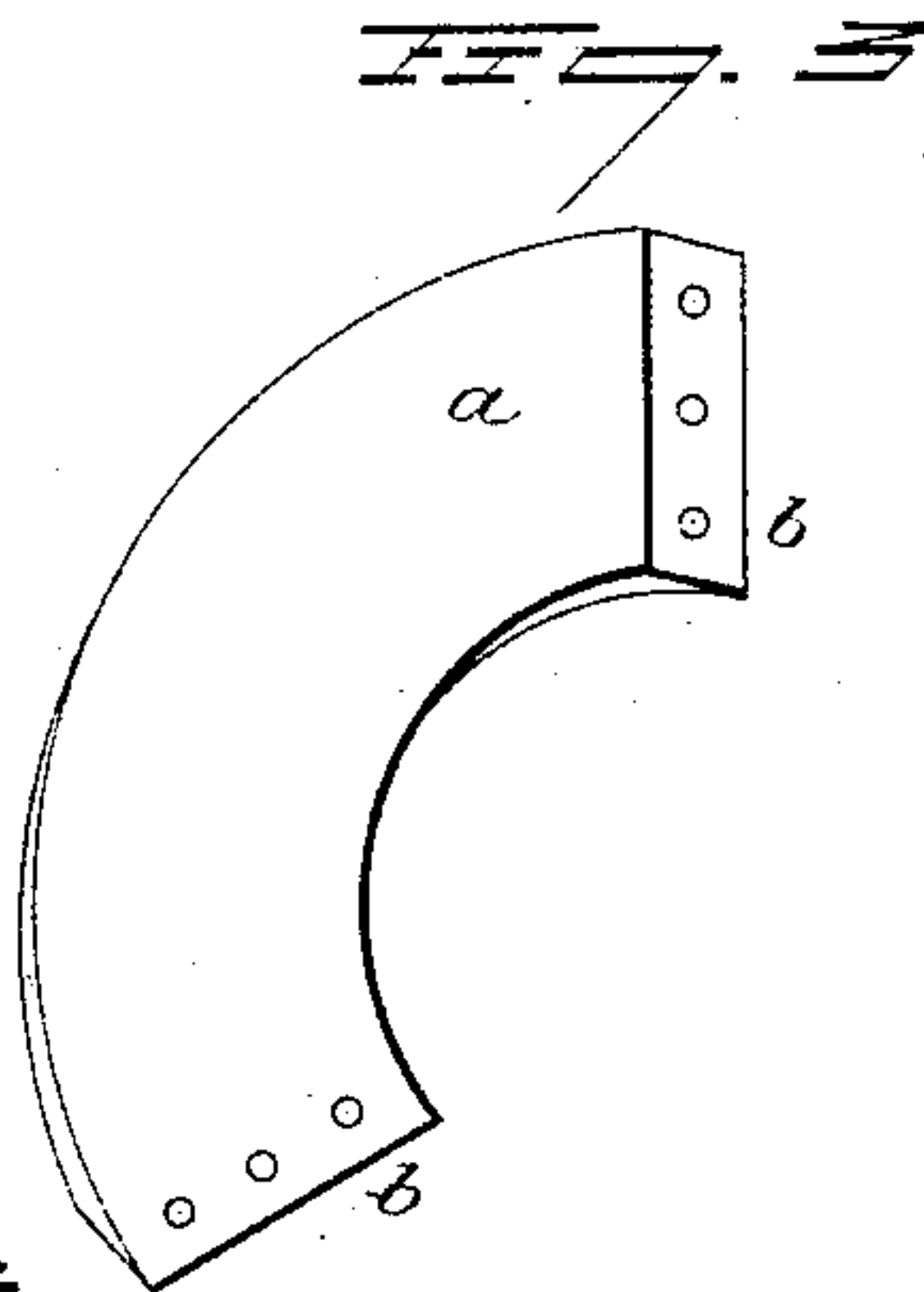
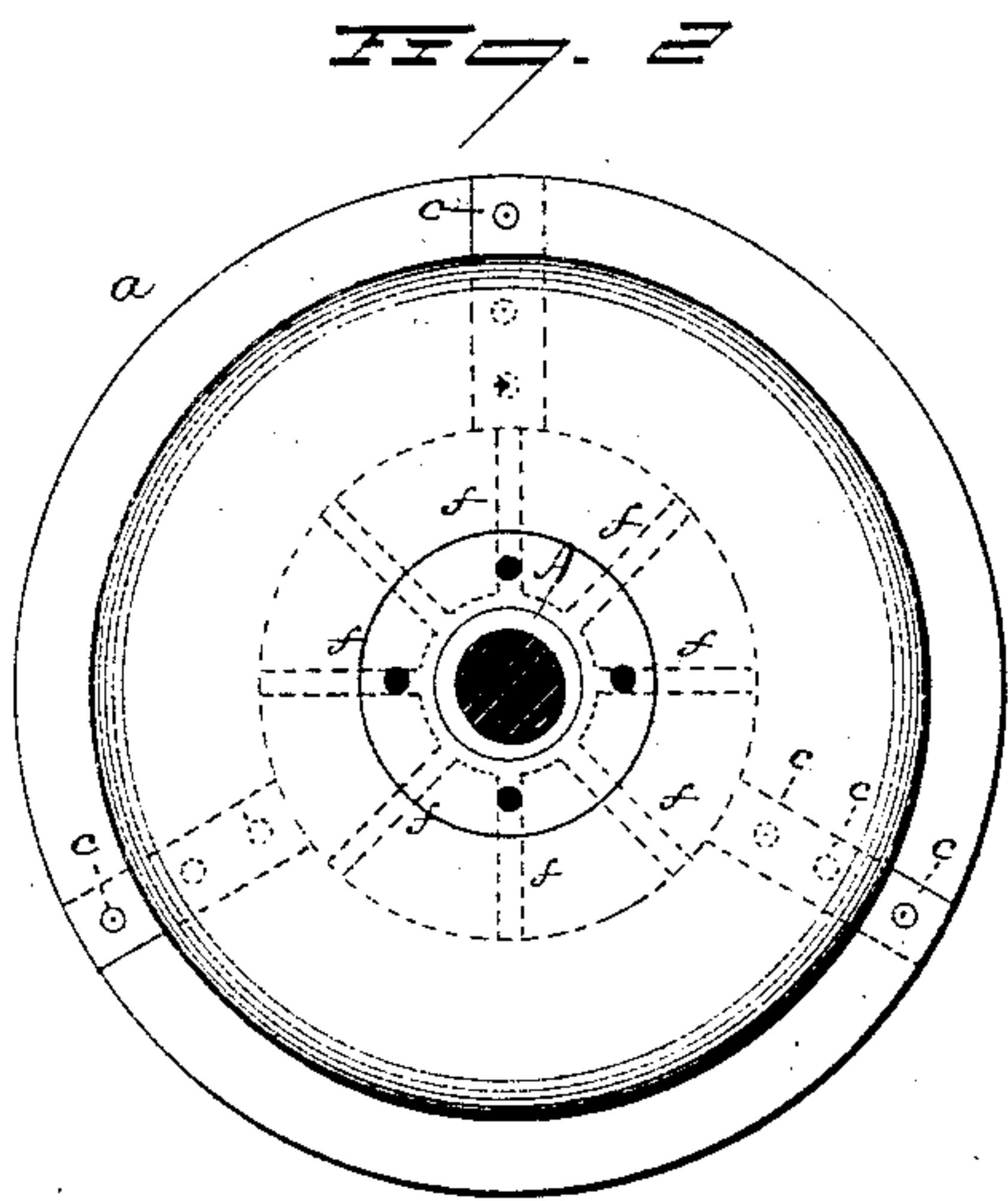
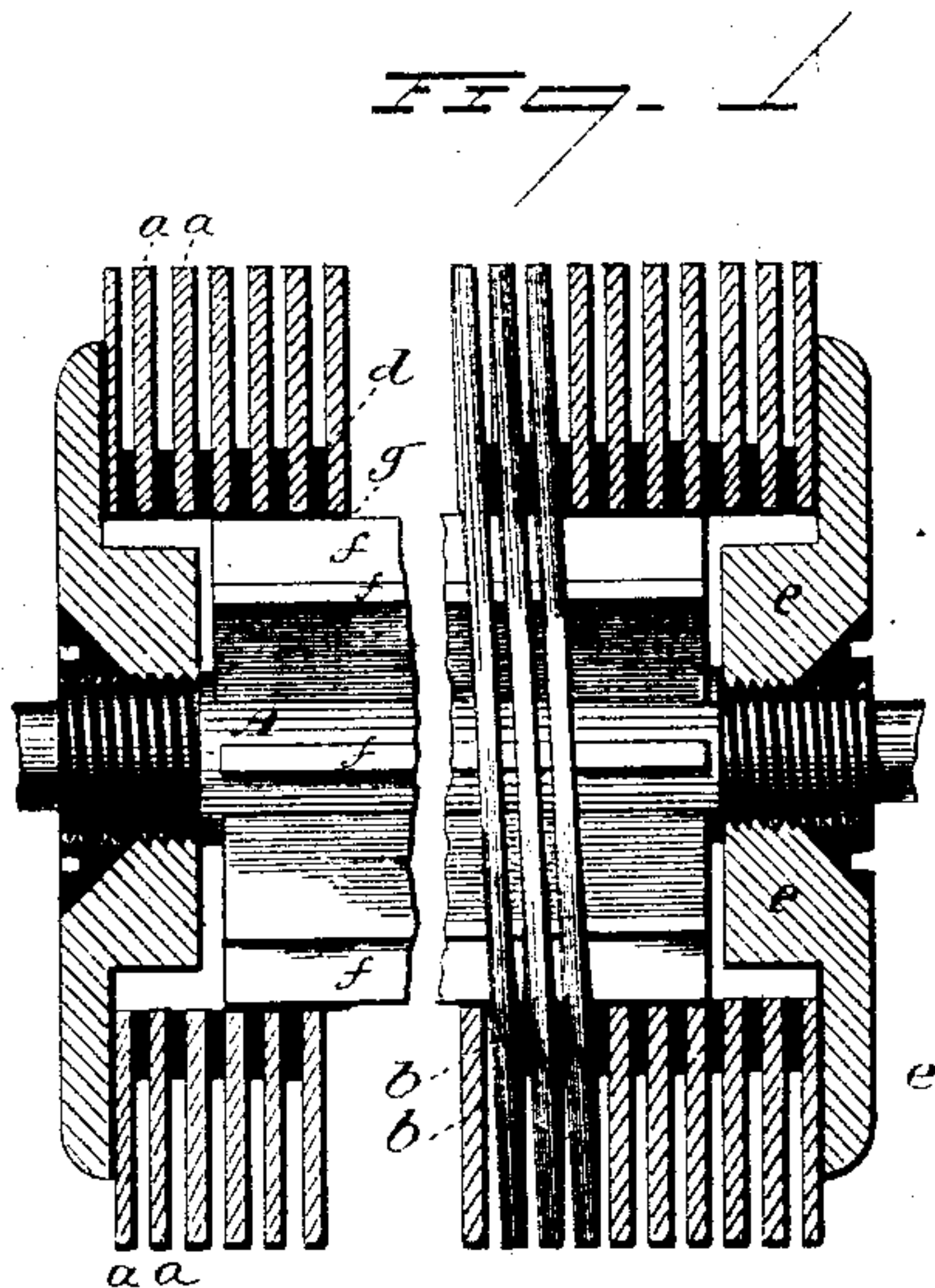


(No Model.)

G. W. FULLER.  
DYNAMO ELECTRIC MACHINE.

No. 286,416.

Patented Oct. 9, 1883.



Witnesses.  
Wm. E. Lumsby.  
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# UNITED STATES PATENT OFFICE.

GEORGE W. FULLER, OF NORWICH, CONNECTICUT.

## DYNAMO-ELECTRIC MACHINE.

SPECIFICATION forming part of Letters Patent No. 286,416, dated October 9, 1883.

Application filed August 22, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. FULLER, of Norwich, Connecticut, have invented certain Improvements in the Construction of Spiral Cores for Dynamo-Electric Machines, of which the following is a specification.

My invention relates to a method of constructing spiral cores for the armatures of dynamo-electric machines, which is specially adapted to armatures of large diameter.

It consists in forming such cores of any required number of sectors of flat rings or centrally perforated disks successively joined by lapping their radial edges, which may be either scarfed or offset, and which are secured together by rivets or otherwise.

The accompanying drawings, illustrating a spiral core constructed according to my invention, are as follows, viz:

Figure 1 is a central longitudinal section exhibiting several convolutions of the spiral in elevation. Fig. 2 is an end elevation. Fig. 3 is an isometrical perspective of one of the sectors of which the spiral is built up. Fig. 4 is an elevation showing the method of uniting the adjoining convolutions of the spiral by offset lapped joints.

The drawings represent a spiral ribbon of iron, composed of sectors successively united together by the lapping and fastening of their adjoining radial edges. The width of the sectors—or in other words, their dimensions in degrees of the circle—may be varied according to the diameter of the core, and also according to the thickness of the iron plate of which they are composed, so that the sectors will be sufficiently light to be easily handled in putting them together. In the drawings each sector is represented as having an arc of one hundred and twenty degrees, plus the amount required for the overlapping joints.

The sectors *a* may be made of either cast or wrought iron, and, when thin enough to admit of the springing apart of the convolutions of the spiral into which they are embodied, may be united by the scarfed joints *b*, secured by the rivets or screws *c*. When thus constructed, the convolutions of the spiral may be sprung apart sufficiently to permit a web of paper, *d*, or some other insulating material, to be inter-

posed between them, and may then be clamped together by the nuts *e e*, applied to the armature-shaft A, and bearing, respectively, upon the outer convolutions at the opposite ends of the spiral. In the larger convolutions it will be undesirable to make the shaft of the full diameter of the interior of the convolutions, as may be done in armatures of smaller diameter. I therefore construct the shaft with longitudinal radial wings *f*, which project from the body of the shaft sufficiently to form a bearing for the convolutions of the armature. Between these wings and the armature an insulating material, *g*, is introduced. When made of thicker plate, too rigid to permit of the springing apart of the convolutions of the spiral, or if for any reason it be desired, every third joint may have the offset *i*; or if the sectors are of less width than when a sufficient number of sectors have been united to form a circle, the offset joint *i* may be employed to unite one circle of sectors to the next circle of sectors, and so on.

It will be of course understood that the several sectors may be either cast or otherwise formed with the proper wind to enable them, when joined, to form the desired spiral without being sprung; but it will ordinarily be the case that the plate of which they are composed will be thin enough to have the necessary flexibility, so that the sectors may be made of flat plate. In either case it will be seen that a spiral armature core of large size may be built up of sectors which are easily and conveniently handled.

The spiral core, when mounted upon the shaft A, may be wound in the ordinary ways by the wire composing the induction-coil.

I claim as my invention—

A spiral core for the armature of a dynamo-electric machine built up of sectors of iron plate successively united by having their adjoining radial edges lapped and riveted, screwed, or otherwise fastened together, substantially as set forth.

GEO. W. FULLER.

Witnesses:

JOHN E. EARLE,  
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