

(No Model.)

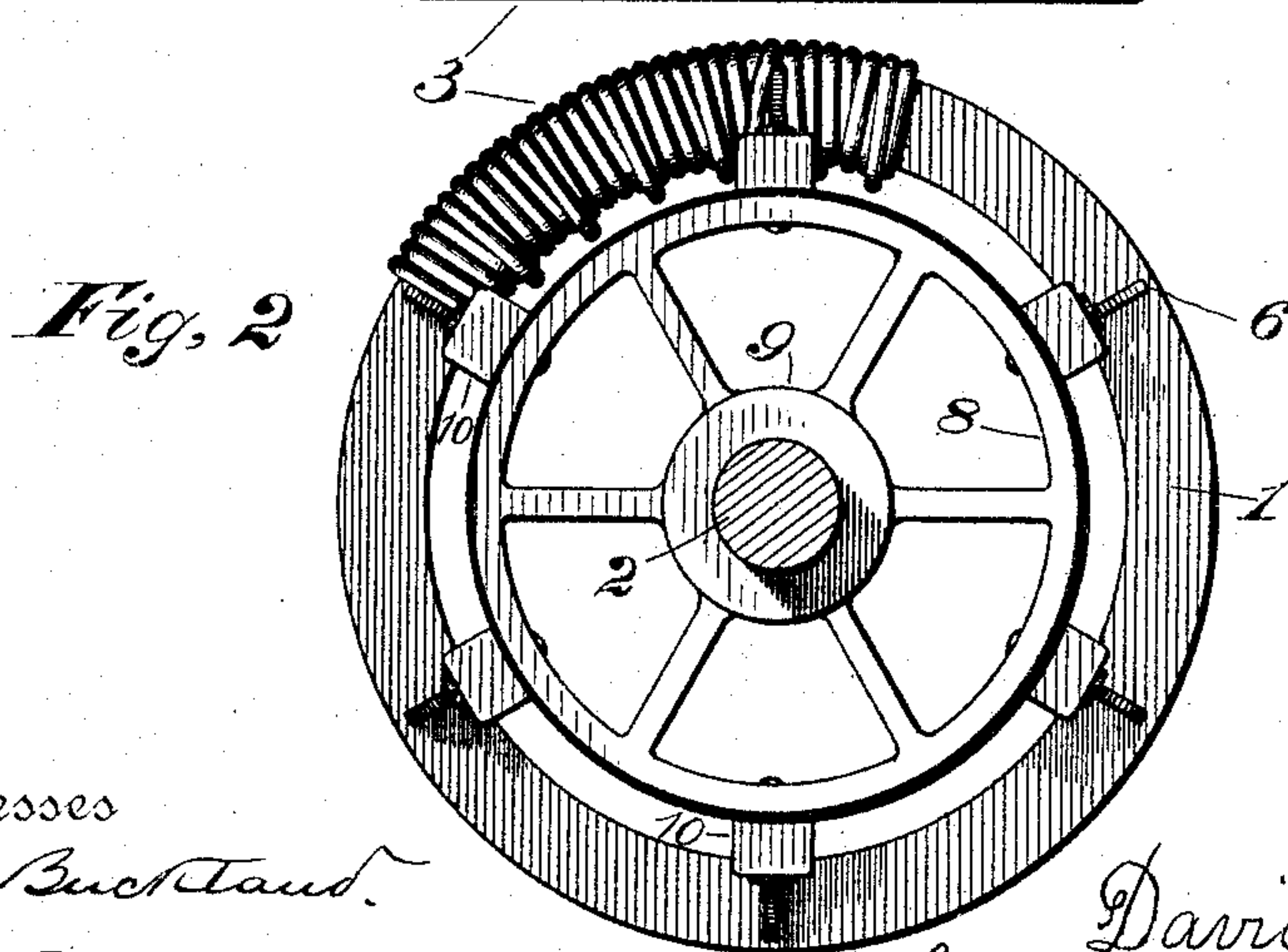
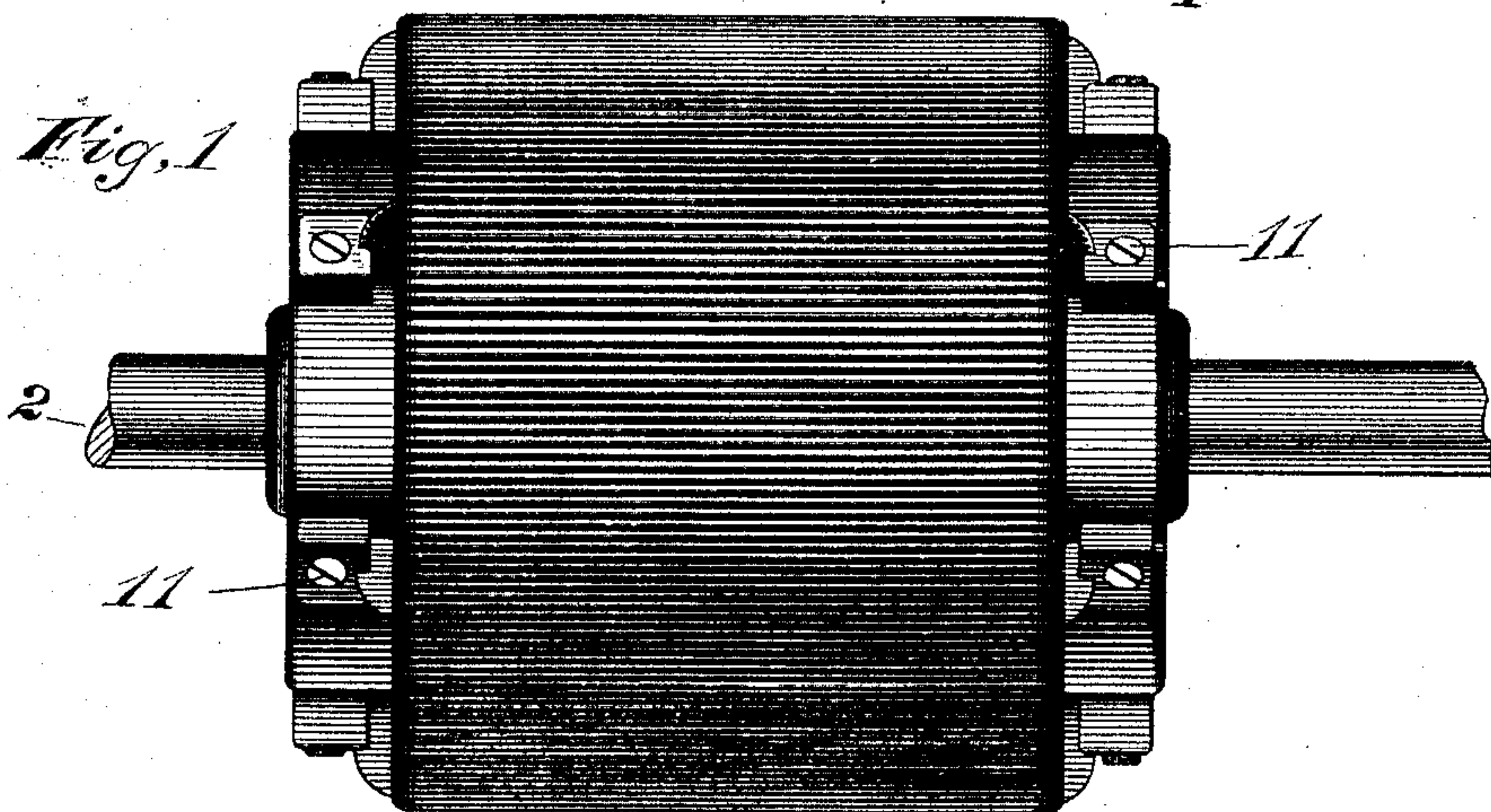
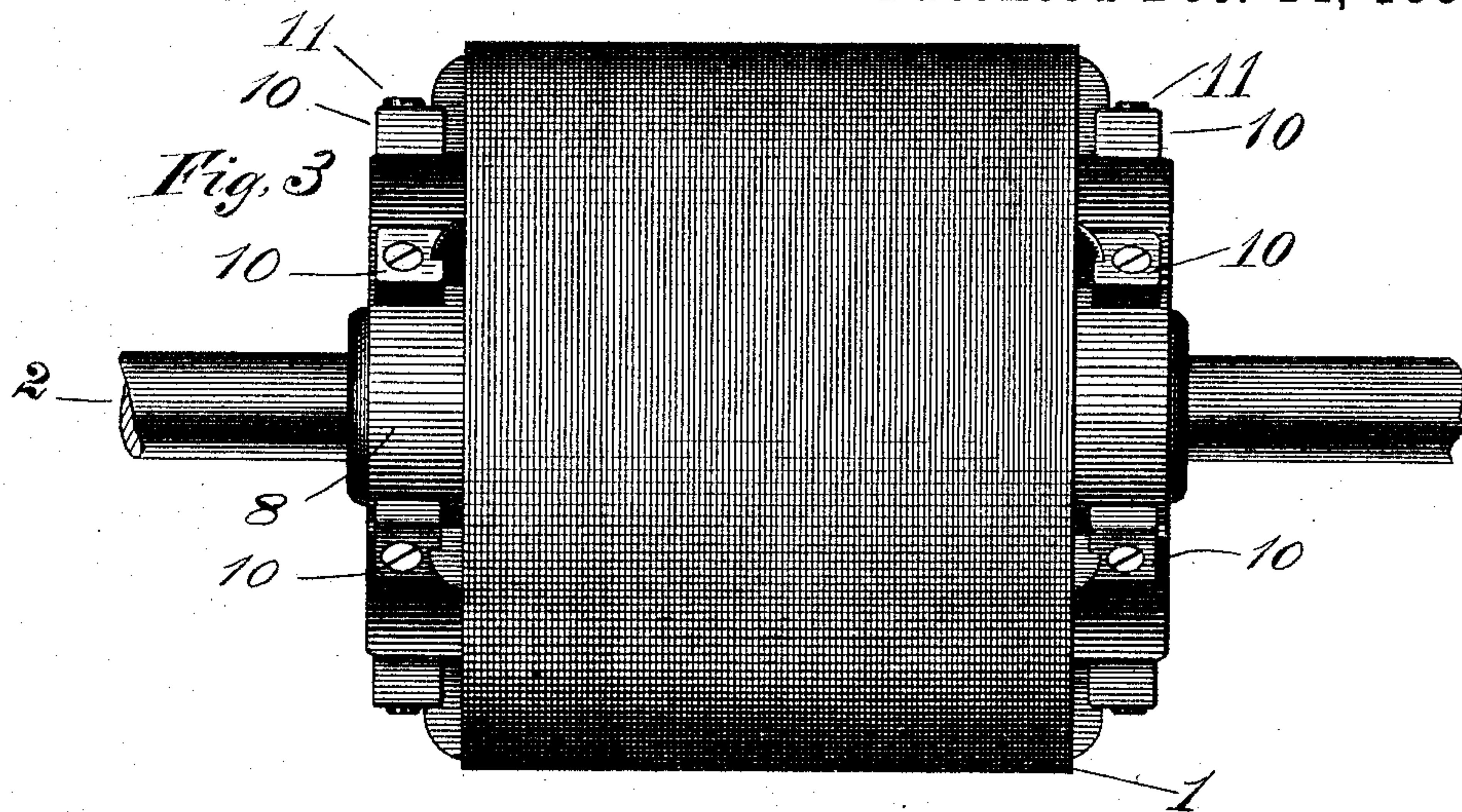
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D. WILLIAMSON.

ARMATURE FOR DYNAMO ELECTRIC MACHINES.

No. 354,292.

Patented Dec. 14, 1886.



Witnesses
C. E. Buckland.
Henry L. Rickard.

Inventor
David Williamson,
By his Attorney
Willard Eddy.

(No Model.)

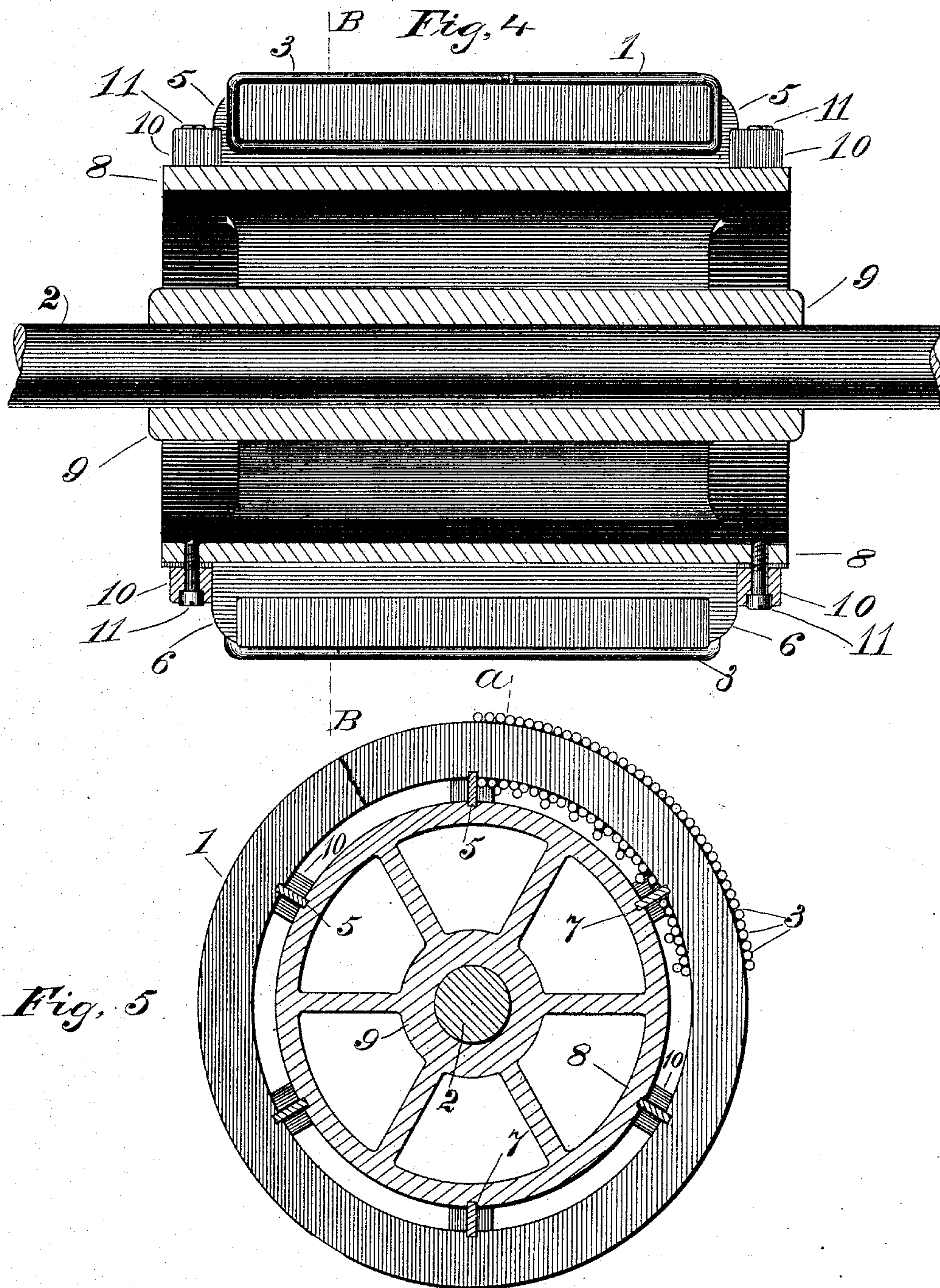
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Fig. 6

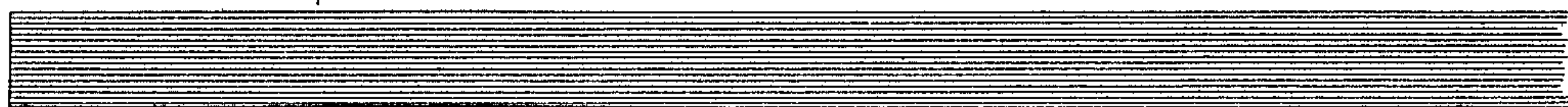


Fig. 7

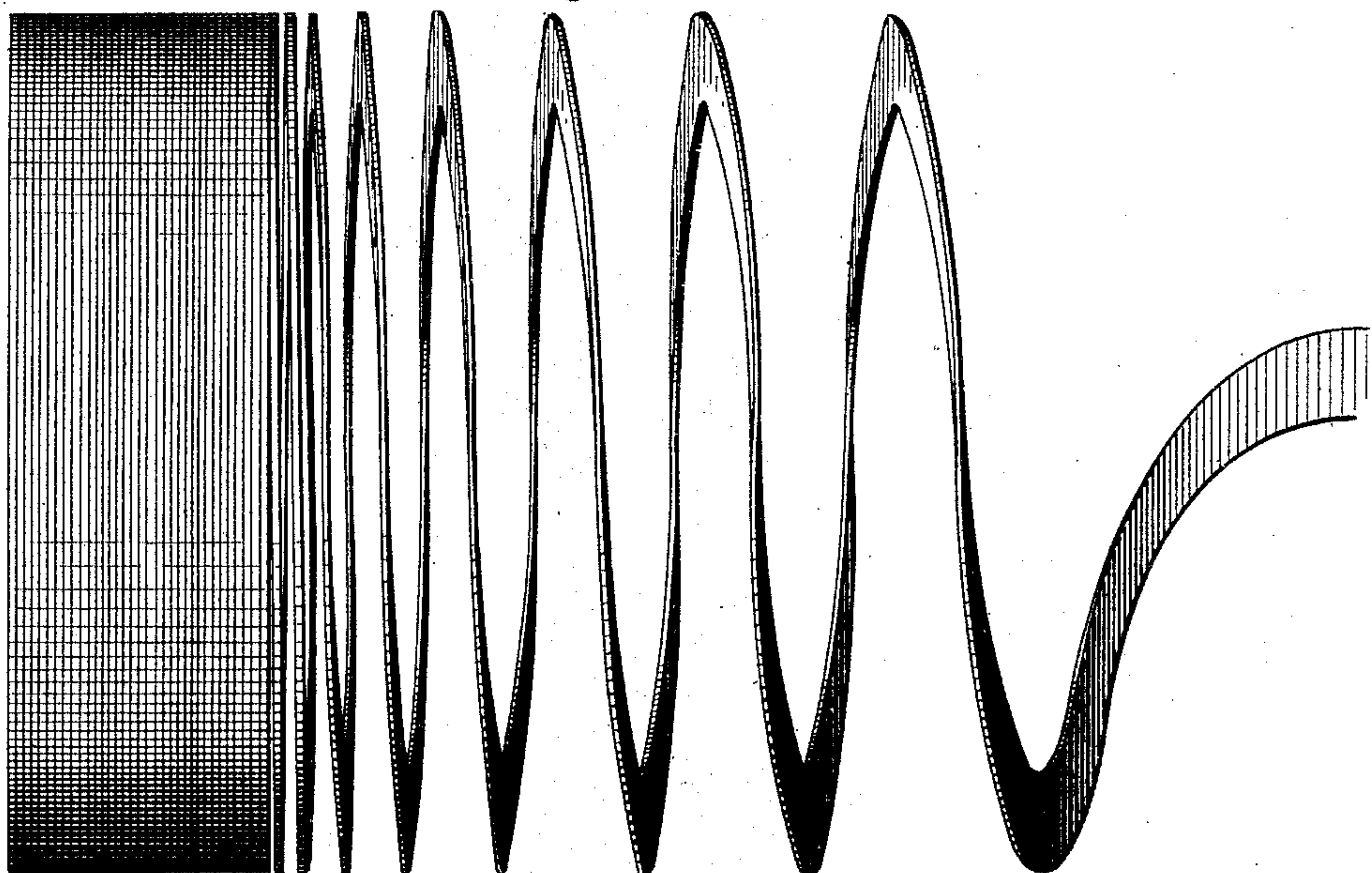


Fig. 8

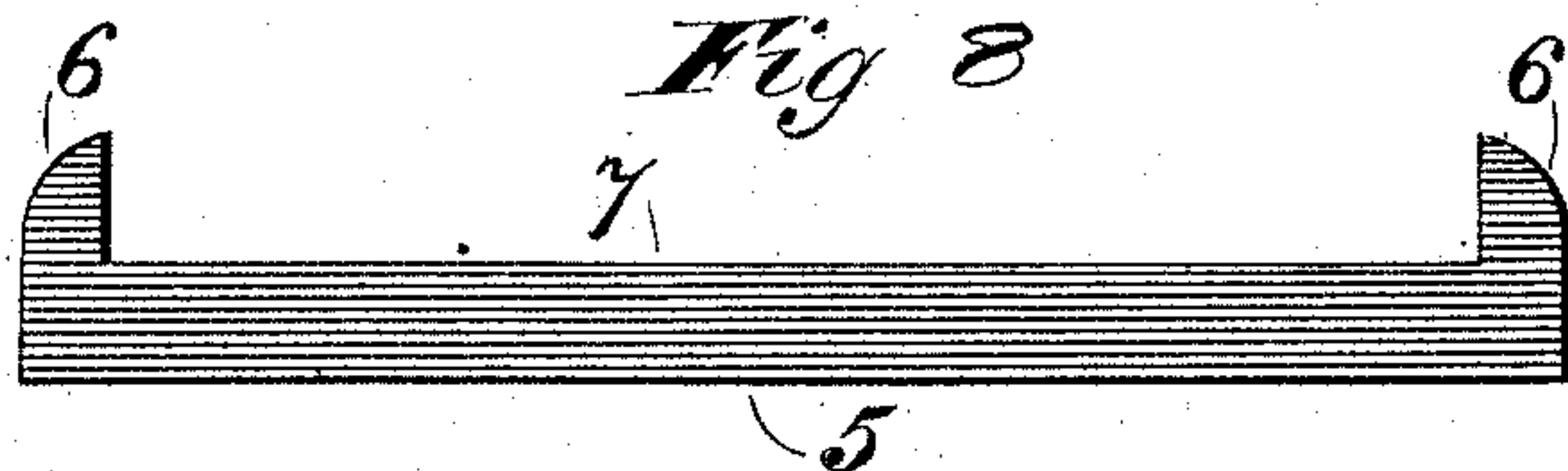
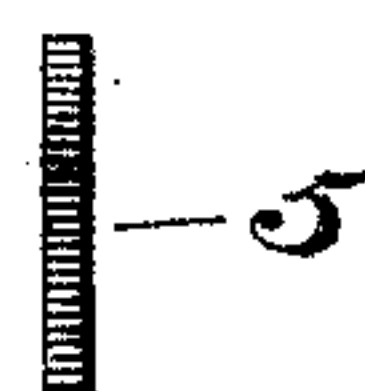


Fig. 9



Witnesses

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UNITED STATES PATENT OFFICE.

DAVID WILLIAMSON, OF NEW YORK, N. Y.

ARMATURE FOR DYNAMO-ELECTRIC MACHINES.

SPECIFICATION forming part of Letters Patent No. 354,292, dated December 14, 1886.

Application filed August 2, 1886. Serial No. 209,750. (No model.)

To all whom it may concern:

Be it known that I, DAVID WILLIAMSON, of the city, county, and State of New York, have invented certain new and useful Improvements
5 in Armatures for Dynamo-Electric Machines, of which the following is a specification, illustrated by the accompanying drawings.

This invention is designed to promote economy of material in the construction of laminated cores; and it consists of a spirally-laminated armature-core, including mechanism for
10 holding the core together and for supporting the armature.

Figure 1 in the drawings is a front view of my improved armature, including the shaft
15 upon which it is mounted. Fig. 2 is an end view of the same, the armature being but partly wound. Fig. 3 is a front view of the same without the winding of the armature.
20 Fig. 4 is a central longitudinal section of the armature on the line *a a* of Fig. 5. Fig. 5 is a cross-section of the same on line *b b* of Fig. 4. Figs. 6, 7, 8, and 9 are details illustrating the construction of the armature-core.

23 The numeral 1 in these figures denotes the core of the armature, while 2 denotes the armature-shaft, and 3 the coils of insulated wire which are wound upon the same. This core, which is a spirally-laminated iron cylinder, is
30 made in the following manner: A straight iron strip or ribbon, 4, having any convenient length, a thickness which is equal to the thickness of the proposed laminations, and a width which is equal to the thickness of
35 the wall of the cylinder, is bent edgewise, by suitable machinery or otherwise, into the form of a close spiral whose diameter is equal to that of the proposed core. If the cylindrical spiral which is thus formed should be shorter
40 than is necessary for the proposed core, the deficiency is to be supplied by bending in the same manner an additional iron ribbon which is of the same width and thickness, and by placing the two cylindrical spirals
45 which have been thus produced end to end in such a manner as to form a single continuous cylinder. Any number of cylindrical spirals of the same description may be placed together in the same manner, and may, if de-
50 sired, be soldered together in the specified position until a continuous cylinder has been

formed whose length is equal to that of the proposed armature-core. The adjacent coils or laminations of the core may be separated from each other, if desired, by paint, paper, 55 or other insulating substance. The several parts or coils of core 1 are fastened compactly together by a suitable number of brackets, 5, each of which consists of two terminal parallel snugs, 6, and an intermediate sole, 7, which is 60 as long as said core. Such a bracket is shown in side elevation and in end elevation in Figs. 8 and 9, respectively. After brackets 5 have been applied to core 1, in such a manner as to hold the latter compactly together, as shown 65 in Fig. 5, wire 3 is wound upon the core in any ordinary or convenient manner. The support of the armature-core so constructed and held together consists of a cylindrical wheel, 8, which is mounted upon shaft 2 by 70 means of hub 9. Around this wheel, core 1, provided with brackets 5, is mounted by means of iron blocks 10, which are located one at each end of each such bracket. Each block 10, being provided with a slot or channel 75 which contains one end of a bracket, 5, is fastened to the periphery of wheel 8 by bolts or screws 11.

Such being the mode of constructing and mounting my improved armature, the mode 80 of its operation is similar to that of other ring-armatures which have laminated cores.

It is obvious that the economy of material resulting from the construction of the laminated core in the manner described becomes 85 particularly important in the case of ring-armatures of large size.

I claim as my invention—

1. For the armature of a dynamo-electric machine, an iron core consisting of spiral 90 laminations, in combination with brackets which are mounted between fixed collars, substantially as and for the purpose specified.

2. As a means of mounting a cylindrical ring-armature upon a wheel or rotary cylinder, a series of brackets which are adapted to 95 embrace the core of said armature, in combination with slotted blocks which are bolted to said wheel or cylinder, and are adapted to hold said brackets in position, substantially as and 100 for the purpose specified.

3. A spirally-laminated armature-core and

brackets for the support of the same, in combination with slotted blocks which hold said brackets in position, substantially as and for the purpose specified.

- 5 4. A spirally-laminated armature-core, brackets which are adapted to support said core, and slotted blocks which are adapted to support said brackets, in combination with a wheel or rotary cylinder, to which said blocks

are fastened, substantially as and for the purpose specified. 10

In testimony whereof I have hereunto subscribed my name in the presence of two witnesses.

DAVID WILLIAMSON.

Witnesses:

H. C. WESTON,

D. C. WILLIAMSON.