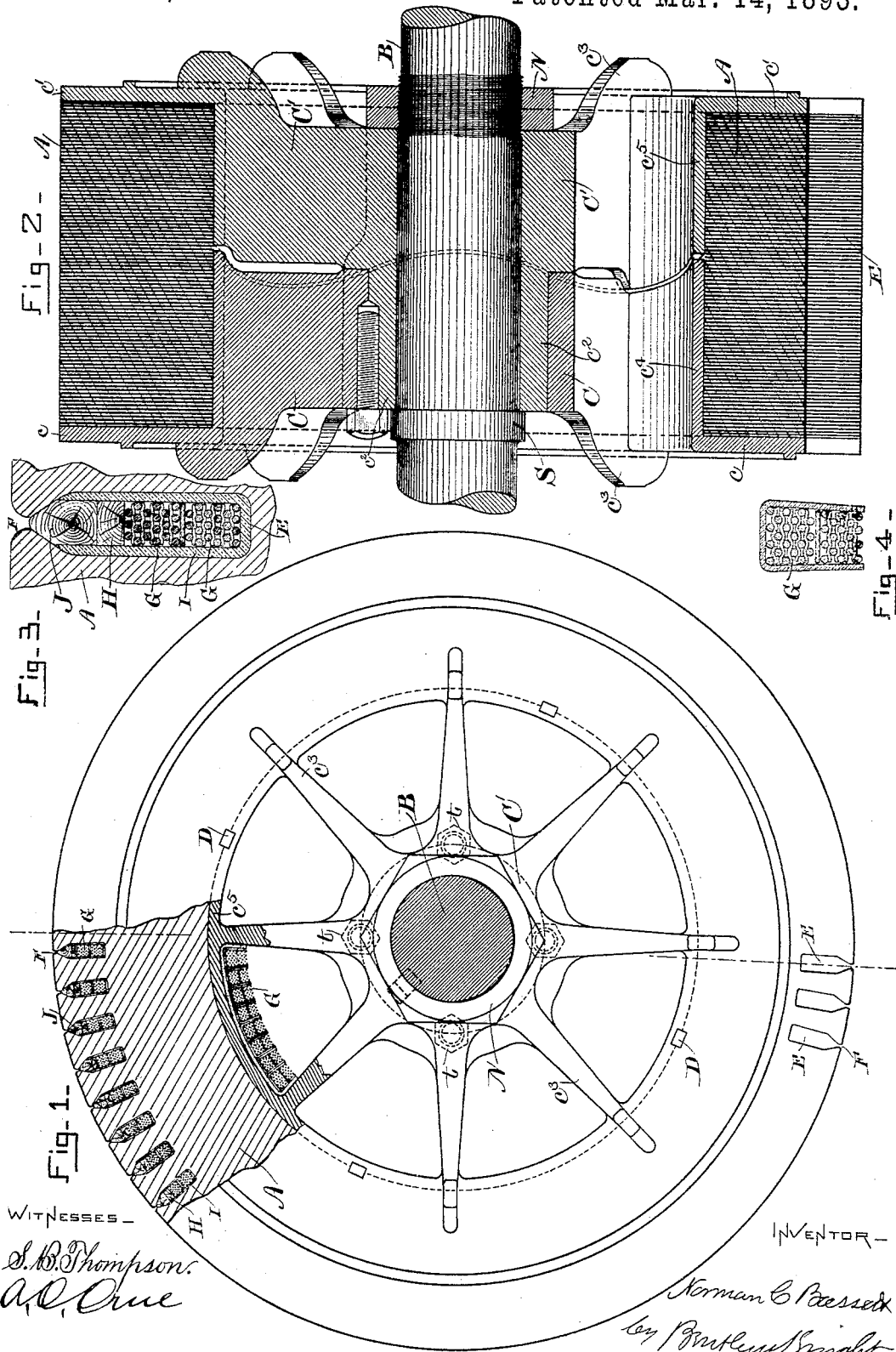


(No Model.)

N. C. BASSETT.
ARMATURE FOR MOTORS AND GENERATORS.

No. 493,349.

Patented Mar. 14, 1893.



WITNESSES -
S. B. Thompson.
A. C. One

INVENTOR -
Norman C. Bassett
by *Frederick Wright*

UNITED STATES PATENT OFFICE.

NORMAN C. BASSETT, OF LYNN, MASSACHUSETTS, ASSIGNOR TO THE THOMSON-HOUSTON ELECTRIC COMPANY, OF CONNECTICUT.

ARMATURE FOR MOTORS AND GENERATORS.

SPECIFICATION forming part of Letters Patent No. 493,349, dated March 14, 1893.

Application filed July 9, 1891. Serial No. 398,910. (No model.)

To all whom it may concern:

Be it known that I, NORMAN C. BASSETT, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented a certain new and useful Improvement in Armatures for Motors and Generators, of which the following is a specification.

My invention relates to improvements in armatures for motors and generators whereby a firm support for the core is secured, and the coils are tightly held in place.

In the accompanying drawings Figure 1 is a partly sectional end view of an armature embodying my invention. Fig. 2 is a longitudinal section of the same. Figs. 3 and 4 are detail sections of an armature bobbin.

The armature core A, is as usual, laminated and is supported from the shaft B by spiders and is supported from the shaft B by spiders 20 C, C' whose heads c, c' embrace the core between them. The spider C' secured to shaft B in any desired manner as by shoulder S and nut N has a hub c² on to which spider C is slipped, screws t tapped half and half into 25 the two spiders serving to hold them tightly together. Each spider has arms c³ whose ends instead of engaging directly with the core, carry cylindrical barrels or flanges c⁴, c⁵ which are continuous with the heads c, c', and these 30 barrels or flanges receive, and fit closely within, the armature core. The laminations of the core are thus supported firmly at every point of their circumference. As it is not desirable to have the edges of the barrels or 35 flanges come in contact, said edges are serrated or undulated as shown in Fig. 2 so as to overlap one another and thereby support the middle laminations. To hold the core plates from turning on the flanges, keys D are driven 40 into holes and slots in the heads, flanges and core plates after the parts are assembled.

The above construction is strong and enduring, and easier to fit than the usual form of spider. I support and bind the armature 45 coils in place so as to insure the durability thereof in the following manner: Grooves E are made in or near the working face of the armature, that is in the face through which the lines of magnetic force enter and leave 50 the core. Said grooves, which are of sufficient diameter to receive the coils taper to a nar-

row slit F at the surface of the core. These grooves may be lined with insulating tubes or shells I. The coil or bobbin wire G is wound in the deeper and wider portions of the 55 grooves and a follower H being inserted over the wire, a plug J, preferably of insulating material, is driven into the taper portion of the hole or groove E so as to firmly bind the coils in place. It will be seen that the wind- 60 ing may be effected in the same manner as with the ordinary Grammering, and the opening or slit may be wide enough to admit the wire. In any case, in order to sufficiently spread the exposed surface of the armature 65 and to form a support against outward displacement of the coils, it is desirable that the core teeth should approach one another so as to leave a narrow slit.

My present improvement consists partly in 70 placing the binding or filling plug in the enlarged or the tapering portion of the groove instead of in the narrow slit thereby enabling said plug to be of substantial size and strength without unduly enlarging said slit, and also 75 utilizing the projecting or spreading portions of the core teeth to hold the plug in place.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with the laminated armature core and the shaft of the supporting spiders secured to the shaft, and having cylindrical flanges engaging with the interior of the core and of such dimensions as to form a support for substantially all the laminæ of 85 the core.

2. The combination of the laminated core, the shaft, and the spiders having heads embracing the core between them, and cylindrical flanges engaging with the interior of the 90 core and of such dimensions as to form a support for substantially all the laminæ of the core.

3. The combination with the armature core, of the shaft, and the spiders secured to said 95 shaft for supporting the core, said spiders being provided with cylindrical flanges engaging with the interior of the core and having serrated intermeshing edges, substantially as described.

4. An armature having grooves to receive 100 the coils, said grooves having their sides in-

clining toward each other near the surface of the armature in combination with coils wound in the grooves and binding pieces adapted to be crowded down upon the coils by said inclined sides, substantially as set forth.

5 5. The combination of the armature core having grooves near its surface, with narrow openings or slits, coils wound in said grooves
10 followers placed on said coils and binding pieces in said grooves between said slits and the followers.

6. The combination with the armature core having grooves near its surface tapering to narrow slits or openings, of the coils wound

in said grooves and filling and binding pieces 15 in the tapering portion of said grooves.

7. The combination of an armature core having grooves near its surface with tapering portions, coils wound in said grooves, followers placed on said coils and binding pieces 20 driven into said grooves.

In testimony whereof I have hereto set my hand this 2d day of July, 1891.

NORMAN C. BASSETT.

Witnesses:

JOHN W. GIBBONEY,
ELIHU THOMSON.