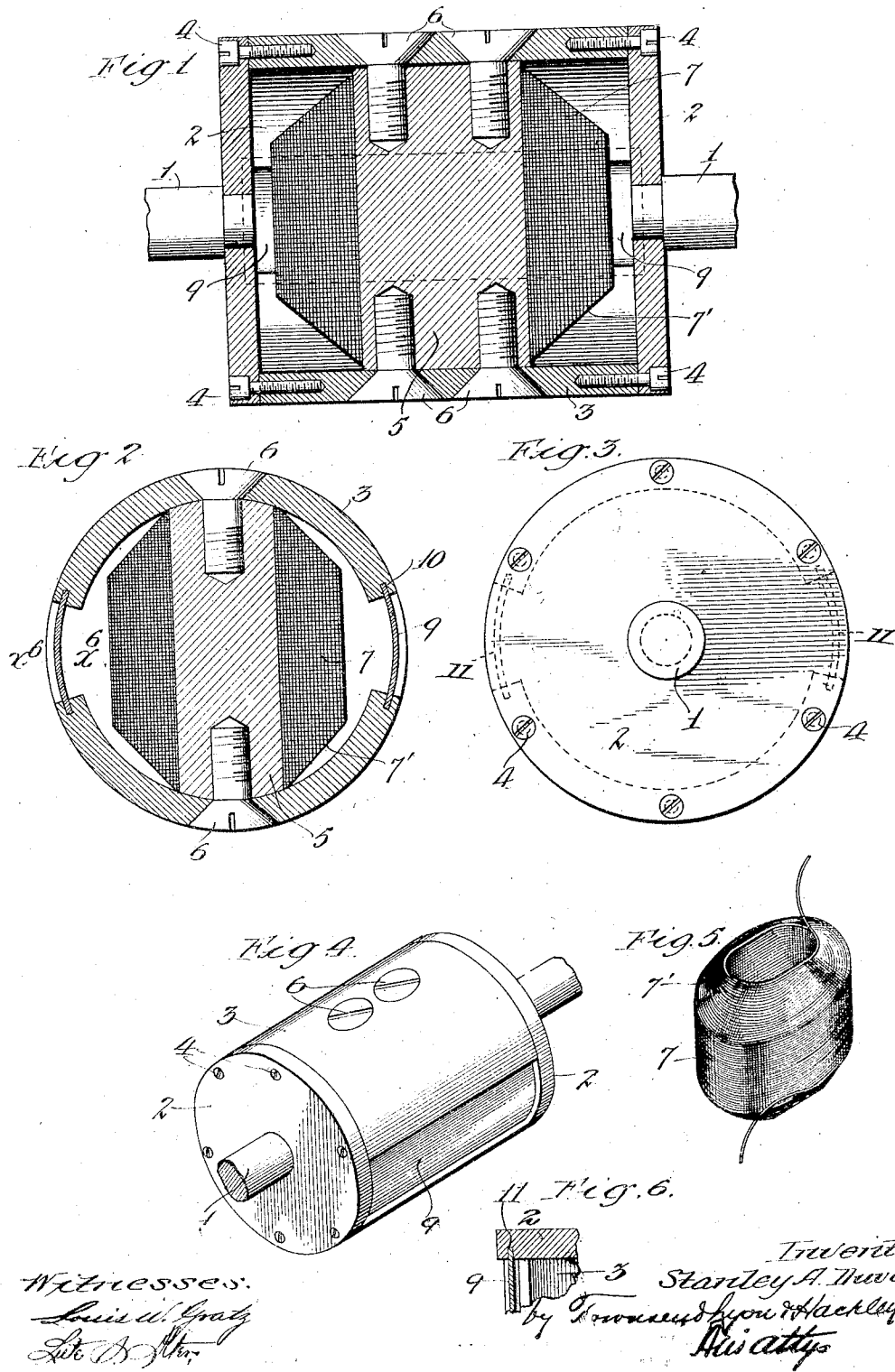


S. A. DUVALL.
 ARMATURE.
 APPLICATION FILED MAR. 14, 1910.

994,303.

Patented June 6, 1911.



UNITED STATES PATENT OFFICE.

STANLEY A. DUVALL, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO JOHN S. NASH,
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ARMATURE.

994,303.

Specification of Letters Patent.

Patented June 6, 1911.

Application filed March 14, 1910. Serial No. 549,346.

To all whom it may concern.

Be it known that I, STANLEY A. DUVALL, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented a new and useful Armature, of which the following is a specification.

This invention relates to an armature for dynamo-electric or magneto-electric machines, and particularly to the armature of magnetos such as are used in electric ignition circuits.

The main object of the present invention is to provide an armature which will be water-proof or effectually protected against moisture and other atmospheric conditions generally.

A further object of the invention is to provide an armature of the H-type in which increase of the pole extension may be provided for without diminishing the space provided for windings.

Another object of the invention is to facilitate the winding of the armature.

Other objects of the invention will appear hereinafter.

The accompanying drawings illustrate the invention, and referring thereto:—Figure 1 is a longitudinal section of the armature. Fig. 2 is a transverse section thereof on line x^2-x^2 Fig. 1. Fig. 3 is an end elevation. Fig. 4 is a perspective view of the armature, and Fig. 5 a perspective of the winding or coil thereof. Fig. 6 is a partial section on line x^6-x^6 Fig. 2.

1 designates the shaft of the armature which may be provided with the usual commutator or current collecting means, not shown. Said shaft is made in two sections, the shaft sections 1 being connected respectively to the end plates or disks 2 of the armature, and said disks 2 being connected by the longitudinally extending segmental pole pieces 3, screws 4 connecting said disks and pole pieces to form a rigid structure. Pole pieces 3 are magnetically connected by the core member 5 secured to the pole pieces by screws 6, said core member and pole pieces being of magnetic material. The ends of the core 5 are formed convexly to fit the inside faces of the pole pieces 3, and said pole pieces extend beyond the core member a sufficient distance to give the desired polar extension. The winding, indicated at 7, surrounds the core member 5 and occupies

the space between said core member and the segmental pole pieces, and it will be seen that the lateral extension of the segmental pole pieces may be increased as much as desired without affecting the space provided for the winding. Said winding is tapered at each end, as shown at 7', to extend into the space between the core and the pole pieces.

The segmental pole pieces 3 inclose a considerable portion of the periphery of the armature. In order to complete the inclosure or incasement of the armature and thereby render the same water-proof, segmental plates 9 are provided extending across the space or opening between the ends of the pole pieces and fitting into grooves or recesses 10 in said pole pieces and into segmental slots or grooves 11 in the end disks 2, so that when the parts are fastened together by the screws 4 and 6 these closure plates 9 will be tightly clamped in position within the grooves 10 and 11 and hermetically seal the armature. When the segmental closure plates 9 are inserted in the manner stated, a substantially cylindrical armature is formed presenting minimum air resistance in its rotation, the segmental plates 9 being of substantially the same curvature as the segmental pole pieces 3 and approximately flush with the surfaces thereof.

The armature so constructed is particularly adapted for use in automobiles where it is liable to be immersed in water, the incasement of the armature, as above described, rendering the same water-proof so that the machine can run through a considerable depth of water without stopping or injury to the magneto. The closure members 9 may be of any suitable material, for example, brass or other non-magnetic metal or material. The end plates or disks 2 may also be of any non-magnetic metal or suitable material.

The above described construction of armature has the advantage that the coil 7 may be wound separately on any suitable form and can then be slipped over the core 5 and the pole pieces then secured to the core, retaining the coil in place, and extending partly around the coil.

What I claim is:—

An armature for dynamo-electric machines comprising a core member, segmental pole pieces at each end of the core member, disks of non-magnetic material secured

to each end of the pole pieces, a coil surrounding the core member and occupying the space between the core member and the pole pieces and disks, and segmental closure
5 members of non-magnetic material closing the space between the ends of the pole pieces and the end disks, said segmental pole pieces having longitudinal slots in their edges and
10 said end disks having segmental slots and said closure members engaging and fitting

in the said slots in the pole pieces and end disks.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 21st day of February 1910.

STANLEY A. DUVALL.

In presence of—

ARTHUR P. KNIGHT,

FRANK L. A. GRAHAM.