

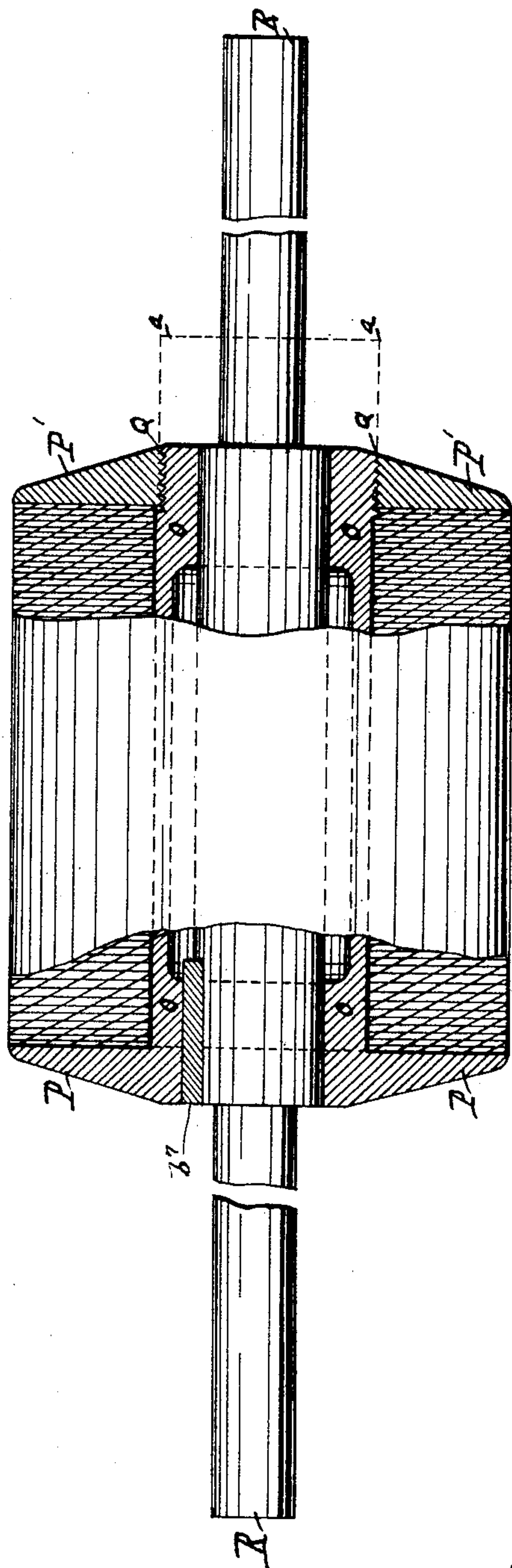
(No Model.)

ST. JOHN V. DAY.

ARMATURE FOR DYNAMOS AND ELECTRIC MOTORS.

No. 464,216.

Patented Dec. 1, 1891.



Witnesses.

*Hugh Robinson*  
*Friedrich Fiedler*

Inventor.

*St John V. Day.*

# UNITED STATES PATENT OFFICE.

ST. JOHN V. DAY, OF ST. LOUIS, MISSOURI.

## ARMATURE FOR DYNAMOS AND ELECTRIC MOTORS.

SPECIFICATION forming part of Letters Patent No. 464,216, dated December 1, 1891.

Application filed May 1, 1890. Serial No. 350,152. (No model.)

*To all whom it may concern:*

Be it known that I, ST. JOHN VINCENT DAY, a subject of the Queen of Great Britain and Ireland and Empress of India, but temporarily residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Armatures for Dynamos and Electric Motors, of which the following is a full, clear, and exact description.

My present invention relates to improvements in armatures for dynamo-electric machinery, which includes dynamos, otherwise known as "electric generators," and motors; and my improvement applies to mounting of these in such a way as to prevent or reduce to a minimum the tendency of the armature to get out of balance by removing the longitudinal stresses from the armature-shaft, whereby in the past these shafts have been often permanently strained; and for this purpose it consists in mounting the armature in the manner hereinafter described and claimed.

Referring to the accompanying drawing, which shows an armature mounted in accordance with my invention and in which corresponding parts are designated by similar letters, the armature consists of a metallic core O, having a flange P, forming part of the core at one end. On the opposite end a screw Q is chased to receive another flange P'. The laminated circular plates of the armature, with their layers of insulating material—such as paper or asbestos—are held upon the core by compression due to tightening the flange P' upon the screw Q. The cylindrical part of the core O is made longer than the length thereof when finished, as indicated by the dotted lines *a a* in the drawing, the object of this being to enable the flange P' to be caught on the screw Q before the compression of the laminated plates and insulation is commenced. After the tightening or com-

pression of these the dotted part *a a* of the core is cut off. The armature-core thus made is then placed on the armature-shaft R and fastened thereto by a key, set-screw, through-pin, or equivalent connection *b'* at one end only, the other end of the armature-core being quite free to move longitudinally upon the shaft, accordingly as its length may alter by expansion or contraction, due to change of temperature by being heated when the dynamo or motor is operating and cooling when the operation has ceased. In this manner I avoid those longitudinal stresses between armatures and their shafts by which in some systems of construction hitherto practiced the shaft is often so injuriously strained or bent that the armature is thrown out of balance. The portion of the shaft R upon which the armature is carried is made preferably larger in diameter than the parts thereof on which the commutator and pulley are carried or the parts which constitute the journals. The central core and flanges of the armature may be made of any sufficiently-strong insulating material, or of cast-iron in the case of some open-coil armatures, or of a non-magnetic metal or alloy, such as zinc or brass.

I claim as my invention—

The combination, with a shaft, of an armature mounted thereon, and means for securing one end of the said armature to the shaft, the opposite end thereof being free to expand and contract longitudinally, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 3d day of April, 1890.

ST. JOHN V. DAY.

Witnesses:

HUGH ROBINSON,  
MARTIN HOLLINGER.