

(No Model.)

G. WESTINGHOUSE, Jr.

MOUNTING ARMATURES OF DYNAMOS.

No. 383,679.

Patented May 29, 1888.

Fig. 1.

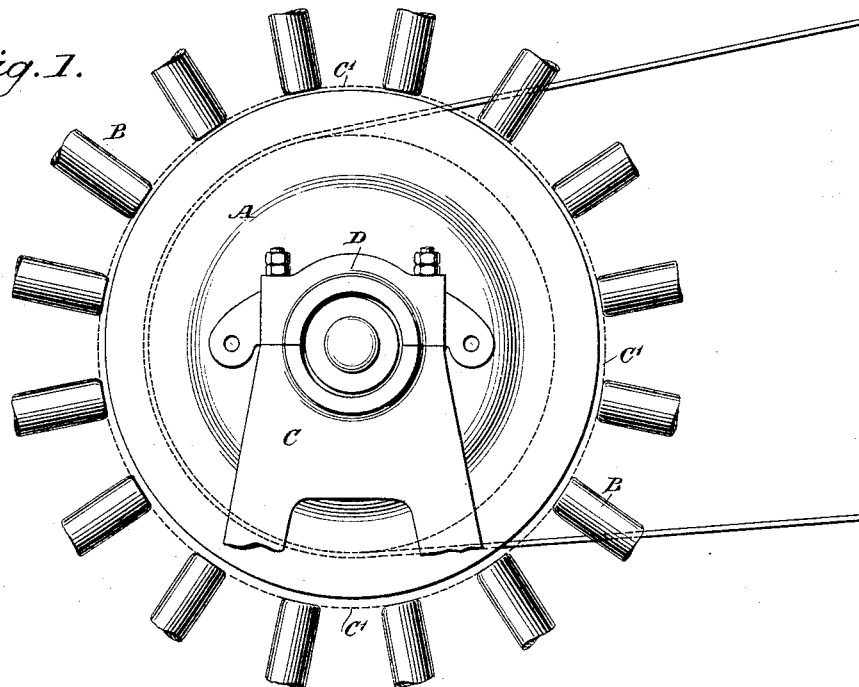
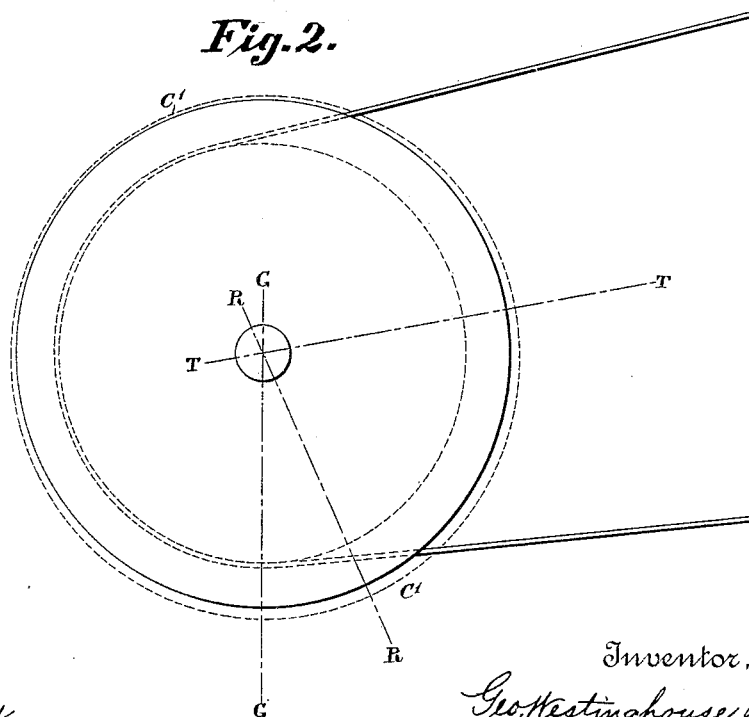


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

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MOUNTING ARMATURES OF DYNAMOS.

SPECIFICATION forming part of Letters Patent No. 383,679, dated May 29, 1888.

Application filed September 1, 1887. Serial No. 242,463. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WESTINGHOUSE, Jr., a citizen of the United States, residing in Pittsburg, in the county of Allegheny, in the State of Pennsylvania, have invented certain new and useful Improvements in Mounting Armatures for Electric Machines, of which the following is a specification.

The invention relates to a method of mounting the armatures of electric machines so as to relieve the bearings of undue friction.

The invention consists in availing of an excess of attraction which the poles of a field-magnet upon one side of the armature may be caused to exert upon the armature by mounting the armature slightly eccentric with reference to the circle of the field-magnet poles. This may be utilized, for instance, by purposely mounting the armature with its axis of revolution slightly above the axial line of the field-magnet poles when it is desired to relieve the bearings from the weight of the armature, and in case it is desired to compensate for the pull or tension of the driving-belt the axis of the armature may lie in the plane of the resultant force exerted upon the armature and upon the opposite side of the circle of the field-magnets from the direction of the force.

In the accompanying drawings, Figure 1 is a side elevation of an armature and a portion of a field-magnet as organized to illustrate the application of the invention when it is desired to overcome the force of gravity alone. Fig. 2 illustrates the method of acting against the force of gravity and the tension of the belt.

Referring to Fig. 1, A represents the armature, and B B B the field magnet cores, of an electric machine. The cores are formed in a circle, which is indicated by the dotted line. The armature is mounted in suitable supports, one of which is indicated at C. The axis of the armature is very slightly raised above the center of the circle C'. The upward pull exerted by the field-magnet upon the armature will therefore be in excess of the downward pull, and this will compensate or tend to compensate for the force of gravity. In practice

it is found that a very slight eccentricity would be sufficient to even lift the armature from the bearings were the upper portions or caps, D', removed. By properly placing the armature with reference to the strength of the current employed and the weight of the armature the force with which the armature will rest upon the bearings may be made very slight, and the consequent wear correspondingly diminished.

In Fig. 2 the armature A is shown as mounted with its axis slightly toward the upper left-hand side. In this instance the force of gravity is indicated by dotted line G and the pull of the belt F is indicated by the dotted line T. The values of the two forces are such that the resultant is in the direction indicated by the dotted line R. Then the axis of the armature is placed with reference to the center of the circle C' in an extension of the plane R beyond the center of the circle C'. When the machine is in operation, therefore, the resultant force will be correspondingly counteracted.

I claim as my invention—

1. In an electric machine, field-magnet poles arranged in a circular series and an armature mounted upon its bearings with its axis of revolution eccentric with reference to the circle of the field-magnet poles, whereby the pressure of the armature upon its bearings is opposed by the excess of the magnetic attraction exerted by the nearer poles of the field-magnets.

2. In an electric machine, the combination, with the field-magnet poles arranged in a circular series, of an armature having its axis of revolution eccentric with reference to the circle of said poles, being located in a plane constituting a continuation of the plane of resultant pull of the force of gravity and the tension of the driving-belt of the machine beyond the center of the series of field-magnet poles.

In testimony whereof I have hereunto subscribed my name this 11th day of July, A. D. 1887.

GEO. WESTINGHOUSE, JR.

Witnesses:

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