

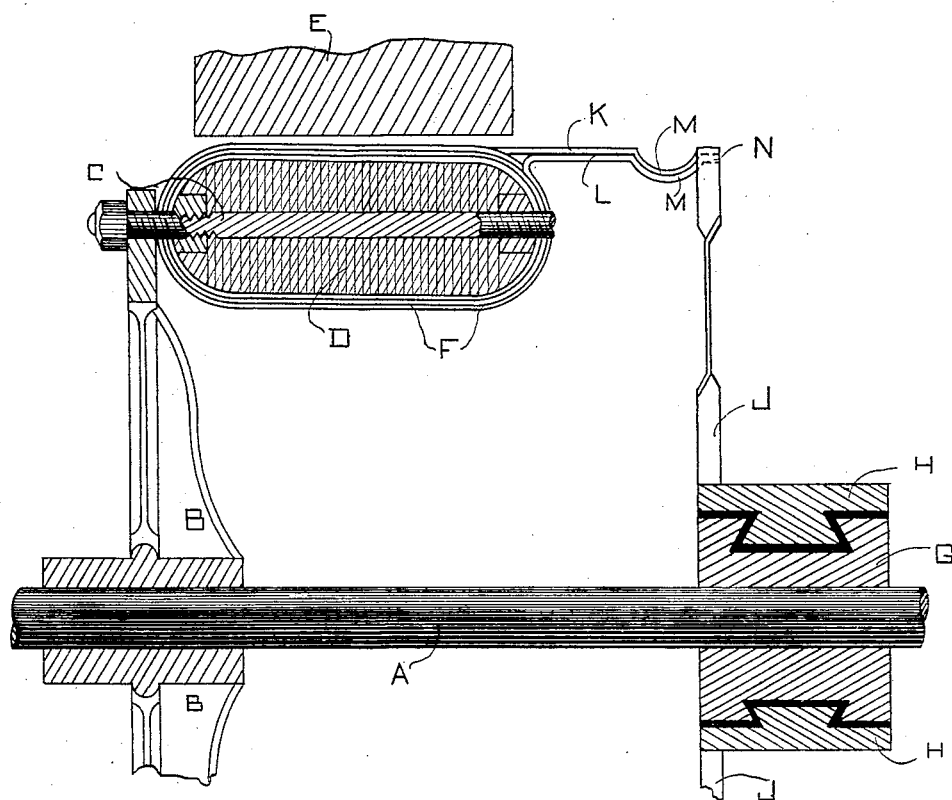
(No Model.)

G. A. ROLLINS.

ARMATURE CONNECTION FOR DYNAMO ELECTRIC MACHINES.

No. 493,447.

Patented Mar. 14, 1893.



WITNESSES

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GEORGE A. ROLLINS, OF CHICAGO, ILLINOIS.

ARMATURE CONNECTION FOR DYNAMO-ELECTRIC MACHINES.

SPECIFICATION forming part of Letters Patent No. 493,447, dated March 14, 1893.

Application filed February 16, 1892. Serial No. 421,686. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. ROLLINS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Armature Connections for Dynamo-Electric Machines, of which the following is a specification.

My invention relates to dynamo electric machines and has particular reference to the connection between the coils on the armature and the connecting plates which lead to the commutator segments. It is illustrated in the accompanying drawings wherein

A is the shaft, B the arms of a spider thereon, C laterally projecting bolts secured upon the extremities of the arms of the spider. D is the armature core, E the field magnets about the armature and within which the armature rotates. F the coils on the armature, G the commutator base, H H the commutator segments, J J connecting strips or plates continuous each with one of such segments and projecting outwardly and radially therefrom, K the projecting end of the armature coil coming out on top and L a similar end coming out from below. M M are curves in such coils and N the point of their connection with the connecting plate or strip J.

The use and operation of my invention are as follows: Great difficulty has heretofore been encountered in the manufacture of many types of dynamos and motors, and especially in the manufacture of the type herewith shown, in regard to the connection between the armature coils and the commutator segments. There are many conditions under which the wires leading from the armature to the commutator segment strips are constantly fractured or broken by the normal operation of the machine. These wires have been led directly from the armature to the strips and secured rigidly thereto. They have also been made of unusual size and attached in various and peculiar manners both to the coils of the armature and to the strips, but in many in-

stances all such expedients have proved in vain, and after a short period of running the wires are found to break at some point between the strip and the armature. This is thought by some to be due to some species of crystallization. It has also been attempted to cure this evil by connecting the armature with the strip by a flexible wire, but this device has many objections. I have found that by taking the normal armature wires and bending them by a sharp bend which yet preserves the normal rigidity of the wire, and then attaching their outer ends to the strips, that all such difficulties entirely disappear. The exact form or shape or direction of this bend does not seem to be material, but certain it is that when the wires of the normal windings have thus been sharply bent they may be attached at their outer ends in any ordinary manner and no tendency of the wires to break or crystallize is apparent after very considerable use.

I claim—

1. In a dynamo electric machine the combination of an armature with coils and wires which are led off therefrom to commutator segment strips, said wires sharply bent each into substantially arc-shaped form at some point of its length away from the direct line followed by such wire between its point of departure from the armature and its point of engagement with the strip, and such wires secured at their outer ends to such strips in the ordinary manner.

2. In a dynamo electric machine the combination of an armature with coils and wires which are led off therefrom to commutator segment strips, each of said wires sharply bent into a short curve at some point along its course from the armature to the strip, said bend being away from the general course of such wire in passing from armature to strip.

GEORGE A. ROLLINS.

Witnesses:

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