

(No Model.)

J. F. KELLY.

DYNAMO ELECTRIC MACHINE.

No. 395,622.

Patented Jan. 1, 1889.

FIG. 1

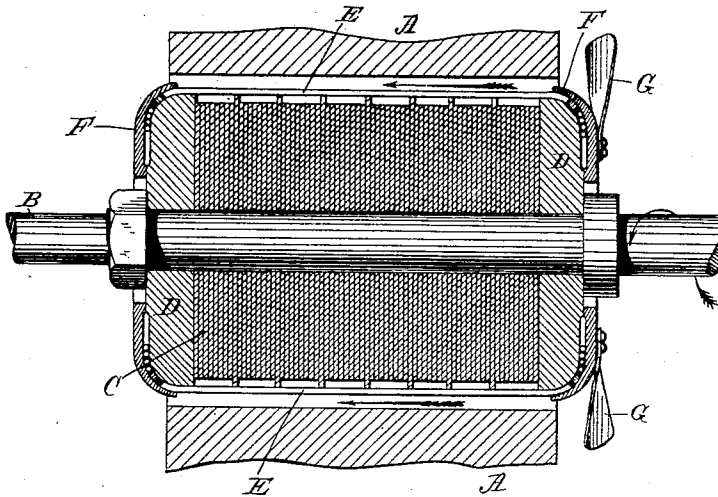
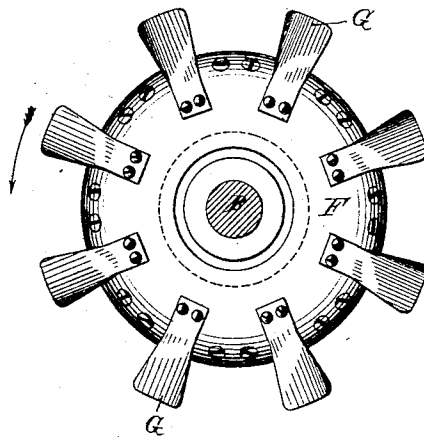


FIG. 2



WITNESSES:

Raphael Netter
Frank E. Hartley

INVENTOR

John F. Kelly
BY
Duncan, Curtis & Page
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN F. KELLY, OF NEW YORK, N. Y., ASSIGNOR TO THE UNITED STATES
ELECTRIC LIGHTING COMPANY, OF SAME PLACE.

DYNAMO-ELECTRIC MACHINE.

SPECIFICATION forming part of Letters Patent No. 395,622, dated January 1, 1889.

Application filed July 25, 1888. Serial No. 280,962. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. KELLY, a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Magneto-Electric Machines, of which the following is a specification, reference being had to the drawings accompanying and forming a part of the same.

In order to prevent the overheating of the cores and coils of the armatures of dynamo or magneto electric machines, blowers or fans have heretofore been used, generally secured to the armature-shaft and adapted, when the machine is running, to force a current of air through the spaces in the core or between the conductors. The cores of the armature may, however, be so constructed as not to require this artificial cooling; but in certain forms of generator, particularly in the large-sized alternating-current machines as now made, the opportunity for ventilation is afforded to such a limited extent that undue heating often occurs. In seeking a remedy for this trouble I have devised a means of cooling the surface of the cores and the wires which may be applied not only to the machines in question, but to any others of similar form when so desired.

My improved device consists in a series of fan-blades carried by the armature-shaft and preferably secured to the armature and adapted to create and maintain along the wires on the side of the armature-core a draft of air. In illustration of my invention I have shown it as applied to a magneto-electric machine invented by Jacob Stucky.

Figure 1 is a longitudinal central section of an armature to which my invention is applied. Fig. 2 is an end view of the armature.

B is a shaft carrying an armature composed of a series of magnetic plates, C, and the end plates, D D. The wires E are wound longitudinally upon the core; and F F are brass

plates, which are secured to the heads D over the wires thereon.

G G are bent blades or fans, which are secured directly to the plates F. These blades are so formed that by the rotation of the armature in a given direction the blades will force the air over the wires E or between said wires and the surface of the field-magnets A A.

By this apparatus the conductors are cooled if from any cause—such as the overloading of the machine—they become heated by the action of the current.

I usually make the blades of brass, and when applying them to the particular machine shown I secure them directly to the plates F by screws.

In applying them to other machines they may be secured directly to the ends of the armature or to suitable supports provided for them. They project out beyond the armature in a general radial direction.

What I claim is—

1. In an electrical generator, the combination, with an armature-core and conductors wound longitudinally thereon, of fan-blades at the end of the core and constructed or placed in such relation to the core as to create a current of air along or over the exterior of the core and coils when the armature is rotated, as set forth.

2. In an electrical generator, the combination, with field-magnets and a cylindrical armature-core with longitudinally-wound conductors thereon and mounted to rotate between said magnets, of fan-blades secured to the ends of the armature and constructed or placed in such relation thereto as to create a current of air along or over the exterior of the core and coils when the armature is rotated, as set forth.

JOHN F. KELLY.

Witnesses:

MOSES J. DEWITT,
JACOB STUCKY.