

(No Model.)

W. J. SHERWOOD.
ARMATURE FOR ELECTRIC MOTORS.

No. 505,729.

Patented Sept. 26, 1893.

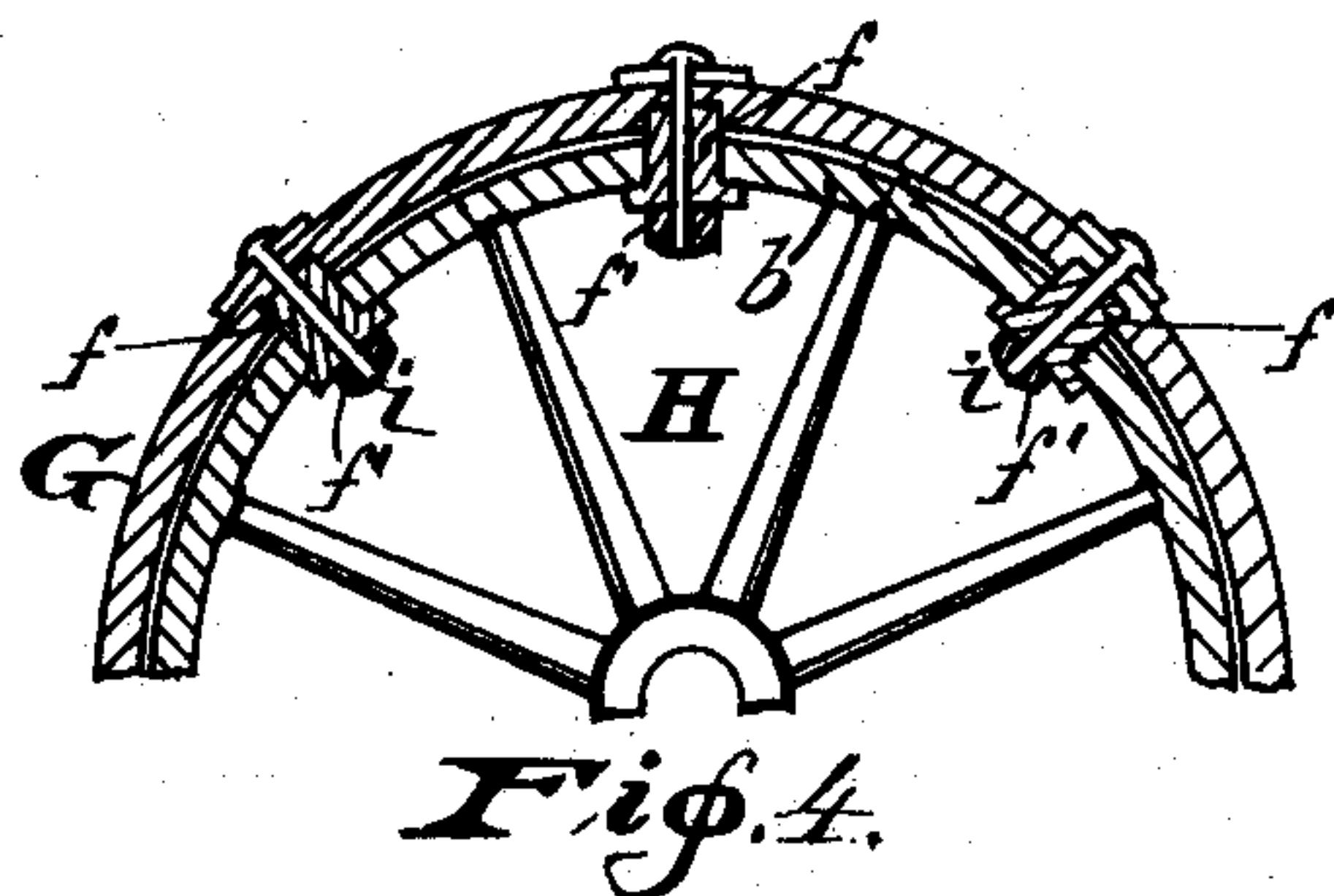


Fig. 4.

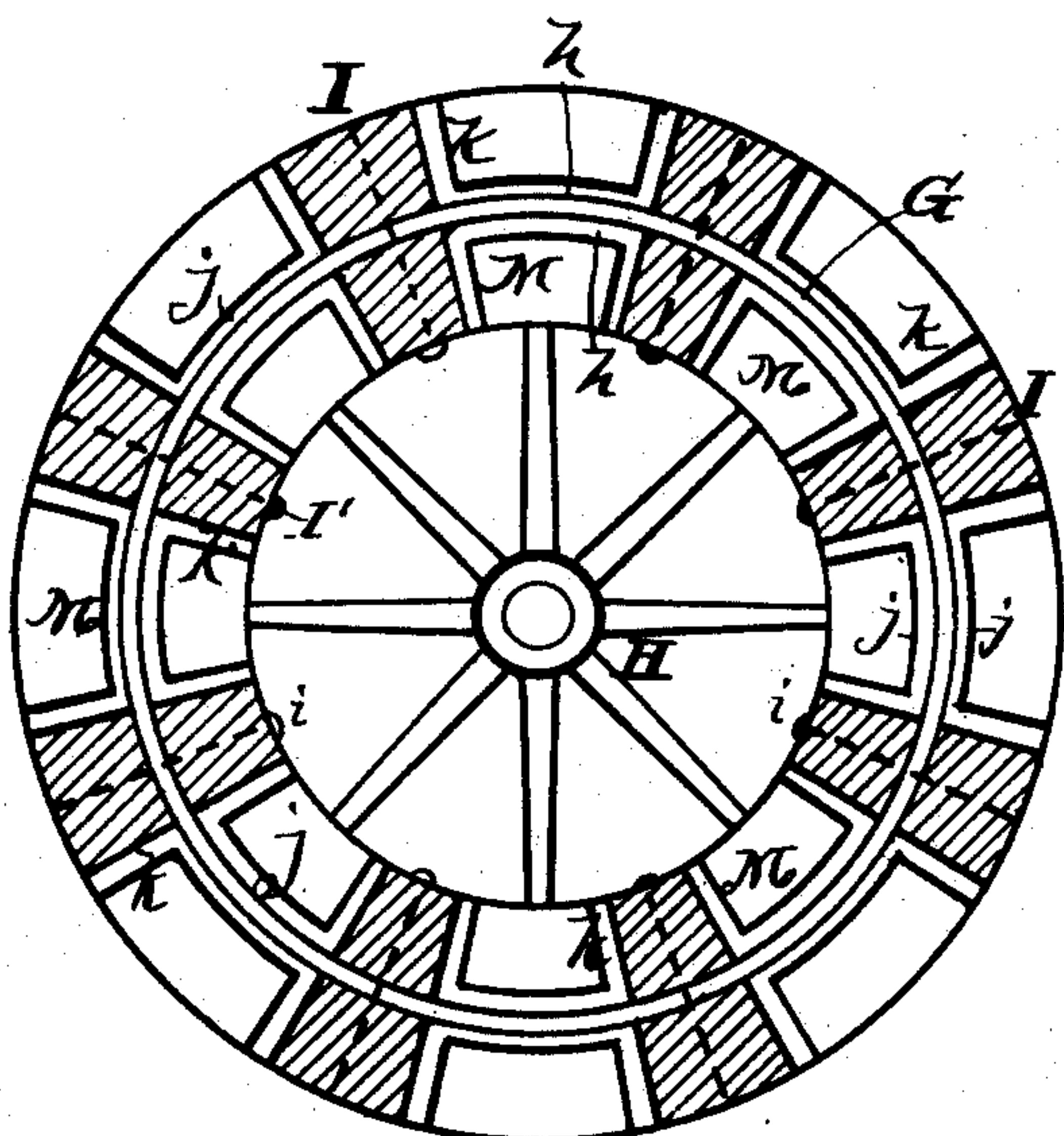


Fig. 2.

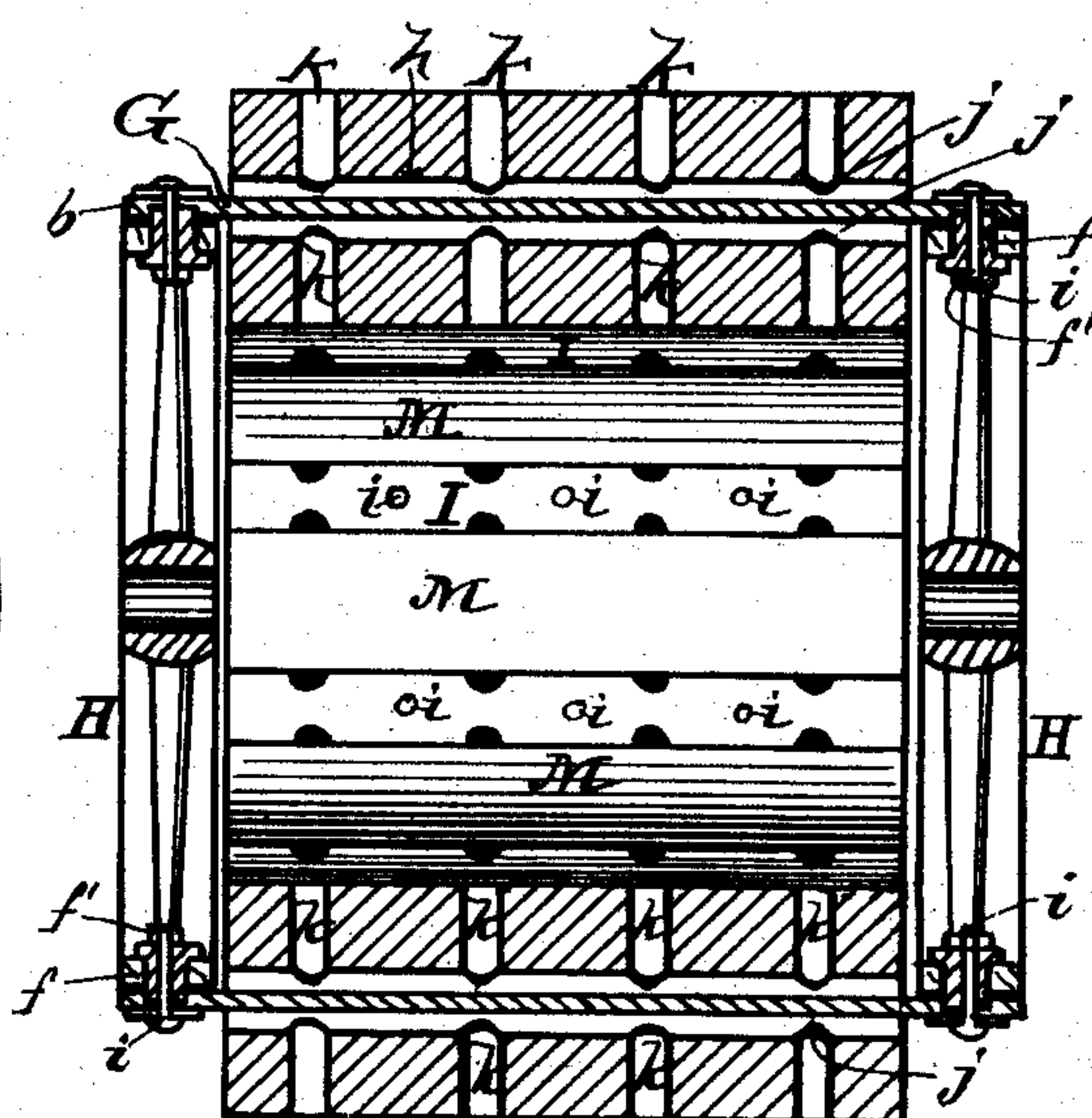


Fig. 3.

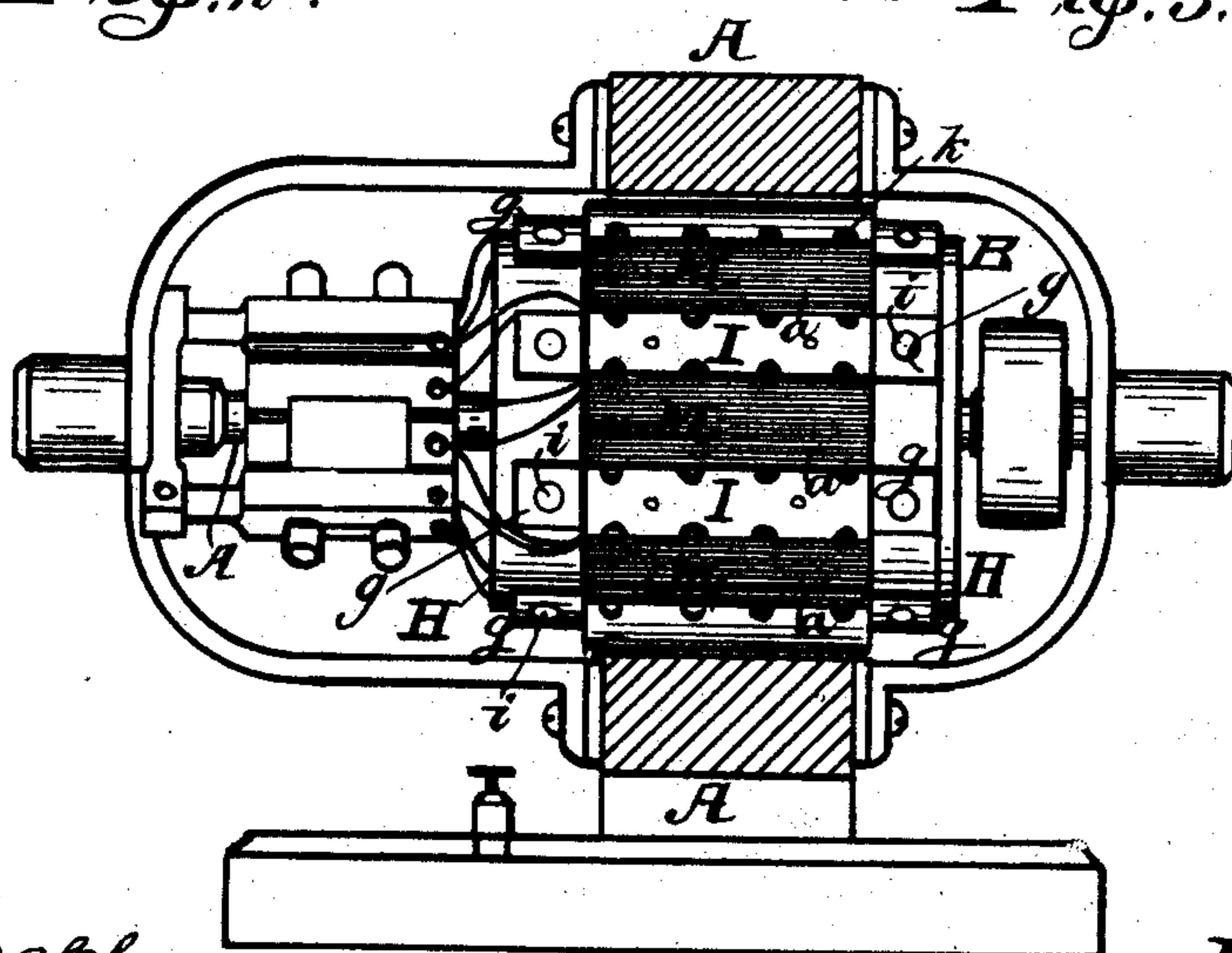


Fig. 1.

Witnesses,
M. A. Norton
M. M. Barnes.

Inventor,
William J. Sherwood,
By Geo. W. Tibbitts Atty.

UNITED STATES PATENT OFFICE.

WILLIAM J. SHERWOOD, OF ASHTABULA, OHIO

ARMATURE FOR ELECTRIC MOTORS.

SPECIFICATION forming part of Letters Patent No. 505,729, dated September 26, 1893.

Application filed April 16, 1891. Serial No. 389,250. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. SHERWOOD, a citizen of the United States, and a resident of Ashtabula, in the county of Ashtabula and State of Ohio, have invented certain new and useful Improvements in Electric Motors or Dynamos, of which the following is a specification.

This invention relates to electric motors or dynamos and consists, in novel means for attaching and ventilating the armature to prevent overheating, and for insulating the frame of said armature, from its supports, substantially as hereinafter described and pointed out in the claims.

In the accompanying drawings—Figure 1 is a transverse section through the pole-pieces of a motor, or dynamo, showing the construction of the armature. Fig. 2 is an enlarged cross section of the armature showing the construction by which it is adapted for winding and the means for ventilation. Fig. 3 is a longitudinal central section of the parts shown in Fig. 2. Fig. 4 is a detail view showing a portion of the rim of the armature frame, and the attachment of the same to the support by which it is connected to the shaft.

In the said drawings, the reference-letter G indicates the frame of the armature of a motor, or dynamo, said frame being in the form of a cylinder having projecting limbs or extensions *g* whereby said frame is secured to the supports H H by which the cylindrical frame G of the armature is connected to the armature-shaft A. Upon the outer and inner faces of the cylindrical frame G are arranged linings *h, h*, separated from each other by similarly shaped bars I, arranged upon the outside and upon the inside of the frame G in substantial parallelism with the axis. These bars occupy equal spaces between the insulating linings *h, h*, and as their longitudinal faces are dressed off so as to lie substantially in planes radiating from the axis of the armature they form spaces for the armature-coils, *a*. Said bars I are formed of wood or other insulating material and are secured by means of rivets or bolts I'. In the aforesaid linings *h, h*, are formed grooves *j, j*, lying in circumferential lines and in the sides of the bars I are formed slots *k, k*, lying in radial lines and communicating with the said grooves *j, j*.

The reference-letter M indicates the wire windings, or coils of the armature, arranged between the bars I, I, the ends of the wires being attached to the commutator. These slots *k* and grooves *j* provide spaces leading at suitable intervals, around the armature coils and afford a means for the circulation of air around and into the midst of the coils, whereby they may be prevented from becoming overheated.

The frame of the armature is insulated and fastened to the supports H, H, in the following manner: On the outside of each support H is a band of gutta percha or any insulating material *b* on which the limbs or extensions *g*, of the armature-frame G rest. Small sleeves *f*, of insulating material are passed through the rim *b* of each support H, and their ends, which project through the outer faces of said rims enter seats, or recesses, in the limbs or extensions *g*, each sleeve *f* having a head which rests against the inner face of the rim of the support H. The limbs, or extensions *g* of the armature-frame G rest upon the gutta percha bands *b*, and are fastened by bolts *i*, which pass through the sleeves *f* and receive nuts *f'*, which rest against the heads of the sleeves.

What I claim is—

1. In an electric motor, or dynamo, an armature consisting of a cylindrical frame G, provided at suitable intervals with outer and inner bars I, I, of insulating material and outer and inner insulating linings *h, h*, arranged upon the outer and inner faces of the cylindrical frame G between the bars I, I, the latter being provided with substantially radial grooves K which communicate with slots *j, j*, formed in circumferential lines in the linings *h, h*, said grooves and slots forming continuous air passages around the coils of the armature, substantially as described.

2. In an electric motor or dynamo, an armature consisting of a cylindrical frame G, having limbs, or extensions *g*, in combination with supports H, H, at its ends, connected to the shaft A, sleeves, *f*, bolts *i*, linings *h, h*, having slots *j*, bars I, I, having grooves K, which communicate with the slots *j*, and wire coils M, substantially as described.

WILLIAM J. SHERWOOD.

Witnesses:

IRA B. BISHOP,
CHAS. A. LAWSON.