H. J. MÜLLER.

DYNAMO ELECTRIC MACHINE.

No. 258,864. Patented May 30, 1882.

Fig. 1.

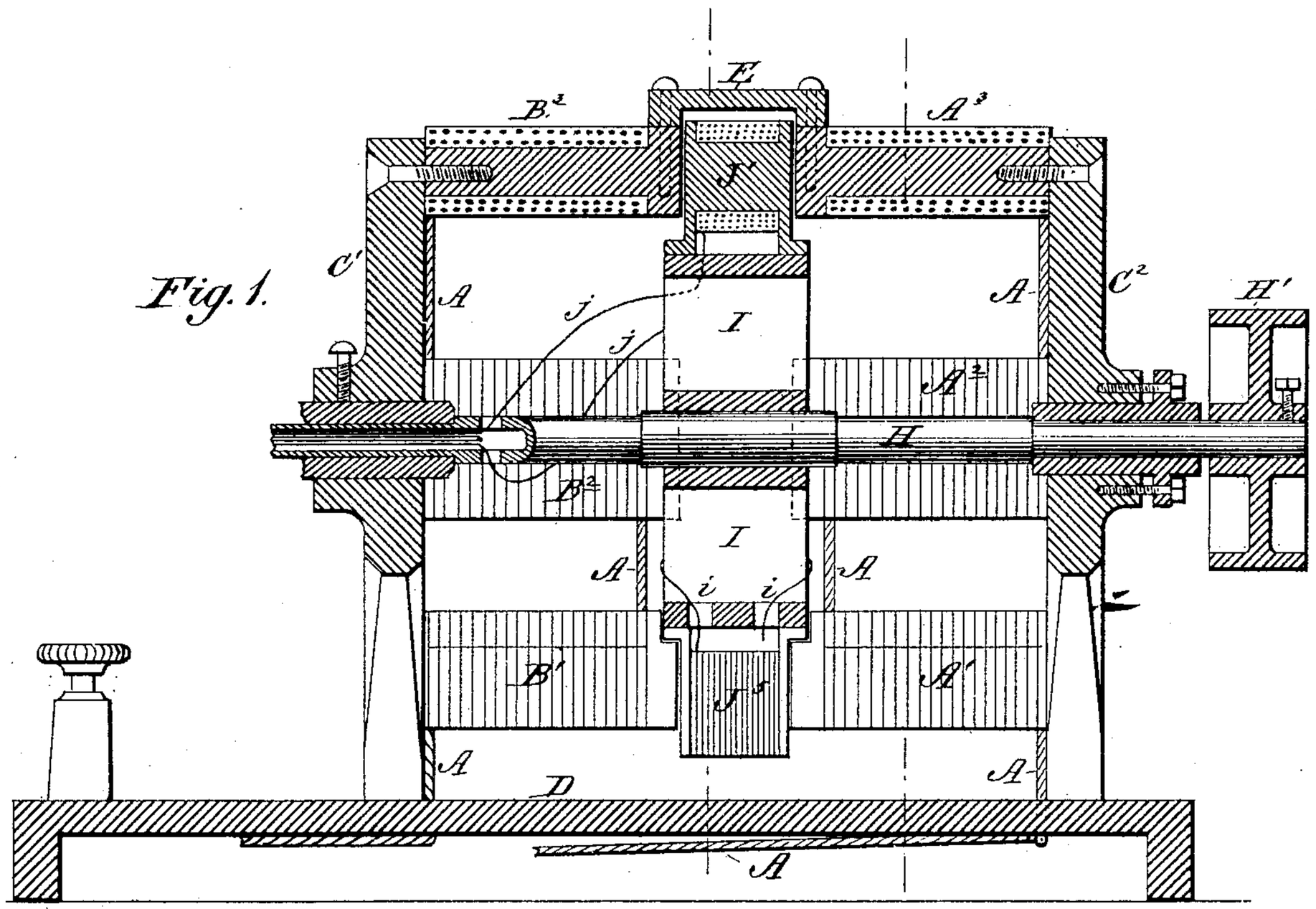
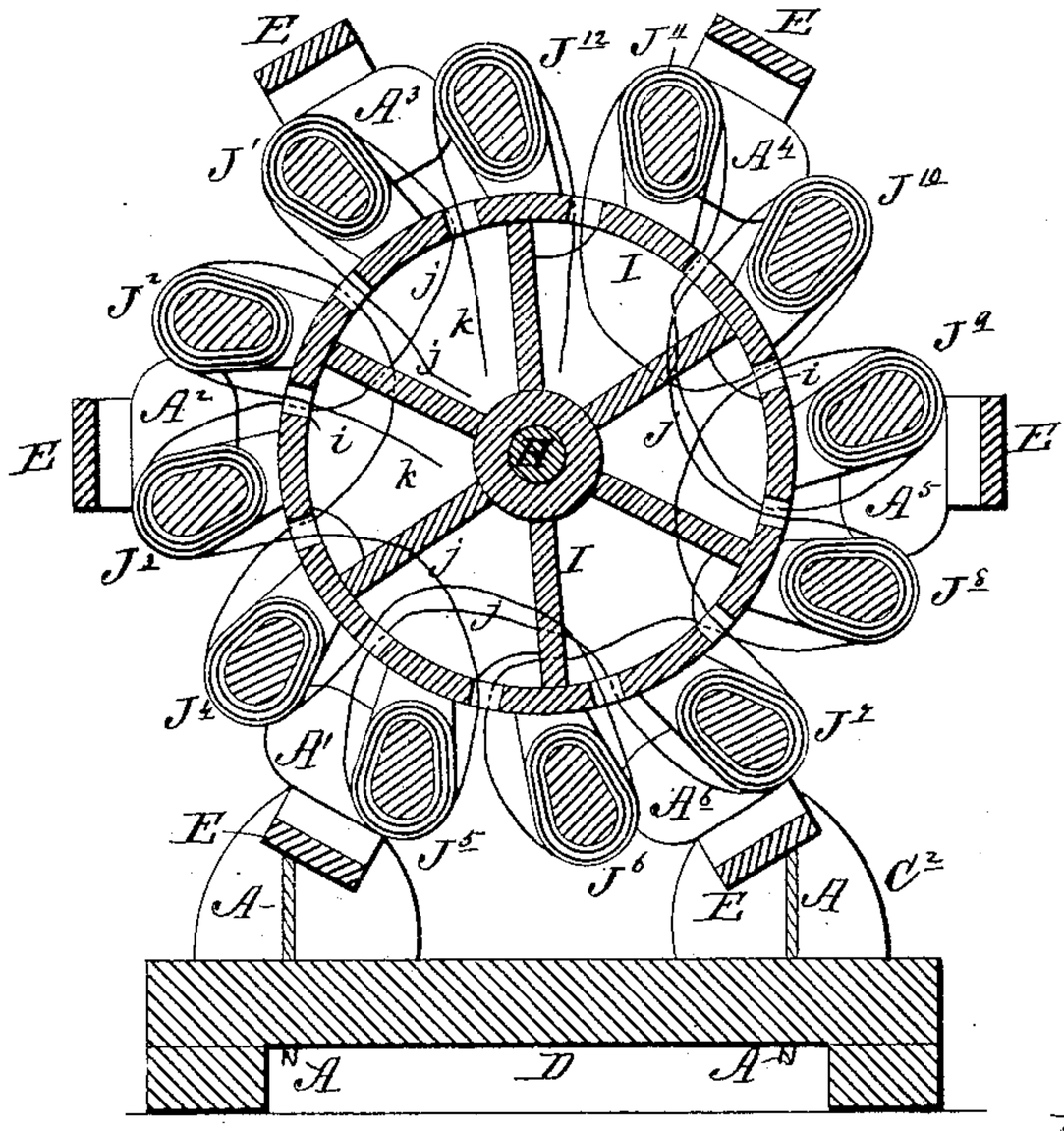


Fig. 2.



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UNITED STATES PATENT OFFICE.

HANS J. MÜLLER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-FOURTH TO ALEXANDER LEVETT, OF SAME PLACE.

DYNAMO-ELECTRIC MACHINE.

SPECIFICATION forming part of Letters Patent No. 258,864, dated May 30, 1882.

Application filed October 13, 1879. Patented in England April 25, 1881, No. 1,787; in France April 26, 1881, No. 142,526; in Belgium April 28, 1881, No. 54,501; in Canada May 31, 1881, No. 12,888; in Spain July 21, 1881, No. 1,539, and in Austria July 22, 1881, No. 14,283.

To all whom it may concern:

Be it known that I, HANS J. MÜLLER, a citizen of the United States, residing in New York city, in the State of New York, have invented an Improvement in Dynamo-Electric Machines, of which the following is a full, clear, and exact specification, reference being had to the drawings thereto annexed.

My invention is an improvement in the class of dynamo-electric machines in which a series of coils or bobbins, constituting an armature-wheel, are arranged concentrically with an axis and rotate in a magnetic field—that is to say, between the opposite poles of field-of-force magnets that are arranged in a circle and fixed in position.

The object of my invention is to facilitate the separation of the armature-coils from the fixed electro-magnets, or, in other words, to enable them to be easily torn off from the field-of-force magnets. This object is attained by placing the several coils of the armature-wheel in an inclined position, as hereinafter more fully described, and shown in the accompanying drawings, in which—

Figure 1 is a central longitudinal vertical section, and Fig. 2 a transverse section, of a machine embodying my invention.

The electro-magnets A′ to A^6 and B′ to B^6 are attached respectively to standards C′ and C^2, resting on the horizontal base D, and are connected by braces E, that give the apparatus the requisite stiffness and rigidity. The two systems or series of magnets A′, &c., and B′, &c., are each arranged concentrically to the same imaginary axis, and each magnet in one series is placed in alignment with one of the other series, but separated therefrom a short distance to allow space for the armature-wheel to rotate between them.

The magnets are wound and connected with each other in the following manner: The wire A passes from the inner end of magnet A′ to the inner end of magnet A^2, from the outer end of A^2 to the outer end of A^3, and so on, until it leaves the outer end of A^6, whence it passes along the under side of the base-plate D to the outer end of B^6. Then from the inner end of B^6 it passes to the inner end of B^5, and so on, until it leaves the magnet B′ at the outer end and passes through the base-plate D, and is suitably connected with a binding-post, or with operative parts that may be employed to adapt the machine for different kinds of work.

A shaft, H, is journaled in the standards C′ and C^2, and has a pulley, H′, mounted fast on one end to provide for the application of a belt from a suitable motor. A drum or wheel, I, of slightly less width than the space between the magnets A′, &c., and B′, &c., is mounted on such shaft H and rotates therewith. This drum or wheel I carries the armature coils or bobbins J′ to J^{12}, inclusive, they being attached to its periphery. The wire *j*, that winds the coils J′, J^3, &c., passes from the outer edge of coil J′ through aperture *i* in the periphery of wheel I to the outer end of coil J^3, from the inner end of the latter to the inner end of J^5, from the outer end of J^5 to the inner end of J^7, and so on, from and to alternate coils. In the same manner a wire, *k*, passes from coil J^2 to coils J^4, J^6 * * J^{12}. These wires lead off to a suitable commutator, (not shown,) or to any other instrumentality by which the current is utilized. In place, however, of the cheeks or side plates of the coils J′, &c., being arranged radially to the axis of the circle, as usual heretofore, they are inclined backward or in the direction opposite to the direction of rotation of the wheel I. By this arrangement the coils J′, &c., may be carried past the opposing field-of-force magnets more easily or with a less expenditure of force. In other words, they tear off very easily from the fixed magnets A′, &c., and B′, &c.; and hence the motive force required to drive the wheel I is considerably economized, and friction, wear, and expense of the motor are avoided to a corresponding extent.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

In a dynamo-electric machine, the combination, with opposite field-of-force magnets, of an armature-wheel having its coils J′, J^2, &c., placed in an inclined position to radii of said wheel, substantially as shown and described, for the purpose specified.

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