

A. N. ALLEN.

Improvement in Magneto-Electric Machines.

No. 123,438.

Patented Feb. 6, 1872.

Fig. 1.

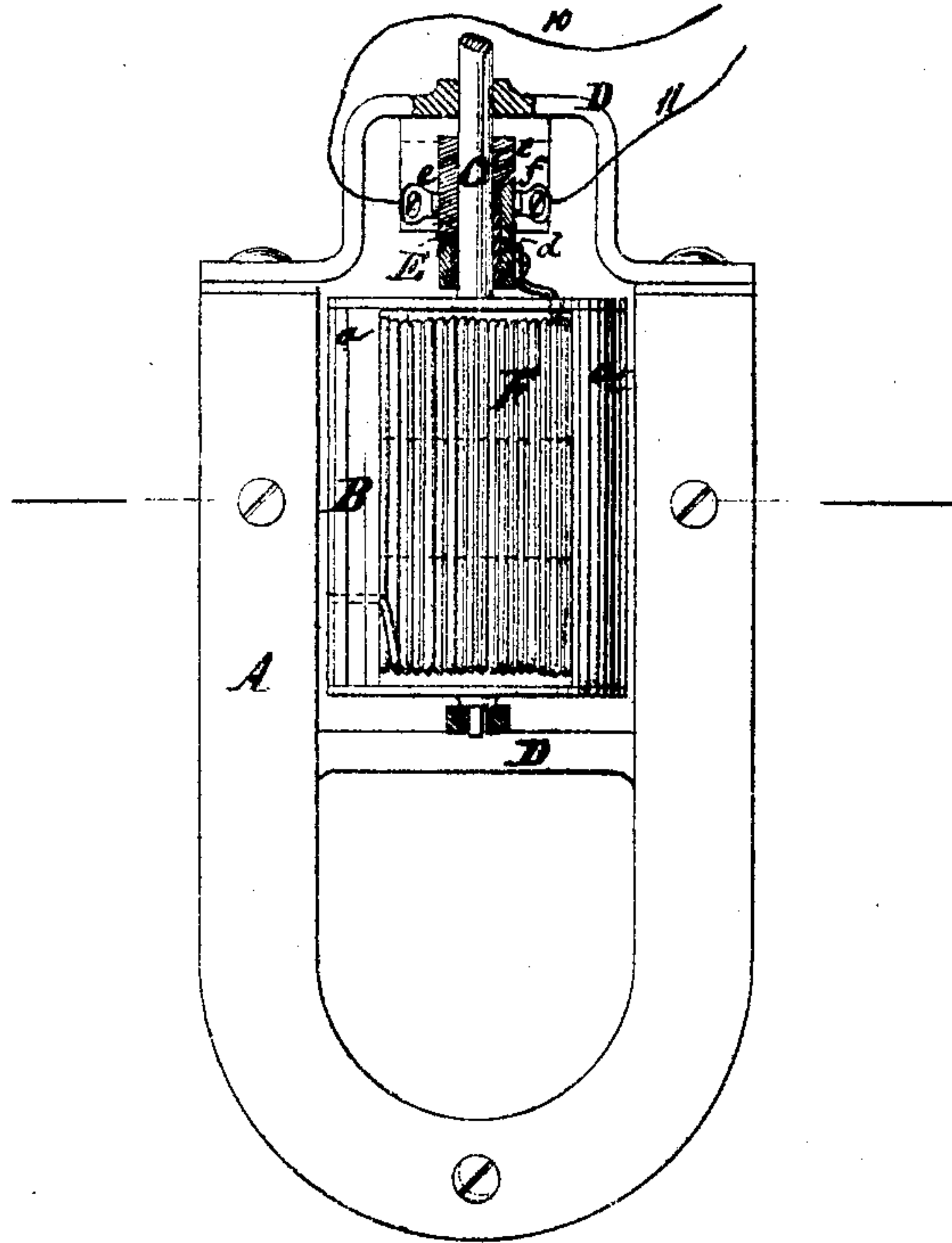
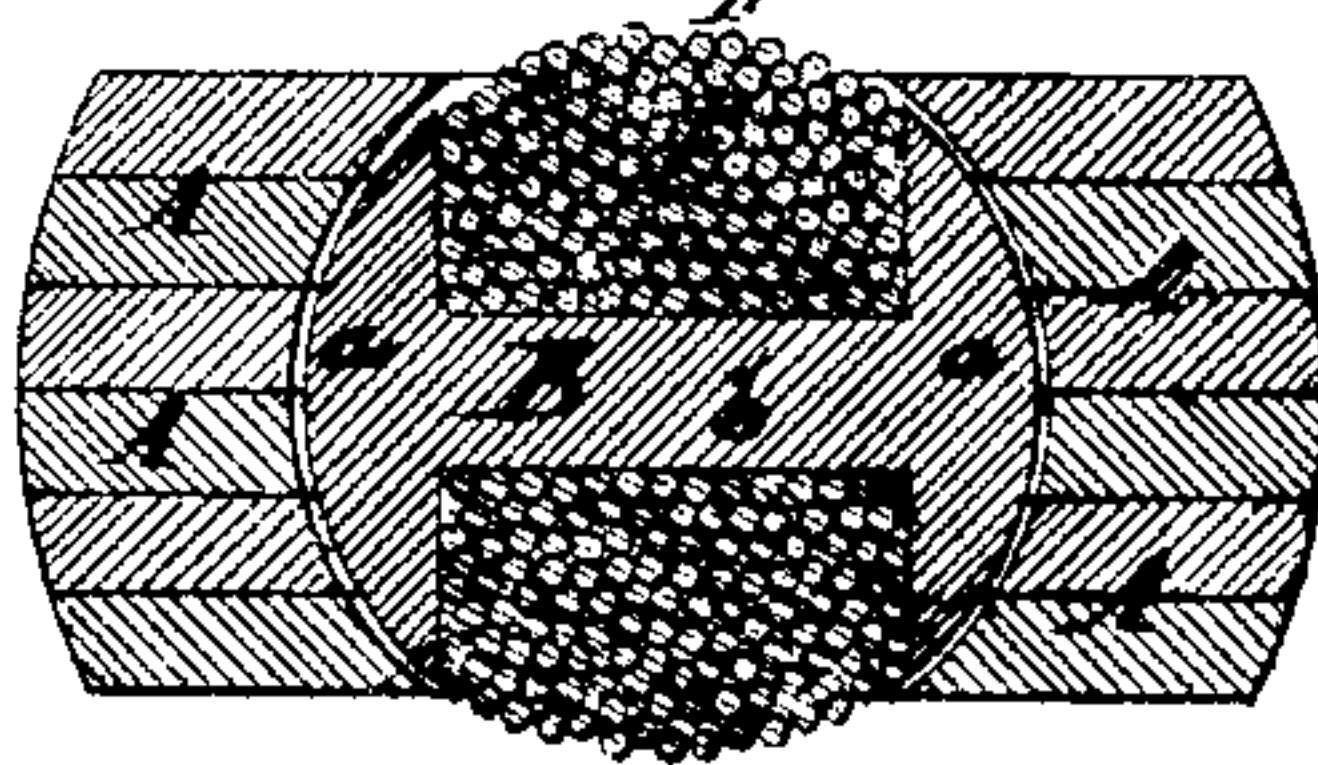


Fig. 2.



Witnesses
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IMPROVEMENT IN MAGNETO-ELECTRIC MACHINES.

Specification forming part of Letters Patent No. 123,438, dated February 6, 1872.

To all whom it may concern:

Be it known that I, ALMON N. ALLEN, of Pittsfield, in the county of Berkshire and State of Massachusetts, have invented a new and useful Improvement in Magneto-Electric Machine; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a sectional front view of my invention. Fig. 2 is a horizontal section of the same.

Similar letters indicate corresponding parts.

This invention relates to a magneto-electric machine composed of a series of permanent magnets placed side by side so as to form a cylindrical case open at both sides, into which case is fitted the core of a helix, mounted on an arbor, which carries the commutator, and to which a rapid revolving motion can be imparted in such a manner that by inclosing the core of the helix in the magnetic cylinder the power of the induced current is materially increased and a magneto-electric machine is obtained which is cheap, durable, and of superior power.

In the drawing, the letters A A A designate a series of horseshoe-magnets, which are grouped together so as to form a cylinder open at both sides, as shown in Fig. 2. Into this magnetic cylinder is fitted the core B, by preference made of soft iron, with two side flanges, *a a*, and a connecting cross-bar, *b*, said side flanges being made in the form of segments, (see Fig. 2,) which conform to the bore of the magnetic cylinder, and run close to the inner circumference thereof, without, however, touching the same. The core B is mounted on an

arbor, C, which has its bearings in cross-bars D D, fastened to the magnetic cylinder, said cross-bars being, by preference, made of brass or other non-magnetic material. On the arbor C is also mounted the commutator E, which is constructed of two parts, *e d*, one of which is in metallic contact with the arbor, while the other is insulated therefrom, and which may be fitted one over the other, or which may be arranged side by side, as shown in Fig. 1. On the core B is wound the helix F of the insulated copper wire, and one end of this wire is connected to the insulated portion of the commutator, while its other end connects with the arbor C, or with any part that is in metallic contact with the non-insulated portion of the commutator. With the commutator are combined two springs, *e f*, which bear thereon from opposite sides, said commutator being so arranged that if one spring bears on the insulated portion of said commutator the other will bear on the non-insulated portion, and vice versa. From the commutator-springs *e f* extend the wires 10 and 11, which conduct the electricity produced by the machine to the place where the same is to be employed. The motion of the arbor C is produced by hand or by any desirable power, and if the arbor is revolved a current of electricity is produced which can be used for lighting gas or for any other purpose.

What I claim as new, and desire to secure by Letters Patent, is—

The arrangement of a magnetic cylinder, A A A, formed as herein described and inclosing the core B, with the helix F, substantially as set forth.

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