

W. D. & J. R. PENNINGTON.  
MAGNETO GENERATOR.  
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999,335.

Patented Aug. 1, 1911.

Fig. 2.

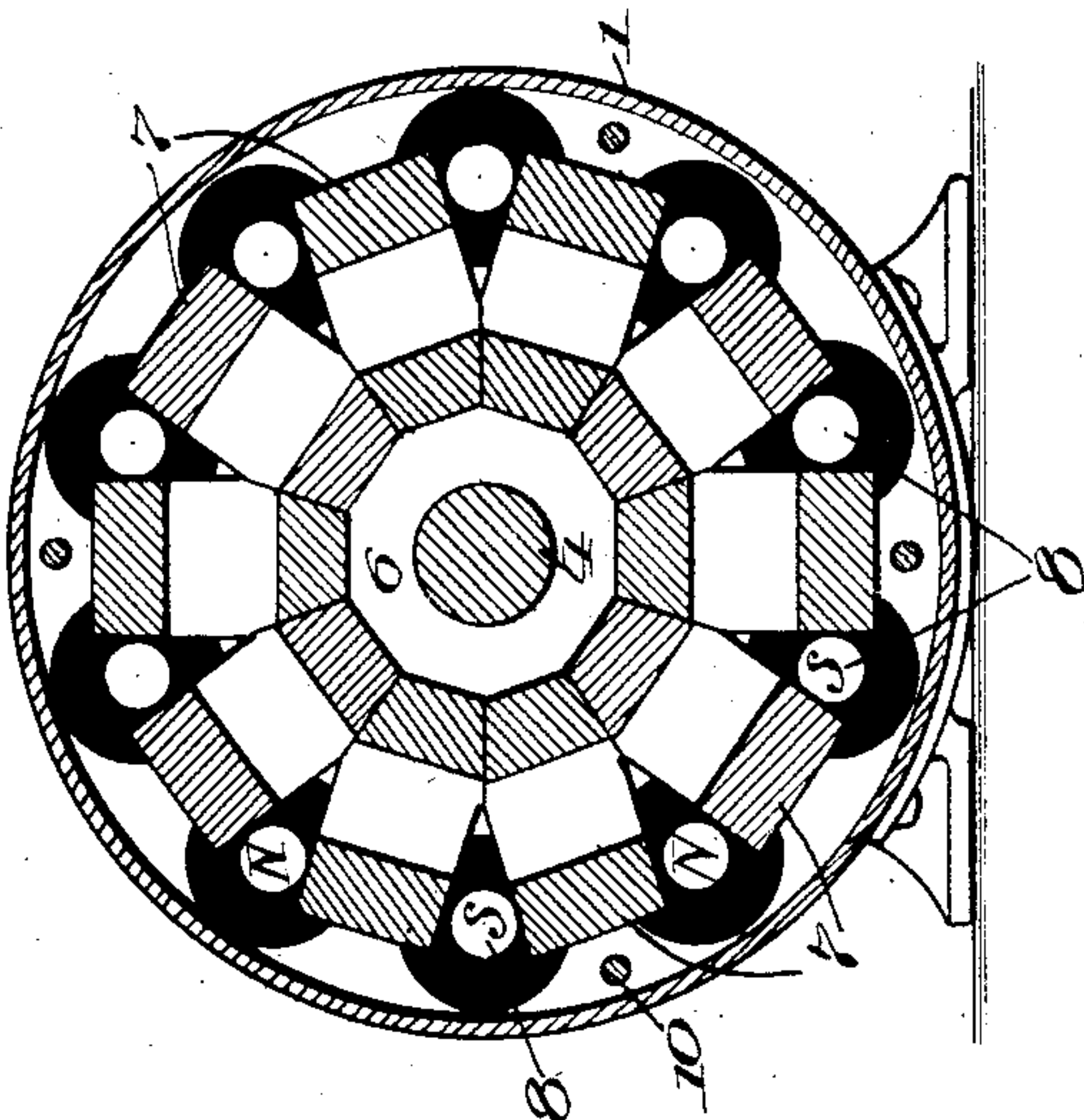
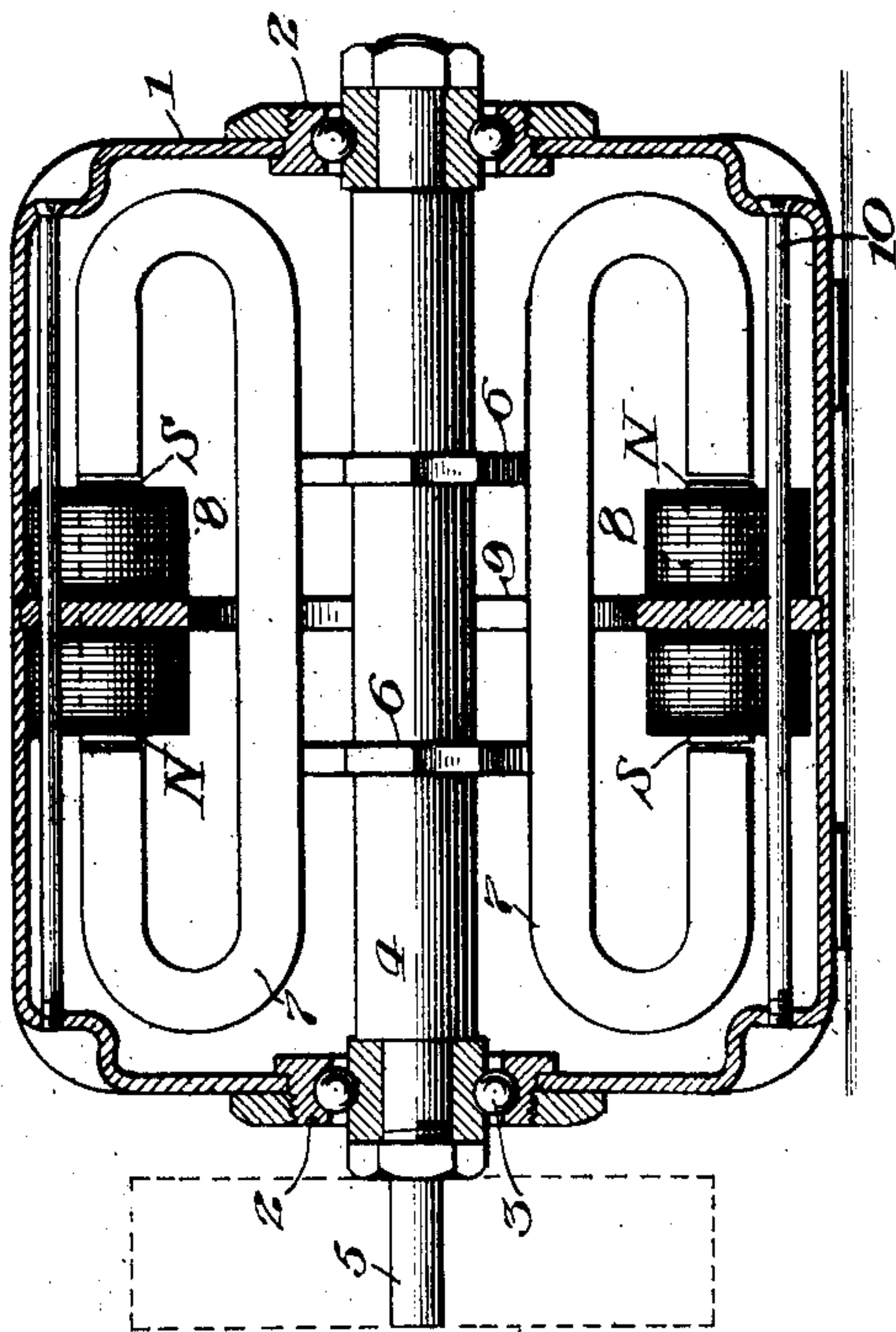


Fig. 1.



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# UNITED STATES PATENT OFFICE.

WILLIAM D. PENNINGTON AND JOHN RAWSON PENNINGTON, OF CHICAGO, ILLINOIS,  
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## MAGNETO-GENERATOR.

999,335.

Specification of Letters Patent.

Patented Aug. 1, 1911.

Application filed January 20, 1910. Serial No. 539,099.

*To all whom it may concern:*

Be it known that we, WILLIAM D. PENNINGTON and JOHN RAWSON PENNINGTON, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Magneto-Generators, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

Our invention relates to magneto generators, and has for its object the provision of an improved generating device, which serves to generate current in sufficient quantity at a given voltage to maintain a spark of a given predetermined length within wide limits of load; in other words, a generator, which, even though loaded beyond the current necessary to establish the spark, still has sufficient capacity to maintain said spark.

We will describe our invention more in detail by reference to the accompanying drawing, illustrating the preferred embodiment thereof, in which—

Figure 1 is a longitudinal sectional view of our improved magneto generator, and Fig. 2 is a cross-sectional view of the same.

In the construction illustrated, we provide a casing 1, which has bearings 2, 2, adapted to support rollers 3, upon which the shaft 4 is to run. A shaft 5 projects from the casing, to which a pulley may be attached for driving the generator. The shaft 4 has two supporting devices, 6, 6, against which are fastened a plurality of permanent magnets 7, 7, which permanent magnets, as will be seen, come together at the said supporting devices, and then curve upwardly and inwardly to form what might be called a construction similar in form to the letter C. The permanent magnets are so arranged that their faces are adjacent to a plurality of cores 8, which are mounted upon an annular ring 9, fastened to the casing 1, and extending around the inner periphery thereof. Bolts 10 serve to hold this ring in place. Suitable means can be also provided to hold the permanent magnet in place, these means having been omitted for the sake of clearness.

Each core 8, as will be apparent, has its two extremities upon opposite sides of the

ring 9. Each of these extremities or extensions is provided with a coil, in which coils a current is generated when the permanent magnets are caused to revolve past the faces of the cores 8. The coils may all be connected in series or otherwise, if so desired.

The general arrangement is such that the opposite ends of the cores have opposite polarities, due to their proximity to the magnets, whose polarity is as given on the drawing, the left hand end of the core being of south polarity and the right hand end of the core being of north polarity. These polarities are reversed in the next adjacent core, as indicated more clearly by the letters "N" and "S" appearing on the figure.

From this construction it will be seen that the coils, which are stationarily mounted, are subject to dissimilar polarities of magnetism, under the influence of the permanent magnets 7, and thus the change of the magnetism to the revolving member causes the generator of electro-motor force in the coil, which electro-motor force is of sufficient size to establish the desired spark. On account of the considerable capacity of the generating coils, a sufficient quantity of current is generated by the machine to maintain the desired spark, even though the machine may be overloaded.

While we have herein shown and particularly described the preferred embodiment of our invention, we do not limit ourselves to the precise construction and arrangement as herein set forth, but

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

1. A magneto generator having a plurality of C-shaped permanent magnets, a plurality of metallic cores arranged between the converging faces of said permanent magnets, said magnets and core being arranged for relative rotation and a plurality of coils provided upon each core.

2. A magneto generator having a plurality of radially arranged C-shaped permanent magnets, a shaft upon which said magnets are mounted, a plurality of cores fixedly secured in such manner as to substantially periodically close the air gaps across said permanent magnets, and coils mounted on



said cores, said cores being arranged between the opposite pole faces of said permanent magnets.

5 3. A magneto generator having a plurality of radially arranged C-shaped permanent magnets, a plurality of metallic cores arranged between the converging faces of said permanent magnets, said magnets being arranged for relative rotation with respect to said cores and a plurality of coils  
10 provided upon each core.

4. A device of the class specified, comprising an annular series of generating coils and a rotary member carrying a series  
15 of permanent magnets having their ends bent to point inwardly toward said coils and their end faces arranged in proximity to the ends of said coils.

5. A device of the class specified, comprising a casing provided with an annular ring carrying generating coils, and a rotary shaft carrying a series of permanent magnets bent

so as to have their ends point inwardly toward said coils, and their end faces in proximity to the ends of said coils.

25 6. A device of the class specified, comprising a casing provided with a ring carrying generating coils, one series of coils being mounted on each side of the ring, a rotary shaft mounted in said casing and a series of  
30 C-shaped permanent magnets 7, having the middle of their body portions mounted upon said shaft and having their ends extending inwardly toward the ends of said coils and in proximity thereto.  
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In witness whereof, we hereunto subscribe our names this 3d day of December, A. D., 1909.

WILLIAM D. PENNINGTON.  
JOHN RAWSON PENNINGTON.

Witnesses:

A. MILLER BELFIELD,  
J. ELLIOTT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."