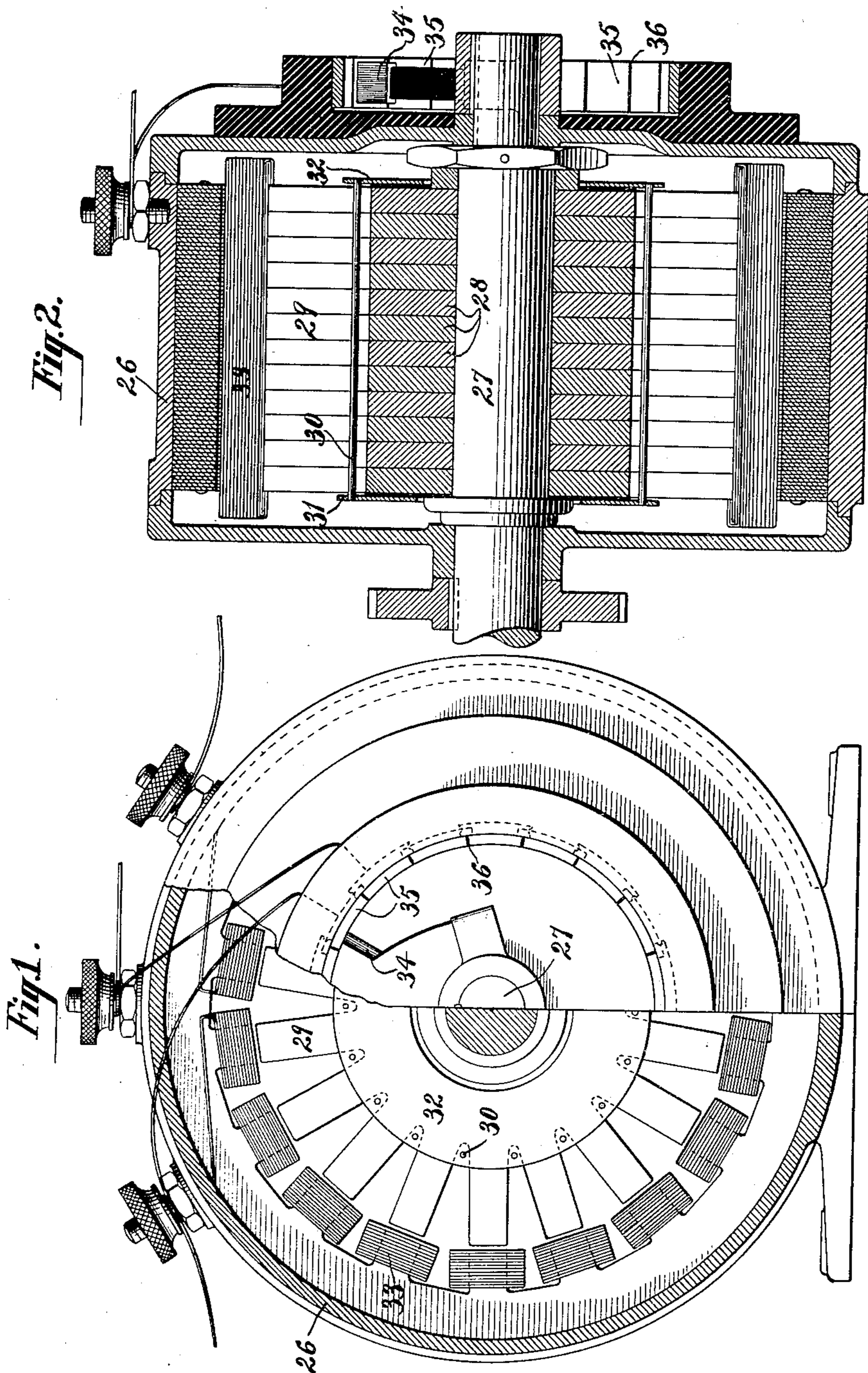


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MAGNETO ALTERNATING CURRENT GENERATOR.  
APPLICATION FILED FEB. 13, 1905.

908,097.

Patented Dec. 29, 1908.



**Witnesses:**  
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his Attorneys

# UNITED STATES PATENT OFFICE.

ADOLF HERZ, OF VIENNA, AUSTRIA-HUNGARY.

## MAGNETO ALTERNATING-CURRENT GENERATOR.

No. 908,097.

Specification of Letters Patent.

Patented Dec. 29, 1908.

Application filed February 13, 1905. Serial No. 245,345.

*To all whom it may concern:*

Be it known that I, ADOLF HERZ, a subject of the Empire of Austria-Hungary, and resident of Vienna, Austria-Hungary, have invented a new and useful Magneto Alternating-Current Generator, of which the following is a specification.

My invention relates to a magneto electric current generator with the object in view of producing a current of high tension and consequent effective sparking under a low speed of rotation and to prevent, to a marked degree, the demagnetization of the permanent magnet employed.

With these ends in view, my invention consists in putting the primary current furnished by the motor in short circuit and breaking this short circuit at or near the maximum of its strength at each half period and further in forming a closed circuit around different arms or sets of arms of the magnet. This short circuit and the breaking of it may produce the high tension for sparking either in the secondary coil of a transformer or such secondary coil may form a part of and be intimately related to the primary coil.

In the accompanying drawings, Figure 1 is a view in end elevation partly in section of the generator and interrupter as set up for use, and Fig. 2 is a longitudinal central section through the same.

The apparatus may be set up for use in a practical way by providing a cylindrical casing 26 with bearings in its ends for the reception of a shaft 27, the said shaft 27 being provided with a permanent magnet fixed thereon, preferably in the form of a series of disks 28 having their peripheries sub-divided to form arms 29, the said arms being arranged in alinement throughout the series of disks and one series being separated from another by means of rods 30 located at the inner ends of the spaces between two successive series of arms and connecting plates 31 and 32 at the opposite ends of the magnet, the plates 31, 32, and the tie rods 30 being formed of suitable conducting material, copper, for example, to set up an induced current of electricity around the arms of the magnet and

thus prevent, to a very considerable degree, the demagnetization of the magnet in use. These circuits, through the rods 30 and plates 31, 32, are induced by the magnetic flux passing from one series of arms to another. Within the casing, the armature is provided with a series of coils 33 which may be made up of primary and secondary coils, or, in the event a transformer is used exterior to the casing, the coils 33 may be primary coils alone.

On the shaft 27, exterior to the casing, a brush 34 is attached and insulated from the shaft, the said brush being constructed to travel along on the interior face of a ring composed of sections 35 of brass or other suitable conducting material, the said brass sections 35 being insulated from one another by means of thin insulating matter 36 so that the width of the brush will bridge momentarily the insulation and connect two adjacent sections during the travel of the brush by the rotation of the shaft 27. These sections 35 are alternately connected with the opposite poles of the armature, and the short circuiting resulting therefrom, during the slow rotary movement of the shaft 27, will serve to produce the spark as the tension of the current will be increased during the passage of the brush along the face of a section and the spark will promptly be produced the moment the brush ceases to bridge the insulation.

It is obvious that the making and breaking of the circuit can be effected in numerous ways.

The brush 34 has no other function than to electrically connect two consecutive plates of opposite polarity at the moment when it bridges the insulation between them.

In the matter of preventing the demagnetization of the permanent magnet when a variation is produced in the lines of force crossing the magnet arms, an induced current begins to flow through the conductors surrounding the arms and this current reacts against this variation and consequently against the demagnetization of the magnet.

What I claim is:—

The combination with an alternating cur-

rent generator provided with a multipolar rotary permanent magnet, of a closed circuit around the arms of the magnet for receiving an induced current to prevent the demagnetization of the magnet.

5 In testimony, that I claim the foregoing as my invention, I have signed my name in

presence of two witnesses, this 11th day of February 1905.

ADOLF HERZ.

Witnesses:

FREDK. HAYNES,  
C. S. SUNDGREN.