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M. A. PATTAY ET AL

1,648,564

MAGNETO ELECTRIC MACHINE

Filed Dec. 8, 1925

Fig. 2.

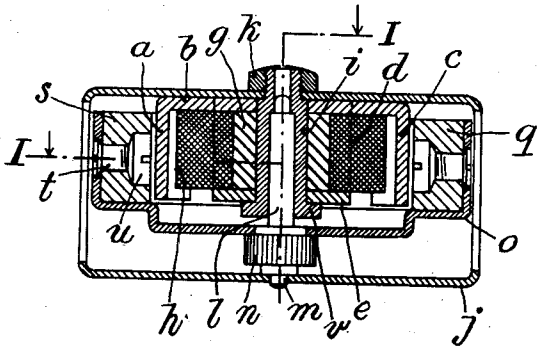
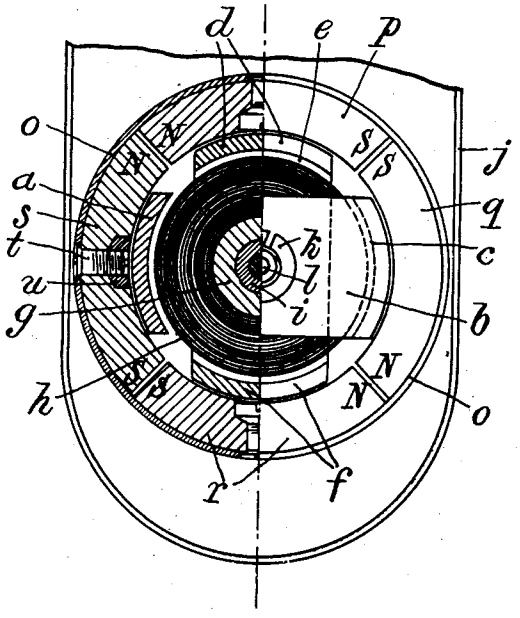


Fig. 1.



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UNITED STATES PATENT OFFICE.

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MAGNETO-ELECTRIC MACHINE.

Application filed December 8, 1925, Serial No. 73,972, and in Switzerland December 18, 1924.

The subject matter of the invention is a magneto-electric machine intended for example to be used for pocket lamps, for lighting cycles and for other applications.

It is characterized by the fact that its armature comprises two C-shaped parts arranged in the shape of a cross, in such a manner that their extreme branches are opposite each other, and are connected by a central part carrying the winding formed by one single coil.

The accompanying drawings show, by way of example, a constructional form of the magneto-electric machine as applied to a pocket lamp.

Figure 1 is a plan view partly in section on line I—I, Figure 2.

Figure 2 is a sectional elevation of the machine.

The stationary armature of this constructional form comprises two parts *a—b—c*, *d—e—f*, made of magnetic material, having the shape of a C and having branches *b—e* which are flat and central in position and also extreme branches *a* and *c* mounted in the arc of a circle of the same radius. They are placed crosswise and are connected by a central tubular part *g* of magnetic material, in such a way that their extreme branches are opposite each other and the central part *g;* the four branches forming a sort of cage. Upon this central part *g* there is situated the armature winding composed of a single coil *h* of circular form one of the ends of which is connected at the base of the lamp and the other one of which is insulated therefrom.

In the central part *g* there is located a socket *i* of non-magnetic material, for example, brass, one of the ends of which is of relatively small diameter and screwed into an opening in the jacket or casing *j* of the lamp, beyond which it is provided with a nut *k;* the other end of the socket *i* carries a flange *v* bearing upon the part *d—e—f;* in this way this socket *i* keeps assembled the parts *a—b—c*, *d—e—f*, *g* and fastens the armature to the jacket *j*.

The shaft *l* of the rotary inductor turns in the socket *i* and also in an opening *m* in the jacket *j* and receives its movement from a gear wheel *n* keyed upon it. It carries a non-magnetic cylindrical sheath *o*, of brass for example, against the lower surface of which four magnets *p—q—r—s* arranged in a quarter of a circle are connected in their central parts thereto by screws *t* and nuts *u*.

If it be assumed that the two poles opposite the magnets *p* and *q* are north poles and that they move opposite the branch *d* of the part *d—e—f* in course of rotation of the armature, it will be seen that the magnetic flux leaving these poles passes into the branches *d—e*, into the central part *g*, into the branches *b—c* or *b—a* so as to abut on the south poles of the magnets *p—q—r—s*.

It will also be seen from an examination of the figures that the construction and mounting of the armature and of the inductor are very simple; there is only one single coil *h* of circular form which is easy to make mechanically; the manufacture of the parts *a—b—c*, *d—e—f* can be easily effected by stamping and that of the part *g* by a stripping operation; the socket *i*, at the same time, holds these three parts assembled, fastens them to the jacket *j* and renders the said coil *h* motionless.

The central part *g* could during manufacture be cast together with one or the other of the parts *a—b—c* or *d—e—f;* the assembly of the three parts could take place in a manner other than that described.

Instead of being stationary, the armature of the machine may be moveable.

The magneto-electric machine can be given applications other than those which have been set forth.

We claim:

1. In a magneto electirc machine, a stationary armature comprising oppositely disposed side members spaced at right angles to each other and each having ends arranged in a circle, a single armature winding in the space formed by the parts of the armature, a centrally disposed member having a bearing therein and a flange at one end thereof, a nut turned down on the screw threaded opposite end of the centrally disposed member for connecting the parts of the said armature, a shaft journaled in the bearing in the said centrally disposed member, and rotary magnets mounted on the shaft and adapted to revolve exteriorly of the ends of the side members of the armature.

2. In a magneto electric machine, a stationary armature comprising oppositely disposed side members spaced at right angles

to each other and each having ends arranged in a circle, a single armature winding in the space formed by the parts of the armature, a centrally disposed member having a bearing therein and a flange at one end thereof, a nut turned down on the screw threaded opposite end of the centrally disposed member for connecting the parts of the said armature, a shaft journaled in the bearing in the said centrally disposed member, a sheath connected to the said shaft, and a plurality of magnets connected to the said sheath and adapted to revolve exteriorly of the ends of the side members of the armature.

3. In a magneto electric machine, a stationary armature comprising oppositely disposed side members spaced at right angles to each other and each having ends arranged in a circle, a single armature winding in the space within the parts of the armature, a casing, a member centrally disposed relatively to the parts of the armature, means coacting with said centrally disposed member for simultaneously connecting the parts of the armature to each other and to the casing, a shaft journaled in the said centrally disposed member, and a plurality of magnets carried by the said shaft and adapted to revolve exteriorly of the ends of the side members of the armature.

4. In a magneto electric machine, a stationary armature comprising oppositely disposed side members spaced at right angles to each other and each having ends arranged in a circle, a single armature winding in the space within the parts of the armature, a casing, a centrally disposed member passing through the side members of the armature and having a flange at one end bearing against one side member of the armature, the opposite end of the centrally disposed member also passing through the said casing, means for engaging the last aforesaid end of the centrally disposed member to connect the parts of the armature together and fix them in position relatively to the casing, a shaft journaled in the said centrally disposed member and also in the casing, a sheath fixed to the said shaft, and a plurality of magnets carried by the said sheath and adapted to revolve exteriorly of the ends of the side members of the said armature.

In testimony whereof we affix our signatures.

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