(No Model.)

N. B. GINOCHIO.

TELEPHONE.

No. 400,326. Patented Mar. 26, 1889.

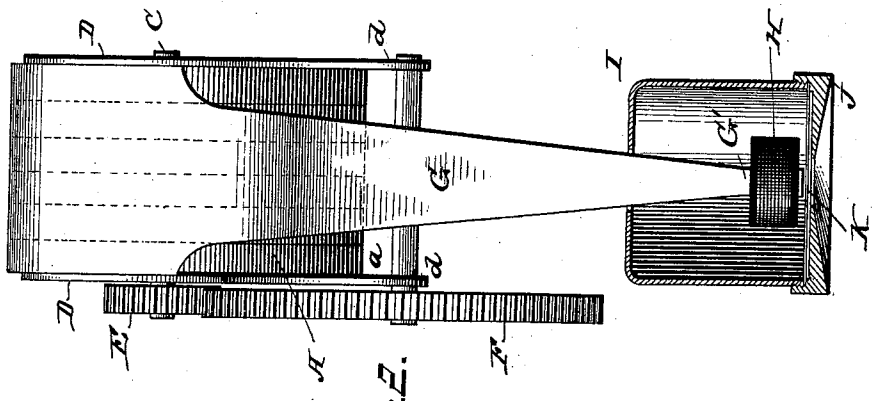

Fig. 2.

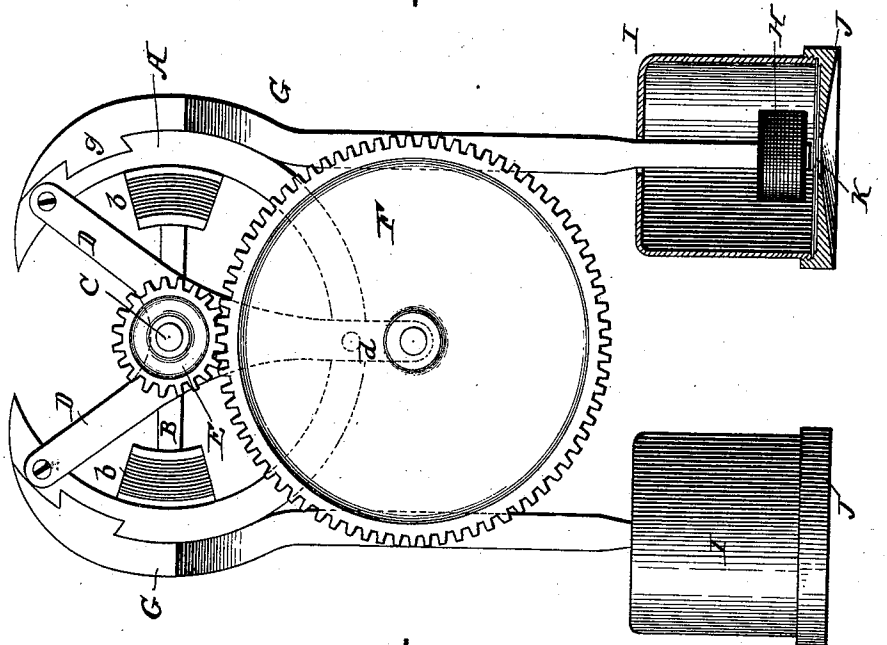

Fig. 1.

Witnesses,
Jno. J. Hinkel Jr.
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UNITED STATES PATENT OFFICE.

NOEL B. GINOCHIO, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO ELIAS M. GREENE, OF SAME PLACE.

TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 400,326, dated March 26, 1889.

Application filed November 16, 1888. Serial No. 290,993. (No model.)

To all whom it may concern:

Be it known that I, NOEL B. GINOCHIO, a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Telephones, of which the following is a specification.

My invention relates to telephones, and especially to that class known as "magneto-telephones," which operate without the aid of a battery-current; and it has for its object to provide a simple, cheap, and effective construction, which embraces both the transmitting and receiving telephone and the magneto-electric generator for operating the call or signal bell; and my invention consists in a device constructed and arranged substantially as hereinafter set forth.

Referring to the accompanying drawings, Figure 1 is a face view of a device embodying my invention, and Fig. 2 is a side view of the same.

In the drawings, A represents a permanent magnet composed of a number of separate magnets, *a*, connected together to form a compound magnet having substantially the contour of a ring, with a portion broken away at the top.

B is an armature carrying the coils *b b* at its ends, and mounted upon the shaft C. This shaft is supported in any suitable way, but is shown as mounted in the Y-shaped bearings D, which are preferably made of brass or other non-magnetic material, and secured to the compound magnet A on opposite sides, as shown.

Upon the end of the shaft C is mounted a pinion, E, which is shown as engaging a driving-wheel, F, supported in extensions *d* of the Y-shaped bearings D. This pinion and gear serve to operate the armature to produce the desired impulses to operate an electric bell or other signal device, as is usual in this class of telephones, and it may be connected in circuit in any of the usual ways, it not being deemed necessary to illustrate them herein, as they form no part of my present invention.

Secured to the opposite sides of the compound magnet A are the permanent magnets G, which are shown as provided with dovetailed projections *g*, adapted to enter similar recesses in the magnets *a*, so that they may be firmly and securely held in place against the ring-shaped magnet, in the manner shown. The free ends of these magnets G are tapered, as indicated more particularly in Fig. 2, and this taper extends to or near the end, which is preferably made cylindrical, and with straight sides, as indicated at G'. Upon these extensions are wound the coils H of the telephones, which are connected in line in the usual way, and supported upon the ends are the boxes I, having the usual mouth-piece, J, and diaphragm K. By this arrangement it will be seen that I am enabled to get a very strong concentrated pole at the ends of the magnets upon which the coils are placed, so that the variations caused therein in transmitting and receiving speech will be augmented to a large degree and enable this class of instruments to be used on long lines. Moreover, these magnets, which are preferably made of cast-steel, can be formed in the desired shape, so that they can be readily assembled to produce the apparatus without expensive tooling, the dovetails and the screw-hole for the reception of the screw supporting the bearings being cast directly or otherwise formed in the magnets.

The magnets form both the field of the generator for the signal apparatus and for the telephones, and as the telephones and signaling apparatus are never used concurrently the full force and effect of the magnets can be used for either purpose with equal facility.

While I have shown one specific form of dovetail for connecting the ring-magnet with the extensions for the telephones, it is evident that other equivalent forms of connection can be readily applied without departing from my invention, and the device may be modified in other respects without materially changing the essential features.

Having thus described my invention, what I claim is—

1. The combination, with an annular magnet, of an armature arranged to rotate therein, extension-pieces connected to the magnet and formed with tapering ends, and coils secured to said ends, substantially as described.

2. The combination, with an annular compound magnet, of bearing-pieces secured to the sides thereof, an armature-shaft supported in said bearings and carrying an armature adapted to rotate within the magnet, and extension-pieces adapted to fit a portion of said magnet and to be secured thereto by dovetailed grooves, substantially as described.

3. The combination, with an annular compound magnet, of an armature arranged to rotate therein and supported in bearings secured to the sides of the magnet, extension-pieces connected to the annular magnet by dovetailed joints having tapering ends, and telephone-coils secured to said ends, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

NOEL B. GINOCHIO.

Witnesses:
J. P. CAMPBELL,
HENRY SCHULTZ.