

(No Model.)

E. T. GILLILAND.
MAGNETO TRANSMITTER.

No. 538,328.

Patented Apr. 30, 1895.

Fig. 1.

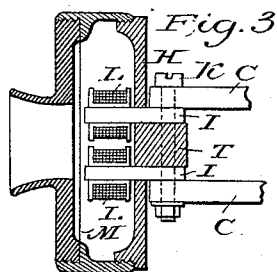
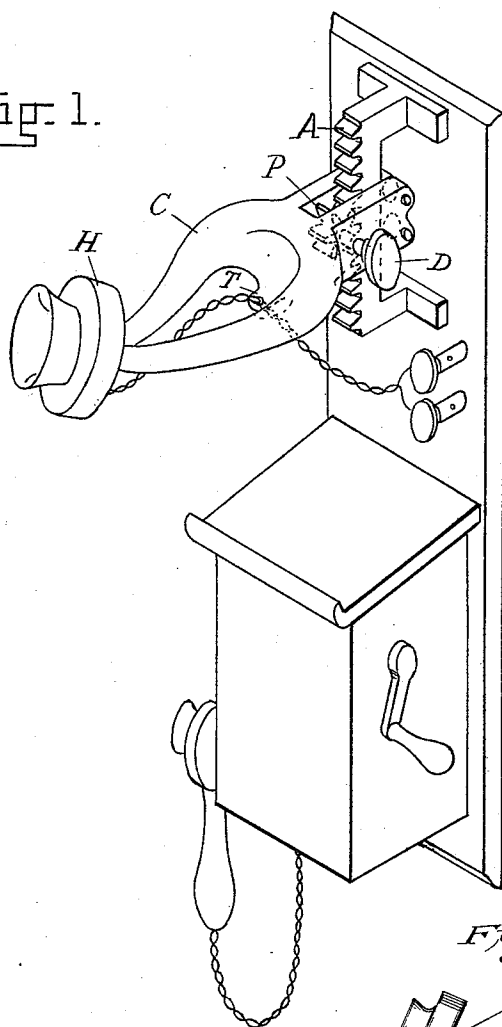
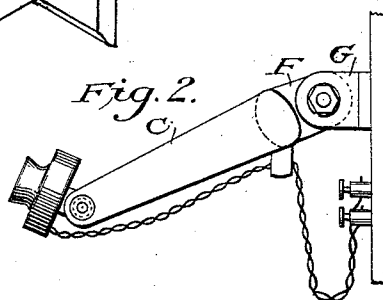


Fig. 2.



Witnesses=

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UNITED STATES PATENT OFFICE.

EZRA T. GILLILAND, OF PELHAM MANOR, NEW YORK, ASSIGNOR TO THE
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MAGNETO-TRANSMITTER.

SPECIFICATION forming part of Letters Patent No. 538,328, dated April 30, 1895.

Application filed June 5, 1894. Serial No. 513,539. (No model.)

To all whom it may concern:

Be it known that I, EZRA T. GILLILAND, a citizen of the United States of America, residing at Pelham Manor, county of Westchester, State of New York, have invented certain new and useful Improvements in Magneto-Transmitters, of which the following is a specification.

Referring to the drawings, which form a part of this specification, Figure 1 is a perspective view of a telephone apparatus as seen from the side and a little below the instrument, showing the arm supported on a square guide rod by means of a pin on the arm engaging with teeth on the rod. Fig. 2 is a side view of a modification in which the arm is jointed, both where it is supported on the back board of the subscriber's instrument, and at the point at which the mouth piece is attached. Fig. 3 is a horizontal section through the mouth piece, showing its construction in each of the foregoing forms, and showing the manner of attaching it to the arm in the modification of Fig. 4.

Referring now to Fig. 1, which shows a subscriber's instrument, there is mounted on the back board and immediately above the box in which the magneto generator and bell are placed a square guide rod A fastened to the back board by screws as shown. This square rod is provided on its forward face with notches or teeth, as indicated at B. The magnet C of the transmitter, which also forms a supporting arm, is cast in the form of a horse shoe. It is provided at the rear with two backwardly projecting tongues, sufficiently far apart to fit over the square rod, as indicated. Through the rear of these tongues are bored holes, in which are mounted anti-friction rollers D', which bear on the rear face of the square rod A. A pinion P is journaled in the tongues on the arm C, and engages with the teeth B, the pinion being rotated by the milled head D'', secured to its axle. By the rotation of the pinion and its engagement with the teeth upon the square rod, the arm can be thus moved up and down along the guide rod, and it will be seen that in this form of the invention no means for adjusting the angle of the mouth piece at the face is necessary, since

the arm always keeps the same angle with the horizontal and the mouth piece can be rigidly attached at an angle of about twenty degrees as shown.

Referring now to Fig. 2, the arm C is provided at its rear end with a tongue F which, as in the preceding case, may be conveniently cast integral with the arm or magnet, and projects from about its neutral point. The arm or magnet is fastened by a bolt into a bracket G set on the back board of the machine. This bolt has a horizontal axis which serves as a hinge about which the arm C can be swung and the mouth piece of the transmitter thereby raised or lowered. Since in this form the angle which the mouth piece makes with the horizontal will change with the difference in height to which the arm C is tilted, it is expedient to mount the mouth piece on a horizontal axis at the outer end of the arm. The manner of jointing the mouth piece to the polar end of the arm or magnet so that its angle can be adjusted for different positions is indicated in Fig. 3. A plate H of non-magnetic material as brass or rubber has an outwardly projecting tongue T. On either side of this tongue are pole pieces I I of soft iron. These project through the plate, and are hinged to the poles of the arm C by a bolt K which also passes through the tongue. This bolt is preferably of brass so that it will not divert the magnetism from the pole pieces. Coils L L on the ends of the pole pieces and a diaphragm M suitably mounted complete the mouth piece. I include these features under the term mouth piece, in the claims.

As will be seen from the foregoing description I mount the magneto transmitter in such a way that the lips can be brought in close proximity to and directly in front of the mouth piece. This is very important, since the strength of the current produced by a magneto telephone transmitter is dependent upon the power of the voice, and it is necessary to economize its power and use it to the best advantage. Furthermore, this adjustment has also the great advantage of enabling the subscriber when in conversation to place his ear to the transmitter when the sound emitted by the receiver is not sufficiently loud. By plac-

ing one ear to the transmitter and placing the receiver at the other ear, the sound is doubled, and extraneous sounds are largely excluded. By providing the adjustable arm as indicated, 5 the subscriber can place his mouth or his ear to the transmitting instrument without being obliged to use both hands as would be necessary if the transmitter as well as the receiver were mounted on a cord.

10 Since the magneto transmitter requires a powerful permanent magnet, it is also well to utilize this magnet as its arm or support.

By the term joint in the claims I mean any manner of attaching the magnet C to its support that admits of the device being adjusted. 15

What I claim, and desire to secure by Letters Patent of the United States, is—

1. A support for a magneto telephone transmitter comprising a guide rod whereon the 20 telephone may be vertically adjusted; an arm of magnetic material and horse shoe form provided at or near its neutral point with pro-

jecting tongues bestriding the said guide rod, and anti-friction rollers supported in the said tongues, and bearing on the rear faces of said 25 guide rod, substantially as described.

2. In a magneto transmitter, a magnet having pole-pieces hinged to the poles and in contact therewith, being mounted on a non-magnetic bolt or pintle, and separated from each 30 other by a non-magnetic tongue, substantially as described.

3. A magneto transmitter consisting of a mouthpiece, and a permanent magnet, the latter being provided with a pinion, and mounted 35 on a guide rod carrying a rack which engages with the pinion whereby the magnet can be raised and lowered on the guide rod, substantially as described.

EZRA T. GILLILAND.

In presence of—

THOMAS EWING, Jr.,
HAMPTON D. EWING.