

(No Model.)

C. A. HUSSEY.
Telephone.

No. 242,204.

Patented May 31, 1881.

Fig 1.

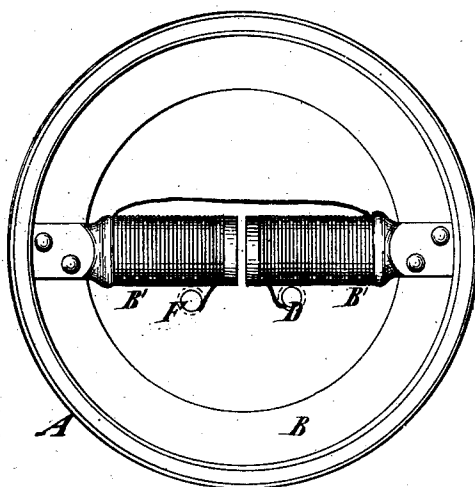
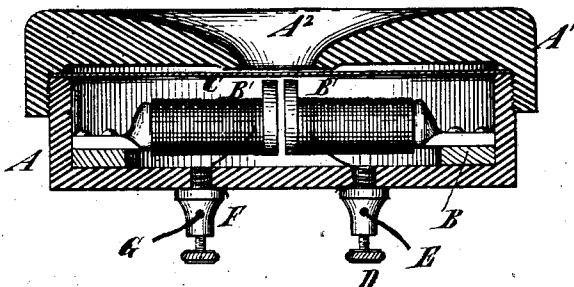


Fig. 2



Witnesses:

Wm. H. Haynes
J. H. Deane

Inventor:-

Charles A. Hussey
by his Attorneys
Brown & Brown

UNITED STATES PATENT OFFICE.

CHARLES A. HUSSEY, OF NEW YORK, N. Y., ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO HUSSEY ELECTRIC COMPANY, OF SAME PLACE.

TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 242,204, dated May 31, 1881.

Application filed December 17, 1880. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. HUSSEY, of 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.

The object of my invention is to produce a telephone-instrument by means of which speech may be produced more audibly than heretofore.

The invention consists in the combination, in a telephone-instrument, of a diaphragm, a permanent magnet of continuous or endless form, provided with poles or consequent points, one or more of which extend toward the center and are wound with wire. By this means I produce a telephone-instrument wherein a magneto-electric current may be produced of a power sufficient for the reproduction of audible speech. If desirable, however, a battery may be employed in connection with it.

In the accompanying drawings, Figure 1 is a face view of a telephone-instrument embodying my invention, with the outer side or cover of the case and the diaphragm removed; and Fig. 2 is a transverse section of the same.

Similar letters of reference designate corresponding parts in both figures.

A designates the body of the case of the telephone-instrument, made of any suitable material. A' designates a removable cover, which is secured in place in any suitable manner, and provided at the center with a mouth-piece, A².

B designates a permanent magnet of a continuous or endless form, (here shown as circular.) It is made as large as it can be accommodated within the case A, and may be fastened in place therein in any suitable manner. It is provided with poles or consequent points, one or more of which extend radially inward. As shown, the poles or consequent points comprise bars B', of wrought-iron or other suitable material. These bars are at the outer ends made flat, and connected by screws or otherwise to the sides or faces of the magnets. In the middle they are made round and wound with insulated wire united at the ends which are farthest from each other, as in

a horseshoe electro-magnet, and at their adjacent ends or poles they are bent transversely toward the cover A' of the case A of the instrument. The outer ends of the wire wound on these bars B' extend one to a binding-screw, D, and is thereby connected to a wire, E, leading to the ground, and the other is connected to a binding-screw, F, and is thereby connected to a line, G, whereby it is connected with another instrument of a similar kind, and thence also to the ground.

C designates a diaphragm, of thin steel, iron, or other suitable material, fastened to the case of the instrument in close proximity to the adjacent or inner ends of the bars B'. When any one speaks into the mouth-piece against the diaphragm the motions of the diaphragm induce electric currents in the wire wound on the bars B'. These currents are transmitted then to the wire wound on the bars B' of the other instrument, and thereby cause the latter to attract their diaphragm and set it in motion, so as to generate corresponding sound-waves and reproduce the speech.

As the permanent magnet is a very powerful one compared with the size of the case of the instrument very powerful electric currents may be generated from it, and a battery can be dispensed with; but nevertheless a battery may be employed, if desirable. The instrument is both a transmitter and a receiver.

I desire to remark that I do not confine myself to the particular shape of the magnet shown, for it may be of various shapes as long as it is continuous or endless. Its poles or polar projections may also be extended toward the center of the diaphragm in various ways.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, in a telephone-instrument, of a diaphragm, a permanent magnet of continuous or endless form provided with poles or consequent points, one or more of which extend toward the center of the diaphragm and comprise a portion or portions wound with wire, substantially as and for the purpose specified.

2. The combination, in a telephone-instrument,

ment, of a diaphragm, a permanent magnet of circular form provided with poles or consequent points comprising a bar or bars extending radially toward the center and wound with
5 wire, substantially as specified.

3. A permanent magnet of continuous or endless form, having poles or consequent points,

one or more of which extend inward, substantially as specified.

C. A. HUSSEY.

Witnesses:

T. J. KEANE,
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