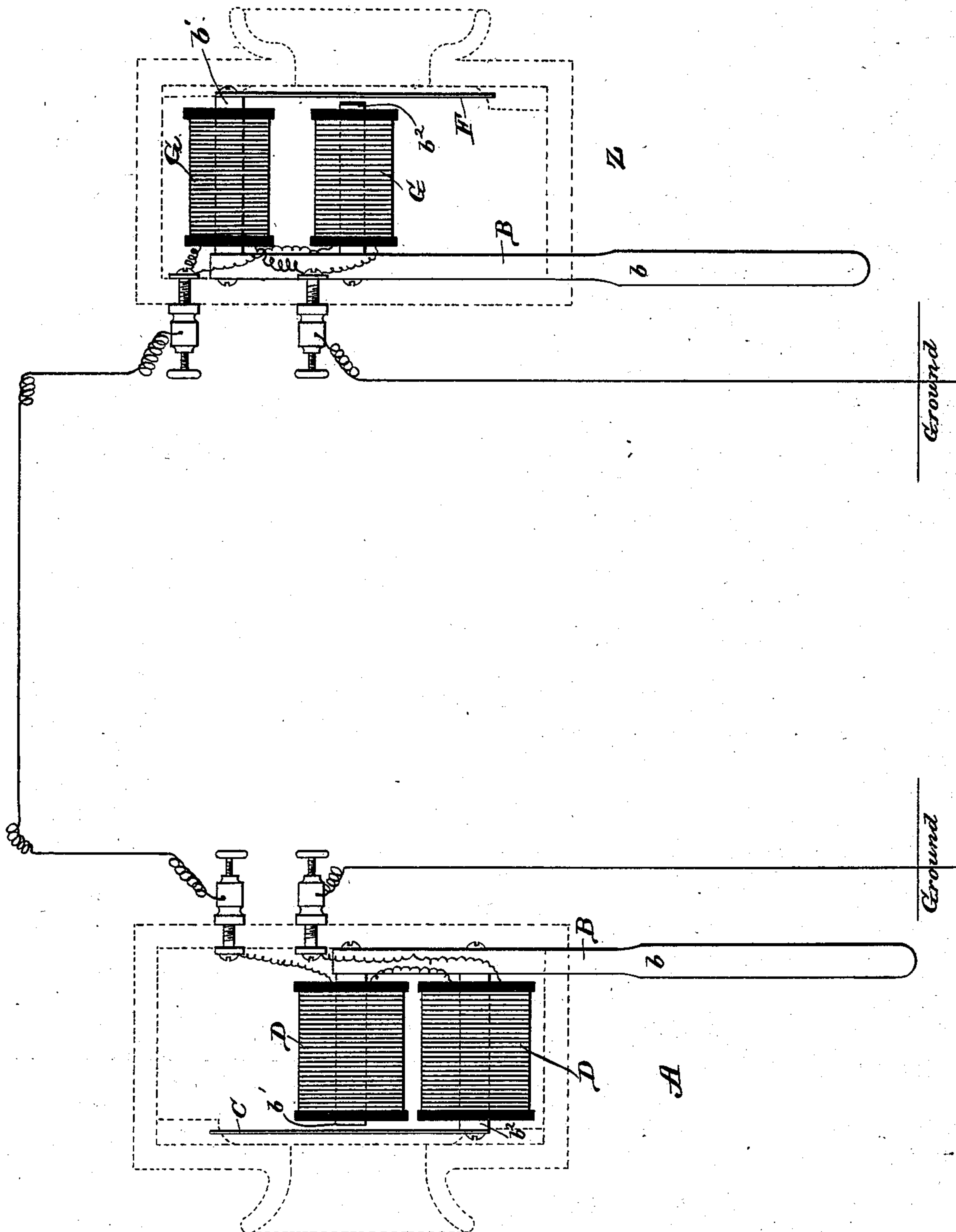


(No Model.)

F. H. BROWN.  
MAGNETO TELEPHONE.

No. 376,706.

Patented Jan. 17, 1888.



Witnesses

*Rich C. Bowen*  
*J. W. Ganner*

Inventor,

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By his Attorneys

*C. A. Howden*

# UNITED STATES PATENT OFFICE.

FRED. H. BROWN, OF NEW YORK, N. Y., ASSIGNOR TO THE MAGNETO-TELEGRAPH COMPANY, OF NEW YORK.

## MAGNETO-TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 376,706, dated January 17, 1888.

Application filed March 31, 1886. Serial No. 197,343. (No model.)

*To all whom it may concern:*

Be it known that I, FRED. H. BROWN, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a new and useful Improvement in Magneto-Telephones, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to an improvement in magneto-telephones; and it consists in a transmitting-telephone having the magnet provided with parallel arms of the same polarity but unequal strength, the diaphragm secured magnetically to the weaker pole and free to vibrate over the stronger, and helices on the parallel arms, in combination with a receiving-telephone having the magnet provided with parallel arms of the same polarity but unequal in strength, helices on the said arms, and a diaphragm secured magnetically to the stronger arm and free to vibrate over the weaker arm, as will be set forth more fully hereinafter, and particularly pointed out in the claim.

The accompanying diagram represents a pair of my improved telephones connected in circuit.

A represents the transmitting-telephone, in which B represents the permanent magnet, which is composed of the bar  $b$ , having at one end the parallel arms  $b'$   $b''$ , of the same polarity but of different magnetic strength, the arm  $b'$  at the outer end of the bar being magnetically stronger than its companion arm  $b''$ , which is located between the arm  $b'$  and the neutral point of the magnet. The bar forms an extended arm of opposite polarity to the parallel arms.

C represents the transmitting-diaphragm, which is connected magnetically at one side to the weaker magnetic arm,  $b''$ , and has its central portion arranged over the stronger magnetic parallel arm,  $b'$ , and free to vibrate over the said arm. The usual helices, D, are coiled on the parallel arms of the magnet. This construction of the transmitting-telephone is the same as that shown and described in my Patent No. 341,370, dated May 4, 1886.

Z represents the receiving-telephone, which is identical in construction with the transmitting-telephone, with the exception that its diaphragm F is connected magnetically at one side with the stronger of the similar parallel poles  $b'$ , and has its center free to vibrate over the weaker magnetic parallel pole  $b''$ . Helices G, having a smaller number of convolutions than the helices of the transmitting-telephone, are wound on the poles  $b'$  and  $b''$ . This arrangement reduces the magnetic stress or tension on the receiving-diaphragm at the point where the amplitude of its vibration is greater, which renders it more sensitive to the influence of the variations in the receiving magnetic field.

The intensity of the magnetic field in the receiving-telephone is weakened by placing the helix on the weaker magnetic arm, thus rendering the said magnetic field more sensitive to the rapidly-alternating currents generated by the transmitting-telephone and causing the receiving-diaphragm to vibrate with maximum rapidity and mobility.

Having thus described my invention, I claim—

The transmitting-telephone having the magnet provided with the arms of unequal magnetic strength, the diaphragm secured magnetically to the weaker pole and free to vibrate over the stronger, and the helices on the parallel arms, in combination with the receiving-telephone having the magnet provided with the arms of unequal strength, the helices on the said arms, and the diaphragm secured magnetically to the stronger arm and free to vibrate over the weaker arm, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

FRED. H. BROWN.

Witnesses:

WILLIAM H. CLARKSON,  
AGGIE BARONN.