

(No Model.)

H. E. WAITE & S. H. BARTLETT.

TELEPHONE RECEIVER.

No. 287,743.

Patented Oct. 30, 1883.

Fig. 1.

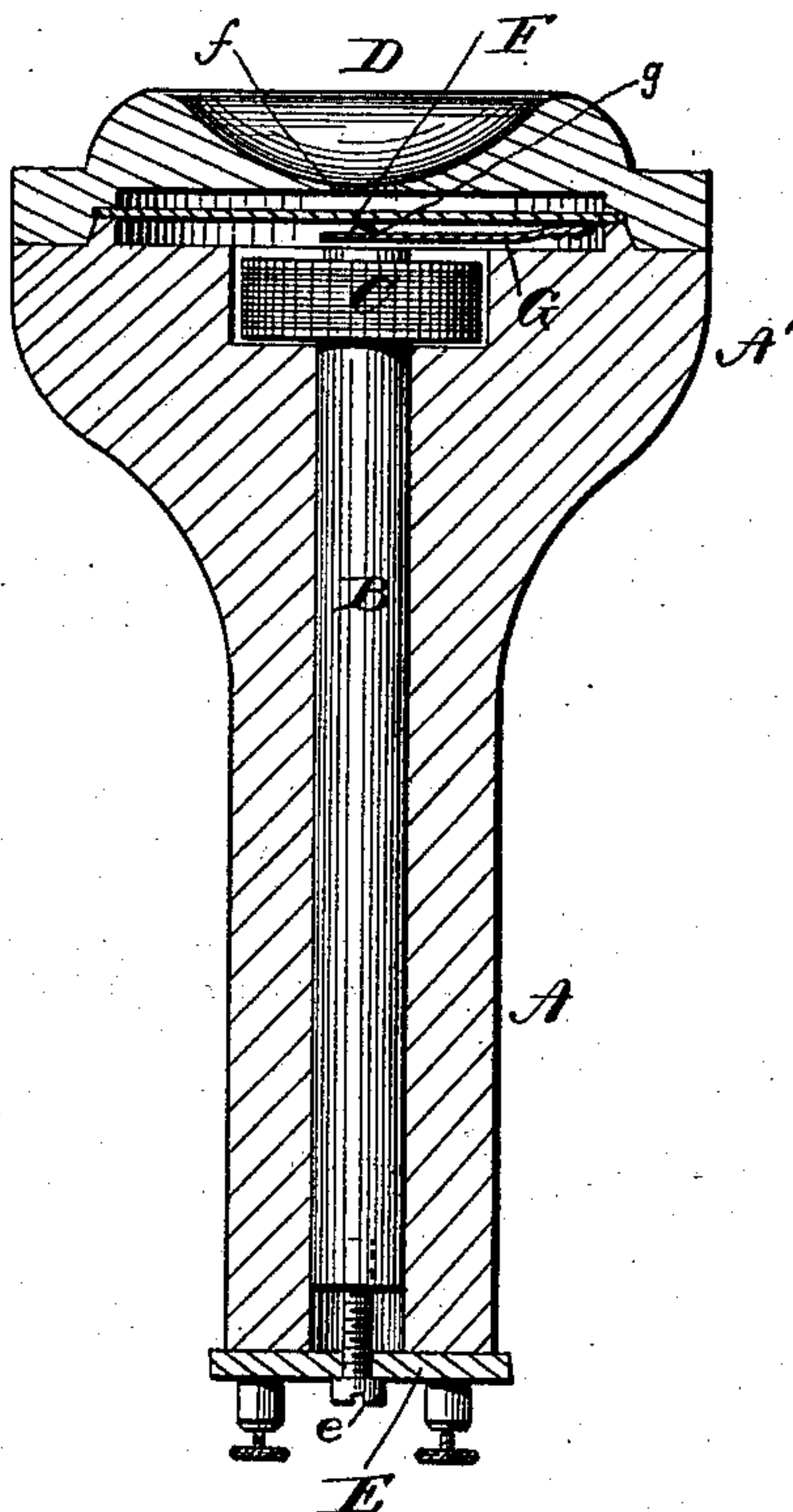


Fig. 2.

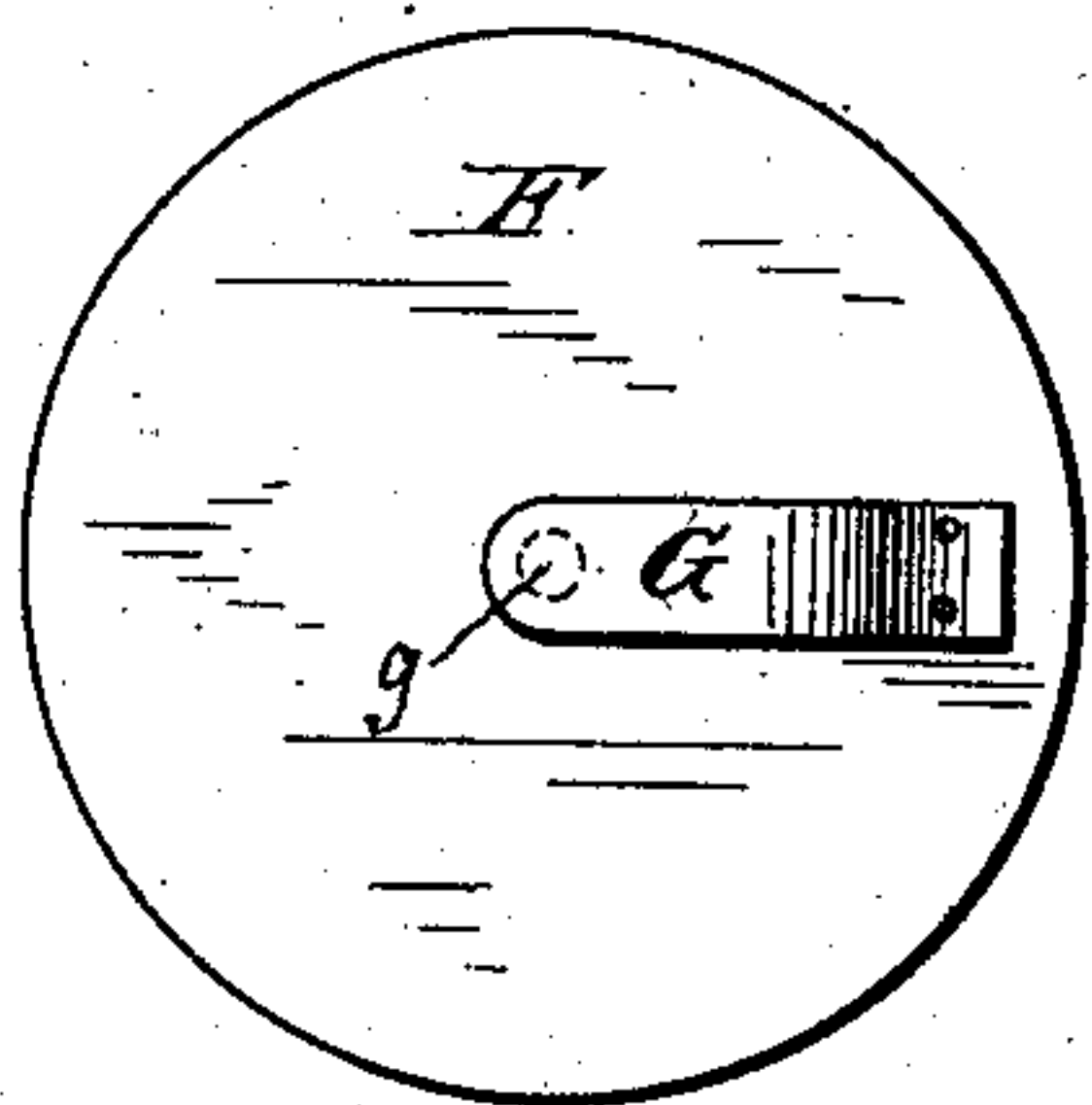
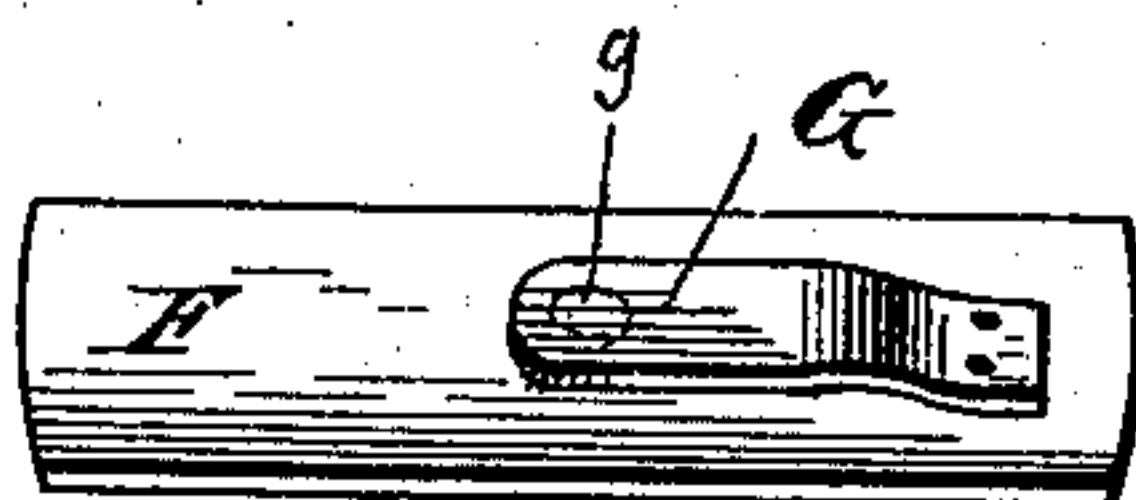


Fig. 3.



WITNESSES

F. L. Ourand
Rev. Smith

INVENTOR

Henry E. Waite
Sam. H. Bartlett
by J. H. Smith
Attorney

UNITED STATES PATENT OFFICE.

HENRY E. WAITE AND SAMUEL H. BARTLETT, OF NEW YORK, N. Y., ASSIGNORS TO THE MOLECULAR TELEPHONE COMPANY, OF SAME PLACE.

TELEPHONE-RECEIVER.

SPECIFICATION forming part of Letters Patent No. 287,743, dated October 30, 1883.

Application filed December 26, 1882. (No model.)

To all whom it may concern:

Be it known that we, HENRY E. WAITE and SAMUEL H. BARTLETT, both of New York, county of New York, and State of New York, have invented a new and useful Improvement in Telephone-Receivers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

Our invention relates to the manner of applying the yielding spring-armature of the magnet to the yielding sounding-board of the receiver, whereby the degree of disturbance or amplitude of vibration of said armature is increased; and it consists in attaching the spring-armature, which overhangs and is arranged in inductive proximity with the magnet, to the elastic or yielding sounding-board near the outer edge or end of the latter, whereby it is made to act upon said sounding-board as an arm of a lever, and the vibration or degree of disturbance in said sounding-board caused thereby being added to that of the armature attached to said board, the measure or amplitude of vibration of the armature is thereby increased.

In the accompanying drawings, Figure 1 represents a longitudinal section through our improved receiver. Fig. 2 is an inner face view of the sounding-board and spring-armature; and Fig. 3 is a similar view, showing a modification in the form of the sounding-board.

The receiver, in its organization or general arrangement of parts, is similar to those now in use, and need not, therefore, be described in detail.

A represents the tubular handle, provided with the usual enlarged head or end, A', and the central magnet, B, the latter projecting at one end within a cylindrical chamber inclosing a coil, C, surrounding said end of the magnet, as shown.

D represents the ear-piece, and E a plate or cap-piece applied to the smaller end of the handle, and perforated to receive an adjusting-screw, e, connected with the adjacent end of the magnet, for adjusting the latter longitudinally in the handle, said parts, together with the binding-posts for connecting the ends of

the coil with the line-wires, being of any usual or preferred construction and arrangement.

F is the sounding-board, located within a shallow chamber formed between the adjacent faces of the head A and the ear-piece D, and it may either be clamped between the flanged edges of said parts, as shown, or the ear-piece may have a recess formed in its annular flange, conforming to the shape of said sounding-board, and the latter may be secured in such recess and made removable with the ear-piece, if preferred. In Fig. 2 this sounding-board is shown made in the form of a disk, and if this form is employed the recess in the ear-piece for its reception will be annular in form; but said sounding-board may be made in the form of a narrow strip, as indicated in Fig. 3, of width sufficient to cover the central opening or perforation, f, through the ear-piece, and in the latter case sockets only are required for the reception of the ends of the strip. To the lower or inner face of this sounding-board or strip is rigidly secured one end of a yielding spring-armature, G, said end being attached to the sounding-board near its edge or end by small rivets or other suitable fastening device, the opposite or free end of said armature overhanging the end of the magnet B and arranged within inductive proximity thereto. The end of said armature attached to the sounding-board is by preference made angular in form, in such manner that while the body or main portion of the armature lies parallel with the sounding-board, or nearly so, it will be removed from contact therewith. The end overhanging the magnet is provided on the face adjacent to the sounding-board with a point or spur, g, which rests in contact with said board.

The armature being of magnetic material, adapting it to be acted upon by the magnet, the sounding-board may be, and by preference is, made of non-magnetic material—such as wood—sufficiently thin to be elastic and yielding, and the spring-armature acts as an arm of a lever thereon for imparting its disturbances or vibrations to said board in a manner that will be readily understood, thus giving greater amplitude to the vibrations of the ar-

mature, and consequent increased distinctness of articulation to the receiver.

Having now described our invention, what we claim as new is—

- 5 1. In a telephone-receiver, the combination, with the magnet, of the yielding spring-armature, rigidly attached at one end to and upheld by the sounding-board, with its free end in contact with said board, substantially as described.
- 10 2. The combination, in a telephone-receiver, of the magnet, the yielding non-magnetic sounding-board, and the spring-armature attached at one end to and upheld by said sound-

ing-board, with its free end in contact with said board and overhanging and in inductive proximity with the magnet, substantially as and for the purpose described. 15

In testimony whereof we have hereunto set our hands this 18th day of December, A. D. 1882.

HENRY E. WAITE.

SAMUEL H. BARTLETT.

Witnesses:

C. H. HANKINSON,

GEORGE H. LAMBERT.