(No Model.)

G. F. SHAVER.

MECHANICAL TELEPHONE.

No. 342,395. Patented May 25, 1886.

Fig. 1.

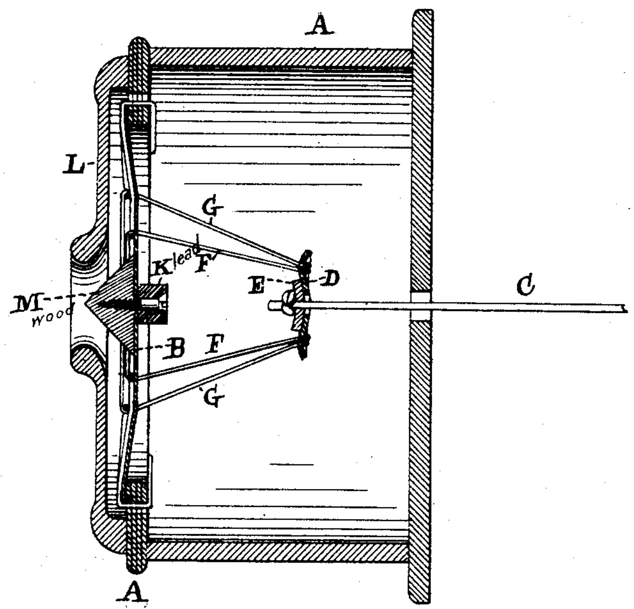
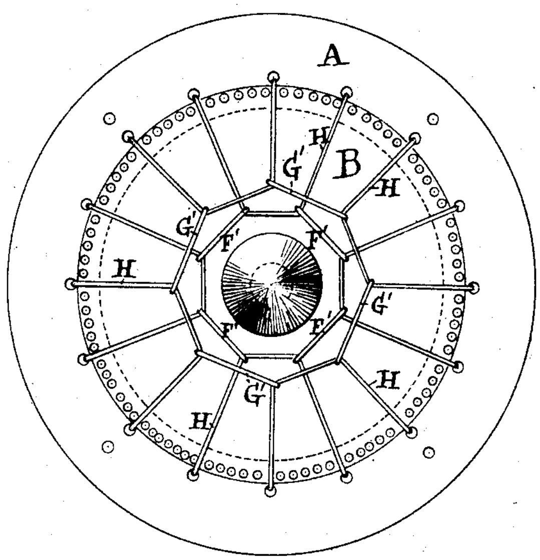


Fig. 2



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UNITED STATES PATENT OFFICE.

GEORGE F. SHAVER, OF NEW YORK, N. Y.

MECHANICAL TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 342,395, dated May 25, 1886.

Application filed January 25, 1886. Serial No. 189,617. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. SHAVER, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Mechanical Telephones, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 represents a vertical sectional view, and Fig. 2 a plan view, upon the transmitting and receiving sides of the telephone.

Similar letters refer to similar parts in both the views.

The invention relates to improvements in mechanical or acoustic telephones; and it consists, first, of the attachment of the line-wire to the diaphragm by means of supplemental wires arranged in a double truncated cone, or two truncated cones; second, in the use of a weight or weights fastened to the diaphragm to lessen its vibration, and, third, of a sound-deflecting device attached to the receiving side of the telephone.

Referring to the drawings, A represents the box or frame in which the diaphragm is placed. B is the diaphragm, attached to said frame A in any suitable manner. C is the line-wire. D is a plate holding the supplemental wires. E is the sound-deadener, interposed between the line-wire and said plate. F F represent the inner series of supplemental transmitting-wires, connecting said plate with the diaphragm in the form of a truncated cone. G G represent the outer series of supplemental transmitting-wires, connecting said plate with the diaphragm, and also in the form of a truncated cone, but with a larger base upon the diaphragm, and inclosing the smaller truncated cone. By this method of connecting the line-wire with the diaphragm it is found that the line-wire is more securely fastened, and also that sound-vibrations are better transmitted to the ear. The best way of attaching these supplemental wires yet discovered is to pass them through the diaphragm so that each alternate pair of wires F F will form a loop, F, and each alternate pair G G will form a loop, F′, on the face of the diaphragm, and then to connect together the adjacent sides of loops F′ F′ and the adjacent sides of loops G′ G′ by bracing-wires H, lying upon the face of the diaphragm, and having their ends secured to the frame A. In this way the strain of the line-wire C will be borne by the bracing-wires H, and not by the diaphragm. This method of attachment of a single truncated cone of supplemental wires is described in my application for Letters Patent filed April 5, 1885, No. 161,623.

Upon the face of the diaphragm, and preferably upon its lower side, is attached one or more weights, K, preferably composed of lead, and one being preferably placed in the center of the diaphragm, as shown in Fig. 1. Each weight is secured in any suitable manner, preferably by a screw passing through the diaphragm and into a button on the receiving side. This weight K lessens the reverberations of the diaphragm, stopping each vibration as soon as the exciting cause ceases, and thus greatly increasing the distinctness of articulation.

Upon the face of the diaphragm, and in a central position beneath the mouth-piece or sound-concentrator L, Fig. 1, I place a sound-deflector, M, preferably in the form of a cone, the same being secured to the face of the diaphragm in any suitable manner, preferably by the same screw that secures the central weight K. This deflector may be made of wood, and acts to deflect the sounds of the voice to the transmitting-points of the diaphragm, and it also deflects the sounds coming from the diaphragm around it outwardly through the aperture of the mouth-piece L when used as a receiver.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a mechanical telephone, the combination of the diaphragm B, line-wire C, plate D, and two series of connecting-wires, F G, connected to the diaphragm at different distances from its center, so as to form the outline of two truncated cones, substantially as described.

2. In a mechanical telephone, the line-wire C, plate D, the diaphragm B, two series of wires, F G, connected to the diaphragm at different distances from its center, so as to form the outline of two truncated cones, one within

the other, and brace-wires H, attached to the frames and receiving the strain of the connecting-wires, substantially as described.

3. In a mechanical telephone, the combination of the diaphragm B with one or more weights, K, secured thereto, substantially as described.

4. In a mechanical telephone, the diaphragm B, in connection with the sound-deflector M and one or more weights, K, secured thereto, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 23d day of January, 1886.

GEORGE F. SHAVER.

Witnesses:
C. WYLLYS BETTS,
THOMAS HUNT.