

(No Model.)

W. H. EASTMAN.
MECHANICAL TELEPHONE.

No. 371,439.

Patented Oct. 11, 1887.

Fig. 1

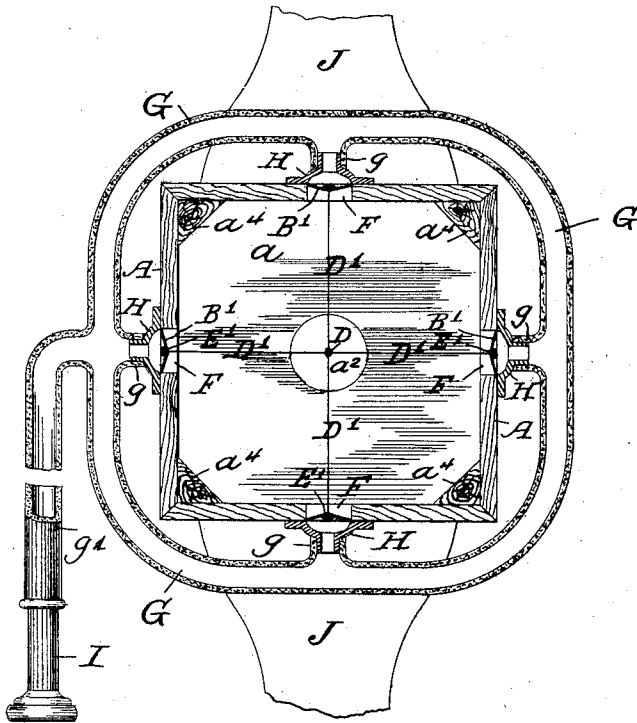
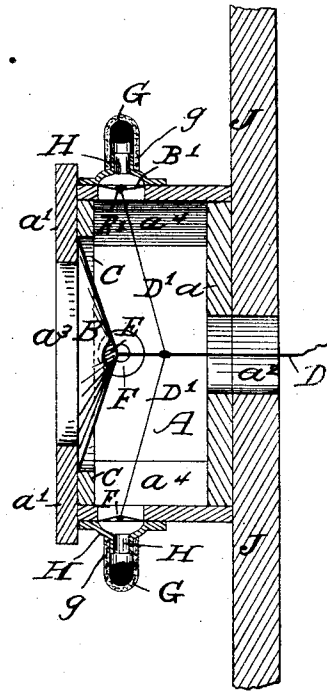


Fig. 2



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM H. EASTMAN, OF CONCORD, NEW HAMPSHIRE, ASSIGNOR TO
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MECHANICAL TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 371,439, dated October 11, 1887.

Application filed January 17, 1887. Serial No. 224,552. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. EASTMAN, a citizen of the United States, residing at Concord, in the county of Merrimac and State of New Hampshire, have invented certain new and useful Improvements in Mechanical Telephones, of which the following is a specification.

The object of this invention is to provide means in an acoustic telephone for obtaining an increase of vibration and for conveying a message direct to the ear of the hearer before it shall reach the main or speaking diaphragm. These results are accomplished by the mechanism described in the following specification, and illustrated in the accompanying drawings, forming part thereof, of which—

Figure 1 represents a front sectional elevation of my improved telephone complete, and Fig. 2 a side sectional elevation of the same.

Similar letters indicate corresponding parts.

A rectangular or square box, A, preferably formed of rather thin wood, has a back board, *a*, and front board, *a'*, the former perforated in the center, as at *a''*, and the latter having a large opening, *a'*. A diaphragm, B, is secured to a suitable ring, C, supported by posts of the proper length arranged annularly upon the said back board or upon the cleats *a'* in each corner of the box A, as shown.

The center of the diaphragm B is punctured by the line wire D and drawn inward by the button E, fastened to said line-wire. In each of the sides of the box A is formed a small hole, F, located about midway from either corner thereof, and upon these are placed small diaphragms B', from which the wires D', having buttons E', pass inward and are joined to said line-wire D by being twisted thereon and soldered thereto, or otherwise, and when this improved telephone is strained, as when in use, the diaphragms, line-wire, and connecting inside wires assume the position seen in Fig. 2. Thus the smaller diaphragms are vibrated as well as the large one when a message is being received, and by means of a tube, G, having short branches *g* connecting with con-

vexed covers H, placed over each of said small diaphragms D', and a flexible tube, *g'*, connecting an ear-receiver, I, conversation may be heard much clearer and without the disagreeable ringing sound which accompanies the voice if received from the larger diaphragm D.

By actual test I find that a large diaphragm is the better for transmission; but the small one are superior as receivers. To this end I have united the two in one instrument.

J is a portion of a board upon which the telephone is mounted.

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

1. In an acoustic telephone, the combination of a concaved diaphragm placed crosswise of the line-wire, two or more small concaved diaphragms located in the sides of a telephone, and inside wires connecting said small diaphragms with the line-wire, substantially as and for the purpose set forth.

2. In an acoustic telephone constructed substantially as described, the combination, with the line-wire, of radial wires connecting said line wire with small diaphragms located in the sides of said telephone, said small diaphragms, and a tube surrounding said telephone, having an ear-receiver attached by a flexible tube and connected by a branch to either of said small diaphragms, as and for the purpose set forth.

3. In an acoustic telephone, the combination, with the line-wire, of radial wires connecting said line-wire with small diaphragms located in the sides of said telephone, said small diaphragms, and means whereby their vibrations may be all concentrated and received through an ear-receiver, for the purpose explained.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. EASTMAN.

Witnesses:

J. B. THURSTON,
NATHANIEL E. MARTIN.