

(No Model.)

W. H. EASTMAN.
MECHANICAL TELEPHONE.

No. 469,203.

Patented Feb. 16, 1892.

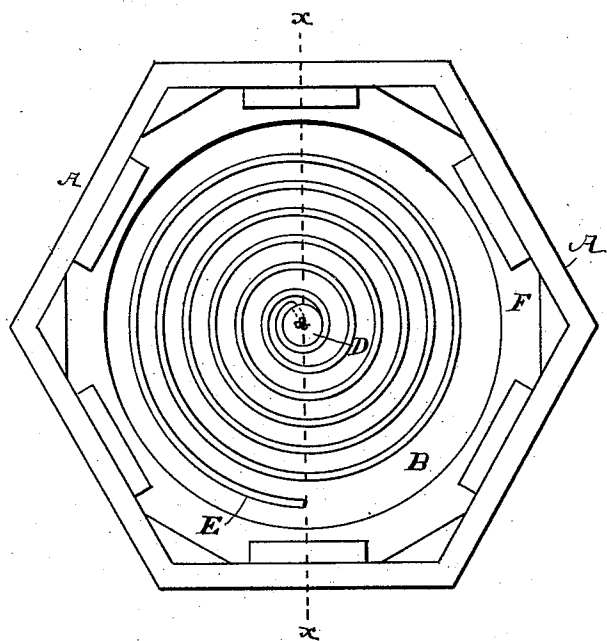


Fig. 1.

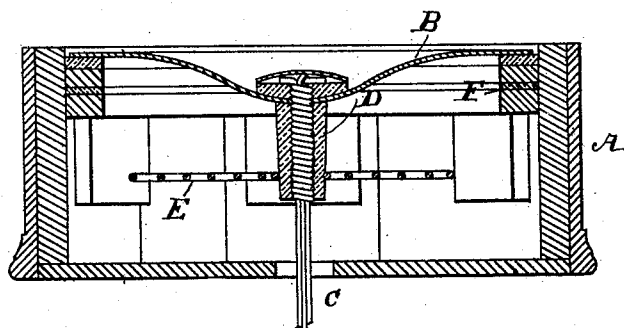


Fig. 2.

WITNESSES.

Matthew M. Blunt.
Wolfrich A. Griffin

INVENTOR

William H. Eastman
by his attorney
Ally. L. Hayes

UNITED STATES PATENT OFFICE.

WILLIAM H. EASTMAN, OF CONCORD, NEW HAMPSHIRE, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE PULSION TELEPHONE COMPANY, OF SAME PLACE.

MECHANICAL TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 469,203, dated February 16, 1892.

Application filed May 7, 1888. Serial No. 273,096. (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 a new and useful Improvement in Mechanical Telephones, of which the following is a specification.

This invention relates to means for increasing the transmitting power of a mechanical telephone; and it consists in the combination, with the conducting-wire, of a spring arranged and connected as hereinafter more fully set forth. I have discovered that if the conducting-wire of a mechanical telephone be surrounded with a helical or spiral spring, one end of which is connected to the conducting-wire and the other end left free to vibrate, the sound-waves transmitted by the telephone are greatly intensified, thus making the telephone to transmit articulate sounds to a much greater distance than has heretofore been found possible.

The accompanying drawings represent a mechanical telephone which embodies my invention and discovery, Figure 1 being a rear view and Fig. 2 being a transverse section.

In these several figures the same letters refer to the same parts.

Referring to the drawings, A is the telephone-case.

B is the diaphragm secured to the sounding-board F in the front of the case.

C is the conducting-wire.

D is a piece of cork or other non-sonorous material placed upon the conducting-wire, and E is a spiral spring placed in a plane perpendicular to the line-wire on which it is supported and fixed by one end to the cork upon the wire, but having its other end free to vibrate. This spring is made of steel, brass, or other resonant and elastic metal. This spring may be attached directly to the conducting-wire by one end; but it has been found by experiment that though by the use of the spring in this way the capacity of the telephone for the perfect transmission of sounds is much increased, still a certain resonance is produced which may be objectionable; but that by placing upon the conducting-wire a piece of cork or other non-resonant material, and attaching one end of the spring to this

cork or other substance, the other end of the spring being left free to vibrate, this resonance is prevented. I therefore prefer to construct the telephone in this manner.

I have represented the spring as used with a mechanical telephone of the box form; but it may be used with any other form of mechanical telephone.

The sounding-board F of this telephone is represented as a ring secured to the inner walls of the telephone and supporting the edges of the diaphragm against the strains of use.

In view of the patent to L. Mellett, dated November 13, 1888, No. 392,816, I do not herein claim, broadly, a vibrating spring in a telephone, but only such spring when directly or indirectly connected to the conducting-wire in rear of the diaphragm and supported by such wire independent of the case. In said Mellett patent the several springs were connected to the case and were not mounted upon the wire.

I claim as my invention—

1. In a mechanical telephone, the combination of the diaphragm, the conducting-wire, and a spring mounted on and supported by said wire behind the diaphragm, the outer end thereof being free to vibrate, substantially as set forth.

2. In a mechanical telephone, the combination of the diaphragm, the line-wire, and a spiral spring connected at one end to said wire behind the diaphragm, its body and free end extending outwardly in a plane perpendicular to said wire and being free to vibrate, substantially as and for the purpose set forth.

3. In a mechanical telephone, the combination of the diaphragm and the line-wire with the non-resonant sleeve D, surrounding the wire behind the diaphragm, and the spring E, mounted by one end thereon, with its other end free to vibrate, substantially as and for the purpose set forth.

In witness whereof I have hereunto set my hand in the presence of the two subscribing witnesses.

WILLIAM H. EASTMAN.

Witnesses:

JAMES W. BRIGGS,

ALBERT E. GLADWIN.