(No Model.)

P. L. MASON.

MECHANICAL TELEPHONE.

No. 382,713. Patented May 15, 1888.

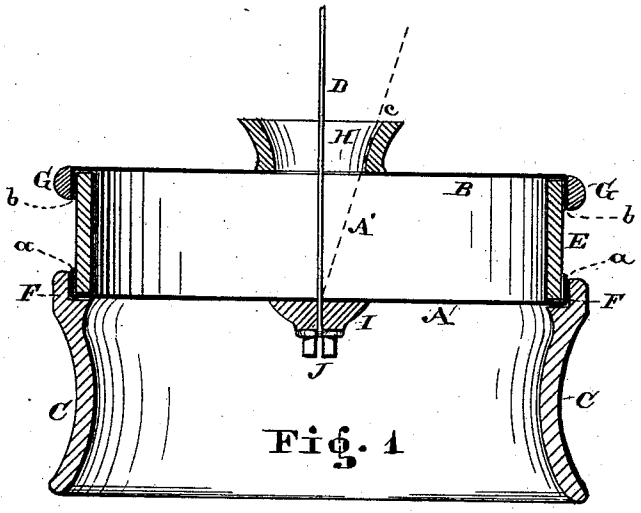


Fig. 1

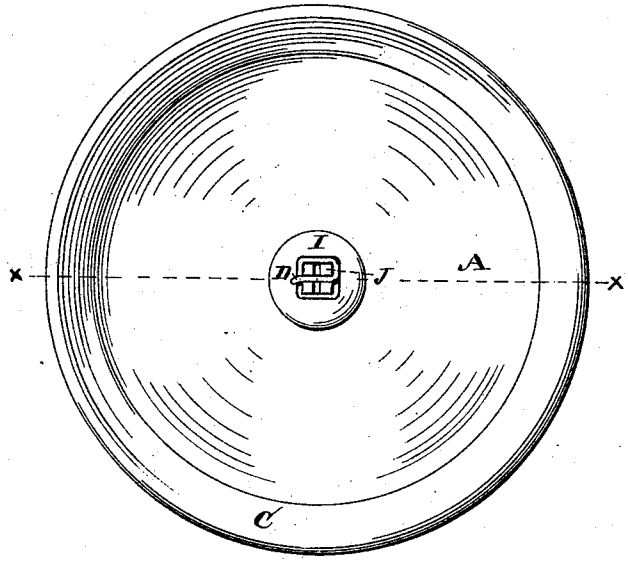


Fig. 2

WITNESSES

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UNITED STATES PATENT OFFICE.

PETER L. MASON, OF WEST SALEM, ASSIGNOR OF ONE-HALF TO HENRY B. WEST, OF CLEVELAND, OHIO.

MECHANICAL TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 382,713, dated May 15, 1888.

Application filed October 7, 1887. Serial No. 251,677. (No model.)

To all whom it may concern:

Be it known that I, PETER L. MASON, of West Salem, in the county of Wayne and State of Ohio, have invented a certain new and Improved Acoustic Telephone; and I do hereby declare that the following is a full, clear, and complete description thereof.

The nature of my invention relates to the peculiar construction and arrangement of the drum of the instrument, in connection with the novel character of the diaphragms, which are made in such way and of such materials as to render the telephone especially resonant when connected with the wire line.

To enable others skilled in this art to understand the construction and use of said instrument, reference will be had to the following specification, and to the annexed drawings, making part of the same.

Figure 1 is a transverse section in the line *x x* of Fig. 2, and Fig. 2 is a front view.

Like letters of reference denote like parts in the drawings and specification.

In the drawings, A represents the front diaphragm, and B the back one; C, the mouth-piece, and D the telephone-line, designed to have an instrument at each end, substantially the same as herein shown, by which words or messages may be transmitted from one end of the line to the other in a clear and distinct voicing.

The diaphragm A is composed of silk or other equivalent textile fabric, which is saturated with liquid albumen, and when partially dry coated over with a viscous glutinous preparation, which firmly adheres to the fabric. While it is in a damp condition, so as to prevent its cracking, it is stretched over the hoop E, and lapped down on the side thereof and tacked thereto or otherwise fastened in place.

The mouth-piece C is rabbeted out at F, Fig. 1, and fitted over the part *a* of the diaphragm, as seen in Fig. 1. By this means the mouth-piece is securely attached to the hoop, and at the same time aids in fastening the diaphragm to its place. The diaphragm B is also preferably composed of silk, which is treated in the same way and in the same manner with an albuminous preparation, and then coated over with gluey covering, the same as that described relative to the diaphragm A, and also stretched over the hoop and lapped on the side thereof and tacked thereto. A ring, G, is fitted tightly over the lap *b*, Fig. 1, to aid in securing the diaphragm B to the hoop. This forms the drum A′ of the instrument, and when the diaphragms have become dry they are sufficiently stretched for practical use. The said diaphragms may, however, be first attached to the hoop when only in the form of a silk disk, and then treated with albumen and a glutinous coating in essentially the same way as that described before the diaphragms are attached to the hoop E. Either way may be adopted without departing from the essential character of the improvement.

The two diaphragms, with the hoop made as described, form the drum A′, of great resonant properties. To the diaphragm B is attached a flaring guard, H, Fig. 1, the purpose of which is to admit of the wire line D being turned in an angular or curved direction after leaving the instrument, as it may bear upon the face of the guard, as indicated at *c*, thereby relieving the diaphragm A from undue tension of the line in its connection with the head I, which is fastened to the external face of the diaphragm A, Fig. 2. The terminal wire passes centrally through the head I, and is secured thereto by entwining about the lugs J, projecting therefrom, as seen in the drawings.

The connection of the flaring guard H with the diaphragm B causes less interruption to the acoustic transmission over the line in case the wire is so turned as to be in contact with the flaring guard H, as it is at times necessary to turn the wire from a right line after leaving the instrument, so that it will bear upon the face of the guard H.

It is due to the means shown that the acoustic energy of the instrument is not weakened by a divergence of the line on leaving the drum by bearing upon the guard H, as before mentioned. The resonant character of the drum A′, owing to the peculiar construction and arrangement, is the same whether the wire extends in a right line from the instrument or diverges therefrom, as the tone or sound over the line, in case the line bears

upon the guard H, is transmitted from the guard or diaphragm B to that of diaphragm A, whereof the distinct voicing at one end of the line is not weakened in the transmission to the other end over a diverging wire in case it bears upon the guard.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a mechanical telephone, the combination, with a drum, A′, having two diaphragms, prepared, as described, with albumen or glutinous coating, attached to the hoop E, with a mouth-piece connected to one end of the drum, and a ring, G, at the other over the diaphragm-lap, of a guard, H, head I, and wire-line connection with said head, arranged in the manner and for the purpose substantially as set forth.

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

PETER L. MASON.

Witnesses:

W. H. BURRIDGE,

B. F. EIBLER.