

(No Model.)

W. E. HATHAWAY & W. B. JOHNSTON.

MECHANICAL TELEPHONE.

No. 265,412.

Patented Oct. 3, 1882.

Fig. 1.

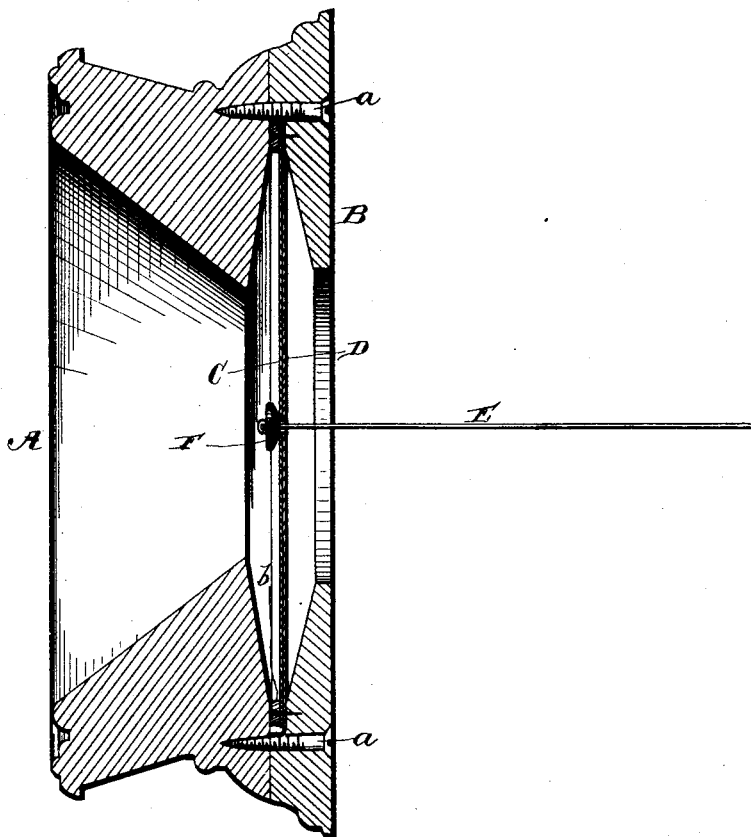


Fig. 2.

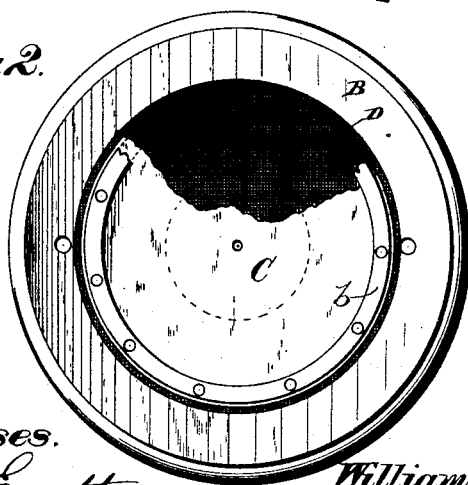
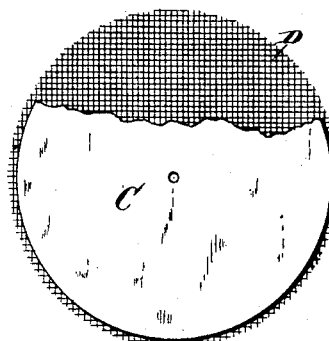


Fig. 3.



Witnesses.

Robert Everett.

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UNITED STATES PATENT OFFICE.

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NEW YORK.

MECHANICAL TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 265,412, dated October 3, 1882.

Application filed June 8, 1882. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM E. HATHAWAY and WILL B. JOHNSTON, citizens of the United States, residing at Hornellsville, in the county of Steuben and State of New York, have invented new and useful Improvements in Mechanical Telephones, of which the following is a specification.

Our invention relates to mechanical telephones; and it consists in forming the diaphragm or vibrating plate of isinglass or of mica, and in supporting the same by a netted or textile fabric which extends over the entire surface of said diaphragm and affords means of attachment to the base of the casing.

Referring to the drawings, Figure 1 is a vertical section taken through the center of the casing. Fig. 2 is a front elevation of the base-piece, the mouth-piece being removed and a portion of the diaphragm being broken away to show the supporting fabric. Fig. 3 is a view of the diaphragm with its supporting fabric detached from the casing.

The letter A in said drawings indicates the mouth-piece, and B the base-piece, both being made of wood in the usual form and united by means of screws *a a*.

C indicates the diaphragm, which is formed of isinglass or mica; and D indicates any suitable netted or textile fabric lying behind the diaphragm C and in close contact therewith.

E indicates the line-wire, which passes through a central perforation in the diaphragm, and is fastened to a button, F, which is drawn against the face of the said diaphragm by the tension of the wire E.

The netted or textile fabric supporting the diaphragm may be either fine wire-gauze, silk, canvas, or any other suitable material. As a general rule, however, we prefer silk or an equivalent textile fabric, because of its superior strength. The fabric used, whether the same be wire-gauze, as shown in Fig. 3, or silk, as shown in Fig. 2, should be cut into circular shape of proper size, and, together with the diaphragm, is attached to the base-piece B by

being laid in an annular recess, with a leather strip or ring, *b*, placed upon it, and having nails driven through the said ring, diaphragm, and netted fabric, and into the wood of the base B. Before being attached in this manner the silk or other fabric should be tightly stretched upon the diaphragm in order to insure as perfect a contact and supports as possible.

It is evident that instead of nailing these parts to the base they may be cemented or glued thereto.

By employing mica or isinglass as a material for the vibrating plate or diaphragm we obtain a much better instrument, the substance named being far more resonant than any other heretofore used in this class of apparatus.

By re-enforcing the isinglass in the manner described the necessary tension may be applied to the wire, the silk, wire-netting, or other fabric giving the required resistance and preventing the mica of the diaphragm from receiving any injury therefrom.

The diaphragm may be made of mica or of isinglass without the supporting fabric by using a double plate.

What we claim is—

1. In mechanical telephones, a diaphragm or vibrating plate formed of isinglass or mica, and having a netted fabric stretched behind and adapted to support said diaphragm, substantially as described.

2. In combination with the diaphragm C, a netted or textile fabric, D, stretched behind and in contact with said diaphragm, when the latter is attached to the box, substantially as described.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

WILLIAM E. HATHAWAY.
WILL B. JOHNSTON.

Witnesses:

FAY P. RATHBUN,
HARRISON NILES.