(No Model.)

H. B. PORTER.

ELECTRIC TELEPHONE.

No. 269,879. Patented Jan. 2, 1883.

Fig 1

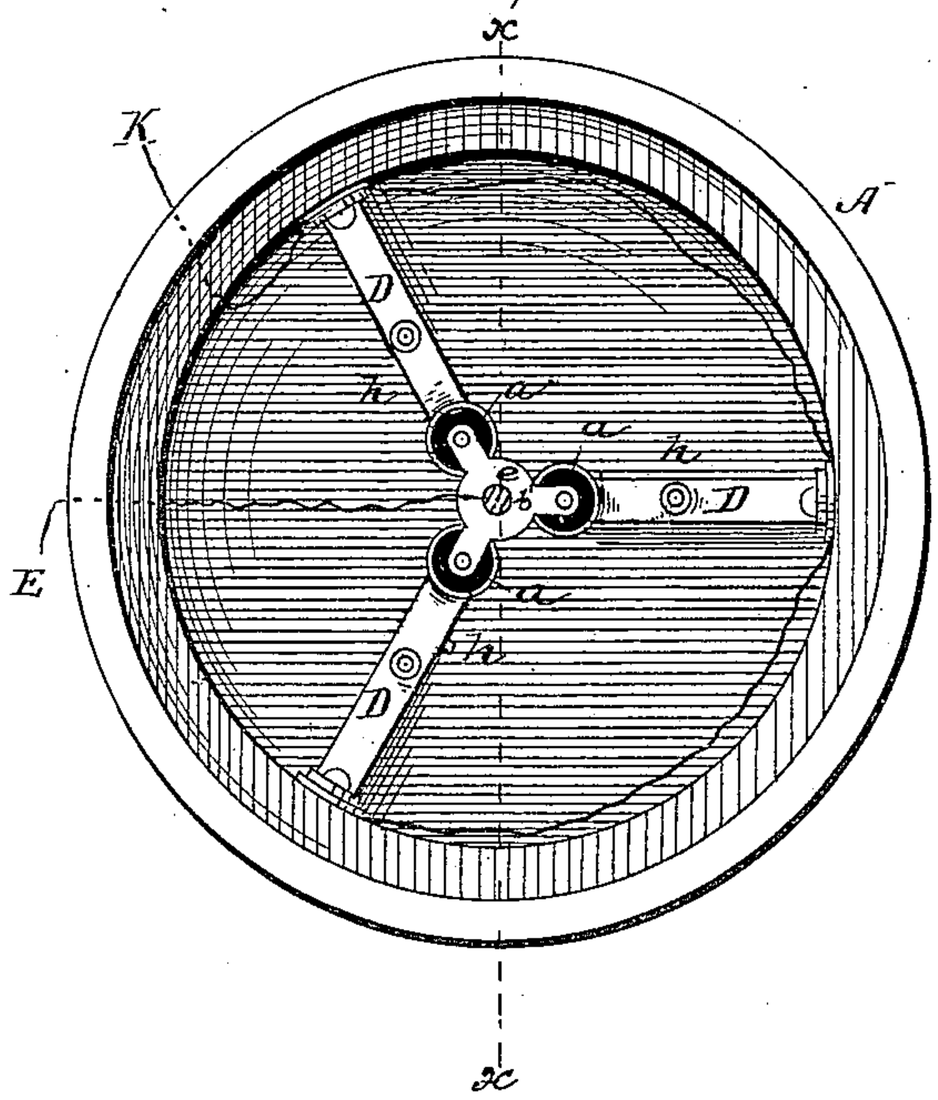


Fig 2

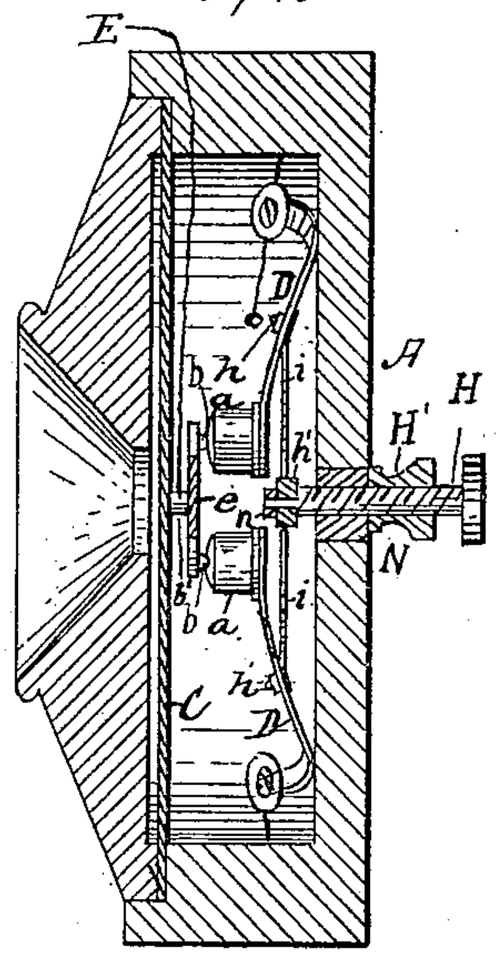


Fig. 3.

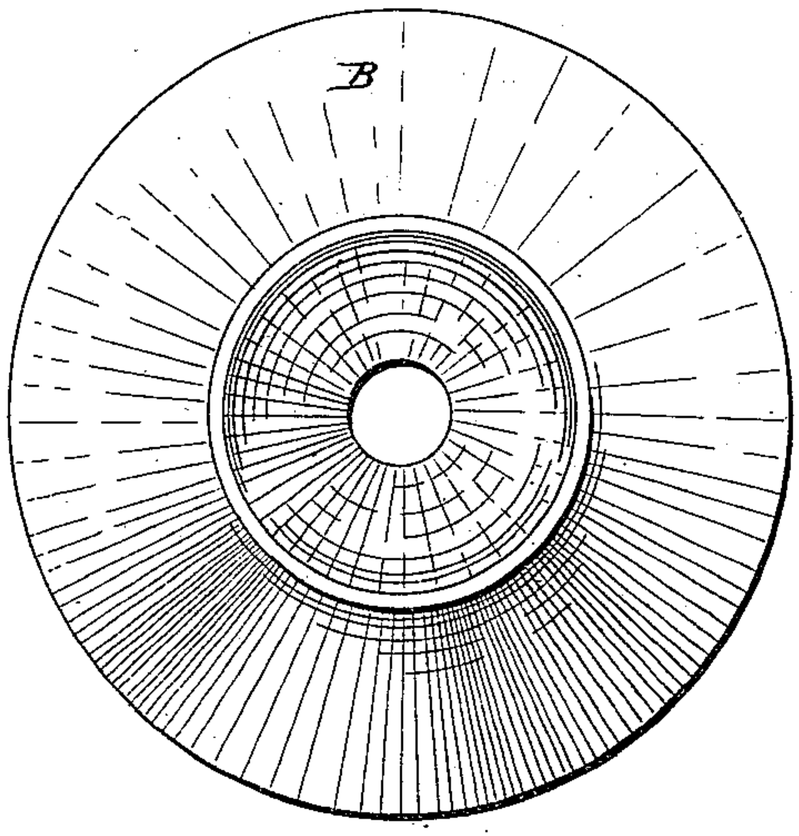
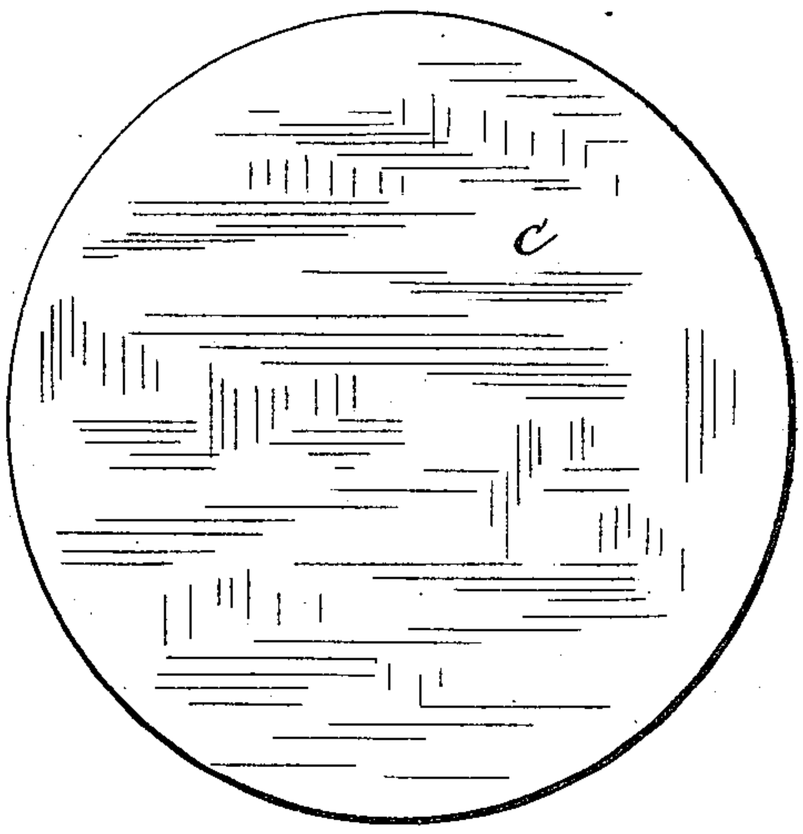


Fig 4.



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UNITED STATES PATENT OFFICE.

HENRY B. PORTER, OF CHICAGO, ILLINOIS.

ELECTRIC TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 269,879, dated January 2, 1883.

Application filed June 1, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY B. PORTER, of Chicago, in the State of Illinois, have invented certain new and useful Improvements in Electric Telephones, of which the following is a specification.

The improvement consists in a modification of the instrument shown in Letters Patent No. 246,552, dated August 30, 1881, granted to me for sound-transmitter.

The accompanying drawings illustrate the invention. Figure 1 is an inside view of the instrument with the front plate and diaphragm removed. Fig. 2 is a central cross-section on line *x x* of Fig. 1. Fig. 3 is a front view of the speaking-tube and face-plate. Fig. 4 is a front view of the diaphragm detached.

A represents the cup or chamber of the instrument. B is the face-plate, having a conical orifice in the same, forming a mouth-piece. Between the chamber and face-plate the diaphragm C is secured by its edges. Behind the diaphragm are three or more radially-arranged springs, D, carrying at their inner ends metal cups with blocks of carbon, *a*, three or more platinum points, *b b b*, secured to the ends of the prongs of a metal plate, *e*, having prongs corresponding in number with the points *b*, which are thereby held in contact with the blocks of carbon. The pronged plate, instead of being supported as shown in my said former patent, is supported on a central pin, *b'*, soldered to the center of the diaphragm and to the center of the said plate, and the points *b* do not rest against the diaphragm, as in my said former patent. The back plate, guide-pins, and spiral spring, whose tension serves to hold the pronged plate, with its contacts, against the diaphragm, as shown in my said former patent, are thus dispensed with; and to the springs D are attached, at *h*, three radial arms, *i*, extending from a central support, *h'*, through which an adjusting-screw, H, passes loosely, so as to turn in the same. The screw is shouldered against the central support, *h'*, on one side, and has a small nut, *n*, on the end against the opposite side. The adjusting-screw passes through a nut, N, fixed in the rear wall of the chamber, and by turning the screw in or out the central support and arms *i* may be moved toward or from the diaphragm, and through the connection of these arms with springs D the carbons *a* are similarly adjusted on the points *b*. The adjusting-screw also passes through an outside tightening-nut, N', by tightening which against nut N the adjusting-screw is tightened or held fast at any desired point of adjustment.

The electric circuit is made in the transmitter as follows: One wire, E, is attached to the central pin, *b'*, and is in electrical contact, through said pin and the pronged plate, with all the points *b*. The other wire, K, is connected with all of the springs D, and through them is in electrical contact with all of the carbons.

In my said former patent no means for adjusting the carbons toward and from the points *b* are provided; also, the points *b* extend through the prongs and are pressed against the diaphragm by a small coil-spring, which to a slight extent impedes the vibrations of the diaphragm.

The present invention provides for adjusting the carbons and supports the pronged plate and wire E upon the diaphragm; also, the points *b* do not rest against the diaphragm, but are supported by the prongs of the pronged plate, which affords a slightly-yielding support to said points. By this arrangement the carbons may be adjusted and the amplitude of the voice-vibrations of the diaphragm is preserved and more perfectly transmitted to the electric current so connected with the diaphragm.

What I claim is—

1. In a sound-transmitter, three or more platinum points, *b*, supported upon a pronged plate, *e*, connected by a pin, *b'*, to the diaphragm, and supported thereby, in combination with a corresponding number of carbons in adjustable contact therewith and connected in the electric circuit, substantially in the manner shown.

2. The transmitter consisting of case A B, diaphragm C, radially-arranged springs D, carrying the carbons, arms *i*, connecting with springs D and adjusting-screw H, pronged plate *e*, carrying platinum points *b*, and connected to and supported upon the diaphragm by a pin, *b'*, and wire E, all combined and arranged substantially as shown and described.

HENRY B. PORTER.

Witnesses:
JOHN H. WHIPPLE,
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