(No Model.)

H. B. PORTER.

SOUND TRANSMITTFR.

No. 246,552. Patented Aug. 30, 1881.

Fig. 1.

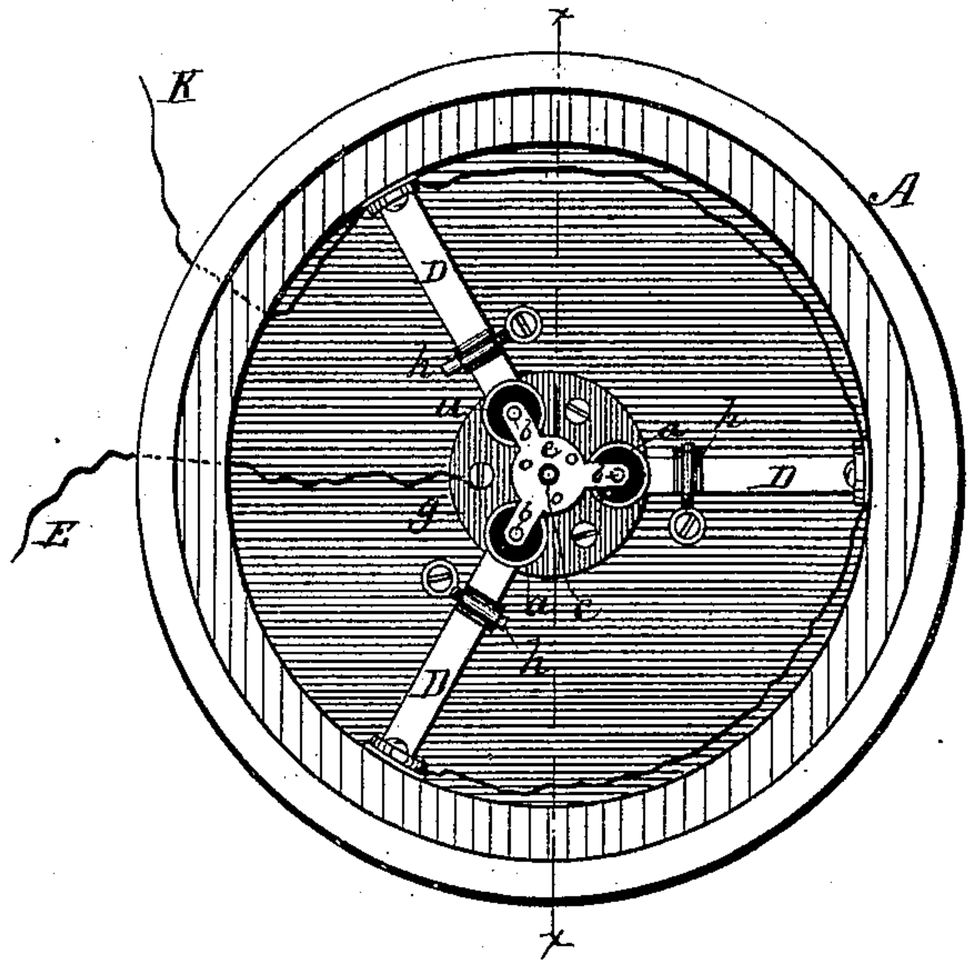


Fig. 2.

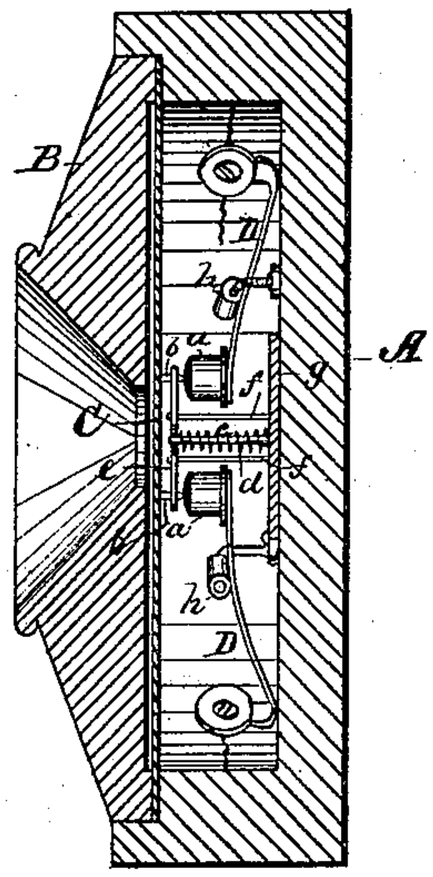


Fig. 3.

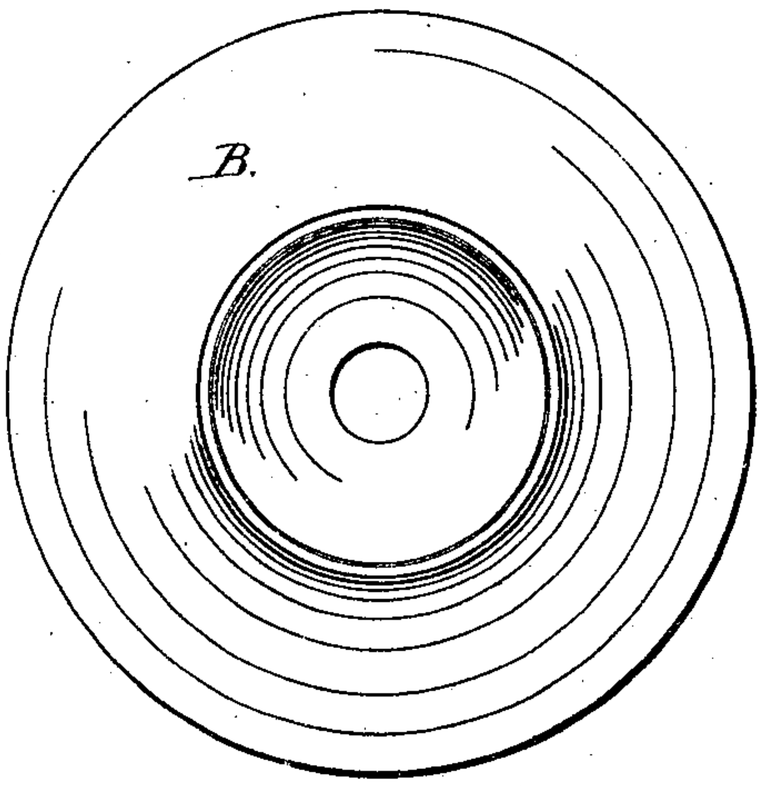
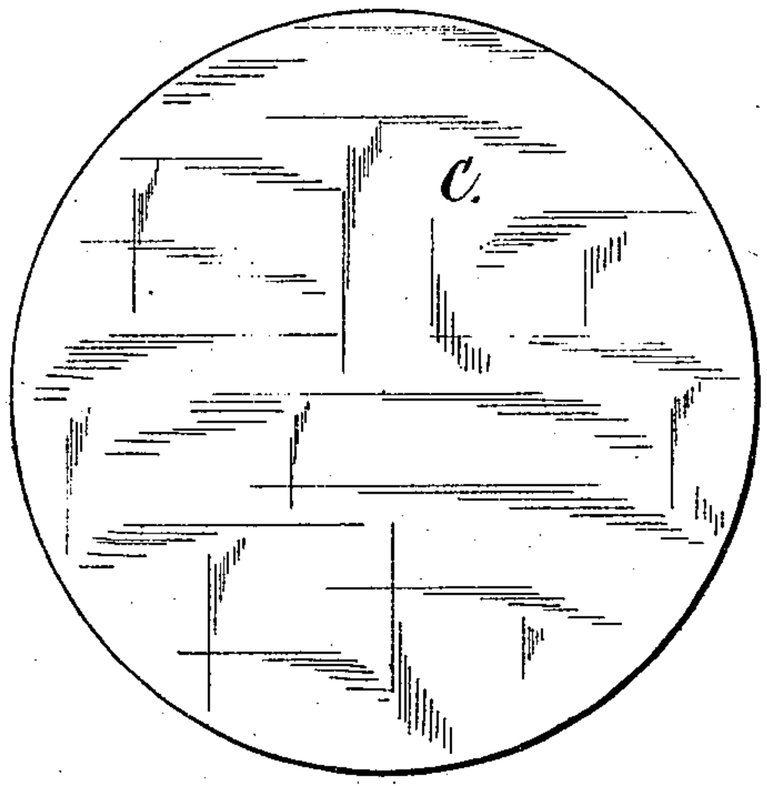


Fig. 4.



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HENRY B. PORTER, OF CHICAGO, ILLINOIS.

SOUND-TRANSMITTER.

SPECIFICATION forming part of Letters Patent No. 246,552, dated August 30, 1881.

Application filed May 23, 1881. (No model.)

To all whom it may concern:

Be it known that I, HENRY B. PORTER, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Sound-Transmitter; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an inside view of the instrument with the front plate and diaphragm removed. Fig. 2 is a central cross-section of the same through the line *x x*. Fig. 3 is an outside view of the speaking-tube and face-plate. Fig. 4 is a view of the diaphragm.

My invention relates to that class of telephone-transmitters in which the undulations of the electric current in the wire are controlled by the varying pressure of a conducting-surface on a piece of carbon, which variations of pressure are controlled by the vibrations of a diaphragm, and which current is made through the contact-faces.

The invention consists in the peculiar construction hereinafter described.

In the drawings, A represents the cup or main chamber of the telephone, and B is the face-plate, having a conical orifice in the same, forming a mouth-piece. Between this chamber A and the plate B is secured by its edge the diaphragm C. Behind the diaphragm are three or more radially-arranged springs, D, converging toward the center, and carrying at their inner ends cups with blocks of carbon *a*. Resting between these blocks of carbon and the diaphragm are three platinum points, *b b b*, carried in the ends of a three-pronged metal plate, *e*. This plate is perforated and slides longitudinally over a central pin, *c*, that is attached to the center part of the back of the main chamber, and is provided with a spiral spring, *d*, whose tension serves to hold the plate *e*, with its contacts *b*, against the diaphragm. To keep the three points *b* always in registration with the carbons and prevent rotary action of plate *e*, several guide-pins, *f*, are arranged parallel with the center pin, *c*, and connected to the same back plate, *g*, that carries pin *c*. These pins *f* pass through holes in plate *e*, so that while the latter is free to vibrate over the pins in unison with the diaphragm it cannot turn. The springs D serve to hold the carbons against the points *b;* but the movement of these springs and their pressure on the diaphragm is limited by the cushioned stops *h*.

The electric circuit is made in the transmitter as follows: One wire, E, is attached to the plate *g* and is in electrical contact through pin *c* and plate *e* with all of the contacts *b b b*. The other one of the wires, K, is connected with all of the springs D and is in electrical contact with all of the carbons. Now, as the plate *e* vibrates in unison with the diaphragm, its contacts *b* are pressed against the carbon with greater or less force, and, by thus governing the conduction of the current through the same, regulates the electrical impulses in the line-wire.

Having thus described my invention, what I claim as new is—

1. The combination, with the carbons mounted upon the springs D, of the diaphragm, the plate *e*, having contacts *b* interposed between the diaphragm and the carbons, and the pin *c*, passing loosely through the plate *e* to sustain it, and provided with a spiral spring for holding said plate against the diaphragm, as described.

2. The transmitter composed of case A and B, diaphragm C, radial arms D D D, carrying the carbons, cushioned stops *h*, the plate *e*, with contacts *b* resting between the carbons and the diaphragm, the supporting-pin *c*, with spring *d*, and the guide-pins *f*, all combined substantially as shown and described.

HENRY B. PORTER.

Witnesses:
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