

(No Model.)

J. C. ROUNDS.
MECHANICAL TELEPHONE.

No. 318,397.

Patented May 19, 1885.

FIG. 1.

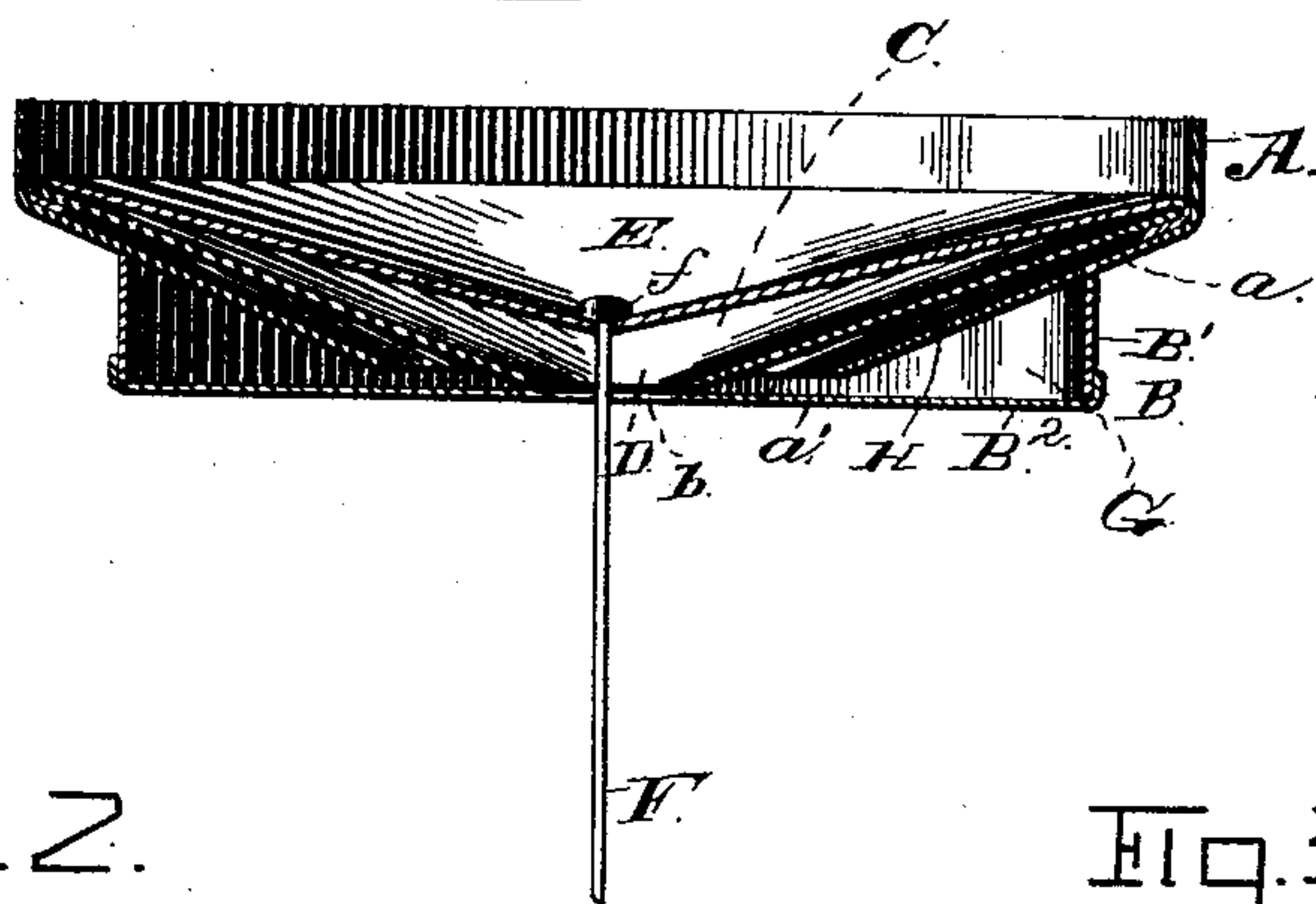


FIG. 2.

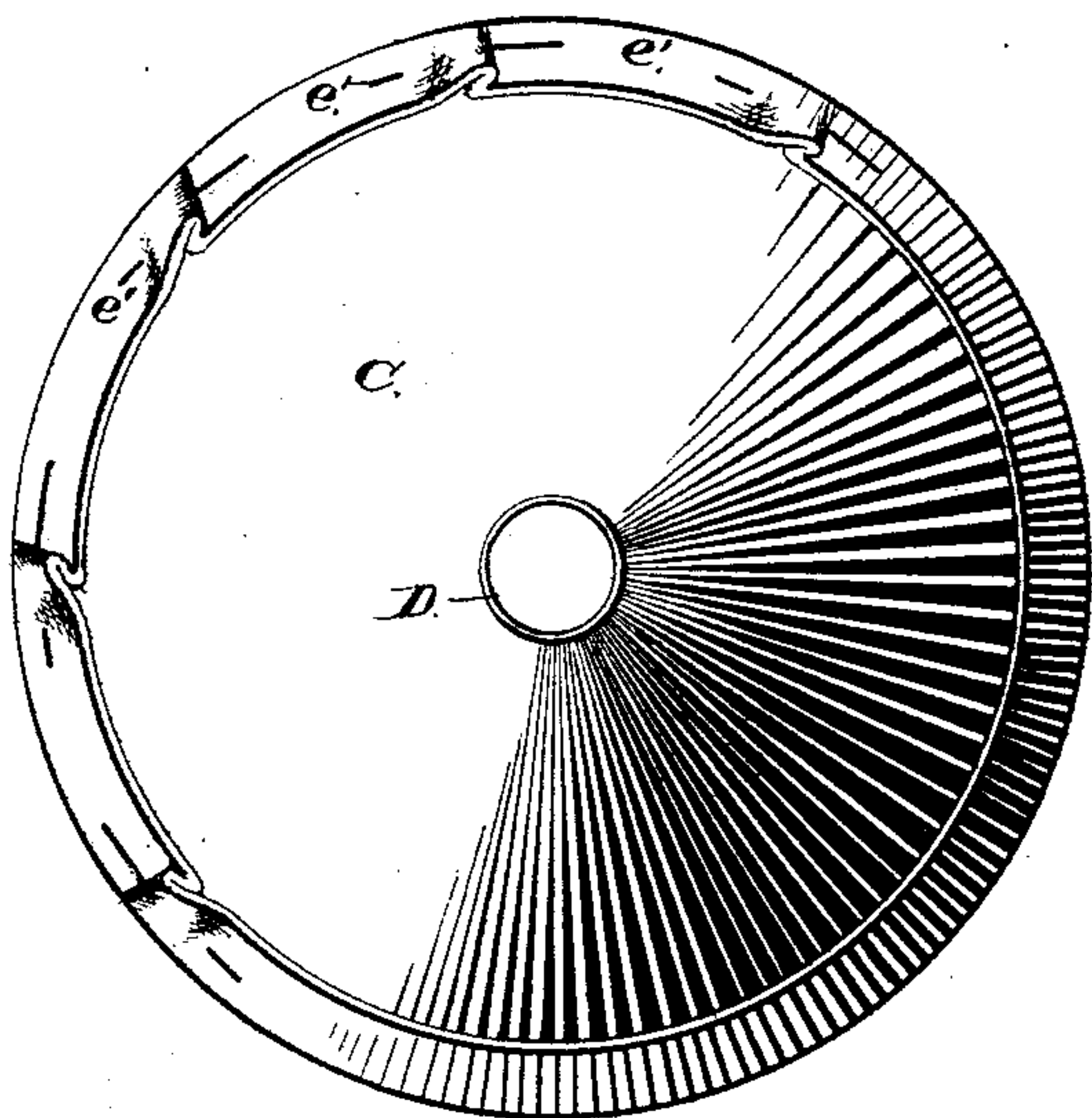
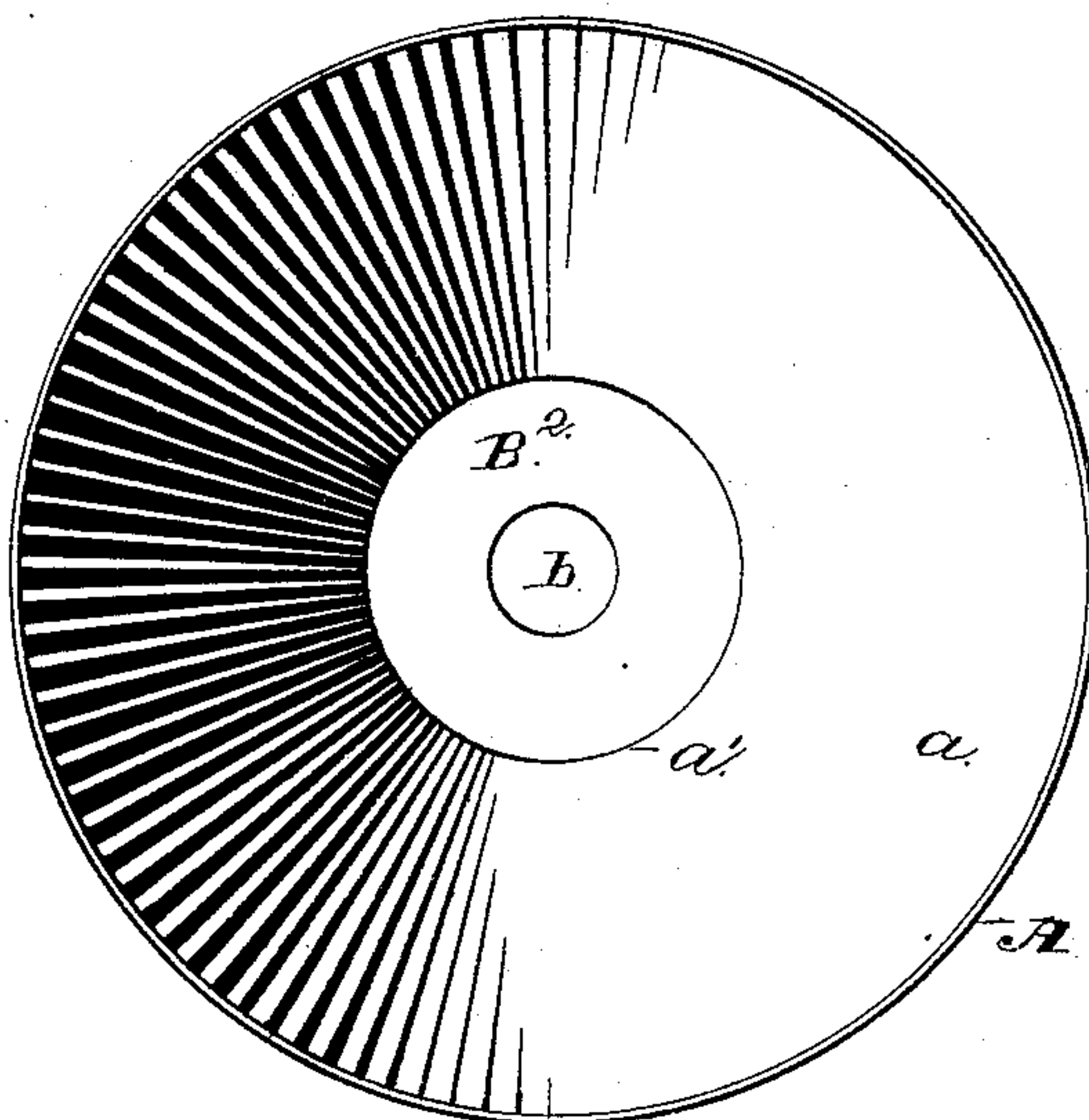


FIG. 3.



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JOHN C. ROUNDS, OF MORAVIA, NEW YORK.

MECHANICAL TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 318,397, dated May 19, 1885.

Application filed April 29, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. ROUNDS, a citizen of the United States, residing at Moravia, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Mechanical Telephones; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to telephones of the class known as "mechanical," and has for its object to so construct the receiver as to overcome or avoid the roaring incident to devices of its class, and to enable the rapid transmission of sound by rendering clear and distinct each syllable as uttered.

To this end it consists in the novel construction hereinafter described.

In the accompanying drawings, Figure 1 is a transverse section of my receiver. Fig. 3 is a front view of same with the diaphragm removed. Fig. 2 is a back view of the diaphragm-supporting plate, illustrating the manner of securing the diaphragm thereon, as will be hereinafter more fully described.

The mouth of the receiver-box is formed with a flange or ring, A, from the rear edge of which is bent inward the circular concave plate *a*, in the center of which is formed an opening, *a'*, for the line-wire. The case B is composed of annular plate or ring B' and the back plate, B², through which is formed the line-wire opening *b*. The ring B' is made preferably of a less diameter than ring A, and is soldered or otherwise secured to back of concave plate *a*, as clearly shown in Fig. 1. The diaphragm-supporting plate C is made of a diameter equal the plate *a*, and is concave, as shown, though at not so great an angle as plate *a*. It is seated within ring A, as shown in Fig. 1. This plate C is provided with a central opening, D, and the central or apex portion of the plate C is extended into the opening *a'* of plate *a*, which opening is made larger than the opening D, as most clearly

shown in Fig. 1. The openings D and *b* are made of about the same size and sufficiently large to permit the passage of the line-wire without affecting the vibrations of same. The diaphragm E has its edges *e* turned over the edge of plate C and secured thereto in any suitable manner, preferably by means of stitching *e'*, as shown in Fig. 2. I by preference make this diaphragm of oil-tanned leather or other suitable soft pliable material, and secure the necessary resonance by proper stretching of same, either by the tension of the line-wire F or by the degree of tightness with which the diaphragm is stretched into place on its supporting-plates C. The line-wire F is passed through openings *b* and D and the diaphragm, and is secured to the latter by means of a suitable button, *f*, which I preferably make of lead or other suitable non-resonant material. This diaphragm, being made of soft pliable material, will not respond to or echo the roaring sounds common to such devices when made of metal or hard dried skins, and yet will readily give off the sounds imparted to it by the direct impulse of the wire.

I prefer in practice to secure the diaphragm by crimping its edge over a supporting-plate and securing it, thus securely fastening the diaphragm, and so protecting its supporting-plate as to prevent any vibration or rattling thereof in its casing. By the described construction the case B forms a chamber, G, into which the plate *a* fits. Between the plates *a* and C, I form a chamber, H. These chambers H and G are between the diaphragm and the outer air, and serve to exhaust the external vibrations, so that such vibrations reach the diaphragm, if at all, in but a lessened degree.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, in a mechanical-telephone receiver, of the ring B', plate B², the concave plate *a*, the diaphragm, and the diaphragm-supporting plate C, said plates B², *a*, and C being arranged substantially as described, whereby air-chambers G and H are interposed between the diaphragm and the external air, substantially as set forth.

2. The herein-described mechanical-telephone receiver, composed of concave plate a , having central opening, a' , the ring B' , and plate B^2 , the diaphragm, the line, and the plate
5 C, supporting the diaphragm and having its outer edges resting on the outer edges of the plate a , and its middle portion perforated with air-opening smaller than the opening a' , the

said middle portion being extended into the opening a' , substantially as set forth. 10

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

JOHN C. ROUNDS.

Witnesses:

J. S. MAHEY,

J. H. HARRIS.