

No. 791,657.

PATENTED JUNE 6, 1905.

E. R. SNYDER.
TELEPHONE TRANSMITTER.
APPLICATION FILED MAR. 21, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

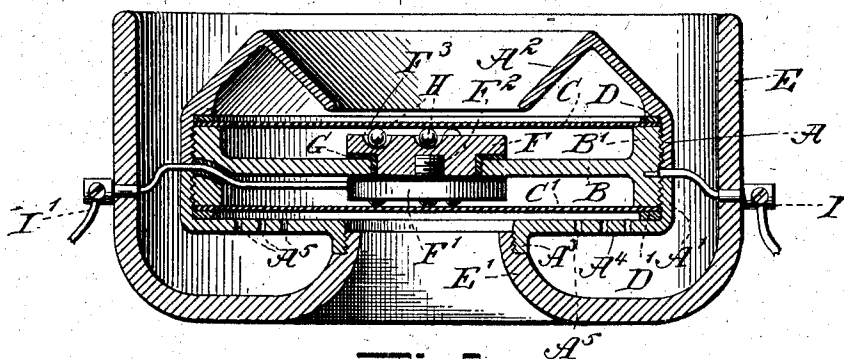


Fig. 2.

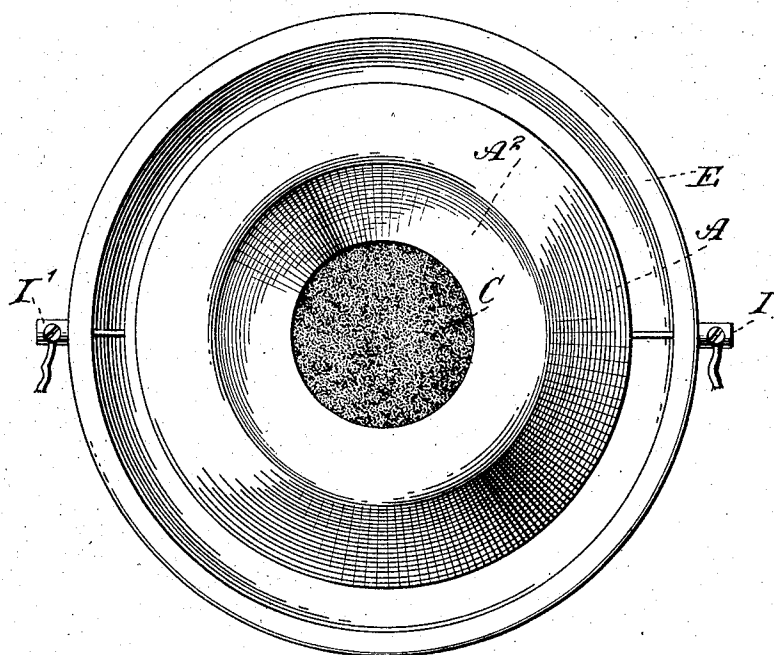
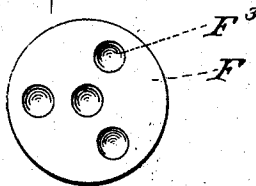


Fig. 3.



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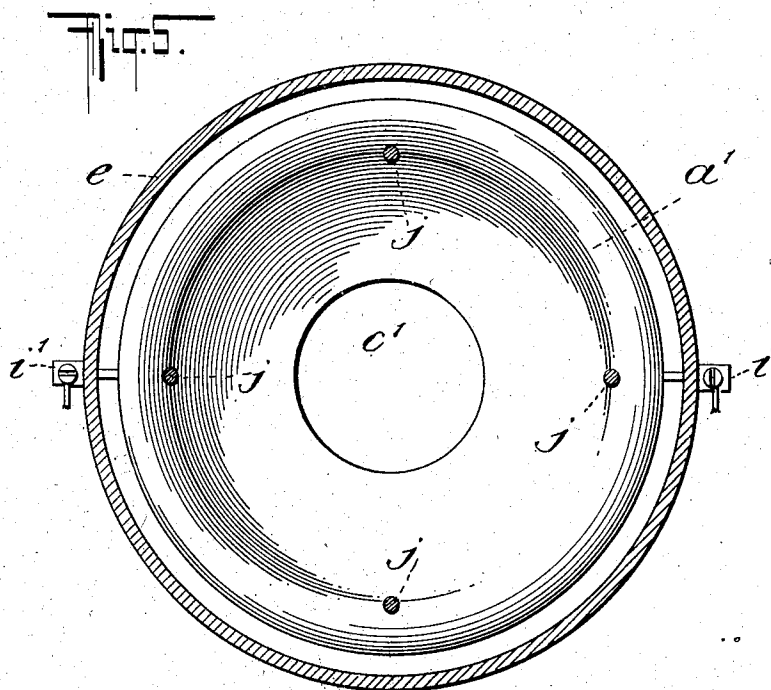
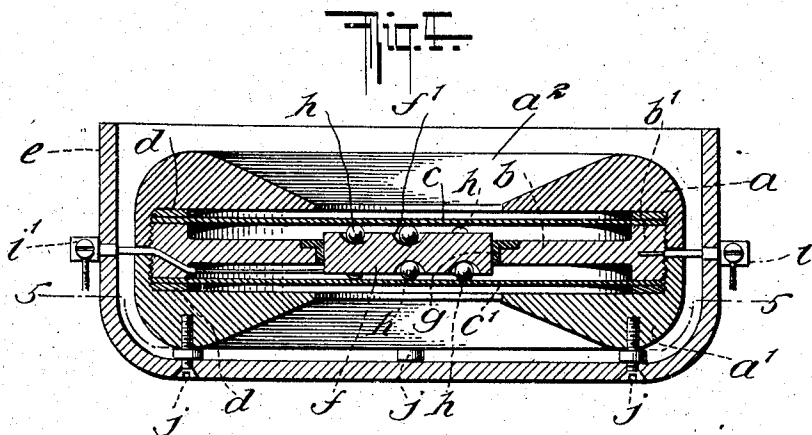
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

EMIL R. SNYDER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO
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TELEPHONE-TRANSMITTER.

SPECIFICATION forming part of Letters Patent No. 791,657, dated June 6, 1905.

Application filed March 21, 1904; Serial No. 199,063.

To all whom it may concern:

Be it known that I, EMIL R. SNYDER, a citizen of the United States, residing in the borough of Brooklyn, county of Kings, city and State of New York, have invented certain new and useful Improvements in Telephone-Transmitters, of which the following is a specification.

My invention relates to telephone-transmitters, and has for its object to provide a very sensitive and efficient device of this class. For this purpose I employ certain novel features in the construction of my transmitter, two typical embodiments of which will now be described with reference to the accompanying drawings.

Figure 1 is a sectional elevation of the transmitter. Fig. 2 is a plan. Fig. 3 is a plan of one of the disks carrying the contact-bodies. Fig. 4 is a sectional elevation showing another form of my invention, and Fig. 5 is a cross-section on line 5 5 of Fig. 4.

The transmitter comprises a casing, which, as shown in Figs. 1 and 2, is made of two sections A A', connected by screwing them on a flange B' at the periphery of a support or web B. The sections A A' also serve to clamp diaphragms C C' against the end faces of the flange B', washers D D' being interposed between the diaphragm and the clamping-faces of the sections A A'. Each of these sections has an opening at its central portion, so as to allow the sound-waves to reach both diaphragms directly. One of the sections, A, is shown provided with a funnel-shaped mouthpiece A². The other section, A', might be simply a duplicate of section A. In the drawings, however, I have shown the transmitter combined with a resonator E, which incloses the transmitter proper and has a central opening surrounded by a funnel-shaped mouthpiece E'. This mouthpiece screws into an annular flange A³ of section A'. The resonator communicates its vibrations to the transmitter, and, if desired, openings A⁵ may be provided in the end plate A⁴ of section A' to allow the sound-waves reflected by the resonator to pass through said plate and reach the

peripheral portion of the diaphragm C' directly.

The support or web B carries the contact device adapted to form a variable resistance with the diaphragms C C'. In the construction shown these contact devices comprise two disks F F', having a screw connection F² and insulated from the web B by suitable washers G. Each of the disks is provided in the surface adjacent to the diaphragm with one or more recesses F³, in which are seated contact-balls H, one or more in each recess. These balls, as well as the diaphragms, may be made of carbon or of metal.

The electrical connections are very simple. One wire, I, leads to the diaphragms C C', as through the medium of the web B. The other wire, I', (suitably insulated,) is connected with the disks F F'. Thus whenever the diaphragms vibrate the resistance will vary at each of them, and thus a very sensitive action is obtained. Sound-waves from the surrounding air can reach both diaphragms, since the central portion of each is directly exposed to the surrounding air, and thus the transmitter will receive sounds coming from practically any direction, and it will not be necessary to speak directly into the transmitter.

As illustrated in Figs. 4 and 5, the casing of the transmitter comprises two sections a a', which in this case are identical, each of them being provided with a funnel-shaped mouthpiece a². These two sections screw on the peripheral flange b' of the support or web b. The diaphragms c c' are clamped by the said sections against the end faces of the flange b', and washers d d' are interposed between the diaphragms and said sections. The support or web b has a central opening lined with a bushing g, which receives a plate f, the end faces of which are located adjacent to the diaphragms c c' and are provided with recesses f', adapted to receive contact-balls h. A wire i leads to the diaphragms c c' through the medium of the web b, and another wire, i', is connected with the disk f. This second form of my transmitter may be employed in the form so far described, or it may be combined with

a resonator *e*, which incloses the transmitter proper and not only communicates its own vibrations to the transmitter by conduction, but will also reflect the sound-waves to the diaphragm *c'*. The resonator is fastened to the transmitter proper by screws *j* or in any other suitable manner, a space being left between the transmitter and the resonator to allow the sound-waves to reach the diaphragm *c'*.

10 What I claim as new, and desire to secure by Letters Patent, is—

1. A telephone-transmitter, comprising a casing, diaphragms set therein, a support located between the diaphragms, disks or plates, 15 carried by said support yet insulated therefrom, loose contact-bodies interposed between said disks and the diaphragms, and means for conducting an electric current to the said disks and diaphragms respectively.

20 2. A telephone-transmitter, comprising a casing, diaphragms set therein, a support located between the diaphragms, plates having a screw connection with each other and carried by said support yet insulated therefrom, 25 loose contact-bodies interposed between said plates and diaphragms, and means for conducting an electric current to the said plates and diaphragms respectively.

3. The combination with a resonator having 30 a sound-receiving opening at one end, of a telephone-transmitter arranged within said reso-

nator and having a sound-receiving opening facing in the same direction as said open end of the resonator, and another sound-receiving opening facing in the opposite direction. 35

4. The combination with a resonator having a sound-receiving opening at one end and provided with a sound-reflecting surface at its other end, of a telephone-transmitter arranged within said resonator between its reflecting- 40 surface and its open end, and provided with sound-receiving openings, one of which faces in the same direction as said open end of the resonator, and the other in the opposite direction. 45

5. The combination with a resonator having a sound-receiving opening at one end and provided at the other end with an inwardly-extending surface arranged to throw the sound 50 back toward said open end, of a telephone-transmitter located within said resonator and having a sound-receiving opening facing in the same direction as the open end of the resonator, and another sound-receiving opening facing in the opposite direction. 55

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EMIL R. SNYDER.

Witnesses:

JOHN LOTKA,
EUGENE EBLE.