

D. H. WILSON.
 TELEPHONE TRANSMITTER.
 APPLICATION FILED DEC. 30, 1904.

1,048,253.

Patented Dec. 24, 1912.

Fig. 1.

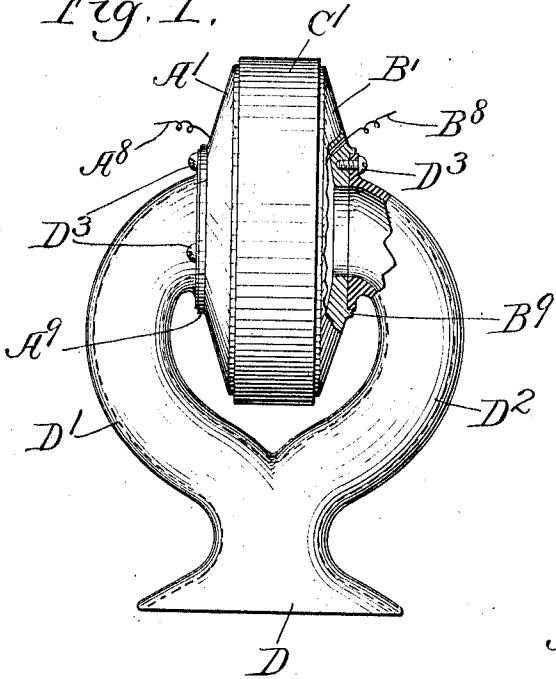


Fig. 3.

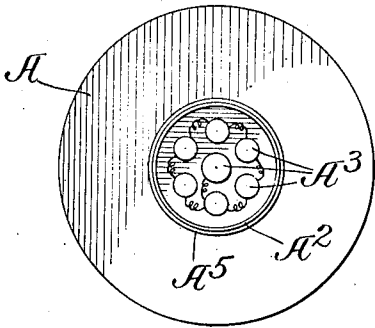
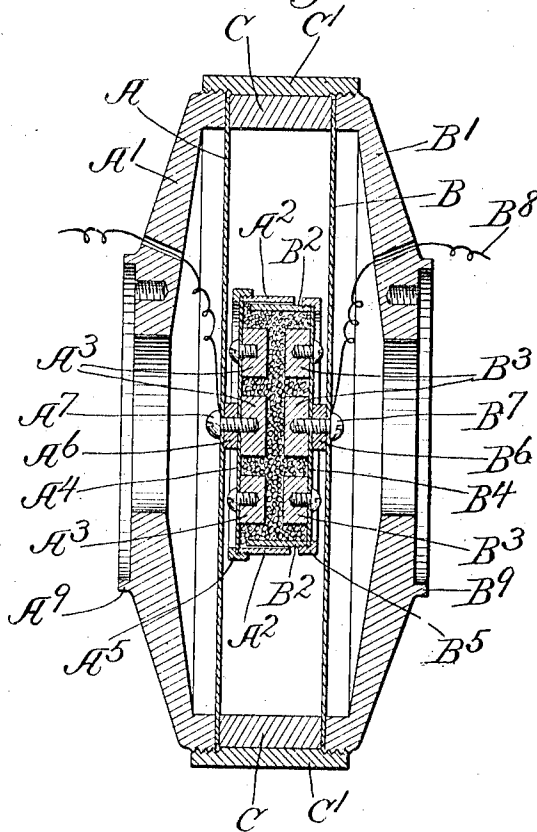


Fig. 2



Witnesses.

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UNITED STATES PATENT OFFICE.

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TELEPHONE-TRANSMITTER.

1,048,253.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, DAVID H. WILSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Telephone Transmitters, of which the following is a specification.

My invention relates to telephone transmitters, and has for its object to provide a new and improved device of this description.

My invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a view of a transmitter embodying my invention; Fig. 2 is an enlarged sectional view of the transmitter shown in Fig. 1 with the mouth-piece removed; Fig. 3 is a view of one of the diaphragms.

Like letters refer to like parts throughout the several figures.

In carrying out my invention I provide two diaphragms A and B attached to suitable side pieces A¹ B¹. These diaphragms may be of any material ordinarily used, or may be of mica or the like. Connected with these diaphragms are the telescoping receptacles or cups A² B² containing suitable conducting material, such as granulated carbon. Each cup may be provided with one or more buttons A³ B³ of metal, carbon, gold plated carbon, or the like. The telescoping cups may be made in any desired manner. As herein shown these cups are provided with bottoms A⁴ B⁴ which act as diaphragms and which may be called auxiliary diaphragms. These auxiliary diaphragms may be made of conducting material or non-conducting material such as mica or the like. The bottoms of the cups may be held in position by means of the holding pieces A⁵ B⁵, each of which consists of an annular ring having a projecting part to engage the bottom of the cup, the ring being threaded so as to be screwed upon the body of the cup. Interposed between the diaphragms A and B and the cups A² B² are the intermediate pieces A⁶ B⁶, the screws or other attaching means A⁷ B⁷ passing through these intermediate parts and acting as connecting pieces to which are connected the conductors A⁸ B⁸. This arrangement leaves the cups free from the diaphragms A and B, except at the central point of attachment. The diaphragms

A and B as herein shown are considerably larger than the telescoping cups and project beyond the edges thereof. By means of this construction and the attachment of the cups at the middle of the diaphragms a greater movement of the parts is secured during the operation of the device because the greatest movement of the diaphragms is at the center thereof. The diaphragms A and B may be held in place in any desired manner. As herein shown they are separated by a separating piece C, and a screw threaded ring C¹ engages both side pieces A¹ B¹, thus holding the parts firmly in position. A mouth-piece D provided with two branches D¹ D² is used, the branches communicating respectively with the side pieces A¹ B¹. The mouth-piece may be held in position in any desired manner. As herein shown the side pieces A¹ and B¹ are provided with annular projections A⁹ B⁹ and the branches of the mouth-piece are sprung out so that when the ends are placed within these annular projections the parts will be held in place. The parts may also be further secured by screws D³, or the screws or other attaching devices may be used without the annular projections.

I have described in detail a particular construction embodying my invention, but it is of course evident that the parts may be varied in many particulars without departing from the spirit of my invention. I therefore do not limit myself to the particular construction shown.

The use and operation of my invention are as follows: When the parts are in proper position the operator talks into the mouth-piece D. The vibrations of the air thus produced act upon both diaphragms A and B and cause them to vibrate. This produces a movement of the telescoping cups, the cups moving freely one within the other so as to move the auxiliary diaphragms to and from each other and vary the resistance between the electrodes. It will be seen that in this construction the carbon is confined between two movable electrodes both of which move back and forth in response to the vibrations of the air caused by the voice of the operator. It will further be noted that this movement is comparatively large because of the construction of the device and the arrangement of the parts. By this construc-

tion I am enabled to provide a transmitter of very great efficiency and adaptability. This transmitter consists of a receptacle, as it were, divided into three chambers, each of the outer chambers provided with a connection which leads to a suitable mouth-piece, the other chamber containing the electrodes of the transmitter. It will further be seen that the vibrations due to the voice of the operator are thus divided into two sections which are opposed to each other, and that these vibrations flow in opposite directions, striking the opposed diaphragms and thus the effect is multiplied.

15 I claim:

1. A telephone transmitter comprising a diaphragm, a carbon holding cup associated with said diaphragm so as to move therewith, a flat flexible diaphragm forming the bottom of said cup, an electrode within said cup and resting upon said flat flexible diaphragm, a connecting piece passing through the first mentioned diaphragm and the cup so as to hold them together, and a telescoping part for said carbon cup.

2. A telephone transmitter comprising a diaphragm, a carbon holding cup attached to said diaphragm near the middle thereof, a series of separate conducting buttons having non-parallel edges and connected with the bottom of said carbon cup and separated by the granulated carbon in the cup, each of said buttons located at one side of the central axis of the cup, and a central conducting button surrounded by said separated buttons.

3. A telephone transmitter comprising a diaphragm, a carbon holding cup attached to said diaphragm near the middle thereof, an intermediate connecting piece and separate from the cup and diaphragm engaging the diaphragm and the outside of the bottom of the carbon holding cup, said carbon holding cup smaller in diameter than the diaphragm, a series of separated electrodes connected with the bottom of said cup, and

a telescoping part cooperating with said carbon holding cup.

4. A telephone transmitter comprising two opposed diaphragms, telescoping cups between said diaphragms, one connected to each diaphragm, said telescoping cups containing material the resistance of which is varied by the relative movement of the diaphragms.

5. A telephone transmitter comprising two side pieces, a separating ring between them, two diaphragms held between said side pieces and separating ring, and a connecting piece outside of said separating ring and engaging the two side pieces.

6. A telephone transmitter comprising two opposed diaphragms, two telescoping carbon cups between said diaphragms and smaller than the diaphragms so that the diaphragms project beyond the edges thereof, one of said carbon cups connected to each diaphragm.

7. A telephone transmitter comprising two opposed diaphragms, two telescoping carbon cups interposed between them, each provided with a bottom separate from the cup, the bottoms of said cups connected respectively with the said diaphragms, and an intermediate piece between each cup and its associated diaphragm.

8. A telephone transmitter consisting of a receptacle divided into three chambers each of the exterior chambers provided with an outlet which leads to a mouth-piece, the interior chamber provided with opposed electrodes each of which is adapted to be moved while the device is being used, opposed diaphragms carrying said electrodes, telescoping cups on said diaphragms, said electrodes contained within telescoping cups which cooperate with each other.

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Witnesses:

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