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Patented Oct. 21, 1902.

J. W. BROWN.

MOUTHPIECE FOR TELEPHONE TRANSMITTERS OR SPEAKING TUBES.

(Application filed Jan. 9, 1902.)

(No Model.)

Fig. 1.

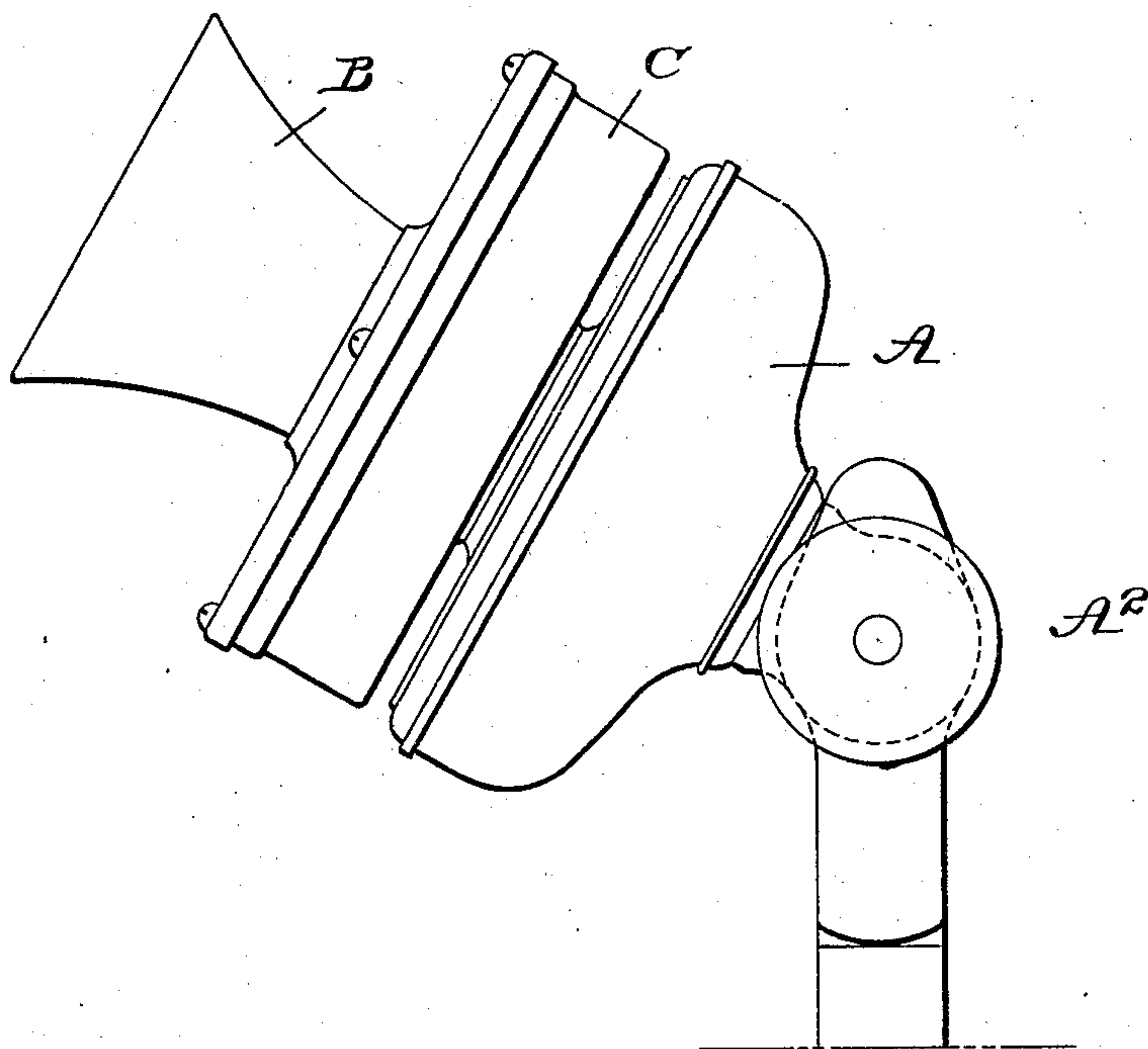
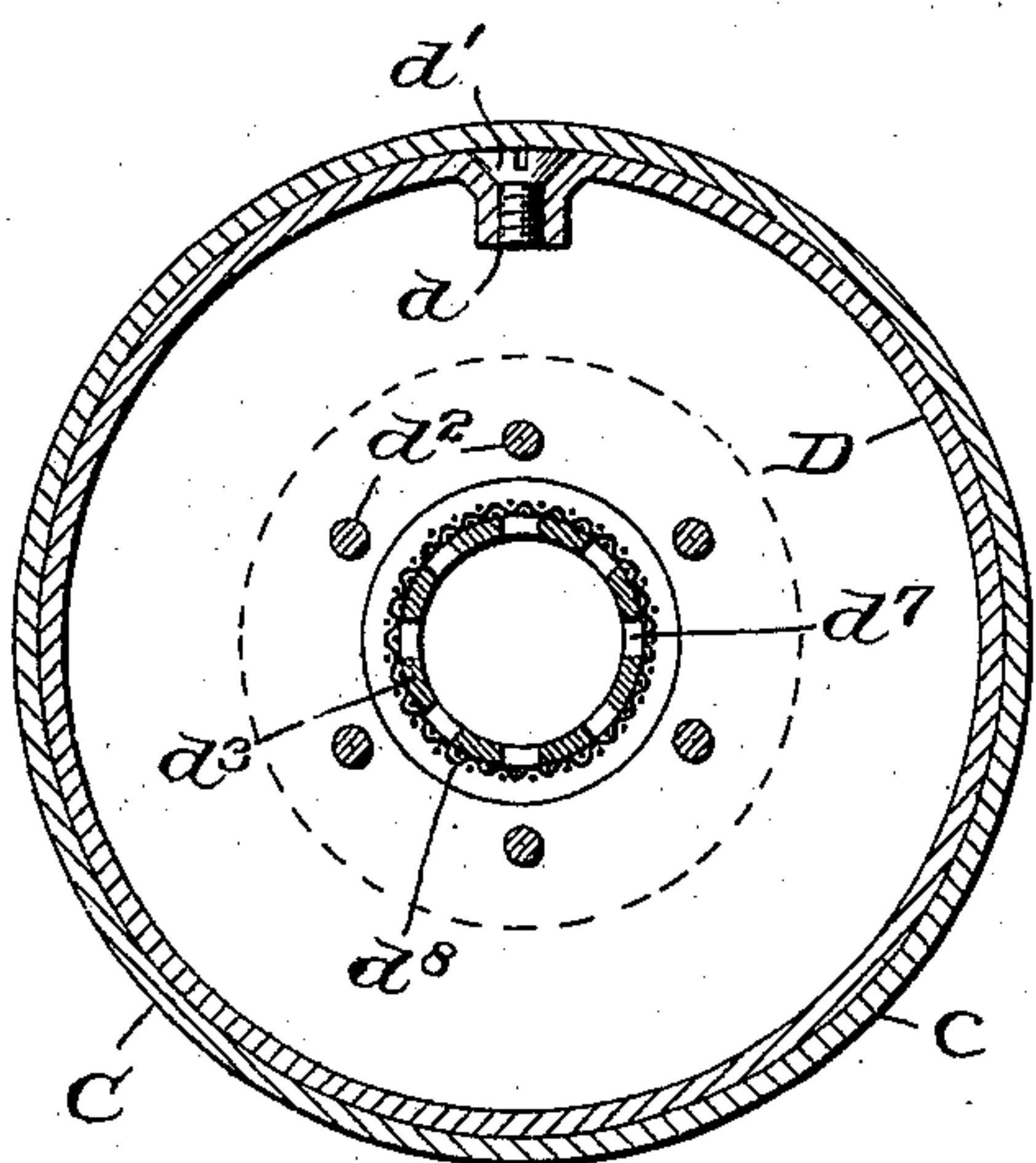


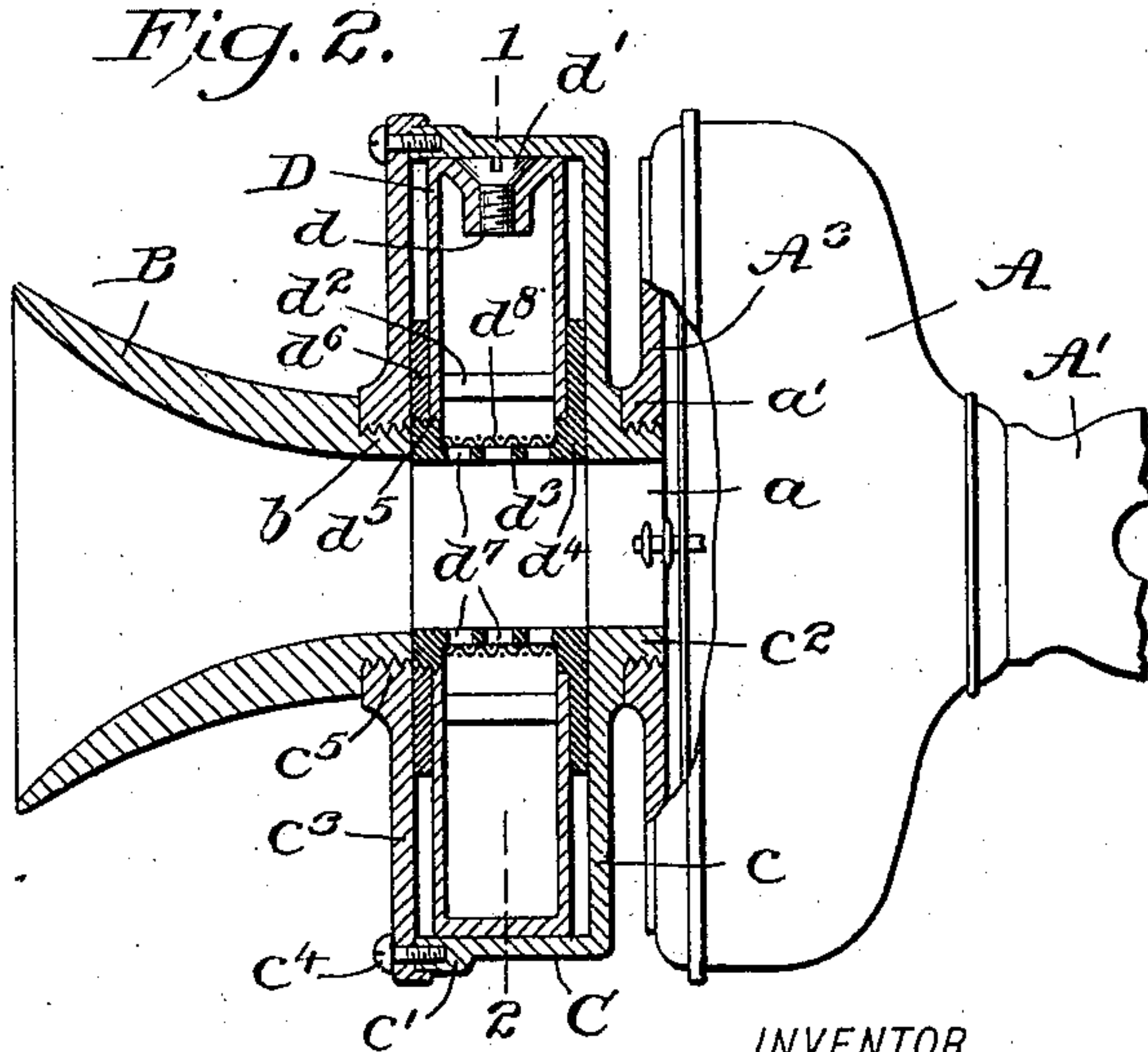
Fig. 3.



WITNESSES:

A. V. Group  
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Fig. 2.



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MOUTHPIECE FOR TELEPHONE-TRANSMITTERS OR SPEAKING-TUBES.

SPECIFICATION forming part of Letters Patent No. 711,615, dated October 21, 1902.

Application filed January 9, 1902. Serial No. 88,954. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH WEST BROWN, a citizen of the United States, residing in the city of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Mouthpieces for Telephone-Transmitters or Speaking-Tubes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to mouthpiece attachments applicable more particularly for use with telephone-transmitters and speaking-tubes, and has for its object to provide such bell-mouthed air and sound receivers with means for holding either a solid or liquid body and supplying gaseous fumes therefrom and provided with a passage therefor registering with that of the inner or discharge end of the mouthpiece, and with means to combine and support said elements in that relative arrangement, and with other means to removably support the same in like register with the air-passage of vocal-sound transmitters adapted to be connected therewith, the ultimate object being to supply the gaseous fumes to and through such passages, whereby to destroy any germs injected by the breath of the speaker or otherwise in the bell-mouth end of mouthpieces when used on telephone-transmitters and speaking-tubes, and for other analogous purposes.

To that end my invention consists, broadly, in the combination, with the usual bell-mouthed receiver or mouthpiece, such as commonly used on telephone-transmitters and speaking-tubes, of a hollow casing centrally bored to receive a perforated hollow core, with means to support said casing relatively to the bell-mouthed receiver in such manner as to bring its central hollow perforated core in register with the central air-passage at the rear or delivery end of the bell-mouthed receiver; also, in the combination, with such a mouthpiece or receiver and a hollow casing of the character stated, of a connecting holder or support for the latter, consisting of end plates oppositely disposed on said hollow cas-

ing and centrally bored, with means to adapt one of said supporting-plates to receive and support the discharge end of the bell-mouthed receiver, and the other of said supporting-plates being provided with means to removably support it upon the diaphragm-holder of a telephone-transmitter; also, in various details of construction of the elemental parts, as hereinafter described.

In the accompanying drawings, illustrating my invention, Figure 1 is an elevation of a mouthpiece and telephone-transmitter with my improvement in place thereon. Fig. 2 is a section of a part of the same, the telephone-transmitter being in elevation, but partly broken away to show the relative position of the diaphragm thereto with the other parts of the device; and Fig. 3 is a section on the line 1 2 of Fig. 2.

In said drawings, A represents a diaphragm-holder, constituting the usual transmitter of a telephone, supported by its arms A' to the roller or by its pivotal mounting A<sup>2</sup> to a desk-stand. Such transmitters as now in common use are provided with a mouthpiece-holder in the form of a covering-plate, (indicated at A<sup>3</sup> in Fig. 2,) with a central opening *a* vertically flanged, as at *a'*, and the latter interiorly screw-threaded, while the usual mouthpiece commonly employed with such a transmitter is indicated at B in Fig. 2, wherein is shown a bell-mouth receiver, the inner end of which is annularly reduced in diameter to form a lip *b*, which is exteriorly screw-threaded. As commonly applied this mouthpiece is attached to the transmitter by inserting the screw-threaded lip *b* of the mouthpiece directly into the interiorly-screw-threaded vertical flange *a'* of the transmitter or diaphragm-holder. Thus the openings in the two elements for the passage of vocal sounds are in alinement. In the embodiment of my invention shown in said drawings I provide a holder for a germicide, said holder being so constructed and supported relatively to the mouthpiece and transmitter as not to interfere with the aforesaid alinement of the sound-passages, but, on the contrary, to supply an additional and intermediate sound-passage in alinement with



those of the mouthpiece and transmitter. By reference to Fig. 1 will be seen the general combination and arrangement of the germicide holder or casing and its supporting devices, (both indicated generally at C relatively to the diaphragm - holder and mouthpiece,) whereby a unitary and compact device is produced.

Referring now to Fig. 2, will be seen an annular casing D in the form of a flat hollow cylinder with an adjustable opening  $d$  in its periphery, closed by a screw  $d'$  or other suitable means, and through which opening a solid or liquid germicide is inserted. Its head ends may be stiffened by supporting-bars  $d^2$ , if desired. This casing is centrally bored to provide an opening into which a peripherally-perforated hollow cylindrical core  $d^3$ , having a flanged end  $d^4$ , is inserted, the opposite projecting end  $d^5$  of the core being screw-threaded to fasten it to the wall of the casing D by means, preferably, of a screw-threaded washer-plate  $d^6$ . The perforations  $d^7$  in the core are preferably covered by a porous covering, such as cloth, (indicated at  $d^8$ ), and necessarily so where the germicide used is in liquid form. This casing D is to be supported by suitable means in such combination and arrangement with the mouthpiece and transmitter as to bring its central hollow perforated core into alinement with the inner or sound-discharge end of the mouthpiece and the central opening in the cover-plate of the diaphragm-holder or transmitter. My invention further comprehends a novel form of such support or holder for the germicide-casing, and by reference to said Fig. 2 it will be seen to consist of a base-plate  $c$ , with an integral annular rim  $c'$ , the base-plate being centrally bored and provided with a screw-threaded lip-flange  $c^2$ , the open end of the holder being closed by a removable cover-plate  $c^3$ , which may be secured in place on the holder by means such as screws  $c^4$ . This plate is centrally bored to correspond with the opening in the base-plate of the holder, and this opening is screw-threaded, as at  $c^5$ , the opening being preferably lipped or flanged to give a good depth to the screw-threaded opening.

The parts are to be assembled as shown in the section Fig. 2, from which it will be seen that the germicide-casing is readily removable from and replaceable in the external holder for the purpose of filling when required, and when supported in the holder its central perforated hollow core is in alinement with the sound-passages of the mouthpiece and transmitter. In effect, my device forms a rearward extension of the mouthpiece and has the usual screw-threaded lip or flange  $C^2$  of the ordinary mouthpiece the duplicate of that shown at  $b$ , so that thereby it is attached as usual to any speaking-tube or to the screw-threaded flange of the cover-plate of a telephone-transmitter.

The operation of the device is as follows: Fumes from evaporation of the germicide automatically pass directly from the interior of the casing through the perforated core thereof, which is directly and intermediately in the line of passage of the breath of the operator in delivering the vocal message through the bell-mouthpiece to a speaking-tube or to the diaphragm-plate of a telephone-transmitter.

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

1. The combination with a mouthpiece having a rearward open sound-passage, of a hollow casing mounted thereon, said casing having an interior peripherally-perforated passage-way arranged substantially as an extended section of, and in alinement with, the sound-passage of the mouthpiece.
2. The combination with a mouthpiece, of a substantially flat hollow casing adjustably mounted on the rearward open end thereof, said casing having corresponding openings in its opposite walls, a peripherally-perforated tubular passage mounted in said opposite openings in the casing, and means to detachably connect the combined elements with a receiving-diaphragm holder of a telephone, in such manner as to bring the respective sound-passages of said elements in alinement with each other.
3. In combination with a germicide-holder composed of a hollow casing arranged intermediate a mouthpiece and a telephone-transmitter, with means to detachably support said elements in such relative position, said holder or casing having a central tubular sound-passage in alinement with the sound-passages of the mouthpiece and transmitter respectively, and with communicating passage-ways between the interior of said hollow casing and the tubular wall of its central sound-passage.
4. In combination with a mouthpiece, having supporting means on its inner end, of a germicide-holder consisting essentially of a hollow casing centrally bored and provided with a hollow perforated core supported in said central opening, and a holder for said casing consisting of oppositely - arranged plates centrally bored and with means to connect the same with the opposite sides of said casing, and with means on the exterior of each of said connected plates whereby to support said holder on and intermediate a mouthpiece and a sound-transmitter.
5. In combination with a germicide-holder consisting of a flat hollow annular body having a central hollow core peripherally perforated, of a holder therefor consisting essentially of a hollow annular body having opposite ends substantially flat and centrally bored and provided thereat with screw-threaded lips or flanges, a mouthpiece having its inner end interiorly screw-threaded and adapted thereby to be mounted on one end of said



holder, and a telephone-transmitter with means to adapt it to be mounted on the opposite end of said holder, said elements being combined and arranged to bring the sound-  
5 passages in alinement; substantially as described.

In testimony whereof I have hereunto af-

fixed my signature this 7th day of September, A. D. 1901.

JOSEPH WEST BROWN.

Witnesses:

THOS. S. REED,  
GEO. W. REED.