

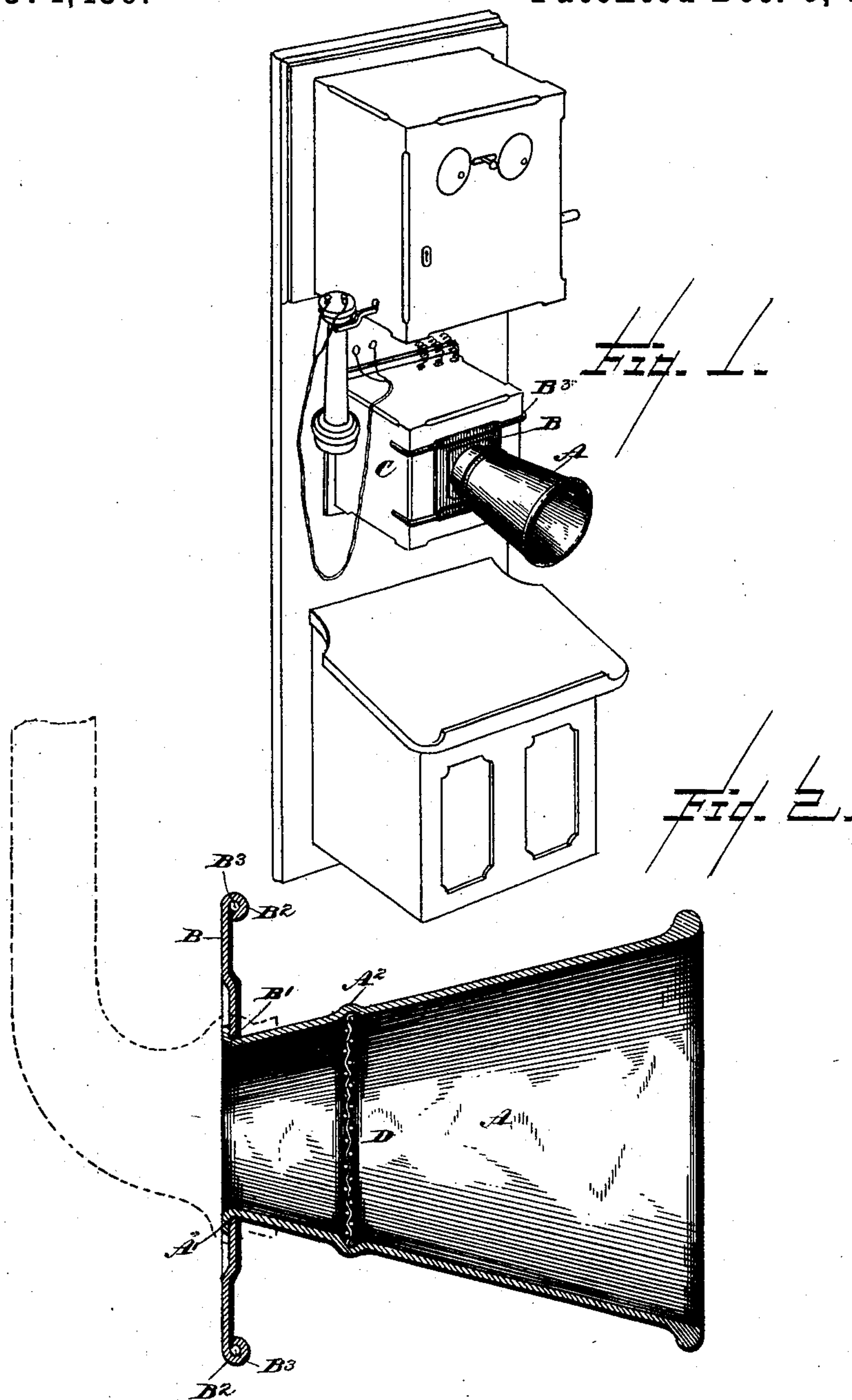
(No Model.)

R. W. WHITNEY & F. PULTZ.

TRANSMITTER.

No. 374,439.

Patented Dec. 6, 1887.



Witnesses

*L. C. Hills,*  
*W. S. Durall*

Inventors.

*Ruel W. Whitney*  
*and Frederick Pultz.*  
*By E. B. Stocking*  
*Attorney.*

# UNITED STATES PATENT OFFICE.

RUEL W. WHITNEY AND FREDERICK PULTZ, OF CLEVELAND, OHIO.

## TRANSMITTER.

SPECIFICATION forming part of Letters Patent No. 374,439, dated December 6, 1887.

Application filed May 31, 1887. Serial No. 239,750. (No model.)

*To all whom it may concern:*

Be it known that we, RUEL W. WHITNEY and FREDERICK PULTZ, citizens of the United States, residing at Cleveland, in the county of Cuyahoga, State of Ohio, have invented certain new and useful Improvements in Transmitters, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The object of this invention is to provide a supplemental mouth-piece for telephone-transmitters and other voice-transmitting medium—such as speaking-tubes, ear-trumpets, &c.—and to provide the same with means  
15 whereby the volume of sound emitted from the speaker is diffused into regularly-distributed sound-waves before coming into contact with the transmitting-diaphragm.

20 Other objects and advantages of the invention will hereinafter be described, and the novel features will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a telephone, the transmitter of  
25 which is provided with our supplemental mouth-piece; and Fig. 2 is a central vertical section of the mouth-piece and its connecting-plate.

30 Similar letters of reference indicate like parts in both figures of the drawings.

In carrying out our invention we prefer to construct the same of gutta-percha; but it is evident that sheet metal may be used and the same results will be attained.

35 A represents our supplemental mouth-piece, which is flared at its outer end, as usual, and contracted at its inner or rear end. A plate, B, provided with an opening, B', is in this instance secured to said mouth-piece,  
40 the rear end of the latter passing through said opening and being turned to form a securing-flange, A'. The two opposite sides of the plate B are turned to form securing eyes or clips B<sup>2</sup>, and through these are passed, preferably, spring clamping-wires B<sup>3</sup>, the ends of  
45 which are bent and adapted to embrace the sides of the telephone-transmitter C, and thus retain the mouth-piece in position over the diaphragm of the telephone.

50 Located within the mouth-piece A, at a

suitable distance from its rear end, is a reticulated or perforated supplemental diaphragm, D, in this instance formed of reticulated wire or gauze of a mesh best adapted for the purpose. This diaphragm may be  
55 held in place by any suitable retaining devices, and in this instance I have formed the mouth-piece with an annular groove, A<sup>2</sup>, for its reception and retention. By this construction, no matter how close the speaker is to the  
60 transmitter or how great the volume of sound emitted, it will be diffused into regular even sound-waves, and will thus be presented to the inner diaphragm of the transmitter. Instead of coming in contact with the same at  
65 one particular point and rendering the transmission indistinct, it will be evenly distributed over the entire surface thereof, and each articulation clearly transmitted.

As shown by dotted lines in Fig. 2, the  
70 mouth-piece, minus the securing-plate, may be attached to speaking-tubes, ear-trumpets, &c., and although no second diaphragm is acted upon by the sound-waves, yet good results are attained by the addition of the re-  
75 ticulated diaphragm described.

Having described our invention and its operation, what we claim is—

1. An independent mouth-piece for telephone-transmitters, provided with a reticulated or perforated diaphragm for diffusing and equally presenting the sound-waves, substantially as specified.

2. The combination, with a telephone-transmitter, of an independent mouth-piece mounted thereon and comprising a conical tube having a reticulated or perforated diaphragm therein for diffusing and equally presenting sound-waves to the transmitter, substantially as specified.

3. The combination, with the transmitter of a telephone, of a supplemental mouth-piece mounted on a plate and provided with a reticulated or perforated diaphragm for diffusing and equally presenting the sound-waves  
95 to the surface of the transmitter-diaphragm, and of clamping-arms secured to said plate and adapted to embrace the edges of said transmitter, substantially as specified.

4. The mouth-piece A, provided with the 100



internal annular groove,  $A^2$ , and having the diaphragm D, seated in said groove, substantially as specified.

5 The mouth-piece A, having the diaphragm D seated therein, and flanged, as at  $A'$ , the plate B, having the opening  $B'$ , and securing-arms  $B^3$ , in combination with a transmitter, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

RUEL W. WHITNEY.  
FREDERICK PULTZ.

Witnesses:

S. F. ADAMS,  
W. C. WILSON.