

No. 659,377

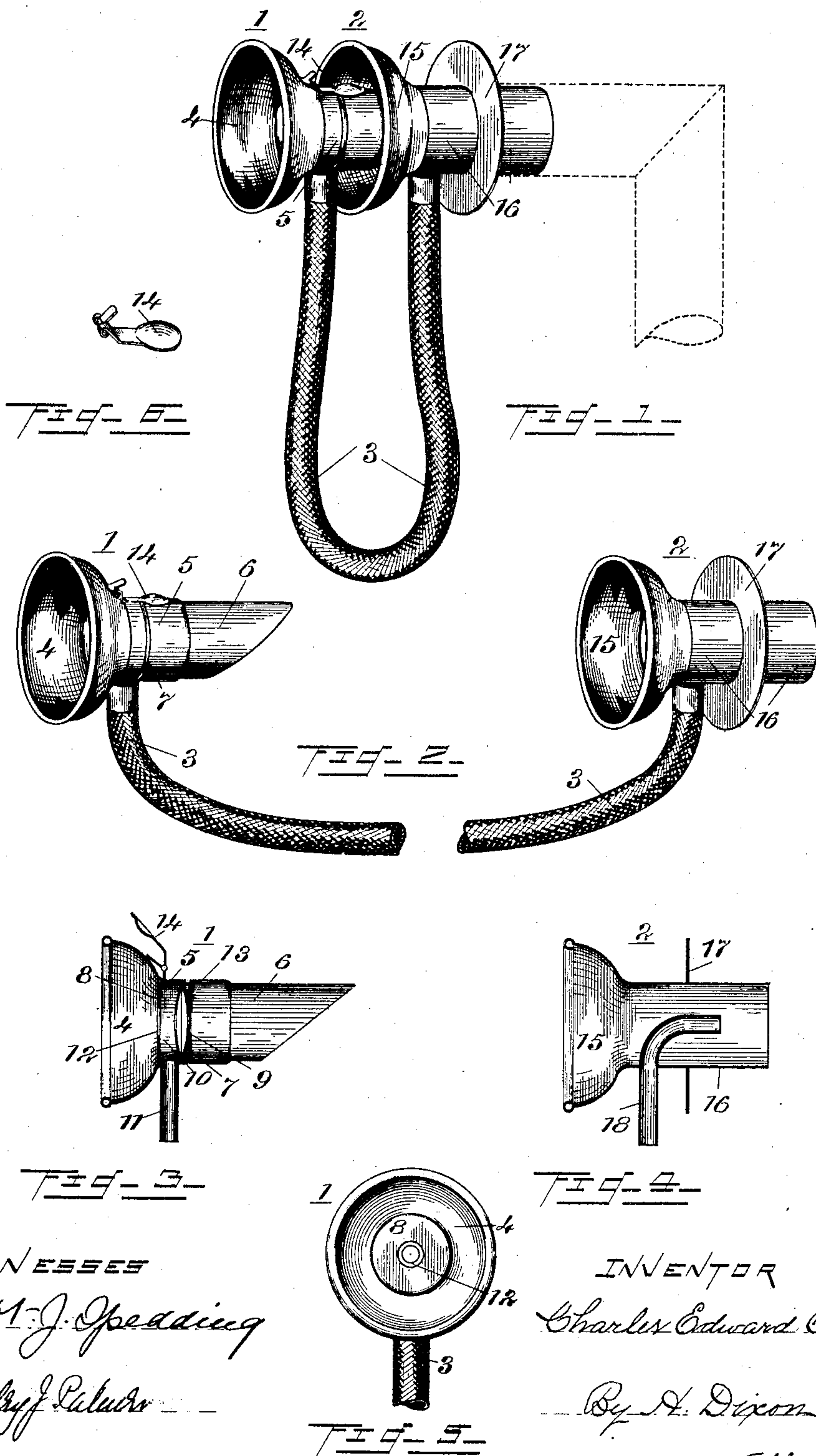
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C. E. ORMSBY.

COMBINED RECEIVER AND TRANSMITTER FOR SPEAKING TUBE TERMINI.

(Application filed Apr. 24, 1899. Renewed May 12, 1900.)

(No Model.)



WITNESSES

*Robt. J. Speeding*

*Stanley J. Calver*

INVENTOR

*Charles Edward Ormsby*

*By A. Dixon*

*Atty.*



# UNITED STATES PATENT OFFICE.

CHARLES EDWARD ORMSBY, OF TORONTO, CANADA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO ELIZABETH HELEN LESLIE, JOHN KNOX LESLIE, AND ALEXANDER EDWARD GUNDLACK, OF SAME PLACE.

## COMBINED RECEIVER AND TRANSMITTER FOR SPEAKING-TUBE TERMINI.

SPECIFICATION forming part of Letters Patent No. 659,377, dated October 9, 1900.

Application filed April 24, 1899. Renewed May 12, 1900. Serial No. 16,421. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES EDWARD ORMSBY, of the city of Toronto, in the county of York and Province of Ontario, Canada, have invented certain new and useful Improvements in a Combined Receiver and Transmitter for Speaking-Tube Termini; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in what are commonly known as "speaking-tube heads or whistles," in which I employ a receiver and transmitter united by a flexible sound-conduit and having for its object to provide a more perfect and desirable means for communication without the annoyance and inconvenience experienced heretofore and dispensing with any great exertion on the part of the operator to be heard when speaking or when spoken to, and, moreover, a conversation can be carried on in a much lower pitch than heretofore and still be audible.

To such ends the invention consists in the construction and combination of parts hereinafter particularly described and claimed, reference being had to the accompanying drawings, forming part thereof, in which similar figures of reference refer to like parts throughout.

Figure 1 is a view in perspective of my improved combined receiver and transmitter when not in use. Fig. 2 is a view in perspective of the same, showing the receiver detached from the transmitter as when in use. Fig. 3 is a longitudinal sectional view of the receiver, showing the internal construction of the same. Fig. 4 is a longitudinal sectional view of the transmitter. Fig. 5 is a front end view in elevation of the receiver, and Fig. 6 is a detail view of the indicator.

In the drawings, 1 and 2 represent the receiver and transmitter, respectively, connected by the flexible conduit 3. The receiver and transmitter 1 and 2, respectively, are constructed in the usual manner for articles of that kind, preferably of metal electroplated, and are in external appearance similar in shape, though differing in their in-

ternal construction, as shown on reference to Figs. 3 and 4.

The receiver 1 consists of a spherical-shaped cup 4, extending from the bottom of which is the cylindrical projection or sleeve 5, having the portion 6 of the same stepped down and forming a shoulder, with the projecting end cut off at an angle, as shown and for the purpose hereinafter described. Within the interior of the sleeve 5 is an internally-projecting rib or bead 7, against which and from the side adjacent to the cup 4 and secured by the flanged cap 8 is a whistle 9, which is of a well-known type, consisting of two opposite centrally-perforated concavo-convex disks joined at their peripheries and inclosing an air-chamber, as shown. Also within the interior of the sleeve 5 and between the whistle 9 and cap 8 is a sound-chamber 10, connecting with which is the branch pipe 11. In the cap 8 is a central opening 12, larger in diameter than the circular openings in the whistle 9, for the purpose of more readily conducting and collecting the sound-waves within the cup 4 and also to allow the wind and sound from the whistle when in operation free egress. On the upper side of the sleeve 5 and behind the whistle 9 is an air-vent 13 for the purpose of operating the wind-indicator 14. The indicator 14 is of the usual type and its mode of operation similar to those in use at the present time.

The transmitter 2 is similar in shape to the receiver 1, having a spherical cup 15 and sleeve 16. The internal diameter of the sleeve 16 is equal to the external diameter of that portion 6 of the sleeve 5 for the purpose of allowing the latter to freely enter the former, and, furthermore, to facilitate the operation of the above both are slightly tapered. On the exterior of the sleeve 16 of the transmitter 2 is an ornamental collar or flange 17, the purpose of which is obvious. Entering the sleeve 16 behind the cup 15 is the branch pipe 18. Said branch pipe 18 on entering the interior of the sleeve 16 curves inward until parallel with the axis of the same and continues for a short distance, as shown. The object of this arrangement is to more readily collect the sound-waves.



The flexible conduit 3 is composed of preferably a woven-fabric tube, with an internal support in the form of a spiral wire coil and cemented or otherwise secured to the branch pipes 11 and 18.

The mode of operation is thus: On receiving a call the whistle is sounded, operating the indicator when such is employed. While the instrument is at rest, as shown in Fig. 1, having the sleeve of the receiver inserted within the transmitter, the receiver is withdrawn from the transmitter and applied to the ear, when a conversation can be carried on in a manner similar to that of the electrical telephone, speaking into the transmitter and receiving the reply through the flexible sound-conduit.

I wish it understood I have shown this mode of construction for collecting the sound-waves and their distribution within the receiver for its simplicity of construction and efficiency of operation, though I have found the same operative in numerous ways with similar constructions.

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

1. In a combined receiver and transmitter for speaking-tube termini, a receiver consisting of a spherical-shaped cup having a cylindrical projecting sleeve, a sound-chamber and whistle within the interior of said sleeve,

a branch pipe connecting with said sound-chamber; a transmitter consisting of a spherical-shaped cup having a cylindrical projecting sleeve, a sound-collecting branch pipe leading from the interior of said sleeve, the sleeve of said receiver adapted to pass within the cylindrical interior of the sleeve of said transmitter, a flexible sound-conduit connected to the branch pipes of said receiver and transmitter, substantially as shown and described.

2. In a combined receiver and transmitter for speaking-tube termini, the combination of a receiver consisting of a spherical-shaped cup having a cylindrical projecting sleeve, a sound-chamber and whistle located within the interior of said sleeve, a branch pipe connecting with said sound-chamber; and a transmitter consisting of a spherical-shaped cup having a cylindrical projecting sleeve, a sound-collecting branch pipe leading from the interior of said sleeve, the said branch pipes of said receiver and transmitter connected by a flexible sound-conduit, substantially as shown and described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

CHARLES EDWARD ORMSBY.

Witnesses:

W. O. KENNEDY,  
R. J. SPEDDING.