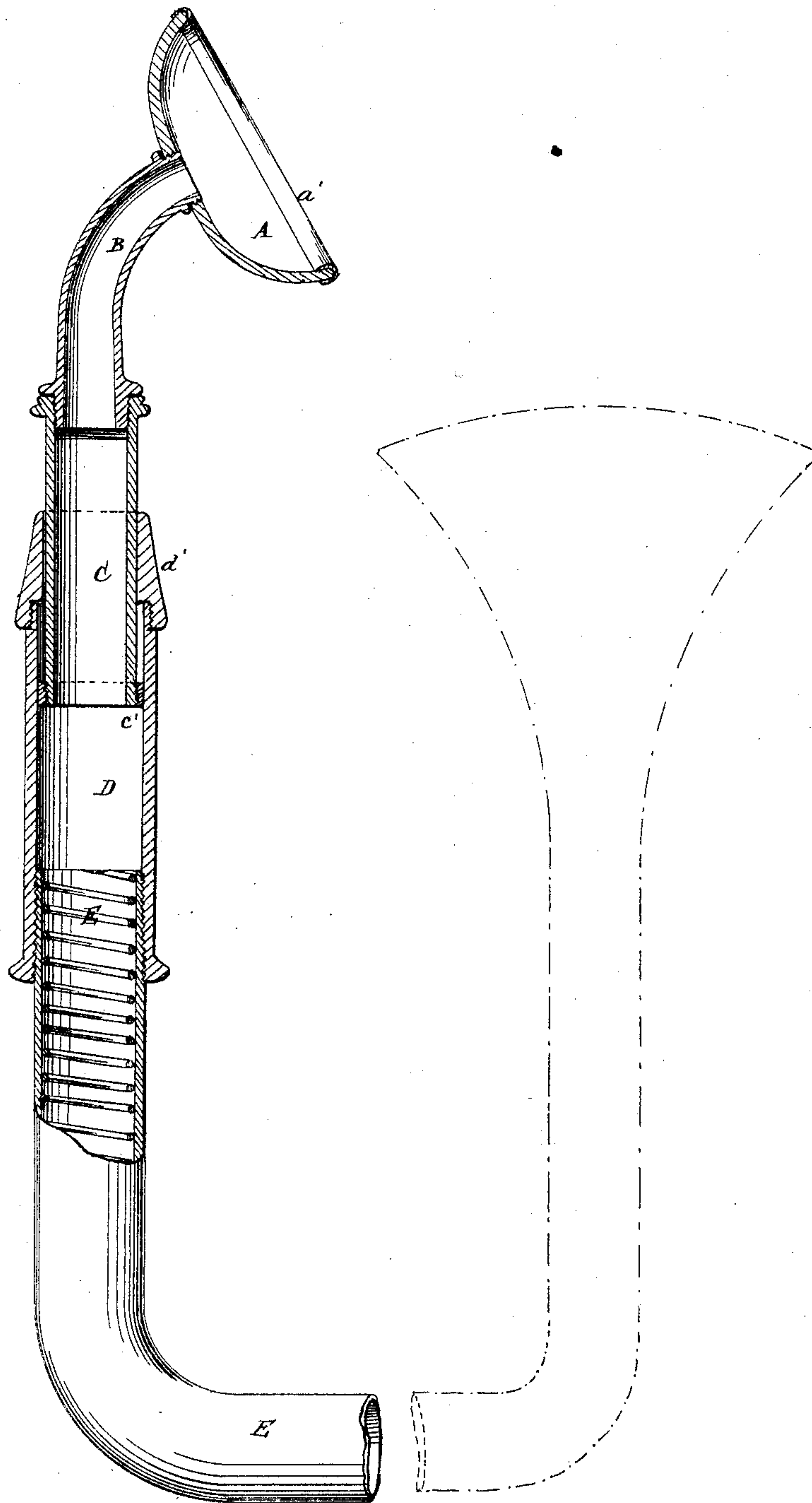


H. B. AUCHINCLOSS.

Ear-Tubes.

No. 148,647.

Patented March 17, 1874.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

HENRY B. AUCHINCLOSS, OF NEW YORK, N. Y.

## IMPROVEMENT IN EAR-TUBES.

Specification forming part of Letters Patent No. **148,647**, dated March 17, 1874; application filed February 14, 1874.

*To all whom it may concern:*

Be it known that I, HENRY B. AUCHINCLOSS, of the city, county, and State of New York, have invented a new and useful Improvement in Ear-Tubes, of which the following is a specification:

The figure is a detail longitudinal section of my improved ear-tube.

My invention is an improvement in ear-tubes adapted for use in public halls, churches, &c.; and consists in constructing the device with a telescopic joint, as hereinafter described.

A is the ear-piece, which is made cup-shaped and somewhat elliptical in form. The ear-piece A is made of hard rubber, and with a soft-rubber edge or binding, *a'*, so that it may be pressed closely against the side of the head around the ear. In the center of the ear-piece A is formed an orifice, an inch, more or less, in diameter, into which is screwed the end of a hard-rubber tube, B, which is curved downward, and its lower end is screwed into the upper end of a hard-rubber tube, C, which is inserted into, and slides longitudinally in, a hard-rubber tube, D, in the manner of a telescope. The inner end of tube C screws into a ring, *c'*, which keeps the tube C from being drawn entirely out of the tube D by striking against the shoulder of the ring-cap *d'*, screwed upon the upper end of the tube D.

This construction enables the length of the tube to be adjusted according to the height or position of the hearer, and the ear-piece to be turned in any desired direction.

The lower end of tube D is screwed upon a

flexible tube, E, which is formed by covering a coiled wire with soft rubber. This construction makes the tube E very flexible, and at the same time prevents its interior diameter from being diminished and its cavity from being partly closed by bending. The tube E may be covered with braiding, if desired.

The lower end of the tube E is designed to pass down through the seat, and be connected with a tin tube passing beneath the seats or floor, and passing up near the speaker's desk, where it should terminate in a funnel-shaped mouth. The tin tube should be about two inches in diameter, and should have no sharp angles, which angles tend to cause an echo.

By this arrangement a large volume of sound will be transmitted to the hearer, which cannot be the case when the ordinary tubes of small diameter are used. In case the sounds transmitted by the tube be too loud, the forward edge of the ear-piece A should be raised a little, and in case they be too faint the ear-piece should be pressed closely to the side of the face.

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

The combination, with the sound-tube E and cup-shaped ear-piece A, of tube B, sliding tube C, and socket-tube D *d'*, constructed and arranged to operate as shown and described.

HENRY B. AUCHINCLOSS.

Witnesses:

L. S. REYNOLDS,  
WM. KNITUP.