No. 663,393. Patented Dec. 4, 1900.

B. A. PRICE.

HEARING TUBE.

(Application filed Jan. 2, 1900.)

(No Model.)

Fig 1

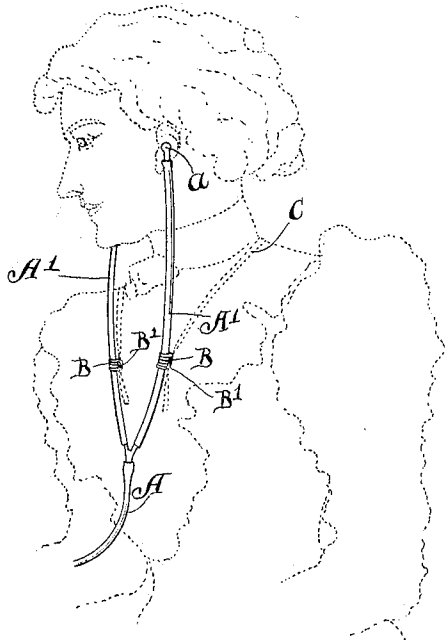


Fig 2

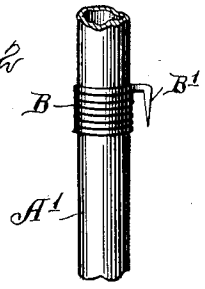


Fig 3

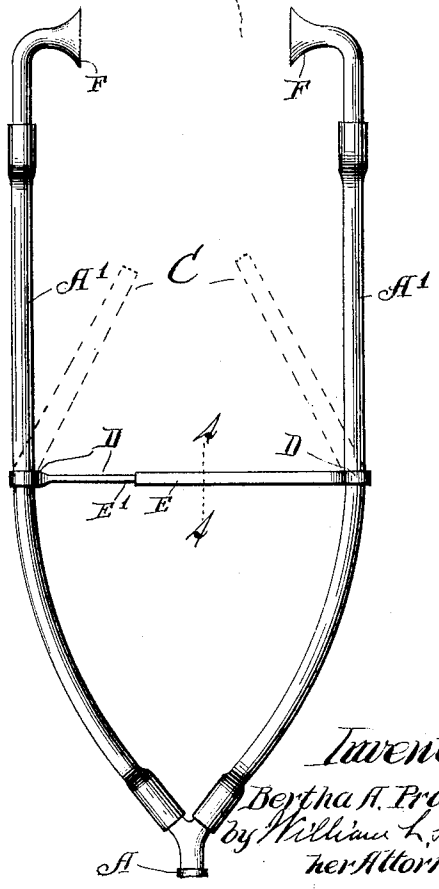
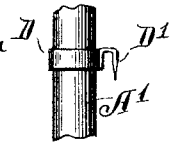


Fig 4



Fig 5



Witnesses:
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Inventor:
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by William L. Hall
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UNITED STATES PATENT OFFICE.

BERTHA A. PRICE, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO WILLIAM L. HALL, OF SAME PLACE.

HEARING-TUBE.

SPECIFICATION forming part of Letters Patent No. 663,393, dated December 4, 1900.

Application filed January 2, 1900. Serial No. 66. (No model.)

To all whom it may concern:

Be it known that I, BERTHA A. PRICE, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Supporting Attachments for Hearing-Tubes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to a novel attachment for supporting the hearing-tube of a phonograph and like sound-reproducing machines upon the person using the machines in such manner as to relieve the ears of the operator of the weight of the tube.

The invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

In the drawings, Figure 1 illustrates the hearing-tube of a phonograph supported in the position in which it is used by means of one form of my invention. Fig. 2 is a fragmentary view of one of the branches of the tube, showing more clearly the form of the support illustrated in Fig. 1. Fig. 3 illustrates another form of my invention and its application to a hearing-tube. Fig. 4 is a cross-section taken on line 4 4 of Fig. 3. Fig. 5 is an end view of said device with a fragment of one of the branches of the hearing-tube and showing the attachment-hook.

First referring to the form of device shown in Figs. 1 and 2, A designates the hearing-tube of the phonograph or like machine provided at its upper end with two branch tubes A′ A′, which latter are fitted at their ends with the usual earpieces *a*. B B designate bands which encircle the branches A′ A′ of the hearing-tube and of such size as to fit somewhat tightly thereon. Said bands are provided on their rear sides with attaching devices, consisting in this instance of hooks B′ B′, which are adapted to be engaged with either the garment of the person using the machine or a part supported from the neck of the operator. Said hooks may engage a narrow tape C, (shown in dotted lines in Fig. 1,) which passes around the neck of the operator with its ends brought around to the front and parallel with each other and with which parallel ends the hooks have engagement. Said tape will not in all instances be required, for the reason that the hooks may be made quite light, as the weight they support is not great. It will not be objectionable, therefore, in most instances to attach the hooks to the garment of the operator. Instead of the hooks shown other forms of attaching devices may be used. The said bands and hooks may each be made of a single piece of wire bent to the proper form, as shown in Fig. 2, said wire being bent in spiral form and composed of three or four coils to give proper width to the band, with one end of the wire bent outwardly to form the hook B′. If desired, however, the band may be otherwise made and the hook or other attaching device attached thereto by soldering or like means. Said bands are held on the branches by frictional engagement between the same and may be moved endwise thereon to adjust the same to the person using the attachment. With this attachment the weight of the upper end of the hearing-tube is supported solely through the medium of the hooks, so that the ear of the operator is relieved from the weight of the tube, as is true where the earpieces *a* are relied upon to hold the tube in place. Said branches will be suitably stiffened by the usual or any preferred means and may by lateral adjustment of the hooks be arranged to hold the earpieces entirely out of contact with the ears, thereby entirely dispensing with the annoyance due to the presence of the earpieces within the ears.

I have shown in Figs. 3 to 5, inclusive, means for positively holding the branches at a predetermined or selected distance from each other, so that the earpieces may be held out of contact with the ears. In this construction, D D designate bands which encircle the branches of the ear-tube and are provided at their rear sides with hooks D′, by which the same are supported from the garment of the operator or a tape suspended from the neck. E E′ designate two parts of a telescopic distance-bar, which are connected at their outer ends with the bands D and have telescopic engagement at their inner ends. As herein shown, said bands are made of sheet

metal, and the parts of the distance-bar are made of like material and integral with the bands. The margins at the inner end of one of said parts—the part E as shown—are folded upon one side thereof to provide a groove, and the other part E′ of said bar is made plane and fits and slides within the groove formed by the turned-over margins of the other part E. Said parts of the bar will desirably be so constructed as to be held in any adjusted position by the frictional contact of one part with the other; but positive holding means may be employed, if desired. I have shown in this connection another form of earpiece F. Said earpieces in this form are made outwardly flaring or bell shape at their outer ends and are designed to be held outside of the ear and not to be inserted therein. Said ear-tube may be otherwise supported upon the operator in a manner to sustain the weight of the ear-tube independently of the earpieces.

A principal advantage of the supporting attachment herein shown is that it relieves the ears of the operator entirely from the weight of the hearing-tube and eliminates the annoyance and disagreeable consequences attending the presence of the earpieces within the ears and the weight of the tube thereon. Moreover, the holding of the earpieces away from the auditory canal serves somewhat to break the force of the sound-waves, so that they do not strike the ear-drum with such force as where the earpieces are directly in contact with the auditory canal, thereby minimizing or entirely eliminating the tendency to produce nervous disturbances, as is true of the old method of suspending hearing-tubes.

I claim as my invention—

1. A hearing-tube for sound-reproducing devices provided with means by which it is supported upon the operator below the operator's head, said means affording the sole support for the upper end of the tube.

2. A hearing-tube for sound-reproducing devices provided with means by which it is supported upon the operator below the operator's head, said means being constructed to permit the earpieces to be held out of contact with the operator's ears, and to afford the sole support for the upper end of the tube.

3. A hearing-tube for sound-reproducing devices comprising a main body and two branches, and supporting devices on said branches adapted for engagement with a part associated with the apparel of the operator below the operator's head.

4. A hearing-tube for sound-reproducing devices comprising a main body and two stiffened branches, said tube being provided with a supporting device adapted for engagement with a part associated with the apparel of the operator, and the branches being adjustable as to distance apart.

5. A hearing-tube for sound-reproducing devices comprising a main body and two stiffened branches, and supporting devices on said branches, each comprising a band encircling the branch and an attaching device, said supporting devices being movable longitudinally of the branches.

6. A hearing-tube comprising a main body and two branches, a device affording lateral adjustment of said branches with respect to each other, and supporting devices affixed to said adjusting device.

7. A device for supporting hearing-tubes and for holding the branches thereof at a desired distance apart, comprising bands designed to encircle the branches and attaching devices on said bands, and a collapsible distance-bar between said bands.

8. The combination with a hearing-tube, of a tape which is supported from the neck of the operator and a hook on the tube adapted for engagement with the tape for holding the branches of the tube in position for transmitting sound-waves therefrom to the ears of the operator.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 27th day of December, A. D. 1899.

BERTHA A. PRICE.

Witnesses:

GERTRUDE BRYCE,

WILLIAM L. HALL.