

946,270.

Patented Jan. 11, 1910

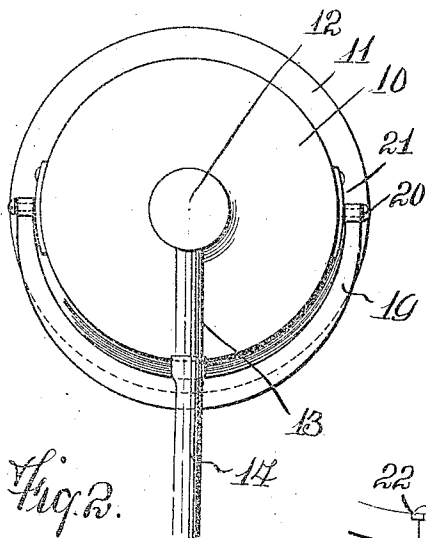
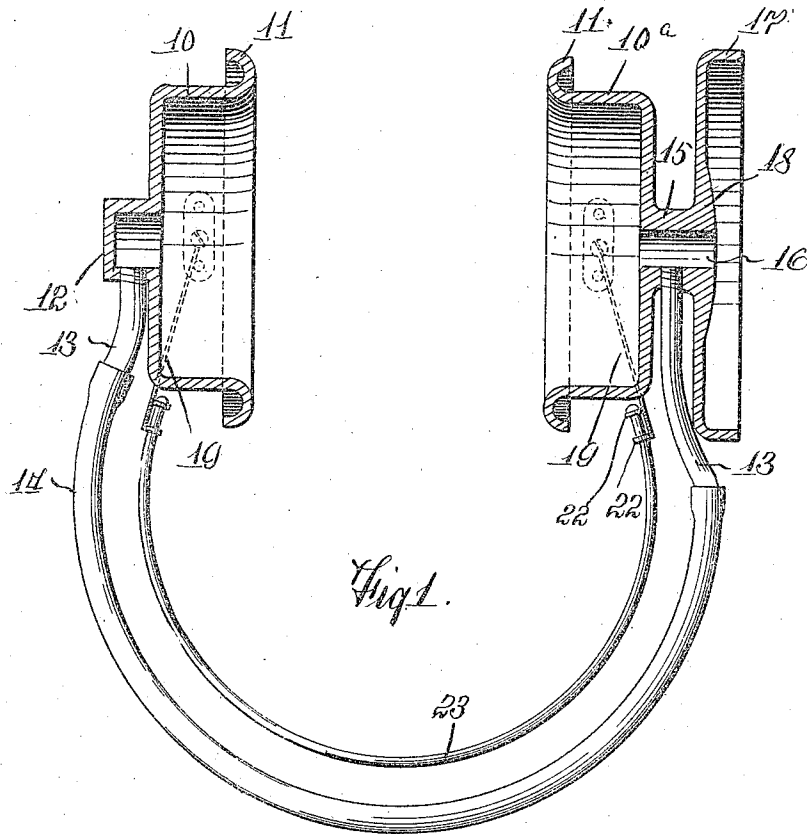


Fig. 2.

Witnesses:
 Frank L. Smith.
 Ralph Lancaster.

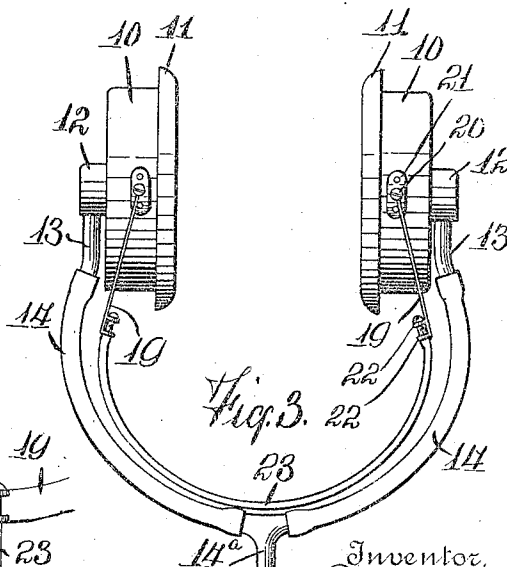


Fig. 3.

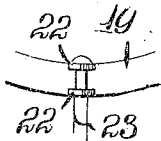


Fig. 4.

Inventor,
 Alcorn Rector,
 By his Attorney,
 W. D. Hutchinson.

UNITED STATES PATENT OFFICE.

ALCORN RECTOR, OF NEW YORK, N. Y., ASSIGNOR TO RECTOR HELP-A-PHONE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

TELEPHONE ADJUNCT.

946,270.

Specification of Letters Patent.

Patented Jan. 11, 1910.

Application filed December 4, 1908. Serial No. 465,936.

To all whom it may concern:

Be it known that I, ALCORN RECTOR, of the city, county, and State of New York, have invented a new and useful Improvement in Telephone Adjuncts, of which the following is a full, clear, and exact description.

My invention relates to improvements in that class of telephone apparatus which are used in connection with a telephone to assist hearing, but which are not attached to the telephone.

More particularly my invention relates to improvements in telephone head pieces such as are worn on the head with ear cups to fit both ears, and with means for having sounds from a telephone receiver transmitted to both ear pieces of the head piece.

I am not the first, in this application, to show and describe a telephone head piece having ear cups to fit both ears and having means for connecting in some manner with a telephone, but in apparatus of this class heretofore made, difficulty has been experienced in producing a device which would fit any ordinary head so that the ear pieces would fit naturally and comfortably over the ears. Such structures have been recognized as being valuable, because they exclude extraneous sounds and enable the slightest sounds through the receiver to be transmitted to both ear pieces. Moreover they are not attached to the telephone, and that leaves one hand free for making memoranda, etc.

It is not practically feasible to provide for adjusting the head pieces to different heads, because this means complication and expense, and such devices must be simple, as free as possible from joints, and easy of application without the bother of adjustment.

The object of my invention is to meet these requirements and produce an extremely simple device which has few parts, is cheap to make, is easy to wear, adapts itself perfectly to any ordinary head, where it will remain when placed in position, and which is also further adapted to conveniently connect with a telephone receiver and to perfectly transmit the sounds from one ear piece to the other, or distribute the sounds between both ear pieces so that hearing is greatly facilitated.

Reference is to be had to the accompanying drawings forming a part of this speci-

fication, in which similar reference characters indicate corresponding parts in all the views.

Figure 1 is an elevation partly in vertical section, of the apparatus showing my improvements. Fig. 2 is a broken side elevation of the device. Fig. 3 is a front elevation of the structure but in a slightly modified form, and Fig. 4 is a detail of the fork which supports the ear piece.

The structure is provided with two similar ear pieces 10 and 10^a, which are adapted to fit snugly over the ears of the operator and which, as illustrated, have outturned flanges 11 which fit snugly but comfortably against the head. The detail structure of the ear piece is, however, not important, and any approved form of ear piece with or without cushions, can be used.

As illustrated the ear piece 10 has a rear off-set 12 in which is inserted a stiff tube 13 which connects with a flexible tube 14, and this connects with a second tube 13' leading to the neck 15 of the second ear piece 10^a. Thus sounds entering the bore 16 of the ear piece 10^a are also transmitted through the tube 14 to the first ear piece. This arrangement so far described is not claimed as novel. The ear piece 10^a has a flanged plate 17 large enough to receive the end of any ordinary telephone receiver, and the center part is preferably convex as shown at 18 so that the telephone receiver when held against the plate 17 will naturally center itself and bring the bore of the receiver opposite the bore 16 of the ear piece 10^a.

The important feature of the invention lies in the spring connection between the members 10 and 10^a, which causes the ear pieces to be held snugly against the ear, but which permits them to adjust themselves to any peculiarity of the shape of the head, and this adjustment must be both vertical and horizontal. To this end each ear piece is straddled by a fork 19 preferably of spring material, and the members of the fork are journaled on pins 20 attached to plates 21 which are in turn secured to the ear pieces 10 and 10^a. The connection between the ear pieces and the spring forks 19 is well toward the inner ends of the ear pieces or ear cups, as if the connection is nearer the outer end or on the outer side of the center, the ear pieces have a tendency to wobble and fit imperfectly, but by having the connection well toward the inner end.

the ear pieces are held against wobbling and remain firmly in place. The joints, it will be noticed, connecting the ear pieces and the spring forks, permit the ear pieces to turn on horizontal axes so as to adjust themselves in any direction. The spring forks are provided with flanges 22, and there should be a plurality of these flanges on each fork so that the spring may be held rigidly in one direction, but the flanges are pivoted on the upper ends of a connecting spring 23 of a general U shape which fits over some part of the head and which is sufficiently springy to cause the ear pieces to press with sufficient force against the head of the operator to hold the ear pieces in place. It will be seen that the joint between the forks 19 and the spring 23 provides for turning the ear pieces on vertical axes, and thus they can adjust themselves either vertically or laterally, and so nicely fit the head, while at the same time the spring 23 causes them to be held in place.

Modifications of this device would naturally suggest themselves, but I do not limit myself to the form of any cup or ear pieces, or to the particular connection between the ear pieces. This may be of any sound transmitting character, so far as getting the sound waves into both ears, and as for the adjustment, it must be a springy attachment which will permit the ear pieces to adjust themselves vertically and laterally, outwardly and inwardly. The joints which I have shown connecting the spring forks 19 and the spring 23, hold the forks against doubling over inwardly or outwardly on the spring 23, but permit them to turn laterally.

In Fig. 3 I have shown a modification in which the ear pieces 10 are similar, and mounted as shown and already described, but in which the tube 14 is divided and connects with a tube 14^a through which the sound may come from any source whatever. This form of the device is applicable for use in connection with any other sound producing machines as for instance for hearing the sounds from a phonograph or other form of musical and talking machine. In fact the apparatus in any case is not strictly limited to use with a telephone, as it can be operated in connection with the conveyance of sound or with any sound producing machine or apparatus where it is desired to have the sound waves accurately and nicely transmitted to both ears and where it is desired to have at least one hand left free.

Having thus fully described my inven-

tion, I claim as new and desire to secure by Letters Patent:—

1. A telephone adjunct comprising ear pieces independent of a telephone but one of which is adapted to abut with the end of the telephone receiver, a sound transmitting connection between the two ear pieces, a tension spring adapted to clamp the ear pieces to the head, and a flexible connection between the ear pieces and the tension spring which permits the ear pieces to oscillate in two directions.

2. A telephone adjunct comprising ear pieces one of which has an exterior plate adapted to abut with but independent of the end of the telephone receiver, a sound transmitting connection between the two ear pieces, a tension spring clamping the ear pieces to the head, and a universal joint connection between the spring ends and the ear pieces.

3. An apparatus of the kind described, comprising a pair of ear pieces having a sound transmitting connection between them, one of the ear pieces being provided with a plate to fit against a telephone receiver, and a sound transmitting connection through the plate to the ear piece, in combination with a curved spring arranged between the ear pieces, and spring forks pivoted on the spring and pivoted also to the ear pieces, whereby the latter can oscillate in two directions.

4. An apparatus of the kind described, comprising a pair of ear pieces having a sound transmitting connection between them, one of the ear pieces being provided with a plate to fit against a telephone receiver, and a sound transmitting connection through the plate to the ear piece, in combination with a spring connection between the ear pieces which permits the latter to tip vertically and laterally.

5. A telephone adjunct comprising hollow ear pieces having a sound transmitting connection between them, a single curved tension spring arranged adjacent to the ear pieces, and spring forks straddling the ear pieces, the said forks being pivoted to the ear pieces at their ends and having their middle portions journaled to the ends of the tension spring.

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Witnesses:

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