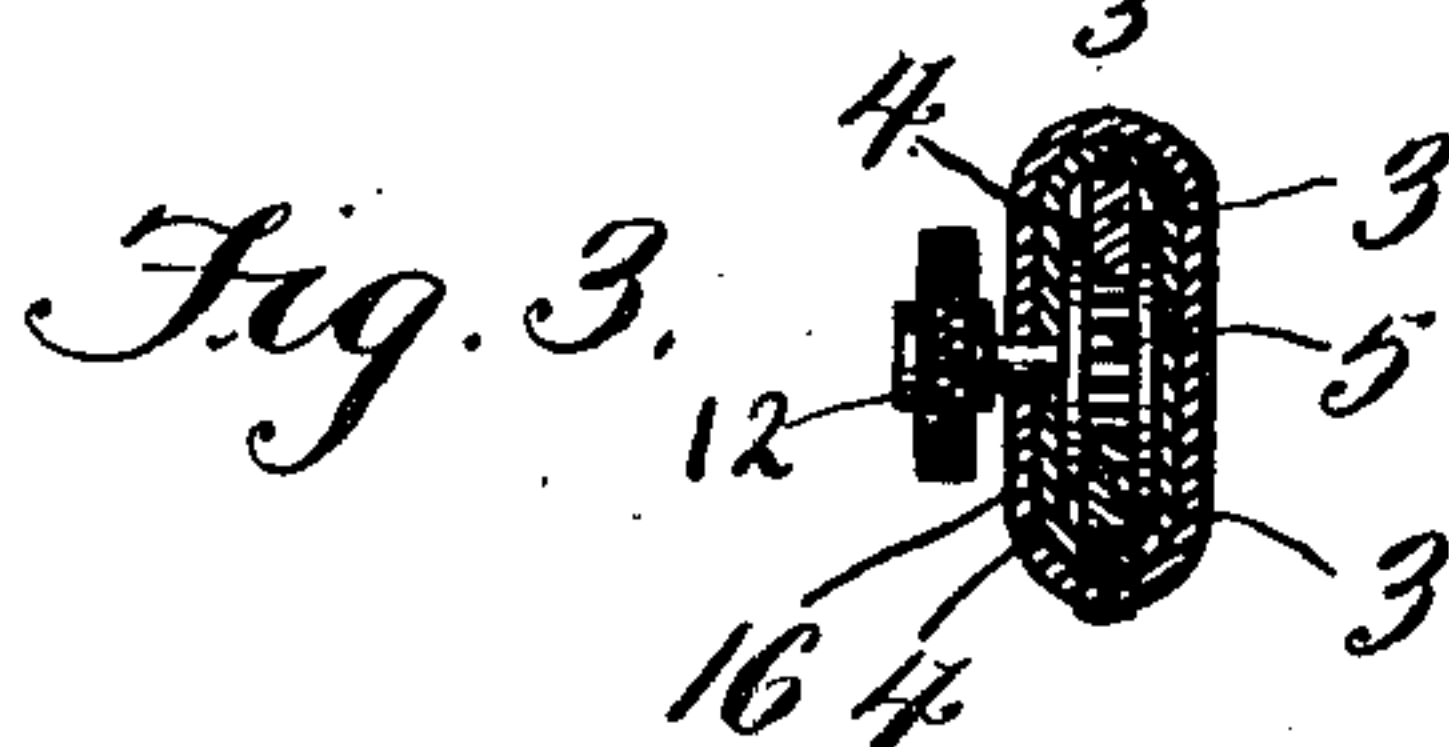
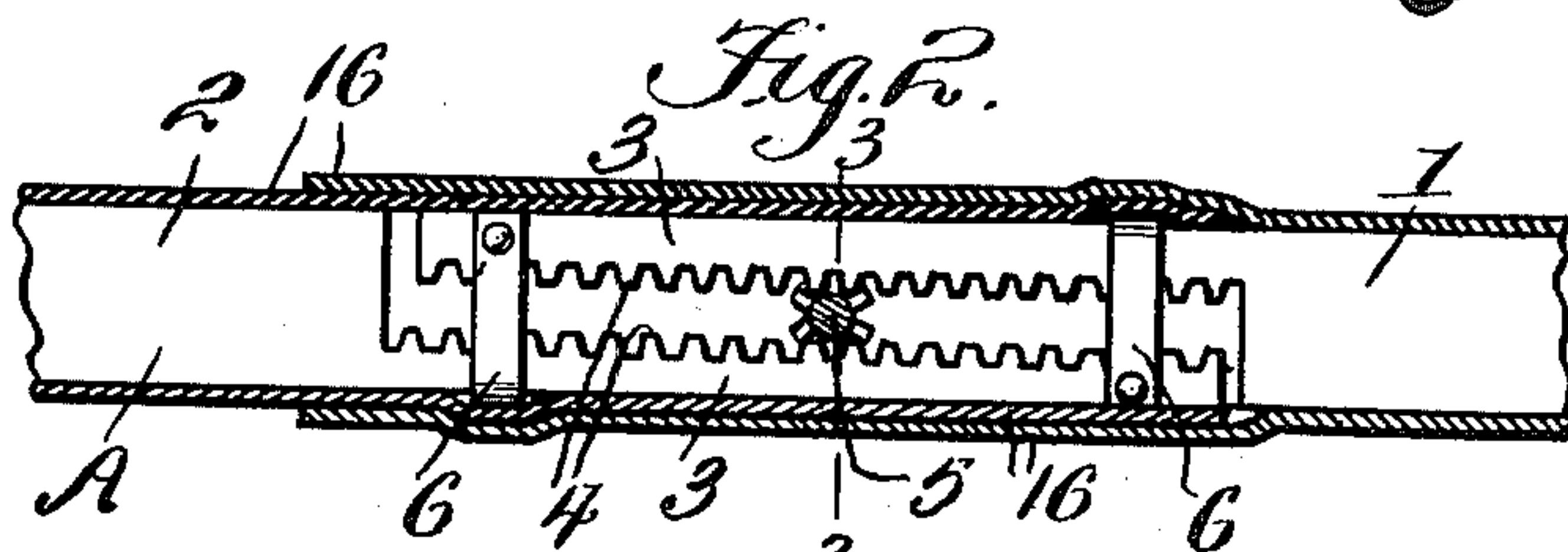
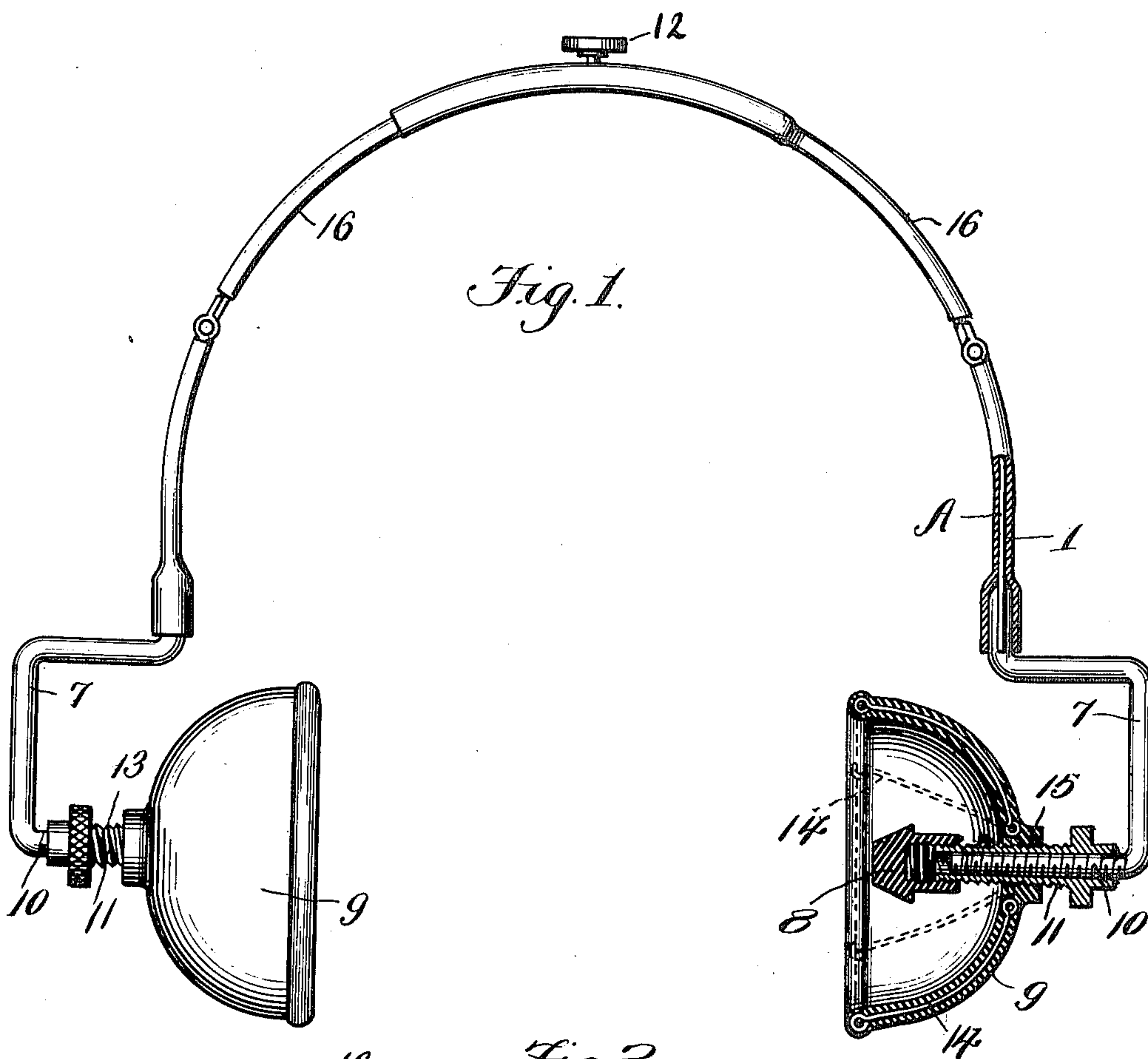


M. E. HEGGE.
 EAR CLOSING DEVICE.
 APPLICATION FILED AUG. 4, 1910.

997,673.

Patented July 11, 1911.



Witnesses

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UNITED STATES PATENT OFFICE.

MARTIN E. HEGGE, OF SISSETON, SOUTH DAKOTA.

EAR-CLOSING DEVICE.

997,673.

Specification of Letters Patent.

Patented July 11, 1911.

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To all whom it may concern:

Be it known that I, MARTIN E. HEGGE, a citizen of the United States, residing at Sisseton, in the county of Roberts and State of South Dakota, have invented new and useful Improvements in Ear-Closing Devices, of which the following is a specification.

This invention relates to a device adapted to be applied to the ears of those persons such as students for instance, who are distracted by conversation or other sounds and noises, and the invention relates more particularly to device of that type having means for closing the auditory passages of the ears.

The invention has for one of its objects to improve and simplify the construction of devices of this character so as to be comparatively simple and inexpensive to manufacture, reliable and efficient in use, and readily adjusted for use by different persons so that it will set comfortably on the head.

Another object of the invention is the provision of a head band composed of adjustable parts so that the band can be enlarged or contracted according to the size of the user's head, the ends of the band having adjustable ear plugs and ear covers or cups so that they can be set to fit the ears of the user.

With these objects in view and others, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawing, which illustrates one embodiment of the invention, Figure 1 is a front view of the device with portions in section. Fig. 2 is a sectional view of the central portion of the head band. Fig. 3 is a transverse section on line 3—3, Fig. 2.

Similar reference characters are employed to designate corresponding parts throughout the views.

Referring to the drawing, A designates the head band, which is approximately semi-circular, to fit over the top of the head in approximately a vertical plane. This band is made of flat aluminum or steel strip metal and is composed of two sections 1 and 2, which are adjustably connected at the middle of the band. The inner ends of the sec-

tions are cut away longitudinally so as to leave members 3 disposed in overlapping relation to each other, and these members have rack teeth 4 with which meshes a pinion 5 so arranged that by turning the pinion, the sections of the band can be moved inwardly or outwardly to thereby change the dimension of the band to suit heads of different sizes. The members 3 have guide loops or eyes 6 so that the members can slide back and forth in parallel relation. The outer extremities of the bands are provided with L-shaped members 7 that carry the plugs 8 for the auditory passages and the cups or covers 9 for the ears. These members 7 may be made of aluminum or other wire and connected with the ends of the band in any suitable manner. On the horizontal portions 10 of the members 7 are threaded tubular pieces 11 which can be adjusted longitudinally by turning them, each piece having a milled flange or wheel 12 for facilitating the turning thereof by the fingers. On the extremity of each tubular piece 11, the soft rubber plug 8 is fastened, the plug being held on by the external threads 13 of the tubular piece. The cup 9 that incloses the plug 8 may be made of a rubber body reinforced by a wire or other skeleton frame 14, and the center of this cup or ear cover is provided with an opening 15 that is internally threaded to engage the screw threads 13 of the tubular piece. By turning the tubular piece 11, the plug 8 and cup 9 can be moved inwardly or outwardly so as to snugly fit the ear of the user, and the cup can be independently adjusted by turning it around on the tubular piece 11 while the latter is held stationary, and in this way the cup can be properly positioned independently of the plug 8. The band A is provided with a leather or brown canvas covering 16. The covering is in the form of a flat tube to conform to the shape of the band and the covering may be made in two parts to correspond with the sections 1 and 2 of the band and thus allow for the adjustment of the latter.

From the foregoing description, taken in connection with the accompanying drawing, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the device which I

now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claims appended hereto.

Having thus described the invention, what I claim as new, is:—

1. A device of the class described comprising a head band composed of sections overlapping each other at an intermediate portion of the band and having their outer ends extending toward each other in alinement and threaded, rack teeth on the overlapping portions of said sections, a pinion meshing with the teeth for adjusting the sections, ear cups screwed on the threaded extremities of the sections and adjustable thereon, and ear plugs screwed on the threaded extremities and arranged within the cups, said plug and adjacent inclosing cup being separately or simultaneously adjustable on a common axis.

2. A device of the class described comprising a head band having its extremities disposed in alinement and threaded, a sleeve

threaded on each extremity of the band, an ear cup carried by and threaded on and adjustable longitudinally of each sleeve, and an ear plug threaded on the extremity of each sleeve and disposed within the cup on the latter, each cup and inclosed plug being adjustable together on the head band by the turning of the sleeve or independently of each other on the same axis to vary the position of the plug inwardly or outwardly in the surrounding cup.

3. A device of the class described comprising a head band composed of arcuate sections having overlapping ends, oppositely-disposed rack teeth on the overlapping ends, a pinion meshing with the rack teeth, means for turning the pinion, and sound-excluding devices on the extremities of the band adapted to be applied to the ears of the user.

In testimony whereof I affix my signature in presence of two witnesses.

MARTIN E. HEGGE.

Witnesses:

JOHN C. PERKINS,
J. M. MORRILL.