Oct. 12, 1926. 1,602,517

F. A. BOSH

HEAD RECEIVER SET

Filed May 22, 1922

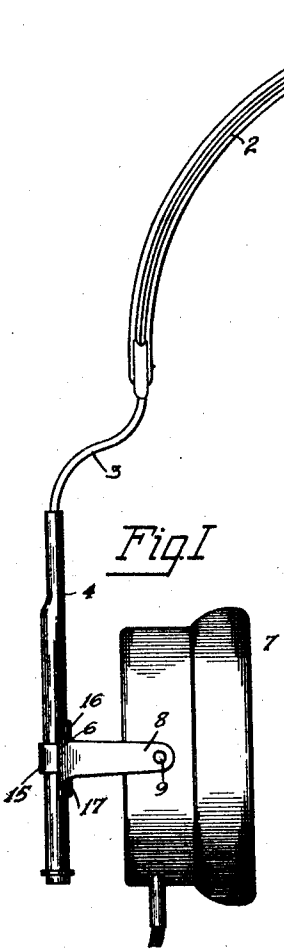

Fig. 1

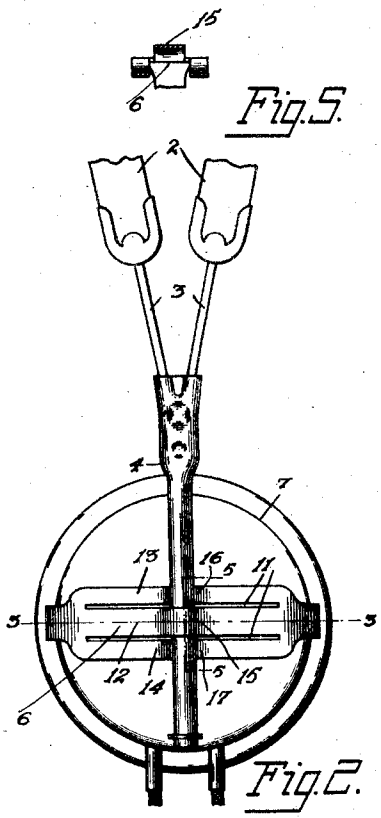

Fig. 2

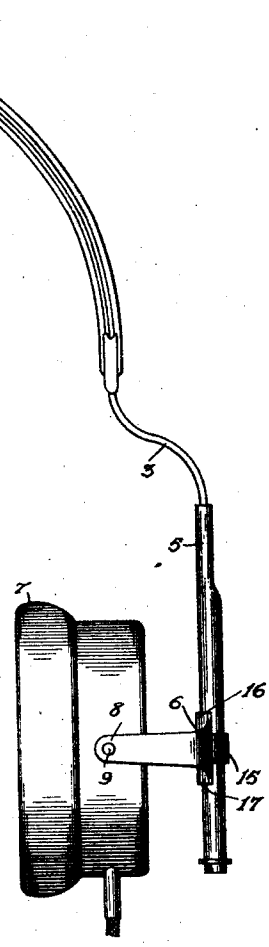

Fig. 5

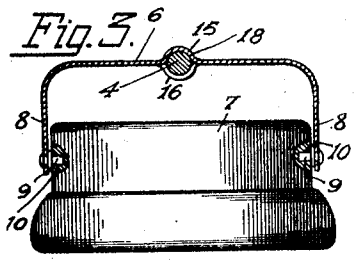

Fig. 3

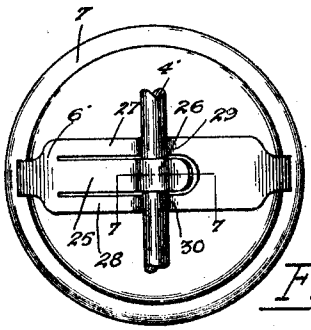

Fig. 6

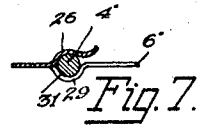

Fig. 7

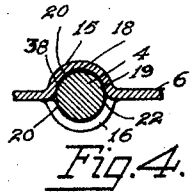

Fig. 4

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UNITED STATES PATENT OFFICE.

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HEAD RECEIVER SET.

Application filed May 22, 1922. Serial No. 562,580.

My invention relates to head receiver sets in general, and has to do more particularly with an improved receiver head set for use in telephone or radiophone receiving, where it is desired to have two ear pieces properly fitted and held against the ears.

Various means have been devised for adjustment of the receivers in such sets so that they may be readily shifted in position on the head band to accommodate heads of various sizes and shapes. Set screws and other devices have been used, and usually the set must be removed from the wearer's head to permit this adjustment. To overcome these objectionable features, I have provided an improved spring clamping member which, by means of frictional resistances holds the receiver of the set in any position and enables adjustments to be made without removing the receiver set from the head of the wearer.

For a more complete understanding of my invention, reference may be had to the accompanying drawing, in which like reference characters in the several views denote like parts, and in which

Fig. 1 is an elevation of a complete head set embodying my invention;

Fig. 2 shows a receiver and clamping device in plan view;

Fig. 3 is a sectional view along the line 3—3 of Fig. 2;

Fig. 4 is a partial enlarged sectional view to clearly illustrate the clamping device;

Fig. 5 is a fragmentary sectional view along the line 5—5 of Fig. 2;

Fig. 6 shows a receiver and a modified form of clamping device in plan view; and

Fig. 7 is a sectional view along the line 7—7 of Fig. 6.

Referring now more in detail to my invention as illustrated, I show a head band 2 of suitable material and formed so as to fit snugly over the top of the head of the operator or user. To each pair of ends 3 of the head band 2 I secure rods 4 and 5, and for a more complete understanding of the method of securing the rods 4 and 5 to the ends 3 of the head band 2, reference may be had to a copending application filed by Ernest A. Bohlman, March 9, 1922, and bearing Serial No. 542,220.

Referring now more particularly to the supporting members 6 which pivotally support the receivers 7 and at the same time adjustably hold the receivers 7 on the rods 4 and 5, I will describe the construction and use of one of them only, as both of the supporting members 6 are alike, and, therefore, a description of one will suffice.

The supporting member 6 has its ends 8 turned over parallel to each other, and each end 8 has riveted thereto a pin 9 which is of a size to fit in suitable orifices 10 diametrically opposite each other in the shell of the receiver 7 to pivotally support the same so as to permit it to be comfortably adjusted to the ear of the operator.

The supporting member 6 is provided with a pair of parallel slots 11, which slots 11 form a central rib 12 and a pair of outer ribs 13 and 14. The central portion of the rib 12 is shaped by means of a suitable forming operation to form a convex semi-circular portion 15, and the ribs 13 and 14 are also formed by means of a suitable forming operation to form concave semi-circular portions 16 and 17. The semi-circular portion 15 of the central rib 12 and semi-circular portions 16 and 17 of the outer ribs 13 and 14 form a circular orifice 18 slightly smaller than the diameter of the rod 4, for purposes as will now be described.

To insert the rod 4 into the orifice 18, the free end of the rod 4 is inserted therein angularly in relation to the plane of the member 6 until the end of the rod 4 passes below the edge of the semi-circular portion 15 of the center rib 12. Now, when the rod 4 is in this position, it is pressed down, slightly creating a lever action, causing the center rib 12 to be raised slightly against its normal tension and the rod 4 may now be readily slipped into the formed orifice 18. Due to the fact that the orifice 18 is slightly smaller than the diameter of the rod 4, the ribs 11, 12 and 13 are spread slightly, thus placing them under a slight tension, and this permits only a fractional portion of the inner circumferential surface of the semi-circular portion 15 of the rib 12 at points 38 and 19 to engage the circumferential surface 20 of the rod 4, and due to the slight spreading of the ribs 13 and 14 only a fractional portion of the inner circumferential surface of the semi-circular portions 16 and 17 at points 21 and 22, will engage the surface of the rod 4. The engagement of the rod 4 by the fractional surface points 38, 19, 21 and 22 of the portions 15, 16 and 17 of the ribs 12, 13 and 14,

respectively, produces sufficient frictional resistance to the free sliding of the rod 4 in the orifice 18 to hold the rod 4 firmly wherever it may be.

From the above description, it may readily be seen that in order to adjust the member 6 and receiver 7 as a whole up or down, as the case may be, to properly fit them to the ears of the wearer, all that is necessary is to grasp the free end of the rod 4 and tilt it slightly, flexing the ribs 12, 13 and 14 slightly apart against their normal tension; thus the member 6 and its supported receiver 7 may be moved up or down on the rod 4 until the receiver 7 is properly fitted against the ear of the wearer. When this adjustment is obtained, the free end of the rod 4 is released, thus permitting the ribs 12, 13 and 14 to return to their normal tension, causing the points 38, 19, etc., to again engage the surface of the rod 4 to hold it in its adjusted position by means of frictional resistance as already pointed out. This method of construction prevents lateral movement of the rod 4, but permits it to be rotated in the opening 18 to permit the receiver 7 to fit snugly against the ears of the wearer.

Referring now particularly to Figs. 6 and 7, I illustrate a modified form of supporting member 6′ which pivotally supports the receiver 7 in a manner similar to that described in connection with Figs. 1 to 4. The member 6′ is provided with a central tongue portion 25 whose free end is shaped by means of a suitable forming operation to form a suitable semi-circular portion 26. The outer ribs 27 and 28 have their central portions shaped to form semi-circular portions 29 and 30, and these two portions 29 and 30 in association with the formed portion 26 of the tongue 25 form a central orifice 31. The tongue 25 is under a normal tension, and as the orifice 31 is slightly smaller than the diameter of the rod 4′, the said rod when inserted is held angularly in relation to the plane of the member 6′ so as to permit the tongue 25 to be raised up against its normal tension, which permits the rod 4′ to be inserted into the orifice, and as the tongue 25 is now under tension sufficient frictional resistance is produced to prevent the free sliding of the rod 4′ in the orifice 31 of the member 6′ to hold the rod 4′ firmly wherever it may be.

While I have illustrated and described several forms of my invention, it is to be understood that changes and modifications will readily suggest themselves, and I, therefore, aim to cover all such changes and modifications as come within the spirit and scope of the appended claims.

What I claim as new and desire to secure by United States Letters Patent, is:

1. A device of the character described comprising a head band, a rod secured to said head band, a supporting member, a receiver pivotally supported by said supporting member, slots cut in said supporting member to form a plurality of ribs, and formed portions on said ribs to form an orifice through which said rod extends to suspend said supporting member and its pivoted receiver and maintain said supporting member in its suspended position.

2. A device of the character described comprising a head band, a rod secured to said head band, a supporting member and a receiver pivotally supported by said supporting member, said supporting member having a plurality of ribs, the central portions of said ribs shaped to form an orifice through which said rod extends, said orifice engaging said rod to offer frictional resistance to the free sliding of said rod in said orifice.

3. A device of the character described comprising a head band, a cylindrical rod secured to said head band, a supporting member and a receiver pivotally supported by said supporting member, ribs cut in said supporting member, central portions of certain of said ribs being concavely formed and the central portion of said other rib being concavely formed to form an orifice adapted to receive said rod and engage the same to offer frictional resistance to the free sliding of said rod in said orifice.

4. A device of the character described comprising a head band, a cylindrical rod secured to said head band, a supporting member and a receiver pivotally supported by said supporting member, a pair of outer ribs and a central rib for said supporting member, central portions of said outer ribs and the central portion of said center rib being shaped to form an orifice adapted to receive said rod, said orifice engaging said rod to offer frictional resistance to the free sliding of said rod in said formed orifice.

5. A device of the character described comprising a head band, a cylindrical rod secured to said head band, a supporting member having a plurality of ribs, a receiver pivotally supported by said supporting member, central portions of certain of said ribs being concavely formed and the central portion of said other rib being convexly formed, an orifice formed by said concavely and convexly formed portions of said ribs adapted to receive said rod, said orifice engaging said rod to offer frictional resistance to the free sliding of said rod in said orifice but to permit the free rotation of said rod in the said orifice.

6. A device of the character described comprising a head band, a rod secured to said head band, a supporting member and a receiver pivotally supported by said supporting member, a tongue integrally formed

with said member having its free end convexly formed, the central outer portions of said member being concavely formed, an orifice formed by said convexly formed free end of said tongue and concavely formed portions of said member and adapted to receive said rod, said inner circumferential surfaces of said formed portions of said tongue and support engaging said rod and offering frictional resistance to the free sliding of said rod in said orifice.

7. A device of the character described including a head band having a dependent member in the form of a rod, a receiver supporting member for cooperation with said dependent member, said supporting member having two members formed integrally therewith in the form of ribs, the central portions of said ribs adapted to form an orifice shaped to receive said dependent member to yieldingly hold the receiver supporting member in position relative to said dependent member but to permit free rotation of said receiver supporting member on said dependent member.

Signed by me at Chicago, in the county of Cook and State of Illinois, this 19th day of May, 1922.

FRANK A. BOSH.