

Feb. 5, 1946.

W. E. GILMAN
COMMUNICATIONS EQUIPMENT

2,394,374

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FIG. 1.

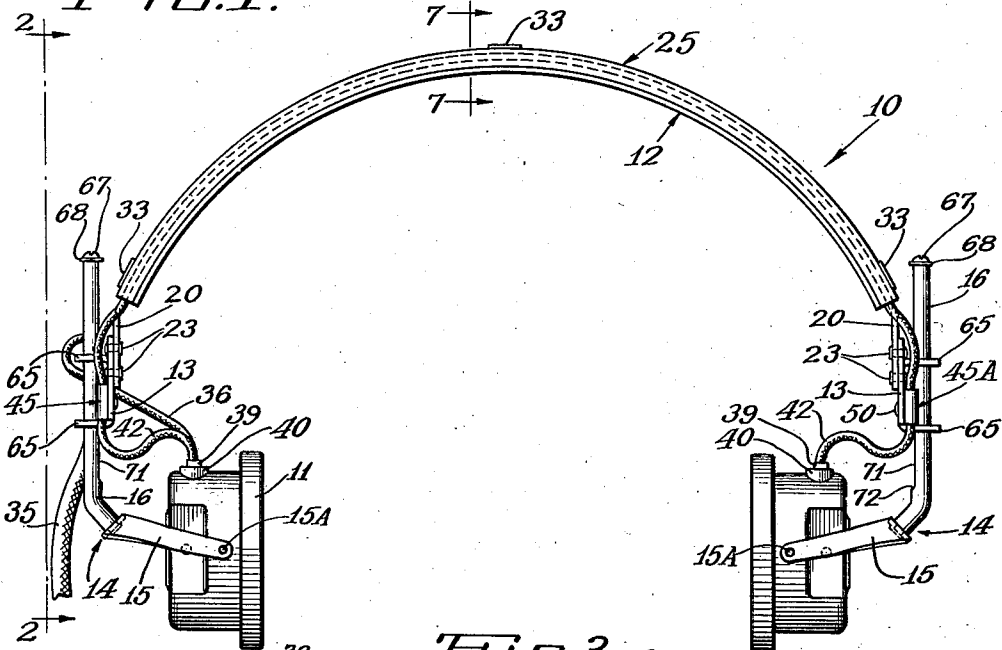


FIG. 2.

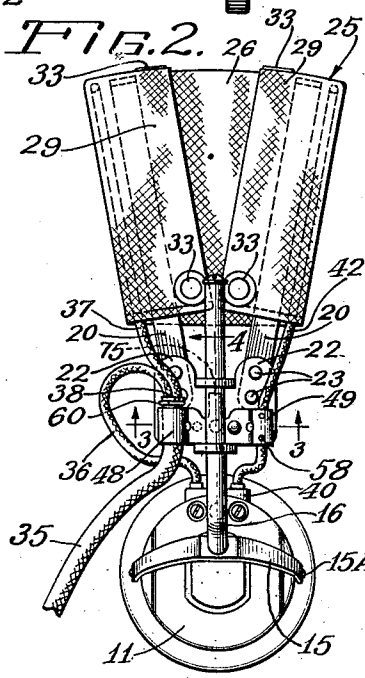


FIG. 3.

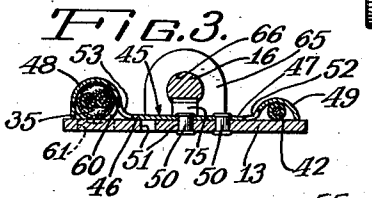


FIG. 4.

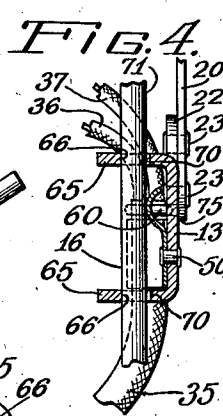


FIG. 5.

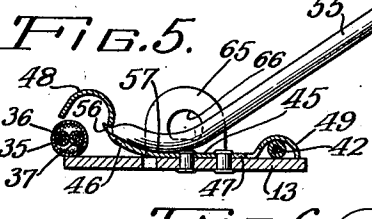


FIG. 6.

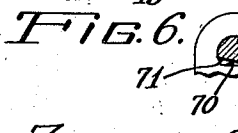


FIG. 7.

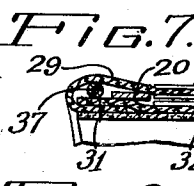
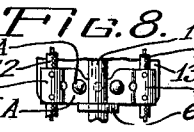


FIG. 8.



Inventor:
Webster E. Gilman
By Wallace and Cannon,
Attorneys

UNITED STATES PATENT OFFICE

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COMMUNICATIONS EQUIPMENT

Webster E. Gilman, River Forest, Ill., assignor
to Permoflux Corporation, Chicago, Ill., a cor-
poration of Illinois

Application November 13, 1943, Serial No. 510,113

19 Claims. (Cl. 179—156)

This invention relates to communications equipment and more particularly to headbands of the character which are used to support ear-
phones or the like sound reproducing means in the desired sound transmitting relationship to the ears of the user.

Such headbands conventionally include a clamping portion made from one or more spring steel bands which may engage or extend across the top of the user's head and extend downwardly along and in spaced and clamping relation to the sides of the head, and at the opposite or lower ends of the clamping portion, a pair of mounting clips are adjustably supported so that earphones carried by such mounting clips may be properly positioned and pressed into the desired sound transmitting relationship to the ears of the user. In many instances, a resilient sealing means may be carried on the earphones so as to engage the side surfaces of the head about the ears, thereby to cushion the pressure applied by the headbands and, at the same time, seal out extraneous noises. Such conventional headbands also have included a protecting sheath of resilient padding material such as canvas, leather, or a combination thereof, which surrounds the principal portions of the steel spring members, and such a protecting sheath is often utilized to protect and position the wires which extend along the spring members for connection with the earphones carried by the clips at the opposite ends of the headband. In accomplishing such positioning and mounting of the wires or connecting leads, such leads are usually disposed inside of the protective sheath before the sheath is sewn in position about the springs, and at the ends of the sheath, such leads are secured to mounting brackets which form part of the connection between the spring steel members and the mounting clips.

Headbands of the aforesaid character are subjected to extremely hard wear, and to widely varying conditions of use, so that in practice, it has been found that the fabric or leather sheath, and the connecting leads, deteriorate because of wear, rotting, or the action of mildew or the like, or become unuseable for other reasons such as the presence of excessive grease or dirt thereon. When this condition occurs in headbands of the construction heretofore employed, it is necessary to return such headbands to a repair shop so that they may be rebuilt or cleaned, and under many circumstances it has been found that such headbands are often discarded because of the difficulty of such cleaning or repair. In view of

the foregoing, it is an important object of this invention to enable headbands to be readily reconditioned and repaired, and an object related to the foregoing is to so relate the protective sheath and the wires or leads to the other elements of such a headband that these elements may be readily removed and replaced when cleaning or repair is required.

In prior headbands of the aforesaid character, it has been customary to provide for limited adjusting movement of the mounting clips with relation to other parts of the headband, thereby to enable the earphones carried in such mounting clips to be properly adjusted to the particular configuration of the user's head. In attaining such relative adjusting movement of the mounting clips in prior headbands it has been customary to utilize a relatively complicated form and relationship of parts, and it is, therefore, a further object of the present invention to simplify the construction of such headbands and to enable such relative adjusting movement of the mounting clips to be attained through use of relatively simple and inexpensive structure. An object relating to the foregoing is to so associate the mounting clips with the end brackets of a headband that such clips may move through the desired adjusting movements and may also be readily removed and replaced.

Other and further objects of the present invention will be apparent from the following description and claims and are illustrated in the accompanying drawing which, by way of illustration, shows a preferred embodiment and the principle thereof and what I now consider to be the best mode in which I have contemplated applying that principle. Other embodiments of the invention embodying the same or equivalent principle may be used and structural changes may be made as desired by those skilled in the art without departing from the present invention and the purview of the appended claims.

In the drawing:

Fig. 1 is a front elevational view of a headband embodying the features of the invention and having a pair of earphones mounted thereon;

Fig. 2 is a side elevational view of the headband, the view being taken from the line 2—2 in Fig. 1;

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

Fig. 4 is a fragmentary vertical sectional view taken substantially along the line 4—4 of Fig. 2;

Fig. 5 is a view similar to Fig. 3 and illustrating the manner in which the wire-retaining clips

are released for mounting or removal of the connecting leads;

Fig. 6 is a view generally similar to Fig. 5 and showing the manner in which rocking movement of the clips is limited;

Fig. 7 is a cross sectional view taken along the line 7-7 of Fig. 1 and illustrating the manner in which the protective sheath is removably associated with the spring members and the connecting leads of the headset; and

Fig. 8 is a fragmentary view taken from the line 8-8 of Fig. 1 and illustrating the form of the retaining spring used on that side of the headband.

For purposes of disclosure, the present invention is illustrated as embodied in a headband 10 adapted for supporting earphones 11 of a particular size and construction, but it will be recognized that the headband of the present invention may be utilized for supporting many different sizes and types of earphones. The headband 10 includes a clamping portion 12 and at the opposite ends of the clamping portion 12 similar mounting brackets 13 are secured. The mounting brackets 13 serve to support the mounting clips 14 each which includes a yoke 15 for engagement with an earphone 11 of the kind which is to be supported at each end of the headband. Each yoke 15 has aligned pivot pins 15A at their lower ends for engagement with appropriate sockets in the sides of the earphones 11, and the yokes 15 are mounted at the lower ends of adjusting or mounting stems 16 which are mounted on the respective brackets 13 for limited longitudinal adjustment and for limited rotational adjustment.

In the form herein shown the clamping portion 12 of the headband 10 is afforded by a pair of relatively thin and narrow members 20 formed from spring steel in such a manner as to tend to move the ends thereof toward each other with a clamping action, these spring members 20 being connected at their opposite ends to the mounting brackets 13. In the present instance this connection between the spring members 20 and the mounting brackets 13 is of a permanent character. Thus, as shown in Figs. 2 and 4 of the drawing, the two mounting brackets 13 are similarly formed from sheet metal to afford a flat body portion having connecting ears 22 extended upwardly from the upper edge thereof and in spaced relation, and one of the spring members 20 is connected to each of these ears 22. In the present instance, such a connection for each of the spring members 20 includes a pair of spaced rivets 23 extended through the spring member 20 and the mounting ear 22 with which this particular spring member is to be associated. The connections between the spring members 20 and each mounting bracket 13 is such that the two spring members 20 extend at an angle to each other as best shown in Fig. 2 of the drawing, this relationship being desirable in order that the relatively broad segmental contact area may be afforded near the upper or midpoint of the clamping portion 12. In view of the fact that the midportions of the band or clamping portion 12 are normally in contact with the top of the head of the user, means are provided which act as a protecting cover for such portions of the bands or spring members 20, and in accordance with the present invention, such protecting means are afforded by a sheath 25 which completely encloses the intermediate portions of the spring members 20 and affords a

relatively wide surface area for contact with the top of the head of the user.

In accordance with this invention, the sheath 25 is so constructed and related to the spring members 20 that the sheath may be readily placed in or removed from its position about the spring members 20, and hence this sheath may be cleaned from time to time, or in the event of wear or deterioration from any other cause, the sheath 25 may be readily replaced without the use of tools or sewing equipment. In the attainment of this result, the sheath 25, as herein shown, is formed of several pieces of material which are secured together in such a relationship that they may readily be placed in position about the intermediate portions of the two spring members 20. Thus, with specific reference to Fig. 7 of the drawing, the sheath 25 has an inner member 26 of such a segmental shape as to conform generally with the area defined between the outer or remote edges of the two spring members 20, and this member 26 may be made of any desired material such as fabric or leather, and in the present case, the member 26 is indicated as being made of leather. A similar member 27 is formed of fabric and is located on the upper surface of the member 26, these two members 26 and 27 being sewed together as at 28 along the medial line thereof. The width of the members 26 and 27 is preferably such that these two members extend for a short distance beyond the outer edges of the spring members 20, and means are provided in association with the edges of the members 26 and 27 for covering the outer surface of the spring members 20, thereby to enclose the major portions of these spring members. Thus, as shown in Fig. 7 of the drawing, an edge flap 29 is provided for each edge of the members 26 and 27. In the present case, one edge 30 of each edge flap 29 is inserted between the border portions of the two members 26 and 27 and is sewed in position by a line of stitching 31 which extends through the members 26, 30, and 27. Thus, the edge flap 29 may be folded into position over the adjacent one of the spring members 20 and may be secured to the central portions of the member 27 so as to be held in place on and about the spring member 20. In the present instance, the flaps 29 are secured in place by releasable means such as snap fasteners, the button members 32 of which are secured to the member 27 and the ring or snap elements 33 of which are secured on the related edge flaps 29. It will be observed that the button members 32 of the snap fasteners are secured only to the fabric 27 so that the inner or lower member 26 of the sheath 25 presents a smooth lower surface for contact with the head of the user.

In headbands of the character to which this invention relates, it is necessary to provide electrical connections from the receiving apparatus to the earphones 11, and although such electrical connections may take different forms, such as series connections or parallel connections, the headband as herein shown is provided with means affording series connections for the electrical elements of the two earphones 11. In accomplishing such connection, a connector cord 35 is provided, and this cord has two insulated wires or connecting leads 36 and 37 which are covered by the usual sheath to a point indicated at 38 in Fig. 2 of the drawing. Beyond the point 38, the two wires 36 and 37 are capable of separation, and the wire 36 is extended so as to have its connector tip 39 secured in the terminal block

40 of the earphone 11 mounted in the adjacent one of the yokes 15. The other wire 37 is of a greater length than the wire 36 and is arranged for connection with one terminal of the connector block 40A of the other earphone 11. Thus, a part of the series connection between the two ear-
 5 phones 11 is provided, and to complete such series circuit, an individual connecting lead 42 is extended between the other two terminals of the two terminal blocks 40 and 40A, all of the wires
 10 36, 37, and 42 being provided with connector tips, such as the tip 39, in the conventional manner.

In accordance with the present invention, the several connecting leads are removably associated with the other parts of the headband, these leads
 15 being detachably associated with the mounting brackets 13 and with the clamping portion 12 of the headband. In attaining this result, the intermediate portions of the two leads 37 and 42 are disposed adjacent to the respective outer edges of
 20 the two spring steel bands 20 and are enclosed within and held removably in place by the sheath 25 as shown in Figs. 1, 2, and 7. Thus, these intermediate portions of the leads 37 and 42 may be readily put in place within the sheath 25 or
 25 may be readily removed therefrom for repair or replacement.

In accordance with the present invention, the association of the various lead wires with the mounting brackets 13 is also of a detachable or
 30 releasable nature, and in the present instance, such releasable connection is afforded by spring means. Thus, a pair of spring clips 45 and 45A are provided for the respective mounting brackets
 35 13 on opposite sides of the headband, such spring clips being generally similar in character, but being slightly different in form and mounting in order that the relatively large connector lead
 40 35 may be clamped by one of such clips. Thus, as shown in Figs. 2, 3, 4, and 5, the spring clip 45 is formed from spring steel to define oppositely extending spring arms 46 and 47, and the arm
 45 47 has a relatively large and generally arcuate clamping head 48 formed thereon and of such a size that it is adapted to embrace the relatively large connector lead or cord 35. The arm 47 has
 50 a somewhat smaller arcuate clamping head 49 formed thereon of such a size as to be adapted to engage a relatively small lead such as the lead 42. Such an engagement of the clamping heads
 48 and 49 with the leads 35 and 42 is effected in the manner which is best illustrated in Fig. 3 of the drawing, the arrangement being such that
 55 the lead 35 is embraced by the clamping head 48 so as to be held against the outer face of the left-hand one of the mounting brackets 13, as shown in Fig. 1, while the lead 42 is held between the clamping head 49 and the same face of the
 60 bracket 13. Such embracing relationship is attained through securing central portions of the spring clip 45 permanently on the mounting bracket 13 by means such as rivets 50. In Fig. 3
 65 of the drawing, it will be observed that the mounting bracket 13 has three holes 51 formed therein for the reception of such rivets, one of these holes 51 being disposed on the vertical central line of the mounting bracket 13, while the other two holes are disposed in spaced relation upon opposite sides of the central hole 51.

In the mounting of the bracket 45, a rivet 50
 70 is passed through the central hole 51 of the bracket 13 and a second rivet 50 is passed through the other hole 51 which is disposed between the central hole and the clamping head 49, this arrangement being adopted in order to facilitate
 75

upward or outward bending of the spring arms and unclamping of the clamping heads 48 and 49 when the leads are to be placed in or removed from the clamped relationship with respect to
 5 such clamping heads. When the clamping heads 48 or 49 are to be moved to an unclamping or releasing position, this is accomplished by bending the arm of the spring clip upon which a particular clamping head is formed. To enable this
 10 to be readily accomplished, the arm 47 has an opening 52 formed therein so as to extend through the arm at the juncture of the flat portion of the arm with the rounded portion of the clamping head 49, and a similarly located opening
 15 53 is formed in the arm 45 at the juncture of this arm with the upwardly extended portion of the clamping head 48. The openings 52 and 53 provide for convenient engagement of the arms of the clamping device by a suitable unclamping
 20 means such as an unclamping tool 55 shown in Fig. 5 of the drawing. When the tool 55 is to be used, the stem 16 is removed from its position on the bracket 13, and a relatively sharp hook-like
 25 nose 56 on one end of the tool 55 is inserted in the proper one of the openings, such as the opening 53. The unclamping tool 55 is shown in such a relationship in Fig. 5 of the drawing, and it will be observed that the tool 55 has a rounded
 30 lower surface 57 formed thereon adjacent to the hook-like end 56 so that this rounded surface 57 rests against the upper or exposed surface of the adjacent arm 46 of the spring clamp. With
 35 the tool 55 in this position, a rocking movement in a clockwise direction as viewed in Fig. 5 may be imparted to the tool, and this causes the arm
 40 46 to be bent upwardly so that the clamping head 48 is withdrawn in an upward direction to substantially the position shown in Fig. 5. When the clamping head is in such a withdrawn or un-
 45 clamped position, a lead wire or cord 35 may be inserted into or removed from a position beneath the clamping head 48. Because of the location of the rivets 50, as hereinabove described, the arm 45 has a greater effective length than the
 50 arm 47, and this enables the required degree of withdrawing movement of the clamping head 48 to be easily attained. Similar unclamping movement may be imparted to the clamping head 49
 55 so that a wire 42 may be placed in or removed from a position beneath the clamping head 49. It will be noted in Fig. 2 of the drawing that the clamping head 49 has a pair of indentations 58
 60 formed therein, and while such indentations are not now considered to be essential, they may be used in order to provide for efficient clamping or gripping of the wire 42 so as to prevent endwise
 65 movement thereof as well as transverse movement with respect to the mounting bracket 13.

With reference to the clamping head 48, the desired longitudinal position of the lead wire 35 is, in the present instance, attained and maintained by cooperation of means carried on the
 70 lead wire and held in an interlocked relationship with the mounting bracket 13 through the action of the clamping head 48. To this end, the lead wire 35 has a clamping ring 60 secured about its insulating covering at the end 38 thereof, and the mounting bracket 13 has a slot 61 formed
 75 therein adjacent to the upper edge of the clamping head 45 so that one side of the ring 60 may be extended into the slot 61 as the lead 35 is put in position beneath the clamping head 48. Thus, when the clamping head 48 is returned to its clamping position of Fig. 3, the locating ring 60 is held in position with one of its edges

interlocked with the slot 61 and this effectually restrains the lead 35 against undesired longitudinal displacement.

The spring clip 45A, which is used on the left-hand side of the headband as viewed in Fig. 1, is best shown in Fig. 8 of the drawing, and this spring clip is generally similar to the spring clip 45. The spring clip 45A, however, is utilized to clamp the wires 37 and 42 which are of the same relatively small size and, hence, the spring clip 45A has two clamping heads of the same size and form, such clamping heads being similar to the clamping head 49 of the spring clip 45 and being identified as clamping heads 49A and 49B. These clamping heads 49A and 49B may be operated in the same manner as the clamping head 49 of the spring clip 45 and in order that the clamping action of the two heads 49A and 49B may be uniform, the spring clip 45A is secured in place by rivets 50A which are extended through the two outer holes 51 of the mounting bracket, as shown in Fig. 8.

As hereinbefore pointed out, the mounting stems 16 are mounted upon the respective mounting brackets 13 for limited longitudinal and rotative adjusting movement, and such mounting is attained under the present invention in such a manner that the apparatus may be economically constructed and maintained in repair. Thus, as will be evident in Fig. 4 of the drawing, each mounting bracket has a pair of mounting ears 65 formed thereon at the upper and lower edges respectively of the mounting plate, such ears 65 being disposed midway between the front and rear edges of the mounting plate, as will be evident in Fig. 2 of the drawing. Such mounting ears 65 have aligned bearing openings 66 formed therein, as shown in Figs. 5 and 6 of the drawing, and the stem 16 which is to be mounted on a particular bracket 13 is inserted in an upward endwise direction through the aligned openings 66. After a stem 16 has been thus inserted through the bearing openings 66 of a bracket 13, a retaining screw 67 is extended through a washer 68 and is threaded axially into the upper end of the stem so as to prevent downward withdrawing movement of the stem with respect to the ears 65. In headbands of the character to which this invention relates, it is desirable that the mounting clips or structures 14, of which the stems 16 form a part, be capable of limited longitudinal and rotative adjustment so as to enable the earphones 11 carried by such mounting clips to be adjusted to the configuration of the head of the user. In accordance with the present invention, this desired adjusting movement is afforded by means of a rugged character which are capable of economical production, and as herein shown, each mounting stem 16 and the opening 66 in which it is mounted are provided with cooperating non-circular surfaces which allow endwise sliding movement of the stem but which limit rocking movement of the stem with relation to the mounting ears 65. Thus, as shown in Figs. 5 and 6, the openings 66 are generally D-shaped in form so as to afford a generally circular bearing surface of a considerable extent which merges with a flat surface 70 located parallel to the outer face of the bracket 13 and on the side of the opening 66 which is adjacent to the mounting bracket 13. The mounting stem 16 is made from a circular rod having a diameter substantially equal to the diameter of the circular portion of the opening 66, and the rod has a flat surface 71

formed thereon so as to extend from the upper end of the stem 16 downwardly throughout substantially the entire length of the straight portion of the stem. The flat surface 71 terminates at its lower end in a shoulder 72, Fig. 1, which serves to limit upward movement of the stem with relation to the mounting bracket, it being observed that downward movement of the stem is limited by the extending abutment afforded by the extended edge of the washer 68. It will be observed that the surface 71 of the stem 16 is so formed that it is closer to the central axis of the stem than the flat surface 70 of the mounting opening 66, and hence the stem 66 may be rocked through a limited movement in the mounting openings 66, as shown in Fig. 6 of the drawing. Such rocking movement is limited by engagement of one end of the surface 71 of the stem 16 with the corresponding end of the surface 70 of the mounting opening 66. Thus, the mounting clip or structure 14 may be rocked through a limited rotative adjusting movement and may be moved in a vertical direction by longitudinal adjusting movement of the stem 16.

In accordance with the present invention, means are provided for maintaining the mounting clips in substantially the desired adjusted position in which they may be set by the user, and in accomplishing this action, the present invention provides for the application of a continuous spring pressure upon each mounting stem 16 to thereby frictionally retain the mounting stem in its adjusted position. Such frictional retaining force is in the present instance applied to the mounting stem by spring means formed as a part of the spring clip 45 or 45A, and for this purpose, the spring clip has a spring arm 75 formed thereon so as to extend upwardly, as viewed in Figs. 2 and 4, from the juncture of the arms 46 and 47 of the spring clip. The spring arm 75 is arched upwardly as shown in Fig. 4 so that it will bear against the surface 71 of the stem 16. This formation causes the spring arm 75 to press the arcuate or circular surface of the stem 16 outwardly against the similar arcuate surface of the mounting openings 66, and hence the frictional action between these surfaces and between the spring arm 75 and the stem serves to hold the stem in the desired adjusted position with respect to the mounting bracket upon which it is supported. It will be observed that the arched formation of the spring arm 75 simplifies the insertion of the stem 16 into position in the bearing openings 66, for as the upper end of the stem 16 is inserted through the lower mounting ear 65, it may be forced along the rounded surface of the arm 75 and may be rocked as a lever about the opening 66 in the lower ear 65 to compress or bend the spring arm 75 and align the upper end of the stem with the upper bearing opening 66. Hence, the stem 16 may be readily removed and replaced as required in the field, thereby to facilitate repair or replacement of the parts and enable the clamping heads as 48 or 49 of the spring clips to be readily manipulated when the lead wires are to be repaired or replaced.

From the foregoing description, it will be apparent that the present invention materially simplifies the structure and the manufacture of headbands, and enables headbands to be economically manufactured in such a manner that such headbands may be readily reconditioned and repaired in the field. In accordance with the present invention, therefore, the headbands may be read-

ily cleaned or repaired and those parts which are subject to wear such as the connecting leads or the protective sheath may be cleaned or replaced by the user without the use of elaborate tools or other repair equipment.

While I have illustrated and described a selected embodiment of my invention, it is to be understood that this is capable of variation and modification and I therefore do not wish to be limited to the precise details set forth but desire to avail myself of such changes and alterations as fall within the purview of the following claims.

I claim:

1. In a headband, an elongated resilient clamping portion adapted to extend across the top of the head of a user and downwardly along and in spaced and clamping relation to the sides of the head of a user, mounting brackets secured to opposite ends of said clamping portion, a pair of mounting ears on each of said mounting brackets and extended outwardly therefrom in spaced relation to each other, the respective pairs of mounting ears having aligned non-circular mounting openings therein, a pair of mounting stems extended respectively through the aligned openings of the mounting ears on opposite mounting brackets, means on the lower end of each of said stems for engaging and supporting an earphone or the like, each mounting stem having at least one surface extended longitudinally thereof for engagement with non-circular surfaces of the openings in said ears to limit rotative movement of said stems relative to said mounting ears, a retaining spring clip secured to each of said mounting brackets and having a spring arm engaged with the adjacent stem to frictionally retard longitudinal movement of said stem relative to its mounting bracket, removable means on the upper end of each stem to prevent longitudinal withdrawal of said stems downwardly and out of said openings in said mounting ears, connecting leads extended along said clamping portion and over the outer faces of said brackets at opposite ends of said clamping portion, means on said spring clips yieldingly engaging said connecting leads and clamping the same removably to said mounting brackets, a protective sheath surrounding said clamping portion and said leads throughout substantially the entire distance between said mounting brackets, and releasable means for holding said sheath in such relation.

2. In a headband, an elongated resilient clamping portion adapted to extend across the top of the head of a user and downwardly along and in spaced and clamping relation to the sides of the head of a user, mounting brackets secured to opposite ends of said clamping portion, a pair of mounting stems, means supporting said mounting stems one on each of said mounting brackets for limited longitudinal and rotative movement with respect thereto, means on the lower end of each of said stems for engaging and supporting an earphone or the like, a retaining spring clip secured to each of said mounting brackets and having a spring arm engaged with the adjacent stem to frictionally retard longitudinal movement of said stem relative to its mounting bracket, connecting leads extended along said clamping portion and over the outer faces of said brackets at opposite ends of said clamping portion, means on said spring clips yieldingly engaging said connecting leads and clamping the same removably to said mounting brackets, a protective sheath surrounding said clamping portion and said leads throughout substantially the entire distance be-

tween said mounting brackets, and releasable means for holding said sheath in such relation.

3. In a headband, an elongated resilient clamping portion adapted to extend across the top of the head of a user and downwardly along and in spaced and clamping relation to the sides of the head of a user, mounting brackets secured to opposite ends of said clamping portion, a pair of mounting stems, means supporting said mounting stems on the respective brackets for rotative and longitudinal adjusting movement relative thereto, means on the lower end of each of said stems for engaging and supporting an earphone or the like, a retaining spring clip secured to each of said mounting brackets and having a spring arm engaged with the adjacent stem to frictionally retard longitudinal movement of said stem relative to its mounting bracket, connecting leads extended along said clamping portion and over the faces of said brackets at opposite ends of said clamping portion, means on said spring clips yieldingly engaging said connecting leads and clamping the same removably to said mounting brackets, and a sheath surrounding said clamping portion and said leads throughout substantially the entire distance between said mounting brackets, and releasable means for holding said sheath in such relation.

4. In a headband, an elongated resilient clamping portion adapted to extend across the top of the head of a user and downwardly along and in spaced and clamping relation to the sides of the head of a user, mounting brackets secured to opposite ends of said clamping portion, a pair of mounting stems, means supporting said mounting stems on the respective brackets for longitudinal and rotative adjustment relative thereto, means on the lower end of each of said stems for engaging and supporting an earphone or the like, connecting leads extended along said clamping portion and over the faces of said brackets at opposite ends of said clamping portion, spring clips on the respective brackets yieldingly engaging said connecting leads and clamping the same removably to said mounting brackets, and means detachably securing said leads to said clamping portion at one or more points between said mounting brackets.

5. In a headband, an elongated resilient clamping portion adapted to extend across the top of the head of a user and downwardly along and in spaced clamping relation to the sides of the head of a user, mounting brackets secured to opposite ends of said clamping portion, a pair of mounting ears on each of said mounting brackets and extended outwardly therefrom in spaced relation to each other, the respective pairs of mounting ears having aligned mounting openings therein of generally circular form therein, at least one of said mounting openings of each pair having a flat side related as a chord to the circular portions of such opening, a pair of mounting stems of generally cylindrical cross section extended respectively through the aligned openings of the mounting ears on opposite mounting brackets, each mounting stem having a flat surface thereon extended longitudinally thereof and arranged so that the edges of said surface engage the flat side of the mounting opening in the course of rocking movement of said stems to thereby limit such rocking movement, means on the lower end of each of said stems for engaging and supporting an earphone or the like, a retaining spring clip secured to each of said mounting brackets and having a spring arm engaged with the adjacent stem to

frictionally retard longitudinal movement of said stem relative to its mounting bracket, and removable means on the upper end of each stem to prevent longitudinal withdrawal of said stems downwardly and out of said openings in said mounting ears.

6. In a headband, an elongated resilient clamping portion adapted to extend across the top of the head of a user and downwardly along and in spaced clamping relation to the sides of the head of a user, mounting brackets secured to opposite ends of said clamping portion, a pair of mounting ears on each of said mounting brackets and extended outwardly therefrom in spaced relation to each other, the respective pairs of mounting ears having aligned mounting openings therein of generally circular form therein, at least one of said mounting openings of each pair having a flat side related as a chord to the circular portions of such opening, a pair of mounting stems of generally cylindrical cross section extended respectively through the aligned openings of the mounting ears on opposite mounting brackets, each mounting stem having a flat surface thereon extended longitudinally thereof and being of a width less than the width of said flat side of said opening so that selective engagement of the edges of said flat surface of a stem with the flat side of the mounting opening in which it is mounted serves to limit rocking movement of said stems, means on the lower end of each of said stems for engaging and supporting an earphone or the like, and means on each of said mounting brackets engaged with the adjacent stem to frictionally retard longitudinal movement of said stem relative to its mounting bracket.

7. In a headband, an elongated resilient clamping portion adapted to extend across the top of the head of a user and downwardly along and in spaced clamping relation to the sides of the head of a user, mounting brackets secured to opposite ends of said clamping portion, a pair of mounting ears on each of said mounting brackets and extended outwardly therefrom in spaced relation to each other, the respective pairs of mounting ears having aligned mounting openings therein of generally circular form therein, at least one of said mounting openings of each pair having a flat side related as a chord to the circular portions of such opening, a pair of mounting stems of generally cylindrical cross section extended respectively through the aligned openings of the mounting ears on opposite mounting brackets, each mounting stem having a flat surface thereon extended longitudinally thereof and being of a width less than the width of said flat side of said opening so that selective engagement of the edges of said flat surface of a stem with the flat side of the mounting opening in which it is mounted serves to limit rocking movement of said stems, and means on the lower end of each of said stems for engaging and supporting an earphone or the like.

8. In a headband, an elongated resilient clamping portion adapted to extend across the top of the head of a user and downwardly along and in spaced clamping relation to the sides of the head of the user, mounting brackets secured to opposite ends of said clamping portion, a pair of mounting ears on each of said mounting brackets and extended outwardly therefrom in spaced relation to each other, the respective pairs of mounting ears having aligned non-circular mounting openings therein, a pair of mounting stems extended respectively through the aligned openings of the

mounting ears on opposite mounting brackets, means on the lower end of each of said stems for engaging and supporting an earphone or the like, each mounting stem having at least one surface extended longitudinally thereof for rotative movement relative to and for abutting engagement with the non-circular surfaces of the openings in said ears so that such engagement serves to limit rotative movement of said stems relative to said mounting ears, and a retaining spring clip secured to each of said mounting brackets and having a spring arm engaged with the adjacent stem to frictionally retard longitudinal movement of said stem relative to its mounting bracket.

9. In a headband, an elongated resilient clamping portion adapted to extend across the top of the head of a user and downwardly along and in spaced and clamping relation to the sides of the head of a user, mounting brackets secured to opposite ends of said clamping portion, a pair of mounting stems, means supporting said stems on the respective brackets for rotative and longitudinal adjusting movement relative thereto, means on the lower end of each of said stems for engaging and supporting an earphone or the like, connecting leads extended along said clamping portion and over the faces of said brackets at opposite ends of said clamping portion, means detachably securing said leads to said clamping portion at at least several points between said mounting brackets, and releasable means for holding said leads in position with respect to said brackets and comprising spring retaining means secured on each bracket and affording spring clamping arms adapted to engage such leads and clamp the same on such brackets, and means on such spring arms adapted for engagement to bend such spring arms to unclamped positions for mounting or removal of such leads.

10. In a headband, an elongated resilient clamping portion adapted to extend across the top of the head of a user and downwardly along and in spaced and clamping relation to the sides of the head of a user, mounting brackets secured to opposite ends of said clamping portion, a pair of mounting stems, means supporting said stems on the respective brackets for rotative and longitudinal adjusting movement relative thereto, means on the lower end of each of said stems for engaging and supporting an earphone or the like, connecting leads extended along said clamping portion and over the faces of said brackets at opposite ends of said clamping portion, means detachably securing said leads to said clamping portion at at least several points between said mounting brackets, and releasable means for holding said leads in position with respect to said brackets and comprising spring retaining means secured on each bracket and affording spring clamping arms adapted to engage such leads and clamp the same on such brackets, said spring arms having openings therein near the ends thereof and adapted for engagement to bend such spring arms to unclamped positions for mounting or removal of such leads.

11. In a headband, an elongated resilient clamping portion adapted to extend across the top of the head of a user and downwardly along and in spaced and clamping relation to the sides of the head of a user, mounting brackets secured to opposite ends of said clamping portion, a pair of mounting stems, means supporting said stems on the respective brackets for rotative and longitudinal adjusting movement relative thereto, means on the lower end of each of said stems for

engaging and supporting an earphone or the like, connecting leads extended along said clamping portion and over the faces of said brackets at opposite ends of said clamping portion, means detachably securing said leads to said clamping portion at at least several points between said mounting brackets, and releasable means for holding said leads in position with respect to said brackets.

12. In a headband, an elongated resilient clamping portion adapted to extend across the top of the head of a user and downwardly along and in spaced and clamping relation to the sides of the head of a user, mounting brackets secured to opposite ends of said clamping portion, a pair of mounting stems, means supporting said mounting stems on said brackets for rotative and longitudinal adjusting movement relative thereto, means on the lower end of each of said stems for engaging and supporting an earphone or the like, connecting leads extending along said clamping portion and over the faces of said brackets at opposite ends of said clamping portion, a generally T-shaped retaining spring secured to each mounting bracket, each retaining spring having one arm engaged frictionally with the adjacent stem to retard movement of such stem, and each retaining spring having its other two arms yieldingly engaging said connecting leads and clamping the same removably to the respective mounting brackets, a sheath surrounding said clamping portion and said leads throughout substantially the entire distance between said mounting brackets, and releasable means for holding said sheath in such relation.

13. In a headband, an elongated resilient clamping portion adapted to extend across the top of the head of a user and downwardly along and in spaced and clamping relation to the sides of the head of a user, mounting brackets secured to opposite ends of said clamping portion, a pair of mounting stems, means supporting said mounting stems on said brackets for rotative and longitudinal adjusting movement relative thereto, means on the lower end of each of said stems for engaging and supporting an earphone or the like, connecting leads extended along said clamping portion and over the faces of said brackets at opposite ends of said clamping portion, a generally T-shaped retaining spring secured to each mounting bracket and each retaining spring having one arm engaged frictionally with the adjacent stem to retard movement of such stem, and each retaining spring having its other two arms yieldingly engaging said connecting leads and clamping the same removably to the respective mounting brackets, and means releasably securing said leads to said clamping portion throughout substantially the entire distance between said mounting brackets.

14. In a headband, an elongated resilient clamping portion adapted to extend across the top of the head of a user and downwardly along and in spaced and clamping relation to the sides of the head of a user, mounting brackets secured to opposite ends of said clamping portion, a pair of mounting stems, means supporting said mounting stems on said brackets for rotative and longitudinal adjusting movement relative thereto, means on the lower end of each of said stems for engaging and supporting an earphone or the like, connecting leads extended along said clamping portion and over the faces of said brackets at opposite ends of said clamping portion, a generally T-shaped retaining spring secured to each

mounting bracket, each retaining spring having one arm engaged frictionally with the adjacent stem to retard movement of such stem, and each retaining spring having its other two arms yieldingly engaging said connecting leads and clamping the same removably to the respective mounting brackets.

15. In a headband, an elongated resilient clamping portion adapted to extend across the top of the head of a user and downwardly along and in spaced clamping relation to the sides of the head of a user, mounting brackets secured to opposite ends of said clamping portion, a pair of mounting ears on each of said mounting brackets and extended outwardly therefrom in spaced relation to each other, the respective pairs of mounting ears having aligned non-circular mounting openings therein, a pair of mounting stems extended respectively through the aligned openings of the mounting ears on opposite mounting brackets, means on the lower end of each of said stems for engaging and supporting an earphone or the like, each mounting stem having at least one flat surface extended longitudinally thereof and being of a width less than the width of said flat side of said opening so that selective engagement of the edges of said flat surface of a stem with the non-circular surfaces of the openings in said ears serves to limit rotative movement of said stems relative to said mounting ears, a retaining spring clip secured to each of said mounting brackets and having a spring arm engaged with the adjacent stem to frictionally retard longitudinal movement of said stem relative to its mounting bracket, and removable means on the upper end of each stem to prevent longitudinal withdrawal of said stems downwardly and out of said openings in said ears.

16. In a headband, an elongated resilient clamping portion adapted to extend across the top of the head of a user and downwardly along and in spaced and clamping relation to the sides of the head of a user, mounting brackets secured to opposite ends of said clamping portion, a pair of mounting stems, mounting means supporting and guiding said mounting stems respectively on opposite ends of said clamping portion for longitudinal and rotative adjusting movement, connecting leads extended along said clamping portion and over said mounting means at opposite ends of said clamping portion, and means for detachably securing said leads in association with said clamping portion and said mounting means.

17. In a headband, an elongated resilient clamping portion adapted to extend across the top of the head of a user and downwardly along and in spaced and clamping relation to the sides of the head of a user, mounting brackets secured to opposite ends of said clamping portion, a pair of mounting stems, means supporting and guiding said mounting stems respectively on said mounting brackets for limited longitudinal and rotative adjusting movement, means for retaining said stems in adjusted relation to said brackets, connecting leads extended along said clamping portion and over the outer faces of said brackets at opposite ends of said clamping portion, and means for detachably securing said leads in association with said clamping portion and said mounting brackets.

18. In a headband, an elongated resilient clamping portion adapted to extend across the top of the head of a user and downwardly along and in spaced and clamping relation to the sides of the head of a user, mounting brackets secured

to opposite ends of said clamping portion, a pair of mounting stems, means supporting and guiding said mounting stems respectively on said mounting brackets for limited longitudinal and rotative adjusting movement, means for retaining said stems in adjusted relation to said brackets, circuit means including a connector cord extended to one of said brackets and connecting leads extended along said clamping portion and over the outer faces of said brackets at opposite ends of said clamping portion, a clamping ring secured about said cord at a point where said cord is adjacent said one bracket, abutment means formed on said one bracket for engagement with said ring to prevent longitudinal displacement of the cord relative to said one bracket, means for detachably securing said leads in association with said clamping portion, and means

for holding said leads and said cord in association with said brackets with said ring interlocked with said abutment means.

19. In a sheath for enclosing the head-embracing clamping portion of a headset, an elongated inner protective pad member adapted to be disposed against the inner surface of such a clamping portion, a liner member secured on the outer face of said pad member, edge flaps disposed along and secured to the bordering side edges of said inner pad member and said liner member and adapted to be folded into overlying relation to at least a portion of the outer surface of said liner member, and snap fasteners having the cooperating elements secured respectively to said edge flaps and to said liner member outside and independently of said inner pad member.

WEBSTER E. GILMAN.