

Feb. 5, 1952

A. MAFFRIS

2,584,896

LADY'S HEARING AID HAT CONSTRUCTION

Filed Jan. 19, 1949

3 Sheets-Sheet 1

Fig. 1

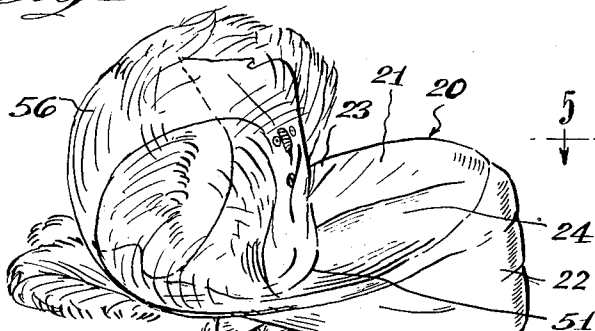


Fig. 4

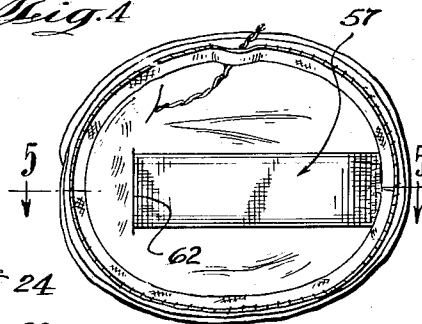


Fig. 6

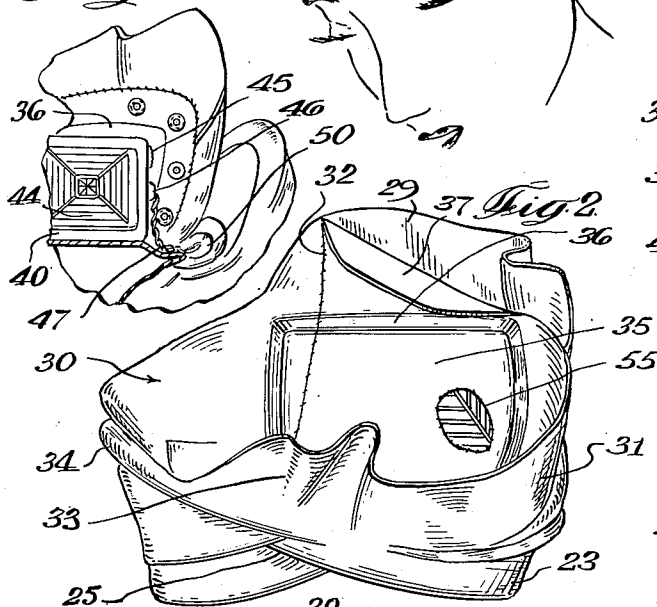


Fig. 2

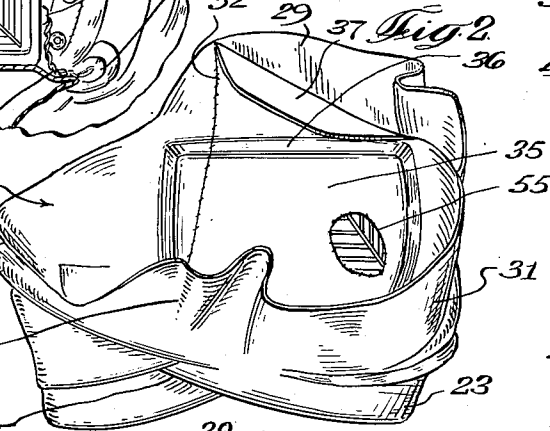


Fig. 3

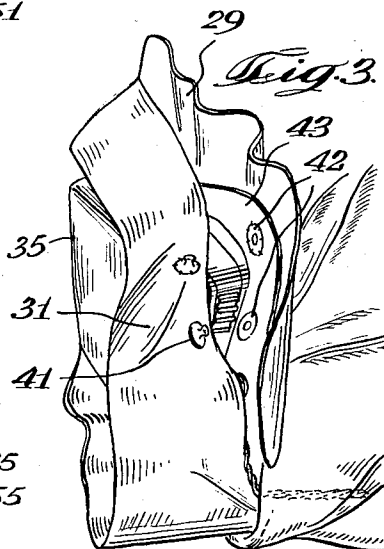


Fig. 7

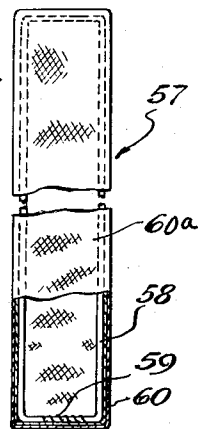
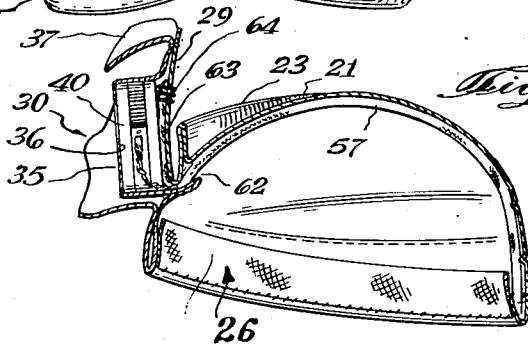


Fig. 5



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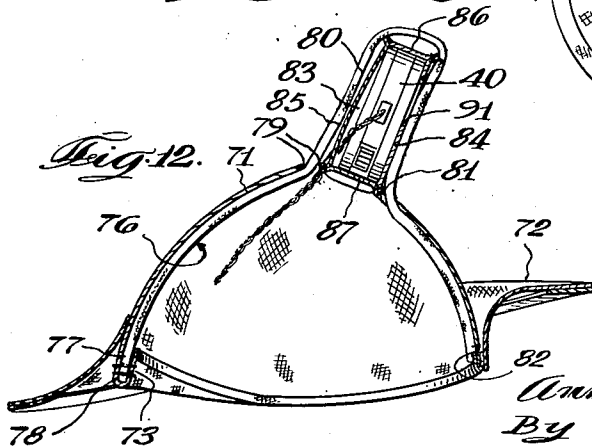
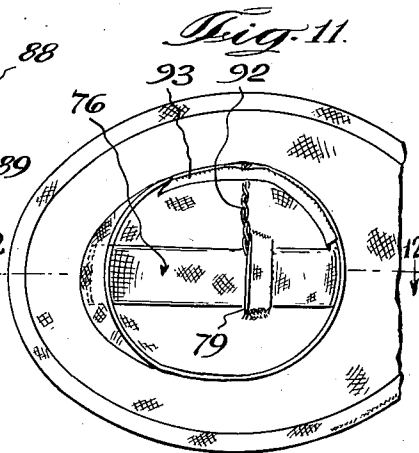
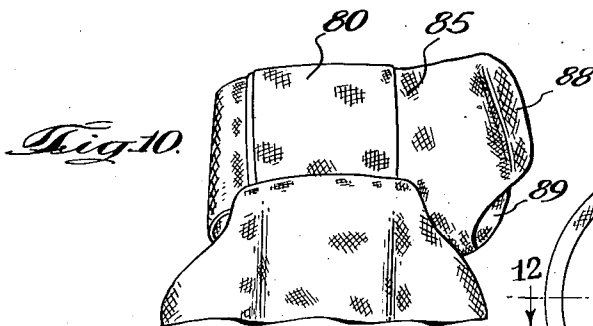
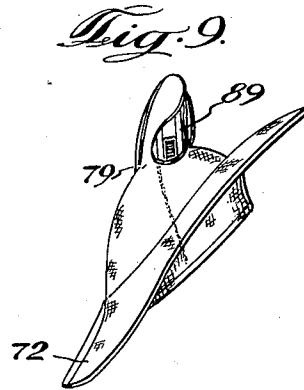
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3 Sheets-Sheet 2



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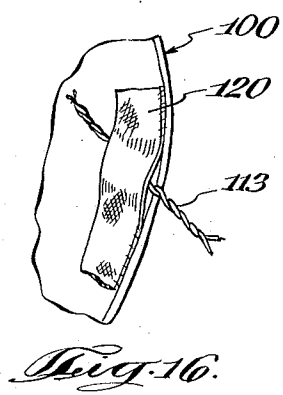
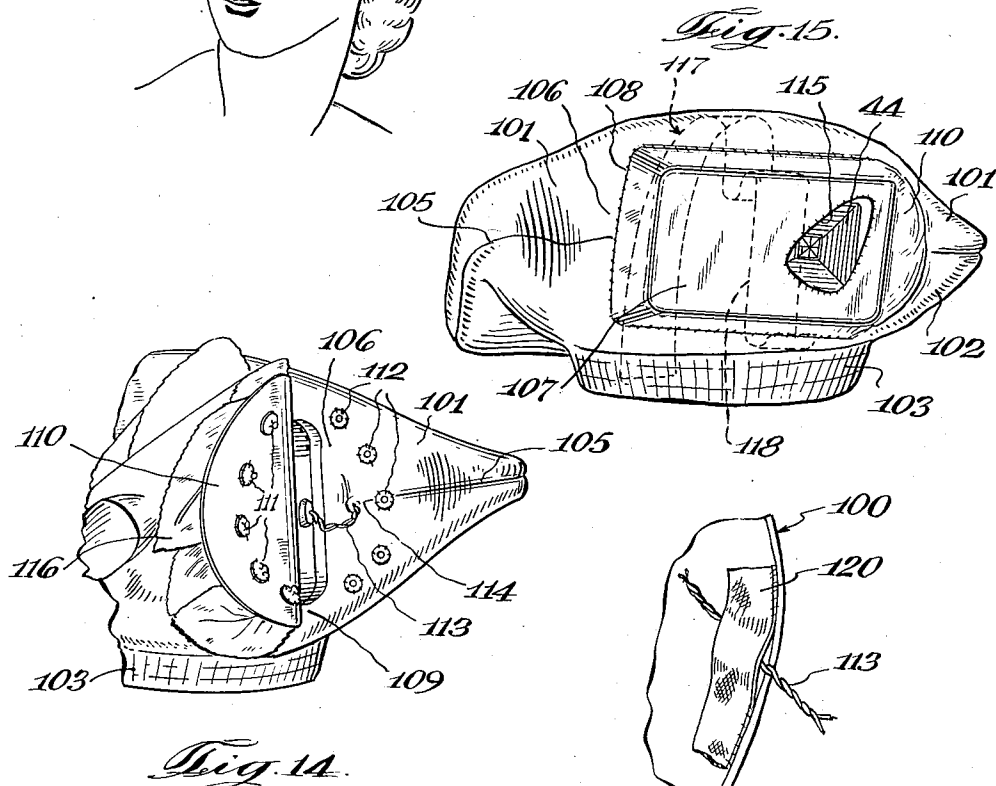
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LADY'S HEARING AID HAT CONSTRUCTION

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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

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LADY'S HEARING AID HAT CONSTRUCTION

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Application January 19, 1949, Serial No. 71,730

12 Claims. (Cl. 2—185)

1

This invention relates generally to ladies' hats and more particularly concerns the construction of ladies' hats adapted to have hearing aids associated therewith.

Women who are hard of hearing are beset with the difficulty of wishing to conceal their hearing aid while at the same time using same to the greatest advantage and at the highest efficiency. The modern hearing aid, even though it comprises apparatus considerably more efficient and smaller in size than the trumpets and hearing instruments utilized just a few years ago is nevertheless of a size not readily concealable. The device in most instances comprises a highly compact battery-operated microphone and amplifier, the output of which is fed to a speaker which is placed in the patient's ear or is engaged against the bony structure of the skull in the vicinity of the aural cavity. The amplifier, microphone and batteries are carried in a housing which is approximately eight cubic inches in volume more or less, and it is this portion of the apparatus which is most difficult to conceal. It is necessary that a face of this housing be as open to the sound as possible since the microphone is provided thereon, and when concealed in the clothing, the microphone opening is covered and the efficacy of the instrument decreased.

Women have heretofore been prone to conceal their hearing aids in the bodices of their dresses which, when it was necessary to adjust the volume control of the device, gave rise to embarrassment due to fumbling of the wearer, and as well revealed the fact that the wearer was hard of hearing.

In addition to the above, where the instrument is placed in the clothing, it is necessary to disrobe to get at the instrument, and the connecting wires are difficult to conceal.

The primary object of my invention, therefore, is to eliminate all of the disadvantages heretofore experienced by women required to wear hearing aids.

A further object of my invention is to provide a construction for a woman's hat which will enable a hearing aid instrument to be installed therein; in which the hearing aid instrument will be readily and quickly removable therefrom; in which the wires of the hearing aid instrument will be concealed; in which the hearing aid instrument will be placed at the most advantageous position for detecting sound; in which the microphone of the hearing aid instrument will not be closed off by any sound-deadening material; and in which the volume control of the

2

hearing aid instrument will be immediately available at all times for adjustment by means of a common feminine gesture not readily recognized, as being made for the genuine purpose intended.

Still a further object of the invention is to provide a hat construction in which a hidden cavity or pocket is provided for a hearing aid instrument at a point on the hat which, when considering the style thereof and the manner in which same is to be worn, will perfectly balance the weight thereof and distribute the pressure over the head of the wearer.

Still further objects of the invention lie in the provision of novel constructional details of my invention whereby the objects and advantages are achieved.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel features of construction, arrangement and a combination of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportion, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

For the purpose of facilitating an understanding of my invention, I have illustrated in the accompanying drawings a preferred embodiment thereof, from an inspection of which, when considered in connection with the following description, my invention, its mode of construction, assembly and operation, and many of its advantages should be readily understood and appreciated.

Referring to the drawings in which the same characters of reference are employed to indicate corresponding or similar parts throughout the several figures of the drawings:

Fig. 1 is a perspective view of a ladies' hat of the "off the face" type and having the construction of my invention with a hearing aid instrument associated therewith.

Fig. 2 is a front on view of the hat of Fig. 1 but with the trimming removed in order to show the construction of the instrument carrying pocket.

Fig. 3 is a side elevational view of the hat of Fig. 2 showing the manner in which access is had to the instrument carrying pocket, the entrance thereof being shown in partially opened condition.

Fig. 4 is a bottom view of the hat of Fig. 1 showing the construction thereof.

Fig. 5 is a cross sectional view taken through

the hat along the line 5—5 of Fig. 4 and in the indicated direction showing the internal construction thereof.

Fig. 6 is a partial sectional view taken of the front of the hat of Fig. 1 with the front portion of the instrument carrying pocket removed to show the manner in which the wires are led to the interior of the hat.

Fig. 7 is an elevational view, with portions of the same shown in section, of the truss member provided in the hat for supporting and distributing the weight of the hearing aid instrument.

Fig. 8 is a perspective view of a ladies's hat of the brimmed type having a full crown and constructed in accordance with my invention, but shown here completely devoid of any hat trimming.

Fig. 9 is a side elevational view of the same showing the manner of having access to the volume control of the hearing aid instrument associated with the hat.

Fig. 10 is a rear elevational view of a portion of the hat to illustrate the construction thereof.

Fig. 11 is a bottom view of the hat showing the interior construction thereof.

Fig. 12 is a sectional view taken through the hat along the line 12—12 of Fig. 11 and showing the manner in which the hearing aid instrument is installed in the carrying pocket.

Fig. 13 is a perspective view of a ladies' hat of the beret type and constructed in accordance with my invention.

Fig. 14 is a front on view of the hat of Fig. 13 with the entrance to the instrument carrying pocket partially open.

Fig. 15 is a front on view of the same, but with the trim removed from the hat to show the construction thereof.

Fig. 16 is a detailed view showing the manner in which the wires from a hearing aid are associated with the hat bands.

According to the basic principles of my invention, a hat is designed for style and appearance, preferably of a type harmonious with the character and features of the wearer, following which an instrument carrying pocket or cavity is constructed so that it is positioned on the wearer's head where same is most nearly balanced as to weight. This may occur at the extreme front of the hat, as for example, in "off the face" hats; may occur at the center of the hat, as in a case where the hat sets squarely upon the head; may occur at the rear of the hat in the case of a hat which is tilted over the eyes. In each case the pocket is constructed so that the hearing aid instrument will be disposed therein with the face having the microphone grille perpendicularly arranged, said pocket being positioned, as mentioned, at the point of perfect balance on top of the head irrespective of the style of hat. Access is gained to the pocket by means of a side entrance, not completely closed, but being partially open, or in any event capable of being readily opened a small amount in order to admit the finger of the wearer so that the volume control of the hearing aid instrument may be manipulated.

It is desired to point out that the gesture of a woman placing a hand upon her hat is an extremely commonplace one and hence the act of manipulation of the volume control of the instrument will not be noticed.

The instrument carrying pocket is so constructed that there is an opening on the face

thereof coinciding in position with the microphone grille of the instrument, this opening being partially covered by hat trimming, which being usually loose and diaphanous, affects the efficiency of the hearing instrument a minimum. Means is provided for leading the wires from the instrument to the interior of the hat and to the receiver.

In order for my construction to be practicable, I have found it advisable to provide a flat elongated truss affixed within the hat for the purpose of supporting the pocket and hearing instrument and for distributing the weight of said instrument over the area of the wearer's head in order to render same comfortable. The truss of my construction in addition to the above, preserves the shape of the hat with which same is associated.

Referring now to the figures, the reference character 20 designates generally a turban type of hat comprising a crown 21 having the sides 22 which include an inner band 26 surrounding the bottom of the sides 22. As will be noted from Fig. 2 the folds of the hat are gathered towards the front and crossed as indicated at 25, this being merely a matter of style. A forwardly extended fold 23 and its opposite mate 24 cross on the forward portion of the crown 21 of the hat. The fold 23 includes an upwardly extending portion 29 which is on the rear of the assembly 30 formed at the forward portion of the hat, and which forms the rear wall of the instrument carrying pocket to be described.

It will be noted that the assembly 30 includes a strip of material 31 which is secured to the portion 29 by means of stitching, one line of which is shown at 32 and which follows the general shape of the portion 29 around to the front, having various ornamental folds such as for example as shown at 33 and eventually being blended with the bottom of the hat at 34. There is a pocket formed between the portion of the member 31 which is designated 35 and the front of the member 29. This pocket is indicated at 36, same being formed during the construction of the hat. An ornamental flap is indicated at 37 which is also an integral part of the member 31 being an extension of the part 35.

The pocket 36 is reinforced by any appropriate means such as for example, stitching or the like, which may be concealed during the production of the hat. Same is completely closed except for the right hand side thereof as shown in Fig. 2, same being capable of providing an entrance as shown in Fig. 3 for the insertion into said pocket 36 of the hearing aid instrument 40. As indicated in Fig. 3 the portion 31 may be provided with snap fastener elements 41 while the member 29 has the cooperating snap fasteners 42 secured thereto as for example, upon a reinforcing strip 43 sewn thereto.

Referring to the hearing air instrument 40 note that same is oblong in shape and includes a microphone grille 44, a manually operable volume control 45 and a plug 46 having wires 47 leading to a speaker (not shown), usually disposed within the hat and over the ear of the wearer. The folds of the hat provide a space 50 such as for example, between the forward edge 51 or the crown, and the member 31, by way of which wire 47 can be lead from the pocket 36 to the interior of the hat. It should be noted that in closing the pocket by means of the snap fasteners 41 and 42, the entrance may be left slightly open as indicated in Fig. 1 so that the wearer may manipu-

5

late the volume control 45 by merely inserting her finger into the opening.

The front member 35 of the pocket 36 is provided with an opening 55 aligned with the microphone grille 44 of the instrument 40. This provides direct access for sound to the hearing aid instrument 40 when the hat is being worn. The edges of such opening may be ornamentally bound and in addition thereto a feather for example, as indicated at 56 may be fastened to the hat for concealing said opening. Obviously said feather will not materially interfere with the efficiency of the instrument 40.

In order to support the instrument 40 within the pocket I provide a truss member shown in Fig. 7 and indicated generally by the reference character 57. Said truss member may be formed of any elongated flat stiffening member capable of being bent to shape and retaining such bent shape. In the modification shown the truss member 57 consists of a rectangular wire frame 58 formed from a wire loop, the ends of which have been twisted together as shown at 59, said frame being covered with a layer of stiffening buckram 60 and fastened securely in the hat. Over the buckram layer 60 may be placed a layer of ornamental cloth 60a in order that a lining need not be placed in the hat. As shown in Fig. 4 the truss member 57 is inserted in the hat without lining.

In Fig. 5 the rear of the hat is bent upon itself and sewn to the truss member as indicated at 61. The truss member is bent in an arch to follow the contours of the crown 21 and is inserted in a slit 62 formed in the crown 21 at the forward end thereof. The folds 23 and 24 cover the slit at this point. From this point, the front end 63 of the truss member 57 is bent upwardly and sewn to the member 29 as indicated at 64 holding same in place. It will be seen that by this truss member not only is the position of the instrument 40 maintained, but as well the weight thereof is distributed over the entire top of the head of the wearer. In addition, the presence of the truss member 57 serves to aid in preserving the shape of the hat.

An inner band (not shown) may be sewn inside the lower edge of the hat, covering the bent up edge of the crown, and the stitching 61. The wires 47 are also engaged beneath this band, as will be pointed out hereinafter.

In this embodiment of my invention, the hat 20 is worn well back on the head, and hence the assembly 30 in the front of the hat will be disposed on the top of the wearer's head. Balancing a weight on the wearer's head would require that the same be positioned at approximately the top of the head, and hence the assembly 30 contains the provisions for carrying the instrument 40 where same will be properly balanced.

In Figs. 8 to 12 I have illustrated another form of my invention applied to a brimmed hat. The set of the hat as actually worn is best indicated by the view of Fig. 9. It should be noted that in this view the hearing aid instrument is disposed on its side and vertically so that the grille 44 faces forwardly. The hat illustrated is indicated generally by the reference character 70 and may be formed of any suitable material such as for example, cloth, felt or the like. I have had success in making the particular embodiment out of straw to be worn in summer.

There is provided a hemispherical crown 71 having a brim 72 encircling same. The edge of the crown portion 71 is turned up and inwardly

6

as indicated at 73 forming an inner band for the hat.

As in the case of the embodiment described in connection with Figs. 1 to 7 inclusive, there is provided a truss member here designated generally 76, but being the equivalent of and constructed like the truss member 57. The end 77 of the truss member 76 is stitched into the fold of the band 73, and follows the contours of the inner concave surface of the crown 71 to an opening 79 formed at the apex of the crown 71. The truss member 76 is here bent into a loop 80 disposed without the crown 71, and thence passes into another opening 81 to the interior of the hat 70, and follows the inner contours of the forward portion of the crown of the hat and is sewn to the inside of the hat at 82.

The pocket for the hearing aid instrument 40, is indicated at 83 and its formed of front wall 84, rear wall 85, and the top and bottom walls 86 and 87. Continuations of the front and rear walls provide the flaps 88 and 89 at one side having cooperating snap fasteners 90 to permit separation of the flaps and to allow the instrument 40 to be introduced thereinto. The wall 84 has an opening 91 aligned with the grille 44. The wires 92 from the instrument come through the slit 79 and under the inner band 93 and thence to the receiver.

Obviously it is intended that the outer surface of the loop portion 80 of the truss member 76 will be concealed or covered by suitable trim, and the opening 91 will in some manner be hidden by feathers or the like. By suitable design the presence of the truss loop 80 can be made inconsequential as far as appearance is concerned. As previously explained, the truss member 76 serves to support the instrument 40, maintain its alignment, and causes the hat to keep its shape.

In this embodiment, the pocket 86 is formed at the position upon the hat which is designed to be adjacent the top of the wearer's head.

In Figs. 13 to 16 I have illustrated another hat constructed in accordance with my invention and characterized by the provision of a hidden pocket and a supporting truss member. The hat is of the beret type with the front thereof indented and covered with a flowered ornament. The hat shown and designated by the reference character 100 is formed of felt although any other suitable material may be used.

The beret consists of a top or crown portion 101, generally circular in formation, secured to a lower portion 102 which tapers inwardly in the well known manner, terminating in the band 103. The two portions 101 and 102 are joined along a seam 105. The front of the beret 100 is indented at 106 and over the indentation is secured a member 107 along the line of stitching 108 which is shaped to form pocket 109 into which the hearing aid instrument 40 is adapted to be inserted. The right hand end of member 107 is not permanently secured to the body of hat 100, but instead forms a flap 110 provided with snap fastener elements 111, adapted to cooperate with the elements 112 secured to the hat body.

The instrument 40 is adapted to be carried in pocket 109, with the wires 113 entering the hat 100 by way of an opening 114 in seam 105. There is an opening provided in the member 107 shown at 115, having its edges bound, and being aligned with the microphone grille 44.

The front of the hat is covered by trimmings, which as shown in Fig. 13 may consist of ornamental ribbons or flowers 116 serving to conceal

opening 115, although without in any way obstructing same.

The construction of this embodiment is equivalent to those described in that a truss member 117 shown in broken lines of Fig. 15 is secured inside the hat 100, follows its contours, preserves its shape and supports the instrument 40. The portion 118 provides for the instrument's support.

In Fig. 16 I have shown the manner in which the instrument wires 113 are engaged beneath hat band 120 which holds same in place.

It is believed that this invention, its mode of construction and assembly, and many of its advantages should be readily understood from the foregoing without further description, and it should also be manifest that while a preferred embodiment of the invention has been shown and described for illustrative purposes, the structural details are nevertheless capable of wide variation within the purview of this invention as defined in the appended claims.

What is claimed and desired to be secured by Letters Patent of the United States is:

1. In a ladies' hat including a crown and having a pocket formed in the hat for housing a hearing aid instrument and permitting use thereof by the wearer of the hat, means for supporting the instrument comprising a relatively narrow internal stiffening truss secured to the hat, bent in an arch, substantially following the contours of the hat interior from front to rear, the crown of the hat being provided with a slit, said truss being inserted through the slit and passed at least partially about the pocket.

2. In a ladies' hat including a crown and having a pocket formed in the hat for housing a hearing aid instrument and permitting use thereof by the wearer of the hat, means for supporting the instrument comprising a relatively narrow internal stiffening truss secured to the hat, bent in an arch, substantially following the contours of the hat interior from front to rear, the crown of the hat being provided with a slit, said truss being inserted through the slit and passed at least partially about the pocket, said truss being formed of a wire frame covered with relatively stiff fabric, and being sewn to the hat interior.

3. A hat construction comprising a beret having the front thereof indented and covered with a member forming a pocket thereat, said pocket including a flap closure and adapted to receive a hearing aid instrument thereinto, means permitting the leading of wires from the instrument into the hat interior, a microphone opening in the pocket facing forwardly of the hat, and hat-trimming substantially camouflaging the pocket and opening without materially blocking off the opening.

4. A ladies' hat adapted to have a hearing aid instrument associated therewith comprising a hat crown, a compartment formed upon said hat crown for housing said instrument in substantial concealment, a wall of said compartment having an opening permitting unobstructed audio reception by said instrument and means permitting leading of wires from said instrument to the interior of the hat.

5. A ladies' hat adapted to have a hearing aid instrument associated therewith comprising a hat crown, a compartment formed upon said hat crown for housing said instrument in substantial concealment, a wall of said compartment having an opening permitting unobstructed audio reception by said instrument and means permitting leading of wires from said instrument to the in-

terior of the hat, said compartment including a normally partially closed entrance for said instrument.

6. A ladies' hat adapted to have a hearing aid instrument associated therewith comprising a hat crown, a compartment formed upon said hat crown for housing said instrument in substantial concealment, a wall of said compartment having an opening permitting unobstructed audio reception by said instrument and means permitting leading of wires from said instrument to the interior of the hat, said compartment including a normally partially closed entrance for said instrument, and a passageway through which the volume control on said instrument can be manipulated.

7. A ladies' hat adapted to have a hearing aid instrument associated therewith comprising a hat crown, a compartment formed upon said hat crown for housing said instrument in substantial concealment, a wall of said compartment having an opening permitting unobstructed audio reception by said instrument, means permitting leading of wires from said instrument to the interior of the hat, and means secured to the interior of the hat for supporting the instrument, distributing the weight thereof and preserving the shape of the hat.

8. A ladies' hat adapted to have a hearing aid instrument associated therewith comprising a hat crown, a compartment formed upon said hat crown for housing said instrument in substantial concealment, a wall of said compartment having an opening permitting unobstructed audio reception by said instrument, means permitting leading of wires from said instrument to the interior of the hat, and means secured to the interior of the hat for supporting the instrument, distributing the weight thereof and preserving the shape of the hat, comprising a stiff elongated truss member bent to the interior shape of the hat from front to rear and having a portion thereof arranged to at least partially frame the compartment.

9. A ladies' hat adapted to have a hearing aid instrument associated therewith comprising a hat crown, a compartment formed upon said hat crown for housing said instrument in substantial concealment, a wall of said compartment having one opening permitting unobstructed audio reception by said instrument and means permitting leading of wires from said instrument to the interior of the hat, said compartment comprising a pocket disposed upon the exterior of the hat crown at a position where same will be substantially balanced at the top of the wearer's head considering the manner in which said hat is designed to be worn.

10. A ladies' hat adapted to have a hearing aid instrument associated therewith comprising a hat crown, a compartment formed upon said hat crown for housing said instrument in substantial concealment, a wall of said compartment having an opening permitting unobstructed audio reception by said instrument and means permitting leading of wires from said instrument to the interior of the hat, said compartment being provided with hat trimming camouflaging same while not obstructing audio reception by said instrument.

11. A ladies' hat adapted to have a hearing aid instrument associated therewith comprising a hat crown, a compartment formed upon said hat crown for housing said instrument in substantial concealment, a wall of said compartment having

9

an opening permitting unobstructed audio reception by said instrument and means permitting leading of wires from said instrument to the interior of the hat, said compartment comprising a pocket formed of the same material as said crown and including a normally partially closed entrance at the side of the compartment to permit insertion of the instrument, said opening being in the front of the compartment aligned with the receiving portion of the instrument when same is disposed in the pocket.

12. A ladies' hat adapted to have a hearing aid instrument associated therewith comprising a hat crown, a compartment formed upon said hat crown for housing said instrument in substantial concealment, a wall of said compartment having an opening permitting unobstructed audio reception by said instrument and means permitting leading of wires from said instrument to the interior of the hat, said compartment comprising a pocket formed of the same material as said

10

crown and including a normally partially closed entrance at the side of the compartment to permit insertion of the instrument, said opening being in the front of the compartment aligned with the receiving portion of the instrument when same is disposed in the pocket, said last mentioned means comprising a passageway in said hat crown extending from a point near the pocket to the hat interior.

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