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(54) **HEADWEAR SYSTEM**

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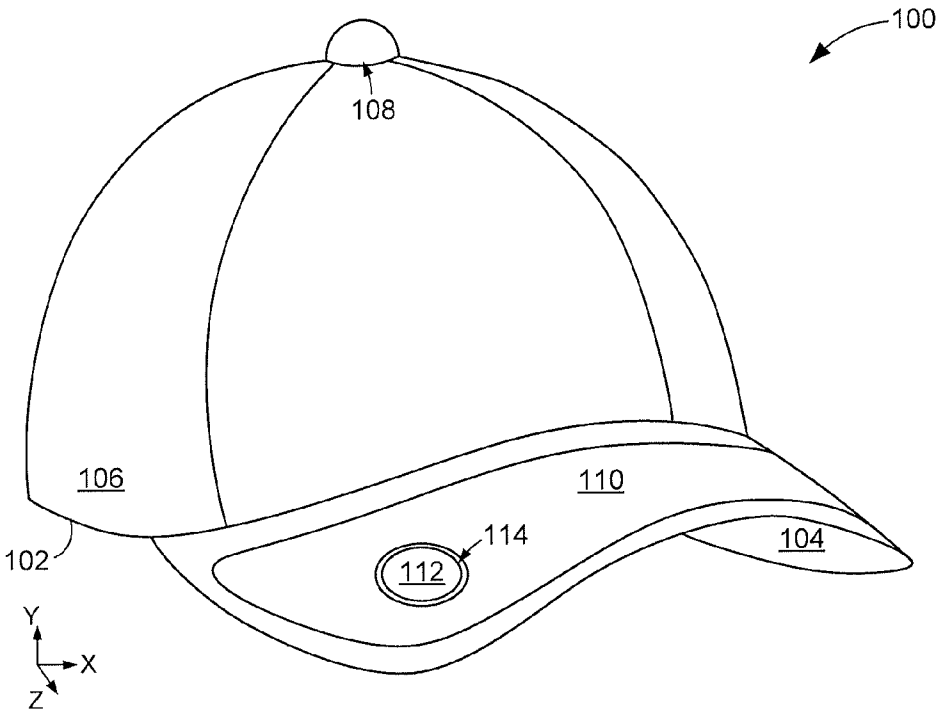
USPC **2/209.3**

(57) **ABSTRACT**

A headwear system may have a headband configured to fit a head of a user. At least one compliant portion is attached to the headband with a fastener. The compliant portion temporarily conforms to the head of the user in response to being positioned on the user's head. A bill may continuously extend from a body and have an information feature and at least one medallion affixed to the bill. The medallion can extend through an aperture in the information feature.



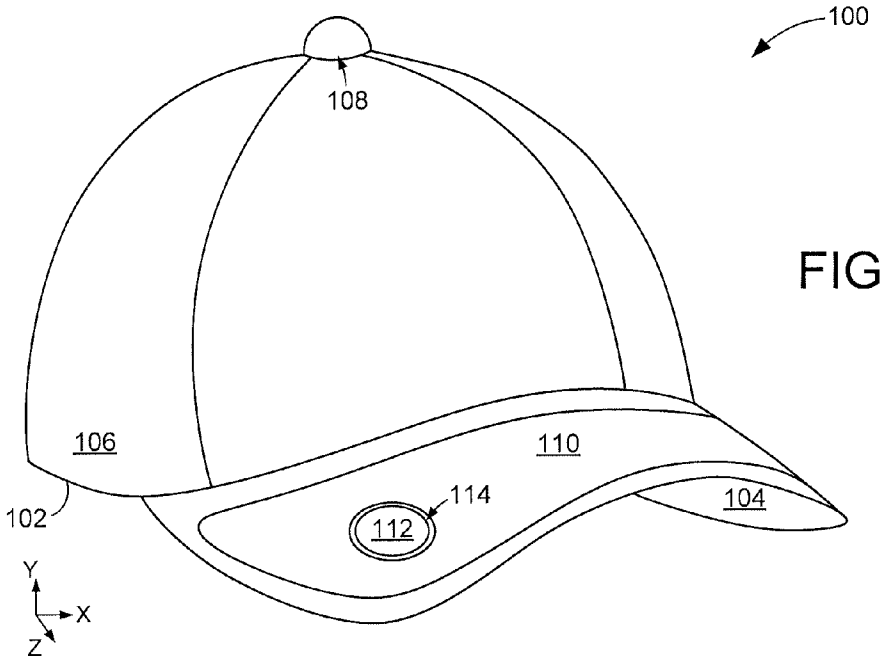

100
108
106
110
114
104
102
112
Y
X
Z

FIG. 1

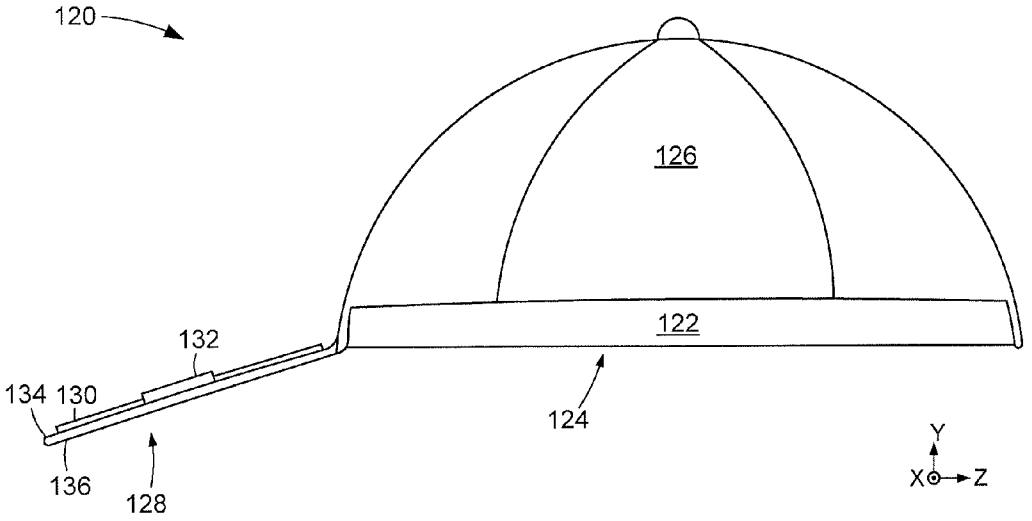

120
126
122
132
134
130
124
136
128
Y
X
Z

FIG. 2

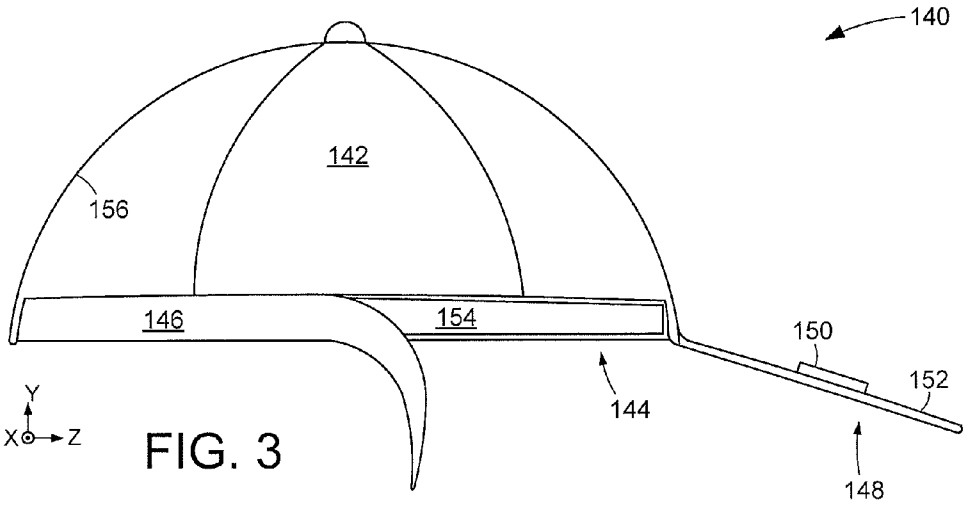


FIG. 3

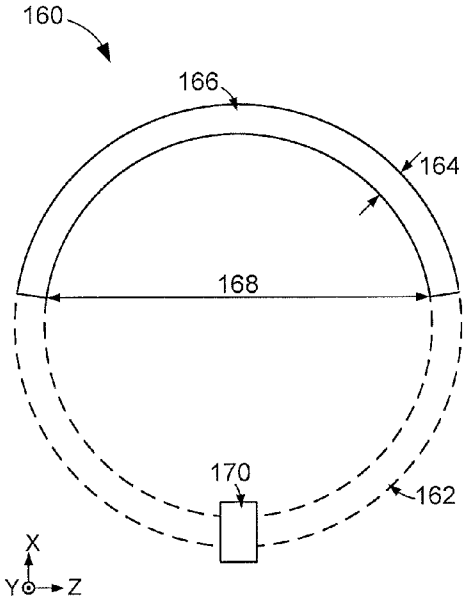


FIG. 4A

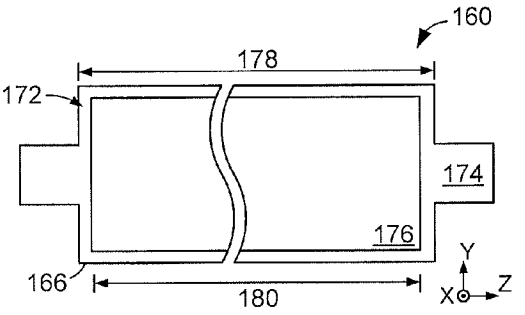


FIG. 4B

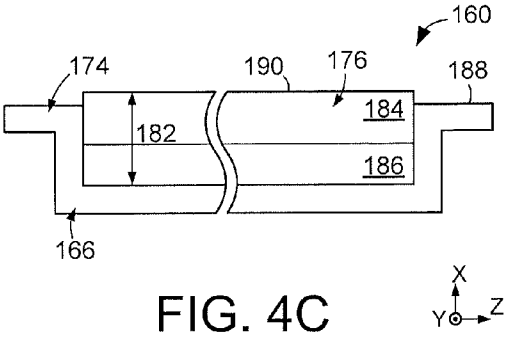


FIG. 4C

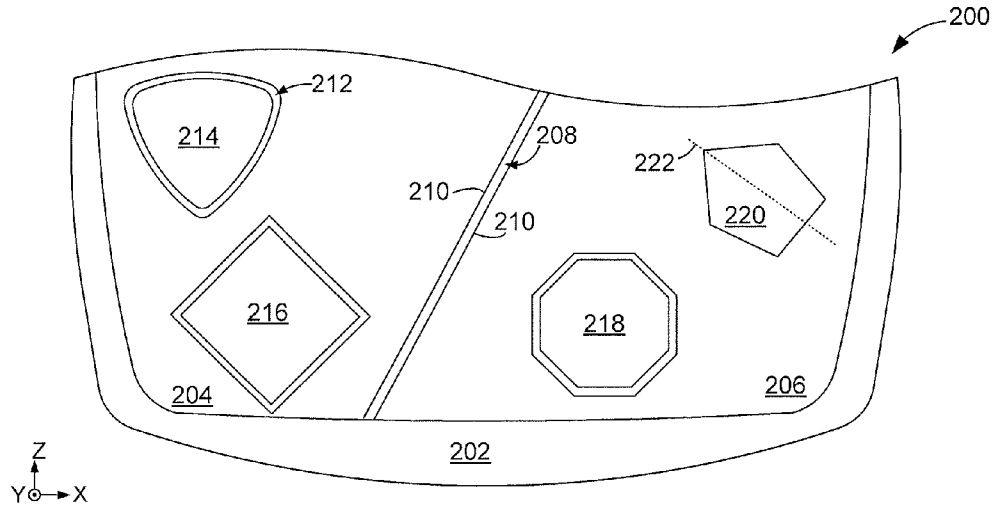

200
212
214
208
222
210
210
220
216
218
204
206
202
Z
Y
X

FIG. 5

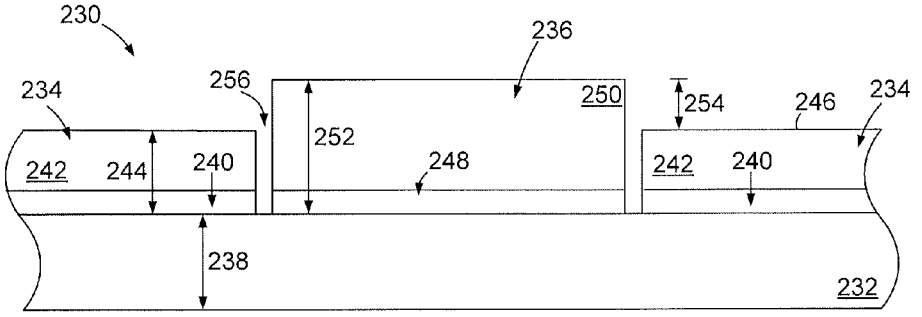

230
236
234
256
250
254
246
234
252
242
244
240
248
242
240
238
232

FIG. 6


Y
X
Z

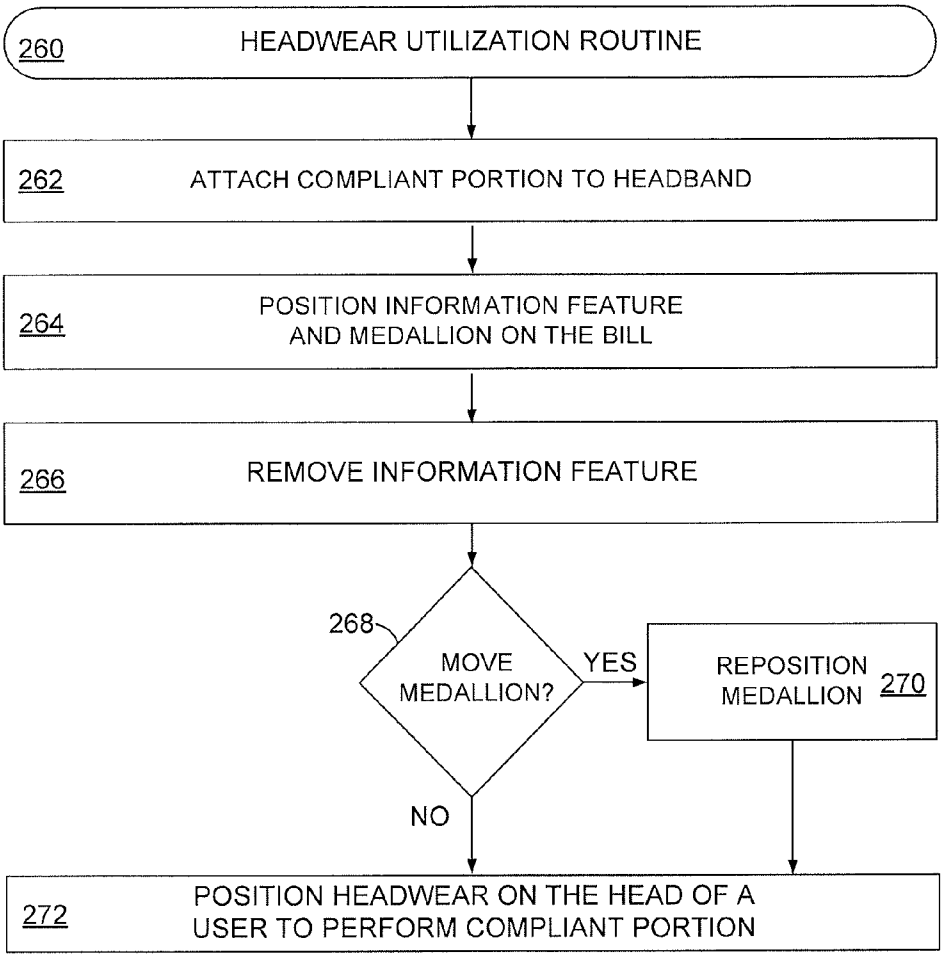

260
HEADWEAR UTILIZATION ROUTINE
262
ATTACH COMPLIANT PORTION TO HEADBAND
264
POSITION INFORMATION FEATURE AND MEDALLION ON THE BILL
266
REMOVE INFORMATION FEATURE
268
MOVE MEDALLION?
YES
REPOSITION MEDALLION
270
NO
272
POSITION HEADWEAR ON THE HEAD OF A USER TO PERFORM COMPLIANT PORTION

FIG. 7

HEADWEAR SYSTEM

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] The present application claims the benefit under 35 U.S.C. §119(e) of U.S. Provisional application Ser. No. 61/867,084, filed Aug. 18, 2014, entitled "FLEXIBLE FIT CAP WITH MEMORY FOAM HEAD BAND", which is hereby expressly incorporated herein in its entirety.

SUMMARY

[0002] Various embodiments arrange a headwear system with a headband configured to fit a head of a user. At least one compliant portion is attached to the headband with a fastener. The compliant portion temporarily conforms to the head of the user in response to being positioned on the user's head. A bill may continuously extend from a body and have an information feature and at least one medallion affixed to the bill. The medallion can extend through an aperture in the information feature.

BRIEF DESCRIPTION OF DRAWINGS

[0003] FIG. **1** illustrates a portion of an example headwear system configured in accordance with some embodiments.

[0004] FIG. **2** is a cross-section view of an example headwear system arranged in accordance with various embodiments.

[0005] FIG. **3** shows a cross-section view of an example headwear system configured in accordance with assorted embodiments.

[0006] FIGS. **4**A-**4**C respectively display different views of portions of an example headband that may be utilized in a headwear system in accordance with some embodiments.

[0007] FIG. **5** conveys a top view of a portion of an example headwear system configured in accordance with various embodiments.

[0008] FIG. **6** is a block representation of a portion of an example headwear system arranged in accordance with assorted embodiments.

[0009] FIG. **7** provides a flow chart of an example headwear utilization routine that may be carried out in accordance with some embodiments.

DETAILED DESCRIPTION

[0010] Various embodiments of the present disclosure generally relate to structure and function of a headwear system. Items of headwear, such as sports caps, visors, and headbands, can be symbols of fashion. However, due to different people's heads being different shapes and sizes, it can be difficult to properly fit headwear, which can be detrimental to a person's fashion. The ability to customize headwear can complement properly fitting headwear to optimize a person's fashion. Hence, headwear configured to properly fit a user while providing customizable features is a consumer and industry interest.

[0011] Accordingly, assorted embodiments configure a headwear system with a headband that fits a head of a user. At least one compliant portion is attached to the headband with a fastener. The compliant portion temporarily conforms to the head of the user in response to being positioned on the user's head. A medallion can be affixed to a bill extending from the headband and be arranged to extend through an aperture in an information feature that is also affixed to the bill. The compliant portion can allow headwear to fit a diverse variety of head shapes and sizes. The ability to customize the position of the medallion on the bill can allow a user to configure the headwear for various fashion styles and preferences.

[0012] FIG. **1** shows an example headwear system **100** arranged in accordance with various embodiments to provide a properly fitting headband **102** and a bill **104** that can be customized. As shown, the headwear system **100** is constructed as a sports cap, such as a baseball hat, that is defined by a body **106** that is constructed of one or more gores meeting at a crown **108**. The gores of the body **106** may be any shape, size, orientation, and material, which gives the headband **102** a size and shape. It is contemplated that the headband **102** and body **106** are configured to be flexible, rigid, or a combination of the two to facilitate comfort, fashion, and universal fitment.

[0013] Although the bill **104** can be manipulated and formed into a variety of different shapes due to its semi-rigid construction, various embodiments incorporate at least one information feature **110** that adheres to the bill **104** and conveys an unlimited amount of information. As a non-limiting example, the information feature **110** can be graphics, logos, text, braille, and holographics that can convey information about the headwear system **100**, such as a sports team, a charitable organization, and advertising. The information feature **110** can be shaped to cover some or substantially all of at least one surface of the bill **104**, such as having a shape that matches the shape of the bill **104**, to provide a large curvilinear or planar surface to convey information. The ability to tune the information feature **110** for size, shape, and material allows information to be efficiently and prominently displayed to others for a variety of purposes, such as fashion and information pertinent to selling the headwear system **100** to a user.

[0014] While the information feature **110** can provide fashion for some users, some embodiments configure the feature **110** to be removable by providing an adhesive portion that can allow the feature **110** to be selectively removed and moved at will. That is, portions of the information feature **110** can have adhesive that temporarily attaches the feature **110** to the bill **104** and allows the feature **110** to be moved to any region of the bill **104** or body **106**. The ability to remove and relocate the information feature **110** can be also provided in a medallion **112** that continuously extends through an aperture **114** in the information feature **110**. The medallion **112** can be any size, shape, material, and position on the bill **104** or body **106**.

[0015] In some embodiments, the medallion **112** is a rigid material resembling a logo, which may represent a company, sports team, fictional character, and slogan without limitation. The combination of the medallion **112** and information feature **110** can allow multiple different fashion, advertising, and information to be conveyed concurrently. However, a user may not like the size or information conveyed on either the information feature **110** or medallion **112**. Accordingly, the medallion **112** and information feature **110** can be removed individually without altering the position of the other aspect. For example, the aperture **114** allows the information feature **110** to be removed from the bill **104** without disturbing the medallion **112**.

[0016] FIG. **2** displays a cross-sectional view of an example headwear system **120** configured in accordance with some embodiments to provide a headband **122** that continuously and circumferentially extends around an inner region **124** defined by a body **126**. A bill **128** extends from the body **126**

and has an information feature **130** and medallion **132** concurrently displayed on an exterior surface **134**. It is contemplated that the information feature **130**, medallion **132**, or additional adhesive aspects can be attached to an interior surface **136** of the bill **128**, which may enhance fashion and safety in various headwear system **120** applications.

[0017] The headband **122** can be constructed in an unlimited variety of fixed, flexible, and adjustable sizes. For instance, the headband **122** can sized to be a predetermined diameter, flexible to a variety of different diameters, and adjustable through a fastener system to a selected diameter. With the diverse variety of head sizes, hair styles, and comfort, a user may find the headband **122** unsatisfactory despite the ability to flex and adapt to a user's head. It is contemplated that a flexible headband **122** can be too constrictive for some users and lose its elasticity through trauma and use. Therefore, various embodiments configure the headband with a compliant portion that conforms to a user's head with optimized comfort, longevity, and customization.

[0018] FIG. **3** shows a cross-section view of an example headwear system **140** that is constructed and operated in accordance with various embodiments. The headwear system **140** has a body **142** that defines an inner region **144** that is partially or completely surrounded by a headband **146**. A bill **148** continuously extends from the body **142** and has a medallion **150** positioned on an exterior surface **152**. It is noted that the bill does not have an information feature, such as feature **110** of FIG. **1**, but can be assumed that an information feature was previously present and removed from the bill, or not ever present.

[0019] The headband **146** can be configured with any combination of rigid, flexible, and semi-rigid materials that are layered or individually presented to predetermined portions of the headband **146**. In accordance with some embodiments, a compliant portion **154** of the headband **146** can be positioned proximal the bill **148** and provide material that conforms to a user's head, such as cloth or foam, with minimal pressure applied to the head, which contrasts elastic, flexible headbands that can apply too little or too much pressure that results in an uncomfortable experience for a user.

[0020] Various embodiments incorporate the compliant portion **154** into the headband **146** by being sewn into a cloth or elastic strip, as shown in FIG. **3**, while other embodiments configure the compliant portion **154** to be an additional component that can be attached in any position around the headband **146**. The ability to tune the configuration of the compliant portion **154** for position, material, and presentation in relation to a user's head allows the headwear system **140** to be customized for fit and fashion. For example, the compliant portion **154** may be tuned to allow the headwear system **140** to be securely and comfortably worn in non-traditional manners, such as backwards, sideways, and tilted. Such secure and comfortable fitment can be attributed to the default or customized position and configuration of the compliant portion **154**. That is, the compliant portion **154** may be removed, replaced, and reattached in different locations that can provide optimized fitment for a virtually any user's head.

[0021] In an example embodiment, the headband **146** is configured with a compliant portion **154** that continuously extends around the entire circumference of the body **142** and has different thicknesses, as measured from the internal surface **156** of the body **142** towards a center of the headband **146** along the Z axis. The different headband **146** and compliant portion **154** thicknesses can be positioned at locations that traditionally receive pressure and induce discomfort, such as along the temporal and forehead regions of a user's head. The compliant portion **154** may further be configured with a memory foam material construction, such as a low resilience polyurethane foam, that deforms in response to contact with a user's head and subsequently returns to a different default shape once the headwear system **140** is removed from the user's head.

[0022] FIGS. **4**A-**4**C respectively illustrate different views of an example compliant portion **160** configured in accordance with various embodiments to be permanently or temporarily incorporated into a headwear system. FIG. **4**A shows a top view of the compliant portion **160** that has a tuned shape and size to continuously extend around some, but not all, of the circumference of a headband, as represented by segmented line **162**. The compliant portion **160** is configured with a thickness **164** that may be uniform or varying throughout the compliant body **166**. It is contemplated that the compliant portion **160** can have a diameter **168** that is the same as the headband. It is further contemplated that the compliant portion may be interconnected into a continuous circular, or spheroid, shape by attaching two ends of the compliant body **166** via a seam cover **170**.

[0023] The tuned size and position of the compliant portion **160** in a headband can allow the headband to conform to the user's head while maintaining rigidity through the portions of the headband that do not contain material that deforms to conform to the user's head. In other words, the compliant body **166** can have a size and shape that is selected in relation to the overall construction of the headband to provide secure and comfortable fitment with a user's head while providing rigidity that maintains the headwear system in place, particularly during movement of the user.

[0024] FIG. **4**B is a side view block representation of the compliant portion **160** that shows how the compliant body **166** can be shaped to provide a carrier portion **172** with a uniform thickness along the Y axis that is disposed between connection tabs **174**. The carrier portion **172** and tabs **174** can each be constructed of an elastic material that applies pressure to a foam insert **176** to induce the foam insert **176** to contact a user's head and deform when worn. The carrier portion **172** has a length **178** that is greater than the length **180** of the foam insert **176**, but such configuration is not limiting as the foam insert **176** may continuously or discontinuously extend beyond the carrier length **178**, such as into the tabs **174**.

[0025] It is noted that various portions of the compliant portion **160** can have one or more fastening means attached thereto. For example, but in no way limiting, hook-and-loop, magnets, and adhesives can be positioned on various locations on the compliant portion **160** to allow for selective installation and removal from a headband. Some embodiments configure the connection tabs **174** to fasten together to form a loop, such as with the aid of a seam cover **170**. The tuned size and shape of the connection tabs **174** can allow the compliant portion **160** to be easily attached, removed, and repositioned anywhere on a headband to provide customizable fitment for a headwear system.

[0026] FIG. **4**C displays a cross-section view block representation of the compliant portion **160** that illustrates how the foam insert **176** can consist of a number of different layers that can be horizontally stacked along the Z axis or vertically stacked along the X axis. As shown, the compliant body **166** is shaped to present the connection tabs **174** to allow efficient

installation and removal of the compliant portion **160** along any portion of a headband, such as within a headband flap. It is understood that the foam insert **176** may deform and present uncomfortable undulations in the headband. Accordingly, the foam insert **176** is configured with an overall thickness **182** that compensates for deformation of the first **184** and second **186** foam layers to provide a uniform headband surface that aligns the carrier **188** and foam **190** surfaces along the Z axis when the compliant portion **160** is worn.

[0027] Through various embodiments, the foam insert **176** can have any number of dissimilar layers that are tuned to provide optimized fitment without being bulky, heavy, or awkward. That is, the first foam layer **184** can be constructed with a different density, weight, material, and thickness than the second foam layer **186**. For example, the first foam layer **184** may have a lower density than the second foam layer **186** to allow more efficient heat dissipation from the user's head while providing pressure-sensitive deformation in response to contact with the user's head. It is contemplated that the combination of different foam layers **184** and **186** can provide optimized headband fitment by presenting multiple different structures that deform and react to a user's head differently.

[0028] FIG. **5** is a top view of a portion of an example headwear system **200** that has a plurality of medallions and information feature positioned on a bill **202**. It is to be understood that any number of similar and dissimilar medallions and information features can be incorporated into the headwear system **200**. The non-limiting embodiment shown in FIG. **5** illustrates how a first **204** and second **206** information features can be separated by a seam **208** and arranged with mating surfaces **210** that correspond and form a single comprehensive information structure. Such comprehensive information structure can convey an unlimited variety of graphics and text that can be easily manipulated by removing one information feature while leaving another information feature on the bill **202**.

[0029] Regardless of the number and subject matter on the information features **204** and **206**, at least one medallion can extend through an aperture **212** in the information feature. A first medallion **214** is configured with a first shape and size that differs from the configurations of the second **216**, third **218**, and fourth **220** medallions. The different shapes of the medallions **214**, **216**, **218**, and **220** are not required or limiting, but show how differently configured medallions and apertures **212**, such as squares, parallelograms, rhomboids, octagons, and trapezoids, can be incorporated into the headwear system **200** and aligned along any longitudinal axis, such as axis **222** that is angled with respect to the Z and X axes. Various embodiments configure the various medallions to have shapes and sizes that can interconnect and form a collective image, shape, or design in response to a user removing and repositioning at least one medallion.

[0030] FIG. **6** displays a cross-section view block representation of a portion of an example headwear system **230** configured in accordance with some embodiments to have a bill **232** on which an information feature **234** and medallion **236** are respectively attached. It is noted that the bill **232** has a uniform thickness **238** along the Y axis, but such configuration is not required as a varying thickness may allow the bill **232** to be controlled and manipulated more easily. The information feature **234** is configured as a lamination of an fastener layer **240**, such as an adhesive, hook-and-loop, magnetic, or tongue-and-groove fastener, and an exterior layer **242** that collectively have a information thickness **244**. The information feature has an information surface **246** that is opposite the bill **232** and conveys graphics and text that may be printed, imprinted, and holographically projected.

[0031] The medallion **236** is also configured with a fastener layer **248** that contacts the bill **232** and positions the exterior layer **250** to face away from the bill **232**. The various layers of the information feature **234** and medallion **236** can be tuned to have different thicknesses **244** and **252** that may convey texture and design that are fashionable and eye-catching. As shown the medallion **236** extends a certain distance **254** above the information feature **234**, such as 1 cm, through the aperture **256**. The ability to manipulate the fastening means and thicknesses of the information feature **234** and medallion **236** can convey a diverse variety of textures, graphics, and text that can be selectively removed, reorganized, and reattached at the will of the user to produce customized headwear.

[0032] FIG. **7** is a flow chart of an example headwear utilization routine **260** that may be conducted in accordance with various embodiments to provide customized and comfortable headwear. Initially, step **262** attaches a compliant portion to a headband. Step **262** may be a permanent attachment, such as stitching the compliant portion into the headband, or a temporary attachment where the compliant portion can be subsequently removed or repositioned by a user to optimize comfort and fitment. Step **264** then positions at least one information feature and medallion on the bill of the headwear.

[0033] Although the user may wear the headwear with the information feature and medallion attached to the bill, various embodiments conduct step **266** where at least one information feature is removed while the medallion is unaltered. Next, decision **268** determines if the medallion is to be moved. A decision to move the medallion advances routine **260** to step **270** where the medallion is repositioned on a selected portion of the bill, such as the exterior or interior surfaces of the bill. At the conclusion of the customization of the medallion placement in step **270**, or if the medallion is maintained at its original location, step **272** subsequently positions the headwear on the head of a user in a manner that deforms the compliant portion to provide a secure and comfortable fit of the headband.

[0034] It is noted that the various steps and decision of routine **260** are not required or limiting. As such, any aspect of routine **260** can be changed and removed just as any number of decisions and steps can be added. For example, additional steps may follow step **270** to reposition a plurality of medallions in a collective configuration that may extend into the body of the headwear.

[0035] Through the various embodiments of a headwear system, comfort and customization are optimized to provide a unique and fashionable article. The tuned configuration of a compliant portion of a headband can provide material that deforms to conform to the shape and size of a user's head, which increases fitment of the headwear as well as allowing secure non-traditional headband orientations. The incorporation of at least one information feature and medallion on a bill or body of the headwear system can provide advertising and fashion components that can be selectively removed and reorganized to convey a customized, fashionable appearance.

[0036] Numerous characteristics and advantages of various embodiments of the present disclosure have been set forth in the foregoing description, together with structural and functional details. Nevertheless, this detailed description is illustrative only, and changes may be made in detail, especially in

matters of structure and arrangements of parts within the principles of the present disclosure to the full extent indicated by the broad general meaning of the terms in which the appended claims are expressed.

What is claimed is:

1. An apparatus comprising:

a headband configured to fit a head of a user; and

a compliant portion attached to the headband with a fastener, the compliant portion temporarily conforming to the head of the user.

2. The apparatus of claim **1**, wherein the headband is part of a sports cap.

3. The apparatus of claim **1**, wherein the headband is part of a visor.

4. The apparatus of claim **1**, wherein the headband is rigid.

5. The apparatus of claim **1**, wherein the headband is flexible.

6. The apparatus of claim **1**, wherein the compliant portion comprises a sizing feature housed in a carrier.

7. The apparatus of claim **6**, wherein the sizing feature comprises a foam material.

8. The apparatus o f claim **1**, wherein the compliant portion is positioned to contact a forehead of the head.

9. The apparatus of claim **1**, wherein the compliant portion reduces a first diameter of the headband to a second diameter.

10. The apparatus of claim **1**, wherein multiple separate compliant portions are positioned on different regions of the headband.

11. An apparatus comprising headwear having a bill continuously extending from a body, an information feature and at least one medallion affixed to the bill, the medallion extending through an aperture in the information feature.

12. The apparatus of claim **11**, wherein the medallion and information feature are each affixed to the bill with a temporary adhesive.

13. The apparatus of claim **11**, wherein the medallion has a height above the bill that is greater than the information feature.

14. The apparatus of claim **11**, wherein the information feature continuously surrounds the medallion.

15. The apparatus of claim **11**, wherein the information feature and medallion can be removed individually.

16. The apparatus of claim **11**, wherein the medallion is relocated from a first position on the bill to a second position on the bill.

17. A method comprising:

attaching a compliant portion to a headband with a fastener;

positioning the headband about a head of a user; and

conforming the compliant portion to the head of the user.

18. The method of claim **17**, wherein a bill continuously extends from the headband and has a medallion and information feature attached, the medallion extending from the bill through an aperture in the information feature.

19. The method of claim **18**, wherein the information feature is removed and the medallion remains in-place.

20. The method of claim **19**, wherein the medallion is relocated to a different position on the bill.

* * * * *