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(54) FACE SHIELD WITH CHIN CONTACTING ELEMENT

GESICHTSSCHIRM MIT EINEM AM KINN ANLIEGENDEN ELEMENT

MASQUE PROTECTEUR A MENTONNIERE

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Description

FIELD OF THE INVENTION

The present invention relates to a face shield for use with a sports headgear equipped with a chin contacting element.

BACKGROUND OF THE INVENTION

At present, face guards for sports headgear, such as football or hockey helmets, consist of a shield which can be either of the grill type, consisting of metallic bars, or of the visor type wherein a transparent plastic member extends at least over the viewing portion of the face guard.

In football, a strap extends from both sides of the helmet and supports an intermediate chin contacting element (= US-A-3 873 997). The strap, when secured to the helmet by means of snaps, serves to tightly maintain the helmet to the head of the wearer. In hockey, there is usually a loose strap extending under the player's chin, the strap being secured again to opposite side snaps on the helmet. In both sports, it has been found that the strap is cumbersome. In football, for example, very often the strap must be unsnapped after each play in order to release the pressure exerted on the player's head. In hockey, the strap must be maintained loose in order to enable the player to remove his helmet for cooling.

However, the European patent document EP-A 258 552, which represents the closest prior art, discloses a face guard for a sports headgear comprising :

a face shield defining an arc-shaped body having ;
a front viewing section and opposite side sections, said side sections being adapted for mounting to a helmet 1 forming part of the sports headgear ;
a chin device defining an arc-shaped rigid frame being heigdly mounted ;
said frame defining a central region and opposite side regions, said side regions being pivotally connected to the face guard ;
a chin contacting element 30 ; and
means and limiting downward pivotal movement of said frame.

So the above problems with presently used sports face guards are overcome by providing a face guard with a shield equipped with a chin contacting element mounted to the face shield instead of being secured to the helmet by snaps or other attachment means.

OBJECTS AND STATEMENTS OF THE INVENTION

It is an object of the present invention to connect the chin element in such a way to the face shield that the device is able to follow the jaw movements of the user.

This object is achieved by providing the features of the characterising portion of claims 1 or 10.

In one form of this embodiment of the invention, the downward limiting movement of the frame is accomplished by having the upper edge of the frame contacting the lower edge of the face shield (= claim 2). Further embodiments of the invention are covered by claims 3 to 9 and 11.

Other objects and further scope of applicability of the present invention will become apparent from the detailed description given hereinafter. It should be understood, however, that this detailed description, while indicating preferred embodiments of the invention, is given by way of illustration only.

IN THE DRAWINGS

Figure 1 is a perspective view of one embodiment of a face guard made in accordance with the present invention;
Figure 2 is an enlarged side elevation view of the chin device mounted to the lower part of the face shield, partially shown;
Figure 3 is a view similar to that of figure 2 showing another position of the chin frame;
Figure 4 is a cross-sectional view of the chin contacting element;
Figure 5 is a perspective view of the chin device;
Figure 6 is a top plan view thereof;
Figure 7 is a bottom perspective view showing another embodiment of the present invention; and
Figure 8 is a cross-sectional view of the chin contacting element of figure 7.

DESCRIPTION OF PREFERRED EMBODIMENTS

Referring to figure 1, there is shown a first embodiment of a sport headgear, generally denoted 10, consisting of a helmet 12 and of a face guard 14, the latter being hingedly connected to the helmet at opposite sides thereof through appropriate hinge elements 16. These elements are mounted for pivotal movement to an adapter 18 secured to the helmet and serving as an intermediate member between the helmet and the shield. Interlocking elements 20 and 22 respectively mounted to the adapter and to the face shield allow the face shield to be secured to the helmet; on the other hand, these interlocking elements are releasable to enable a manual disengagement whereby the face shield may be lifted outwardly over the helmet. The particular construction of this face shield and its interconnection with the helmet is described in a co-pending application filed concurrently herewith.

The face guard 14 consists in the present embodiment of a transparent arc-shaped body made of plastics material and having an upper part defining a central viewing section and opposite side sections. The side sections are secured by fastening elements 24 received

in a slotted member 26 which serves to permit various positionings of the face guard relative to the helmet.

The lower part of the face shield has a grill type structure with a series of openings 29 allowing for ventilation. Similar openings 30 are provided on each side section of the transparent body to also provide ventilation to the user.

Referring to figures 2 to 6, a chin device in the shape of an arc-shaped rigid frame 32 has a pair of opposite side wings 32a, 32b which are pivotally connected by appropriate fastening hinge elements 34 to the sides 36 of the face shield 14. Preferably, the common axis extending through both hinges 34 coincides with the pivotal axis of a human jaw. However the position of this axis may vary, as described in the above-mentioned co-pending application, to conform with the varying face configurations of users; this is achieved by manipulating and adjusting the fastening elements 24 on each side of the face shield.

The arc-shaped rigid frame comprises an upper edge 38 and a lower edge 40 (see figure 4). The downward movement of the frame 32 is limited by the upper edge 38 of the frame when contacting the lower edge 42 of the face shield 14.

As illustrated in figures 4, 5 and 6, a chin contacting element 50 is mounted in the front central region of the frame 32. This element comprises a rigid outer shell 52 and an inner chin contacting cushion element 54. Shell 52 is mounted to the frame in a manner that it can pivot relative to the frame about a pair of hinge elements 56 and 58. The hinges 56 and 58 each have a head portion (see 56' in figure 3) which can be snapped in and out of a series of vertically spaced openings 60 in the frame, again to provide comfortable positioning of the chin device on the chin of a user.

Hence, the chin contacting device has a double pivot adjustability with respect to the user's chin in that it pivots about the hinges 56 and 58 of the frame which, in turn, may pivot about the pivots 34 on each side of the frame.

Figures 7 and 8 show another embodiment of the present invention wherein a chin contacting device 100 is mounted directly to the lower part of a face shield 102. In this embodiment, the lower grill-like structure 104 of the face shield is provided with one or more openings 106 on opposite sides of the central region of the face shield so that the head of hinge elements 108, 110 may be snappily engaged therein. Again, an adjustment is possible by properly locating the hinge elements in the desired opening. These hinge elements are fixed to the rigid outer shell 112 of the chin device which also includes an inner cup-shaped cushion element 114.

Although the invention has been described above with respect to two specific forms, it will be evident to a person skilled in the art that it may be modified and refined in various ways. It is therefore wished to have it understood that the present invention should not be limited in scope, except by the terms of the following claims.

Claims

1. A face guard for a sports headgear comprising :

   a face shield (14) defining an arc-shaped body having a front viewing section and opposite side sections, said side sections being adapted for mounting to a helmet forming part of the sports headgear ;
   a chin device defining an arc-shaped rigid frame (32) hingedly mounted ; said frame defining a central region and opposite side regions, said side regions being pivotally connected to said side sections of said face shield ;
   a chin contacting element (50) ; and
   means limiting downward pivotal movement of said frame,
   characterized in that :
   the arc-shaped rigid frame (32) of the chin device is hingedly mounted at a lower part of and within said arc-shaped body of said face shield (14) ;
   said frame (32) is pivotally connected to said side sections of said face shield (14) ; and
   the chin contacting element (50) is mounted to said central region of said frame (32).

2. A face guard as defined in claim 1, wherein said face shield body has a lower part defining a lower peripheral edge (42); said frame of said chin device (32) defining an upper peripheral edge (38); said limiting means consisting of said upper peripheral edge (38) contacting said lower peripheral edge (42) on downward movement thereof.

3. A face guard as defined in claim 1, wherein said chin contacting element (50) is hingedly mounted to said frame (32).

4. A face guard as defined in claim 3, wherein said chin contacting element (50) is cup-shaped with opposite sides thereof pivotally connected to said frame (32).

5. A face guard as defined in claim 3, wherein said chin contacting element (50) consists of an outer rigid shell (52) and of an inner cushion material (54).

6. A face guard as defined in claim 1, wherein said frame (32) defines a grill structure.

7. A face guard as defined in claim 2, wherein said face shield (14) is made of a transparent plastics material.

8. A face guard as defined in claim 7, wherein said viewing section of said face shield (14) includes a series of side openings (30) for ventilation.

9. A face guard as defined in claim 7, wherein said lower part of said face shield (14) defines a grill structure including ventilation openings (29).

10. A face guard for a sport's headgear comprising :

a face shield (102) defining an arc-shaped body having a front viewing section and opposite side sections, said side sections being adapted for mounting to a helmet forming part of the sports headgear ;
a chin contacting element (100) mounted to the lower part of said face shield (102), characterised in that the chin contacting element (100) is mounted centrally of the lower part of the face shield; and that
cooperating means (= hinge elements 108, 110) are provided on said lower part of said face shield (102) and on said chin contacting element (100) allowing said chin contacting device to pivot within and relative to said lower part of said face shield (102).

11. A face guard as defined in claim 10, wherein said cooperating means include means allowing various positions of said chin contact element (100) relative to said lower part of said face shield (102).

Patentansprüche

1. Gesichtsschutz für eine Sportkopfbedeckung, umfassend:

einen einen bogenförmigen Körper festlegenden Gesichtsschirm (14) mit einem vorderen Sichtabschnitt und einander entgegengesetzten Seitenabschnitten, wobei die Seitenabschnitte zur Anbringung an einem einen Teil der Sportkopfbedeckung bildenden Helm geeignet sind,
eine einen über Scharnier(e) angelenkten, bogenförmigen, starren Rahmen (32) festlegende Kinneinheit, wobei der Rahmen einen Zentralbereich und einander entgegengesetzte Seitenbereiche festlegt und die Seitenbereiche schwenkbar mit den Seitenabschnitten des Gesichtsschirms verbunden sind,
ein am Kinn anliegendes Element (50) und
(ein) Mittel zum Begrenzen der Abwärtsschwenkbewegung des Rahmens,
dadurch gekennzeichnet, daß
der bogenförmige, starre Rahmen (32) der Kinneinheit an einem unteren Teil und innerhalb des bogenförmigen Körpers des Gesichtsschirms (14) über Scharnier(e) angelenkt ist,
der Rahmen (32) schwenkbar mit den Seitenabschnitten des Gesichtsschirms (14) verbunden ist und
das am Kinn anliegende Element (50) im zentralen Bereich des Rahmens (32) angebracht ist.

2. Gesichtsschutz gemäß Anspruch 1, wobei der Gesichtsschirmkörper einen unteren Teil aufweist, der einen unteren Umfangsand (42) festlegt, der Rahmen der Kinneinheit (32) einen oberen Umfangsrand (38) festlegt, (und) die Begrenzungseinrichtung durch Anlage des oberen Umfangsrandes (38) am unteren Umfangsrand (42) bei Abwärtsbewegung des ersteren gebildet ist.

3. Gesichtsschutz gemäß Anspruch 1, wobei das am Kinn anliegende Element (50) über Scharnier(e) am Rahmen (32) angebracht ist.

4. Gesichtsschutz gemaß Anspruch 3, wobei das am Kinn anliegende Element (50) napfförmig ist und seine einander entgegengesetzten Seiten schwenkbar mit dem Rahmen (32) verbunden sind.

5. Gesichtsschutz gemaß Anspruch 3, wobei das am Kinn anliegende Element (50) aus einer äußeren starren Schale (52) und einem inneren Polstermaterial (54) besteht.

6. Gesichtsschutz gemäß Anspruch 1, wobei der Rahmen (32) eine Gitterstruktur festlegt.

7. Gesichtsschutz gemäß Anspruch 2, wobei der Gesichtsschirm (14) aus durchsichtigem Kunststoff gefertigt ist.

8. Gesichtsschutz gemäß Anspruch 7, wobei der Sichtabschnitt des Gesichtsschirms (14) eine Reihe von Seitenöffnungen (30) zur Belüftung umfaßt.

9. Gesichtsschutz gemäß Anspruch 7, wobei der untere Teil des Gesichtsschirms (14) eine Gitterstruktur mit Belüftungsöffnungen (29) umfaßt.

10. Gesichtsschutz für eine Sportkopfbedeckung, umfassend:

einen Gesichtsschirm (102), der einen bogenförmigen Körper mit einem vorderen Sichtabschnitt und einander entgegengesetzten Seitenabschnitten festlegt, wobei die Seitenabschnitte zum Anbringen an einem einen Teil der Sportkopfbedeckung bildenden Helm geeignet sind, (und)

ein am Kinn anliegendes Element (100), das am unteren Teil des Gesichtsschirms (102) angebracht ist,

dadurch gekennzeichnet, daß

das am Kinn anliegende Element (100) zentral am unteren Teil des Gesichtsschirms angebracht ist, und daß

miteinander Zusammenwirkende Mittel (= Scharnierelemente 108,110) am unteren Teil des Gesichtsschirms (102) und an dem am Kinn anliegenden Element (100) vorgesehen sind, die es dem am Kinn anliegenden Element ermöglichen, sich innerhalb und relativ zu dem unteren Teil des Gesichtsschirms (102) zu verschwenken.

11. Gesichtsschutz gemäß Anspruch 10, wobei die miteinander zusammenwirkenden Mittel eine Einrichtung einschließen, die mehrere Positionen des am Kinn anliegenden Elements (100) relativ zum unteren Teil des Gesichtsschirms (102) ermöglicht.

Revendications

1. Masque protecteur destiné à une coiffe pour la pratique des sports comprenant :

un écran de protection du visage (14) définissant un corps incurvé possédant une section de visière avant et des sections latérales opposées, lesdites sections latérales étant adaptées pour être fixées à un casque faisant partie de la coiffe pour la pratique des sports ;

un dispositif de mentonnière définissant un cadre rigide incurvé (32) monté de manière articulée ; ledit cadre définissant une région centrale et des régions latérales opposées, lesdites régions latérales étant reliées de manière pivotante auxdites sections latérales dudit écran de protection du visage ;

un élément en contact avec le menton (50) ; et des moyens limitant le mouvement de pivotement descendant dudit cadre,

caractérisé en ce que :

le cadre rigide incurvé (32) du dispositif de mentonnière est monté de manière articulée sur une partie inférieure dudit corps incurvé dudit écran de protection du visage (14) et à l'intérieur de celui-ci ;

ledit cadre (32) est relié de manière pivotante auxdites sections latérales dudit écran de protection du visage (14) ; et

l'élément en contact avec le menton (50) est fixé à ladite région centrale dudit cadre (32).

2. Masque protecteur selon la revendication 1, dans lequel ledit corps de protection du visage possède une partie inférieure définissant un bord périphérique inférieur (42) ; ledit cadre (38) dudit dispositif de mentonnière (32) définissant un bord périphérique supérieur (38) ; lesdits moyens de limitation étant constitués par ledit bord périphérique supérieur (38) qui vient en contact avec ledit bord périphérique inférieur (42) lors d'un mouvement descendant de celui-ci.

3. Masque protecteur selon la revendication 1, dans lequel ledit élément en contact avec le menton (50) est monté de manière articulée audit cadre (32).

4. Masque protecteur selon la revendication 3, dans lequel ledit élément en contact avec le menton (50) est en forme de coupelle, avec ses côtés opposés reliés de manière pivotante audit cadre (32).

5. Masque protecteur selon la revendication 3, dans lequel ledit élément en contact avec le menton (50) est constitué d'une coque rigide extérieure (52) et d'un matériau d'amortissement intérieur (54).

6. Masque protecteur selon la revendication 1, dans lequel ledit cadre (32) définit une structure de grille.

7. Masque protecteur selon la revendication 2, dans lequel ledit écran de protection du visage (14) est réalisé dans une matière plastique transparente.

8. Masque protecteur selon la revendication 7, dans lequel ladite section de visière dudit écran de protection du visage (14) comprend une série d'ouvertures latérales (30) permettant l'aération.

9. Masque protecteur selon la revendication 7, dans lequel ladite partie inférieure dudit écran de protection du visage (14) définit une structure de grille comprenant des ouvertures d'aération (29).

10. Masque protecteur destiné à une coiffe pour la pratique des sports comprenant :

un écran de protection du visage (102) définissant un corps incurvé possédant une section de visière avant et des sections latérales opposées, lesdites sections latérales étant adaptées pour être fixées à un casque faisant partie de la coiffe pour la pratique des sports ;

un élément en contact avec le menton (100) fixé à la partie inférieure dudit écran de protection du visage (102), caractérisé en ce que l'élément en contact avec le menton (100) est fixé en position centrale à la partie inférieure de l'écran de protection du visage ; et en ce que

des moyens de coopération, à savoir les moyens d'articulation (108, 110), sont prévus sur ladite partie inférieure dudit écran de protection du visage (102) et sur ledit élément en

contact avec le menton (100), ce qui permet audit dispositif en contact avec le menton de pivoter à l'intérieur de ladite partie inférieure dudit écran de protection du visage (102) et par rapport à celle-ci.

11. Masque protecteur selon la revendication 10, dans lequel lesdits moyens de coopération comprennent des moyens permettant différentes positions dudit élément en contact avec le menton (100) par rapport à ladite partie inférieure dudit écran de protection du visage (102).

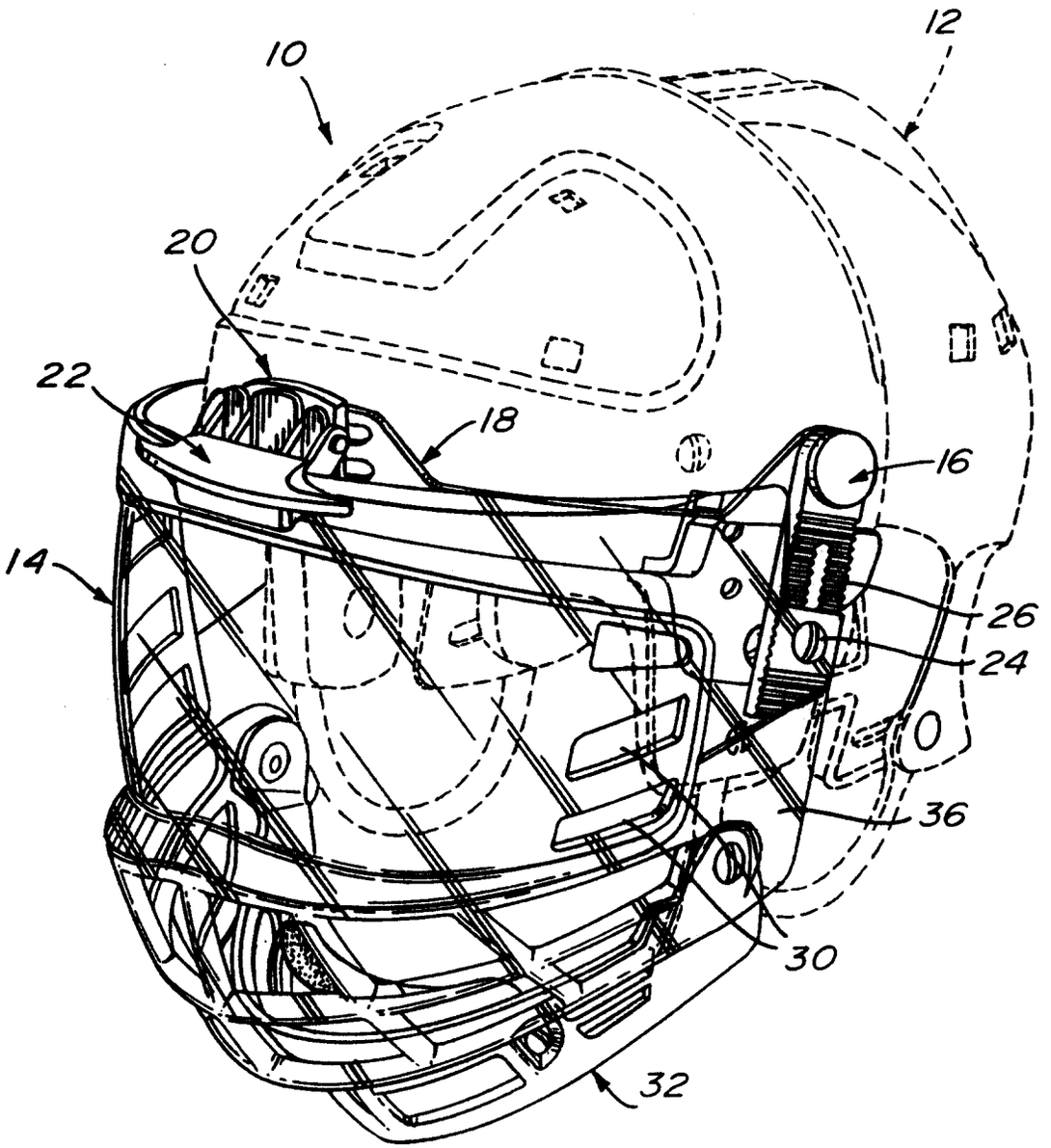

FIG. 1

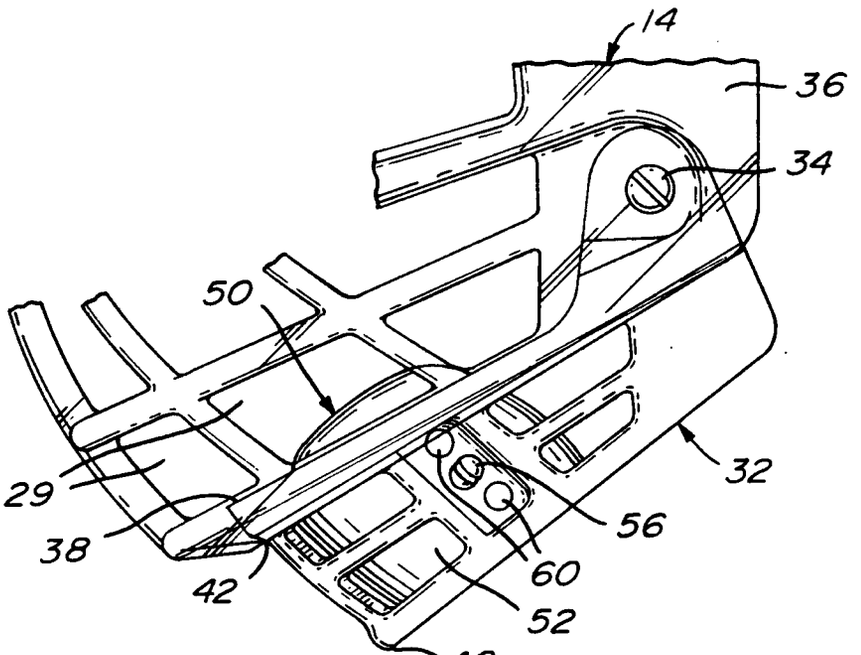

FIG. 2

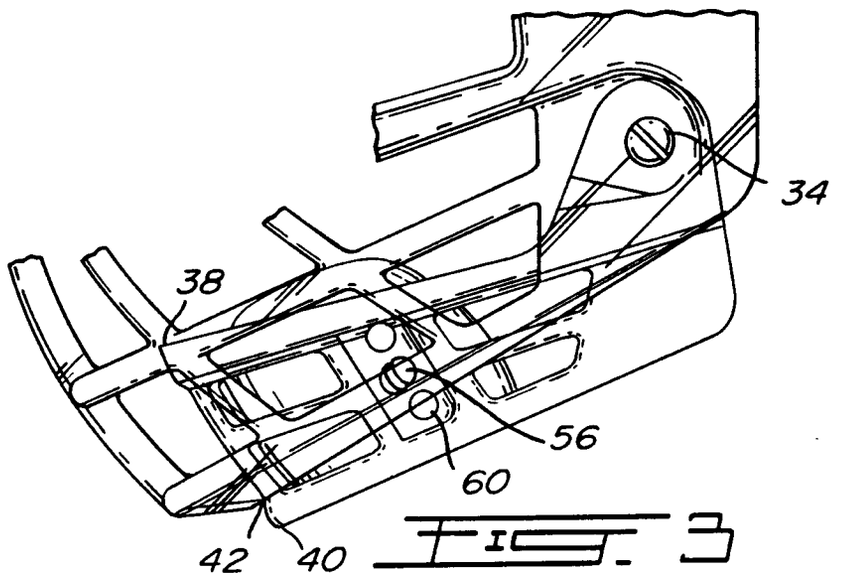

FIG. 3

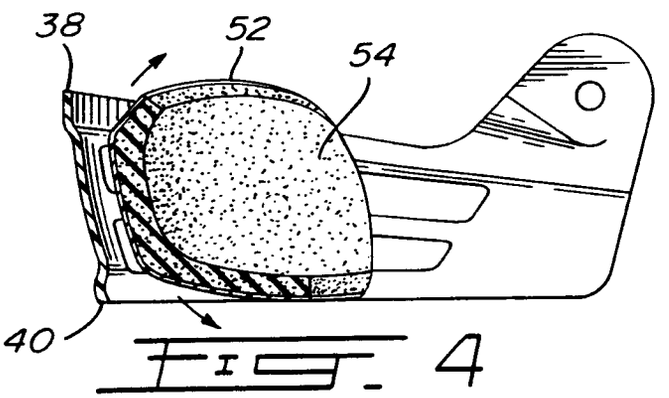

FIG. 4

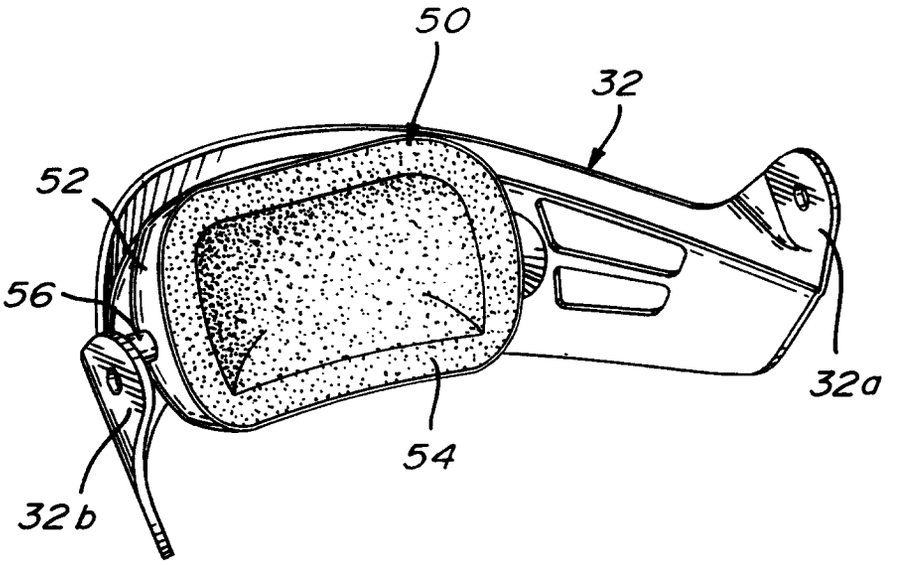

FIG. 5

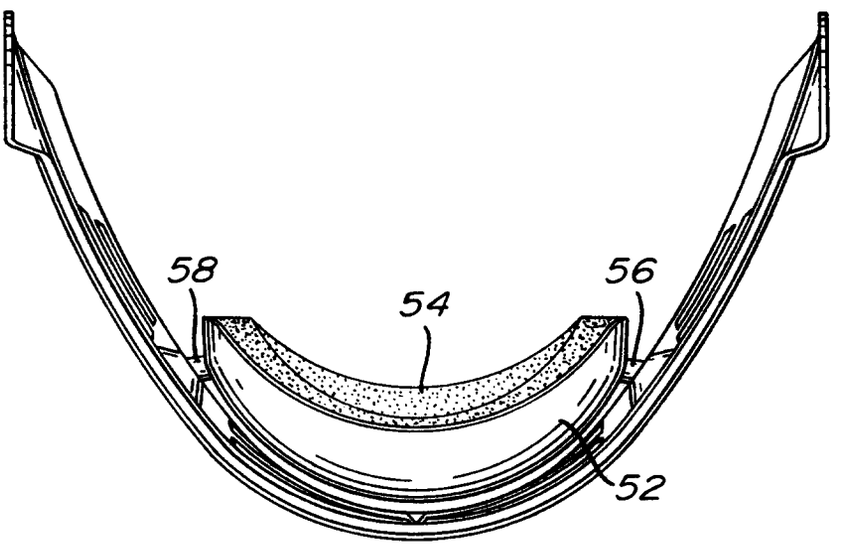

FIG. 6

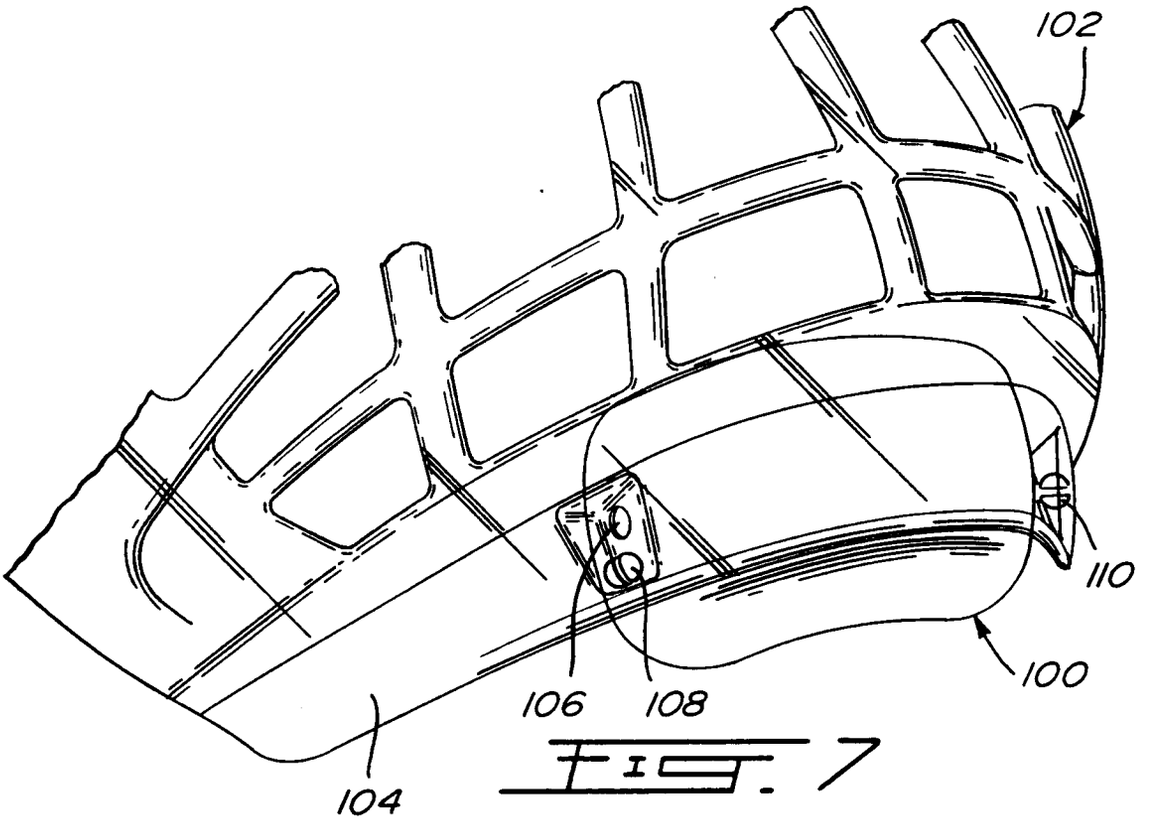

FIG. 7

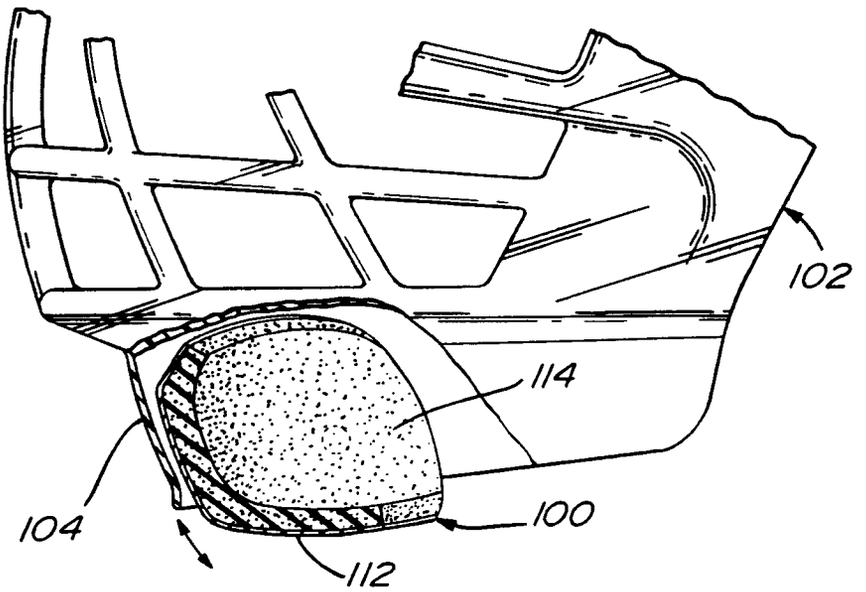

FIG. 8