

(19)



(11)

EP 2 628 402 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:

21.08.2013 Bulletin 2013/34

(51) Int Cl.:

A42B 3/22 (2006.01)(21) Application number: **13155795.1**(22) Date of filing: **19.02.2013**

(84) Designated Contracting States:

**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR**

Designated Extension States:

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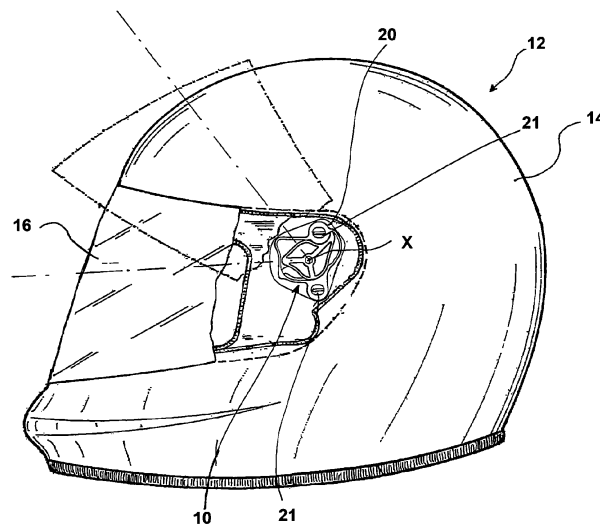
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(54) **Movement device for a helmet for moving a first element of the helmet with respect to a second element of the helmet.**

(57) The present disclosure relates to a movement device (10) for a helmet (12) for moving a first element (16) of the helmet (12) with respect to a second element (14) of the helmet (12). The movement device (10) includes a pivot element (24) for pivoting the first element (16) of the helmet with respect to the second element (14) of the helmet about an axis of rotation (X), and a pivot seat (25), in which the pivot element (24) is arranged. The pivot element (24) includes an eccentric portion or cam (26), and said seat includes a first seat region (30) adapted to receive said eccentric portion (26) and a second seat region (32) adapted to receive said eccentric

portion (26). The first seat region (30) is in a position angularly offset and linearly translated with respect to said second seat region (32). A first position of the pivot element (24) corresponds to said first seat region (30) and a second position of the pivot element (24) corresponds to a second seat region (32), such that, when the eccentric portion (26) of the pivot element (24) passes from the first seat region (30) to the second seat region (32), the pivot element (24) performs both a rotation in order to compensate for angular offsetting between the second seat region (32) and the first seat region (30) and a translation to compensate for linear offsetting between the second seat region (32) and the first seat region (30).

**FIG.1****EP 2 628 402 A1**

Description

[0001] The present disclosure relates generally to a movement device for a helmet. In particular, the present disclosure relates to a movement device for a helmet for moving a first element of the helmet with respect to a second element of the helmet. For example, in a helmet including a visor and a shell, the movement device is able to move the visor with respect to the shell of the helmet between a first operating position, for example active and closed position in front of the user's face, and a second operating position, for example an inactive and open position, i.e. raised opposite the user's forehead. Alternatively, for example, in a helmet including a movable flap which closes an air intake or ventilation opening in the helmet, the movement device is able to move the movable element, with respect to a remaining portion of the helmet, or is able to move similar elements or parts of the helmet, such as a chin guard.

[0002] The aforementioned movement device can therefore be applied to all protective helmets where there is a movement of parts.

[0003] In particular, with specific reference to a helmet with visor, it is known to perform a rotary/translational movement of the visor, namely to cause a translational movement of the visor forwards with respect to the shell, upon initial opening of the visor from the closed position, and, after the translational movement, cause a rotational movement so as to move the visor into the open position on the user's forehead. As a result of this rotary/translational movement it is possible to obtain a helmet in which the visor, the chin guard or the aforementioned movable flap is located flush with the shell or a corresponding portion of the helmet when in the closed position, or to open the visor, the chin guard or the movable flap into the open position without interfering with the volume of the shell during the opening movement.

[0004] The known movement devices, although advantageous from many points of view, are very complex to produce and are formed by numerous mechanisms and components, such that the helmet is very costly in manufacturing terms.

[0005] A technical problem forming the basis of the present disclosure is that of providing a movement device for a helmet which has a simplified structure and a small number of components and/or which is able to achieve further advantages. A technical problem forming the basis of the present disclosure is also that of providing a helmet including such a device.

[0006] The technical problem is solved by providing a movement device for a helmet as defined in the independent claim 1, a helmet including such a device as defined in claim 12 and a method according to claim 15.

[0007] Secondary characteristic features of the subject of the present disclosure are defined in the corresponding dependent claims.

[0008] In particular, according to the present disclosure, the seat of rotation for the pivot has a first seat

region adapted to receive an eccentric portion of the pivot element and a second seat region, separate from the first seat region and adapted to receive the eccentric portion of the pivot element, wherein the first seat region is in a position angularly offset around the axis of rotation of the pivot element and linearly translated relative to said second seat region, and wherein a first position of the pivot element corresponds to the first seat region and a second position of the pivot element corresponds to said second seat region, such that said second position of the pivot element is a position rotated and linearly translated with respect to said first position, and vice versa.

[0009] In other words, according to the present disclosure, the seat for the pivot element has two different seat regions which are in a mutual spatial relationship, with predefined angular offsetting and linear offsetting, such that a movement of the eccentric portion of the pivot element between the first seat region and the second seat region, and vice versa, produces a rotary/translational movement of the pivot element and therefore of the first element of the helmet connected to the pivot element

[0010] The first element of the helmet connected to the pivot element may be the visor of the helmet, or any other movable element, such as a flap suitable for closing a ventilation opening, or a chin guard. The second element of the helmet may be the shell, or for example the chin guard, if the movable flap closes a ventilation opening of the chin guard.

[0011] In this way, when it is required to open the visor, the movable flap or the chin guard (first element), and a user starts to perform rotation of the first element, this produces a displacement of the eccentric portion of the pivot element, owing, for example, to the interaction between the cam element and the pivot seat, for example from the second position into the first position. This displacement includes both a rotation of the eccentric portion and therefore the rotation of the movable element, and also a linear displacement of the eccentric portion and therefore a linear displacement of the movable element, in order to compensate for the angular and linear offsetting of the first seat region with respect to the second seat region.

[0012] Said angular and linear offsetting of the first seat region with respect to the second seat region is designed so as to correspond, for example in the case of a visor, to a forward movement outwards of the first element (visor, chin guard or movable flap) away from the second element (for example shell), during opening, and a backward movement towards the second element during closing.

[0013] It follows that, when a user performs movement of the first element, for example a rotation of the visor, the chin guard or the movable flap, this produces an immediate translational movement, almost as a consequence of rotation. Basically, the rotation of the pivot in the pivot seat is able to produce a translation thereof between the two seat regions, such that the pivot performs overall a rotary/translational movement.

[0014] In other words, in order to perform a rotary/translational movement of a visor or other first element of the helmet, a pivot element is associated with the first element of the helmet and a pivot seat is associated with the second element of the helmet. With this embodiment it is possible to obtain a movement device which is very simple in that it may be obtained by means of suitable designing of the seat regions of the pivot seat and the respective angular offsetting and linear offsetting, as well as a corresponding design of the pivot element and the eccentric portion of the pivot element.

[0015] Moreover, in this solution it is possible to obtain a direct correlation between angular offsetting and linear offsetting of the seat regions of the pivot seat and the angular displacement and linear displacement of the pivot element.

[0016] Complicated mechanisms are therefore avoided.

[0017] According to a first aspect of the present disclosure, the pivot seat acts as a counter-cam and allows the relative angular and linear movement of the pivot element in the pivot seat. A rotation of the pivot element is coordinated with a translation owing to a cam/counter-cam interaction between the pivot element and the pivot seat. This means that, at least between the eccentric portion of the pivot element and the respective seat regions of the pivot seat, there is a temporary interaction between parts, for example contact, such that between the two elements a thrust is created such as to cause displacement of the first element with respect to the second element.

[0018] In one embodiment, the seat of rotation has a recessed configuration which is formed in a base body integrally associated with second element of the helmet.

[0019] In other words, the movement device comprises a base body, for example a plate-like body, having, formed in one face thereof, a recess which acts as seat of rotation for the pivot element.

[0020] In some embodiments, the recess of the base body defines in the base body a side wall or edge. The side wall is suitably shaped so as to define the two seat regions which correspond to the two positions of the pivot element and the respective second element.

[0021] For example, in order to favour the movement of the eccentric portion between the first seat region and the second seat region, the side wall or edge defining said pivot seat is a curved shaped edge.

[0022] Even more particularly, the first seat region corresponds to a respective concave profile of the side edge, and said second seat region corresponds to a respective convex profile of the side edge. In other words, between the first seat region and the second seat region, the side edge of the recess has a substantially concave/convex progression. It follows that, in order to obtain the linear displacement of the eccentric portion, a variation in the concavity/convexity of the side edge of the recess is used. Moreover, in some embodiments, in order to be able to control a movement of the pivot element between

the first position and the second position, the pivot element comprises an eccentric appendage intended to be received in a third seat region with an end-of-travel function, when the eccentric portion is located in the second seat region, and in a fourth seat region also with an end-of-travel function, when the eccentric portion is located in the first seat region. This third seat region and fourth seat region may also be obtained by means of suitable shaping of the side edge of the recess defining the pivot seat, where this eccentric appendage interacts with the side edge of the recess.

[0023] In some embodiments, the movement device includes a retainer assembly for retaining the pivot element in the first position or in the second position, in order to prevent undesirable movement of the pivot element from the position in which it is located; this is useful for ensuring that the movement of the pivot element between the first position and the second position may not occur spontaneously, but only under the control of the user. The retainer assembly includes, in some embodiments, an interaction element associated with the pivot element, such as a tooth, and at least one interaction counter-element, associated with the pivot seat. Either one of and/or both the interaction element and interaction counter-element may be an elastically deformable element, the flexibility or elasticity of which is calibrated to allow the pivot element to be retained under normal conditions without any forcing (namely when the first element of the helmet is immobile with respect to the second element of the helmet in the open and/or closed condition) and the pivot element to be moved, by means of application of a light force or pressure between the interaction element and the interaction counter-element, when the first element of the helmet must be opened/closed with respect to the second element of the helmet.

[0024] Further advantages, characteristic features and the modes of use of the movement device, helmet and method according to the present disclosure will become clear from the following detailed description of a number of preferred embodiments, provided by way of a non-limiting example.

[0025] It is clear, however, that each embodiment of the subject according to the present disclosure may have one or more of the advantages listed above; in any case it is not required that each embodiment should have simultaneously all the advantages listed. Reference shall be made to the figures in the accompanying drawings in which:

- Figure 1 shows a partially cross-sectioned side view of a helmet including a movement device according to an embodiment of the present disclosure;
- Figure 2 shows a view, on a larger scale, from a first side, of a movement device according to an embodiment of the present disclosure in a first operating condition;
- Figure 3 shows a view, on a larger scale, from a first side, of a movement device according to an embod-

- iment of the present disclosure in a second operating condition;
- Figures 4-6 show schematic views, from a first side, of a movement device according to an embodiment of the present disclosure in successive operating conditions;
 - Figure 7 shows a partial view, on a larger scale, from a first side, of a movement device according to an embodiment of the present disclosure;
 - Figure 8 shows a view, on a larger scale, from a second side, of a movement device according to an embodiment of the present disclosure in an operating condition;
 - Figure 9 shows a further view, on a larger scale, from a second side, of a movement device according to an embodiment of the present disclosure in an operating condition;
 - Figure 10 shows an axonometric view of a helmet including a movement device according to an embodiment of the present disclosure associated with a ventilation opening.

[0026] With reference to the accompanying figures, the reference number 10 denotes a movement device according to the present disclosure.

[0027] In particular, in the example shown in the figures, the movement device 10 is applied to a helmet 12 including a shell 14 protecting the head of a user and a visor 16. The movement device 10 is intended to move the visor 16 with respect to the shell 14 of the helmet 12 by means of a rotational or pivoting movement about an axis X.

[0028] More particularly, two movement devices 10, only one of which is visible in Figures 1-9, are associated with the helmet 12, said devices being arranged on opposite sides in so-called temple regions of a user's head, namely along the sides of the helmet 12 which protect the temple zones of the user's head. The axis X extends between one temple region and another and is the same for both the movement devices 10.

[0029] In order to simplify illustration, in the continuation of the present description, only a single movement device 10 is described, namely the device located in the right-hand zone of the shell 14, or in other words the movement device 10 located in the user's right-hand temple region. In Figures 1-7 the movement device 10 is viewed from the inner side of the helmet 12, namely the side for connection to the shell 14, while in Figures 8-9, the movement device 10 is viewed from the opposite side, namely from the side for connection to the visor 16 on the outer side of the helmet 12.

[0030] Each movement device 10 is intended to displace the visor 16 between a first operating position, or closed position, where said visor 16 is situated opposite the user's face and has a protective function, and a second operating position, where the visor 16 is raised opposite the user's forehead.

[0031] It should be understood that the movement de-

vice 10 may be associated with any other element of the helmet, such as a chin guard or a movable flap intended to close a ventilation opening. For example Figure 10 shows a helmet including a movable flap 116 intended to close a ventilation opening 115. The movement device 10, which is located underneath the flap 116 and therefore is not visible, is intended to move the movable flap 116 between an open position and a closed position, in the same way as for the visor 16.

[0032] In the continuation of the description, reference will be made in particular to the use of the movement device 10 for moving the visor 16 (which represents said first element of the helmet) with respect to the shell 14 (which represents said second element of the helmet) only for the sake of simplifying illustration.

[0033] In the example shown, the movement device 10 comprises a base body 20, or support base, integrally associated with the shell 14 of the helmet, for example by means of screws 21, and arranged inside on the shell 14, and a pivot element 24 which is movable with respect to the base body 20.

[0034] In particular, the pivot element 24 includes a first head portion 22 with a slender and oblong form, which is housed in a pivot seat 25 formed in the base body 20. In particular, the pivot seat 25 is a recess formed in the base body 20 on one side or face of the base body.

[0035] In some embodiments, the pivot element 24 and the base body 20 are made of metallic materials in order to ensure adequate robustness.

[0036] In other embodiments, the pivot element 24 and the base body 20 are made, for example, of acetal resin, polycarbonate, ABS or similar materials which have a suitable mechanical strength.

[0037] The pivot element 24 is stably associated with the visor 16 and is rotationally integral therewith. The connection between the pivot element 24 and the visor 16 is obtained in a known manner.

[0038] For connection to the visor 16 the pivot element 24 comprises a second head portion 23, opposite to the first head portion 22, in the example having a substantially rectangular form (see Figures 8-9).

[0039] As can be seen in the drawings, the pivot element 24 includes a rotating shaft, denoted generally by the number 27, coaxial with the axis of rotation X of the visor 16, and an eccentric portion or cam 26 which is eccentric with respect to the axis X and associated with the first head portion 22.

[0040] With reference to Figures 2 and 3, according to an aspect of the present disclosure, the pivot seat 25 acts as a counter-cam for the eccentric portion 26 and includes a first seat region 30 adapted to receive said eccentric portion 26 and a second seat region 32 adapted to receive said eccentric portion 26, wherein the first seat region 30 is in a position angularly offset and linearly translated with respect to said second seat region 32. The angular offsetting of the first seat region 30 with respect to the second seat region 32 is denoted by " α " in Figure 3 and occurs around the axis of rotation X. The

linear or transverse offsetting of the first seat region 30 with respect to the second seat region 32, which in the example shown occurs substantially in a horizontal plane, is denoted by "d" in Figure 3.

[0041] Depending on said spatial relationship between the first seat region 30 and the second seat region 32, a first position of the pivot element 24 corresponds to the first seat region 30, and a second position of the pivot element 24 corresponds to said second seat region 32, such that said second position is a position rotated and translated with respect to said first position.

[0042] Even more particularly, in the example shown, the first position of the pivot element 24, when the eccentric portion 26 is located in the first seat region 30, is designed so as to correspond to a position which is further forwards and angularly higher than the second position of the pivot element 24, when the eccentric portion 26 is in the second seat region 32.

[0043] It follows that, in the example shown, an open condition of the visor 16 on the forehead (linearly advanced position) corresponds to the first position of the pivot element 24, when the eccentric portion 26 is located in the first seat region 30. A closed condition of the visor 16 (linearly retracted position flush with the shell 14) corresponds to the second position, when the eccentric portion 26 is located in the second seat region 32.

[0044] The correlation between the open position and the closed position of the visor 16 and the positions of the eccentric portion 26 of the pivot element 24 in the seat 25 is visible in Figures 4-6.

[0045] Even more particularly, in order to open or close the visor 16, a user acts in the manner described below.

[0046] Initially, the visor 16 is located, for example, in the open position on the forehead. Therefore, the eccentric portion 26 is located in the first seat region 30.

[0047] When the visor 16 is lowered, the eccentric portion 26 passes from the first seat region 30 to the second seat region 32, and the pivot element 24 performs a rotation to compensate for angular offsetting between the two seat regions 30, 32, and a backwards translation to compensate for linear offsetting between the two seat regions 30, 32.

[0048] Consequently the visor 16 is retracted towards the shell and in the closed position is located flush with the shell 14.

[0049] Vice versa, in order to open the visor 16, the eccentric portion 26 passes from the second seat region 32 to the first seat region 30, and the pivot element 24 performs not only a rotation, but also a forwards translation so that the visor moves outwards beyond the volume of the shell 14.

[0050] With reference to Figures 2 and 3, it can also be seen that the pivot seat 25 is substantially a recess formed in the base body 20, on one face of the base body 20. The recess defines a side wall or edge 35 in the base body 20.

[0051] The side edge 35 is suitably shaped to define the first seat region 30 and the second seat region 32,

namely the first seat region 30 and the second seat region 32 are defined by shaping of the side edge 35 of the base body 20.

[0052] The profile of the side edge 35 is substantially concave/convex, with a flexion, i.e. has a depression/hump, between the first seat region 30 and the second seat region 32. In particular, the side edge 35 has a profile which is concave, namely defines a depression or groove, in the first seat region 30, and a profile which is slightly convex, namely defines a slight projection or hump, in the second seat region 32.

[0053] Owing to this concave/convex shape of the side edge 35 of the base body 20 it is possible to obtain a homogeneous and continuous rotary/translational movement of the pivot element 24.

[0054] With reference to Figures 2 and 3, it can also be noted, moreover, that the first head portion 22 of the pivot element 24 comprises, in addition to the eccentric portion 26, an eccentric projecting appendage 36 which is arranged on the substantially opposite side of the axis X to the eccentric portion 36 and interacts with further seat regions of the seat 25.

[0055] This appendage 36 has the function of interacting with the side edge 35 of the base body 20 both to guide displacement of the pivot element 34 from the second (retracted) position to the first (advanced) position and to define a so-called end-of-travel stop for the movement of the pivot element 24 into the two positions. In particular, the seat 25 comprises on the substantially opposite side of the axis of rotation X, a third seat region 40 intended to receive the eccentric appendage 36, when the eccentric portion 26 is located in the second seat region 32, and a fourth seat region 42 intended to receive the eccentric appendage 36, when the eccentric portion 26 is located in the first seat region 30.

[0056] The third seat region 40 and the fourth seat region 42 are also defined by a concave shaping of the edge 35. In fact the edge 35 has respective concave depressions with the formation of shoulders 45, 46 in the third seat region 40 and fourth seat region 42, said shoulders 45, 46 acting as end-of-travel stops. Moreover, the edge 35 situated between the third seat region 40 and the fourth seat region 42 is shaped so as to obtain a linear displacement of the pivot element 42 when it is moved from the second (retracted) position to the first (advanced) position.

[0057] With reference to Figures 7-9, it can also be seen that the movement device 10 includes a retainer assembly 50 for retaining the pivot element 24 in the first position or in the second position, preventing undesirable movement of the pivot element 24 from the respective first position or second position. For this purpose, the base body 20 comprises, on the side/face opposite to the pivot seat 25, a cavity 51 which houses a spring 52, in the example an undulating linear spring.

[0058] Basically, the base body 20 has on a first side or face the pivot seat 25 and, on the other side or face, the cavity 51 for the retainer assembly 50 and, in partic-

ular, in the example shown, for the linear undulating spring 52.

[0059] The spring 52 is defined by a suitable profile and, in the embodiment shown, comprises in particular three undulations, defining two corresponding lateral humps 53, 55 and a corresponding central hump 54 and respective intermediate depressions and is positioned in the cavity 51 so as to be able to be flexed in a direction at right angles to the direction of the axis of rotation X of the pivot element 24.

[0060] The spring 52 is able to interact with an interaction element which is associated with the pivot element and in the example of embodiment is a tooth 56 having, in the example, a rounded profile.

[0061] The tooth 56 and the linear undulating spring 52 are relatively arranged and designed so that, when the eccentric portion 26 is located in the first seat region 30, the tooth 56 is stably housed in one of the two depressions between two humps, for example between the two humps 53, 54 of the spring 52, and, when the eccentric portion 26 is located in the second seat region 32, the tooth 56 is stably housed in the other depression between the other two humps, for example between the two humps 54, 55 of the spring 52.

[0062] Basically, the tooth 56 acts as an interaction element and the spring as an interaction counter-element. The profile of the spring 56 thus allows the interaction element to be retained under normal conditions without forcing (namely when the visor 16 of the helmet is immobile with respect to the shell 14 in the open and/or closed condition) both in the first position and in the second position and prevent undesirable movements of the visor 16. A single spring 52 is thus used to keep the pivot element 24 fixed in the two positions.

[0063] In fact, when it is required to perform an opening and/or closing movement of the visor 16 of the helmet, and the pivot element 24 is displaced between the first position and the second position and vice versa, the tooth passes from one position to the other, deforming the profile of the spring and counteracting the elastic force of the latter. Once passed over, owing to the elastic return movement of the spring 52, the latter is repositioned in the original position, retaining again the tooth 56 of the pivot element 24.

[0064] Owing to this elastic configuration of the retainer assembly, a soft and dampened movement of the visor may be obtained during the opening and closing operations.

[0065] The movement device of the present disclosure has been described hitherto with reference to preferred embodiments thereof. It is understood that other embodiments relating to the same inventive idea may exist, all of these falling within the scope of protection of the claims which are provided hereinbelow.

Claims

1. Movement device (10) for a helmet (12) for moving a first element (16) of the helmet (12) with respect to a second element (14) of the helmet (12), wherein said movement device (10) includes a pivot element (24) for pivoting the first element (16) of the helmet with respect to the second element (14) of the helmet about an axis of rotation (X), and a seat (25) of rotation for the pivot element, the pivot element (24) being located at least partially in the seat, wherein said pivot element (24) includes an eccentric portion (26) or cam, and said seat (25) includes a first seat region (30) adapted to receive said eccentric portion (26) in a first position of the pivot element (24), and a second seat region (32) adapted to receive said eccentric portion (26) in a second position of the pivot element (24), wherein the first seat region (30) is in a position angularly offset around the axis of rotation (X) and linearly translated relative to the second seat region (32), such that the second position of the pivot element (24) is angularly offset around the axis of rotation (X) and linearly translated with respect to the first position of the pivot element (24), and vice versa.
2. Movement device (10) according to claim 1, wherein the eccentric portion (26) is configured to cooperate with the seat (25) of rotation causing a displacement of the pivot element (24) from the first position to the second position, upon an angular displacement of the first element (16) with respect to the second element (14) about the axis of rotation (X).
3. Movement device (10) according to claim 1 or 2, comprising a base body (20) fixed to the second element (14) of the helmet, wherein the base body (20) has a recess delimited by a side edge or wall (35), said recess defining said seat (25) for the pivot and acting as a counter-cam for said eccentric portion (26).
4. Movement device (10) according to claim 3, wherein the edge or side wall (35) is shaped to define said first seat region (30) and said second seat region (32).
5. Movement device (10) according to claim 4, wherein the side edge or wall (35) has a respective concave profile for defining said first seat region (30) and a convex profile for defining said second seat region (32).
6. Movement device (10) according to any one of the preceding claims, wherein the pivot element (24) comprises an eccentric appendage (36) received in the seat (25) for the pivot element and adapted to be placed in further regions of the seat (25) of rota-

- tion, and wherein the eccentric appendage (36) is configured to cooperate with the seat (25) of rotation, causing a displacement of the pivot element (24) from the second position to the first position upon an angular displacement of the first element (16) with respect to the second element (14) about the axis of rotation (X).
7. Movement device (10) according to claim 6, wherein the pivot seat (25) comprises a third seat region (40) intended to receive the eccentric appendage (36), when the first eccentric portion (26) is located in the second seat region (32), and a fourth seat region (42) intended to receive the eccentric appendage (36), when the first eccentric portion (26) is located in the first seat region (30).
 8. Movement device (10) according to claim 7, in combination with claim 3, 4 or 5, wherein the side edge (35) defining the seat (25) defines a first shoulder (45) in the third seat region (40), with an end-of-travel function for the second eccentric portion (36), and a second shoulder (46) in the fourth seat region (42), with an end-of-travel function.
 9. Movement device (10) according to any one of the preceding claims, comprising a retainer assembly (50) for retaining the pivot element (24) in the first position and/or in the second position, said retainer assembly (50) including an interaction element (56) associated with the pivot element (24) and at least one interaction counter-element (52, 54) associated with the seat (25) for the pivot.
 10. Movement device (10) according to claim 9, wherein either one of and/or both the interaction element and the interaction counter-element is/are an elastically deformable element.
 11. Movement device (10) according to claim 9, wherein the interaction element is a tooth (56) and the interaction counter-element comprises a spring (52) and wherein the tooth (56) is adapted to deform a profile of the spring counteracting an elastic force of the spring (52) upon passage of said pivot element (24) between the first position and the second position and vice versa, and wherein, when the pivot element (24) is in the first position and/or in the second position, the spring (56) is in an original rest position and retains the tooth (56) of the pivot element (24).
 12. Helmet (12) including a movement device (10) according to any one of the preceding claims 1 to 11.
 13. Helmet (12) according to claim 12, including a visor (16) and/or a chin guard, wherein the visor (16) or the chin guard is said first element of the helmet.
 14. Helmet (12) according to claim 12, including a movable flap (116) adapted to close a ventilation opening (115), wherein said movable flap (116) is said first element of the helmet.
 15. Method for moving a first element (16) of a helmet with respect to a second element (14) of the helmet, said method comprising the steps of
 - associating a pivot element (24) with the first element (16), wherein said pivot element (24) includes an eccentric portion (26) eccentric with respect to a rotational axis (X) of the pivot;
 - associating a seat (25) of rotation for the pivot with the second element (14), wherein said seat for the pivot includes a first seat region (30) adapted to receive said eccentric portion (26) and a second seat region (32) adapted to receive said eccentric portion (26), and wherein said second seat region (32) is linearly translated and angularly offset around the axis of rotation (X) with respect to the first seat region (30);
 - positioning the pivot element (24) at least partially in the seat (25) in a first position where the eccentric portion (26) is located in the first seat region (30);
 - moving the pivot element (24) in a second position where the eccentric portion (26) is located in the second seat region (32);
 wherein, when the eccentric portion (26) of the pivot element (24) passes from the first seat region (30) to the second seat region (32) or vice versa, the pivot element (24) performs both a rotation to compensate for angular offsetting between the second seat region (32) and the first seat region (30) and a linear displacement to compensate for linear offsetting between the second seat region (32) and the first seat region (30).
 16. Method according to claim 15, wherein the linear displacement is a forward or backward movement of the first element (16) of the helmet (12) with respect to the second element (14) of the helmet (12), for spacing apart or moving the first element (16) of the helmet (12) respectively away from/towards the second element (14) of the helmet (12).
 17. Method according to claim 15 or 16, wherein the first element (16) of the helmet is a visor (16), a chin guard or a movable flap (116) of the helmet, and wherein, when the eccentric portion (26) is located in the first seat region (30), the first position corresponds to an open condition of the visor (16), the chin guard or the movable flap (116) and wherein, when the eccentric portion (26) is located in the second seat region (32), the second position corresponds to a closed condition of the visor (16), the

chin guard or the movable flap (116).

18. Method according to any one of claims 15 to 17, wherein the eccentric portion (26) moves between said first seat region (30) and said second seat region (32) by means of interaction with a side edge (35) of the seat (25), said side edge (35) being shaped to define the first seat region (30) and the second seat region (32). 5 10
19. Method according to any one of the preceding claims 15 to 18, wherein the pivot element (24) is retained in said first position and/or in said second position by interaction between an interaction element (56) associated with the pivot element (24) and an interaction counter-element (52, 54) associated with the pivot seat (25), and wherein either one of and/or both said interaction element (56) and interaction counter-element (56) is/are elastically deformable elements such that when the pivot element (24) passes from the first position to the second position or vice versa, either one of and/or both said interaction element (56) and interaction counter-element (52, 54) is/are subject to an elastic deformation. 15 20 25 30 35 40 45 50 55

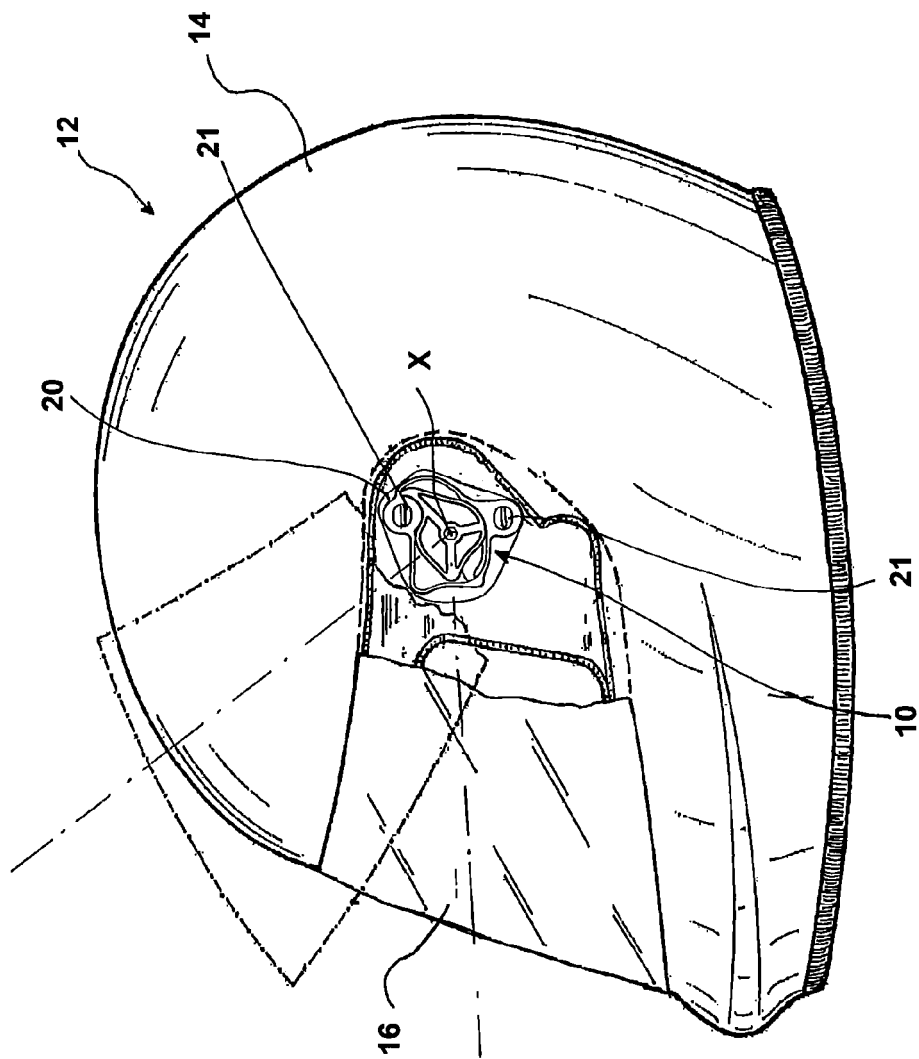


FIG. 1

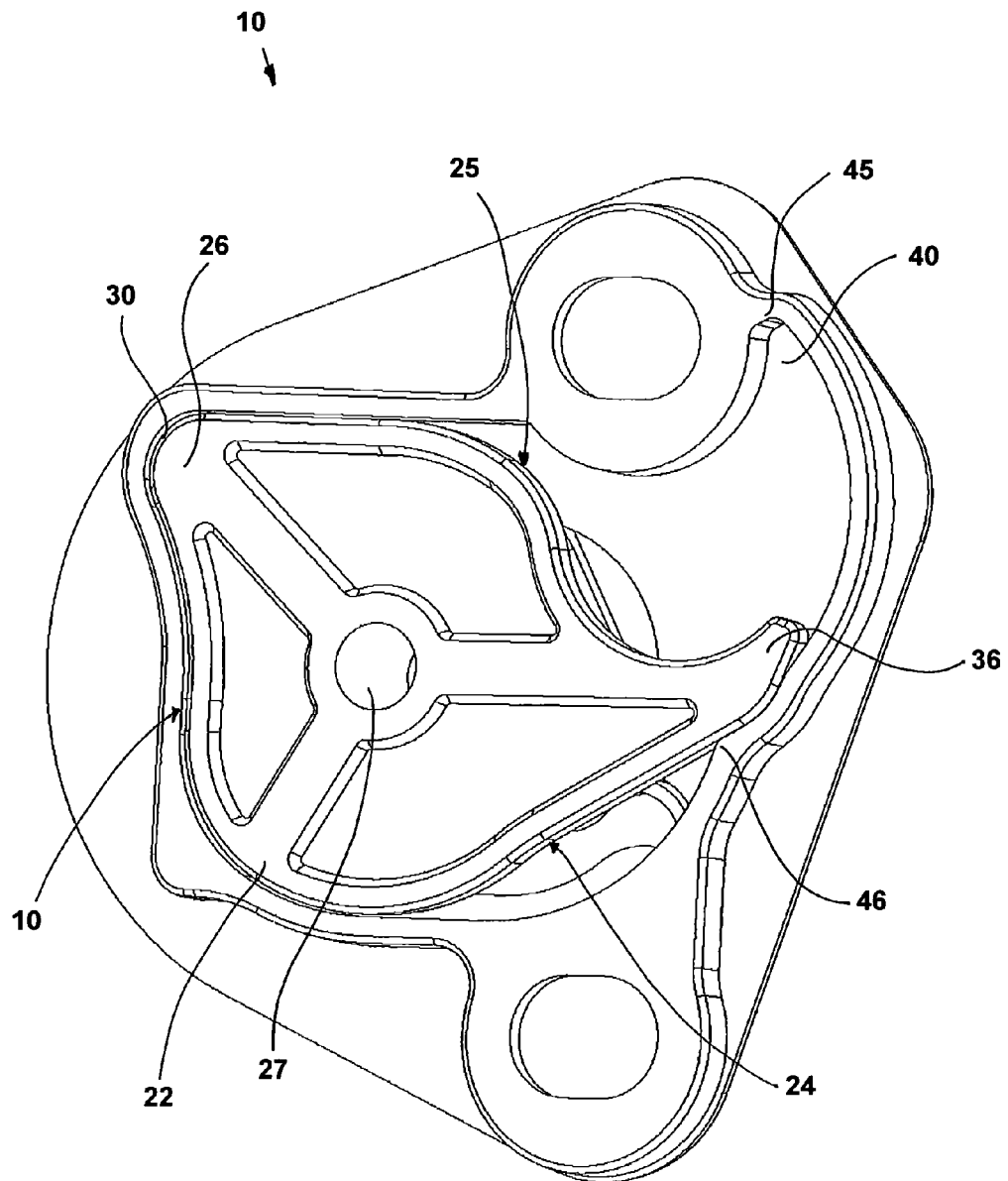


FIG. 2

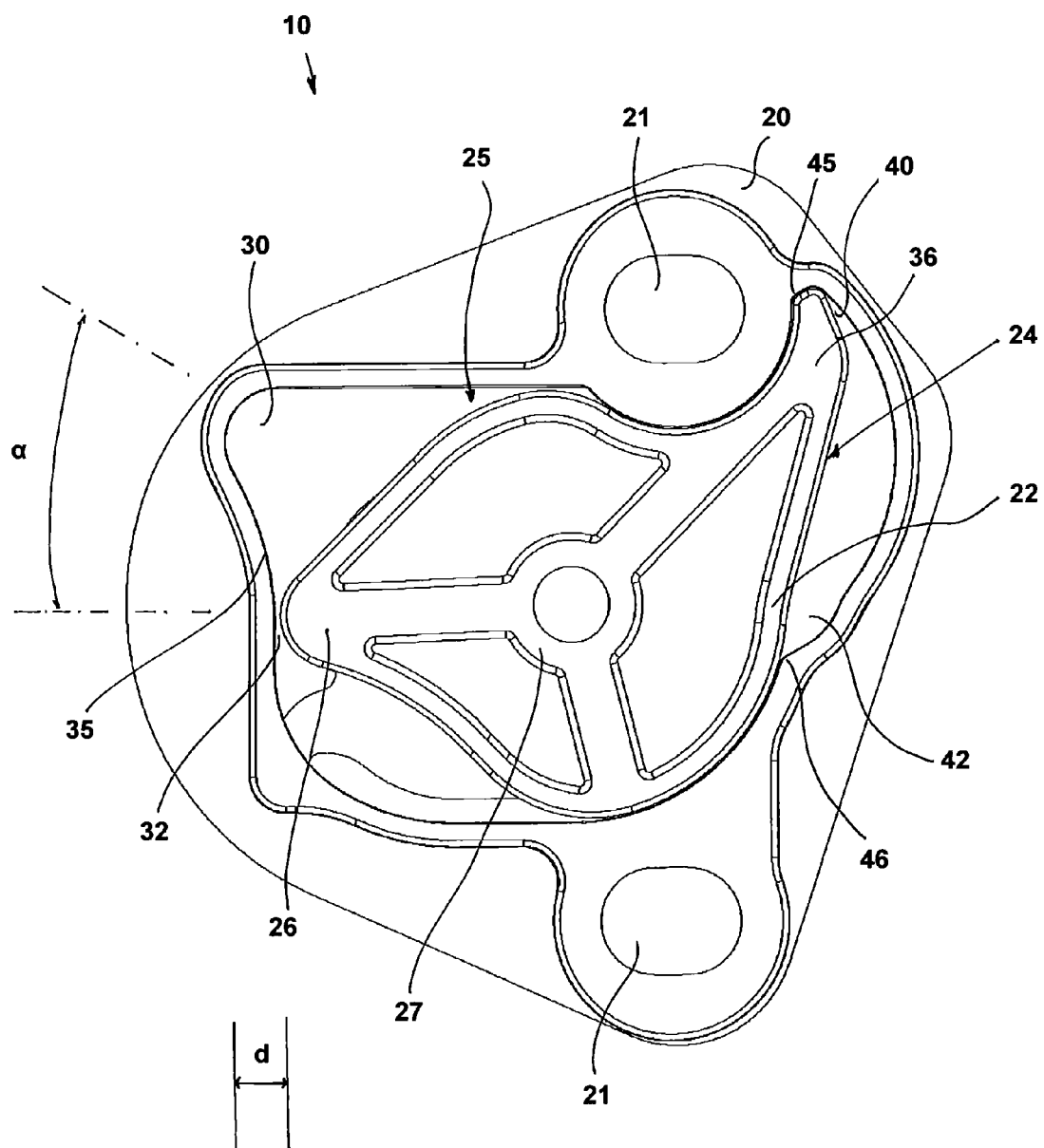


FIG. 3

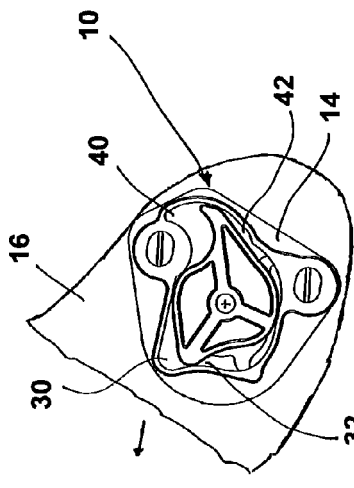


FIG. 5

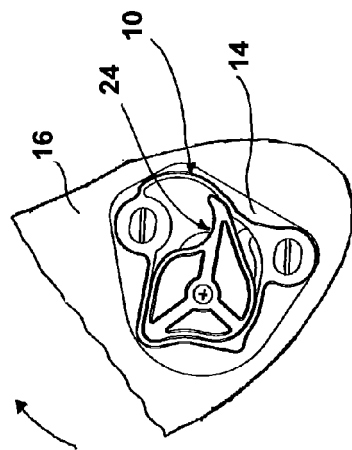


FIG. 6

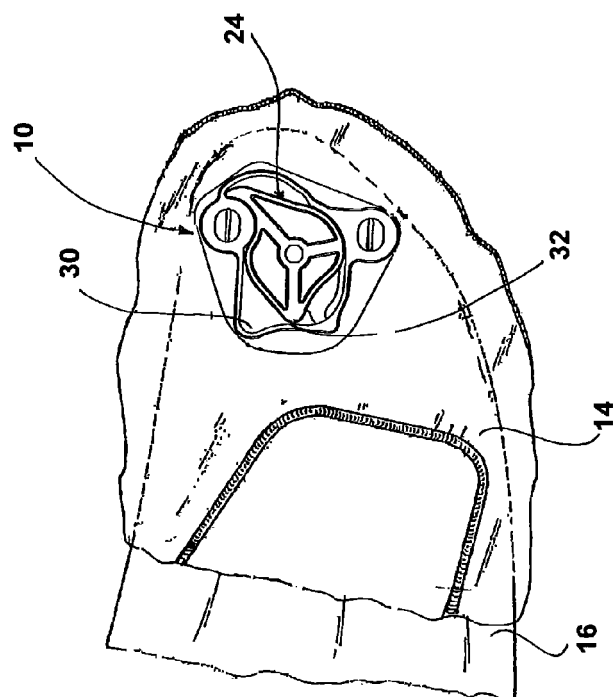


FIG. 4

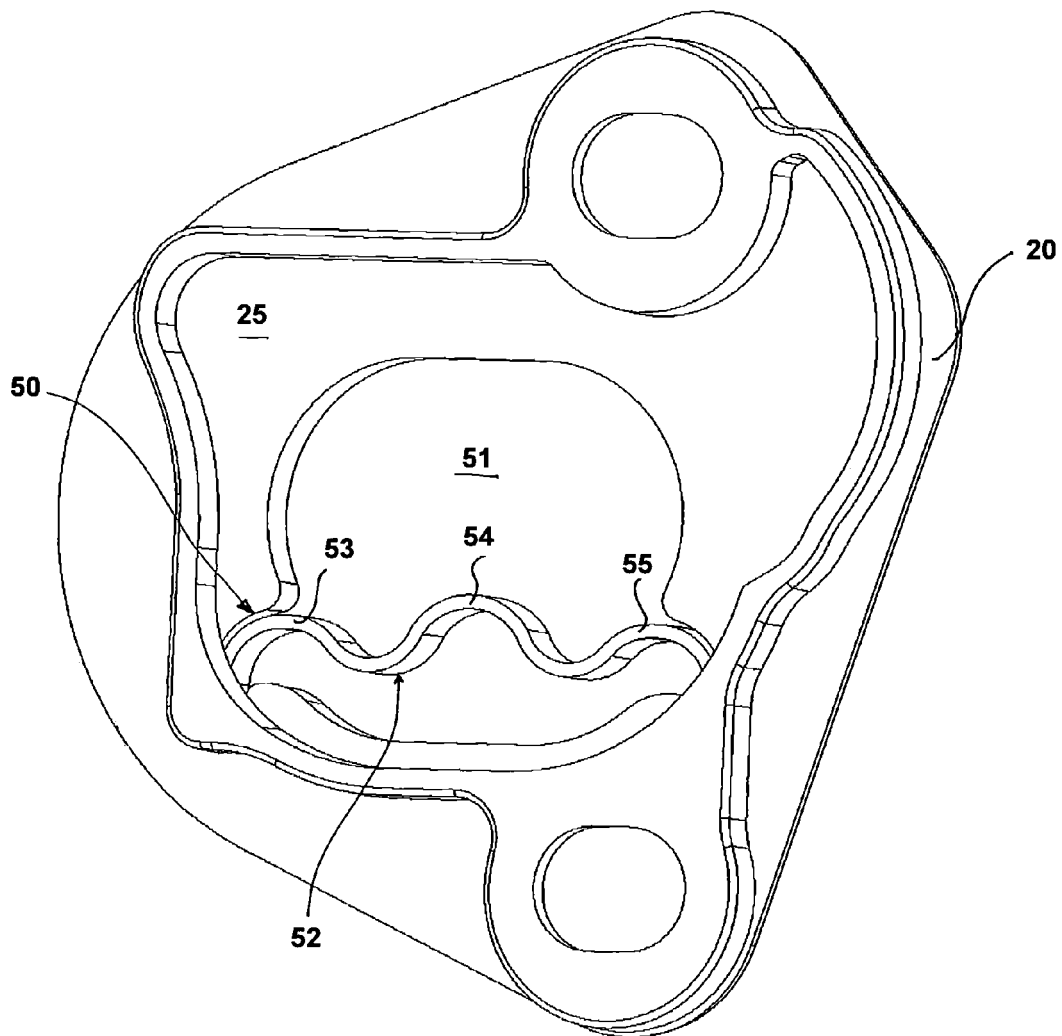


FIG. 7

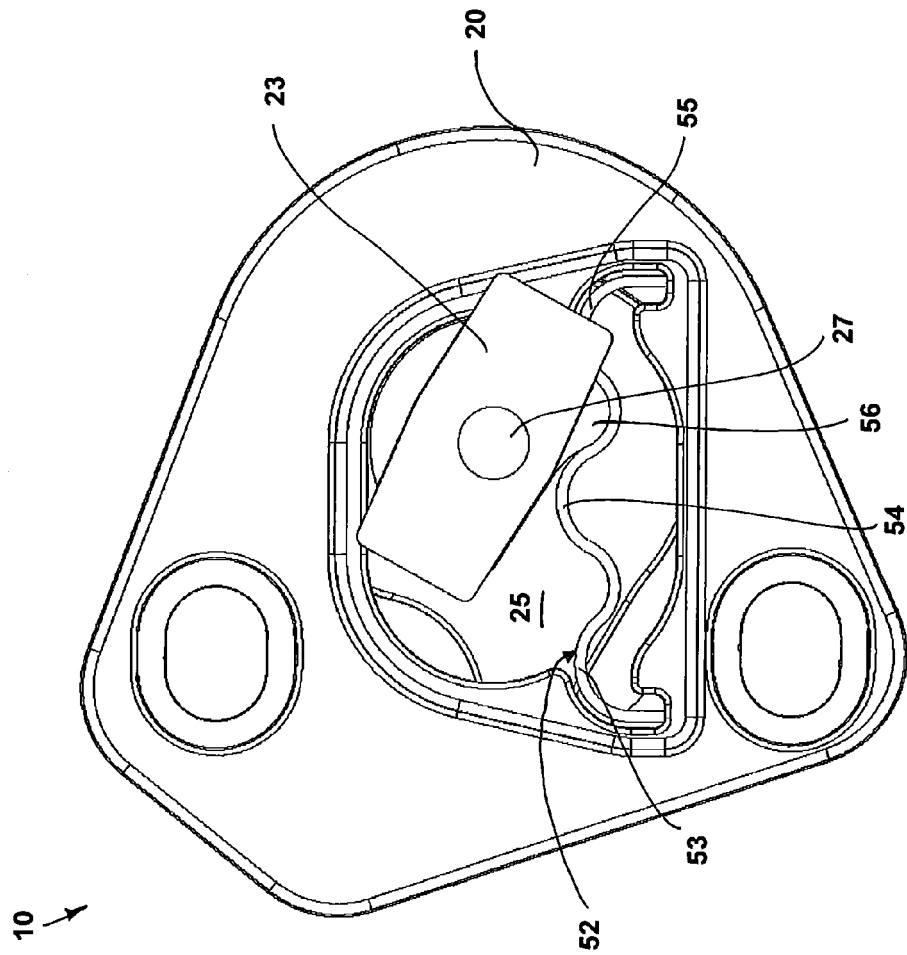


FIG. 8

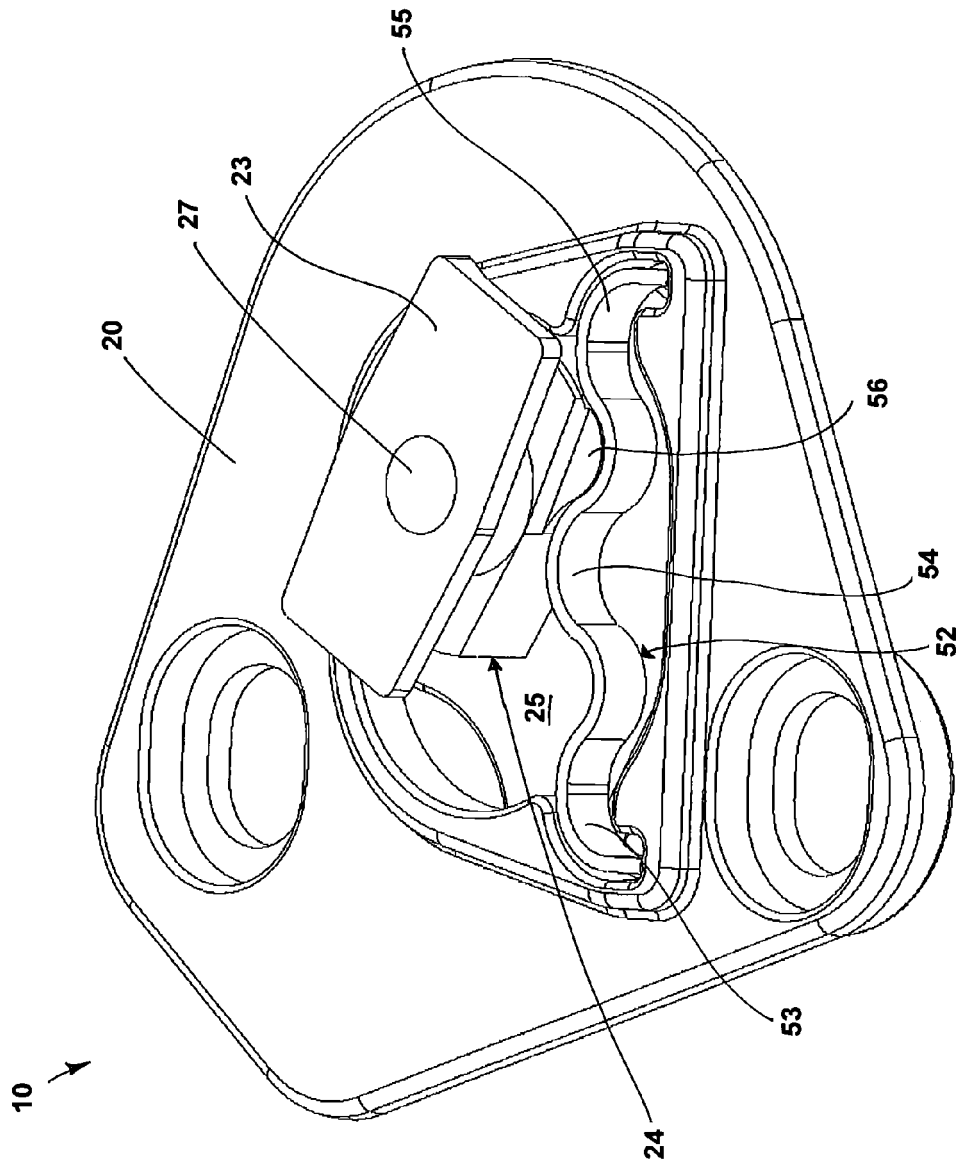


FIG. 9

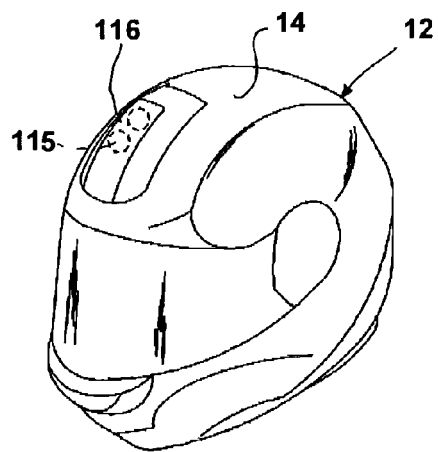


FIG. 10



EUROPEAN SEARCH REPORT

Application Number
EP 13 15 5795

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 0 534 748 A1 (HELMETS LTD [GB]) 31 March 1993 (1993-03-31)	1-8, 12-18	INV. A42B3/22
Y	* column 2, line 49 - column 3, line 46 * * figures 1,2,3,5,6 *	9-11,19	

Y	US 4 748 696 A (FOHL ARTUR [DE]) 7 June 1988 (1988-06-07) * figures 1-4 *	9-11,19	

			TECHNICAL FIELDS SEARCHED (IPC)
			A42B
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 29 April 2013	Examiner Guisan, Thierry
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03/82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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The members are as contained in the European Patent Office EDP file on
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29-04-2013

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