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DESCRIPTION

[0001] The present invention refers to a size adjuster for helmets for cycling use that offers a comfortable fit for the user wearing it.

[0002] In general, a helmet for cycling use is very different from helmets used in automobiles or on motorcycles and usually it consists of a cap structure shaped so as to at least partially cover the head of a user and configured to protect it from bumps at the cranial portion substantially from the ocular arch up to the nuchal area, both on top and at the side.

[0003] In order to make such helmets adaptable to the various possible sizes, now there are size adjuster devices associated with the cap so that, by acting manually, it is possible to tighten the helmet on the head of the user.

[0004] In particular, such size adjusters comprise an annular structure, either closed or open in a U, arranged along the lower periphery of the cap of the helmet and able to be switched between a minimum diameter configuration and a plurality of increased diameter configurations to allow the helmet to be worn by different sized users.

[0005] The manual switching device of the configuration of the annular structure comprises a cogwheel element capable of acting on telescopic portions that form the annular structure.

[0006] Disadvantageously, however, as the size varies by acting on the manual switching device, the helmet does not always sit comfortably on the head of the user.

[0007] The solution currently proposed is to equip the annular structure with support portions that, however, since they are fixed, only offer comfortable support for some sizes and not for all possible switching configurations.

[0008] US2010050324 discloses a helmet for cycling use comprising a size adjuster with headrest elements. The purpose of the invention is to make a size adjuster for helmets for cycling use that is an alternative to the known ones, offering, in particular, comfortable support for the user also as the size varies.

[0009] According to the general aspect of the invention, the size adjuster for helmets for cycling use of the present invention comprises headrest elements for a user fixedly connected to the annular structure in a freely orientable manner along at least one axis, preferably the axis passing through the annular structure.

[0010] In this way, also by acting on the manual switching device that extends or retracts the annular structure, the support elements are free to tilt to adapt in an optimal manner to the head in all configurations of the adjuster.

[0011] Further characteristics of the invention are highlighted by the dependent claims.

[0012] The characteristics and advantages of a size adjuster for helmets for cycling use according to the present invention will become clearer from the following description, given as an example and not for limiting purposes, referring to the attached schematic drawings, in which:

- figures 1 and 2 are internal and external views of the adjuster according to the present invention;
- figures 3-6 show details of the present invention;
- figures 6 and 7 show how the present invention can adapt to the different sizes of the user;
- figures 8-10 show another embodiment of the adjuster according to the present invention; and
- figure 11 shows another embodiment of the adjuster according to the present invention.

[0013] With reference to the figures, a size adjuster for helmets for cycling use according to the present invention is shown with 10.

[0014] Such a size adjuster for helmets for cycling use is of the type that can be fixedly connected inside a helmet for cycling use and comprising an annular structure 11 arranged along the lower periphery of the helmet.

[0015] The adjuster is able to be switched between a minimum diameter configuration and a plurality of increased diameter configurations to allow the helmet to be worn by different sized users.

[0016] Annular structure 11 comprises both a structure that is effectively closed in a circle and a structure open in a U.

[0017] In the figures, the adjuster is shown only in part since the portions that are not shown are totally identical to those of the prior art.

[0018] The switching device 12 shown is also of the known and manual type.

[0019] In particular, the headrest elements 13 of the present invention are fixedly connected to the annular structure 11 in a freely orientable manner along at least one axis, preferably to the axis passing through the annular structure 11.

[0020] The annular structure 11 comprises two side arms 14 able to move telescopically with respect to a central portion 15 by acting on the manual switching device 12. In this case, the headrest elements 13 are fixedly connected to the side arms 14.

[0021] Alternatively, in a non-claimed embodiment, as shown in figure 11, the headrest elements 13 can be directly associated with the central portion 15.

[0022] In this case, the headrest elements 13 are able to move along the opposite side portions of the central portion 15 so as to be able to be fixedly connected in a plurality of positions different distances from the manual switching device 12.

[0023] According to a preferred embodiment, the headrest elements 13 are orientable along all axes in space being fixedly connected to the arms 14 through spherical supports 16.

[0024] According to the embodiment shown, the headrest elements 13 are shaped like a butterfly comprising two lobes 17 arranged on opposite sides with respect to the side arms 14.

[0025] In particular, the central portion 18 of the headrest elements 13, i.e. the portion arranged at the side arms 14, is made of rubber and has a recessed seat to facilitate the flexing about the axis passing through the side arms 14.

[0026] According to the embodiment shown in figures 8-10 the headrest elements 13 can be configured to be oriented just along an axis, in particular the axis of the arms 14.

[0027] In order to make such a coupling a cylindrical pin 18' is provided formed on the headrest elements 13 and corresponding cylindrical seats 16' formed on the annular structure 11.

[0028] In particular, the cylindrical pin 18' and the seats 16' are shaped to snap-couple.

[0029] The peripheral portions 19 of the headrest elements 13, i.e. the portions distal from the side arms 14, comprise gel inserts 20 to offer comfortable support.

[0030] Said support is shown schematically in figures 6 and 7. Preferably, the headrest elements 13 are replaceable.

[0031] It has thus been seen that a size adjuster for helmets for cycling use according to the present invention achieves the purposes outlined earlier.

[0032] Indeed, the size adjuster for helmets for cycling use of the present invention offers an alternative solution to the known ones, as well as comfortable support for the user also as the size changes.

[0033] The size adjuster for helmets for cycling use of the present invention thus conceived can undergo numerous modifications and variants, all of which are covered by the scope of protection as defined by the claims; moreover, all of the details can be replaced by technically equivalent elements. In practice, the materials used, as well as their sizes, can be whatever according to the technical requirements.

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US2010050324A [0008]

Patentkrav

1. Størrelsestilpasser (10) til cykelhjelme af typen, der kan fast forbindes inden i en cykelhelm og omfatter en ringformet struktur (11) anbragt langs den nedre 5 periferi af nævnte helm og i stand til blive skiftet mellem en minimumsdiameterkonfiguration og en flerhed af øgede diameterkonfigurationer til at tillade nævnte helm at blive båret af brugere af forskellige størrelser, hvor der er tilvejebragt en manuel skifteindretning (12) af konfigurationen af nævnte ringformede struktur (11), hvor nævnte størrelsestilpasser (10) omfatter 10 hovedstøttelementer (13) til en bruger forbundet til nævnte ringformede struktur (11) på en frit orienterbar måde langs mindst en akse, **kendetegnet ved at** nævnte ringformede struktur (11) omfatter to sidearme (14) i stand til at bevæge sig teleskopisk i forhold til en central del (15) ved at påvirke nævnte manuelle skifteindretning (12); hvor nævnte hovedstøttelementer (13) er associeret på en 15 bevægelig måde langs modstående sidedele af nævnte centrale del (15) for at være i stand til at blive fast forbundet i en flerhed af positioner forskellige afstande fra nævnte manuelle skifteindretning (12).

2. Tilpasser ifølge krav 1 **kendetegnet ved at** nævnte hovedstøttelementer 20 (13) er orienterbare i forhold til aksens, der passerer igennem nævnte sidearme (14).

3. Tilpasser ifølge et hvilket som helst af de foregående krav, **kendetegnet ved at** nævnte hovedstøttelementer (13) er orienterbare langs alle rumakser.

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4. Tilpasser ifølge et hvilket som helst af de foregående krav, **kendetegnet ved at** nævnte hovedstøttelementer (13) er formede som en sommerfugl omfattende to vinger (17) anbragt på modstående sider i forhold til nævnte sidearme (14).

5. Tilpasser ifølge krav 4 **kendetegnet ved at** den centrale del (18) af nævnte hovedstøtteelementer (13) ved nævnte sidearme (14) er lavet af gummi med et bøjende sæde omkring akse af nævnte sidearme (14).
- 5 **6.** Tilpasser ifølge krav 5 **kendetegnet ved at** den perifere del (19) af nævnte hovedstøtteelementer (13) distal fra nævnte sidearme (14) omfatter gelindsatser (20).
7. Tilpasser ifølge et hvilket som helst af de foregående krav, **kendetegnet ved**
10 **at** nævnte hovedstøtteelementer (13) er udskiftelige.
- 8.** Tilpasser ifølge krav 1 **kendetegnet ved at** nævnte hovedstøtteelementer (13) er orienterbare langs akse, der passerer igennem nævnte ringformede struktur (11) og omfatter en cylindrisk stift (18') i stand til at blive koblet i
15 relative cylindriske sæder (16') dannet på nævnte ringformede struktur (11).

DRAWINGS

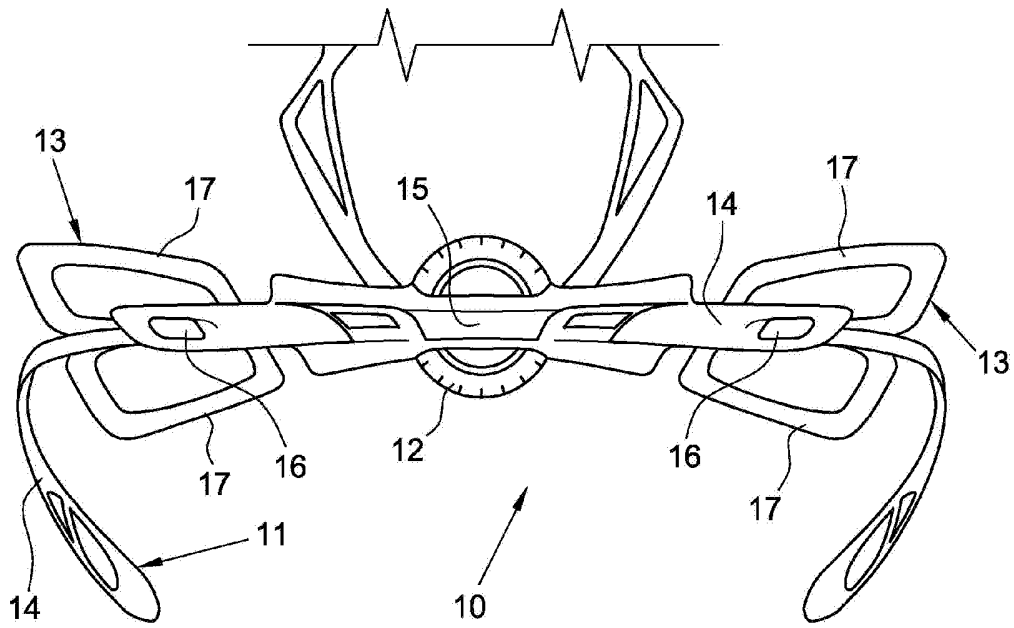


Fig. 1

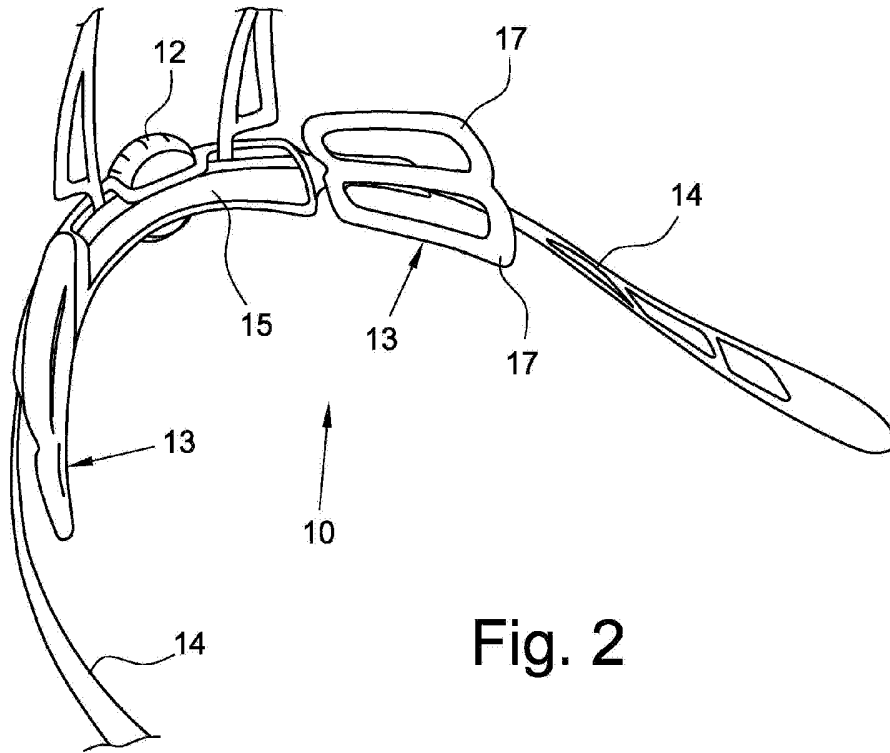


Fig. 2

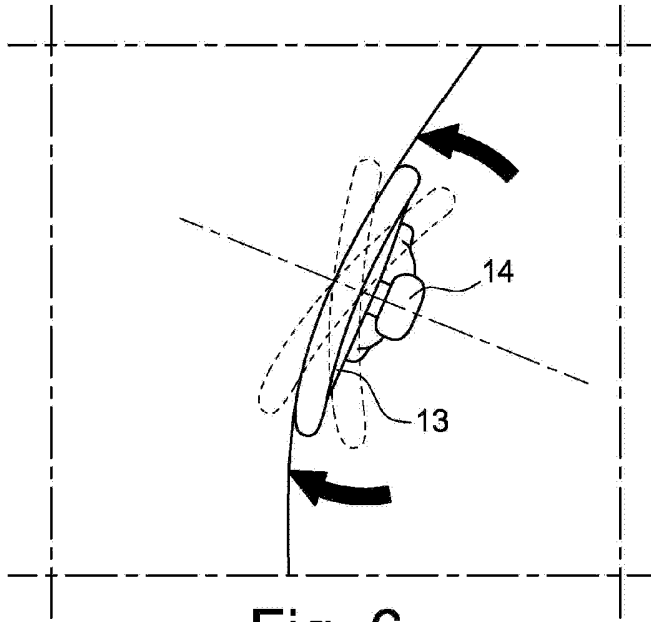


Fig. 6

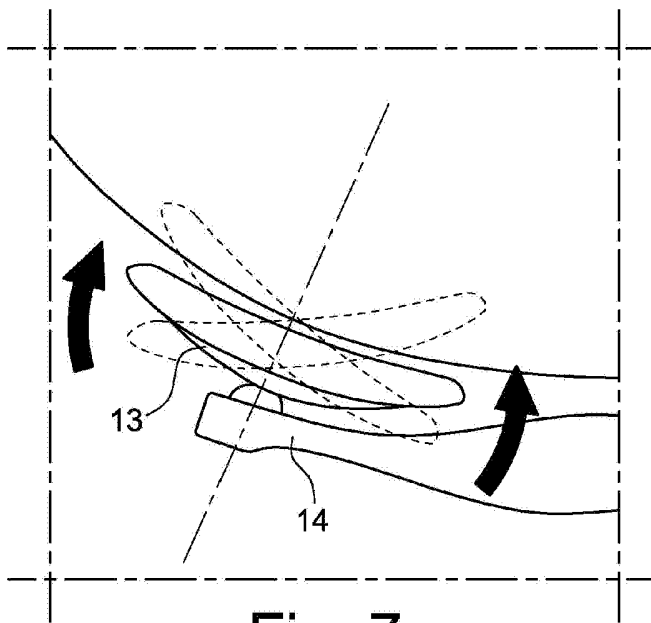


Fig. 7

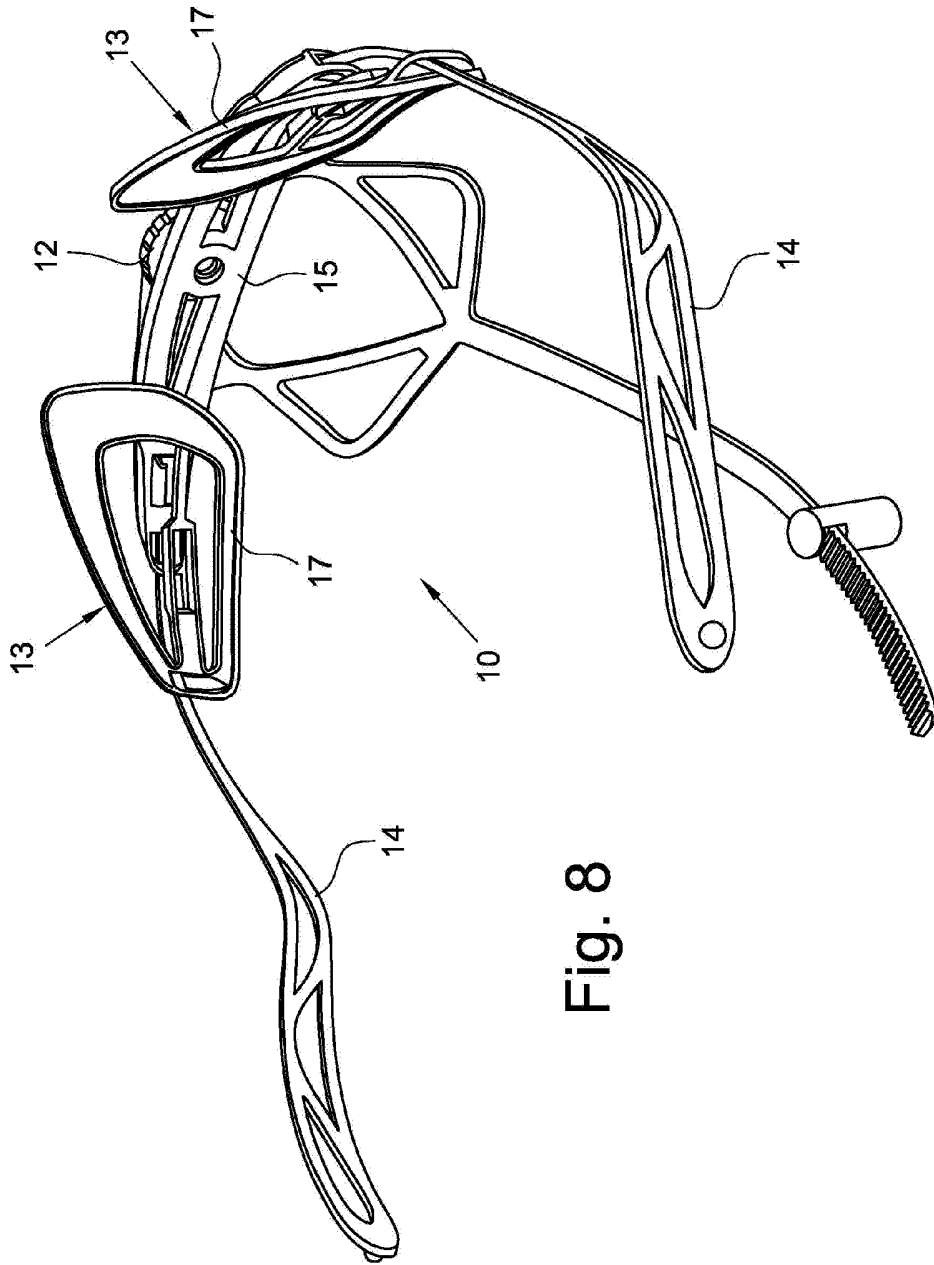


Fig. 8

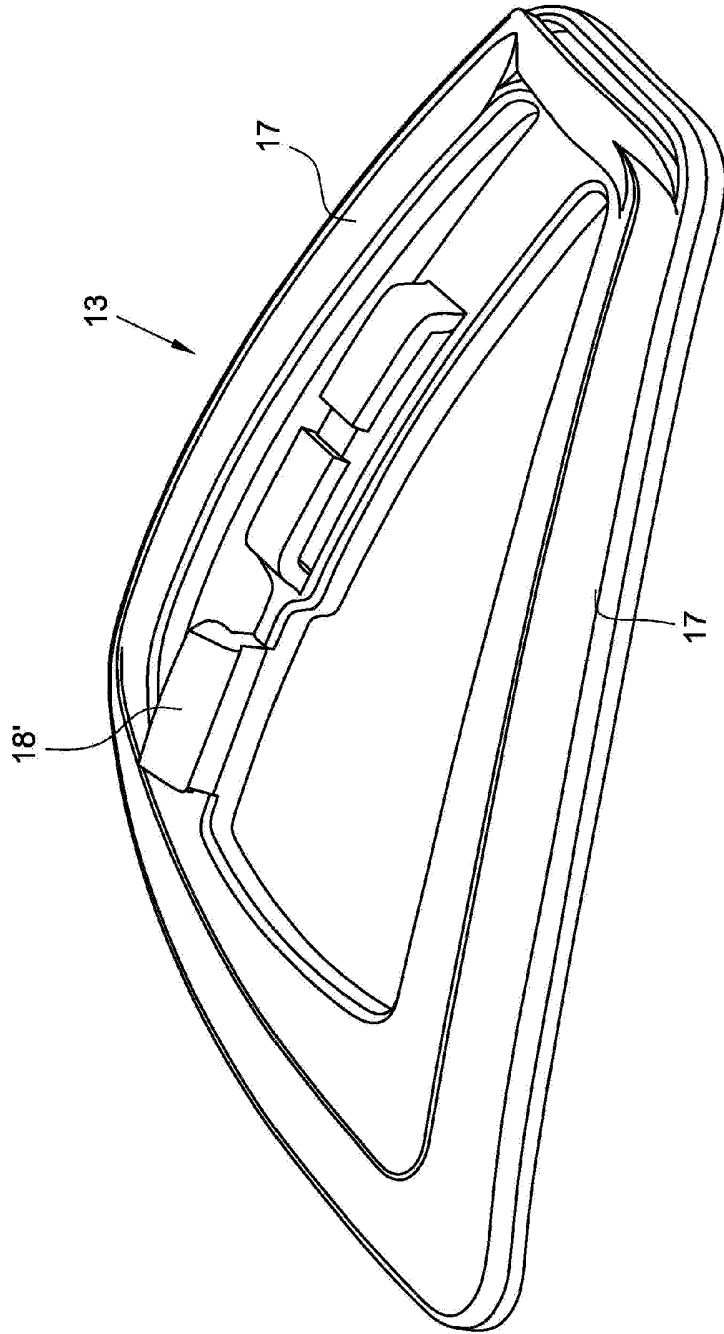


Fig. 9

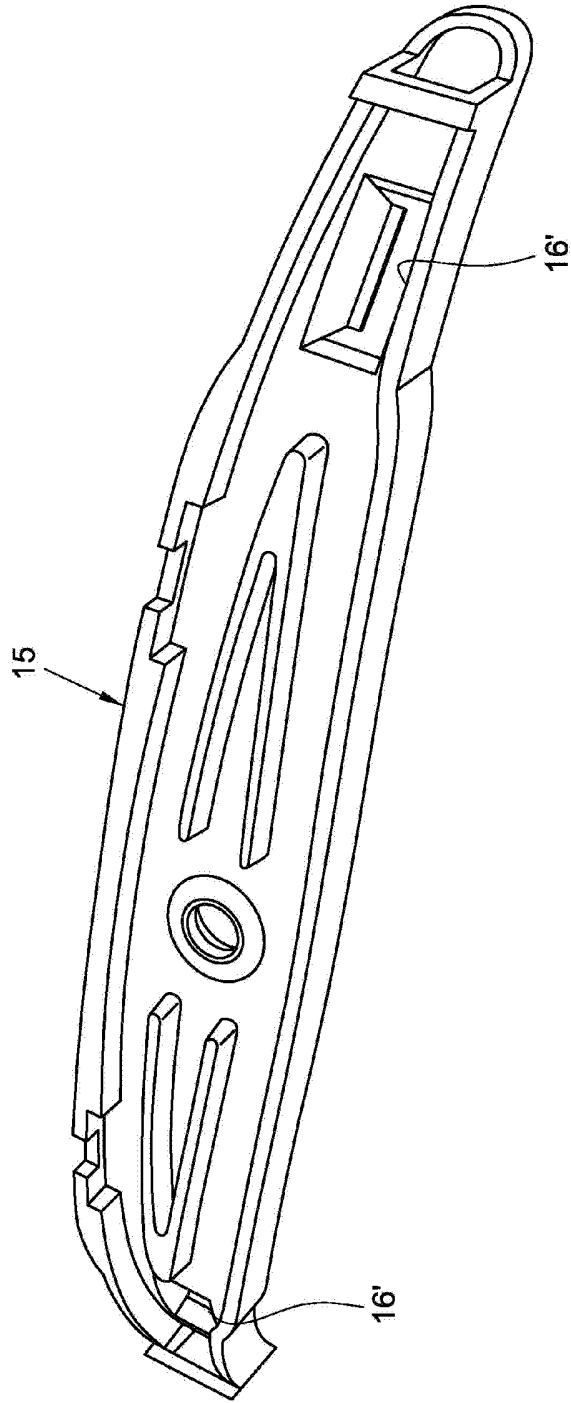


Fig. 10

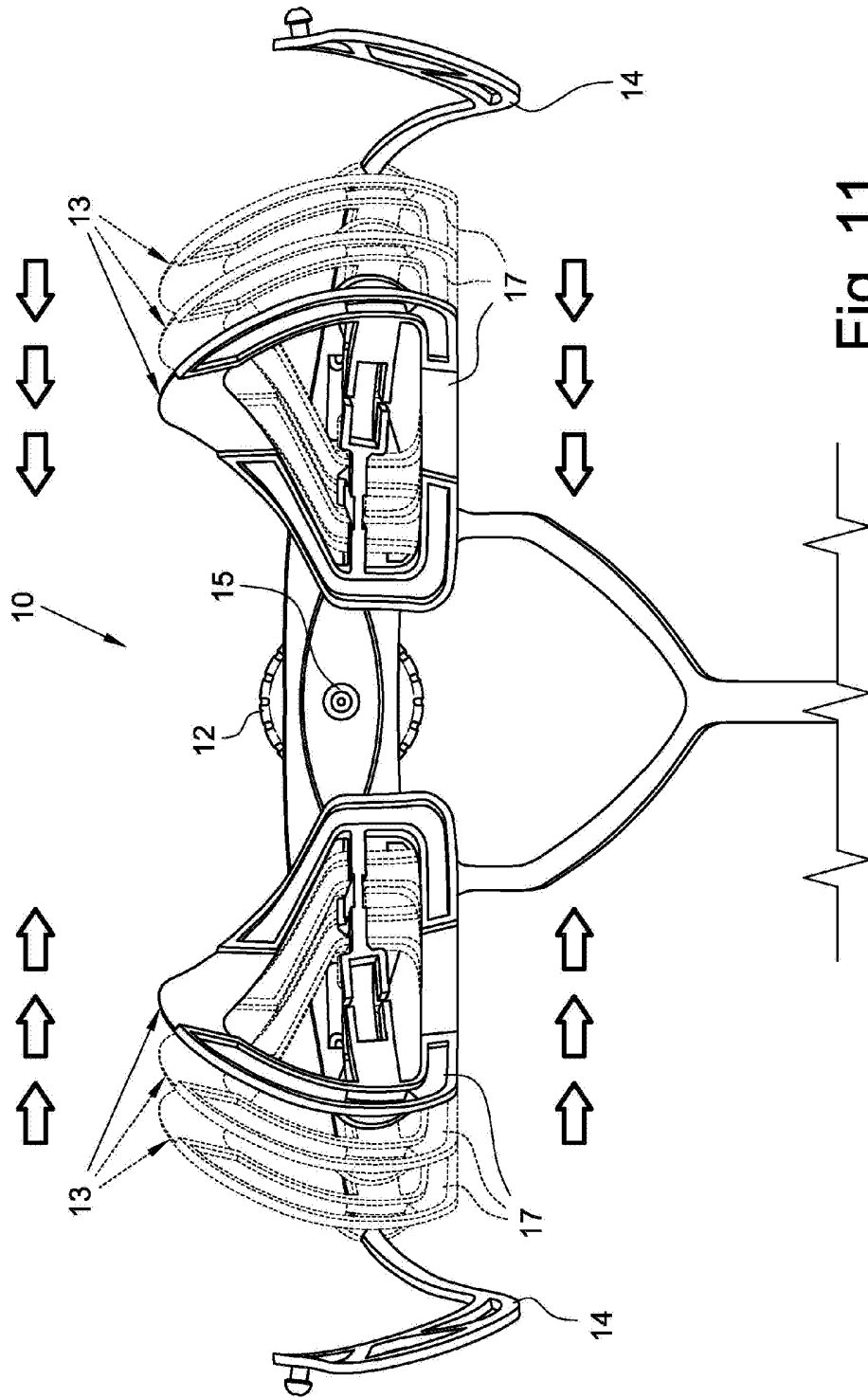


Fig. 11