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(72) Inventor: **Markkanen, Päivi**
77930, Kerkojoensuu (FI)

(74) Representative: **Langenskiöld, Tord Karl Walter et
al**
Oy Jalo Ant-Wuorinen Ab,
Iso-Roobertinkatu 4-6 A
00120 Helsinki (FI)

(71) Applicant: **Mekalasi Oy**
00930 Helsinki (FI)

(54) **Cheek protector**

(57) The invention relates to a cheek protector (1) to be placed inside the mouth to prevent the wearer from biting his own cheek especially while eating or speaking. The cheek protector comprises at least on one cheek side a plate-shaped portion (2) preventing the cheek region located at the site of the plate from coming into contact with the teeth. The cheek protector further comprises

two connecting parts (4,5) extending parallel to and at a distance from each other and being connected to the plate-shaped portion or plate-shaped portions. The protector maybe substantially planar and bendable into the operating position or it may be brought into an arcuate shape already in the manufacturing stage. Preferably the protector is made of a physiologically inert polymer.

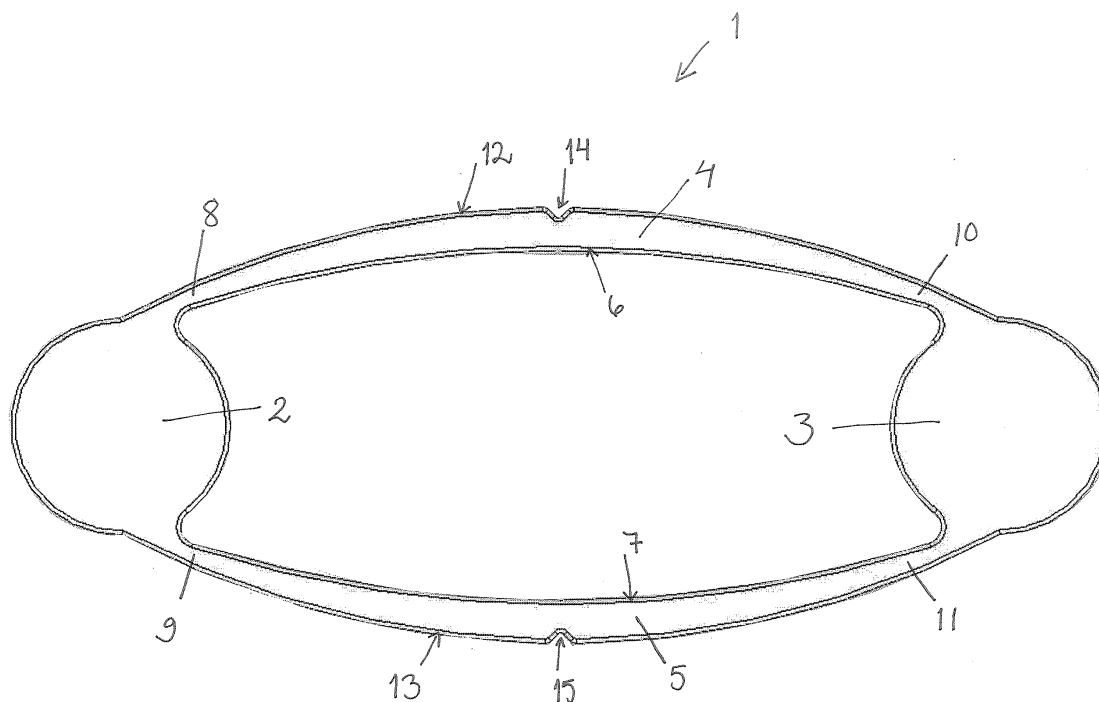


Fig. 1

Description

[0001] The present invention relates to a cheek protector to be placed inside the mouth to prevent the wearer from biting his own cheek, particularly during eating and speaking.

[0002] It is known that persons, for instance patients with facial paresis, having insensibility of the cheeks or decreased controllability of the muscles in the face region, may suffer from accidentally biting the cheeks inside the mouth while opening the mouth, e.g. during speaking or eating. For instance, old people in poor health or bed patients may suffer from accidentally biting their cheeks when opening and closing the mouth e.g. while eating and chewing food. Accidental biting may cause blisters and inflammations or bulges inside the cheeks, which in turn will result in even more easily biting the cheek. Hence, there is a need to find a solution to prevent the above-described biting of the cheeks or reduce the above-mentioned lesions or to protect an already injured cheek and thus promote healing.

[0003] US patent 3,307,539 discloses a cheek and tooth protector to prevent wear of the teeth and rubbing of the cheeks caused by unconsciously grinding the teeth during sleeping hours. Said protector comprises a plate to be inserted between the teeth (tooth protecting portion) attached substantially perpendicularly to a rectangular, arcuate plate (cheek protecting portion) inserted between the tooth and cheek so that the concave part will face the wearer's cheek. The protector is made of resilient material. The protector is held in position by the pressure of the cheeks against the elongated, horizontal margins of the concave side of the plate. There is also an embodiment of the protector for cheek protection only, whereby no portion to be inserted between the teeth is provided. However, the protector of said type cannot be used for instance during eating or while opening and closing the mouth for other reasons, for instance while speaking, because it is held in position by the pressure of the concave side of the plate against the teeth and it is not designed to stay in place when the mouth is opened.

[0004] The present invention solves the above problem by providing a cheek protector comprising at least on one cheek side a plate-shaped portion preventing the cheek region located at the site of the plate from coming into contact with the teeth. The cheek protector is characterized in that it comprises at least one plate-shaped portion 2, and a first 4 and a second 5 elongated connecting part, said connecting parts 4, 5 extending parallel with and at a distance from each other. At least first ends 8, 9 of the first connecting part 4 and the second connecting part 5 are connected to said plate-shaped portion 2. Preferably the other ends 10 and 11 of the connecting parts are connected to another plate-shaped portion 3; in a further embodiment, the other ends 10 and 11 are connected to each other without a plate-shaped portion in between.

[0005] The invention is described in more detail with

reference to the accompanied drawings, wherein

Fig. 1 is a planar view of an embodiment of a cheek protector according to the invention,

Fig. 2 is a perspective view of another embodiment of the cheek protector according to the invention bent into its operating position, and

Fig. 3 shows a view of a further preferable embodiment of the cheek protector according to the invention.

[0006] Fig. 1 shows a view of a preferable embodiment of a cheek protector 1 according to the invention. The cheek protector 1 comprises two plate-shaped portions 2, 3 to be placed between the teeth and the cheek to prevent at least the cheek region located at the site of the plate from coming into contact with the teeth. The plate-shaped portions 2, 3 of the protector are connected by two elongated connecting parts, i.e. a first connecting part 4 and a second connecting part 5. Said connecting parts 4, 5 have their longitudinal margins 6, 7 side by side at a distance from each other. Each connecting part has a first end 8, 9 and a second end 10, 11. The first ends are substantially side by side, and correspondingly, the other ends are substantially side by side at a distance from each other. The first ends 8, 9 of the connecting parts are connected to the plate-shaped portion 2; preferably the other ends 10, 11 of the connecting parts are connected to the plate-shaped portion 3. The cheek protector can also be described as a bendable planar frame, the opposite ends of which comprising protecting plates 2, 3 connected by elongated, preferably strip-shaped connecting parts. Preferably the connecting part or parts 4, 5 are arcuate outwardly from the centre of the frame. Preferably at least one notched recess 14, 15 is provided on outer margins 12, 13 of the longitudinal sides. A preferable embodiment of the cheek protector is symmetrical relative to the vertical direction.

[0007] Fig. 2 shows a perspective view of an embodiment of a cheek protector according to the invention bent into its operating position. When placing the cheek protector inside the mouth, the first connecting part 24 will be positioned along the upper jaw and the second connecting part 25 will be positioned along the lower jaw at least partially or completely over the gums. The plate-shaped portions 22 and 23 of the protector will be positioned in the rear part of the mouth between the teeth, preferably the molars, and the cheek. The recesses 26 and 27 provided on the outer margins of the longitudinal sides of the connecting parts improve the fit of the cheek protector (at the sites of the tendons). The plate-shaped portions 22, 23 prevent at least the cheek region located at the site of the plate from coming into contact with the teeth. Hence, it is possible to prevent the cheek region from coming between the teeth or in contact with the teeth when the lower jaw and the upper jaw, and thus the teeth,

move vertically and/or sidewise. The connecting parts 24, 25 being bent into an arcuate shape in the operating position, will hold the plate-shaped portions 22, 23 in place. Because the cheek protector is kept in position by means of the connecting parts placed over the gums and being adapted to follow the shape of the jaw (the upper or lower jaw) at the location of the connecting part, the use of the cheek protector is possible also while opening the mouth, for instance during eating or speaking.

[0008] Fig. 3 shows a view of a further preferable embodiment of a cheek protector according to the invention. In this embodiment the connecting parts, i.e. a first connecting part 34 and a second connecting part 35 connecting the plate-shaped portions 32, 33, are of unequal length. In the embodiment of fig. 3, the cheek protector 31 is symmetrical relative to the vertical direction. In other words, the left side and the right side of the cheek protector are mirror image-wise identical in relation to the vertical direction of the operating position. The second connecting part 35 to be positioned along the lower jaw is shorter than the first connecting part 34 to be positioned along the upper jaw, whereby the anatomic design of the cheek protector 31 is particularly advantageous. It is possible to improve the fit of the cheek protector also by means of other designs of the lower connecting part 35 and upper connecting part 34. The lower connecting part 35 may be straighter than the upper connecting part 34 to improve the fit. The connecting parts may also be of unequal width. In the cheek protector 31 of fig. 3, only the first connecting part 34 is provided with a notch-shaped recess 36. By means of shapes made in the connecting part or connecting parts, such as recess 36, it is possible to improve the fit of the cheek protector and/or indicate in which position the cheek protector is to be placed in the mouth.

[0009] The cheek protector according to the invention is substantially planar (Fig. 1) and bendable into the operating position (Fig. 2), or it may be brought into an arcuate shape already in the manufacturing stage. In one embodiment, only one end of each connecting part is connected to a plate-shaped portion, while the other ends are connected directly to each other without any plate-shaped portion, whereby the connecting part may form a continuous U-shaped or claw-shaped connecting part. At least the connecting parts 4, 5, preferably also the plate-shaped portions 2, 3 are made of a flexible and/or bendable material, e.g. a physiologically inert polymer. Preferably, the material is e.g. a thermoplastic or a thermoplastic mixture, silicone or rubber or a combination of two or three of these materials. There may be differences in the flexibility between the different parts of the cheek protector so that, for instance, the junctions between the connecting parts and the plate-shaped portions are more flexible than the plate-shaped portions and/or the connecting parts to facilitate chewing. The thickness of the cheek protector is adapted e.g. in accordance with the material flexibility and the aspects of use. Preferably, the thickness is between 0,5 and 10 mm, particularly be-

tween 0,5 and 3 mm. Due to the thinness of the cheek protector and its capacity to retain its position it can be used continuously, if required, for instance for a week, in order to promote healing of lesions in the cheek. The cheek protector may be used also during the night to prevent cheek lesions resulting from unvoluntary grinding of the teeth.

10 Claims

1. A cheek protector (1) to be placed inside of the mouth, comprising a plate-shaped portion to prevent the teeth and the cheek from coming into contact with each other, **characterized in that** the cheek protector comprises at least one plate-shaped portion (2), and a first (4) and a second (5) elongated connecting part extending side by side at a distance from each other, and that at least the first ends (8 and 9) of the first connecting part (4) and the second connecting part (5) are connected to the plate-shaped portion.
2. A cheek protector according to claim 1, **characterized in that** the protector comprises two plate-shaped portions (2, 3) connected to each other by means of connecting parts (4, 5).
3. A cheek protector according to claim 1, **characterized in that** the protector comprises one plate-shaped portion (2), to which the first ends (8, 9) of the connecting parts (3, 4) are connected, the other ends (10, 11) of the connecting parts being connected to each other.
4. A cheek protector according to any of the claims 1 to 3, **characterized in that** the cheek protector is made of a bendable and/or flexible material.
5. A cheek protector according to any of the claims 1 to 4, **characterized in that** an outer longitudinal side (12, 13) of at least one connecting part is provided with a notch-shaped recess (14, 15).
6. A cheek protector according to any of the claims 1, 2, 4 or 5, **characterized in that** it is symmetrical relative to the vertical direction of the cheek protector.
7. A cheek protector according to any of the claims 1 to 5, **characterized in that** the first connecting part (34) and the second connecting part (35) are of unequal length.

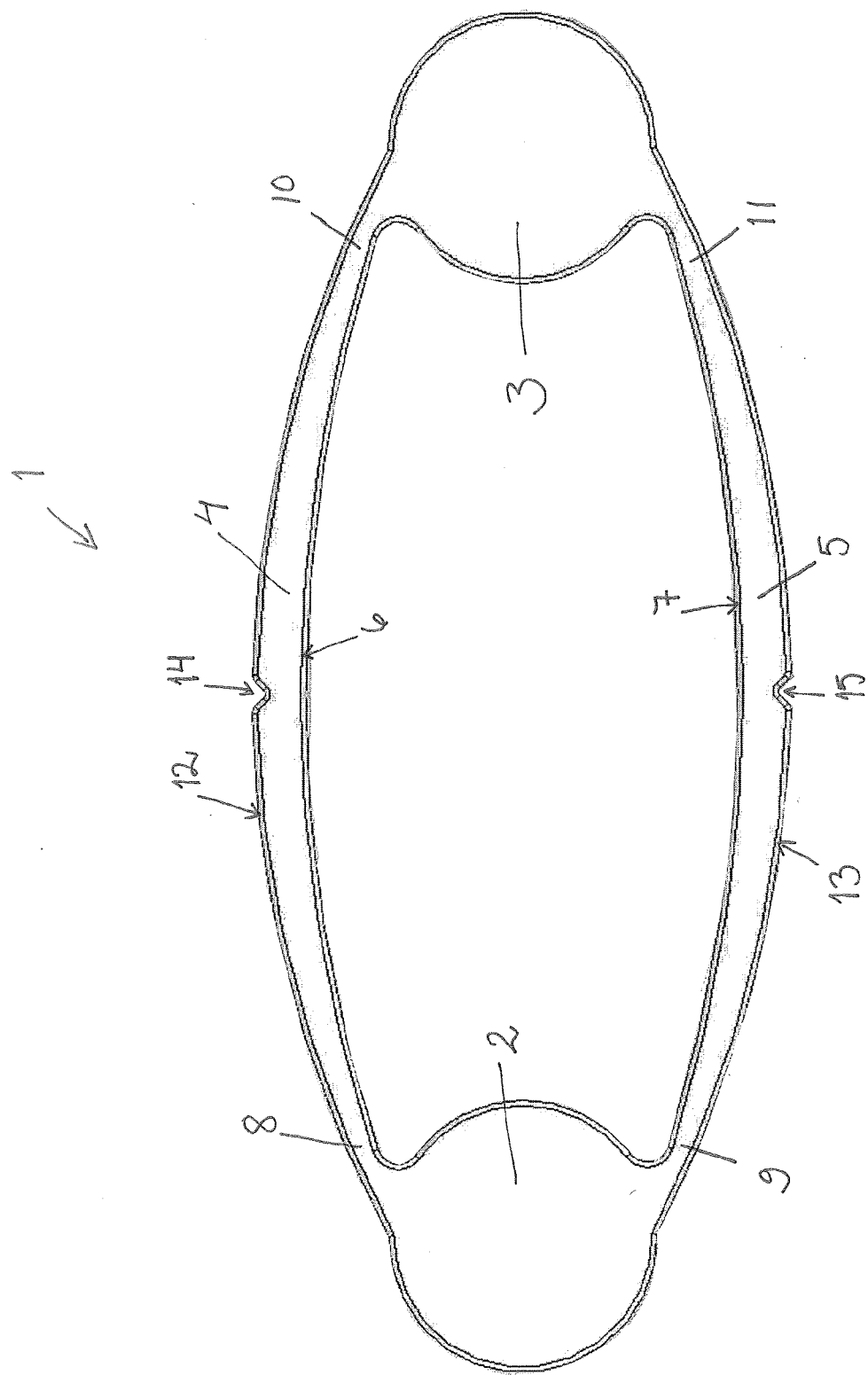


Fig. 1

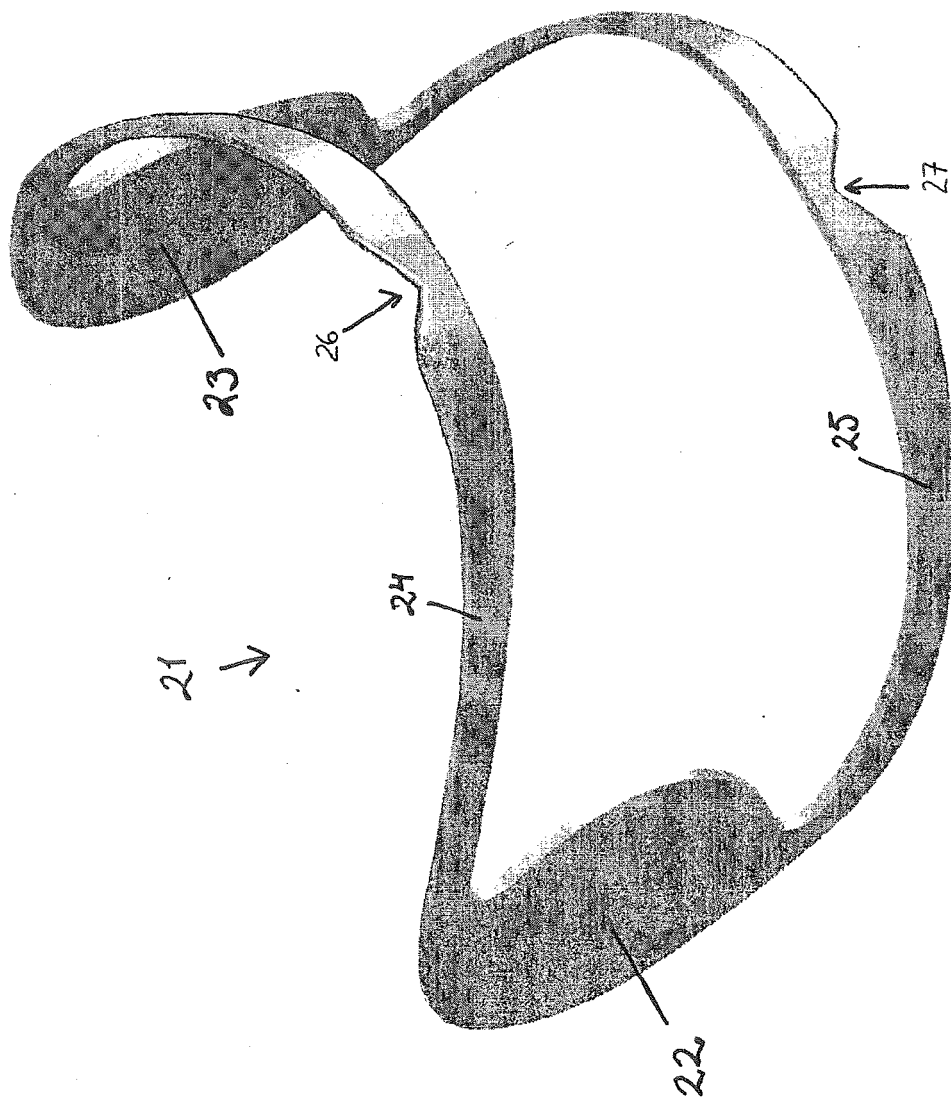


Fig. 2

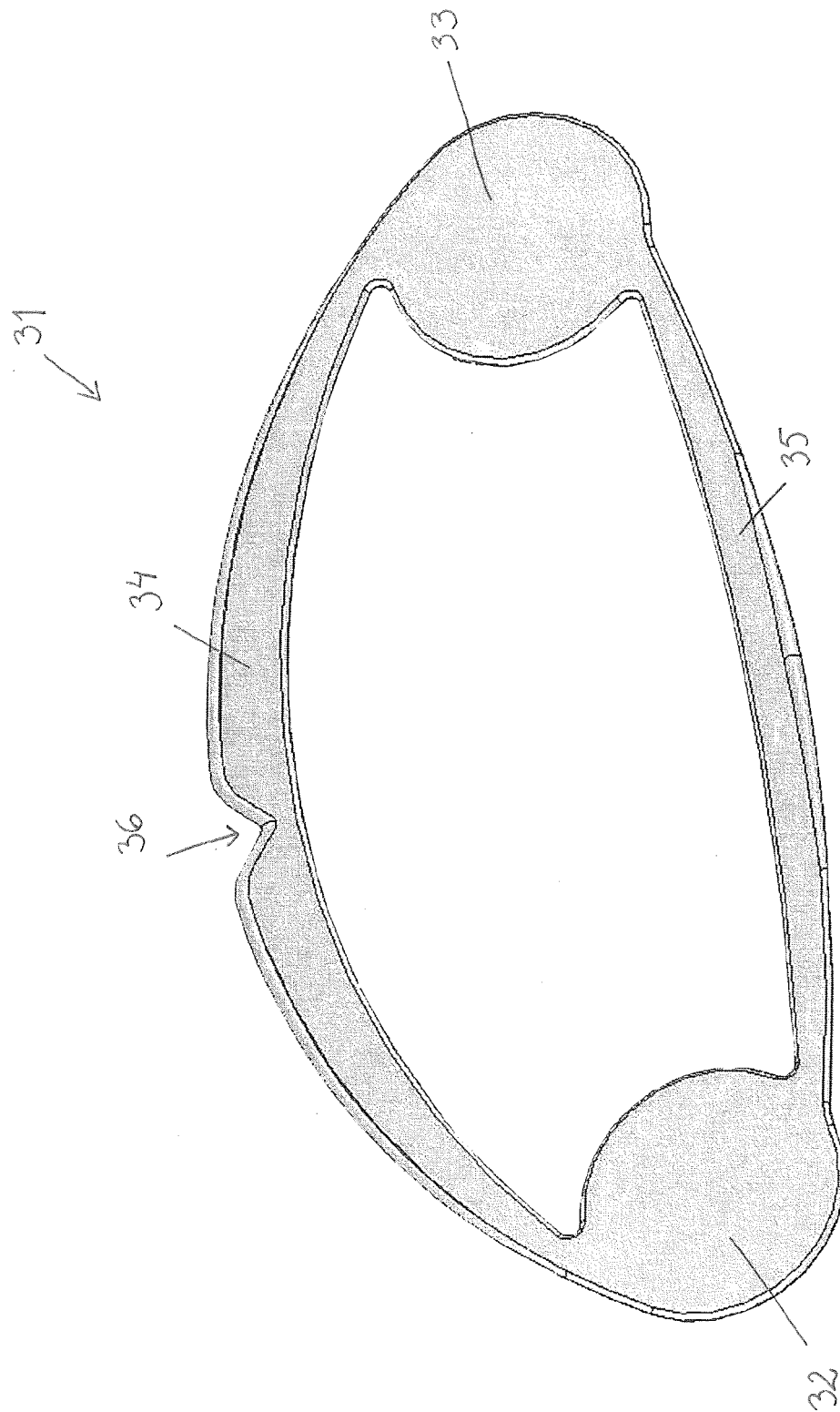


Fig. 3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 07 39 7002

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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 25 May 2007	Examiner Lundblad, Hampus
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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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 07 39 7002

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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