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(71) Applicant: **Manufacturas Tomás, S.A.**
30353 Cartagena (ES)

(72) Inventor: **TOMÁS GONZÁLEZ, Javier**
30353 Cartagena (ES)

(74) Representative: **Carlos Hernando, Borja Garrigues IP, S.L.P.**
Hermosilla, 3
28001 Madrid (ES)

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(54) **PROTECTIVE HELMET FOR MOTORCYCLIST WITH SUN PROTECTION VISOR**

(57) The present invention relates to a protective helmet for motorcyclists with a sun visor, with a helmet body provided with a front opening, a sun visor, and a rotary operating mechanism for rotatably operating the visor with respect to a horizontal axis. The visor rotates be-

tween an inoperative upper position, in which said visor is arranged inside the helmet body, and an operative lower position, in which said visor is arranged in front of the helmet user's eyes.

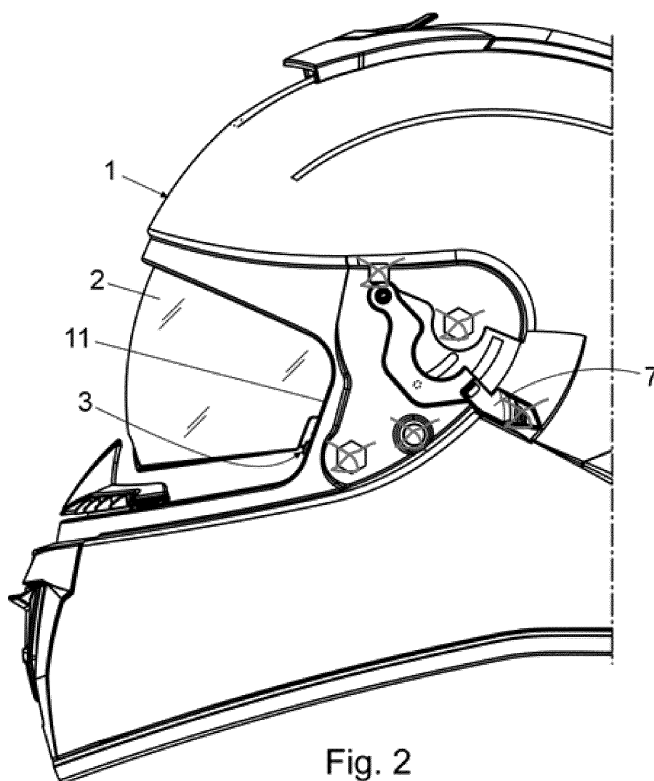


Fig. 2

Description

Object of the Invention

[0001] The object of the invention relates to a protective helmet for motorcyclists with a sun visor, comprising: a helmet body provided with a front opening, a sun visor, and a rotary operating mechanism for rotatably operating the visor with respect to a horizontal axis between: an inoperative upper position, in which said visor is arranged inside the helmet body, and an operative lower position, in which said visor is arranged in front of the helmet user's eyes.

[0002] This invention has features intended for allowing the selection of different operative lower positions of the sun visor, such that in said lower position the sun visor is located at a height suited to the user's facial features, preventing the visor from contacting the user's nose or face and assuring that the eyes are protected against sun rays.

Field of Application of the Invention

[0003] This invention is applicable in the sector dedicated to the manufacture of protective helmets for motorcyclists, and particularly those helmets provided with a sun visor.

State of the Art

[0004] Various models are currently available on the market of protective helmets for motorcyclists which, in addition to an external protective screen, internally incorporate a sun visor, which acts as a solar filter and is assembled in the helmet with possibility of rotation between an inoperative upper position and an operative lower position in which it is placed in front of the user's eyes.

[0005] A prior art for protective helmets of this type is described in patent document ES 2 352 812 T3.

[0006] One of the main drawbacks found in helmets of this type is that, depending on the user's facial features, a case may arise where in the lower position the sun visor does not sufficiently cover the eyes, or on the contrary hits the user's nose or face.

[0007] Therefore, the technical problem being considered relates to the development of a protective helmet for motorcyclists which allows regulating the lower position of the sun visor, such that in said lower position the visor is arranged at a greater or smaller height, suited in each case to the user's facial features and preventing contact with the user's nose or face.

[0008] It must be mentioned that the applicant of the present invention is unaware of the existence on the market of protective helmets having features similar to those claimed in the present invention and solving the indicated problem.

Description of the Invention

[0009] To solve the mentioned drawbacks, the protective helmet of the present invention has features which allow adjusting the lower position of the sun visor, such that in said lower position the visor is arranged at different heights, where the user will be able to choose the lower position of the visor that is the most comfortable for him or her and most suited to his or her facial features.

[0010] The protective helmet for motorcyclists with a sun visor of this invention is of the type comprising: a helmet body provided with a front opening, a sun visor, and a rotary operating mechanism for rotatably operating the visor with respect to a horizontal axis between an inoperative upper position, in which said visor is arranged inside the helmet body, and an operative lower position, in which said visor is arranged in front of the user's eyes.

[0011] According to the invention, to achieve the proposed objectives, the helmet body comprises, on the sides of the front opening, stops that can be manually positioned at different heights and that limit the rotation of the visor towards the lower position, the contact of the visor with said stops defining different operative lower positions of the visor depending on the position of said stops.

[0012] In this manner, the user only has to select one of the possible height positions of the stops so that every time he or she operates the visor towards the lower position, said visor runs into the stops and is arranged at a predetermined height, in which it provides suitable solar protection to the user but not to the extent of hitting the user's nose or face.

[0013] These and other features of the invention set forth in the attached claims will be more clearly understood in view of the embodiment shown in the drawings described below.

Description of the Drawings

[0014] To complement the description being made and for the purpose of helping to understand the features of the invention, a set of drawings is attached to the present specification in which the following is depicted with an illustrative and non-limiting character:

Figure 1 shows a simplified partial elevational view of a protective helmet for motorcyclists according to the invention, in which the rotary operating mechanism for rotatably operating the sun visor corresponding to one of the sides of the helmet can be seen, and said visor being in the inoperative upper position.

Figure 2 shows a view similar to the preceding one in which the sun visor has been depicted in an operative lower position, which is the lowest possible position.

Figure 3 shows an elevational detail of the rotary operating mechanism for rotatably operating the sun visor, in which one of the stops for regulating the lower position of the hinge has been sectioned.

Figure 4 shows an exploded perspective view of the rotary operating mechanism and the sun visor seen from the external side of the helmet.

Figure 5 shows a view similar to the preceding view seen from the internal side.

Figure 6 shows an enlarged front perspective detail of one of the stops for regulating the lower position of the sun visor, said stop being depicted in the lower position of three possible positions.

Figure 7 shows a detail of the stop of the preceding figure seen from the internal side and arranged in an intermediate position of the three possible positions.

Figures 8 and 9 show respective views similar to Figure 1 and in which the sun visor is arranged in the lower closure position at two different heights corresponding, respectively, to the intermediate position and the upper position of the stops for limiting the movement of the visor towards the lower area.

Preferred Embodiment of the Invention

[0015] As can be seen in Figures 1 and 2, the protective helmet for motorcyclists with a sun visor comprises a body (1) provided with a front opening (11), a sun visor (2), and a rotary operating mechanism for rotatably operating the visor (2) with respect to a horizontal axis between: an inoperative upper position depicted in Figure 1, in which said visor is arranged inside the helmet body (1), and an operative lower position depicted in Figure 2, in which said visor is arranged in front of the user's eyes.

[0016] The helmet body (1) comprises, on the sides of the front opening (11), stops (3) such as the one depicted in greater detail in Figures 6 and 7, which stops can be manually positioned at different heights and they limit the rotation of the visor (2) towards the lower position, the contact of the visor (2) with said stops defining different operative lower positions of the visor depending on the position of said stops (3).

[0017] In the example shown in the drawings, the stop (3) of each of the sides can be arranged in three different positions: a lower position, in which the visor (2) reaches an end lower position depicted in Figure 1; an intermediate position, in which the visor (2) is arranged in a position depicted in Figure 8 and slightly higher than in Figure 1; and an upper position, in which the visor (2) is arranged in a position depicted in Figure 9, slightly higher than in Figure 8.

[0018] Therefore, by manually positioning the stops (3) in one of the lower, intermediate, or upper positions, the

sun visor can thus be arranged at a smaller or greater height in the lower position.

[0019] As seen in Figures 6 and 7, the stops (3) of the visor (2) are assembled on guides (4) with the possibility of moving in the vertical direction; said stops (3) and said guides (4) having complementary retention means (31, 41) for retaining the stops (3) in positions at different heights.

[0020] Specifically in Figure 3, said complementary retention means are made up of a lug (31) integral with the stop (3) and enabling movement along a channel (41) provided with constrictions determining the three possible retention positions of the stop (3).

[0021] The operating mechanism for operating the visor (2), located on opposite sides of the helmet and depicted in an exploded view in Figures 4 and 5, comprises a base part (5) fixed to the helmet body (1), a support part (6) fixed to the corresponding end of the visor (2) and assembled with possibility of rotation with respect to the base part (5); and an operating lever (7) for operating the support part (6) of the visor, assembled on one of the ends thereof with possibility of rotation with respect to the helmet body (1) and provided with means for operating the support part (6) of the visor (2) between the upper and lower positions of said visor.

[0022] The means for operating the support part comprise a lug (71) defined in the lever (7) and housed in a slot (62) of the support part (6) of the visor (2), such that by rotating the U-shaped lever about one of its ends, the support part (6) of the visor rotates about the opposite end along with said visor (2), making it possible for the visor to rotate in the same upward or downward direction as the operating lever (7), the operation of the lever to achieve rotation of the screen to the upper and lower positions therefore being an intuitive operation.

[0023] The base part (5) comprises guides (51) for the movement of appendages (61) of the support part (6) of the visor (2) during the rotational movement thereof.

[0024] The visor (2) comprises a clip (21) for fixing to an anchor (63) of the support part (6) of said visor (2).

[0025] Having sufficiently described the nature of the invention as well as a preferred embodiment thereof, it is hereby stated for pertinent purposes that the materials, shape, size, and arrangement of the described elements may be modified provided that it does not entail an alteration of the essential features of the invention that are claimed below.

Claims

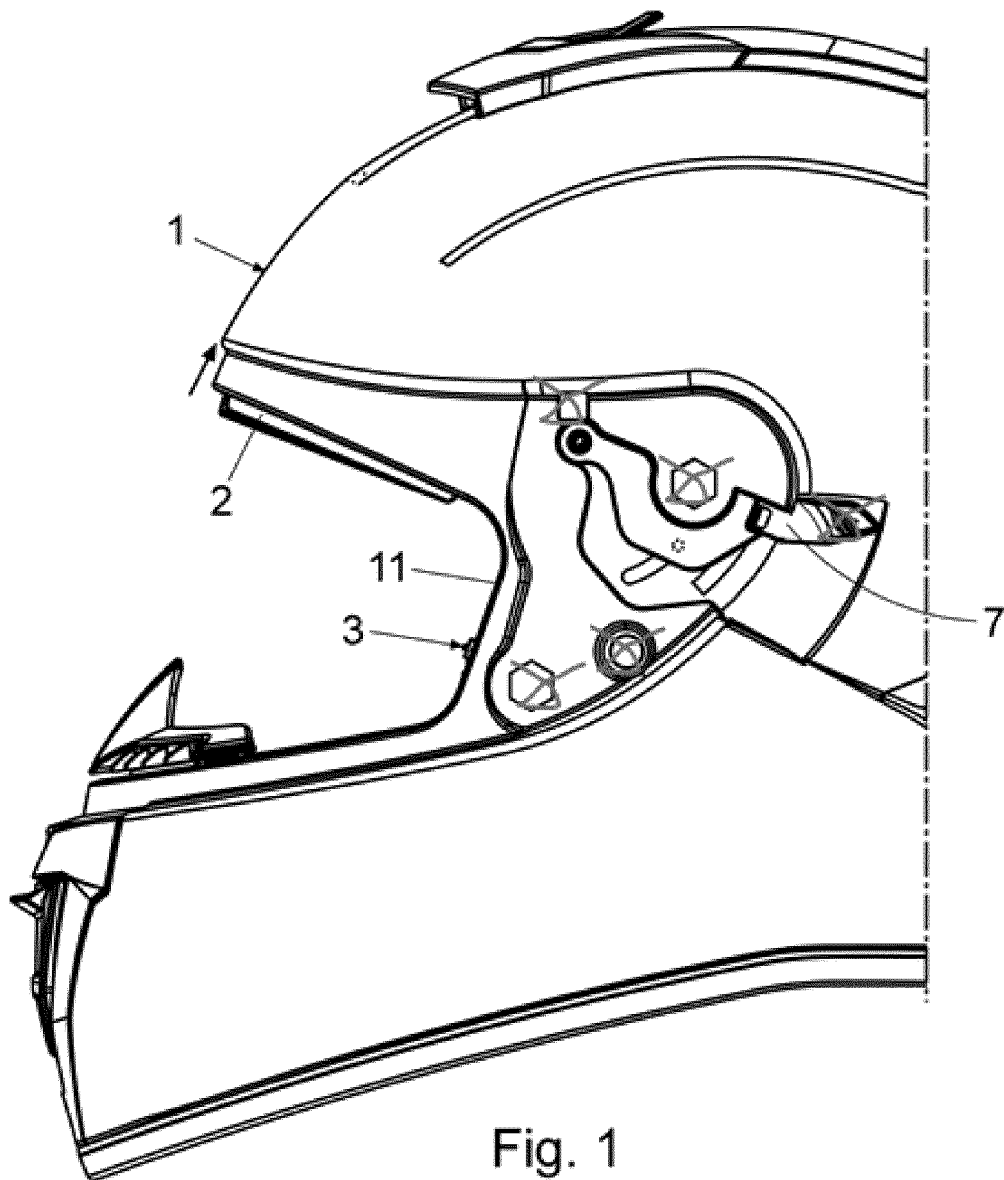
1. A protective helmet for motorcyclists with a sun visor, comprising a body (1) provided with a front opening, a sun visor (2), and a rotary operating mechanism for rotatably operating the visor (2) with respect to a horizontal axis between an inoperative upper position, in which said visor is arranged inside the helmet body (1), and an operative lower position, in which

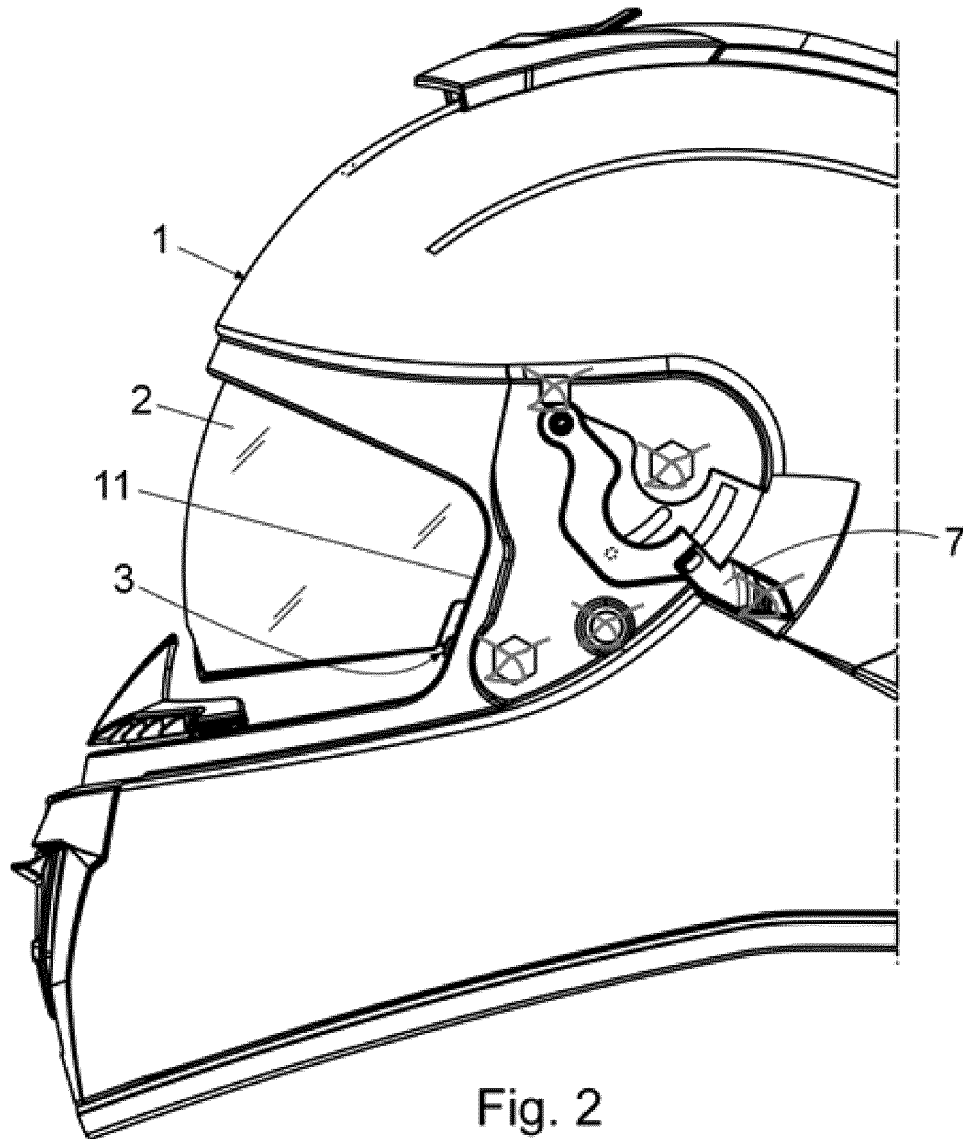
said visor is arranged in front of the user's eyes; the helmet body (1) comprising, on the sides of the front opening (11), stops (3) that can be manually positioned at different heights and that limit the rotation of the visor (2) towards the lower position, the contact of the visor (2) with said stops defining different operative lower positions of the visor depending on the position of said stops (3), **characterized in that** the stops (3) of the visor (2) are assembled on guides (4) with the possibility of moving in the vertical direction; said stops (3) and said guides having complementary retention means (31, 41) for retaining the stops (3) in positions at different heights, said complementary retention means being made up of a lug (31) integral with the stop (3) with possibility of moving along a channel (41) provided with constrictions determining the possible retention positions of the stop (3).

2. The helmet according to claim 1, **characterized in that** the operating mechanism for operating the visor (2) comprises a base part (5) fixed to the helmet body (1), a support part (6) fixed to the corresponding end of the visor (2) and assembled with possibility of rotation with respect to the base part (5); and an operating lever (7) for operating the support part (6) of the visor, assembled on one of the ends thereof with possibility of rotation with respect to the helmet body (1) and provided with means for operating the support part (6) of the visor (2) between the upper and lower positions of said visor.
3. The helmet according to claim 2, **characterized in that** the means for operating the support part comprise a lug (71) defined in the lever (7) and housed in a slot (62) of the support part (6) of the visor (2).
4. The helmet according to claim 2, **characterized in that** the base part (5) comprises guides (51) for the movement of appendages (61) of the support part (6) of the visor (2) during the rotational movement thereof.
5. The helmet according to claim 2, **characterized in that** the visor (2) comprises a clip (21) for fixing to an anchor (63) of the support part (6) of said visor (2).

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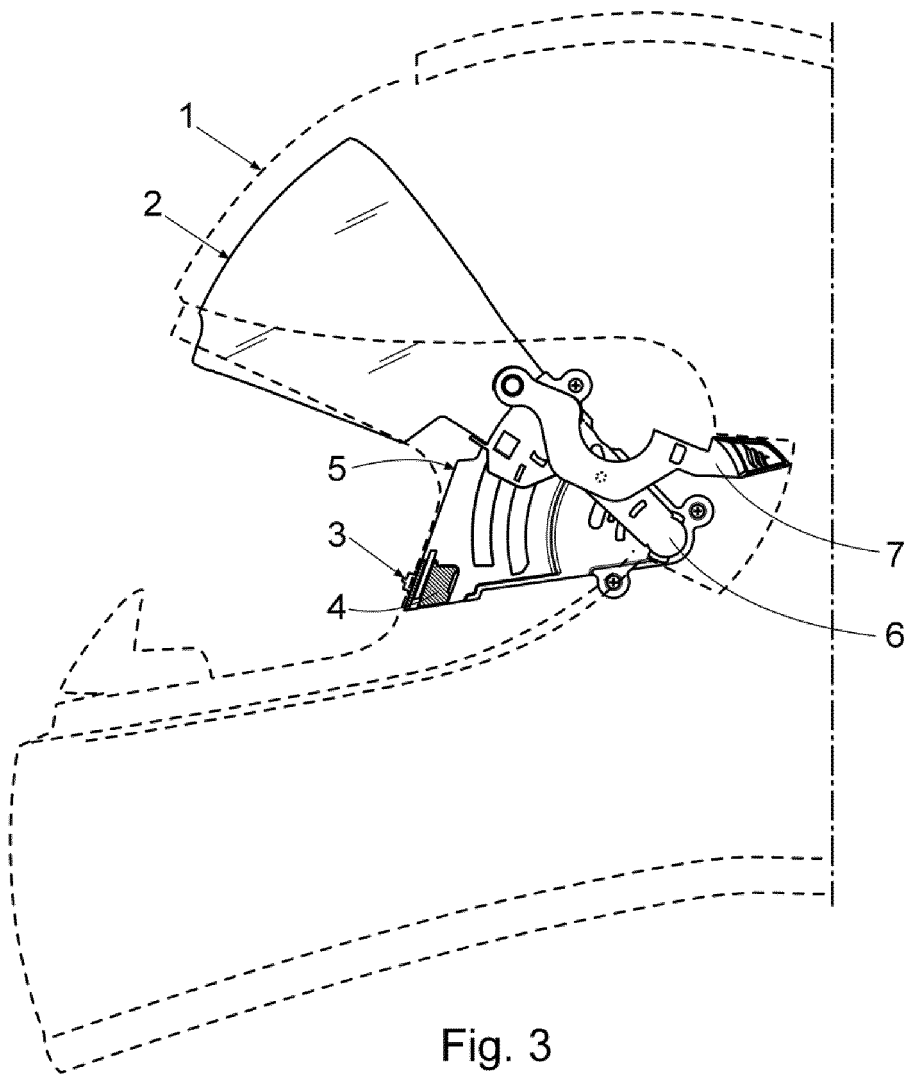


Fig. 3

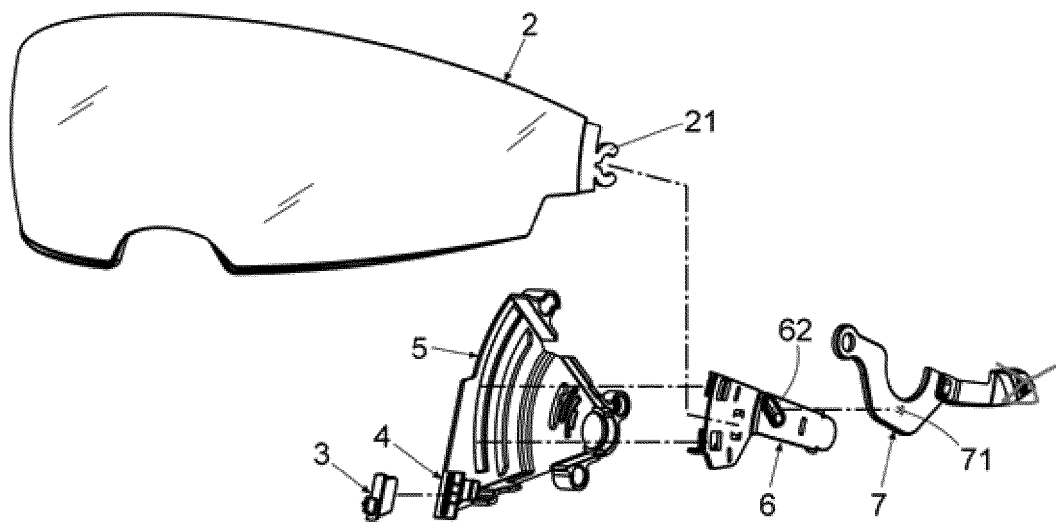


Fig. 4

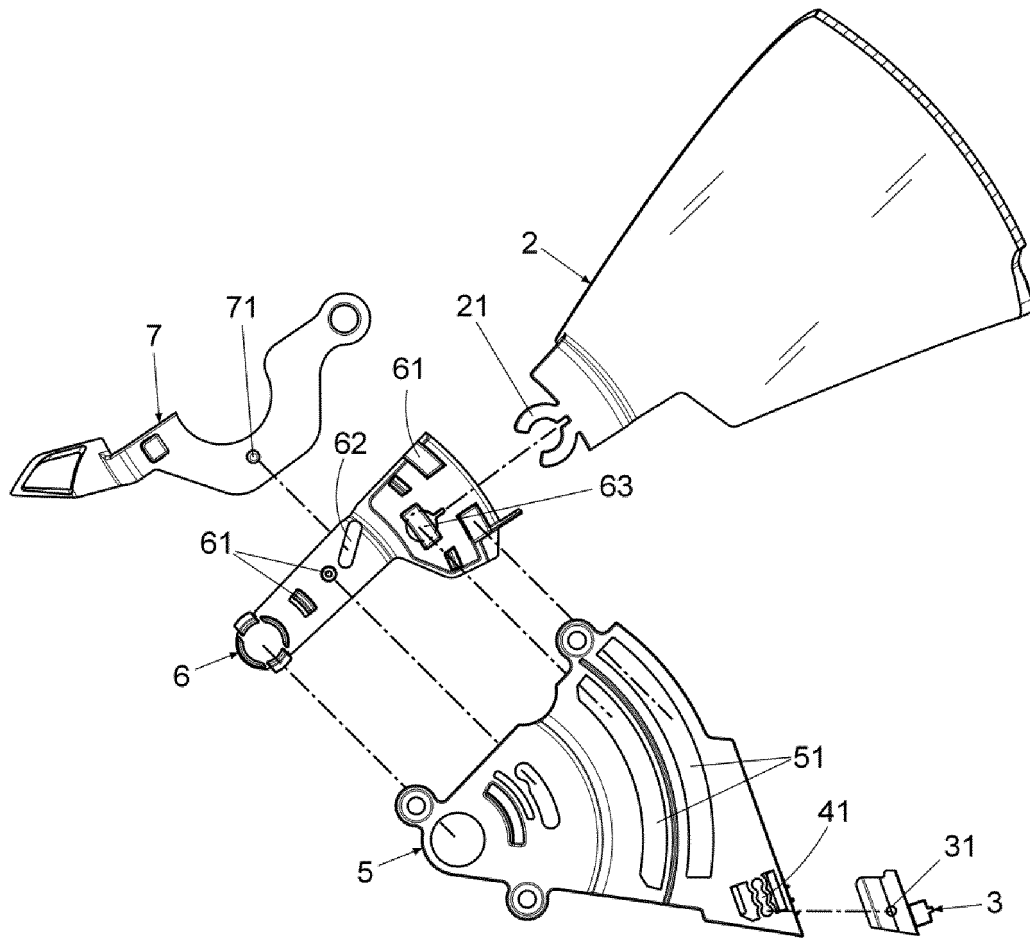


Fig. 5

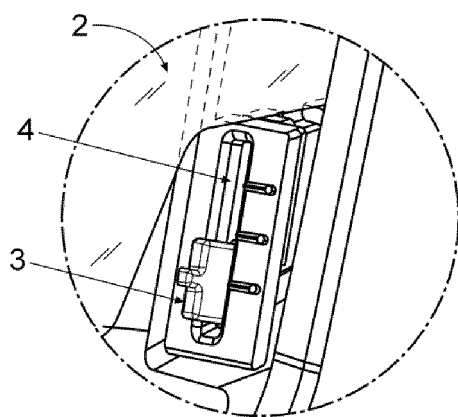


Fig. 6

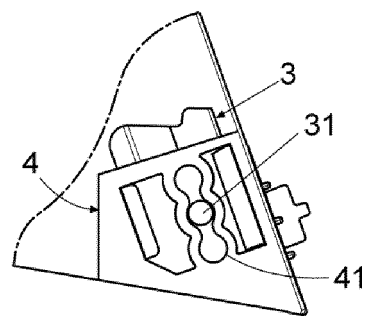


Fig. 7

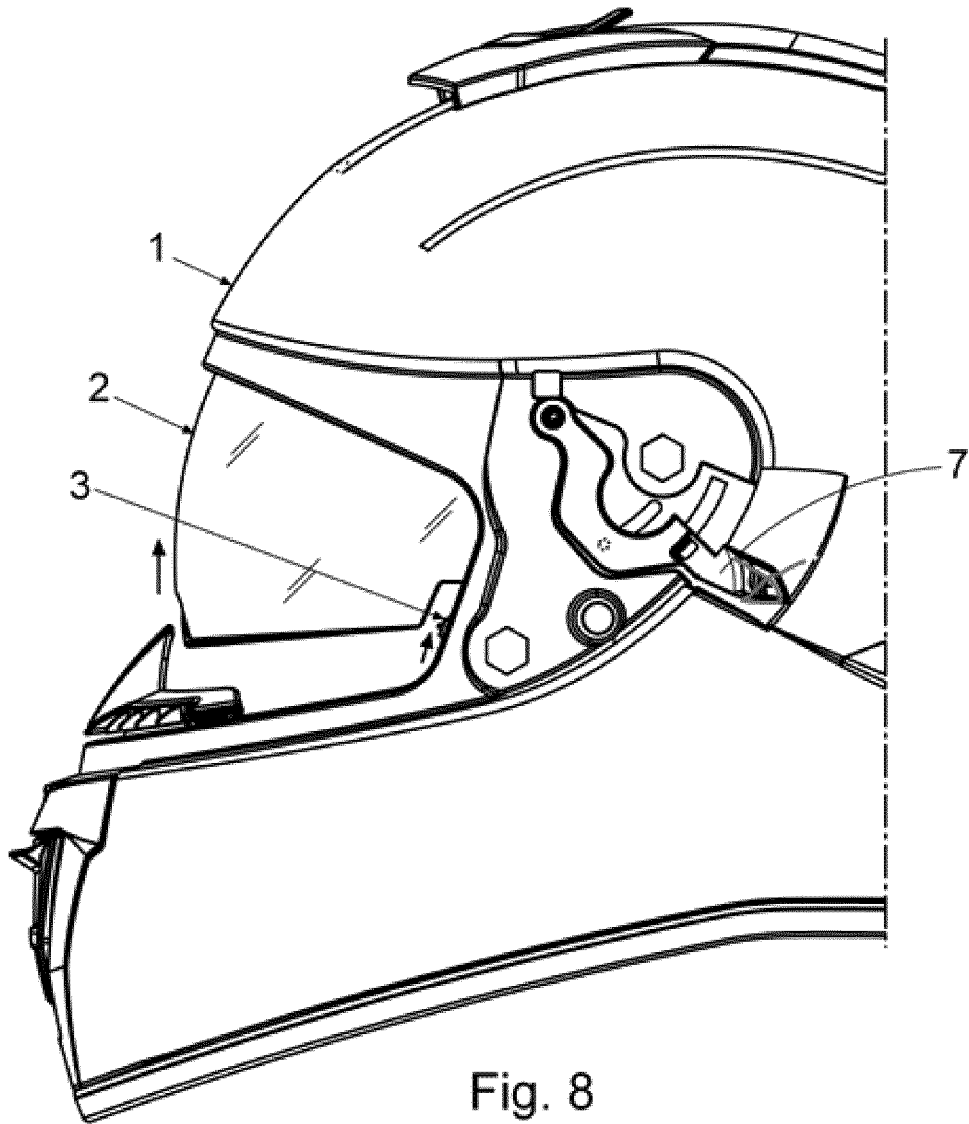
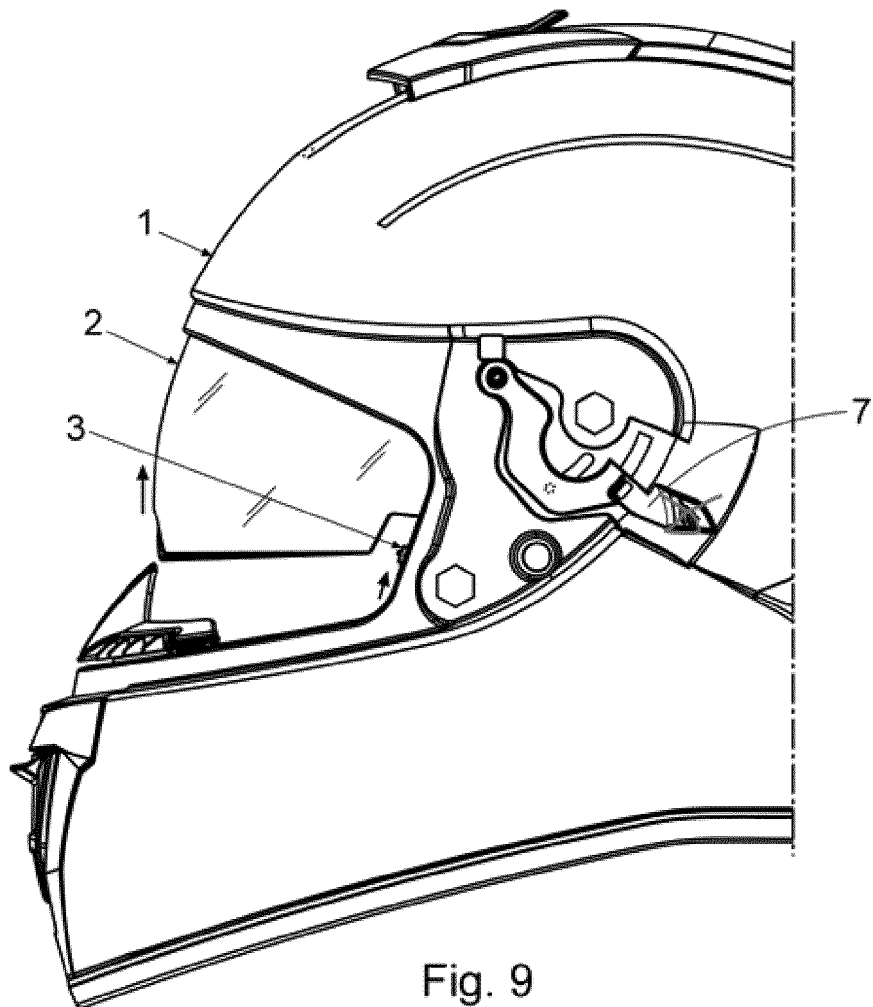


Fig. 8



INFORME DE BÚSQUEDA INTERNACIONAL

Solicitud internacional N°

PCT/ES2018/070763

A. CLASIFICACIÓN DEL OBJETO DE LA SOLICITUD

INV. A42B3/22

ADD.

De acuerdo con la Clasificación Internacional de Patentes (CIP) o según la clasificación nacional y CIP.

B. SECTORES COMPRENDIDOS POR LA BÚSQUEDA

Documentación mínima buscada (sistema de clasificación seguido de los símbolos de clasificación)

A42B

Otra documentación consultada, además de la documentación mínima, en la medida en que tales documentos formen parte de los sectores comprendidos por la búsqueda

Bases de datos electrónicas consultadas durante la búsqueda internacional (nombre de la base de datos y, si es posible, términos de búsqueda utilizados)

EP0-Internal

C. DOCUMENTOS CONSIDERADOS RELEVANTES

Categoría*	Documentos citados, con indicación, si procede, de las partes relevantes	Relevante para las reivindicaciones N°
A	FR 2 584 898 A1 (NKF [FR]) 23 de enero de 1987 (1987-01-23) figura 2 página 5, línea 13 - línea 23	1-5
A	DE 10 2013 002346 A1 (DRÄGER SAFETY AG & CO KGAA [DE]) 14 de agosto de 2014 (2014-08-14) figura 6	1-5
A	JP H05 85822 U (.) 19 de noviembre de 1993 (1993-11-19) figura 1,3,4	1-5

☐ En la continuación del Recuadro C se relacionan otros documentos
 ☒ Los documentos de familias de patentes se indican en el Anexo

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09 de mayo de 2019

Fecha de expedición del informe de búsqueda internacional

16/05/2019

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European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Funcionario autorizado

Guisan, Thierry

N° de fax

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Formulario PCT/ISA/210 (segunda hoja) (Enero 2015)

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Información relativa a miembros de familias de patentes

Solicitud internacional N°

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			JP H0585822	U 19-11-1993

REFERENCES CITED IN THE DESCRIPTION

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- ES 2352812 T3 [0005]