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(54) **SYSTEM FOR CONTROLLING A SUN VISOR FOR A HELMET**

(57) The invention relates to a system for controlling a sun visor for a helmet, in particular a system that is incorporated into a safety helmet for motorised vehicles, in particular motorbike or motor racing helmets, said system comprising an extraction mechanism with a control

device, integrated into the mechanism, which permits said visor to be positioned at different heights in a lower stowed position in order to adjust the use position according to the preferences of the user and so that it is better suited to their physiognomy

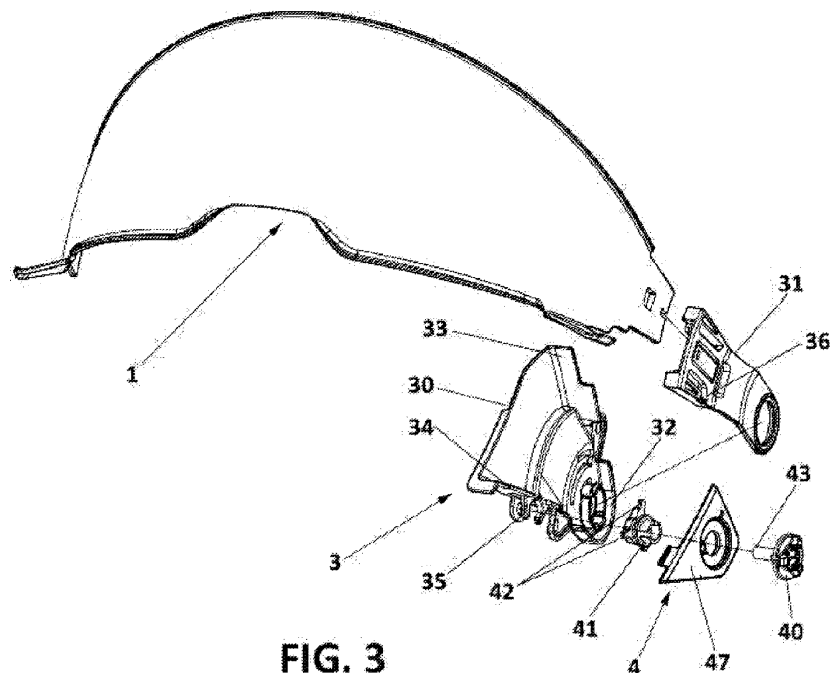


FIG. 3

Description

OBJECT OF THE INVENTION

[0001] The present invention, a system for controlling a sun visor for a helmet, relates to a system that is incorporated into a safety helmet for motorised vehicles, in particular motorbike or motor racing helmets, said system comprising an extraction mechanism with a control device, integrated into the mechanism, which permits said visor to be positioned at different heights in a lower stowed position in order to adjust the use position according to the preferences of the user and so that it is better suited to their physiognomy.

[0002] The field of application of the present invention falls within the industrial sector dedicated to the manufacture of motorbike helmets and the like, particularly focusing on the area of extraction mechanisms of sun visors.

BACKGROUND OF THE INVENTION

[0003] As is known, the incorporation of extractable sun visors into motorbike helmets and the like is widely known. A problem is that most mechanisms which permit said visor to be placed from an upper stowed position superior, located in the upper portion of the helmet above the front opening thereof, to a lower stowed position, with other intermediate use positions, where the visor is positioned so as to cover most of the opening such that it is placed in front of the face of the user, coinciding with the user's eyes in order to protect them from the incident sun rays or harsh weather conditions. Said lower stowed position is fixed, whereby said position may not always be the ideal position for each user, given that there are a number of different physiognomies which mean that the position of the eyes with respect to the front opening of the helmet may vary substantially from one user to the next.

[0004] It would therefore be desirable for each user to be able to adapt the use position of the visor according to physiognomy, and also according to the user's preferences or needs.

[0005] Therefore, the objective of the present invention is a system for controlling a sun visor which resolves said drawbacks by means of the development of an extraction mechanism which includes means for being able to vary the use position in a quick and easy manner, offering at least several alternatives for the user to be able to choose the one that is the most suited in each case.

[0006] Moreover, and as a reference to the current state of the art, it should be pointed out that the applicant at least is unaware of the existence of a system for controlling the sun visor for a helmet such as the one of the present invention.

DESCRIPTION OF THE INVENTION

[0007] The object of the present invention is a system for controlling a sun visor for a helmet according to claim 1. Said system is, specifically, a system in which the visor is attached at both sides to a helmet through an extraction mechanism which permits the visor to be moved between two stowed positions, a lower stowed position and an upper stowed position, covering the front opening of the helmet, comprising a control device on at least one of both sides of said extraction mechanism with a rotary knob in order to vary the lower height of the visor when it is in the lower stowed position.

[0008] More specifically, the system for controlling a sun visor for a helmet, preferably a motorbike helmet, a motor racing helmet or the like, has an extraction mechanism which permits the visor to be moved from a stowed position, in which it is concealed in the upper portion of the helmet above the front opening thereof, to a use position, in which it moves downwards to a position covering the upper portion of said opening in front of the user's face, coinciding with the user's eyes; it is distinguished by having, integrated into said extraction mechanism of the visor, a control device for positioning said visor in the use position at different heights, permitting the user to choose the preferred position which best suits their physiognomy.

[0009] To that end, and more specifically, said device is essentially configured from a rotary knob which, linked to a support having radial lugs having a different length, is incorporated into the cover in which there rests the latch securing the visor in the lower use position, intercalated between the lower stop of said cover and the mentioned latch, such that, according to the position in which said support is placed upon making the knob rotate, the length of the lug which is positioned in the upper portion acts as a stop for the latch in a more or less elevated position, causing the lower use position of the visor to be, in turn, more or less elevated.

[0010] Preferably, the support having lugs has three lugs of three different lengths arranged radially, whereby the visor can preferably be controlled in three use positions in the lower stowed position.

[0011] Preferably, the rotary knob in which the support having radial lugs is coupled externally has, that is, on the face that is visible, marks indicative, for example by means of numbering, of the different lengths of each of the lugs of the support, in order to indicate the different use position heights of the visor to be chosen, according to the position in which the knob is rotated.

DESCRIPTION OF THE DRAWINGS

[0012] To complement the description of the present invention and to facilitate the features of the invention, a set of illustrative and non-limiting figures is attached to the present specification as an integral part thereof.

Figure 1 shows a perspective view of an example of the sun visor for a helmet, having a position that can be controlled, object of the invention, depicted in the use position in a helmet, where the manner in which it is coupled to same can be seen.

Figure 2 shows an enlarged detail of the rotary knob comprised in the control device of the visor, where the arrangement coupled to the frame securing it to the extraction mechanism of the visor can be seen. Figure 3 shows an exploded perspective view of the visor, the extraction mechanism and the control device, where each of the elements and parts it comprises as well as the configuration thereof can be seen.

Figures 4-A, 4-B and 4-C show, in respective perspective views of the control device coupled to the extraction mechanism of the visor, the different use positions adopted by said visor according to the different positions of the device, with the use position of the visor in Figure 4-A being the lowest, that of Figure 4-B being an intermediate position, and that in Figure 4-C being the highest use position.

Figures 5-A and 5-B show, respectively, a side elevational view of the visor and the extraction mechanism thereof with the support having radial lugs of the control device located in a first lowest use position, and an enlarged view of said support having radial lugs in said position.

Figures 6-A and 6-B show two side elevational views similar to Figures 5-A and 5-B, that is, of the assembly of the visor and the detail of the support having radial lugs, respectively, in this case depicted in an intermediate use position of the visor.

Figures 7-A and 7-B show two views similar to those shown in Figures 5 and 6-A and 5 and 6-B of the visor the detail of the support having radial lugs, in this case depicted in the highest use position of the visor.

PREFERRED EMBODIMENT OF THE INVENTION

[0013] An embodiment of the invention object of the present application is described below in view of the mentioned figures.

[0014] Thus, as can be observed in said figures, the system for controlling a sun visor (1) is of the type coupled to the helmet (2) through an extraction mechanism (3) which attaches it, on both sides, to same with the possibility of movement from an upper stowed position, in which it is concealed above the front opening of the helmet (2), to a lower use position, as shown in Figure 1, in which it covers the upper portion of said opening, with the particular feature of having, integrated into at least one of both sides of said extraction mechanism (3), a control device (4) which permits the user to position the visor (1) in the lower use position at different heights, without needing to use tools or remove the visor (1) or the extraction mechanism (3), but rather by simply mov-

ing a rotary knob (40).

[0015] Thus, in the preferred embodiment, said control device (4) is coupled to both sides of the extraction mechanism (3) and essentially comprises a rotary knob (40) which, linked to a support (41) provided with several radial lugs (42) having a different length such that upon making the knob (40) rotate, it also rotates said support (41), is incorporated into the extraction mechanism (3) in the lower portion, such that the lug (42) of the support (41) which is located in the upper portion acts as a stop, limiting the downward movement of the visor (1) to the lower use position in said mechanism (3).

[0016] For that purpose, the extraction mechanism (3), as seen in Figure 2, comprises a cover (30) having an approximately triangular configuration which is fixed integrally to the helmet (2), and a latch (31) which is attached at one end to the visor (1) and at the opposite end rotates coupled to the cover (30) in an enclosure (32) thereof, between the upper and lower positions limited by a respective upper partition (33) and a respective lower partition (34) of said cover (30); it preferably has in the lower portion, next to an opening of the aforesaid lower partition (34), a circular coupling (35) suitable for the fixing of the support (41) having radial lugs (42) of the control device (4).

[0017] Preferably, the latch (31) has in the lower portion a slot (36) in which there fits the lug (42) of the support (41) which is positioned in the upper portion when said latch (31) is in the lower use position. According to the length of said lug (42), the latch (31) will be more or less elevated, and accordingly, the visor (1) will adopt a lower use position more or less elevated. Preferably, the support (41) has three radial lugs (42) having a different length.

[0018] Likewise, the rotary knob (40) is coupled to the support (41) having radial lugs (42) through a rod (43) provided therein, being pressed into the central gap (44) of said support (41), fitting such that both elements rotate integrally with one another as a result of projections (45) provided for that purpose. The rotary knob (40) externally has marks (46) indicative of the different lengths of each of the lugs (42) of the support (41). Preferably, said marks (46) are in relief, serving at the same time to secure the knob and achieve its rotation.

[0019] Lastly, it should be pointed out that the control device (4) further comprises a frame (47) formed by a part fitting into a complementary recess of the helmet (2) into which the rotary knob (40) in turn fits, such that it does not represent an element protruding from the surface of the helmet.

Claims

1. A system for controlling a sun visor for a helmet, in which the visor (1) is attached at both sides to a helmet (2) through an extraction mechanism (3) which permits the visor (1) to be moved between two

stowed positions, a lower stowed position and an upper stowed position, covering the front opening of the helmet (2), **characterised in that** it comprises a control device (4) on at least one of both sides of said extraction mechanism (3) with a rotary knob (40) in order to vary the lower height of the visor (1) when it is in the lower stowed position.

2. The system according to claim 1, **characterised in that** the rotary knob (40) is associated with a support (41) with at least two radial lugs (42) having a different length which rotate upon rotation of the rotary knob (40), one of said lugs (42) acting as a stop on the lower portion of the visor (1), limiting the downward movement thereof and determining the lower stowed position. 10
3. The system according to claim 2, **characterised in that** the control device is incorporated into the lower portion of the extraction mechanism (3). 20
4. The system according to any of the preceding claims, **characterised in that** the control device (4) is coupled to both sides of the extraction mechanism (3). 25
5. The system according to any of the preceding claims, **characterised in that** the extraction mechanism (3) comprises a cover (30) and a latch (31) for the attachment to the visor (1), in respect of which said visor (1) rotates between the upper and lower stowed positions limited by a respective upper partition (33) and a respective lower partition (34) arranged in said cover (30). 30
6. The system according to claim 5, **characterised in that** the cover (30) has in the lower portion next to an opening of the lower partition (34) a circular coupling (35) suitable for the fixing of the support (41) of the control device (4). 35
40
7. The system according to claim 5, **characterised in that** the latch (31) has in the lower portion a slot (36) in which there fits a lug (42) of the support (41) which is positioned in the upper portion when said latch (31) is in the lower use position. 45
8. The system according to any of the preceding claims, **characterised in that** the support (41) has three radial lugs (42) having a different length. 50
9. The system according to any of the preceding claims, **characterised in that** the rotary knob (40) comprises a rod (43) for coupling in a central gap (44) arranged in the support (41) having radial lugs (42), such that both coupled elements rotate integrally with one another. 55
10. The system according to any of the preceding claims,

characterised in that the rotary knob (40) externally has marks (46) indicative of the different lengths of each of the lugs (42) of the support (41).

- 5 11. The system according to claim 10, **characterised in that** said marks (46) are in relief, serving at the same time to secure the knob and achieve its rotation.
12. The system according to any of the preceding claims, **characterised in that** the control device (4) comprises a frame (47) formed by a part fitting into a complementary recess of the helmet (2) into which the rotary knob (40) in turn fits.

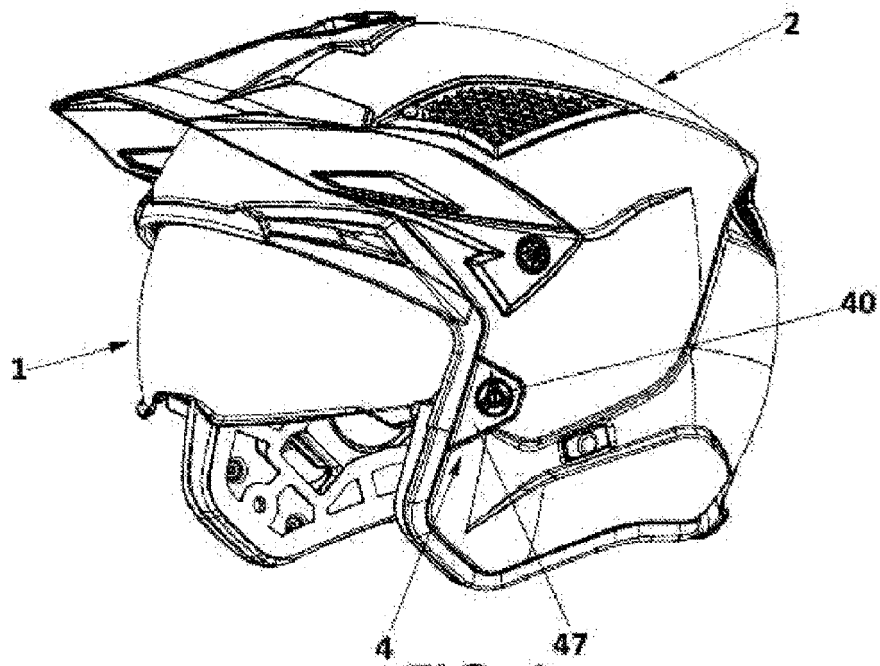


FIG. 1

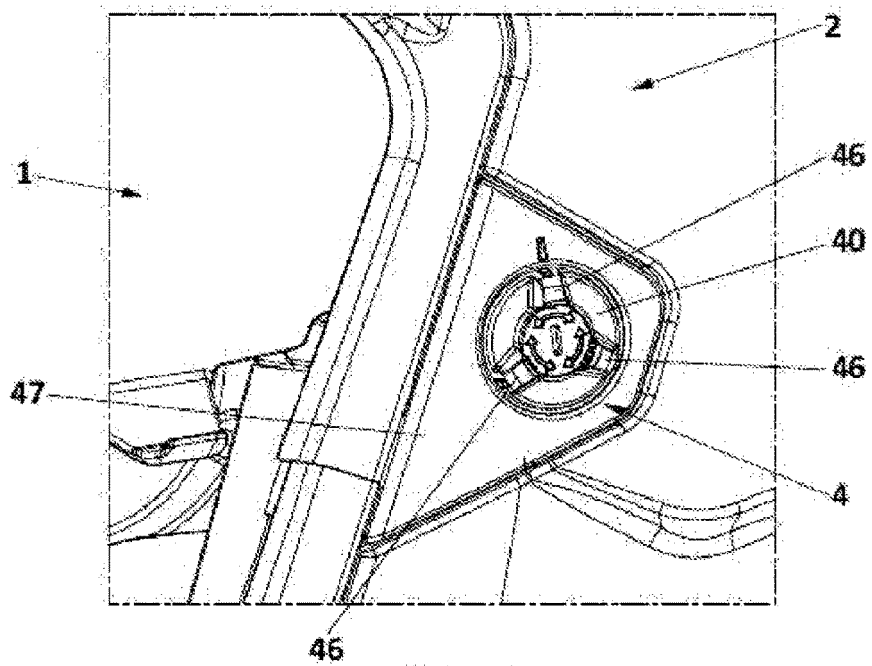


FIG. 2

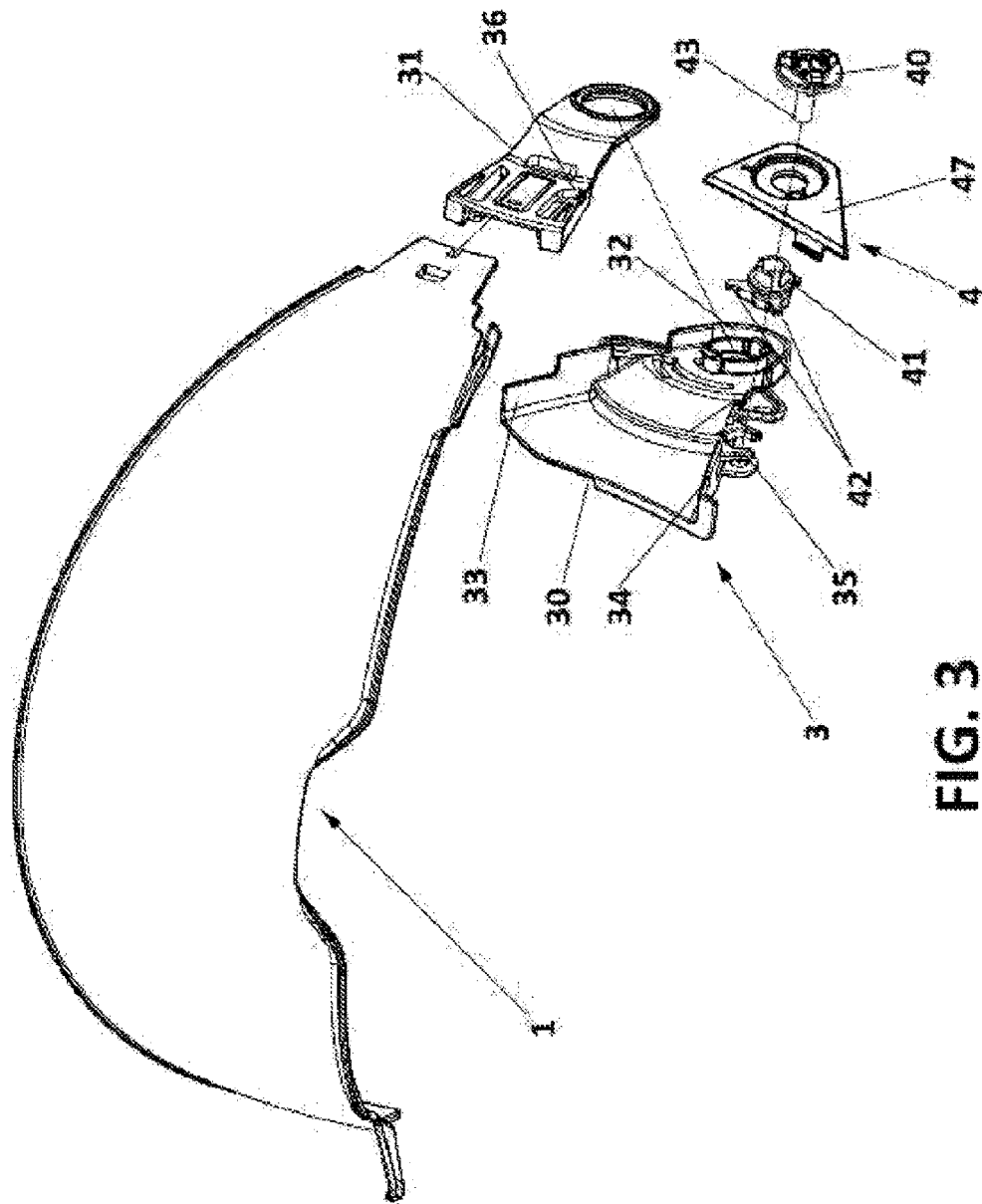
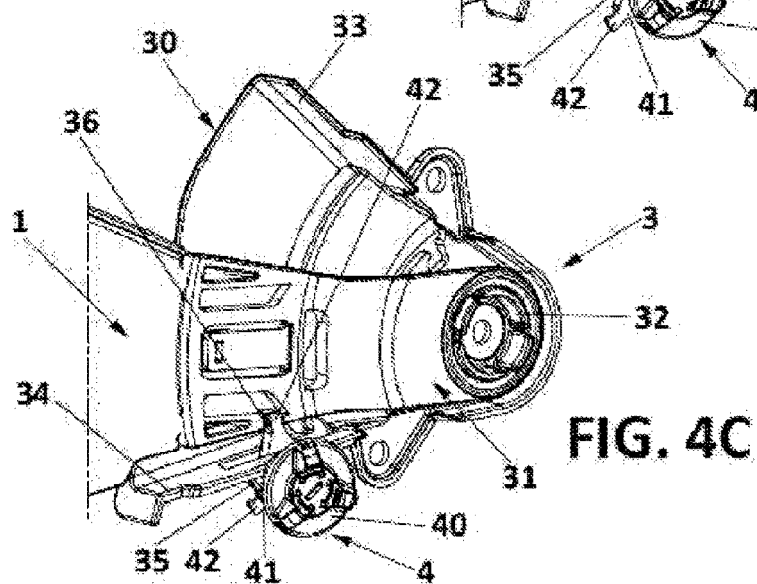
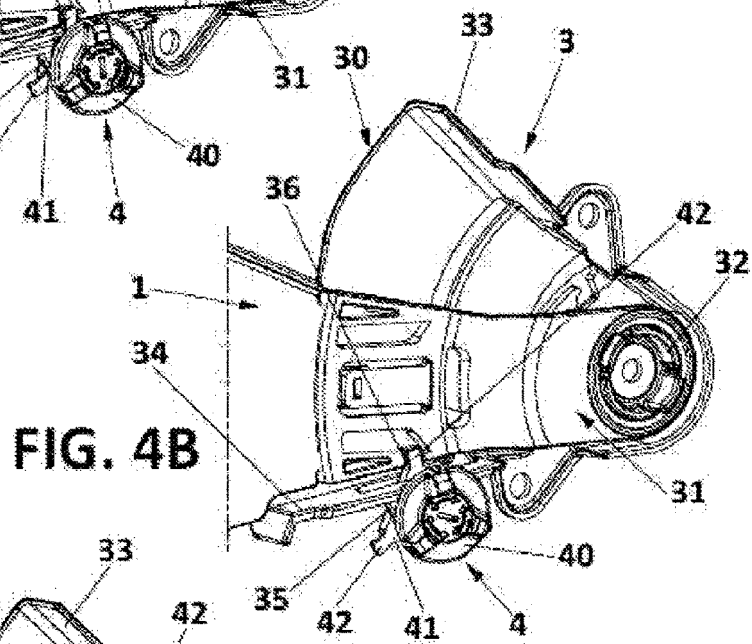
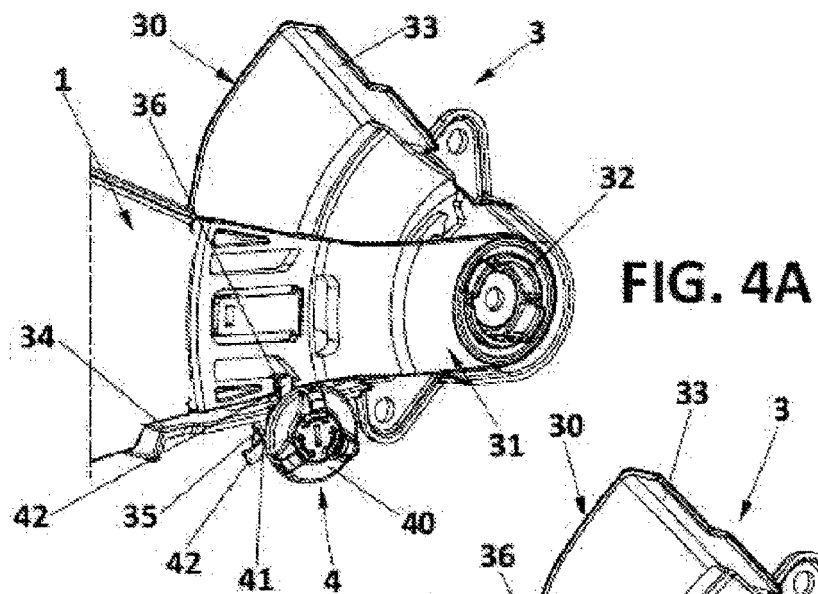


FIG. 3



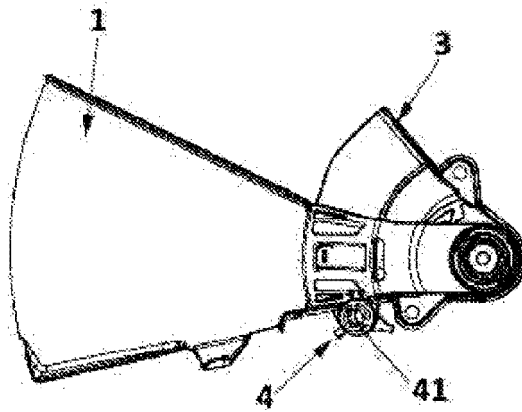


FIG. 5A

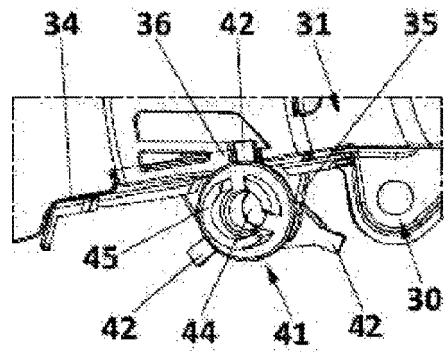


FIG. 5B

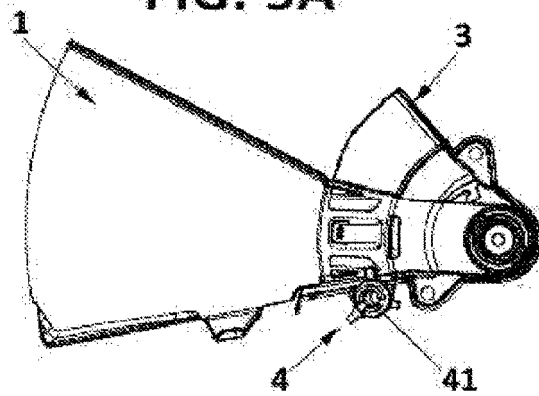


FIG. 6A

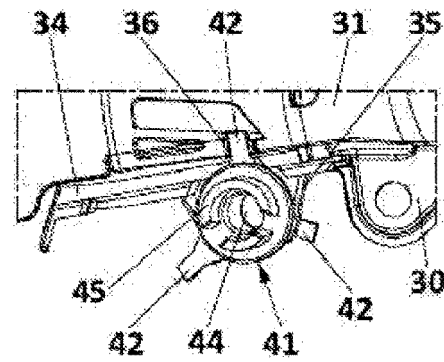


FIG. 6B

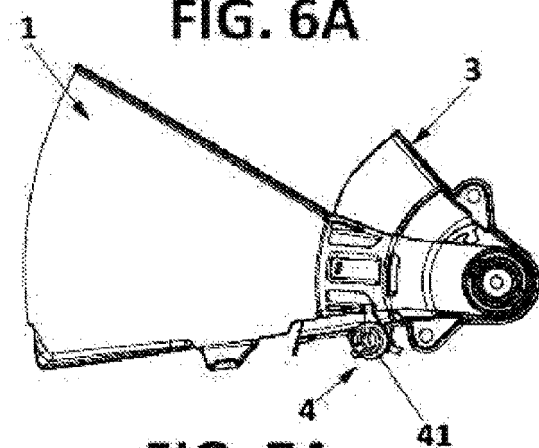


FIG. 7A

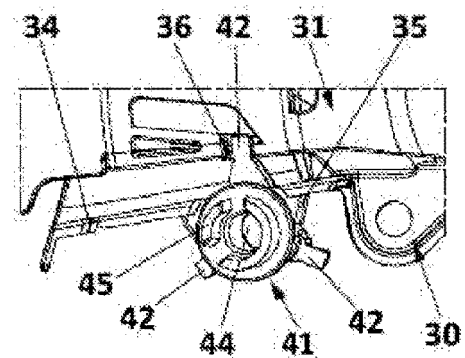


FIG. 7B

INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES2018/070716

A. CLASSIFICATION OF SUBJECT MATTER

A42B3/22 (2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A42B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPODOC, INVENES

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	ES 2290265T T3 (OSBE SRL) 16/02/2008, Page 4 lines 27 to 49 and figures 4 and 5.	1 2-12
Y	JP S6020541U U 13/02/1985, claims and figures.	2-12
X Y	US 2010132097 A1 (CHEN TSAN-JEE) 03/06/2010, Paragraph 25 and figures.	1 2-12
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Y	JP H05214604 A (SHOEI KAKO KK) 24/08/1993, claims and figures.	2-12

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance.	
"E" earlier document but published on or after the international filing date	
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"O" document referring to an oral disclosure use, exhibition, or other means.	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other documents, such combination being obvious to a person skilled in the art
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

Date of the actual completion of the international search
08/04/2019

Date of mailing of the international search report
(09/04/2019)

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/ES2018/070716

C (continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of documents, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1795081 A1 (HJC CO LTD) 13/06/2007, Paragraph 29 to 32 and figures.	1
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