



(19)

Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 0 895 726 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
10.02.1999 Bulletin 1999/06

(51) Int. Cl.⁶: A42B 3/32

(21) Application number: 98111094.3

(22) Date of filing: 17.06.1998

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: 08.08.1997 IT MI971917

(71) Applicant: Locatelli, Antonio
24037 Rota d'Imagna, Bergamo (IT)

(72) Inventor: Locatelli, Antonio
24037 Rota d'Imagna, Bergamo (IT)

(74) Representative:
Forattini, Amelia
c/o Internazionale Brevetti
Ingg. ZINI, MARANESI & C. S.r.l.
Piazza Castello 1
20121 Milano (IT)

(54) Crash helmet with openable chinguard

(57) A crash helmet with openable chinguard, including a helmet bowl (3), a chinguard (5) which is hinged to the bowl (3), and a means (9) for locking the chinguard, characterized in that it includes a single push

button (31) for opening the chinguard with just one hand.

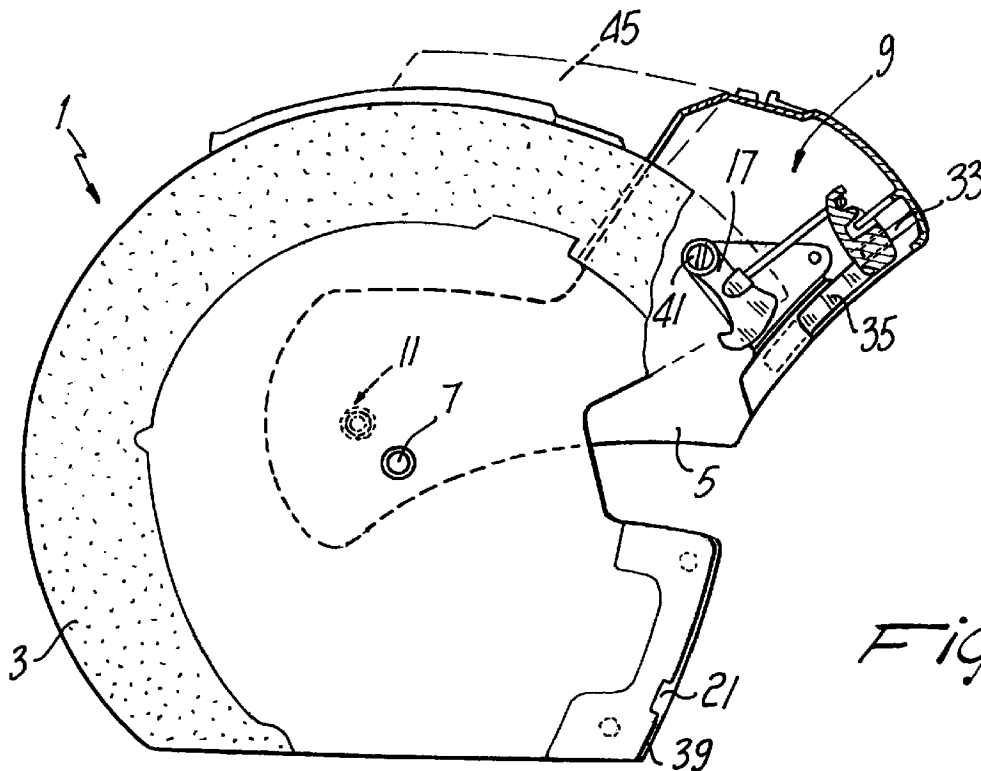


Fig. 3

EP 0 895 726 A1

Description

[0001] The present invention relates to a crash helmet with openable chinguard.

[0002] Crash helmets of the so-called full-face type, in which the front part or chinguard is hinged to the helmet bowl and can be opened, have long been used, particularly by motorcyclists.

[0003] Full-face crash helmets with openable chinguard have many advantages in terms of comfort, especially when using the motorcycle or moped in town; accordingly their use is increasingly widespread.

[0004] In order to fully exploit the advantages of the openable chinguard, the opening operation has to be very easy and quick.

[0005] However, only a very small number of the commercially available crash helmets allow easy opening and closure of the chinguard. Furthermore, most of the commercially available crash helmets do not allow to open the chinguard with just one hand.

[0006] EP-0518178 discloses a full-face helmet having a chinguard that can be opened with one hand by acting on a lever with the thumb. This system has however shortcomings: because of the position of the lever it is not possible to grip the chinguard while pulling it forward and this causes the head of the motorcyclist to be pulled forward as well. Furthermore, the lever is outside the chinguard.

[0007] The aim of the present invention is to provide a crash helmet with openable chinguard which overcomes the drawbacks of the conventional helmets and particularly allows to open the chinguard more easily, with just one hand.

[0008] An object of the invention is to provide a crash helmet, with openable chinguard, which provides a higher safety.

[0009] Another object of the invention is to provide a crash helmet with a chinguard closure system which is reliable in case of impact.

[0010] This aim, these objects and others which will become apparent hereinafter are achieved by a crash helmet as claimed in the appended claims.

[0011] Further characteristics and advantages will become apparent from the description of a preferred but not exclusive embodiment of the invention, illustrated only by way of non-limitative example in the accompanying drawings, wherein:

Fig. 1 is a sectional lateral elevation view, taken along a longitudinal plane, of the crash helmet according to the invention, with the chinguard in closed position;

Fig. 2 is an enlarged partial view, similar to the Fig. 1, of the locking means in the release position;

Fig. 3 is a sectional side view, taken along a longitudinal plane, of the crash helmet according to the

invention, with the chinguard in the open position;

Fig. 4 is a bottom view of the crash helmet in the closed position;

Fig. 5 is a rear view of the internal part of the chinguard.

[0012] With reference to the above figures, the crash helmet according to the invention, generally designated by the reference numeral 1, includes a helmet bowl 3 and a chinguard 5 which is pivoted to the bowl 3 on a pivot 7, which is preferably constituted by a screw or the like. The chinguard 5 can move into at least two positions: an open position, shown in Fig. 3, and a closed position, shown in Fig. 1. In the closed position, the chinguard can be locked to the bowl by a locking means 9, while in the open position the chinguard can be locked with respect to the bowl for example, by an engagement means 11.

[0013] The engagement means 11 includes a protruding part, advantageously constituted by a ball 13 or the like, which is elastically associated with the inner surface of the chinguard 5 and is suitable to engage a recess 15 formed on the outer surface of the bowl 3. The chinguard 5 can of course assume different positions, with respect to the crown, in addition to the open and closed ones shown in Figs. 3 and 1, respectively.

[0014] As mentioned, the chinguard 5 is locked in the closed position by a locking means 9. The locking means 9 comprises lever members 17, each pivoted to one side of the chinguard 5 and including a hook 19 adapted to engage a coupling means, advantageously constituted by a slot 21 on each side of the bowl 3. The locking means 9 can be actuated by an actuation member 23, which is advantageously constituted by a tie rod 25, whose ends 27 and 29 are associated with the levers 17. A grip means, or push button, 31 surrounds the central part of the tie rod 25 and is slidably associated, in a longitudinal direction, with the chinguard 5 by means of pins 33 which are rigidly coupled to the chinguard and are inserted in corresponding seats formed in the grip means. The grip means 31 comprises first guiding flaps 35 which can slide in corresponding lateral seats formed in the chinguard. The grip means thus forms a sliding push button inside the chinguard, rather than a lever, and it is very easy for the user to push the button and grip the chinguard with one action, using his/her thumb and index. At the lateral seats, the chinguard is provided with second guiding flaps 37 surrounding the edge 39 of the bowl during closure of the chinguard.

[0015] The locking means 9 is normally kept in the locking position by means of elastic members. In particular, levers 17 are kept in the locking position, shown in Figs. 1 and 2, by means of springs (not shown) which are coaxial to the fixing pivot 41. The grip means is also normally kept in the position for locking the levers 17, by

means of springs which are coaxial to the pins 33. Chinguard 5 comprises an inner front horizontal wing 43 adapted to further guide the grip means 31.

[0016] The operation of the crash helmet according to the invention is very simple. In the normal closed position (shown in Fig. 1), hooks 19 of levers 17 engage slot 21 of the bowl, thus locking the chinguard in that position.

[0017] If one wishes to open the chinguard, it is sufficient to grip the lower edge of the chinguard with just one hand, resting the thumb inside the chinguard on the grip means 31, and to press with the thumb on the grip means 31 so as to turn, by virtue of tie rod 25, levers 17, which disengage from the respective slots 21, as shown in Fig. 2.

[0018] At this point, the chinguard is released and the motorcyclist simply has to lift it with the same hand to move it into the chosen open position, for example in the position shown in Fig. 3, which is made stable by virtue of engagement means 11.

[0019] In order to close the chinguard again, it is sufficient to lower it, again with just one hand, to the closure point, where the hooks 19, overcoming the force of the elastic members and guided by the rounded shape, enter the respective slots 21.

[0020] The crash helmet of course has a conventional visor 45 which is pivoted to the bowl 3 on the pivot 7 and has a per se known operation.

[0021] In practice it has been found that the invention achieves the intended aim and objects, a crash helmet having been provided which allows the user to open and close the chinguard very easily and with just one hand.

[0022] Contrary to conventional helmets, the grip means is substantially a sliding push button instead of a lever thus making its actuation easier.

[0023] A further advantage of the invention is the possibility to easily lock the chinguard in the open position and thus to also release it when one wishes to close it again.

[0024] A further advantage is the simple construction which helps to make the crash helmet more reliable.

[0025] A further advantage is given by the rounded profile of the grip means, which is shaped complementarily to the inner part of the chinguard so that it does not cause discomfort to the user and at the same time minimizes the longitudinal dimensions of the chinguard.

[0026] Still a further advantage over the prior art is that the entire mechanism, including the grip means or push button, is inside the chinguard thus improving safety, because there are no protruding parts, aerodynamics and the aesthetic appearance of the helmet.

[0027] The helmet according to the invention is susceptible of numerous modifications and variations, all of which are within the scope of the claims. All the details may be replaced with other technically equivalent elements. The materials used, as well as the dimensions, may of course be any according to the requirements and the state of the art.

[0028] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly, such reference signs do not have any limiting effect on the scope of each element identified by way of example by such reference signs.

Claims

1. Crash helmet with openable chinguard, comprising a helmet bowl (3), a chinguard (5) pivoted to said bowl, and a locking means (9) for locking said chinguard in at least one chinguard closure position, characterized in that it comprises a single push button (31), inside said chinguard, for actuating said locking means so as to allow to open said chinguard with just one hand.
2. Crash helmet according to claim 1, characterized in that said locking means is arranged to the sides of the bowl and of the chinguard and can be actuated by means of said push button, which is arranged substantially at the center of the chinguard.
3. Crash helmet according to claim 1 or 2, characterized in that said locking means comprises lever members (17) pivoted to said chinguard and cooperating with a coupling means (21) for coupling to said bowl (3), said lever members being actuated by said push button (31), said locking means comprising a tie rod (25) having ends (27, 29) associated with said lever members (17) and lying along the front inner part of said chinguard (5).
4. Crash helmet according to one or more of the preceding claims, characterized in that said tie rod (25) is arranged substantially along the inner lower edge of said chinguard and can be actuated by gripping the chinguard with one hand and by pressing with the thumb on said push button (31) associated with said tie rod (25) to release said lever members (17) from said coupling means (21).
5. Crash helmet, according to one or more of the preceding claims, characterized in that said push button (31) surrounds the central portion of said tie rod (25) and is slidably associated, in a longitudinal direction, with said chinguard (5).
6. Crash helmet, according to one or more of the preceding claims, characterized in that said push button (31) is slidably associated with said chinguard (5) by means of pins (33) rigidly associated with said chinguard and inserted in corresponding seats provided in said push button.
7. Crash helmet, according to one or more of the pre-

ceding claims, characterized in that said push button (31) has first guiding flaps (35) sliding in corresponding lateral seats formed in said chinguard.

5

8. Crash helmet, according to one or more of the preceding claims, characterized in that said chinguard is provided with second guiding flaps (37) surrounding the edge (39) of the bowl during closure of said chinguard.

10

9. Crash helmet, according to one or more of the preceding claims, characterized in that said chinguard comprises an inner front horizontal wing (43) adapted to guide said push button (31).

15

10. Crash helmet according to one or more of the preceding claims, characterized in that said chinguard and said bowl have an engagement means comprising an elastic means (13) for mutual engagement which is suitable to detachably lock said chinguard in at least one open position to prevent said chinguard from falling back into the closed position.

20

25

11. Crash helmet according to one or more of the preceding claims, characterized in that said engagement means is constituted by a protruding member (13) which is associated with the internal surface of said chinguard and is suitable to engage one or more recesses (15) formed on the outer surface of said bowl (3) to produce one or more stable open positions of said chinguard.

30

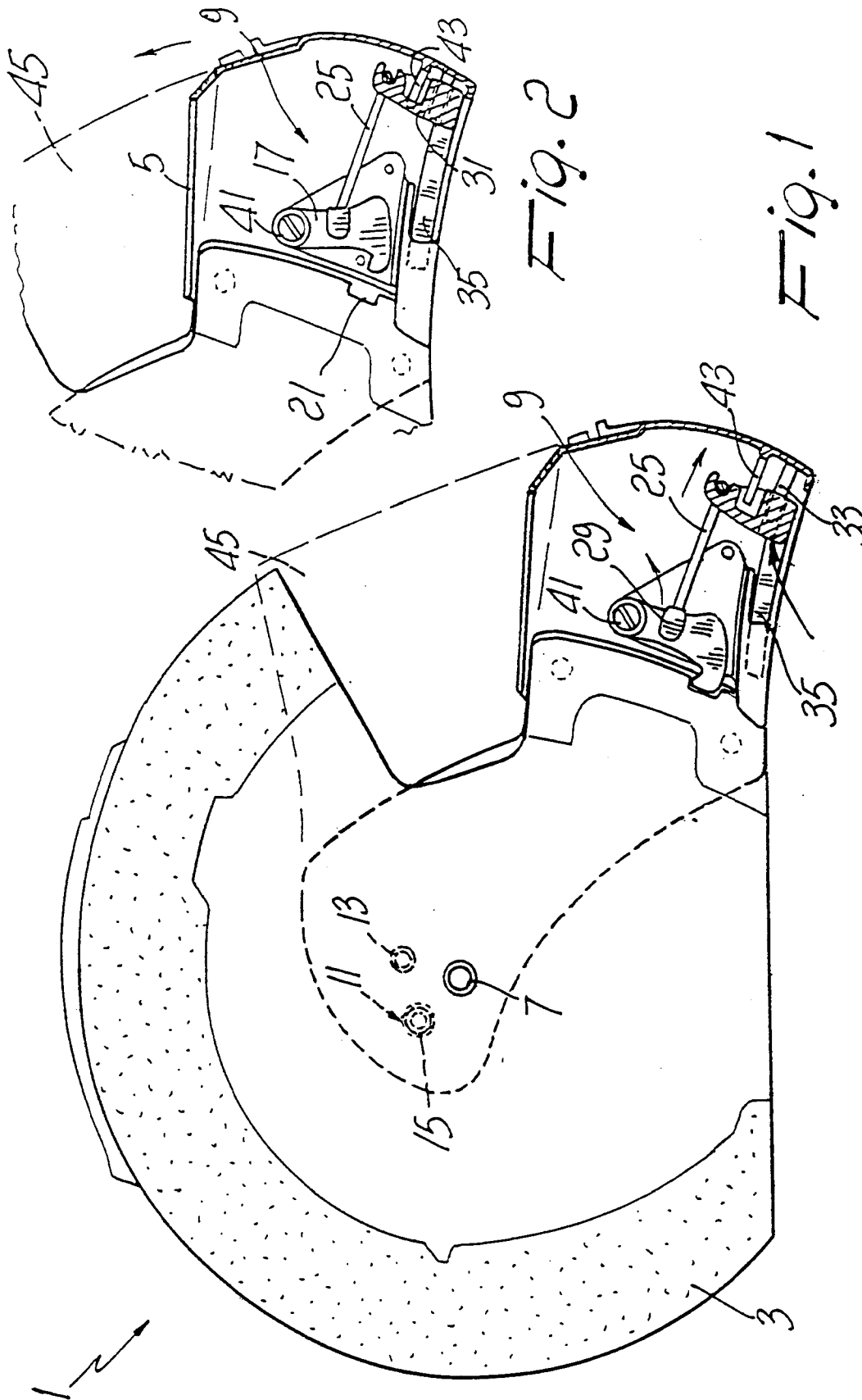
35

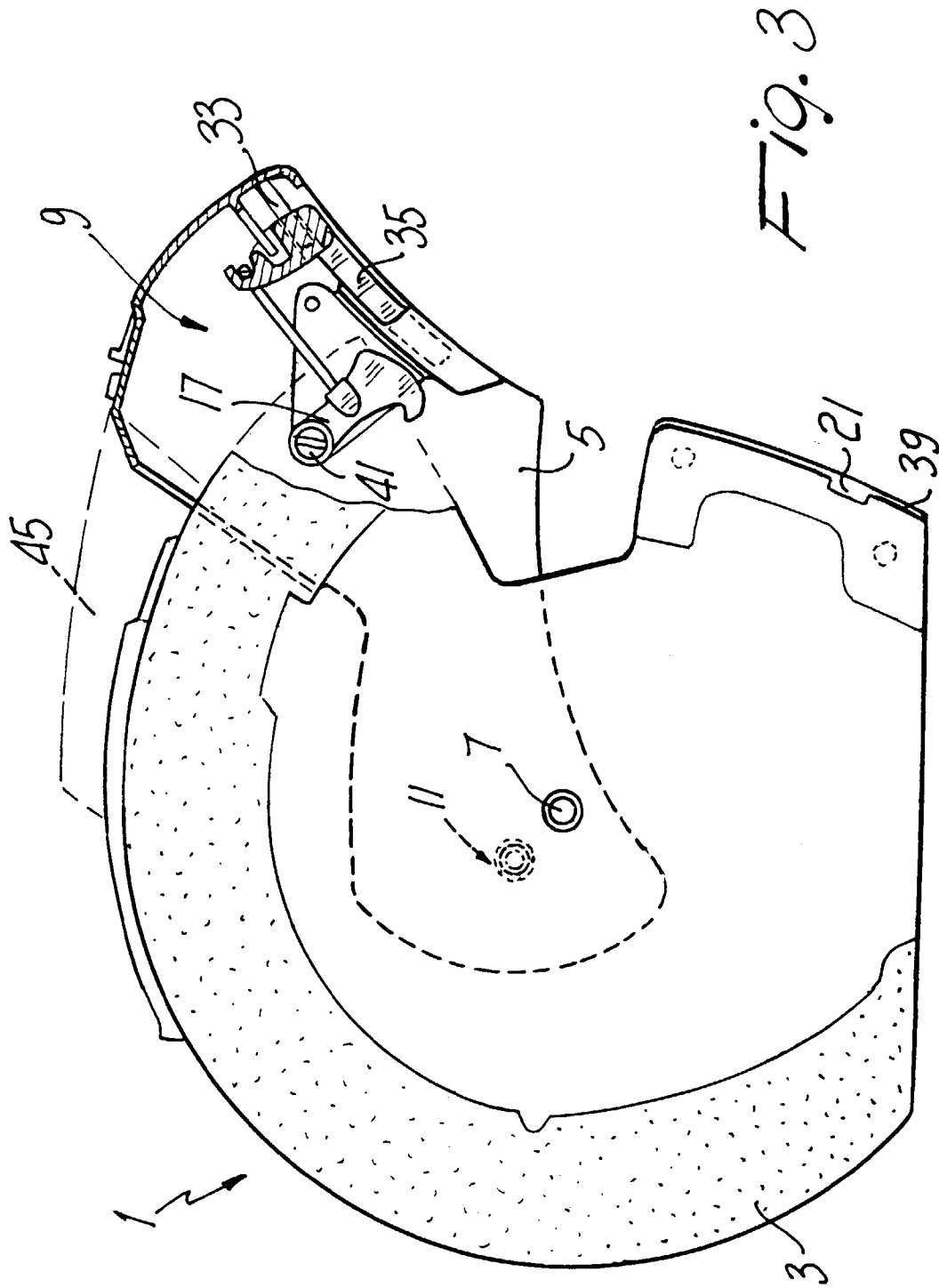
40

45

50

55





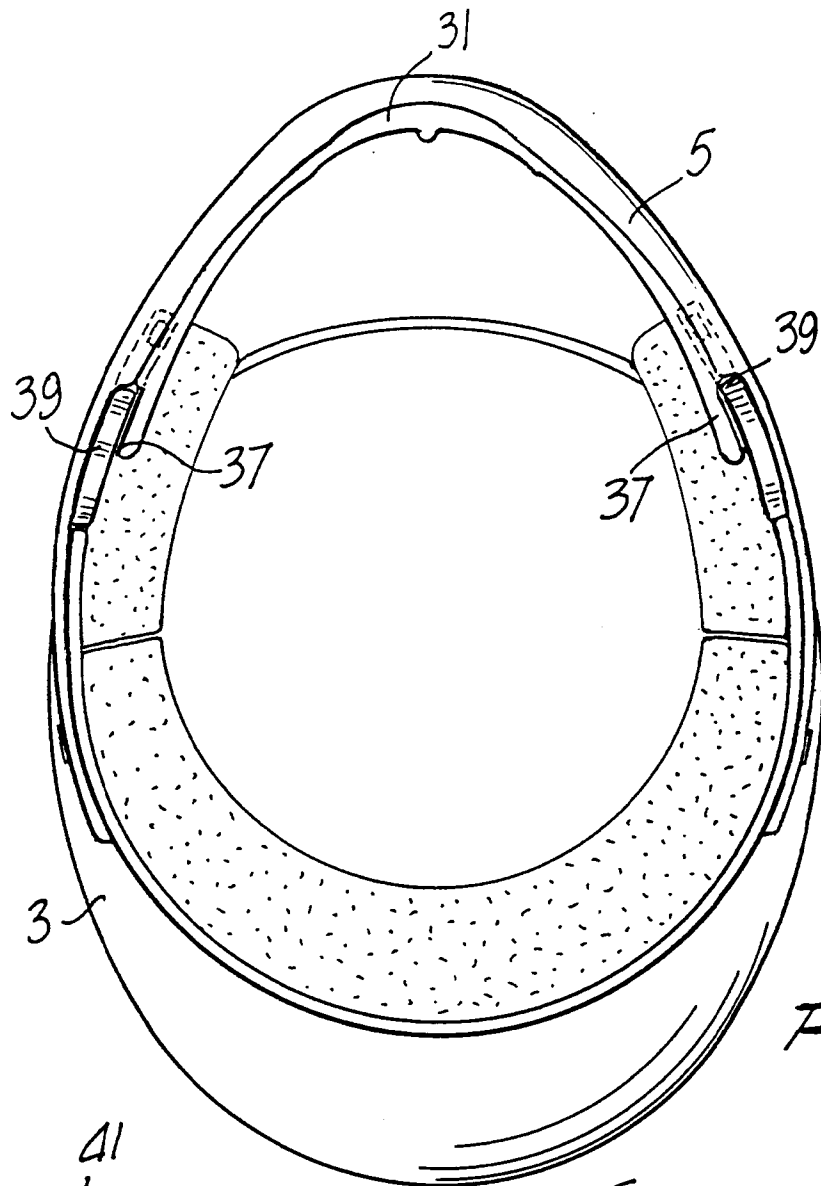


Fig. 4

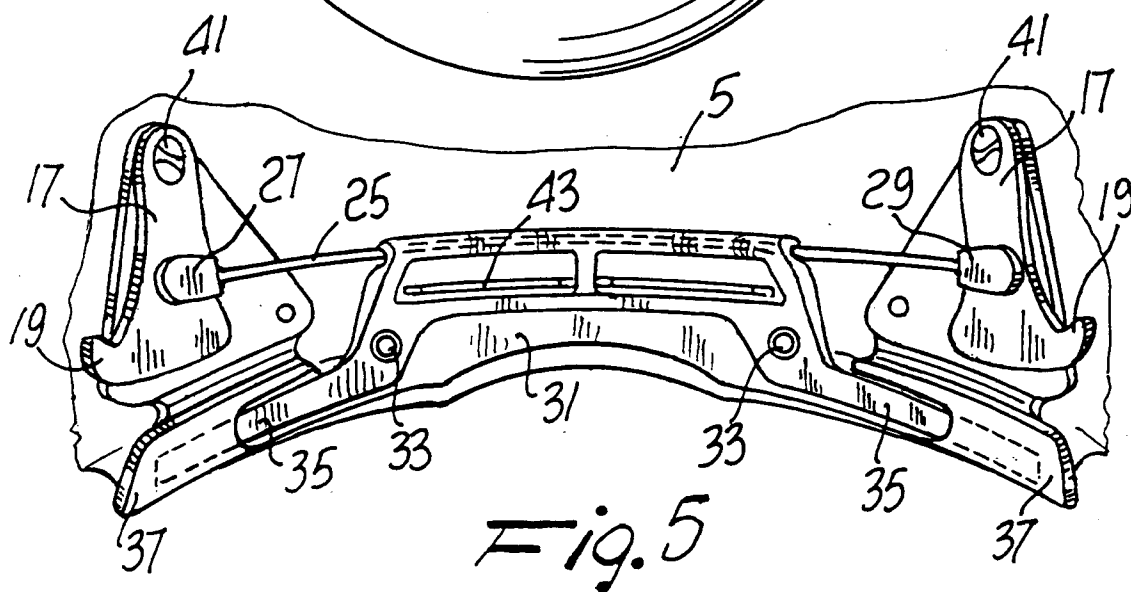


Fig. 5



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 98 11 1094

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	EP 0 258 496 A (T.A.C. TONGERSE AUTOMATEN CENTRALE PERSONENVENNOOTSCHAP) 9 March 1988 * column 3, line 36 - column 4, line 10 * * column 5, lines 1-21, 32-43 * * column 6, line 44 - column 7, line 12 * * figures 8-10 *	1	A42B3/32
A	---	2	
X	FR 2 595 920 A (GPA INTERNATIONAL) 25 September 1987 * page 3, line 12 - line 25 * * page 4, line 21 - line 33 * * page 7, line 1 - line 7 * * page 11, line 20 - page 13, line 26 * * figures *	1	
A	---	2,3	
A	FR 2 437 798 A (C. LANDI) 30 April 1980 * page 1, line 15 - line 28 * * page 2, line 15 - line 29 * * page 3, line 2 - page 4, line 15 * * page 4, line 24 - line 26 * * figures 2-4 *	1-4	TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			A42B
D,A	EP 0 518 178 A (BAYERISCHE MOTOREN WERKE AG) 16 December 1992 * column 2, line 48 - column 4, line 49 * * figures *	1-5	
A	FR 2 482 836 A (NOLAN S.P.A.) 27 November 1981 * claims; figures *	10,11	
A	US 1 559 252 A (T. J. HARTMAN) 27 October 1925 * page 1, lines 55-77, 88-100 * * figures *	7,8	
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		26 November 1998	Bourseau, A-M
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			

EPO FORM 1503 (03.82) (P04C01)