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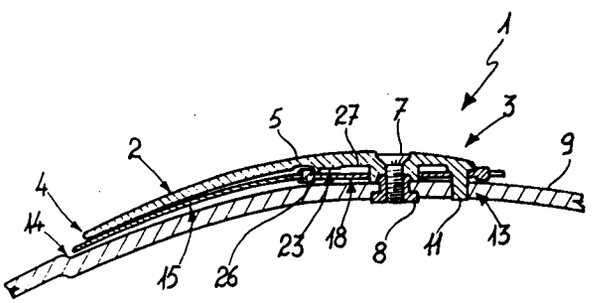
(54) Device for adapting a visor to a helmet.

(57) The device comprises a washer (18) and a rigid flange (2) adapted to be mounted on the lateral surface (9) of a helmet and having defined thereon a first toothed region (23) and a nib (11). The washer (18) is adapted to be interposed between the surface (9) of a helmet and a visor (15) and rigidly associated with the latter and has, formed thereon a second toothed region (24) adapted for cooperation with the first toothed region (23) of the flange (2), and seats (22) for partially accommodating the nib (11). The washer (18) and the flange (2) each have a hole (6, 2) formed therein for partially accommodating a screw (7) for journalling the visor (15) to the threated bushing (8) of a helmet. The flange (2) has a curved form for forcing the underlying region of the visor (15) into the visor seat (14) of a helmet.



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DEVICE FOR ADAPTING A VISOR TO A HELMET

The present invention relates to a device for adapting a visor to a helmet, in particular for adapting a visor obtained by punching a flat sheet, to a helmet.

Currently these visors, in order to allow the user an excellent view, are provided by punching or cutting a flat sheet of transparent plastic material, this process allowing the provision of visors having surfaces parallel to each other.

The subsequent phase for obtaining the helmets which employ said known kinds of visors, consists of having to curve the latter, their ends being pivotally coupled to the sides of the helmet itself.

The main disadvantage observed in known kinds of helmets employing such visors is that proximate to the ends of the visor, due to the curvature imparted thereto, there is no effective sealing action on the appropriate seat provided on the helmet.

Air infiltration is thus allowed inside the helmet, causing severe discomfort to the wearer.

As a partial solution of this problem, the use is known of particular supports, such as a frame, which force the visor into the desired shape, thus avoiding deformation due to the curving thereof.

The disadvantage which can be observed in this solution is that the frames are expensive, their application or mounting to the visor entailing an additional manufacturing phase which increases overall costs.

The main aim of the present invention is therefore to eliminate the above described disadvantages found in the prior art by providing a device which allows one to adapt to a helmet a visor which is obtained, for instance, by punching or cutting a flat sheet material, so that the same visor has an optimum sealing action on the appropriate seat provided on the helmet.

Within the scope of the above described aim, an important object is to provide a device for adapting a visor to a helmet, which allows the visor itself to be raised and lowered in a quick and easy manner.

Another object is to obtain a device for adapting a visor to a helmet which associates with the preceding features those of having satisfactory aesthetical characteristics and of not impairing the view of the wearer of the helmet.

Not least object is to provide a device which associates with the preceding characteristics that of having low costs and of being produceable with conventional plant and equipment.

The aim and the objects described are achieved by a device for adapting a visor to a helmet, characterized in that it is composed of a rigid flange (2) associable, in a fixed position, with a helmet (10), said flange (2) being provided with a toothed region (23) cooperating with a matchingly shaped region (24) provided proximate to a washer (18) associable in a fixed position with the end (16) of the visor (15) interposable between said flange (2) and helmet (10), said washer (18) being provided with preset guiding seats (22) for rotating the visor (15), said flange causing.

in the closing condition, the perimetral edge of the visor (15) to adhere to the appropriate seat for the same provided on the helmet (10).

Further characteristics and advantages of the invention will be better apparent from the detailed description of a particular embodiment, illustrated by way of non-limitative example in the accompanying drawings, where:

Fig. 1 is a lateral view of a helmet employing the device,

Fig. 2 is a view along the cross-section plane II-II of Fig. 1;

Fig. 3 is a view of the terminal end of the visor,

Fig. 4 is a view of the particular washer employed; and

Fig. 5 is a three-quarter view of the lateral internal surface of the flange.

With reference to the above described figures, the device 1 is advantageously composed of a metallic flange 2, which is expediently slightly curved and has an essentially triangular shape in which both the base region 3 and the apex 4 are rounded.

On the outer lateral surface 5, the flange 2 has a through hole 6 for a locking device 7 composed. for instance, of a screw, said screw 7 being associated with a matchingly threaded bush 8 rigidly coupled with the lateral surface 9 of a helmet 10.

Along the longitudinal mid-axis passing through the hole 6, the flange 2 is provided with a means 11 for locking the position thereof, composed of a prong, nib, tooth or the like pivot element the internal lateral surface 12 of the

flange itself.

This prong 11 can be arranged so that it may be inserted in a suitable seat 13 provided on the surface 9 of the helmet.

The flange 2 is thus associable in a fixed position relatively to the helmet 10. the seat 13 being provided in a position such as to allow the positioning of the end of the flange opposite to the region 3 so as to position the apex 4 proximate to the profile of the seat 14, for the visor 15, provided on the surface 9 of the helmet itself.

Between the latter and the internal lateral surface 12 of the flange 2 the end 16 of the visor 15 can be arranged, the latter being provided with a suitable circular hole 17 for accommodating a matchingly shaped washer 18.

This washer has, on the perimetral edge, at least one protruding tooth 19 suitable for positioning itself in a matchingly shaped seat 20 provided on the perimetral edge of the hole 17, the visor and the washer being thus associated with each other in a fixed position.

The washer 18 is furthermore expediently provided with a central bore 21, and two seats 22, advantageously arranged substantially diametrically opposite to each other and defining a given arc of a circle, in one of said seats there being placeable the prong 11 of the flange 2.

From the surface 12 of the flange 2 protrudes a toothed region 23 adapted for interacting, during use, with a substantially matchingly shaped or second toothed region 24, advantageously provided proximate to the internal peripheral edge of the washer 18 and defining an arc of a circle substantially corresponding to that extending between the

seats 22.

On the surface 12 is furthermore provided a groove 25 proximate to the underlying perimetral edge 26 of the washer 18.

The use of the device 1 is as follows: initially, the washer 18 is inserted in the hole 17, positioning the tooth 19 in the suitable seat 20.

The subsequent phase entails the positioning of the flange 2 by placing the prong 11 in one of the seats 22 and thus the toothed region 23 proximate to the matchingly shaped zone or region 24, the prong 11 being then inserted in the provided seat 13 arranged on the surface 9 of the helmet. The locking of the flange to the helmet can then be performed by virtue of the locking means 7, upon the axes of the bores 6 and 21 and of the bush 8 becoming aligned. The bore 21 advantageously has a diameter larger than that of a collar 27, arranged concentrically with respect to the bore 6. The position of the flange 2 is thus well defined relatively to the helmet 10, the apex 4 and the region contiguous thereto, due to its curved form, forcing the underlying region of the visor 15 into tight contact with the provided seat 14 arranged on the helmet.

Since the visor is associated with the washer 18, and since the latter can rotate relatively to the flange 2, the user is allowed to raise the visor according to a presettable angle, also by virtue of the presence of the seats 22 through which the prong 11 passes.

The displacement of the visor can also be graduated according to sequential stops, by virtue of the interaction between the toothed region 23 of the flange and the

matchingly shaped region 24 provided on the ring 18.

It is thus observed that the invention achieves the aim and the objects described, a device being provided for adapting a visor, obtained, for instance, by punching or cutting a flat sheet, to a helmet, the sealing action of the visor in closed condition being ensured by the terminal end of the flange which forces the region of the flange interacting therewith in a correct position.

The device has furthermore small dimensions, is aesthetically very valid, not limiting in any way the view of the wearer and being finally structurally very simple and easy to apply.

Obviously, the material and the dimensions of the individual components which constitute the device may be any, according to the requirements.

CLAIMS

1. Device for adapting a visor to a helmet, characterized in that it is composed of a rigid flange associable, in a fixed position, with a helmet, said flange being provided with a toothed region cooperating with a matchingly shaped region provided proximate to a washer associable in a fixed position with the end of the visor interposable between said flange and helmet, said washer being provided with suitable guiding seats for rotating the visor, said flange causing, in closed position, the perimetral edge of the visor to adhere to the provided seat for the same arranged on the helmet.

2. Device according to claim 1, comprising a flange characterized in that it has an essentially triangular shape, with rounded base and apex, said flange being slightly curved in the region adjacent to the apex, said region compressing, in closing position, the region of the visor interacting therewith in the provided seat on the helmet.

3. Device according to one or more of the preceding claims, comprising a flange provided with a toothed region characterized in that it protrudes from the internal lateral surface of the flange itself, said region being arranged to define an arc of a circle relatively to the center of said hole and on the side opposite to the prong with respect to the hole itself.

4. Device according to one or more of the preceding claims, characterized in that it comprises a bush, threaded internally and rigidly associable with the helmet, a locking

means being associable thereto, composed of a matchingly threaded screw insertable in the preset through hole provided in the flange.

5. Device according to one or more of the preceding claims, comprising a washer characterized in that it is associable, in a fixed position, with a matchingly shaped seat provided at the ends of the visor, said washer being provided with a hole with a diameter slightly larger than that of a protruding collar which is concentrical to the hole provided on the flange, and at least one seat, defining the shape of an arc of a circle, and adapted to act as a guide for rotating the visor, at said seat there being positionable the protruding prong of the flange.

6. Device according to one or more of the preceding claims, comprising a washer characterized in that it has a toothed region proximate to the perimetral edge, said region interacting with the matching one provided on the flange, the latter being provided with a groove on said edge.

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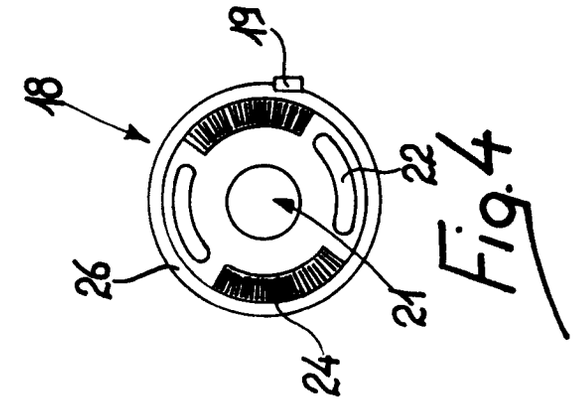

Fig.4

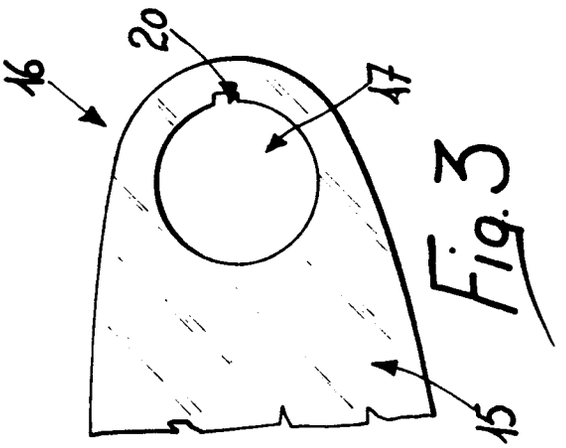

Fig.3

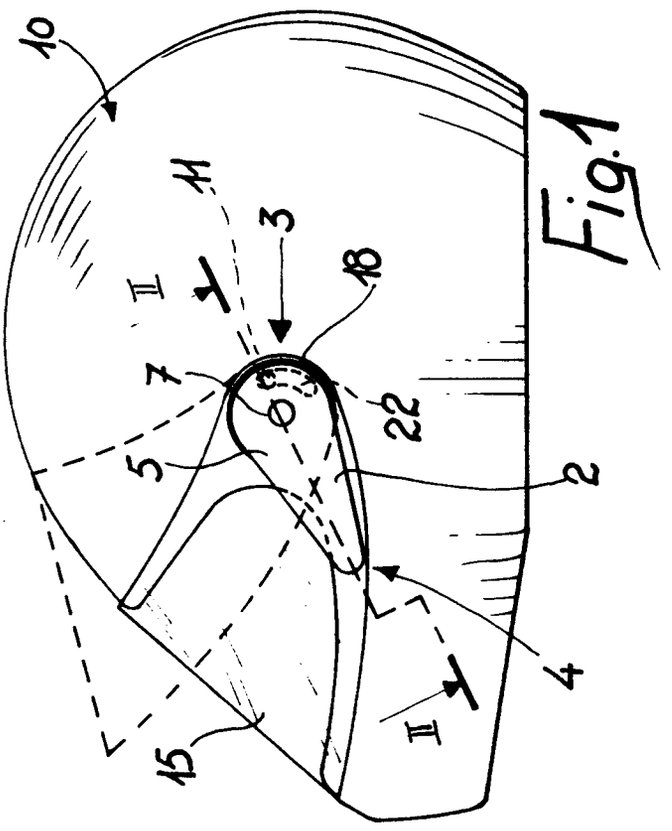

Fig.1

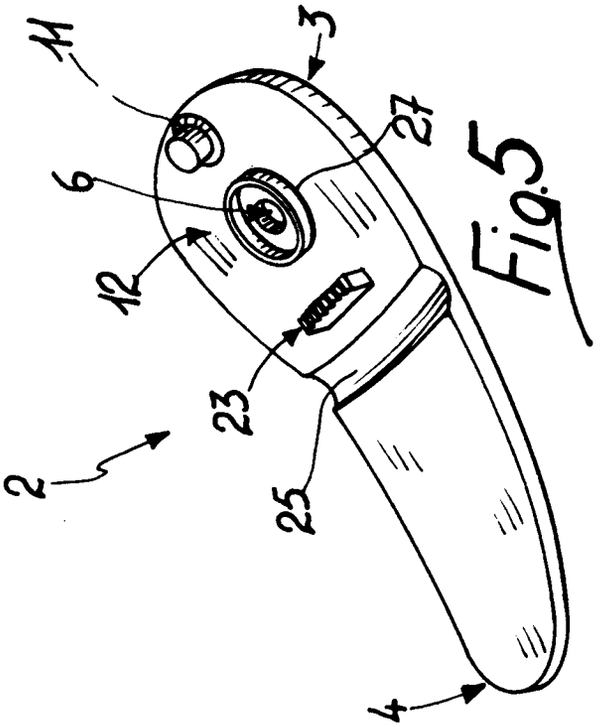

Fig.5

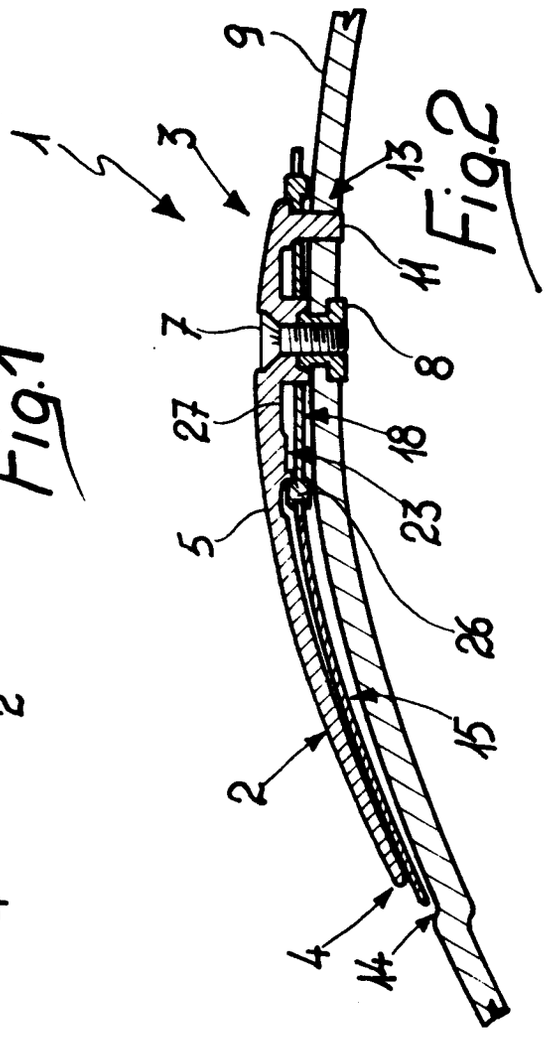

Fig.2

European Patent Office

EUROPEAN SEARCH REPORT

0223139
Application number

EP 86 11 5177

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.4)
A	FR-A-2 526 642 (YAMAMOTO KOGAKU CO.) * Page 7, line 26 - page 8, line 14; figures 14,15 * ---	1-6	A 42 B 3/00
A	US-A-3 945 043 (DE ANGELIS) * Column 3, line 15 - column 4, line 36; figures 2,4-10 * ---	1-6	
A	FR-A-2 457 080 (RENAULT) * Page 1, line 29 - page 2, line 38; figures * ---	1	
A	FR-A-2 352 507 (S.L. FRANCE) ---		
A	DE-A-2 918 587 (GYÖRY) ---		TECHNICAL FIELDS SEARCHED (Int. Cl.4)
A	BE-A- 886 040 (CROSS) ---		A 42 B
A	GB-A-2 008 387 (NAVA) ---		
A	DE-U-7 824 355 (STÜCKRAD) ---		
A	US-A-4 138 746 (BERGMANN) --- -/-		

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	17-02-1987	BOURSEAU A.M.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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E : earlier patent document, but published on, or after the filing date
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