

[54] **VISOR AND FACE SHIELD HELMET ATTACHMENT**

3,668,705 6/1972 Garbisch..... 2/10

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[57] **ABSTRACT**

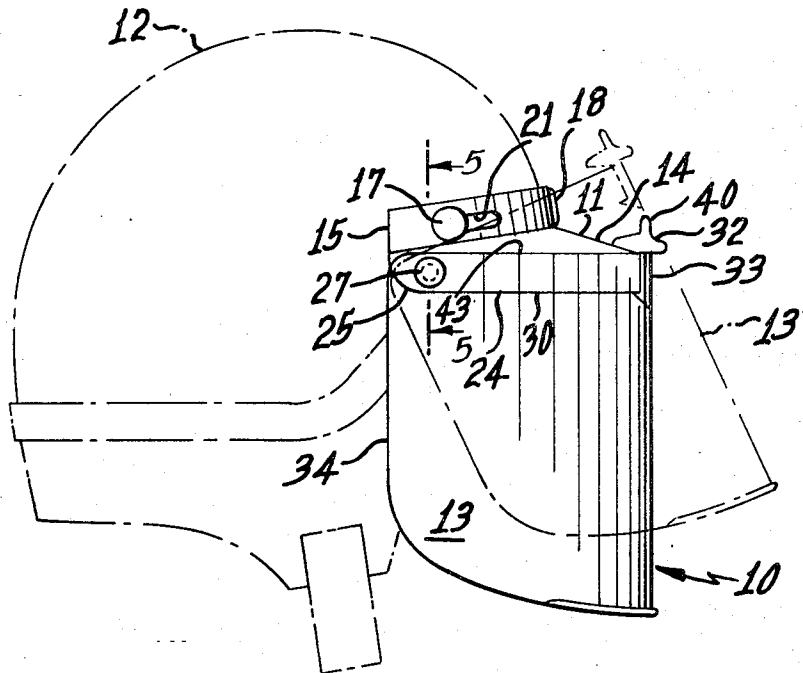
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[58] Field of Search 2/9, 10, 8, 3

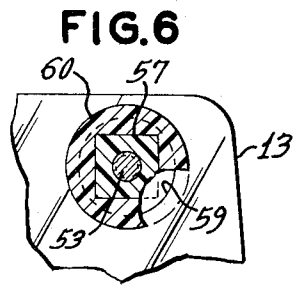
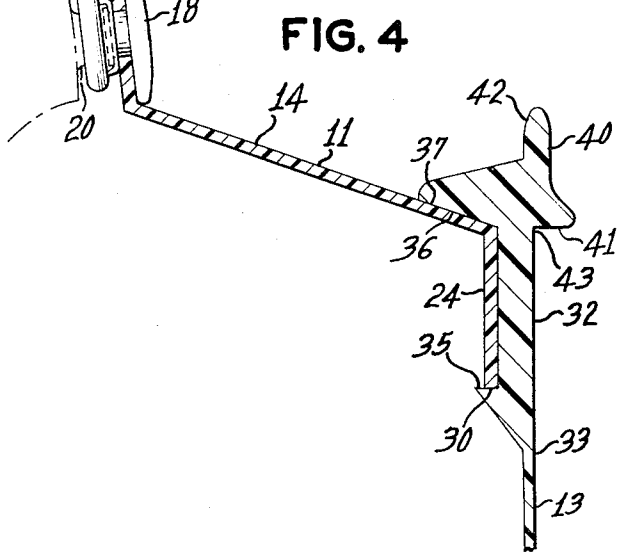
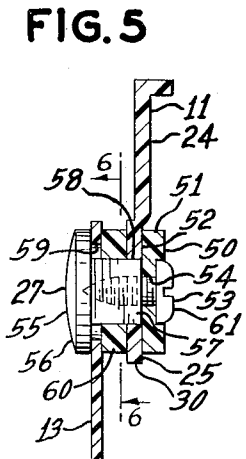
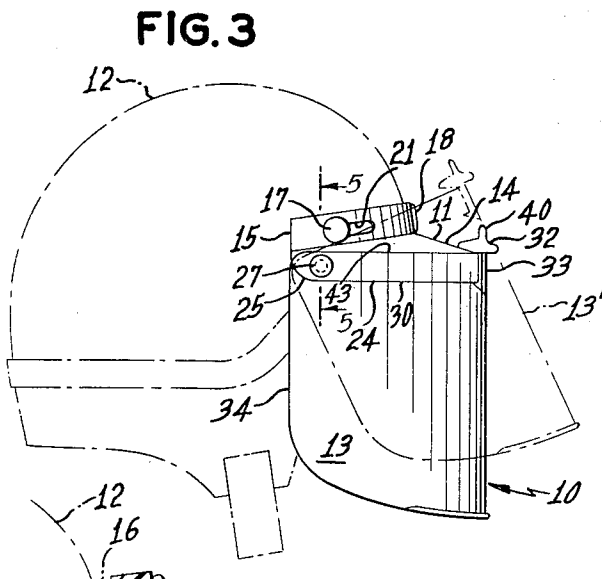
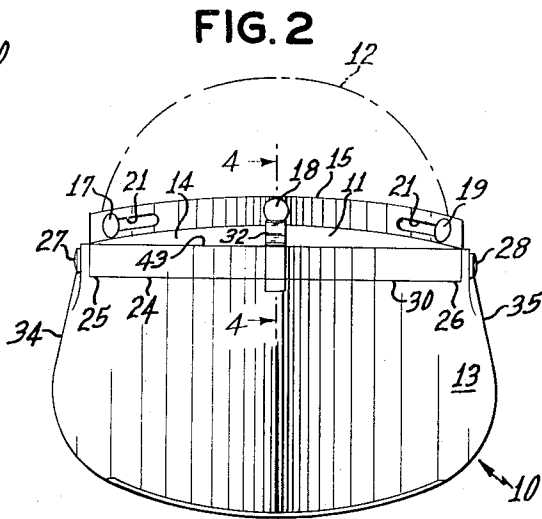
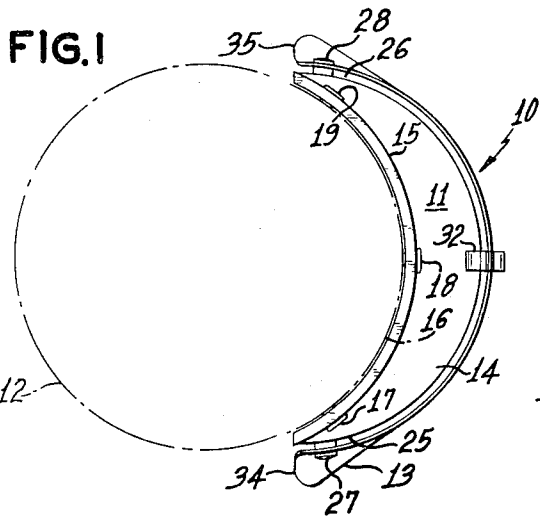
A visor releasably attached to a helmet with a flexible face shield pivotally mounted to the visor, the shield including a pair of spaced shoulders which engage the visor and automatically lock the shield in the vertical position covering the face. A hand hold is provided on the shield to permit temporary outward deformation of the shield and to exert an upward force for pivoting the shield. Adjustable friction means are associated with each pivot so that the shield may be positioned and maintained in a multiplicity of positions.

[56] **References Cited**
UNITED STATES PATENTS

2,262,449	11/1941	Buegeleisen	2/9
2,433,164	12/1947	Shields	2/8
3,239,842	3/1966	Marchello	2/10
3,594,816	7/1971	Webb	2/10

6 Claims, 6 Drawing Figures





VISOR AND FACE SHIELD HELMET ATTACHMENT

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to helmet visors and face shields and more particularly to improved visor and face shield attachments for helmets.

2. Description of the Prior Art

There have been some attempts in the prior art to provide for an appropriate pivotal face shield attachment for crash helmets, as illustrated by U. S. Pat. No. 3,189,918, Hiatt et al. Also, a face shield for a fireman's helmet has been pivotally attached to the crown and the shield would rest on a brim extension, as generally shown by U. S. Pat. No. 2,421,427. Other art considered in the preparation of this application include the following U. S. Pat. Nos.: 2,601,149, JAMISON, JR.; 2,763,006, AMUNDSEN; 2,829,374, MALCOM, JR.; 3,120,002, BLUMENTHAL; 3,214,767, WEBER; 3,239,842, MARCHELLO; 3,259,908, SIMPSON et al.; and 3,310,811, IACONO, JR. While there are various problems with the arrangements disclosed in the above patents, such problems are substantially alleviated in accord with this invention as hereinafter more fully described, and none of the above patents disclose or suggest the invention claimed herein.

SUMMARY OF THE INVENTION

In one of the aspects of this invention the visor and face shield attachment include an elongated curved visor adapted for detachable removal to a helmet, the visor having a horizontally extending central portion and an elongated flange portion extending generally downwardly from the central portion and terminating in a free edge. A face shield is located forwardly of the visor and pivotally supported generally on a horizontal axis on the visor spaced end portions, the face shield having a pair of spaced shoulders projecting toward the visor with one shoulder being located above the central portion and the other shoulder being located below the free edge. The one and other shoulders form a catch means in engagement with the respective central portion and the free edge to releasably lock the face shield to the visor in its generally vertical and down position over a face of a wearer of the helmet.

Other aspects of the invention are disclosed wherein the face shield is flexible, and the other shoulder is released from engagement with the free edge upon temporary outward deformation of the face shield and upward pivotal movement thereof about its horizontal axis. The one shoulder extends over the visor central portion sufficiently to constitute a positive stop thereby inhibiting any further downward pivotal movement of the face shield beyond its down position. Tab means in the form of a hand hold is employed to releasably unlock the shoulders from their locking engagement whereby the face shield may be pivoted upwardly from its down position. The tab means includes a portion extending upwardly from the face shield and another portion extending forwardly from the face shield.

Further aspects are seen to include a pair of spaced pivotal connecting means in general horizontal alignment for pivotally connecting the face shield on the respective visor end portions. Each of the pivotal connecting means includes an adjustable friction means for

adjusting the pivoting friction of the face shield and visor whereby the face shield member may be maintained in any of a multiplicity of positions between its vertical and down position over a face of a wearer of the helmet and its horizontal and up position.

A general object of the present invention is to provide an improved visor and face shield attachment for a helmet.

A particular object is the provision of a catch means which automatically locks the face shield to the visor and which is selectively manipulated by the wearer to unlock same.

Another particular object is to provide an improved visor and shield in which the visor is flexible to permit temporary outward deformation thereof to release the catch means.

A specific object is the provision of an improved hand hold for the face shield to unlock the catch means and to pivot same about a horizontal axis.

Another specific object is to provide an adjustable friction device between the shield and visor to hold the shield in various selected positions.

Other specific objects are to provide an improved helmet attachment which is easily constructed, inexpensively manufactured, and durable and efficient in use.

BRIEF DESCRIPTION OF THE DRAWING

The novel features which are believed to be characteristic of this invention are set forth with particularity in the appended claims. The invention itself, however, both as to its organization and method of operation, together with further objects and advantages thereof, may best be understood by reference to the following description taken in connection with the accompanying drawing in which:

FIG. 1 is a top plan view of the visor and face shield attachment in accord with the invention, adapted to be mounted on a helmet, which is shown in broken lines;

FIG. 2 is a front elevational view of the attachment;

FIG. 3 is a right side elevational view of the attachment;

FIG. 4 is a sectional view taken along line 4 — 4 of FIG. 2;

FIG. 5 is a sectional view taken along line 5 — 5 of FIG. 3; and

FIG. 6 is a sectional view taken along line 6 — 6 of FIG. 5.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now more particularly to the drawing, the visor and face shield attachment is generally indicated by reference numeral 10 and includes an elongated and curved visor member 11 detachably secured to helmet 12, shown by broken lines in FIGS. 1 — 4, and a face shield member 13 pivotally connected to visor member 11. Visor member 11 is preferably molded from a non-transparent plastic material to shield and protect the eyes of the wearer of helmet 12, while face shield member 13 is preferably formed from a transparent plastic material which may be clear or tinted as is common in the art.

The visor member 11 includes a central curved portion 14 extending generally forwardly over and outwardly of the helmet forehead portion 16 in a generally horizontal and downwardly inclined direction, and an

upturned flange portion 15 detachably secured to helmet 12 by means in the form of a plurality of conventional snap fastener elements 17, 18 and 19 mounted to and through flange portion 15 for mating with corresponding fastener elements, including element 20 (shown in broken lines in FIG. 4), carried and attached to helmet 12. Conventionally most helmets, such as crash helmets for motorcycle, sports and racing car, and speed boat drivers include three or more male fastener elements attached to the helmet forehead portion. Due to various differences in makes and sizes of such helmets, slots 21 are provided in flange portion 15 and the female fastener elements 17 and 19 are slidably mounted in such slots 21 to permit appropriate connection between the attachment 10 hereof and such various makes and sizes of helmets.

An elongated downturned flange portion 24 is integral with central portion 14 and includes opposite end portions 25 and 26 for pivotally supporting shield member 13 thereto by connecting means 27 and 28 hereinafter more particularly described in connection with FIGS. 5 and 6. Flange 24 terminates in a free edge 30 spaced downwardly from central portion 14.

A catch means 32 is integrally connected to face shield member 13 adjacent upper edge portion 33 thereof for engagement above central portion 14 and beneath free edge 30 of visor 11, catch means 32 being located generally centrally of face shield member 13 between shield side edges 34 and 35. Catch means 32 includes a pair of spaced shoulders 35 and 36 which respectively engage therebetween the corresponding free edge 30 of visor 11 and the forward portion 37 of central portion 14 to positively lock the face shield 13 in its generally vertical down position over the face of a wearer of the helmet as shown by full lines in FIG. 3 and FIG. 4. The shoulder 36 is sufficiently long and engages forward portion 37 sufficiently to prevent any inadvertent or further downward pivotal movement of the face shield 13 beyond its down position.

Tab means in the form of a hand hold 40 is provided unitarily with face shield 13 for releasably unlocking the catch means from its locking engagement with the visor 11. Since the face shield 13 is flexible, the hand hold 40 is engaged by the hand and temporarily pulled slightly outwardly to deform the face shield 13 sufficiently so that shoulder 35 clears the free edge 30 so that the face shield member may be pivoted upwardly from its down position into, for example, the broken line position 13' of FIG. 3, or any other position between its up and down positions. The tab means 40 includes a portion 41 extending forwardly of face shield member 13 and another portion 42 extending upwardly above the upper edge 43 of the face shield member 13. The forwardly extending portion 41 primarily is used to grip and provide an upward or downwardly directed force for pivoting the face shield member 13 about its pivotal connecting means 27 and 28 and the upwardly extending portion 42 primarily is used to grip and provide a temporary outward deformation of the face shield member 13 to unlock the catch means 32. The catch means 32 automatically locks or snaps into position when the face shield member 13 is pushed or pulled downwardly sufficiently for the shoulder 35 to become positioned beneath edge 30.

The spaced pivotal connecting means 27 and 28 can be understood most clearly by consideration of FIGS. 5 and 6 wherein means 27 is seen to include an adjust-

able friction means 50 having a washer member 51 bearing against an annular shoulder means 52 of the end portion 25 of flange portion 24 of visor member 11. A screw 53 passes through an opening 54 in washer 51 and is threadedly engaged within bolt member 55 which includes a head 56 and a projection 57 extending through opening 58 in visor end portion 25. The face shield member 13 includes an opening 59 loosely mounted on projection 57 and between head 56 and spacer 60 which is also slidingly fitted on projection 57. Thus by adjustment of the screw 53 the nesting arrangement between the head 56 and the screw head 61 may be loosened or tightened. If the wearer desires to be able to have the face shield member 13 in any of a multiplicity of positions between its vertical and down position and its horizontal and up position, the wearer would sufficiently tighten screw 53 to provide ample frictional engagement between the various components so that the face shield member 13 would be so maintained in any selected pivoted position. Some wearers may desire to have very little friction at the pivots while others would prefer maximum friction.

While the invention has been described with respect to a certain specific embodiment, it will be appreciated that many modifications and changes may be made by those skilled in the art without departing from the spirit of the invention. It is intended, therefore, by the appended claims to cover all such modifications and changes as fall within the true spirit and scope of the invention.

What is claimed as new and what it is desired to secure by Letters Patent of the United States is:

1. A visor and face shield attachment for a helmet comprising an elongated curved visor member, said visor member including an upturned elongated flange portion and means thereon for detachably securing said visor member to a brow portion of a helmet, said visor member extending outwardly and downwardly from a helmet and having a central portion projecting outwardly sufficiently to provide a sun barrier for the face of a wearer of a helmet, said visor member including a downturned elongated flange portion terminating in a free generally horizontal edge, said downturned flange portion having opposite end portions, a face shield member located outwardly of said visor member and having end portions pivotally supported generally on a horizontal axis on said downturned flange end portions, said face shield member being continuous and uninterrupted between its said end portions including a pair of spaced shoulders projecting toward said visor member, one said shoulder being located above said central portion, the other said shoulder being located below said free edge, said one and other shoulders engaging respective said central portion and said free edge to releasably lock said face shield member in its generally vertical and down position over a face of a wearer of a helmet.

2. In the attachment as defined in claim 1 wherein said one shoulder extends over said central portion sufficiently to constitute a positive stop thereby inhibiting any further downward pivotal movement of said face shield member beyond its vertical down position.

3. In the attachment as defined in claim 1 wherein said face shield member is flexible, said other shoulder being released from engagement with said free edge upon temporary outward deformation of said face

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shield member and upward pivotal movement of said face shield about said horizontal axis.

4. In the attachment as defined in claim 3 wherein said one shoulder extends over said central portion sufficiently to constitute a positive stop thereby inhibiting any further downward pivotal movement of said face shield member beyond its down position.

5. In the attachment as defined in claim 1 wherein said face shield member includes tab means forming a

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hand hold to releasably unlock said shoulders from their locking engagement whereby said face shield member may be pivoted upward from its down position said tab means including a portion extending forwardly from said face shield member.

6. In the attachment as defined in claim 5 wherein said tab means includes a portion extending upwardly from said face shield member.

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