April 29, 1969 W. E. NEWCOMB 3,440,661

COVER UNIT FOR THE WINDOW OPENING OF A HELMET OR GOGGLE

Filed June 26, 1967

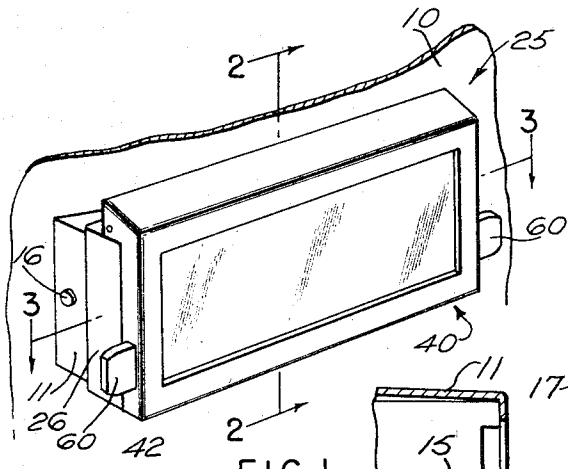


FIG. 1

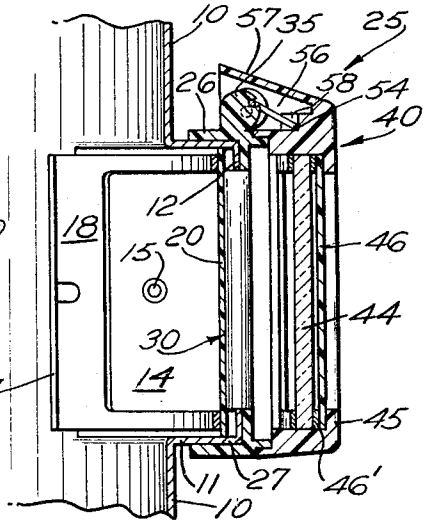


FIG. 2

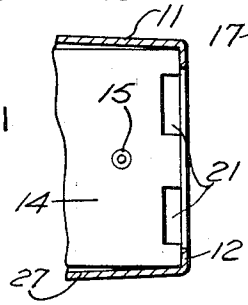


FIG. 2A

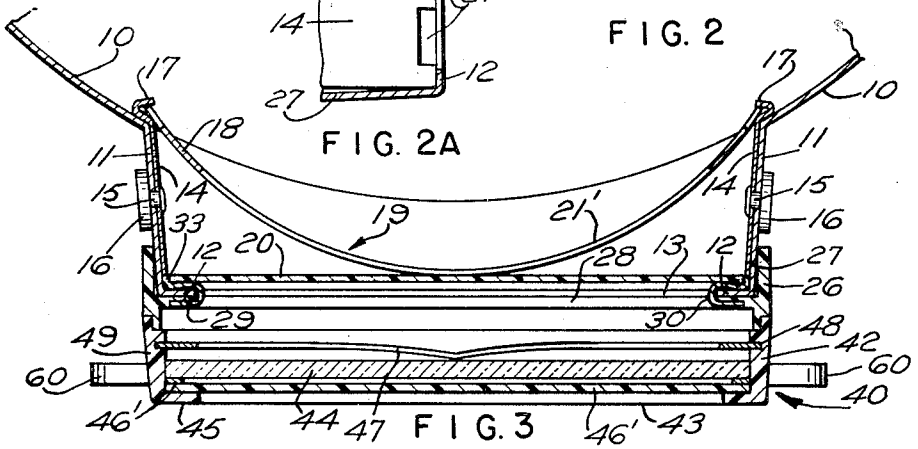


FIG. 3

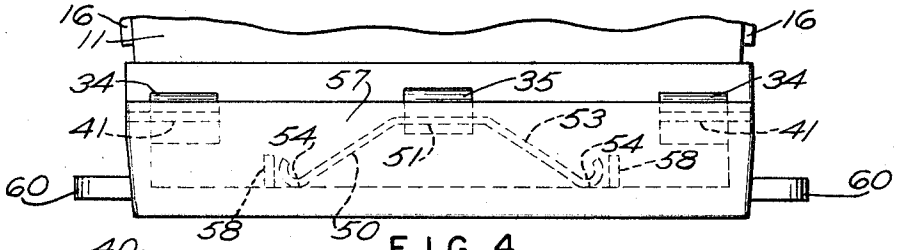


FIG. 4

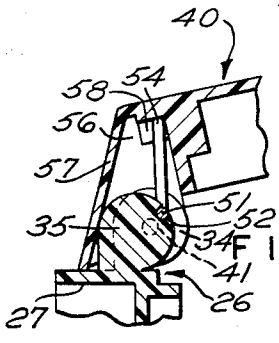


FIG. 5

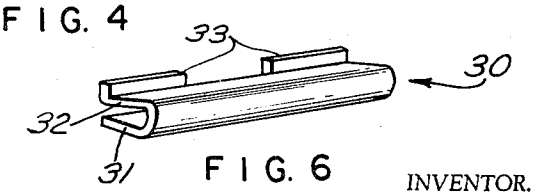


FIG. 6

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COVER UNIT FOR THE WINDOW OPENING OF A HELMET OR GOGGLE

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U.S. Cl. 2—14 4 Claims

ABSTRACT OF THE DISCLOSURE

A cover unit for a helmet or goggle of a size and shape to fit over a window opening in the wall thereof. The unit is provided with an inwardly extending flange which is in close proximity to a flange about the window opening of the helmet or goggle so that clips may extend over the flange of the unit and the flange of the helmet or goggle to hold the unit assembled therewith. The unit is also provided with a hinged cover which may be swung upwardly out of covering position. The cover carries a lens tinted to protect the eyes against glare and is so spring actuated that it is urged to either closed or open position as desired.

Background of the invention

Welders' helmets and goggles which have heretofore appeared on the market are usually of a form in which there is an integral projecting portion with no means for providing a hinged cover for the lens on the projecting portion. In cases where a hinged cover or a lens is desired, the curved wall of the helmet is cut with a window opening and a metal part providing the projecting portion is bolted to the helmet and this metal part then carries a hinged cover. The present invention in contrast makes utilization of a helmet having a projecting portion to which a unit for a hinged cover may be assembled in a manner without bolting.

Summary

The window opening of a usual helmet or goggle is formed in a portion projecting from the curvature of the helmet or goggle and has a marginal flange extending inwardly toward the opening and about the margin of the opening. To this usual helmet or goggle projecting portion, there is attached a unit having a body with an inwardly extending flange which is of substantially the same size and shape as the flange in the opening in the projecting portion of the helmet. Clips are then provided to engage the flanges of each part and hold the unit in assembled position. The unit is also equipped with a spring cover which carries a lens so that the cover may be swung downwardly into operating position by a spring member or it may be swung upwardly beyond 90° from its closed position to open position. The spring is so arranged as to hold it in this upper position.

Description of the drawings

FIG. 1 is a perspective view showing a fragmental portion of a helmet with my unit mounted in position thereon;

FIG. 2 is a sectional view on substantially line 2—2 of FIG. 1;

FIG. 2A is a sectional view of a fragmental portion of the showing of FIG. 2 with parts omitted;

FIG. 3 is a sectional view on substantially line 3—3 of FIG. 1;

FIG. 4 is a top plan view illustrating the spring and hinging arrangement of the cover of the attachable unit;

FIG. 5 is an enlarged section view of a portion showing the cover raised; and

FIG. 6 is a perspective view showing the spring clip which holds the unit assembled with the helmet.

Detailed description

With reference to the drawings, **10** designates the nonmetallic wall of a helmet or goggle (FIG. 2) which has an integral forwardly extending portion **11** of generally rectangular outline with an inwardly extending flange **12** forming the margins of a rectangular window opening **13** (FIG. 3). Metal plates **14** extend along the vertical ends of the projecting portion **11** and are held to the nonmetallic portion **11** by rivets **15** having heads **16**. The inner ends of these metal plates **15** are bent to form hooks **17** which engage the ends of the leaf spring frame **18** which is arched as at **19** so as to urge the lens **20** toward the flanges **12**. This resilient metal frame **18** is cut out as at **21'** so as to generally register with the window opening **13**. The metal plate is notched at its outer end as at **21** for a purpose to presently appear.

The unit which is attached to the helmet or goggle constructed as above is generally rectangular designated **25**. It is conveniently formed of a moldable plastic material comprising a body portion **26** which is recessed as at **27** so as to telescopically fit the rectangular projecting portion **11** extending forwardly from the wall of the helmet. The body is provided with a window opening **28** registering with the window opening in the projecting portion and has a flange **29** projecting inwardly and forming the marginal edge of the window opening **28**. This flange substantially conforms to the size and shape of the flange **12** about the window opening **13** in the projecting portion and lies close to or in contact with the flange **12** of the window opening **13** in the projecting portion.

Clips **30** (FIG. 6) having leg portions **31** and **32** and of a resilient metal material with the legs closer together than the combined thickness of the two flanges **12, 29** are spread and slipped over the flanges at their edge portions so as to hold the body portion of the unit assembled with the face shield. Abutments or lugs **33** extend from the leg **32** of the clip and fit into notches **21** in plate **14** which locate the clips vertically and are engaged by the lens **20** so as to hold the clips in position such as shown in FIG. 3, it being necessary to remove the lens **20** from the lugs **33** in order to remove the clips. The lens **20** is usually assembled after the clips are in place so that the clips cannot be moved to release position after the lens is in place. The lens thus contacts the clips and is spaced from the flange **12.**

Two hinge lugs **34** are molded on the upper edge of the body **26** adjacent its ends and a spring holding lug **35** is also molded centrally of the body portion as seen in FIGS. 1, 4 and 5. A hinge cover **40** is pivoted to the lugs **34** by pins **41.** This cover comprises a frame **42** with a window opening **43** to register with the window openings of the body and the projecting portion of the helmet and carries a lens **44** which is urged toward the lips **45** about the opening **43** and against a washer **46'** and cover lens **46** by a rectangular frame **47** of spring of sheet metal form which has a center opening and tongues **48** at its ends to enter recesses **49** in the wall of the frame of the cover.

A spring of wire form **50** and of the shape as shown in FIG. 4 has its center portion **51** lodged in a recess **52** in the spring retaining lug **35** which recess is off center from the pivotal axis of hinge pins **41** as seen in FIG. 5 and then has diagonal portions **53** forming contact points **54** (see FIGS. 4 and 5) which are located in a right angular corner **56** in the cover or at the back of the cover frame so as to urge the cover to closed position as seen in FIG. 2 or toward open position as shown in FIG. 5, depending upon the position of swinging relationship of the cover to the axis of the hinge. Abutments **58** serve to limit endwise movement of spring **50.** A lip **57** extends

from the cover and serves as a stop for limiting the opening movement of the cover about its hinge. Handles **60** on either side of the hinged cover enable it to be manually raised or lowered as desired.

I claim:

1. A mask having a body with a window opening surrounded by a forwardly projecting wall with an inturned flange at its outer end, a unit having a window opening registering with said first said opening and provided with an inwardly extending flange and shaped to conform with the flange of said wall over an extended portion and contiguous therewith, a U shape clip having spaced legs securing said flanges in overlapping relationship and the unit assembled on said mask, a lug on the leg which overlies the flange of said forwardly projecting wall and a lens spanning the window opening in said body in a position to be engaged by said lug for blocking disengagement of the clip from said flanges.

2. A device as in claim **1** wherein said clips are U shape and of spring metal to grip said flanges.

3. A device as in claim **1** wherein said unit is provided with a lens carrying cover hinged to swing relative a part of the unit.

4. A device as in claim **3** wherein said cover is spring urged to closed or open position.

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U.S. Cl. X.R.

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