United States Patent

Amundsen et al.

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[54] PROTECTIVE FACESHIELD

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[52] **U.S. Cl.** .....**2/8,** 24/16 PB

[51] **Int. Cl.** **A42b 1/00,** A42b 1/22

[58] **Field of Search**.....2/10, 5, 6, 3, 9, 8; 24/20 TT, 24/24 R, 16 PB, 213 R, 216 R

[56] **References Cited**

UNITED STATES PATENTS

2,390,006	11/1945	Severy	2/8
3,500,474	3/1970	Austin	2/3 R
2,907,041	10/1959	Finn	2/8 X
3,144,695	8/1964	Budwig	24/213 R
3,430,263	3/1969	Newcomb	2/8
2,606,321	8/1952	Malcom	2/8
3,152,376	10/1964	Boser et al.	24/216
2,747,191	5/1956	Hoffmaster	2/8
3,075,201	1/1963	Lindblom	2/8
2,272,833	2/1942	Dockson	2/8
2,658,200	11/1953	Bowers	2/8

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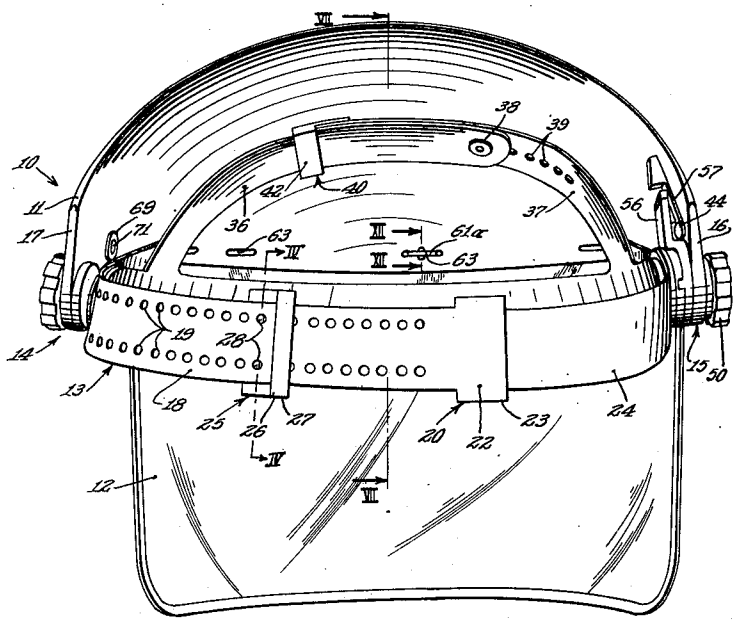
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[57] **ABSTRACT**

A protective faceshield is provided with head gear in which the head band may be positively adjusted to the proper size by an operator grasping and squeezing the head band with the fingers of one hand. One head band member is provided with a plurality of cam members which cooperate with the holes to provide a unidirectional slip adjustment in one direction and a positive locking in the opposite direction. The head band includes at the ends thereof apertured bosses for receiving corresponding studs of the head gear in a tight press fit to permit the head band to be popped from the head gear to facilitate ready replacement in the field. The head gear is pivotally attached to the crown, which pivotal attachment includes apparatus for providing a plurality of stop locations of the crown relative the head gear and which includes an overriding bevel or cam pin to permit the adjusting elements to slide past the stop in one direction and be positively stopped in the other direction to prevent excessive downward movement of the window.

The window is releasably secured to the crown by a locking strap having a plurality of spaced-apart protrusions which cooperably engage corresponding spaced-apart apertures in both the window and the crown. The locking strap is semi-detachable from the crown to permit ease in replacement and proper tensioning of the window and to prevent loss of the strap.

11 Claims, 13 Drawing Figures



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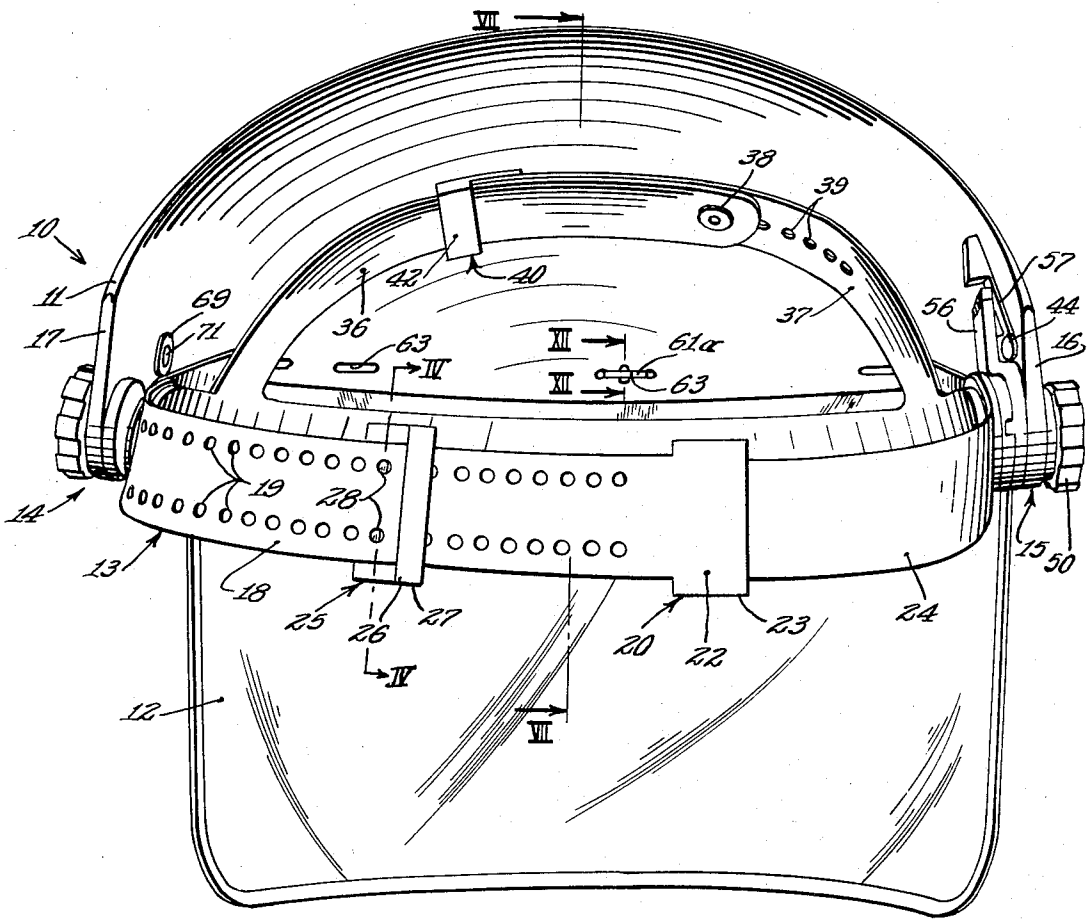


Fig. 1

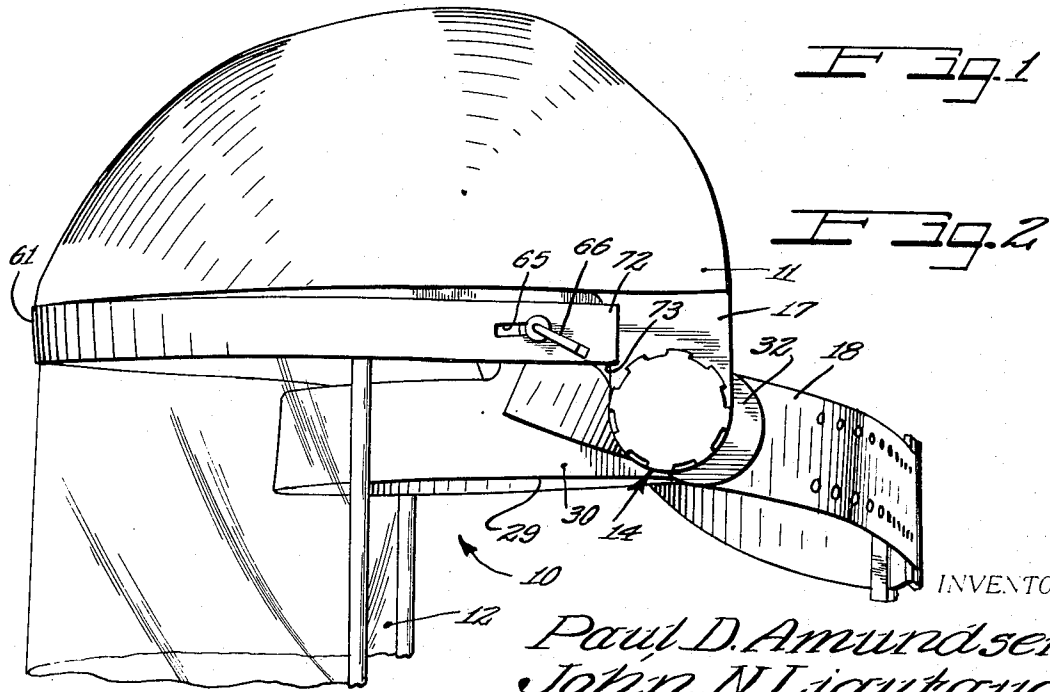


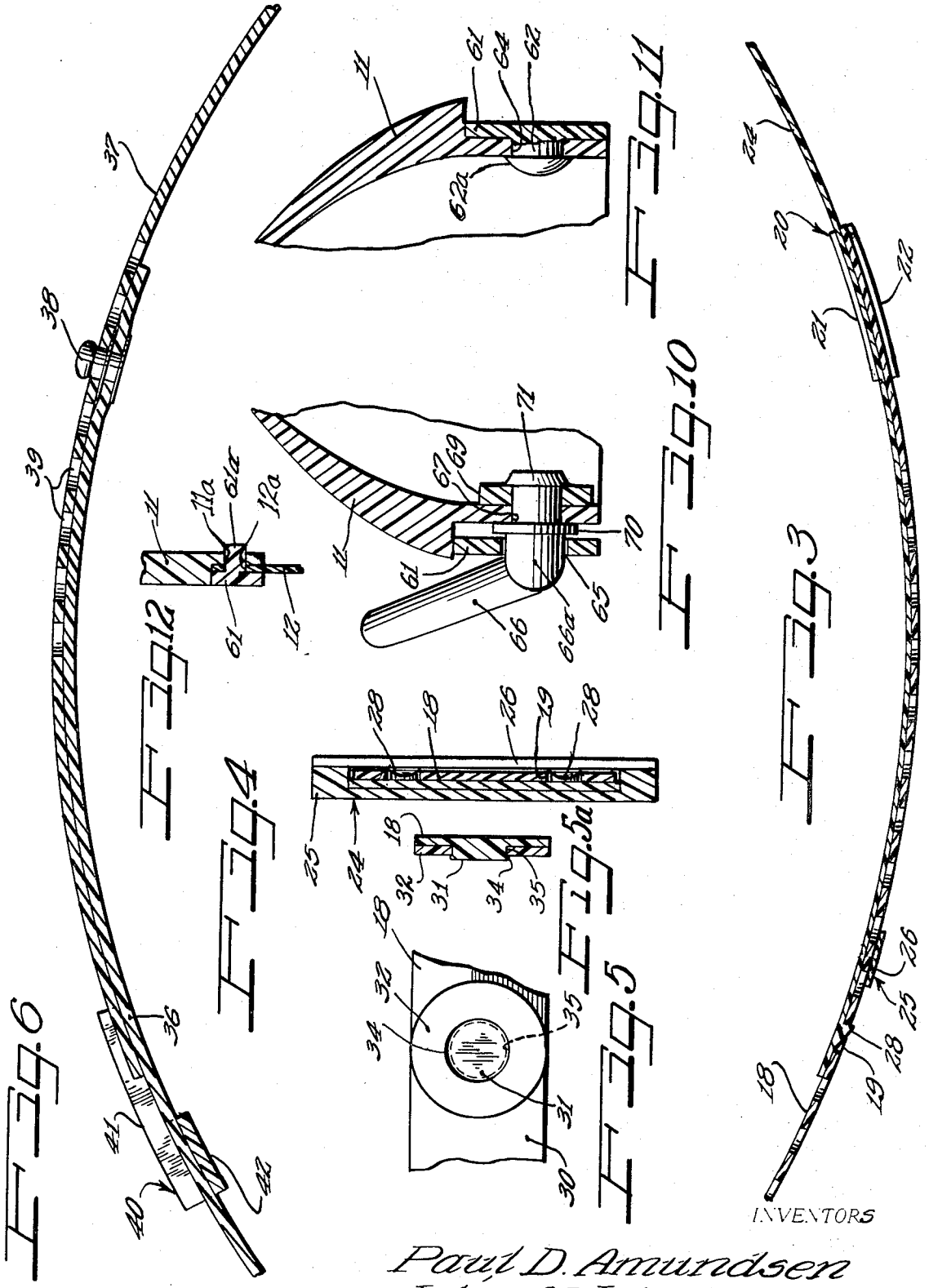
Fig. 2

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Fig. 7

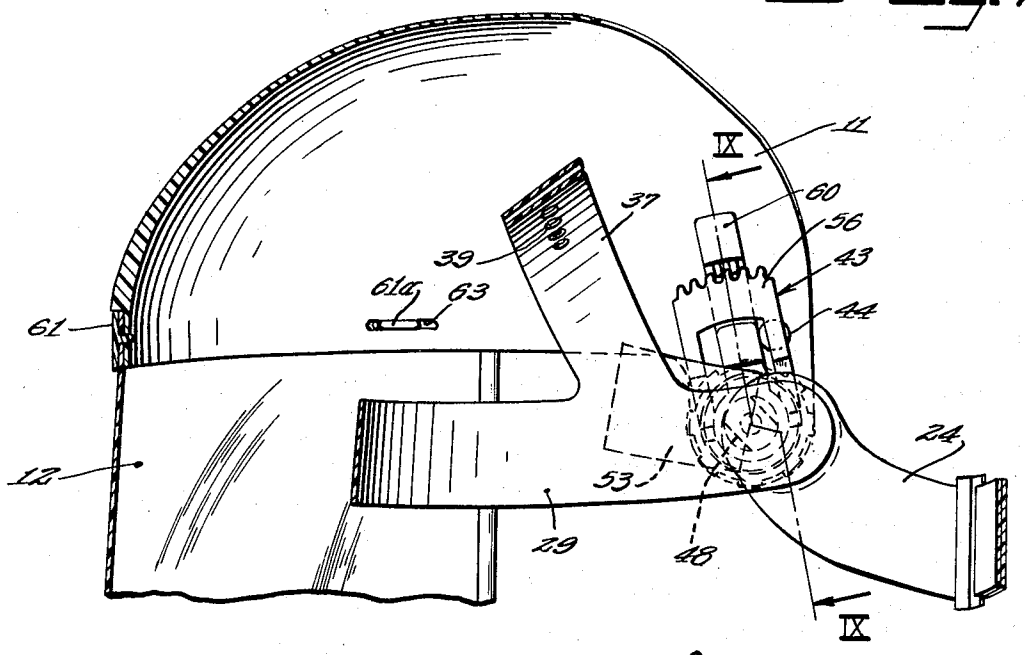


Fig. 8

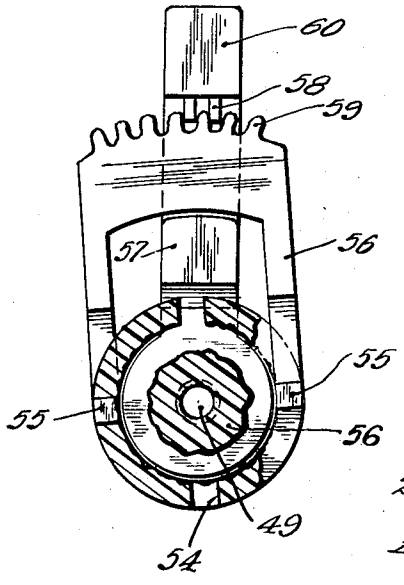
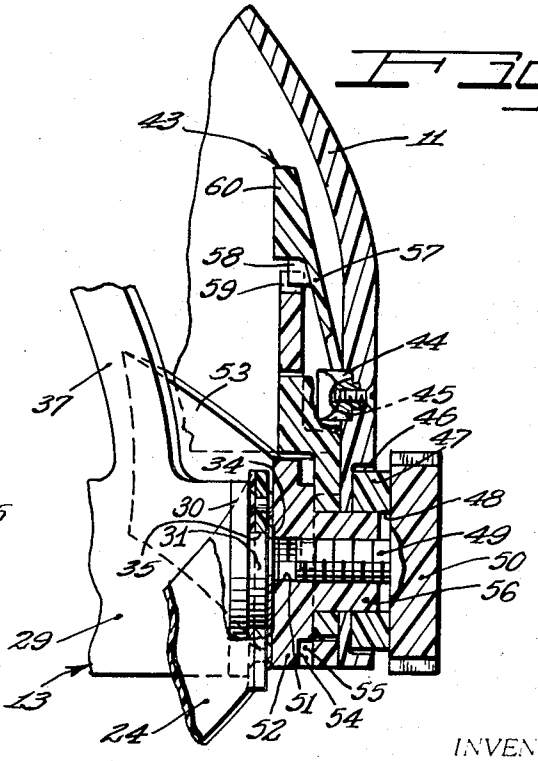


Fig. 9



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PROTECTIVE FACESHIELD

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to protective faceshield apparatus and more particularly to protective faceshield apparatus which is adapted for easy replacement of its component parts and in which the adjustment of the head gear and the window relative the head gear to the heeds of the individual wearer is provided by easily operable positive locking apparatus.

2. Description of the Prior Art

Heretofore, some protective faceshield apparatus have utilized a hole and stud arrangement for varying the head band size. Such arrangements, however, are not readily adjustable and head bands incorporating such arrangements must be pre-set to a given head size. This type of construction usually involves several trial and error adjustments before an acceptable head band setting is achieved. A ratchet adjustment is quite commonly used on larger faceshield head gears. This ratchet adjustment, while permitting ready adjustment by rotation of the ratchet to obtain a comfortable fit, does not provide a positive adjustment in that excessive pressure will cause the ratchet arrangement to skip or jump to a different setting, thus inadvertently permitting the change in the head gear size.

Various constructions have been provided to control the positioning of the faceshield crown and window relative to the faceshield head gear. Generally, the prior arrangements have been relatively fixed and prevent only limited movement within a limited framework as defined by the number of stops involved and the spacing therebetween. The positioning of the faceshield crown and window has therefore been limited in both the direction of travel and the extent of travel. The windows of prior devices have been attached to the crown by the use of snap fasteners wherein the crown element is directly snapped into the window element. Another type of fastening for the window utilizes a window locking strap in which the strap is affixed to the crown leaving a space sufficient for the window to be located between the strap of the crown. These constructions, while providing positive locking engagement between the crown and the window, have attendant disadvantages including poor fit and poor alignment of components upon changes in ambient conditions.

Various leaf, washer and coil spring arrangements have been utilized in prior constructions in conjunction with a nut, a bolt or threaded fastener to provide a tension adjustment between the crown and the head gear. However, all of the aforementioned tensioning arrangements are subject to wear in that metallic elements subject the crown and the head gear component parts to constant abrasion, requiring constant adjustment, if available, to maintain the proper tension.

SUMMARY OF THE INVENTION

According to the invention, protective faceshield apparatus is provided with an adjustable top head band and rear head band. The top head band includes two cooperable portions, one having a snap fastener an the other having a plurality of spaced apart openings for receiving the snap fasteners. The rear head band is provided with a unidirectional adjustment feature with a

locking feature in the opposite direction. The rear head band includes two interengageable portions one of which includes a plurality of spaced-apart holes and the other of which includes a pair of cam pins to be received by the holes. The cam pins each include an overriding bevel surface which causes the pins to override the edges of the holes as the head band is tightened and to lock into the holes upon termination of the adjusting pressure which is provided by the fingers of one hand grasping and squeezing the rear head band elements together.

Each end of the rear head band is provided with an apertured boss that is press-fit upon a corresponding stud on respective sides of the top head gear. The press fit securement of these parts may be readily snapped apart for replacement of the rear head band in assembly in the field.

The head gear is pivotally attached to the faceshield crown and is provided with a stop adjustment which features a unidirectional stop element in he form of an overriding bevel or cam pin which permits the adjusting elements to slide past the stop in one direction and be fixed and positively stopped in the other direction. This feature is advantageous over the prior devices in that the faceshield head gear can be rotated within the framework of the faceshield crown in a given direction and will yet provide a positive stop in the opposite direction.

The faceshield window is releasably attached to the faceshield crown by a positive locking arrangement including a locking strap that is pivotally fixed to one side of the crown and releasably locked to the other side of the crown. The locking strap includes a plurality of spaced-apart studs which extend through a corresponding plurality of spaced-apart slots in both the crown and the faceshield window. With this arrangement the faceshield window and the faceshield crown are positively attached and properly tensioned and the window is fixed to the crown without any excessive movement therebetween. This arrangement therefore provides a positive means of locating the window relative to the crown and prevents the window locking strap from being inadvertently lost since it remains pivotally attached to one side of the faceshield crown.

Further, the head gear, the crown, and the stop adjustment are secured together by an adjustment means for providing proper tension adjustment between the crown and the head gear. This adjustment is important in that varying humidity and temperature conditions causes shrinkage and expansion of the components of the faceshield apparatus. The head gear components and the stop adjustment are therefore preferably fabricated from plastic material and the apparatus for attaching the head gear and stop adjustment components to the faceshield crown includes a manually adjustable screw element which is operable to compensate for component changes effected by ambient conditions.

It is therefore a primary object of the present invention to provide protective faceshield apparatus in which the components may be easily replaced.

It is another object of the invention to provide protective faceshield apparatus in which the size of the head gear is easily adjustable and incorporates positive locking apparatus to maintain proper head size upon adjustment.

It is yet another object of the present invention to provide improved apparatus for defining the relative position of the faceshield crown and window to the head gear of the faceshield apparatus.

BRIEF DESCRIPTION OF THE DRAWINGS

Other objects, features and advantages of the invention, its organization, construction and operation will be readily apparent from the following description of a preferred embodiment thereof, taken in conjunction with the accompanying drawings, although variations and modifications may be effected without departing from the spirit and scope of the novel concepts of the disclosure, and in which:

FIG. 1 is a rear elevational view of a protective faceshield constructed in accordance with the principles of the present invention;

FIG. 2 is a side-elevational view of the protective faceshield apparatus of FIG. 1;

FIG. 3 is a fragmentary view of the rear head band of the faceshield apparatus of FIGS. 1 and 2, illustrated in cross-section;

FIG. 4 is a sectional view of the rear head band taken along the line IV—IV of FIG. 1;

FIG. 5 is a fragmentary elevational view of one end of a rear head band showing its attachment to the remainder of the head gear;

FIG. 5*a* is a cross-sectional view taken vertically toward the left through the center of FIG. 5;

FIG. 6 is a fragmentary view of the top head band of the apparatus illustrated in FIG. 1, shown in cross-section;

FIG. 7 is a sectional elevational view of the left side of the protective faceshield apparatus taken along the line VII—VII of FIG. 1;

FIG. 8 is a detailed illustration of the adjustable stop apparatus according to the present invention shown with certain parts broken away;

FIG. 9 is a sectional view of the adjustable stop apparatus of the invention taken along the line IX—IX of FIG. 7;

FIG. 10 is a fragmentary view illustrating the releasable securement of the window strap to one side of the faceshield crown, shown partially in cross-section;

FIG. 11 is a fragmentary view illustrating the pivotal securement of the other end of the window strap to the opposite side of the faceshield crown, shown partially in cross-section; and

FIG. 12 is a sectional view taken along line XII—XII of FIG. 1 illustrating the securement of the faceshield window to the faceshield crown by the faceshield strap.

DESCRIPTION OF THE PREFERRED EMBODIMENT

A protective faceshield is generally shown at **10** as comprising a faceshield crown **11**, a faceshield window **12** depending from the crown **11**, a head gear **13** which is pivotally secured to rear depending sections **16** and **17** of crown **11** by tension adjusting apparatus **14** and **15**.

The rear head gear **13** comprises a perforated section **18** including pairs of aligned holes **19** and a slide **20** including integral plate portions **21** and **22** spaced apart by edges **23** so as to slidably embrace a second rear head band section **24**. The section **24** comprises an end guide portion **25** including an integral portion **26** spaced apart therefrom by edges **27** to slidably embrace head band section **18**. The end section **25** carries unidirectional cam sections **28** thereon for snapping over the edges of holes **19** upon application of a closing pressure on the rear head band, urging end sections **20** and **25** away from each other. This may be accomplished readily while the gear is positioned on the wearer's head. Upon release of the forces effecting this adjustment, cam sections **28** positively lock head band sections **18** and **24** against parting in the direction of increasing head size until the gear is removed from the head and the end portion **25** can be flexed away from section **18** and the cams **28** slipped past the apertures **19** to enlarge the adjustment.

The head gear **13** includes a front band **29** including a pair of rear ends **30** each of which carry a stud **31**. The head sections **18** and **24** each have an integral boss **32** arrangement at the ends thereof for releasable attachment to corresponding ends **30** of the front band **29**. This apparatus is illustrated in FIGS. **5** and **9** with respect to head band sections **18** and **24**. The head band section **18** carries a boss **32** integral or fixed thereto including a central bore **35** for passing stud **31** with annular ridge **34** in a snapped-over interference fit. The space between the ridge **34** and band **30** may be slightly greater than the thickness of band **18** or **24** including bosses **32** to provide free pivoting between the parts. Alternatively, a shorter stud provides a frictional pivot.

The top band of the faceshield is provided by a pair of sections **36** and **37**. Section **37** includes an end portion **40** having an integral portion **41** with a plate **42** which wraps around to slidably embrace section **36**. The section **37** further includes a plurality of spaced-apart holes **39** for receiving a snap fastener **38** which is integral with or separate from and secured to section **36**. The top head band strap may therefore be adjusted by selective positioning of snap fastener **38** to the proper hole **39**.

The protective faceshield is provided with a variable stop adjustment **43** for positioning the faceshield crown **11** and faceshield window **12** relative to the head gear **13**, as illustrated in detail in FIGS. **7**, **8** and **9**. The faceshield crown **11** is provided with a camming pin **44** having a camming surface **45** disposed in the path of rotation of the stop adjustment **43** so that the stop adjustment rides over the pin when rotated in one direction and abuts the pin when rotated in the opposite direction. The crown **11** is provided with a counter-bored aperture **46** for receiving a pressure transmitting means or bushing **47** in one diameter thereof and one shaped portion **59** of a rotatable means or stepped element **52** which is integral with portion **53** of the head gear **13** in the other diameter thereof. The stepped portion **59** also extends through a bore **48** of bushing **47** and includes a threaded bore **51** for receiving a screw **49** having an adjustment knob **50**. As can be seen in FIG. **7**, bore **48** and the extended portion **59** of stepped element **52** having a generally rectangular shape to key the components together for mutual rotation so as to prevent inadvertent tightening or loosening of these element.

The stop adjustment **43** further comprises first and second adjustment members **56** and **57** which are mounted about the extended portion of step element

first and second sections to permit relative movement thereof in one direction and selectively prevent relative movement thereof in the opposite direction for adjusting to head size and means for securing said faceshield to said crown comprising a strap, non-yielding means fixedly pivotally securing said strap at one end thereof to said crown and including a plurality of spaced-apart protrusions thereon, said crown and said window having corresponding spaced-apart and aligned apertures therein for receiving said protrusion, and adjustable rotatable cam means for releasably securing the other end of said strap to said crown to provide an interlocked crown and window assembly, said securing cam means including means for positively tensioning said strap in assembled relation.

3. In a protective faceshield, a crown, a window secured to said crown, head gear, means adjusting said head gear to the head size of the wearer, and coupling means for pivotally securing said head gear to said crown, said coupling means comprising means forming an aperture in said crown, rotatable means carried by said head gear and including a shaped portion extending through said aperture having a threaded bore therein, and being axially longer than the aperture to project a distance from the crown, screw means for threadedly engaging said threaded bore, said screw means including a head, and a pressure transmitting member including a shaped bore conforming to the shape of and receiving said shaped portion of said rotatable means for mutual rotation therewith, said pressure transmitting member disposed between said head of said screw means and said crown and being axially thicker than said distance in order to be directly engaged by said head and to space said head and said crown to prevent loosening of said screw means upon rotational movement of said head gear relative said crown.

4. In a protective faceshield, a crown, a window secured to said crown, head gear, means adjusting said head gear to the head size of the wearer, and coupling means for pivotally securing said head gear to said crown, said coupling means comprising means forming an aperture in said crown, rotatable means carried by said head gear and including a shaped portion extending through said aperture having a threaded bore therein, screw means for threadedly engaging said threaded bore, said screw means including a head, and pressure transmitting means including a shaped bore conforming to the shape of and receiving said shaped portion of said rotatable means for mutual rotation therewith, said pressure transmitting means disposed between said head of said screw means and said crown to space said head and said crown to prevent loosening of said screw means upon rotational movement of said head gear relative said crown, including an arm secured for rotation with said head gear, and means on said crown cooperable with said arm to prevent rotation of said arm relative to said crown in one direction and permit rotation of said arm in the opposite direction.

5. In a protective faceshield, a crown, a window secured to said crown, head gear, means adjusting said head gear to the head size of the wearer, and coupling means for pivotally securing said head gear to said crown, said coupling means comprising means forming an aperture in said crown, rotatable means carried by said head gear and including a a shaped portion extending through said aperture having a threaded bore therein, screw means for threadedly engaging said threaded bore, said screw means including a head, and pressure transmitting means including a shaped bore conforming to the shape of and receiving said shaped portion of said rotatable means for mutual rotation therewith, said pressure transmitting means disposed between said head of said screw means and said crown to space said head and said crown to prevent loosening of said screw means upon rotation movement of said head gear relative said crown, including an arm secured for rotation with said head gear, and means cooperable with said arm to prevent rotation in one direction and permit rotation in the opposite direction, wherein the last-mentioned means includes a pin secured to said crown in an interference relationship with rotational travel of said arm, said pin having a camming surface oriented to permit override thereof by said arm upon rotation of said opposite direction.

6. In a protective faceshield having a crown, a window secured to said crown and head gear secured to said crown, the improvement comprising means for releasably securing said window to said crown including first means forming a plurality of spaced-apart apertures in said window, second means forming a plurality of spaced-apart apertures in said crown for alignment with the apertures of said window, a strap, non-yielding means fixedly pivotally securing said strap at one end thereof to said crown, said strap including a plurality of protrusions thereon to be received by the aligned apertures of said crown and window, and adjustable means for releasably securing the other end of said strap to said crown with said strap adjustably tensioned.

7. In a protective faceshield having a crown, a window secured to said crown and head gear secured to said crown, the improvement comprising means for releasably securing said window to said crown including first means forming a plurality of spaced-apart apertures in said window, second means forming a plurality of spaced-apart apertures in said crown for alignment with the apertures of said window, a strap, means permanently pivotally securing one end thereof to said crown, said strap including a plurality of protrusions thereon to be received by the aligned apertures of said crown and window, and means for securing the other end of said strap to said crown with said strap in tension, wherein the last-mentioned means comprises lever means secured to said crown, means forming an elongate slot in said other end of said strap for receiving said lever means, and means formed on said crown cooperable with said lever means to tension said strap, said lever means being adjustable and releasably securing the strap in adjustable tension.

8. A crown-to-headgear attachment comprising means for pivotally securing said head gear to said crown including means forming a circular aperture in said crown, rotatable means carried by said head gear including a shaped portion extending through said aperture including a threaded bore, and being axially longer than said aperture, finger-operated screw means for threadably engaging said threaded bore and having a head, and pressure transmitting means including a non-round shaped bore for receiving said shaped portion disposed between said crown and said screw means

52. Element 57 is freely rotatable about element 52; however, element 56 includes a plurality of projections 55 which are received by corresponding slots 54 of element 52. These projections and slots fix element 56 relative to the head gear 13. Element 57 includes teeth 58 thereon for engagement with the teeth 59 of element 56, said teeth being disengaged by movement of portion 60 toward the crown 11. Therefore, element 56 is fixed relative to the front band 29 and top head band 36,37, and element 57 is adjustable relative to element 56; and the provision of the unidirectional camming pin 44 permits mutual rotation of the front band 29 and the stop adjustment 43 relative to the crown 11 in the direction of lifting the shield 12, and prevents rotation of these elements in the opposite direction beyond the pin 44.

It is preferred that plastic components be employed for the head gear and stop adjustment components to permit a positive adjustment of the frictional tension between the front band 29 and the crown 11. This adjustment is important due to the varying conditions which are encountered in the field; for example, excessive humidity and temperature conditions and variations thereof cause plastic components to shrink or expand according to the local conditions and the adjustment of tension is a simple matter by turning knob 50. Of course, the other side of the faceshield is provided with similar friction adjusting apparatus with the exception that the stop adjustment elements may be omitted. The foregoing construction is such that wear is considerably reduced and a positive tensioning adjustment is permitted without accidental loosening of the elements. In addition, an unlimited adjustment in terms of the amount of tension can be accomplished with the foregoing construction.

As previously mentioned, the faceshield is provided with a faceshield window 12 which depends from the crown 11. Attention is invited to FIGS. 1, 10, 11 and 12 for a detailed description of this feature. The faceshield is provided with a window locking strap 61 which is pivotally secured to the crown 11 at one end thereof by means of integral pin 62, which extends through aperture 64 of the crown 11 and is retained by oversized snap surface 62a. This is a positive, pivotal, attachment which prevents loss of the strap when the remainder of the strap is disengaged from the crown 11. The window 12 and the crown 11 are provided with a plurality of aligned slots 12*a* and 11*a*, respectively, for receiving protrusions 61*a* of window strap 61. These slots are preferably of greater length than the length of protrusion 61*a* to provide a proper tensioning and the slots in the window 12 are preferably of a width the same or slightly smaller than the width of the protrusion to provide a snug, non-rattling connection with the window 12. The other end of the strap 61 is provided with an elongate slot 65 for receiving a pivotal lever arm 66 including a shaft portion 66a which extends through slot 65 and aperture 67 of crown 11. Shaft portion 66*a* is provided with a flange portion 70 which bears against crown 11 and a bushing or washer 69 which is secured between crown 11 and a rounded head portion 71. Lever arm 66 is rotatable to be aligned with elongate slot 65 for receiving a pivotable lever arm 66 including a shaft portion 66*a* which extends through slot 65 and aperture 67 of crown 11. Lever arm 66 is rotatable to be aligned with elongate slot 65 for disengagement of strap 61 from crown 11, strap 61 remaining attached to the crown at its opposite end. Shaft portion 66*a* cooperating with aperture 65 comprises an eccentric about the axis of aperture 67 to provide a tensioning of strap 61 when lever 66 is in the latch position shown in FIG. 2.

Generally then there has been described a protective faceshield in which the component parts are easily adjusted and readily replaced in the field. The faceshield includes a window locking strap which provides proper alignment and tensioning of the window and which is prevented from inadvertent loss by its semi-detachable configuration. The protective faceshield is further provided with a unidirectional rotatable and variable stop adjustment which provides a greater degree of freedom in selecting positions of the faceshield crown and window relative to the head gear. Further, the individual components of the head gear and the stop adjustment mechanism are constructed and pivotally secured to the crown in such a manner as to considerably decrease wear of the components while at the same time providing an unlimited tensioning adjustment between the crown and the head gear.

It will be clear that since many components of this head gear are plastic, parts shown as separate parts with a connector may be made integrally of plastic or vice versa within the concepts of this invention.

What we claim is:

1. A protective faceshield comprising: a crown, a faceshield window secured to said crown, head gear secured to said crown including first and second head band sections, engagement means coupling said first and second sections to permit relative movement thereof in one direction and selectively prevent relative movement thereof in the opposite direction for adjustment to head size, and means for pivotally securing said head gear to said crown including means forming an aperture in said crown, rotatable means carried by said head gear including a shaped portion extending through said aperture including a threaded bore, finger-operated screw means for threadably engaging said threaded bore, pressure transmitting means including a non-round shaped bore for receiving said shaped portion disposed between said crown and said screw means for mutual rotation with said rotatable means to permit rotation of said head gear without loosening said screw means, and a first adjustment member disposed between said crown and said rotatable means including at least one projection thereon, said rotatable means including means for receiving said projection to fix said rotatable means and said first adjustment member for mutual rotation, and a second adjustment member mounted for rotation with said first adjustment member, means for adjusting the position of said members relative to each other, and cam means secured to said crown and disposed to abut said member upon rotation of said head gear in one direction, said cam means including a cam surface permitting a spring override of said cam means by said member upon rotation of said head gear in the opposite direction.

2. A protective faceshield comprising: a crown, a faceshield window secured to said crown, head gear secured to said crown including first and second head band sections, and engagement means coupling said

for mutual rotation with said rotatable means to permit rotation of said head gear without loosening said screw means, said pressure transmitting means being axially longer than the part of said shaped portion projecting beyond the aperture for direct engagement between said head and said pressure transmitting means.

9. Attachment structure for securing a curved window to a curved crown comprising a strap, non-yielding means fixedly securing said strap at one end thereof to said crown, said strap including a plurality of spaced-apart protrusions thereon, said crown and said window having corresponding spaced-apart and aligned apertures therein receiving said protrusions, the transverse width of the apertures in said window being at least as small as the transverse width of said protrusions to cooperate with said protrusions in press fit relation, and means for securing the other end of said strap to said crown to provide an interlocked crown and window assembly, said last-named means including a rotatable means attached to said crown projecting through an opening in said strap adjustably releasably tensioning said strap in assembled relation.

10. Attachment structure for securing a curved window to a curved crown comprising a strap, means permanently securing said strap at one end thereof to said crown, said strap including a plurality of spaced-apart protrusions thereon, said crown and said window having corresponding spaced-apart and aligned apertures therein receiving said protrusions, the transverse width of the apertures in said window being at least as small as the transverse width of said protrusions to cooperate with said protrusions in press fit relation, and adjustable means for releasably securing the other end of said strap to said crown in adjustable tension to provide an interlocked crown and window assembly.

11. A protective faceshield comprising: a crown, a faceshield window secured to said crown, head gear secured to said crown including first and second head band sections formed of stiff resilient material having an unstressed longitudinally straight shape, and engagement means coupling said first and second sections to permit relative movement thereof in one direction to shorten their total length and selectively prevent relative movement thereof in the opposite direction for adjusting to head size while in position on the wearer, said first head band section comprising a plurality of apertures therein spaced apart longitudinally of the band and said second head band section having projecting cam means thereon including a sloped cam surface disposed toward said first head band section to spring into and over said apertures upon relative movement in said one direction and to seat in said apertures to prevent relative movement in said opposite direction, said second head band section further including means adjacent said cam means and longitudinally spaced therefrom for closely slidably embracing said first head band section to force said cam means against said first head band section, the bending of the head band sections around the wearer's head urging said cam means into said apertures, at least one of said sections being manually deflectable along its length when said head band is off the wearer's head to permit separation of said cam means from an engaged aperture to permit adjustment in said opposite direction.

* * * * *