

[54] **FACE PROTECTOR**
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Winnipeg, Manitoba, Canada
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[52] U.S. Cl. **2/9, 2/14 W**
[51] Int. Cl. **A42b 1/06**
[58] Field of Search 2/14 B, 14 H, 14 W, 9, 8, 14 K,
2/14 N

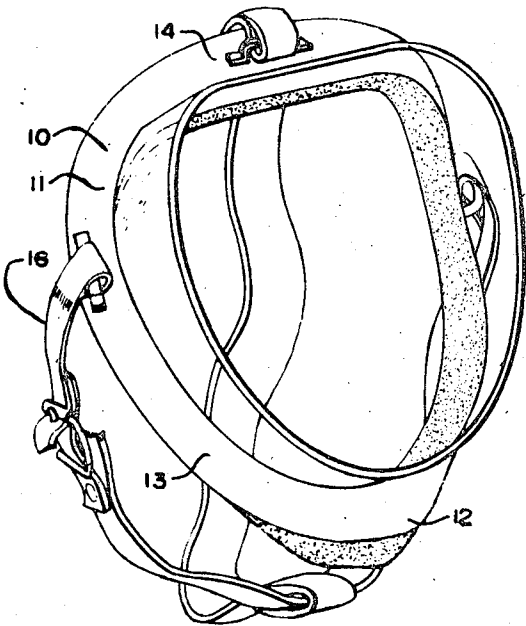
102,414	8/1963	Norway	2/14 F
220,050	3/1962	Austria.....	2/14 W
223,912	12/1957	Australia.....	2/14 B
699,465	11/1953	Great Britain.....	2/14 D
876,740	5/1953	Germany.....	2/14 F

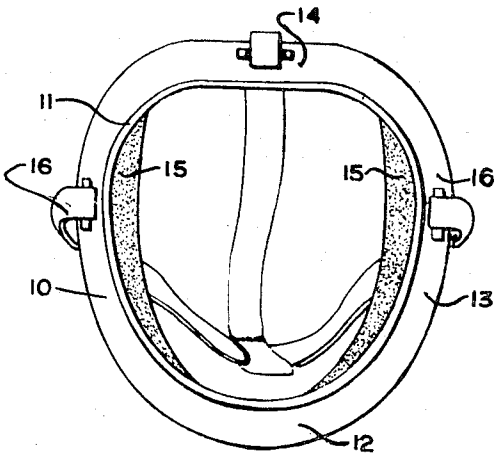
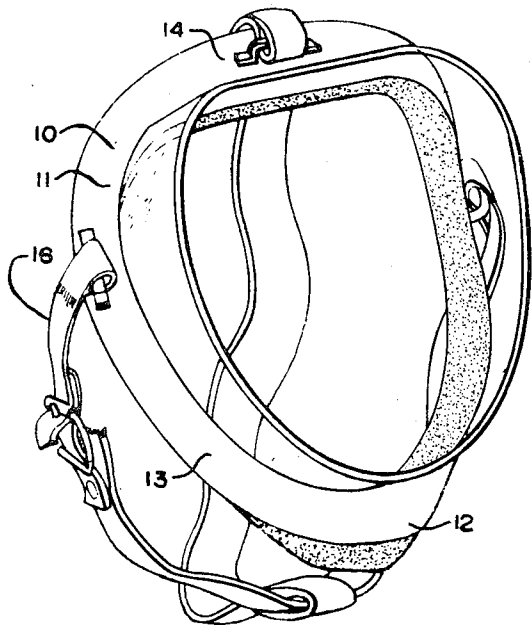
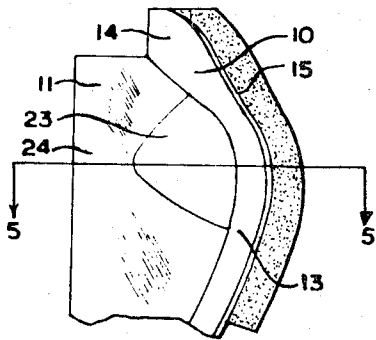
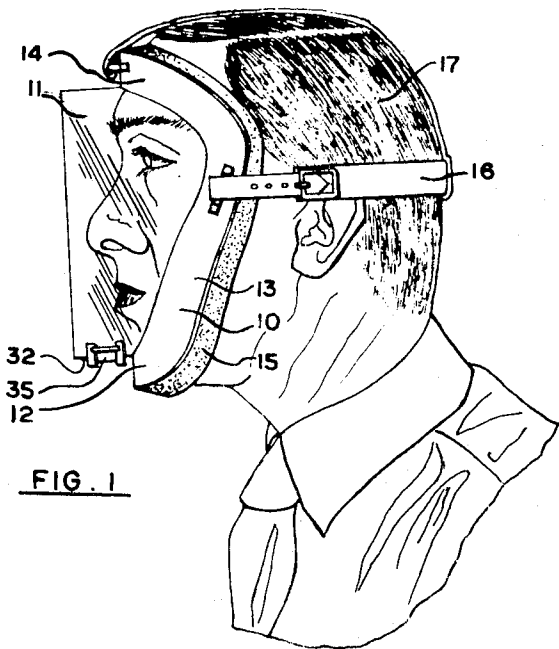
Primary Examiner—Jordan Franklin
Assistant Examiner—Peter Nerbun
Attorney, Agent, or Firm—Kent & Ade

[56] **References Cited**
UNITED STATES PATENTS
1,947,137 2/1934 Fraser 2/14 D
2,758,308 8/1956 Ellis 2/14 V
3,362,403 1/1968 Fleming et al. 2/6
3,530,506 9/1970 Hoffmaster 2/14 N
3,663,959 5/1972 Loubeyre..... 2/14 N
FOREIGN PATENTS OR APPLICATIONS
822,886 10/1951 Germany 2/9

[57] **ABSTRACT**
An open ended portion or buffer component is fitted to a flange having a flexible gasket engaging the face and a strap holds the protector onto the head of the wearer. The gasket can be positioned on the flange to suit the wearer. The open end portion protects the face and eyes by means of a buffer action thus preventing wind from striking the face and eyes. A detachable tinted strip can be used and also a detachable fine screen cover if desired.

4 Claims, 16 Drawing Figures





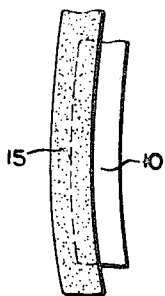


FIG. 6

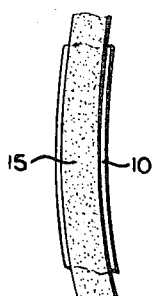


FIG. 7

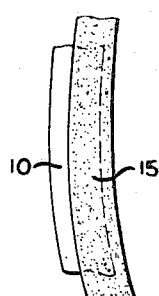


FIG. 8

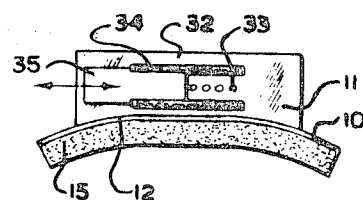


FIG. 10

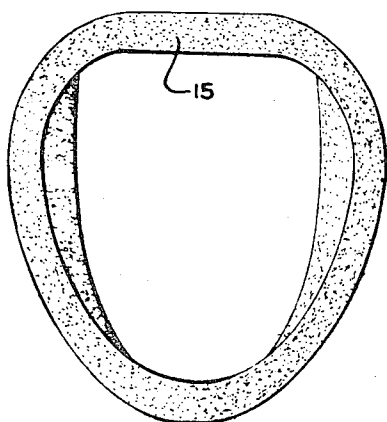


FIG. 9

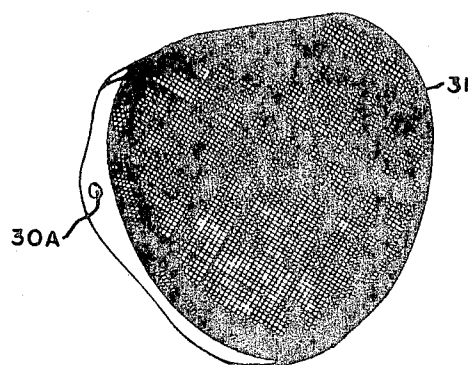


FIG. 11

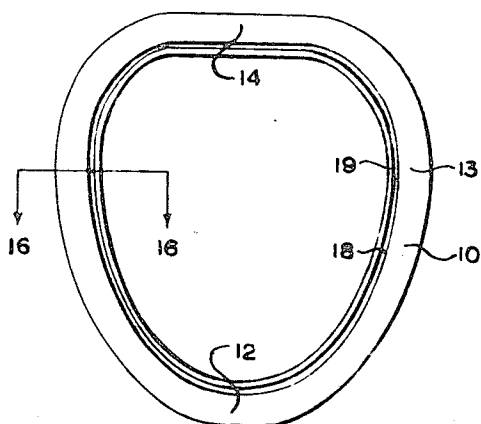


FIG. 15

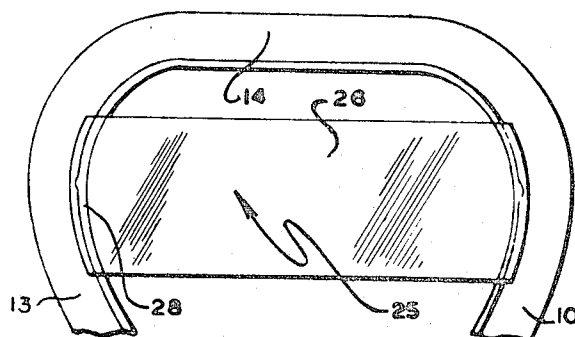


FIG. 12

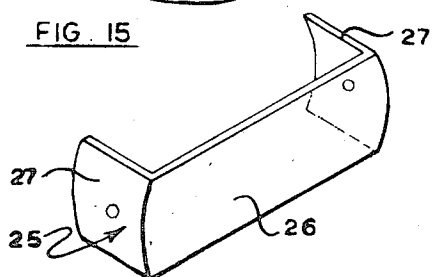


FIG. 13

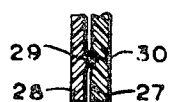


FIG. 14

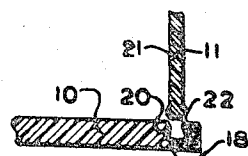


FIG. 16

FACE PROTECTOR

This invention relates to new and useful improvements in face protectors, particularly face protectors designed for use in relatively cold climates where wind chill factor may be extreme.

Normal face protectors have been utilized previously consisting of a mask manufactured of clear plastic or the like or at least having plastic eye coverings so that the wearer can view through the plastic. However, these suffer from many disadvantages, the principal one of which being the fact that they fog readily and easily thus interfering with vision. Furthermore in extremely cold climates any attempt to remove this fog usually results in heavy frosting occurring.

The present invention overcomes all of these disadvantages by providing a clear plastic protector which does not fog, mist or frost and which furthermore permits full peripheral vision as well as full forward vision to be obtained.

This accomplished by utilizing the buffer principal of an open ended clear plastic face piece which is adapted to fit around the face of the wearer.

The device is particularly suitable for use by skiers, snowmobilers, filling stations attendants, outside airport personnel, and anyone who normally works in cold or windy conditions out of doors. Furthermore it is usable by workers exposed by sudden blasts of intense heat such as foundry workers.

Another advantage of the present invention is to provide a device of the character herewithin described in which two sizes of mask can be used to fit the majority of faces due to the fact that the flexible gasket can be positioned in various positions on the base flange.

Another object of the invention is to provide a device of the character herewithin described in which the base flange is particularly suitable for anchoring the drawstring of a hooded garment thus enclosing the head of the wearer completely.

A yet further advantage of the present device is to provide means whereby a hood can be used to cover the head of the wearer, the hood being attached around the flange of the device and then tucked in the collar thus, once again, covering the entire head of the wearer.

Yet another object of the invention is to provide a device of the character herewithin described in which the flexible gasket cushions the face of the wearer from any impact.

Another very important consideration of the invention is to provide a device of the character herewithin described which eliminates "tunnel vision" often occurring when a parka is drawn around the head of the wearer for protective purposes. Furthermore, the user can stand upright and does not have to walk with the head down thus improving the safety of the user under adverse weather conditions.

A yet further object of the invention is to provide a device of the character herewithin described which is simple in construction, economical in manufacture, and otherwise well suited to the purpose for which it is designed.

With the considerations and inventive objects herein set forth in view, and such other or further purposes, advantages or novel features as may become apparent from consideration of this disclosure and specification, the present invention consists of the inventive concept which is comprised, embodied, embraced, or included

in the method, process, construction, composition, arrangement or combination of parts, or new use of any of the foregoing, herein exemplified in one or more specific embodiments of such concept, reference being had to the accompanying Figures in which:

FIG. 1 is a side elevation of the device showing same attached to the head of a wearer.

FIG. 2 is an isometric view of the protector per se.

FIG. 3 is a front view of the device.

FIG. 4 is a fragmentary side elevation of the device.

FIG. 5 is a fragmentary sectional view along the line 5-5 of FIG. 4.

FIGS. 6, 7 and 8 show a fragmentary rear view of a portion of the base flange with the flexible gasket attached in a plurality of positions.

FIG. 9 is a rear view of the device.

FIG. 10 is an underside base view of the device showing the chin area.

FIG. 11 is an isometric view of the detachable screen.

FIG. 12 is a fragmentary front view showing the sun visor attached.

FIG. 13 is an isometric view of the sun visor.

FIG. 14 is an enlarged cross sectional view showing one method of detachably securing the sun visor to the protector.

FIG. 15 is a front view of the base flange per se.

FIG. 16 is an enlarged cross sectional view along the line 16-16 of FIG. 15.

In the drawings like characters of reference indicate corresponding parts in the different figures.

Proceeding therefore to describe the invention in detail, reference should be made to the accompanying drawings in which 10 illustrates the base flange and 11 the air buffer component.

The base flange is substantially heart shaped when viewed in front elevation and is shaped or curved to follow closely the outline of the face of the wearer. In this regard reference to FIG. 1 will show that the lower side or base portion of the flange 10, indicated by reference character 12, curves over the front of the chin and the side portions 13 curve upwardly around the sides of the cheeks.

The upper portion 14 then curves forwardly to follow the contour of the forehead of the wearer.

A flexible gasket 15, preferably made from foam plastic, is secured to the base flange upon one side thereof and provides a seal between the flange and the skin of the wearer.

It will also be observed that the side portions 13 of the flange incline rearwardly slightly to lie substantially parallel with the sides of the cheeks.

An adjustable strap component 16 is secured by each end thereof to the side portions of the base flange and extend around the head 17 of the wearer thus holding the base flange snugly against the face of the wearer as clearly shown.

It has been found that two sizes of base flange are all that are required to suit the majority of individuals from children to adults.

Each particular size is in turn adjustable within a certain range by the initial positioning of the flexible gasket 15 upon the flange and FIGS. 6, 7 and 8 show various positions.

For example, FIG. 6 shows the gasket 15 moved towards the outer edge of the flange 10 whereas FIG. 7 shows the gasket centrally located. FIG. 8 by contrast, shows the gasket moved inwardly with respect to

the flange and this varying of position gives considerable adjustment to the size characteristics of the protector.

The buffer component 11 is a substantially heart shaped open ended portion of clear plastic either cemented to the inner periphery of the flange 10 or, alternatively, detachably secured thereto as shown in FIGS. 15 and 16. In the preferred embodiment shown in these views, a groove 18 extends all around the flange adjacent the inner edge 19 thereof and this groove is enlarged at the base as indicated by reference character 20 in FIG. 16.

The base edge 21 of the component 11 is formed with a bead 22 and this bead snaps into engagement with the groove thus attaching the component to the flange so that it extends outwardly therefrom as clearly indicated.

It has been found that it is useful to be able to remove the buffer component from the flange when passing from the outside to the indoors in order to permit the user to eat and drink, etc. and also to reduce condensation from occurring.

The buffer component 11 operates on the principle that a column of air is always present therewithin so that any wind is prevented from striking the skin area within the buffer component due to this buffering action.

Due to the fact that it is open at both ends, the component does not fog or frost and full peripheral vision is permitted due to the clear plastic characteristics thereof. It is of course desirable that both the flange and the component 11 be formed from a clear plastic which is not brittle or does not change characteristics under wide extremes of temperature and it has been found that polycarbonate plastic is eminently suitable.

Reference to FIG. 4 will show slightly outwardly bulging areas 23 adjacent the upper ends of the side portions 24 of the components 11 which permits ordinary spectacles to be worn by the user without any pinching effect of the temple bars, occurring.

If desired, a sun visor collectively designated 25 may be detachably secured across the front of the component at eye level and this visor is shown in FIGS. 12, 13 and 14. It consists of a tinted plastic planar strip 26 which spans the open front side of the buffer component 11, said strip having a pair of curved side portions 27 one upon each end thereof and extending rearwardly at right angles thereto. The curvature of these side portions is similar to the curvature of the portions 28 of the buffer component 11 upon which the visor rests. It should be observed that the visor is engaged from the top of the buffer component and moves downwardly until the sides engage the sides 28 of the buffer component, it not being possible for the visor to move downwardly any further. Projections 29 are formed on the side portions 28 and recesses 30 on the sides of the visor clip into engagement to maintain the visor in position and prevent it from moving forwardly from the component 11.

Alternatively, a relatively fine screen 31 may be secured to the front of the component 11 by similar means 30A and this fine screen although not interfering with the buffering action of the component 11, nevertheless will prevent insects, dust or sleet from striking the skin during high wind conditions. However, it should be noted that the buffering action reduces the

speed of such objects considerably so that if they do strike the skin at all, the velocity has been reduced considerably.

Under certain atmospheric conditions, some condensation may collect around the lower or base area 32 of the component 11 and under these circumstances I have provided a plurality of apertures 33 in this area. Spaced and parallel slide engaging strips 34 are secured to the outer surface of this area and a curved slide plate 35 engages these strips 34 so that one or more of the apertures 33 may be covered or uncovered thus permitting a small circulation of air to occur which eliminates any condensation at this point. In fact this small circulation of air will completely eliminate any condensation from occurring anywhere on the component 11.

The fact that the flange extends substantially at right angles from the component 11 permits a drawstring of a garment hood to be drawn around the flange thus holding the hood closely in contact with the flange and completely enclosing the head of the wearer.

Alternatively, a separate hood can be attached in a similar way with the base thereof being tucked within the coat or similar garment worn by the user. Once again, the entire head, neck and face area are fully enclosed and the fact that the drawstring can tighten the hood around the flange, prevents same from moving forward to interfere with the vision.

It should be noted that the flange sides incline at an angle to the face towards the rear when worn, to lie substantially parallel to the sides of the face. This means that the upper portion 14 and the lower side or base portion 10 lie in one plane with the side portions 13 lying in a plane at an angle from the plane of the upper and lower portions and that the upper and lower ends of the side portions merge into the same plane as the upper and lower portions at the junctions thereof.

Initially, the gasket may be provided separate from the flange and be coated on one side with pressure sensitive adhesive suitably protected. The wearer may then position the gasket as required for size and comfort and secure the gasket to the flange by pressing same into position upon the flange. This enables the adjustment to be made to take into account the size and shape of the face of the wearer and as the gasket is moved from the innermost position shown in FIG. 6 to the outermost position shown in FIG. 8, this has the effect of enlarging the area defined by the gasket, particularly along the side portions 13 thereof. The adjustment upon the upper and lower portions of the flanges takes into account the length of the face or the distance between the forehead and the chin of the various wearers.

Various modifications can be made within the scope of the inventive concept which is herein disclosed and/or claimed. Accordingly, it is intended that what is set forth should be regarded as illustrative of such concept and not for the purpose of limiting protection to any particular embodiment thereof, and that only such limitations should be placed upon the scope of protection to which the inventor hereof is entitled as justice dictates.

What I claim as my invention is:

1. A face protector comprising in combination a circumambient, substantially planar base flange, a flexible gasket secured upon one side of said flange, an open ended air buffer component attached by one end

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thereof to said flange and extending outwardly from the other side of said flange, means to detachably secure said protector to the head of the wearer, said flange including a lower portion engaging around the front portion of the chin of the wearer, an upper portion engaging across the forehead of the wearer and side portions extending between said lower and upper portions and engaging the cheek areas of the wearer, said side portions inclining rearwardly at an angle from the plane of the lower and upper portions and merging with the plane of the lower and upper portions at the junctions between said side portions and said lower and upper portions, said flexible gasket being adhesively secured to one side of said flange in anyone of a plurality of positions extending from an innermost position to an outermost position to facilitate the fitting of said protector to the individual contours of the face of the wearer, and means to detachably secure said buffer component to said flange, said last means including a shaped groove extending around the outer side of the flange, and an annular bead on one end of said component to frictionally engage said groove.

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2. The protector according to claim 1 in which the base portion of said component is apertured, a sliding closure strip on said base portion means to mount said sliding closure for sliding movement within limits, said sliding closure adapted to cover and uncover the apertured base portion as desired.

3. The protector according to claim 1 in which said air buffer components is provided with an outwardly curved portion adjacent the upper ends of each side portion of the component and situated adjacent the eyes of the wearer when secured to the head of the wearer, to give side clearance to conventional spectacle frames when worn by the wearer.

4. The protector according to claim 2 in which said air buffer components is provided with an outwardly curved portion adjacent the upper ends of each side portion of the component and situated adjacent the eyes of the wearer when secured to the head of the wearer, to give side clearance to conventional spectacle frames when worn by the wearer.

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