

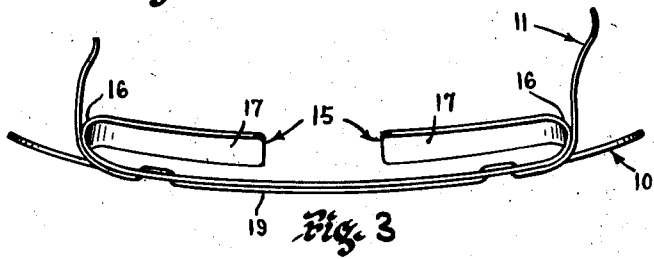
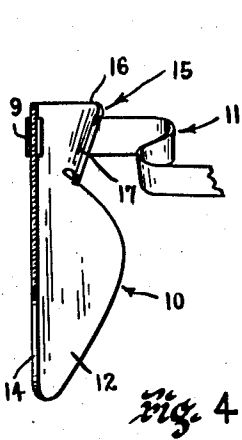
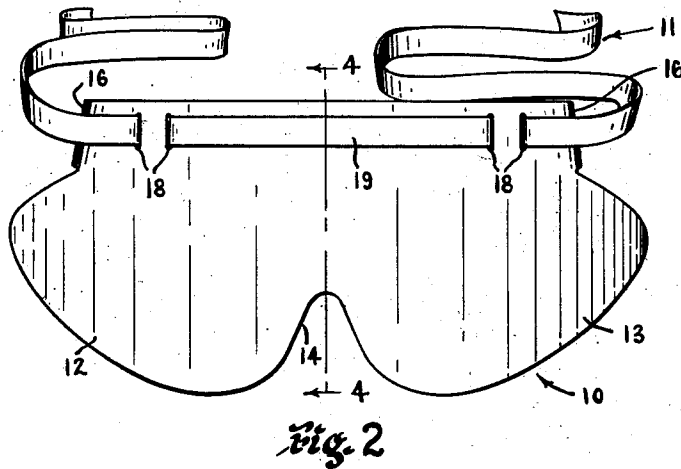
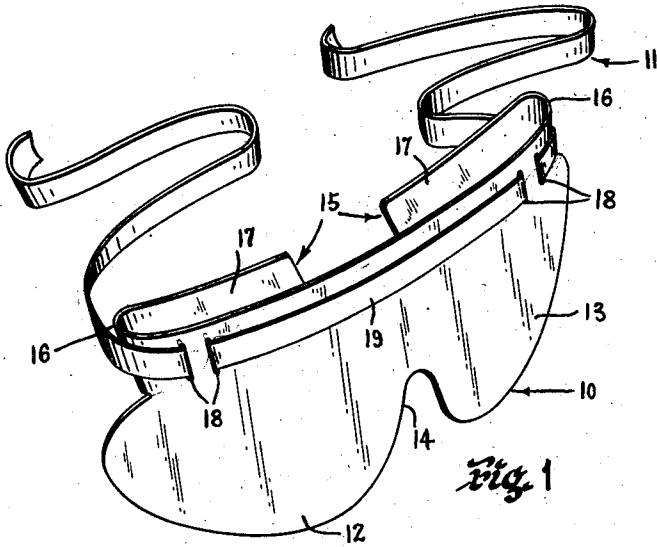
June 23, 1953

W. A. STEWART  
EYE PROTECTIVE DEVICE

2,642,568

Filed Aug. 3, 1950

2 Sheets-Sheet 1



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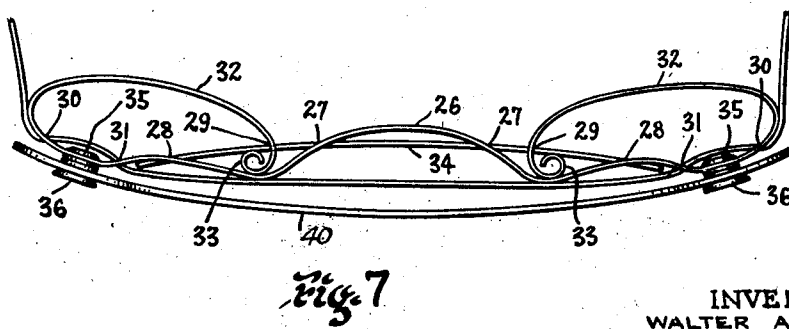
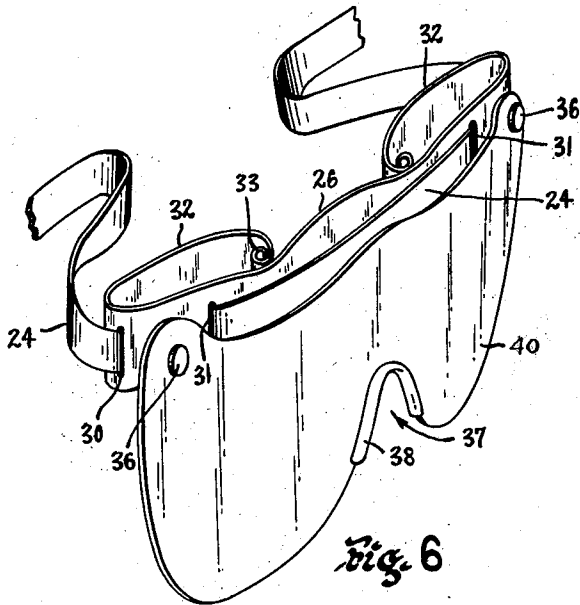
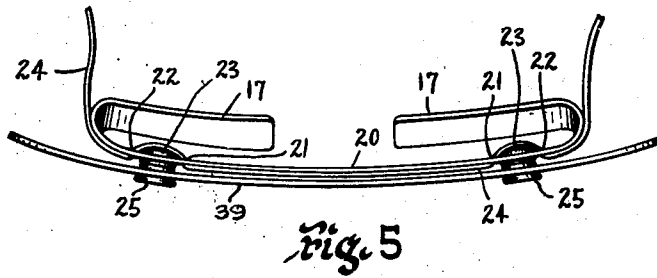
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2 Sheets-Sheet 2



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# UNITED STATES PATENT OFFICE

2,642,568

## EYE PROTECTIVE DEVICE

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Application August 3, 1950, Serial No. 177,359

17 Claims. (Cl. 2-14)

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This invention relates to improvements in eye protective devices and has particular reference to a simple, novel and inexpensive eye shield type device.

One of the principal objects of this invention is to provide a simple, novel and inexpensive eye protective device embodying an eye shield formed of a sheet of transparent material having controlled absorptive and light-altering characteristics adapted to be positioned before the eyes of a wearer and having tab portions on the temporal sides thereof, which tab portions are turned rearwardly and inwardly to form yielding wide area contact portions for comfortably engaging the forehead of the wearer and for properly spacing the major portion of the shield from the eyes and to permit free circulation of air therebetween.

Another object is to provide a device of the above character wherein the tabs are inclined downwardly and forwardly toward the eye shield, thus forming a surface which conforms somewhat to the sloping of the forehead of the wearer and providing comfortable engagement therewith.

Another object is the provision of a device of the above character having a series of slots formed adjacent the upper edge thereof and a flexible band threaded through said slots for attachment of the device to the head of the wearer.

Another object is to provide a device of the above character having a detachable shield portion.

Other objects and advantages of the invention will become apparent from the following description taken in connection with the accompanying drawings, in which

Fig. 1 is a perspective view of the device embodying the invention;

Fig. 2 is a front elevational view thereof;

Fig. 3 is a top plan view;

Fig. 4 is a sectional view taken on line 4-4 of Fig. 2;

Fig. 5 is a top plan view of a modified form of the invention;

Fig. 6 is a perspective view of another modification; and

Fig. 7 is a top plan view of the device illustrated in Fig. 6.

Sun glasses, eye shields and various other types of eye protective devices have been made for covering the eyes of the wearer for protecting them from flying particles, glare, injurious radiations, etc. However, such devices are generally unsatisfactory for one or more reasons, among them being excessive in weight, discomfort to the wearer, poor circulation of air between the device and

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the eyes, inefficient filtering, absorptive or light-altering characteristics, expense of manufacture, inefficient attachment to the head of the wearer, and overall unattractiveness.

These and other disadvantages of prior art devices are overcome in the present device by the provision of a simple and inexpensive eye shield type device and method of making the same, having resilient tab means shaped for engagement with the forehead of the wearer, the tab means serving as means for spacing the eye shield away from the wearer's forehead to permit free circulation of air therebetween and also serving, due to their inherent resiliency, as cushioning means for comfortably supporting the device in proper spaced relation with the eyes of the wearer. The presently described device also embodies efficient light filtering characteristics and attractive attachment means in the form of a band of colored ribbon or the like which is interwoven through slots or openings formed in the eye shield or member carrying said shield and adapted to extend around the head of the wearer for efficiently supporting the device in position of use.

Referring to the drawings wherein like characters of reference designate like parts throughout the several views, the device embodying the invention is comprised broadly of an eye shield 10 and a headband 11 connected to the eye shield 10 for supporting the device on the wearer's head.

The eye shield 10 is formed by blanking or otherwise cutting the same to the desired shape from an initially flat relatively thin piece of transparent material such as cellulose acetate, cellulose butyrate, polyvinyl chloride, or the like which is characterized by its inherent resiliency whereby it may be easily flexed under pressure and will return to its initial set position or shape upon release therefrom. The material of the eye shield 10 is selected according to its inherent absorption or light-altering characteristics or may be treated with suitable dyes or other known means whereby reflected glare or selected radiations from the sun or other sources will be prevented from reaching the eyes of the wearer.

The eye shield 10 is formed with two main eye portions 12 and 13 which are each substantially oval in shape integrally joined together in the upper central region of the device in such manner as to form a recess 14 in the lower edge thereof which is shaped to fit about the nose of the wearer. It is to be understood that the edge of the recess 14 may be shaped as by curling, flang-

ing, or the like to provide a more comfortable fit on the nose, or may be provided with a separate nose pad, if desired.

The upper edge of the shield 10 is preferably substantially straight throughout the width of the device.

In the temporal regions the eye portions 12 and 13 are provided with integral elongated extensions or tabs 15 which are curved rearwardly and inwardly of the shield 10 at locations spaced inwardly of the sides of said shield as indicated at 16 so as to provide portions 17 which extend in substantially parallel spaced relation with the upper edge of the shield. The portions 17 are angled downwardly and inwardly to have their lower edges disposed nearer to the shield 10 than the upper edges, as shown in Fig. 4, thereby conforming to the general slope of the forehead of the wearer.

The shield 10 is preferably shaped to have a slight lengthwise curvature, as illustrated in Fig. 3, so that the outer edges of the eye portions 12 and 13 extend slightly around the sides of the wearer's eyes to aid in preventing radiations from reaching the eyes at said sides.

When the device is in position of use on the face of the wearer, the eye portions 12 and 13 of the shield 10 are positioned in spaced relation over the respective eyes, the recess 14 is located in straddling relation with the nose, and the tabs 15 resiliently engage the forehead and maintain the shield 10 properly spaced from the eyes and the forehead whereby air is permitted to circulate freely between the shield 10 and the eyes.

The eye shield 10 is provided in the temporal region of each eye portion 12 and 13 adjacent the tabs 15 with a pair of spaced vertical slots 18. The headband 11, which is preferably formed of fabric or other flexible material in ribbon form, is threaded through the slots 18 so as to provide a portion 19 thereof which extends along the front of the shield substantially parallel with the upper edge thereof. The headband 11 passes rearwardly through the inner slots 18, outwardly through the outer slots, and thence overlies the curved portions 16 of the tabs 15 as it extends rearwardly along the sides of the wearer's head and is efficiently held in place by friction. The headband 11 can be attached by clips or the like (not shown) to the wearer's hair, or may be tied at the rear of the head to securely support the device in position of use.

It will be understood that by providing the eye shield and the headband of different harmonizing colors the device can be made to present an attractive appearance. The headbands or ribbons can also be easily and quickly interchanged when desired to harmonize with the ensembles of the wearers.

It is further pointed out that the shield, intermediate the tabs 15, is free to flex to assume the proper fit with the face and that, due to this flexing, the said tabs are also permitted to properly and comfortably seat on the forehead of the wearer. This flexing and seating action takes place when the device is secured in position of use on the head by the headband. To further insure comfort, the portion of the tabs which engage the forehead may be provided with a covering of resilient cushioning material such, for example, as latex, rubber, or other suitable material.

In Fig. 5, there is illustrated a slight modification of the invention wherein the resilient tabs 17 are formed integrally with a strip 20 of suit-

able plastic material of the type previously mentioned herein. The strip 20 is provided with spaced slots or openings 21 and 22 adjacent its opposed temporal ends and has the female portions 23 of snap fastener means secured thereto intermediate the respective slots or openings. A headband of ribbon or other suitable material 24 is threaded through said slots or openings 21 from the front of the strip 20 rearwardly of the portions 23 and outwardly of the slots or openings 22 to secure the said headband to the strip and to provide means whereby the device may be secured in proper position on the head of the wearer. The main shield 39 is provided with male portions 25 of snap fastener means whereby the said shield may be detachably secured to the strip 20.

In Fig. 6 and 7, there is illustrated a further modification wherein a strip 26 of suitable plastic material, of the type such as previously set forth herein, is provided with spaced openings 27, 28 and 29 and spaced slots 30 and 31 arranged in groups at selected locations longitudinally thereof and on the opposed sides of the intermediate portion thereof. Said strip is turned rearwardly and inwardly at its ends to form looped resilient forehead engaging portions 32 each having their respective free ends 33 relatively sharply curled, as shown best in Fig. 7. A bar-like member 34 of spring wire or a long and narrow blade spring is extended through the respective openings 27, 29 and 28 to retain the said portions of the strip 26 in the above relation and yet permit said strip and looped portions 32 to have a yielding action in response to the pull of the headband 24. The headband 24 is threaded through the slots 30 and 31 in a manner similar to the previously described headband of Figs. 1 through 5.

The strip 26 is provided, adjacent its temporal ends, with female portions 35 of snap fastener means. A shield 40 having the desired color, light-altering and absorptive characteristics is provided with male portions 36 of snap fastener means by which the said shield may be detachably connected with the strip 26 by interconnection thereof with the female portions 35. The shield 40 has a nasal recess 37 in the lower central portion thereof to straddle the nose of the wearer and is provided, in this instance, with a bead 38 for increasing its contact area with the nose. The bead 38 may be in the form of an integral member or may be a separate member secured to the shield 40, as, for example, it may be a slotted strip of suitable resilient material fitted about the nasal recess with the adjacent edge of the shield extending within said slot and secured therein by adhesive or other suitable means.

It is to be understood that the shield 39, in the device of Fig. 5, is provided with a similar nasal recess and may have any desired color, light-altering or absorptive characteristics.

With these latter arrangements, shields having different characteristics may be interchangeably used. The devices of Figs. 5, 6 and 7 are secured in position on the head of the wearer by the headband 24 in a manner similar to that previously described in connection with the device of Figs. 1 through 4.

From the foregoing, it will be seen that efficient and economical means have been provided for accomplishing all of the objects of the invention by providing an improved eye protective device which is efficient in its use, comfortable

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to wear and attractive in appearance. While the novel features of the invention have been described and are pointed out in the annexed claims, it will be understood that many changes may be made in the details of construction and methods shown and described without departing from the spirit of the invention. I, therefore, do not wish to be limited to the exact details and methods shown and described as the preferred forms only are set forth by way of illustration.

I claim:

1. An eye protective device comprising an eye shield formed of a sheet of transparent flexible light altering material shaped to cover the eyes of a wearer and having elongated integral tabs formed in the temporal areas thereof, said tabs being bent in a direction rearwardly of the shield and then turned inwardly toward one another and lying in spaced relation with the adjacent upper edge of the shield for resiliently engaging the forehead of the wearer and spacing the shield therefrom when in position of use.

2. An eye protective device comprising an eye shield formed of a sheet of transparent flexible light altering material shaped to cover the eyes of a wearer and having elongated integral tabs formed in the temporal areas thereof, said tabs being bent rearwardly of the shield and inwardly toward one another and lying in spaced relation with the adjacent upper rear surface of the shield for resiliently engaging the forehead of the wearer and spacing the shield therefrom when in position of use, the lower edges of said tabs being disposed nearer to said rear surface of the shield than the upper edges whereby the tabs will conform somewhat to the shape of the forehead of the wearer.

3. An eye protective device comprising a pair of spaced eye portions adapted to cover the respective eyes of a wearer and formed of transparent flexible light altering material, said eye portions each having integral elongated tabs extending from the temporal areas thereof, said tabs being bent rearwardly of the eye portions and inwardly toward one another and lying in spaced relation with the adjacent upper edges of the eye portions for resiliently engaging the forehead of the wearer and spacing the eye portions therefrom when in position of use.

4. An eye protective device comprising a pair of spaced eye portions adapted to cover the respective eyes of a wearer and formed of transparent flexible light altering material, said eye portions each having integral elongated tabs extending from the temporal areas thereof, said tabs being bent in a direction rearwardly of the eye portions and then turned inwardly toward one another and lying in spaced relation with the adjacent upper portion of the rear surface of the eye portions for resiliently engaging the forehead of the wearer and spacing the eye portions therefrom when in position of use, the lower edges of said tabs being disposed nearer to said rear surface of the eye portions than the upper edges whereby the tabs will conform somewhat to the shape of the forehead of the wearer.

5. An eye protective device comprising an eye shield formed of a sheet of transparent flexible light altering material shaped to cover the eyes of a wearer and having elongated integral tabs formed in the temporal areas thereof initially extending in an outward direction, said tabs being bent in a direction rearwardly of the shield and then turned inwardly toward one another so as to lie in spaced relation with the ad-

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5 adjacent rear surface of the shield for resiliently engaging the forehead of the wearer and spacing the shield therefrom when in position of use, and a ribbon member removably attached to said shield for securing the shield to the head of the wearer.

6. An eye protective device comprising a pair of spaced eye portions adapted to cover the respective eyes of a wearer and formed of transparent flexible light altering material, said eye portions each having integral elongated tabs extending from the temporal areas thereof, said tabs being bent rearwardly of the eye portions and turned inwardly toward one another and lying in spaced relation with the adjacent upper edges of the eye portions for resiliently engaging the forehead of the wearer and spacing the eye portions therefrom when in position of use, and a ribbon member removably attached to said eye portions for securing the eye portions to the head of the wearer.

7. An eye protective device comprising an eye shield formed of a sheet of transparent flexible light altering material having portions shaped to cover the eyes of a wearer and having a slotted upper portion provided with elongated integral tabs formed in the temporal areas thereof, said tabs being bent rearwardly of said slotted upper portion of the shield and turned inwardly toward one another and lying in spaced relation with the adjacent rear surface of said upper portion of the shield for resiliently engaging the forehead of the wearer and spacing the shield therefrom when in position of use, and a ribbon member threaded through said slots in the upper portion of the shield in such a manner that a considerable portion thereof overlies the front of the shield and extends substantially parallel with the upper contour edge of the shield and other portions thereof extend freely from the opposed sides of the device for securing the shield to the head of the wearer.

8. An eye protective device comprising a pair of spaced eye portions adapted to cover the respective eyes of a wearer and formed of transparent flexible light altering material, said eye portions each having integral elongated tabs extending from the temporal areas thereof, said tabs being bent rearwardly of the eye portions and turned inwardly toward one another and lying in spaced relation with the adjacent upper edges of the eye portions for resiliently engaging the forehead of the wearer and spacing the eye portions therefrom when in position of use, a ribbon member removably attached to said eye portions for securing the eye portions to the head of the wearer, said ribbon member being threaded through openings in the eye portions adjacent their upper edges in such a manner that a considerable portion thereof overlies the front of the eye portions and extends substantially parallel with the upper contour edges of the eye portions and other portions thereof extend freely from the outer ends of the device.

9. An eye protective device comprising an eye shield formed of a sheet of transparent flexible light altering material shaped to cover the eyes of a wearer and having elongated integral tabs formed in the temporal areas thereof, said tabs being bent rearwardly of the shield and turned inwardly toward one another and lying in spaced relation with the adjacent upper edge of the shield for resiliently engaging the forehead of the wearer and spacing the shield therefrom when in position of use, the lower edges of said tabs

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being disposed nearer to said shield than the upper edges whereby the tabs will conform somewhat to the shape of the forehead of the wearer, a ribbon member removably attached to said shield for securing the shield to the head of the wearer, said ribbon member being threaded through openings in the shield adjacent its upper edge in such a manner that a considerable portion thereof overlies the front of the shield and extends substantially parallel with the upper contour edge of the shield and other portions thereof extend freely from the opposed sides of the device.

10. An eye protective device comprising a pair of spaced eye portions adapted to cover the respective eyes of a wearer and formed of transparent flexible light altering material, said eye portions each having integral elongated tabs extending from the temporal areas thereof, said tabs being bent rearwardly of the eye portions and turned inwardly toward one another and lying in spaced relation with the adjacent upper edges of the eye portions for resiliently engaging the forehead of the wearer and spacing the eye portions therefrom when in position of use, the lower edges of said tabs being disposed nearer to said eye portions than the upper edges whereby the tabs will conform somewhat to the shape of the forehead of the wearer, a ribbon member removably attached to said eye portions for securing the eye portions to the head of the wearer, said ribbon member being threaded through openings in the eye portions adjacent their upper edges in such a manner that a considerable portion thereof overlies the front of the eye portions and extends substantially parallel with the upper contour edges of the eye portions and other portions thereof extend freely from the outer ends of the device.

11. An eye protective device comprising a strip of flexible material having resilient end portions initially extending outwardly and in the plane of said strip, said end portions being folded to curve rearwardly and thence turn inwardly toward each other and be disposed in spaced relation with said strip for engaging the forehead of the wearer, said strip having spaced slots adjacent its opposed temporal sides and connection means adjacent said slots, a headband threaded through said slots, an eye shield of transparent sheet material shaped to overlie the respective eyes and having a nasal recess in the lower edge thereof and means adjacent its temporal sides for detachable connection with the connection means of said strip.

12. An eye protective device comprising a strip of flexible material having spaced openings longitudinally thereof and having resilient end portions initially extending outwardly and in the plane of said strip, said end portions being folded to curve rearwardly and inwardly toward each other so as to have portions thereof disposed in spaced relation with the rear surface of the strip, means extending through said openings to retain said resilient end portions in desired spaced relation with the strip, said strip having spaced slots adjacent the opposed temporal sides thereof and connection means adjacent said slot, a headband threaded through said slots, an eye shield of transparent sheet material shaped to overlie the respective eyes and having a nasal recess in the lower edge thereof and means adjacent its temporal sides for detachable connection with the connection means of said strip.

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13. An eye protective device comprising an eye shield formed of a sheet of transparent flexible material shaped to cover the eyes of the wearer and a supporting portion therefor having opposed end portions curving rearwardly and inwardly toward each other to form brow engaging means adjacent the temporal sides thereof and spaced rearwardly of the rear side of said supporting portion to yieldingly engage the wearer's brow when the device is in use, and a headband secured to said supporting portion of the device for securing the shield in position before the eyes of the wearer.

14. An eye protection device of the character described comprising a supporting portion of resilient material having a transparent eye shielding portion depending therefrom, said supporting portion being formed with elongated resilient end portions initially extending outwardly of the opposed sides and in the plane of said portion, said elongated end portions being folded to curve rearwardly and thence turn inwardly to provide portions disposed toward each other and lying rearwardly of and in spaced relation to said portion and by reason of their inherent resiliency functioning as yieldable brow engagement means when the device is in position of use, and flexible ribbon-like means secured to the opposed sides of one of said portions and having portions free to extend about the head of the wearer to hold the device thereon in position of use.

15. An eye protection device of the character described comprising a supporting portion of resilient material having a transparent eye shielding portion depending therefrom, one of said portions being formed with elongated resilient end portions initially extending outwardly of the opposed sides and in the plane of said portion, said elongated end portions being folded to curve rearwardly and thence turn inwardly to provide portions disposed toward each other and lying rearwardly of and in spaced relation to said device and by reason of their inherent resiliency functioning as yieldable brow engagement means when the device is in position of use, and flexible ribbon-like means secured to the opposed sides of one of said portions and having portions free to extend about the head of the wearer to hold the device thereon in position of use.

16. An eye protection device of the character described comprising a supporting portion of resilient material having a transparent eye shielding portion depending therefrom, one of said portions being formed with elongated resilient end portions initially extending outwardly of the opposed sides and in the plane of said portion, said elongated end portions being folded to curve rearwardly and thence turn inwardly to provide portions disposed toward each other and lying rearwardly of and in spaced relation to said device and by reason of their inherent resiliency functioning as yieldable brow engagement means when the device is in position of use, said supporting portion having a plurality of slots and flexible ribbon-like means threaded through said slots and having portions free to extend about the head of the wearer to hold the device thereon in position of use.

17. An eye protection device of the character described comprising a supporting portion of resilient material having a transparent eye shielding portion depending therefrom, one of said portions being formed with elongated resilient end

portions initially extending outwardly of the opposed sides and in the plane of said portion, said elongated end portions being folded to curve rearwardly and thence turn inwardly to provide portions disposed toward each other and lying rearwardly of and in spaced relation to said device and by reason of their inherent resiliency functioning as yieldable brow engagement means when the device is in position of use, and a head-band secured to one of said portions of the device for securing the eye shielding portion in position before the eyes of the wearer.

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