

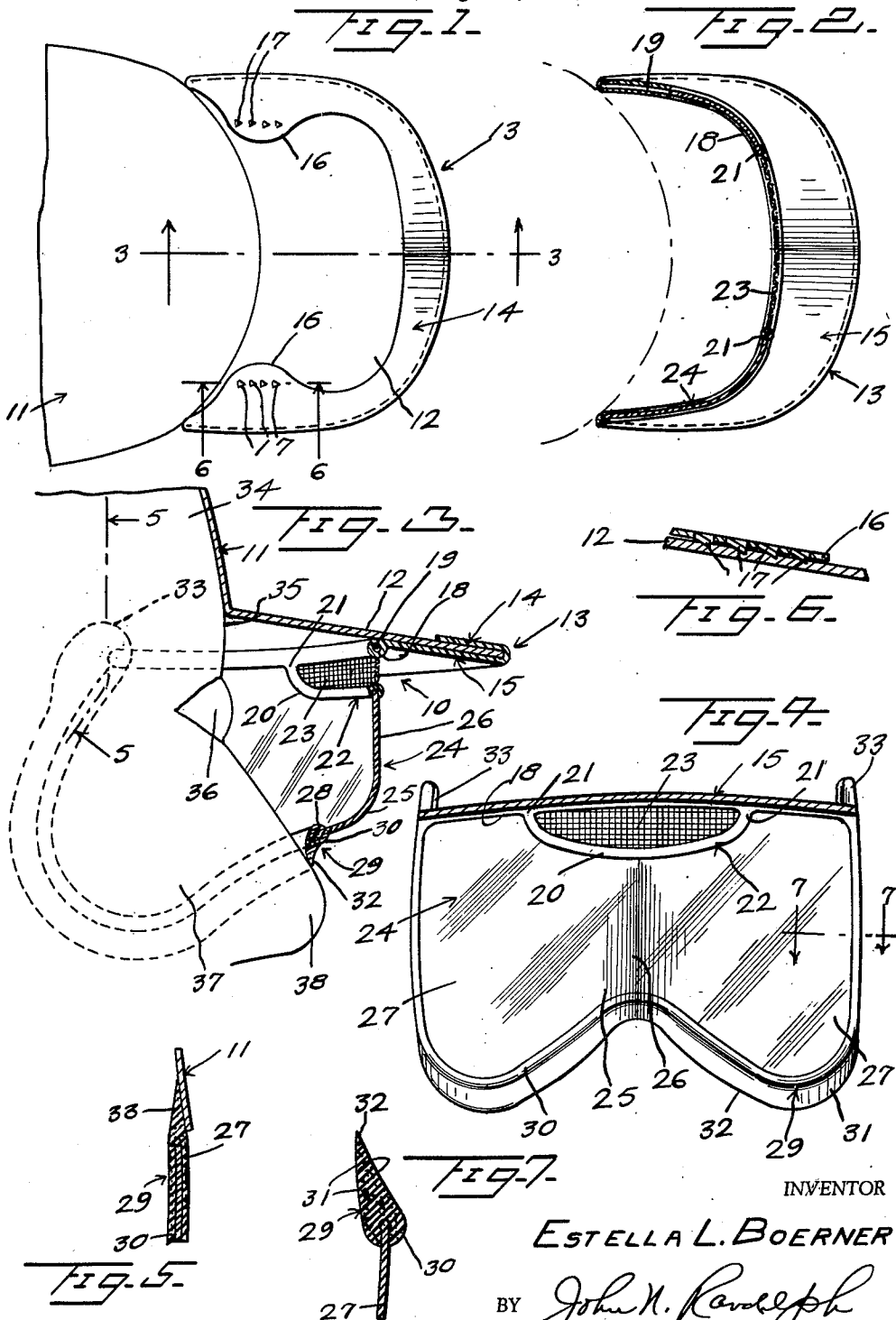
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E. L. BOERNER

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EYE SHIELD

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INVENTOR

ESTELLA L. BOERNER

BY

John N. Ranselph
ATTORNEY

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EYE SHIELD

Estella L. Boerner, Winner, S. Dak.

(2716 N. Circle Drive, Colorado Springs, Colo.)

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1 Claim. (Cl. 2—10)

This invention relates to a novel eye shield primarily adapted to protect the eyes from dust and other foreign particles such as chaff, and which is especially adapted to be worn by workers while harvesting various crops.

More particularly, it is an aim of the present invention to provide an eye shield which is adapted to be supported by a cap brim or visor and which is so constructed that it will cooperate with the cap brim to protect the eyes from dust, chaff and other foreign particles which might otherwise enter the eyes directly or be carried into the eyes by perspiration from the forehead.

Another object of the invention is to provide a shield which is so constructed that it will not obstruct the vision of the user in any direction and which can be conveniently utilized by persons wearing eyeglasses.

A further object of the invention is to provide an eye shield having means forming a seal between the shield and the face and wherein the shield and sealing means are capable of flexing to conform to the contour of the face.

Various other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawing, illustrating a presently preferred embodiment thereof, and wherein:

FIGURE 1 is a fragmentary top plan view of the forward portion of a conventional cap, showing an upper part of the eye shield frame applied to the cap brim or visor;

FIGURE 2 is a bottom plan view, partly in section, of the upper portion of the eye shield;

FIGURE 3 is a vertical sectional view, on a somewhat enlarged scale, taken substantially along a plane as indicated by the line 3—3 of FIGURE 1, and showing the eye shield in an applied position;

FIGURE 4 is a somewhat enlarged fragmentary front elevational view, partly in vertical section, of the eye shield;

FIGURE 5 is a fragmentary sectional view, taken substantially along the line 5—5 of FIGURE 3;

FIGURE 6 is an enlarged fragmentary sectional view, taken substantially along a plane as indicated by the line 6—6 of FIGURE 1, and

FIGURE 7 is an enlarged fragmentary horizontal sectional view, taken substantially along a plane as indicated by the line 7—7 of FIGURE 4.

Referring more specifically to the drawing, the eye shield in its entirety and comprising the invention, is designated generally 10. For the purpose of illustrating the application and use of the eye shield 10, a portion of a conventional cap 11 has been shown including the cap brim or visor 12.

The eye shield 10 includes a frame, designated generally 13, of a shape in outline substantially corresponding to the shape of the marginal edge of the visor 12. The frame 13 is of inwardly opening channel shape cross section, as seen in FIGURE 3, including a top wall, designated generally 14, and a bottom wall, designated generally 15, which walls are disposed in spaced apart substantially parallel relation to one another, as seen in FIGURE 3, to receive the marginal portion of the cap visor 12 therebetween. The intermediate portion of the bottom wall 15 is substantially wider than the intermediate portion of the top wall 14, and said bottom wall 15 tapers in width toward the two ends thereof, as seen in FIGURE 2. The top wall 14 is relatively narrow except ad-

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jacent the ends thereof, where said top wall is provided with widened end portions 16, each of which is provided with a series of struck-out prongs forming a row of teeth 17 which project obliquely from the wall portions 16 toward the bottom wall 15 and in a direction away from the ends of the frame 13 and toward the intermediate or forward portion of the frame. Accordingly, when the frame 13 is engaged with the cap visor 12 by being slid rearwardly of the cap visor or by the cap visor being slid forwardly into the inwardly opening channel of the frame 13, the teeth 17 will not obstruct such movement for attaching the frame to the cap visor; however, as seen in FIGURE 6, the teeth 17 will penetrate the upper surface of the cap visor 12 to resist sliding movement of the frame 13 forwardly relative to the cap visor and toward a disengaged position.

The frame 13 is preferably formed of plastic which is relatively stiff. The inner edge of the bottom wall 15, which includes a rounded intermediate or front portion and rearwardly curved end portions, is thickened to form a tubular portion 18 through which a reinforcing wire 19 extends, as seen in FIGURE 3. A thickened elongated portion 20 is disposed beneath the intermediate part of the tubular portion 18 and has upwardly curved end portions the terminals of which merge with the tubular portion 18 at the points 21 on opposite sides of and equally spaced from the center of the frame 13. The portion 20 and the part of the tubular portion 18, disposed between said merging points 21, form an elongated narrow frame 22 the opening of which is closed by a screen 23 of a fine mesh, which may be formed of silk or nylon and of a gauge substantially corresponding to the gauge of nylon or silk hose.

The upper edge of a transparent shield member 24 is molded or otherwise anchored in the frame portion 20 and the end portions of the tubular member 18, which are disposed beyond the ends of the frame 22. The shield member 24 can be formed of any suitable plastic material which is capable of flexing but which is relatively stiff and will normally maintain its shape. The shield member 24 is molded so that it is substantially straight in vertical section or crosswise of its longitudinal axis, as seen in FIGURE 3, from its upper edge to near its lower edge, so that the part of the shield disposed at approximately the eye level of the user will be disposed substantially in a vertical plane perpendicular to the axis of the eyes or to the line of vision, to reduce distortion of vision to a minimum. The shield member 24 has an inwardly or rearwardly curved bottom and rear edge portion 25, extending substantially around the bottom and rear edge thereof, including substantially all of the marginal edge portion of said shield member except the upper edge thereof which is anchored to the parts 18 and 20.

As seen in FIGURE 4, the ends of the shield member 24 are substantially wider than the intermediate or front portion 26 of said shield member, and said end portions or wings 27 extend substantially below the level of the front portion 26. The bottom edge of the narrow front portion 26 defines a rounded notch 28, which is adapted to fit over the nose of the wearer, as will hereinafter be described.

A sealing gasket, designated generally 29, is secured to the bottom and rear edge of the shield member 24, or to all of the marginal edge of said shield member, except the upper edge thereof which is anchored to and supported by the parts 18 and 20. The sealing gasket 29 is preferably formed of sponge rubber or other similar soft and pliant material and has a thick rounded inner edge 30, as best seen in FIGURE 7, in which the marginal edge of the shield member 24 is anchored. The opposite sides 31 of the sealing gasket 29 converge relative to one another from the thickened inner portion 30

and merge with one another to form a feather edge 32, constituting the outer free edge of the gasket 29. The width of the portion of the gasket 29, between its inner thickened edge 30 and its outer feather edge 32, varies. The width of the gasket 29 at the front of the shield member 24 or the part thereof which is secured to the notched bottom edge 28 is substantially less than the width of the remainder of the gasket 29, as seen in FIGURES 3 and 4. The gasket 29 is provided with flattened extensions at the ends thereof forming tabs 33 which extend upwardly from beyond the ends of the bottom frame wall 15 and which are relatively wide and thin to fit against the inner side of portions of the bottom edge of the cap 11, which are located adjacent and immediately beyond the side edges of the cap visor 12.

With the shield 10 applied to the cap visor 12, the cap 11 is applied in a conventional manner to the head 34 of the wearer so that the cap visor 12 will project outwardly or forwardly from the forehead 35, as seen in FIGURE 3. The shield member 24 will extend downwardly in front of and around the eyes 36 and will be spaced outwardly a substantial distance therefrom, so as not to interfere with the wearing of glasses, and to provide a relatively large air chamber between said shield member 24 and the part of the face 37 of the wearer, around which the shield member is disposed. Air can pass to and from this chamber through the ventilating screen 23. The flexible outer edge portion 32 of the sealing gasket 29 will be flexed outwardly by contact across the nose 38 and along the sides of the face, beneath and behind the cheek bones, so that an inner one of the sides 31 of the gasket 29 will lay relatively flat across the nose and along the sides of the face and will flex to conformably engage against the nose and face. The tabs 33 will be disposed between the temples and portions of the bottom edge or sweatband area of the cap 11. Thus, said sealing gasket 29 will cooperate with the cap visor 12 and the frame parts 18 and 20 and the shield member 24 to completely enclose and shield the

eyes from dust and foreign particles, which will be prevented from passing through the ventilator screen 23. Thus, any perspiration from the forehead 35 cannot carry dust, chaff and foreign particles into the eyes 36.

5 The transparent shield member 24 may be colored to minimize glare, if desired, and various other modifications and changes are contemplated and may be resorted to, without departing from the function or scope of the invention as hereinafter defined by the appended claim.

10 I claim as my invention:

In combination with a cap having a visor, an eye shield comprising a frame of channel shape cross section in which the marginal portion of the visor is detachably mounted for supporting the eye shield on the visor, said frame including a bottom wall disposed against the underside of the visor and of a length to extend to substantially the ends of the marginal edge of the visor, a transparent shield member secured to and extending downwardly from said bottom wall and of a length to extend substantially from end-to-end thereof, said shield member being curved to extend across the front of the face and along the sides of the face, a gasket member secured to the bottom and end portions of said shield member and supported thereby to bear against the nose and sides of the face and cooperating with said shield member and the cap visor to provide a sealed chamber for the eyes, and said gasket member having end portions forming tabs extending upwardly from the ends of the shield member and frame and adapted to engage under portions of the cap located adjacent the ends of the marginal edge of the cap visor.

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