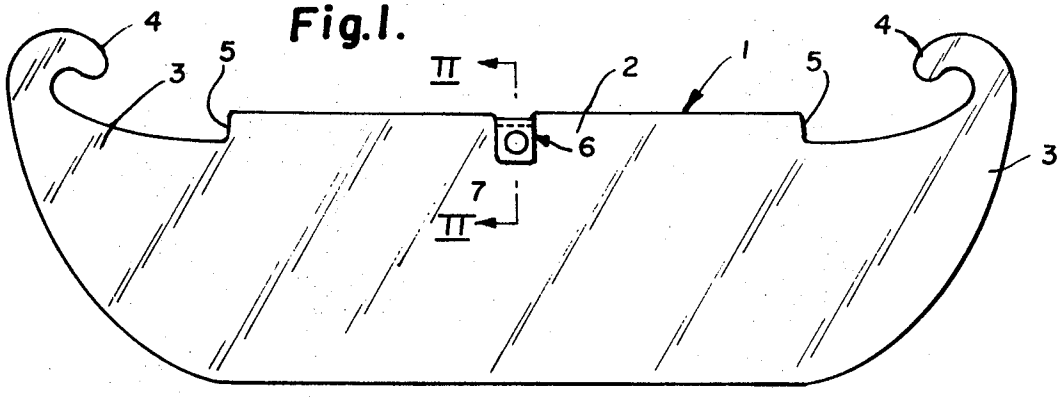
Sept. 20, 1971 W. R. BOHNER 3,605,115

SHIELD

Filed Sept. 10, 1969

Fig. 1.



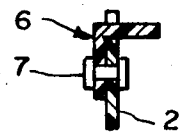
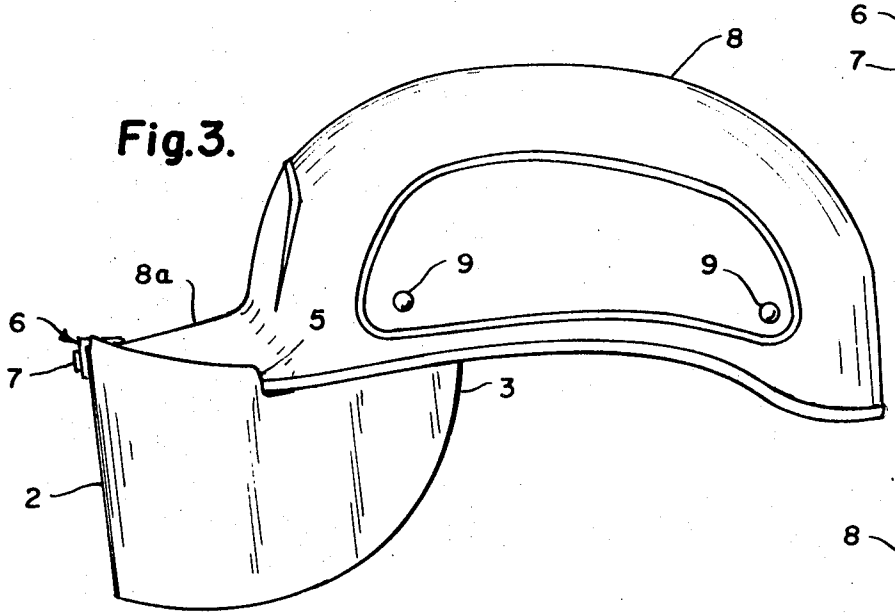


Fig. 2.

Fig. 3.



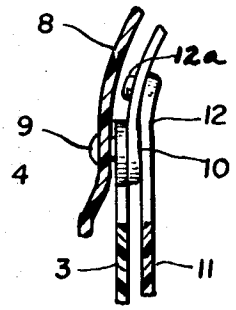
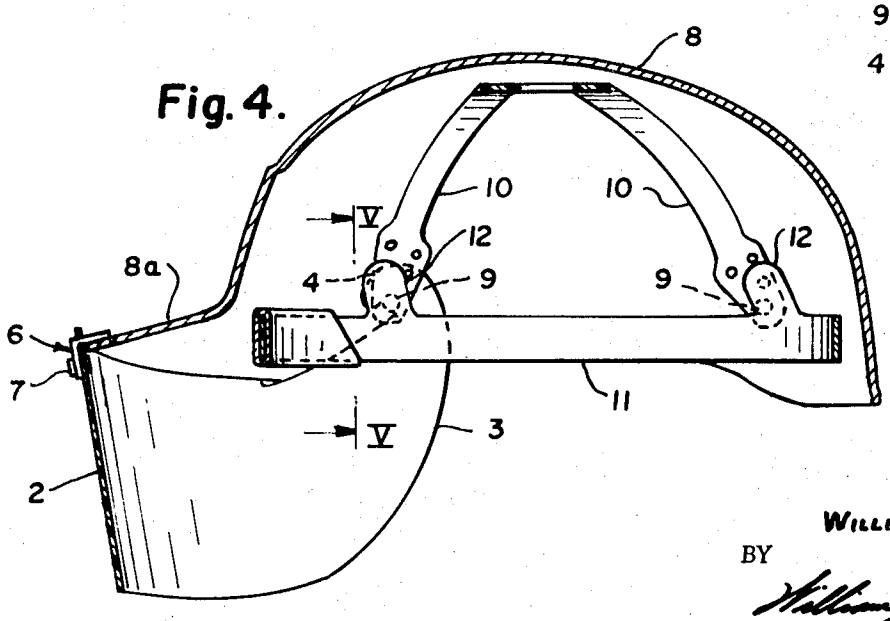


Fig. 5.

Fig. 4.



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SHIELD

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Int. Cl. A61f 9/04
U.S. Cl. 2—10 4 Claims

ABSTRACT OF THE DISCLOSURE

A transparent plastic shield for protecting the eyes or face of the wearer and having hook shaped ends which are detachably secured to the anchors for a headband suspension in a safety cap. The shield has a cut-out portion along the top of the side portions and a central stop element which is held on the top of the brim portion of the cap.

This invention relates generally, to a safety cap for protecting the wearer against industrial hazards and, more particularly, relates to an eye shield which is detachably secured to the cap in a manner to assure a rigid and reliable mounting.

In the past, eye shields have been provided for safety hats and caps, which shields have generally been mounted on the brim portion thereof. These have not been entirely satisfactory since relatively complicated fastening means have been required for mounting the shield on the hat or cap and which have involved difficulty and consumed considerable time for attaching and detaching the shield.

An object of the present invention is to overcome the above-named disadvantages of well-known shield mountings by providing an eye shield of such construction that it may be easily and quickly attached to or detached from a safety cap.

Another object of the present invention is to provide an eye shield of relatively simple and inexpensive construction.

Other objects and advantages will become more apparent from a study of the following description taken with the accompanying drawing wherein:

FIG. 1 is a front elevational view of an eye shield embodying the principles of the present invention;

FIG. 2 is a cross-sectional view taken along line II—II of FIG. 1;

FIG. 3 is a side view of a safety cap having mounted thereon the shield shown in FIG. 1;

FIG. 4 is a vertical cross-sectional view of the assembly shown in FIG. 3; and,

FIG. 5 is an enlarged, cross-section taken along line V—V of FIG. 4.

Referring more particularly to FIGS. 1 and 2 of the drawing, numeral **1** generally denotes an eye shield of any suitable flexible transparent plastic material, having a top edge portion which is cut-out along the sides thereof beginning at the edge **5** and which has hooked end portions **4**. The front body portion **2** of the eye shield is sufficiently higher to cover the eyes of the wearer and, in some cases, may be increased in height to cover the entire face.

As shown more clearly in FIG. 2, at the center of the top portion there is rigidly mounted, by a rivet or any other suitable fastening means, a flanged stop element generally denoted by numeral **6** which may be of plastic material, as shown, or even of metal. FIGS. 3 and 4 illustrate the manner in which shield **1** is mounted on a safety cap **8** of light weight rigid plastic material, which cap has a front brim portion **8***a*.

As shown more clearly in FIGS. 4 and 5, a headband suspension is mounted in the safety cap, which suspension comprises an integral crown strap having radiating arms

10 of soft plastic material, such as polyethylene and terminating in perforated end portions onto which the upwardly projecting portions **12** of a palstic headband **11** of the same or similar material may be attached by integral beads or collar buttons **12***a* which are selectively inserted through holes of different height to adjust the headband to the wearer's head size.

On each side of the safety cap there projects studs or anchors for the suspension comprising deformable plastic beads or collar buttons **9** integrally formed at the ends of straps or arms **10** which project through the inwardly recessed side panels of the cap (see FIG. 3).

FIG. 5 is an enlarged, cross-section through the front anchor for the suspension showing how the hooked end portion **4** of the shield **1** is hooked onto the shank of the plastic button or rivet **9** so as to form a firm point of suspension, which portion **4** is wedged between strap **10** and safety cap **8**. Since button **9** is of yieldable plastic material, it may be forced through holes in the sides of cap **8** and swaged in place.

In operation, the eye shield **1** is mounted on the safety cap by first hooking one end portion **4** onto the shank of button **9**, as illustrated in FIG. 5, and by thereafter resting the flanged stop element **6** on top of the center of brim portion **8***a*, as shown in FIG. 4, and by finally hooking the other end portion **4** in the same manner as shown in FIG. 5, but on the opposite side of the safety cap. Thus the front portion **2** of the shield will be on the outside of the brim while the side portions **3** will be flexed inwardly so as to be located on the inside of the cap, starting at edge **5**, as shown more clearly in FIG. 3.

To remove the eye shield, it is necessary merely to unhook the hooked end portions **4** from the anchors **9** after which the eye shield may be pushed away from the front of the cap.

It will be noted that the friction between end portions **4** and the strap **10** and inside surface of the cap, particularly in view of the wedging relationship therewith will tend to keep the hooked end portions in place.

Thus it will be seen that I have provided a highly efficient and relatively simple and inexpensive eye shield which is easily and quickly attachable on a safety cap and detachable therefrom; furthermore, I have provided an eye shield construction which assures a rigid and reliable mounting at all times in spite of abrupt movements of the cap by the wearer; furthermore, I have provided a novel shield which is useful either as an eye shield or a face shield for protecting the wearer.

While I have illustrated and described a single specific embodiment of my invention, it will be understood that this is by way of illustration only and that various changes and modifications may be contemplated within the scope of the following claims.

I claim:

1. In combination with a safety headgear including a brim and having a supporting element projecting inwardly from each interior side surface thereof, a shield of transparent, flexible plastic material projecting substantially vertically downwardly from the front edge of said brim for protecting at least the eyes of the wearer, said shield having a stop element projecting substantially at right angles from the top central edge thereof which is supported on the top surface of said brim, the top, central marginal portion of said shield resting against the outside edge of said brim, said shield also having top cut out portions on each side thereof to enable flexing of the side portions of the shield so as to be located underneath the brim surface, whereby said central marginal portion between said top cut out portions extends along a major portion of the front of said brim, said shield terminating at each end with a hook portion which is hooked onto and supported by said supporting elements.

2. The combination recited in claim 1 wherein said headgear is a safety cap.

3. The combination recited in claim 1 together with a headband suspension having a suspending portion mounted on each of said supporting elements and wherein each of said hook portions is wedged between the interior surface of said headgear and said suspending portion so as to be frictionally held in place.

4. The combination recited in claim 3 wherein said headgear is a safety cap.

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