

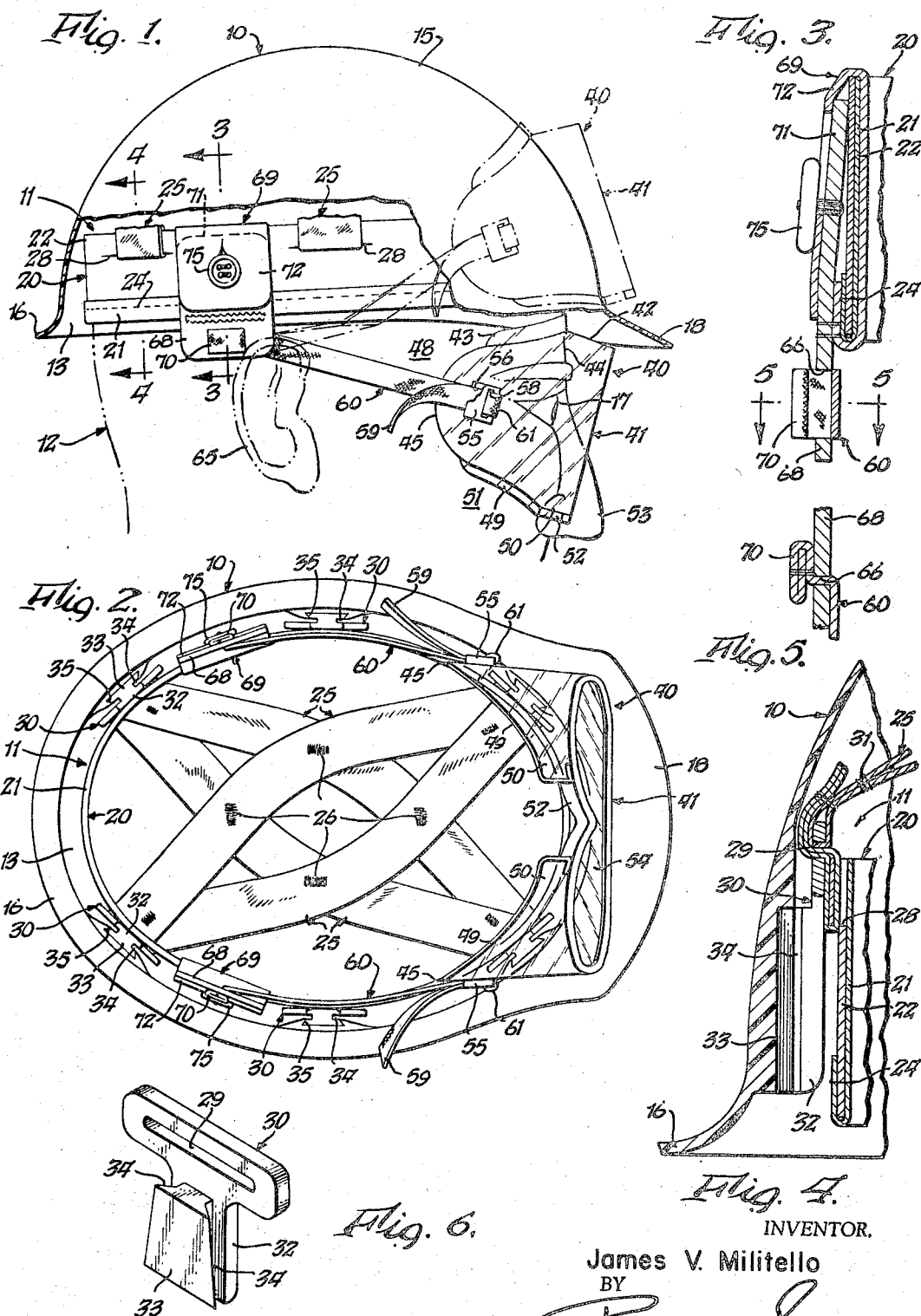
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SAFETY ATTACHMENT FOR HARD HEADGEAR

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1

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SAFETY ATTACHMENT FOR HARD HEADGEAR
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4 Claims. (Cl. 2—10)

This invention relates to a safety goggle attachment for hard hats or caps comprising a hard shell in the form of an oval dome having a forwardly projecting visor and supported on a headband by means of a flexible harness which yieldingly holds the hard shell in spaced relation to the user's head, so that accidental blows, as from falling objects, against the hard shell will be cushioned by virtue of the space and resilience provided by the harness to reduce the danger of injury to the user's head.

It is an object of the present invention to provide safety goggles attached to such hard caps or hats so that the goggles cannot be mislaid and are always available for use.

Another object is to provide such an attachment in which the safety goggles firmly fit the user's face and stay in position, the goggles being held in position by generally horizontal pressure along the temples and toward the spaces between the top of the user's external ears and his head, in the manner of the temples of conventional eyeglasses, so that there is no tendency for the goggles to work up or down the user's face to his discomfort and annoyance. This is achieved by the use of stretchable straps attached to opposite sides of the goggle frame, and at their rear ends to the headband of the hard cap or hat in positions generally above the inner part of the external ears of the user. Preferably also tabs are provided which project down from the headband and serve to attach the rear ends of these stretchable elastic straps at a still lower elevation.

Another aim is to provide such goggle attachment which can be quickly and comfortably moved from operative to inoperative position and vice versa, the inoperative position being against the front of the hard hat or cap shell.

Another object is to provide such an attachment which is inexpensive to produce and at the same time is fully adjustable to fit different users and is of rugged and durable construction.

In the accompanying drawings, FIG. 1 is a side elevation of a hard cap equipped with safety goggles in accordance with the present invention, the goggles being shown in full lines in their operative position and in broken lines in their inoperative position. FIG. 2 is a bottom view of the hard cap and goggles as illustrated in full lines, FIG. 1. FIGS. 3 and 4 are enlarged fragmentary vertical sections taken on the correspondingly numbered lines on FIG. 1. FIG. 5 is a fragmentary horizontal section taken on line 5—5, FIG. 3. FIG. 6 is a perspective view of one of the four wedge-shaped anchoring members attaching the harness to the inside of the hard shell at widely spaced points.

The safety goggle attachment of the present invention is adapted for use with conventional hard headgear comprising a shell 10 supported by means of a harness 11 on the head 12 of a workman or other user so as to provide a protective space 13 of substantial extent between the shell and the user's head. The shell 10 can be made of fiberglass reinforced plastic and shown as comprising an oval dome or crown 15 having an integral rim 16 which forms a rounding continuation of the bottom of the dome 15 and projects horizontally outwardly therefrom. The headgear is illustrated as being in the form of a hard cap having, for the protection of the eyes 17 and face of the user, a forward extension 18 of the front part of the rim

2

16 which provides an integral visor projecting outwardly from the dome a substantially greater distance than the side and back parts from the rim. While a hard cap is illustrated, it will be seen that the invention is applicable to hard hats, that is, headgear as illustrated but without the visor 18.

The harness 11 can be of many forms, a conventional harness being illustrated. This harness can be of leather, webbing or other flexible material but is shown as comprising a circular or oval headband 20 comprising an inner lamina 21 of soft flexible non-absorptive resilient material which is comfortable in contact with the forehead of the user and an outer lamina 22 which is of stronger organic plastic material to provide the strength necessary for supporting the hard shell 10, particularly when the latter is struck a severe blow as from a falling object, it being the primary purpose of the harness 11 to cushion a blow and prevent serious injury to the head of the user. The inner and outer laminas 21, 22 of the headband can be united by turning the lower edge of the inner lamina 21 around the lower edge of the outer lamina 22 and uniting the three layers so formed by a line of stitching 24.

This headband 20, which generally is adjustable as to length in a manner not shown is secured to the shell 10 by four crossed straps or webs 25 made of woven cloth webbing or the like, the central parts of these cross straps being spaced apart and joined by stitching 26 at their cross-overs to form an openwork supporting crown which rests comfortably on the top of the user's head. The end of each strap 25 passes through one of four horizontal slots 28 in the tough or strong outer lamina 22 of the headband 20, two strap ends passing through each of these slots, which are uniformly spaced at opposite sides of the shell, two at opposite ends of the visor 18, and two directly behind the front two slots at the rear of the headband.

The pair of strap ends through each slot 28 also extend through slots 29 in organic plastic anchor members 30 which serve to detachably secure the strap ends, and hence the entire harness, to the interior of the shell 10. To this end, after each pair of strap ends is passed through their slot 29, the end is folded back on the body of the strap and secured thereto by stitching 31. Each plastic anchoring member comprises a body 32 having an inverted wedge-shaped or keystone-shaped extension 33 providing opposite upwardly converging undercut grooves 34. The shell 10 is internally formed to provide complementary opposing upwardly converging undercut grooves 35 which receive and key into the grooves 34 of the companion anchor member 30 when the latter is fitted upwardly in this pair of opposing grooves 35 in the shell 10.

The goggles 40 can be of any conventional form but are shown as comprising a transparent organic plastic frame 41 in the form of a shield having top wall 42 with its rear edge 43 shaped to fit comfortably the forehead 44 of the user and merging into the rear edges 45 of side walls 46 fitting the temples 48 of the user. These rear edges 45 merge into the rear edges 49 of bottom walls 50 which fit the cheeks 51 of the user and their bottom walls 50 are connected together by a nosepiece 52 which fits the nose 53 of the user. The shield or frame 41 of the goggles support a large transparent flat front wall 54, which can be integral with the frame, in front of the eyes 17 of the user.

Each side wall 46 of the goggle frame has an integral external square boss 55 provided with a fore-and-aft through slot 56 and a side slot 58 adapted to receive the forward end 59 of an extensible elastic strap 60, this forward end being threaded through the through slot 56 and then back through the side slot 58 so as to provide

a loop 61 the sides of which are in contact with each other to maintain any setting to which the strap has been pulled. This provides adjustment of the effective length of the strap.

Each extensible elastic strap 60 extends rearwardly along the corresponding temple 48 of the user and connects at its rear end with the corresponding side of the headband 20 above the inner part of the external ear or pinna 65 of the user. To this end each strip 60 passes through a vertical slot 66 in a tab 68 depending from a body 69. After being passed through the slot 66, the rear end of each extensible elastic strap 60 can be folded on itself, as indicated at 70, and stitched so as to provide a head or enlargement which cannot be pulled out through the slot 66. The body 69 can include a stiff piece 71 of leather forming an upward continuation of each tab 68 and to one side of this body can be secured a flexible cover 72 which is folded over the top and other side of the stiff piece 71 of leather or the like to form a closed flat upright loop embracing the corresponding side of the headband 20. The forward ends of the straps 25, passing through the horizontal slots 28 in the headband 20 limit the forward movement of the closed flat upright loops or bodies 69. The free end of each flexible cover 72 can be secured to the stiff body part 71 of its tab 68 by means of a button 75, snap fastener or equivalent releasable fastener.

From the foregoing it will be seen that by virtue of the connection of the strap extensible elastic straps 60 to the sides of the headband 20 in a position generally above the inner parts of the external ears 65 of the user, the goggle frame 41 is held securely and comfortably in backward pressure contact with the face of the user in the same manner as with spectacles, without any annoying tendency to work up or down. Further, when the user desires to render the goggles inoperative, all he need do is to pull the goggles forwardly, stretching the stretchable elastic bands 60, sufficiently far to clear the visor 18 so that upon moving the goggles above the visor and releasing them, the stretchable elastic straps will draw the goggles back to a parked position against the front of the hard hat or cap.

I claim:

1. In safety headgear having a hard shell comprising an oval dome with a visor projecting horizontally forwardly from the lower rim of the oval dome, a horizontal oval headband arranged inwardly from said rim and

adapted to fit the forehead, sides and back of the user's head, and flexible harness means connecting said hard shell with said headband and adapted to provide a space between all parts of said oval dome and the crown of the user's head to protect the user's head from accidental blows against the hard shell; the combination therewith of safety goggles, comprising a goggle frame adapted to fit the user's face around the eyes, protective transparent wall means carried by said goggle frame in front of the user's eyes, and means securing said goggle frame for pressure fitting relation to the user's face, comprising a pair of extensible elastic straps, means securing the forward end of each of said straps to the corresponding side of said goggle frame in horizontal alignment with each other, and means securing the rear end of each of said straps to the corresponding side of said headband in a position generally above the inner part of the external ear of the user, said straps being stretchable to permit said goggle frame to be moved upwardly past said visor so that upon thereafter being released the goggle frame will be drawn to in an inoperative position on said visor by said stretchable elastic straps.

2. The combination set forth in claim 1 wherein one of said securing means of each strap is adjustable to permit adjustment of the effective length of each strap.

3. The combination set forth in claim 1 wherein said means securing the rear end of each of said straps to the corresponding side of said headband comprises a body carried by each said corresponding side of said headband and having a tab projecting downwardly below the headband and means securing the rear end of each of said bands to the corresponding tab.

4. The combination set forth in claim 3 wherein said body is in the form of a closed flat upright loop embracing said corresponding side of said headband.

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HERBERT F. ROSS, *Primary Examiner*.

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,373,444

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It is certified that error appears in the above identified patent and that said Letters Patent are hereby corrected as shown below:

Column 1, line 65, before "shown" insert -- is --. Column 4 line 31, "bands" should read -- straps --.

Signed and sealed this 18th day of November 1969.

(SEAL)

Attest:

Edward M. Fletcher, Jr.

Attesting Officer

WILLIAM E. SCHUYLER, JR.

Commissioner of Patents