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C. K. KELLEY

2,301,050

GOGGLE

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Fig. 2.

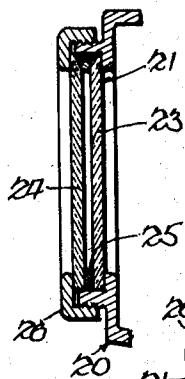


Fig. 1.

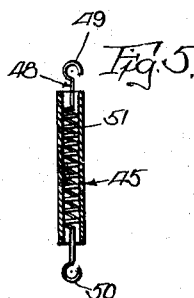
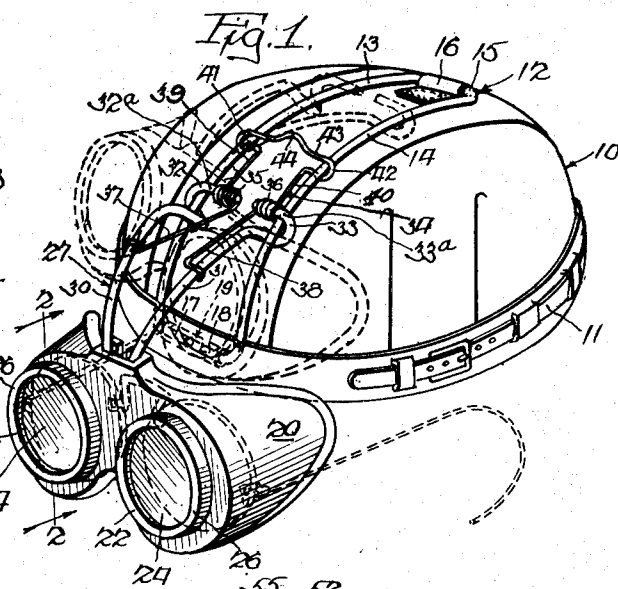


Fig. 6.

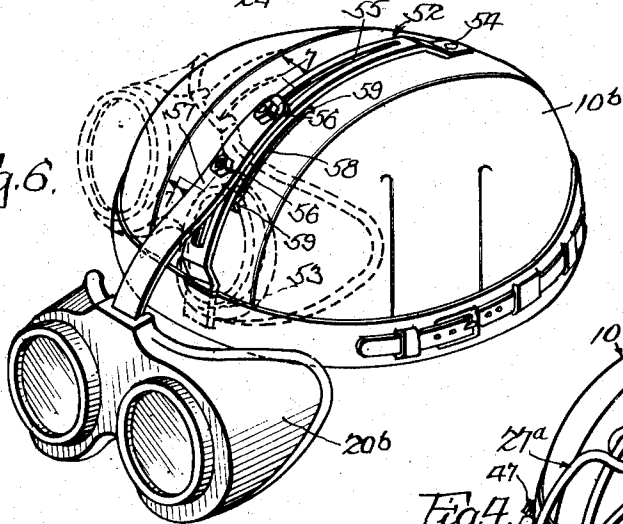


Fig. 7.

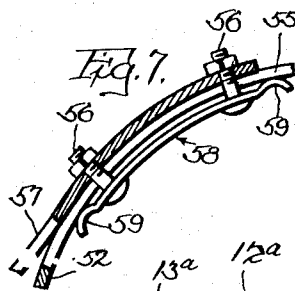


Fig. 4.

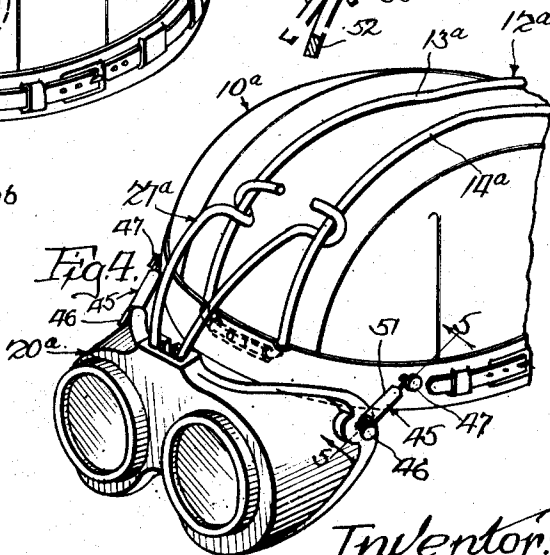
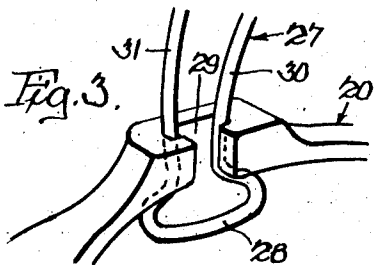


Fig. 3.



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UNITED STATES PATENT OFFICE

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GOGGLE

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7 Claims. (Cl. 2-14)

The present invention relates to improvements in goggles, and is more particularly directed to a supporting and guiding means for the goggle.

In the use of goggles by mechanics, such as welders, grinders, buffers, etc., it is often necessary that the goggle be removed in order that the work be checked between operations, and it is very important that the goggles be arranged for easy movement so as to be quickly and properly removed and replaced with the least amount of effort and operable with one hand.

Heretofore, devices and apparatus of various kinds for supporting goggles have been proposed, and each of these included some sort of link means for guiding the goggle into and out of position over the wearer's eyes. The head gear to which the goggle was connected had to be properly set on the wearer's head in order to permit the proper positioning of the goggle to the wearer's eyes, and, further, when the goggle was moved out of position, the link means supported the goggle in raised position over the head and a catch was employed to hold the goggle in and out of position.

Due to the link means employed, the goggle had to be gripped with both hands to insure a uniform movement, otherwise a canting or twisting action would occur.

It is an object of the present invention to overcome the above pointed-out objections, and to provide an assembly of headgear or cap with supporting and guiding means for the goggle, which is simple, strong and durable in construction, inexpensive, and which, when placed on the wearer's head, the goggle may be moved in or out of wearing position without regard to the exact position of the headgear or cap.

Another object is the provision of a goggle having supporting and guiding means which will permit of free movement of the goggle to a position to suit the wearer, and which supporting and guiding means affords frictional and tensioning strain for retaining the goggle in its adjusted position while permitting of a resiliency thereto, so that the goggle will yield in conformity with the movements of the wearer while remaining in position.

A further object is the provision of a goggle assembly having supporting and guiding means whereby the goggle may be slidably moved substantially parallel with the guide and retained above the wearer's eyes, and which may be quickly and easily moved into position for proper adjustment to the wearer.

Further, the supporting means for the goggle is

arranged to permit of a free outward movement of the goggle so that it may be positioned over the wearer's spectacles, and removed without interfering with the spectacles.

Other objects and advantages will become apparent from the ensuing description and claims. Referring to the drawing:

Figure 1 is a perspective view of my invention.

Figure 2 is an enlarged detail cross-sectional view taken substantially on the line 2-2 of Figure 1.

Figure 3 is an enlarged partial detail perspective view of the supporting means as secured to the goggle.

Figure 4 is a partial detail perspective view similar to Figure 1 showing a modified form of spring tensioning means.

Figure 5 is an enlarged detail sectional view of the spring tensioning means of Figure 4.

Figure 6 is a detail perspective view of a modified form of supporting and guiding means; and

Figure 7 is an enlarged detail sectional view taken substantially on the line 1-1 of Figure 6.

The reference numeral 10 designates a headgear which is preferably in the form of a visorless cap of relatively light weight and which cap is provided with an adjustable strap 11 for varying the head size, and the cap is also suitably reinforced to receive a guiding means 12 which is permanently secured thereto. The guiding means 12 comprises a U-shaped wire structure which is preferably arced to conform with the cap and to form guide rails 13-14 and with the cross portion 15 of the U directed toward the rear and secured to the cap by means of a strap 16. The forward portion of the rails 13-14 are formed inwardly with their ends in aligned spaced relation at 17-18, and retained by means of a sleeve 19 which is secured to the forward end of the headgear or cap 10.

The goggle 20 which is preferably moulded of one piece and provided with openings 21-22 therein into each of which openings is received a colored lens 23 and a clear glass lens 24. The lenses 23 and 24 are preferably retained in spaced relation by an annular washer 25 and secured to the goggle by means of a threaded ring 26.

A supporting means 27 is attached to the goggle 20 in any suitable manner, the same is illustrated as attached to form a frictional grip to the goggle whereby it may be easily and readily moved, (Figure 3). The supporting means is preferably constructed of a wire formed into a U, and providing a head portion 28 which fits into a bifurcated slot 29 of the goggle. The two legs 30-31

of the supporting means 27 are arced slightly and each free end is formed into an inwardly directed U 32—33 adapted to receive the rails 13—14, respectively, of the guiding means 12. These U formations of the supporting means 27 provide opposed U-shaped portions which not only serve to straddle the guide rails 13—14 when in position, but are also formed to offer a certain amount of friction against the guide rails to frictionally retain the support in adjusted positions on the rails. The rails 13—14 are also permitted to yield sidewise by reason of the ends 17—18 thereof loosely fitting in the sleeve 19.

In order to provide a tension to the goggle to insure its contact with the face of the wearer, a spring 34 is employed. This spring guide means consists of a pair of coils 35—36 which surround the inwardly directed free end portions 32a—33a of the U formations 32—33, and the free ends 37—38 of each of these spring coils extend forwardly and overlie the legs 30 and 31 of the supporting means. The other ends 39—40 of the spring coils 35—36 extend rearwardly and are formed to provide oppositely disposed U-shaped portions 41—42 which are arranged to receive the rails 13 and 14 of the guiding means 12 and these U-shaped portions 41—42 are connected by means of a tie portion 43 which secures the ends of the spring together. The tie portion 43 is provided with a formed portion 44 to permit of a yield thereto so as to frictionally retain the spring guide means 34 in sliding position on the guide rails 13—14. The tie portion 43 of the spring guide means 34 also permits sufficient resiliency so that the normal outward tension of the guide rails will be exerted against the U-formations of the supporting means 27.

The goggle 20 is of sufficient size so as to also fit over a pair of spectacles, should they be worn by the user, and during the movements of the goggle into and out of usable position, they will easily and readily fit over the spectacles without interfering with the same.

Referring now more particularly to Figs. 4 and 5, the guiding means 12a and the supporting means 27a are similar to those shown in Figure 1, with the guide rails 13a—14a arced substantially parallel with the cap 10a, but with the extreme forward ends of the rails spread apart to provide greater width between them than between the rearward ends of the rails.

The difference of the space between the forward and rearward ends of the rails affords an increased frictional tension to the movement of the supporting means 27a as it is drawn forwardly and downwardly and a lesser frictional resistance as the supporting means is moved rearwardly. This feature provides for increased frictional resistance to the supporting means when the goggle 20a is in usable position and assists in placing the goggle out of usable position.

In order to firmly retain the goggle in usable position and to provide a resilient tension thereof against the user's face, a pair of yieldable members 45—45 are provided and are arranged to be attached to each side of the goggle at 46—46 and to each side of the cap 10a at 47—47. These yieldable members 45 each comprise a tension spring 48 which is provided with an eyelet 49—50 at its respective ends and has a sleeve 51 which surrounds the body of the spring 48.

With this construction of yieldable member 45, the goggle 20a may be moved in or out of usable position and the sleeve 51 of the yieldable mem-

bers will prevent the accidental rubbing and catching of the spring 48 in the user's hair.

Referring now to Figs. 6 and 7, a modified form of guiding means and supporting means for the goggle is illustrated, in which the guiding means 52 is of strap material and has one end arranged to be secured to the forward end of the cap 10b at 53 and the other end of the strap material is secured to the rearward end of the cap at 54. The guiding means 52 is provided with a relatively long slot opening 55 through which a pair of bolts 56—56 extend and which bolts are secured to a supporting means 57 which is preferably of flat spring material, and which has its lower free end portion secured to the goggle 20b. The supporting means 57 is slidably arranged on the guiding means 52, and being of spring material, will permit of flexing movement of the goggle 20b into and out of position with the user's eyes, and the slot opening 55 in the guiding means 52 will permit of the free sliding movement of the supporting means 57 with the goggle 20b.

In order to obtain a frictional tension of the supporting means 57 with respect to the guiding means 52, the bolts 56—56 extend through a spring plate 58 which is disposed on the underneath face of the guiding means and is provided with rounded formations 59—59 at each end thereof and outwardly of the bolts 56—56. With this means of spring plate 58, the tension to the sliding friction of the supporting means on the guiding means may be increased or decreased as required by the adjustment of the bolts 56—56.

I contemplate in these improvements all such changes and variations as fall within the scope of the appended claims.

I claim:

1. In combination with a headgear or cap, a guiding means secured to the cap and formed to conform with the contour of the cap, a supporting means carried on said guiding means for sliding and swinging movements from a depending position for use to a raised position, means being provided to yieldably resist movement of said supporting means from one position to the other, and a goggle fixed to said supporting means and movable on the guiding means to adjusted positions.

2. A goggle comprising a guiding means adapted to be secured longitudinally of a headgear or cap and formed to overlie the top thereof, a supporting means arranged to be carried on said guiding means for movements from a depending to a raised position, said supporting means being resiliently and yieldably connected with said guiding means resisting its movements out of adjusted position, and a goggle carried by said supporting means and movable therewith substantially parallel to the guiding means.

3. A goggle comprising a guiding means formed to conform with the top of the head of the wearer and secured to a headgear or cap to extend longitudinally thereof, a supporting means carried for longitudinal movements on said guiding means, yieldable means on said supporting means having connection with said guiding means resisting movements of the supporting means, and a goggle carried by said supporting means and movable therewith on the said guiding means.

4. In combination with a headgear or cap, a guiding means comprising spaced apart rails having their ends secured to the cap and arced to conform with the contour of the cap, a supporting

means carried on the rails of said guiding means for sliding and swinging movements from a depending position for use to a raised position, said spaced apart rails converging to their rearward ends forming tapered guide means whereby the forward movement of said supporting means on said guide rails will be increasingly resisted, and a goggle fixed to said supporting means and movable therewith to adjusted positions.

5. In combination with a headgear or cap, a goggle assembly comprising, a guiding means secured to the cap, a supporting means slidably arranged to move on said guiding means, a goggle fixed for movement with said supporting means, and spring means exerting a tension between said supporting means and guiding means for resiliently holding said goggle against the face of the wearer.

6. In combination with a visorless cap, a goggle assembly comprising, a guiding means having its extreme ends secured to the cap and arced to conform with the contour of the cap, U-shaped sup-

porting means having formations for loosely engaging said guiding means for sliding movements thereon, a goggle fixed for movement with said supporting means, and spring means resisting movement of said supporting means from one position to the other on said guiding means.

7. In combination with a visorless cap, a goggle assembly comprising, a guiding means having its extreme ends secured to the cap and arced to conform with the contour of the cap, said guiding means comprising a wire structure formed to provide spaced-apart rails having their free forward ends formed to be directed toward each other, said rails converging from their forward ends to near their rear ends, a supporting means formed to provide a pair of legs having their free ends each terminating into U-formations arranged to slidably receive said rails, a goggle fixed to said supporting means, and yieldable means fixed to each side of said goggle and said cap.

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