March 19, 1963 F. J. GURTOWSKI 3,081,461

GOGGLES

Filed Dec. 22, 1960

Fig.1.

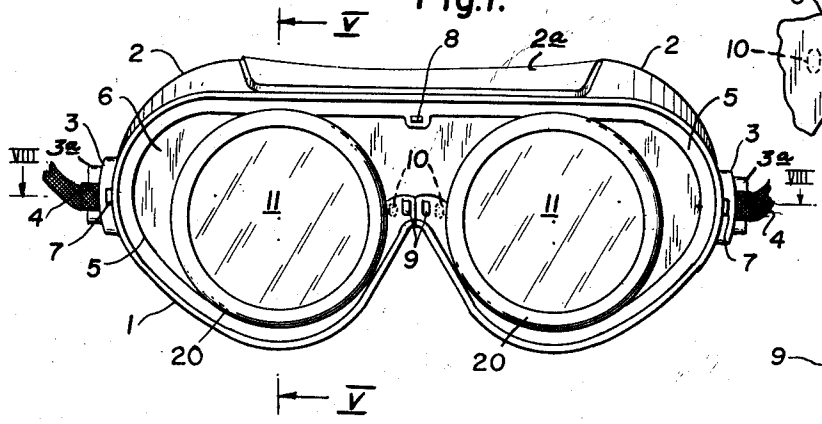


Fig.2.

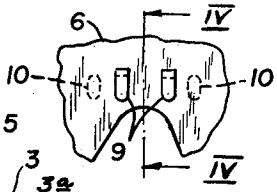


Fig.3.

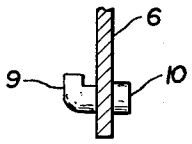


Fig.4.

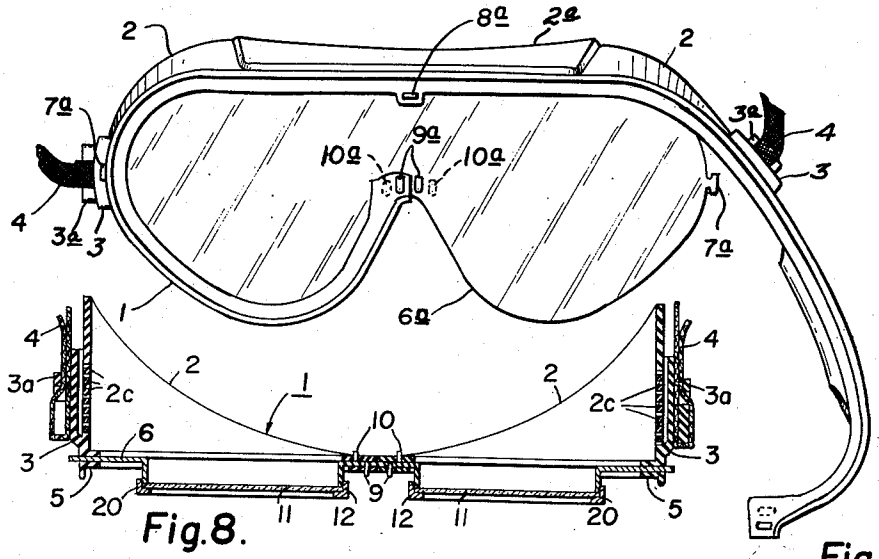


Fig.8.

Fig.7.

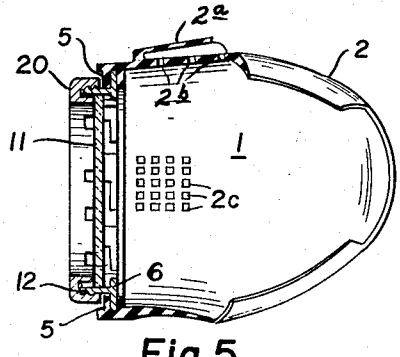


Fig.5

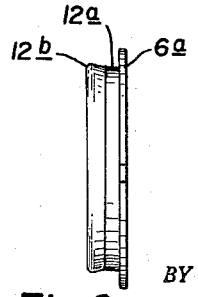
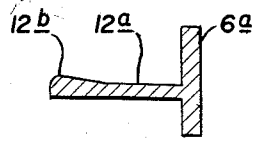


Fig.6.



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3,081,461

GOGGLES

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This invention relates to goggles and, more particularly, to welding goggles for the protection of the eyes against injurious light, but which may be used for other applications for protecting the eyes against injury from dust and flying particles.

An outstanding disadvantage of goggles presently used for welding and other industrial protective applications is that they are somewhat complicated in construction and relatively expensive to manufacture; furthermore they cause discomfort after wearing for a period of time.

An object of my invention is to provide a novel pair of goggles which is devoid of the above named disadvantages and wherein the side shield is of one piece construction, making the goggles relatively inexpensive to manufacture, yet providing extreme comfort in wear; also making it relatively easy to replace the lenses thereof.

A further object of the invention is to provide, in a pair of goggles, a side shield or face piece of very soft plastic material which is extremely flexible and provides an extremely comfortable fit around the eyes, thereby permitting wear for long periods of time without discomfort.

A still further object of my invention is to provide a pair of goggles whose side shield is provided with integral top and side ventilating means and integral side buckles for attaching the headstrap, all as component parts of the one piece shield.

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 view of a pair of goggles embodying the principles of my invention;

FIG. 2 is a front view in modified form of goggles having a one piece lens as distinguished from two separate lenses;

FIG. 3 is an enlarged, fragmentary view showing a front portion of the goggles shown in FIG. 1;

FIG. 4 is a cross-sectional view taken along line IV—IV of FIG. 3;

FIG. 5 is a vertical cross-sectional view taken along line V—V of FIG. 1;

FIG. 6 is a side view of a modified form of snap fastening lens retainer cap means which may be substituted for screw caps **10**;

FIG. 7 is an enlarged, cross-sectional view of the goggle cup shown in FIG. 6; and,

FIG. 8 is a cross-sectional view taken along line VIII—VIII of FIG. 1.

Referring more particularly to FIG. 1 of the drawing, numeral **1** denotes a one piece side shield or face piece for a pair of goggles, which side shield is made of very soft flexible plastic material, such as polyethylene, and having a top and side, face engaging peripheral flanges **2**. Shield **1** is also provided with an integral, top ventilating shield **2***a* (see FIG. 5) overlying a perforated portion of the shield for permitting ventilation through holes **2***b* and having integrally formed side shields **3** of similar construction spaced from and overlying perforated side portions of the shield **1**, that is, covering holes **2***c* formed in the shield **1** similar to holes **2***b*, for ventilating the temples of the wearer. Integrally formed on the side shields **3** are buckles or anchors **3***a*, also of plastic material, having rear, front and side openings through which the ends of the head strap **4** may be looped and anchored.

Along the entire length of the front peripheral portion

of the shield or face piece **1** is formed an integral pair of closely spaced, parallel, radially inwardly extending, frame-retaining flanges **5** as shown more clearly in FIGS. 2 and 5, between which is sandwiced a frame **6** of rigid plastic, sheet material provided with an outwardly extending cylindrical flange forming lens retainer cups **12**, which cups are externally threaded to receive internally screw threaded caps **20** for retaining the lenses **11** in place. Both the retainer cups **12** and the caps **20** are provided with peripherally spaced slots for permitting ventilation, as shown more clearly in FIG. 5. In some instances it may be desirable to provide a lens retaining washer and spring combination which may be made simply in the form of a washer having peripherally stamped out spring arm portions peripherally spaced to fit into the slots formed in the caps **20**.

Frame **6** is mounted on and held within the shield **1** by virtue of the radially extending flanges **5** snugly embracing both sides thereof as shown in FIG. 5. Frame **6** has integral projections or tabs **7**, **8**, extending laterally outwardly through corresponding holes in the side shields and has projections **9** and **10** on opposite sides of the nosepiece portion of frame **6** extending through corresponding holes in flanges **5**, likewise lens **6***a* has integral tabs or lugs **7***a*, **8***a*, **9***a* and **10***a* which are adapted to fit into registering holes formed in the side shield **1** or in flanges **5**. The ends of flanges **5** are provided with two pairs of registering holes, which are staggered, as shown more clearly in FIG. 2, through which holes are extended the correspondingly staggered projections or tabs **9** and **10** in FIG. 1 or **9***a* and **10***a* in FIG. 2 integrally formed on opposite faces of the frame **6**. The details of these tabs are shown more clearly in FIGS. 3 and 4. It will be apparent that projections **9** and **9***a* have upstanding arms and serve as anchors to which the free ends of the shield are securely held and fastened. In view of the stretchability and extreme flexibility of the shield **1**, the ends may be even stretched somewhat so as to be held more tightly by projections **9** and **10** (also **9***a* and **10***a*).

FIG. 2 shows a modification which is very similar to the form shown in FIG. 1 except that a single plastic lens sheet **6***a* is provided, instead of separate circular lenses, and integral front projections **9***a* and rear projections **10***a* are formed thereon for anchoring the ends of the flanges **5** in the same manner as described in connection with FIG. 1.

FIGS. 6 and 7 show a modification of the lens retainer ring of FIG. 1 which has a cammed end portion **12***b* so shaped that a cap having a corresponding cammed or doubly bevelled internal surface will be snap fitted to the ring **12***a*.

Thus it will be seen that I have provided an efficient pair of goggles which is especially suited for welding and other applications for protecting the eyes of the wearer, which goggles have a unique side shield or face piece which is molded in the form of one piece, very soft and flexible plastic material having integrally formed, thereon, a top ventilating shield and side ventilating shields as well as having integrally molded side buckles of the same plastic material for anchoring the ends of the head strap; also having integrally formed radially inwardly extending flanges of a construction so as to be readily attached to or detached from the frame holding the lenses of the goggles; furthermore I have provided a side shield or face piece construction of very soft plastic material which is adapted to provide an extremely comfortable fit on the face of the wearer; furthermore I have provided a snap acting cap which may retain the lens simply by snap action.

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 made within the contemplation of my invention and within the scope of the following claims.

I claim:

1. A pair of goggles having a side shield of flexible plastic material, said shield having in the front perimetrical portion thereof a pair of radially inwardly extending parallel flanges, a rigid lens supporting frame having a peripheral edge adapted to snugly fit between said flanges so as to be supported thereby, spaced tabs extending from said edge adjacent the nose-surrounding portion which are adapted to fit into corresponding holes extending through said flanges, an additional pair of tabs extending laterally outwardly from the sides of the frame and into registering holes formed in said shield integrally molded flanges spaced from and overhanging perforated side portions of said side shield to provide ventilation of the temples, and an integrally molded flange spaced from and overhanging a top perforated portion of said side shield to provide ventilation of the forehead.

2. A pair of goggles as recited in claim 1 wherein each of the pairs of flanges at the free ends of said side shield is provided with a staggered pair of holes and the nose surrounding portion of said frame is provided with two correspondingly staggered pairs of tabs integrally formed on opposite faces thereof which are adapted to fit into said pairs of holes for anchoring the ends of said side shield to said frame.

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