G. H. DAY.

EYE PROTECTOR.

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1,258,097.

Patented Mar. 5, 1918.

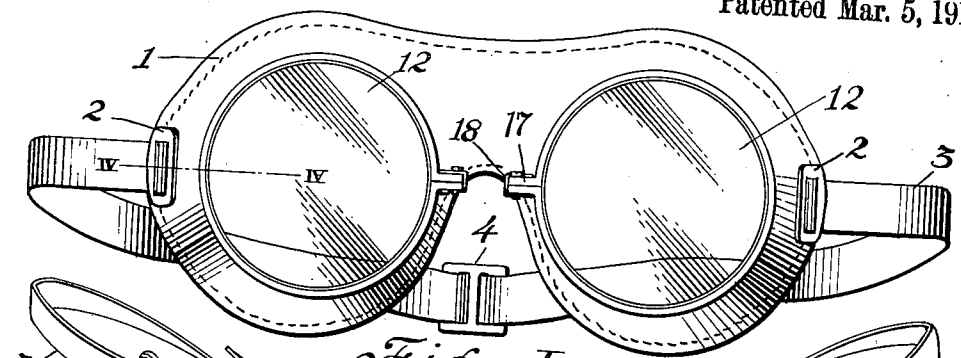


Fig. I

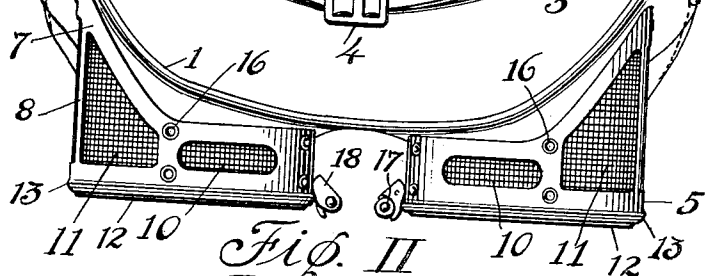


Fig. II

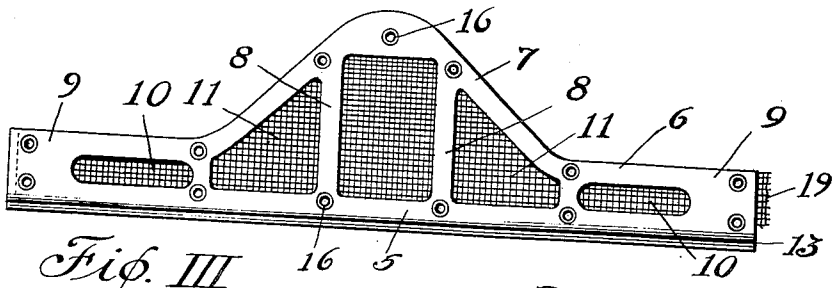


Fig. III

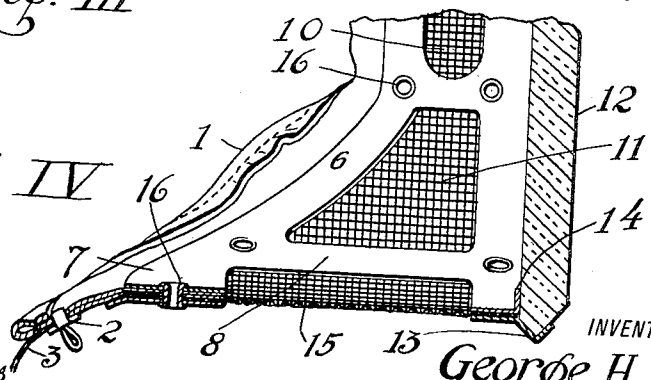


Fig. IV

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EYE-PROTECTOR.

1,258,097. Specification of Letters Patent. Patented Mar. 5, 1918.

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To all whom it may concern:

Be it known that I, GEORGE H. DAY, a citizen of the United States, residing at Southbridge, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Eye-Protectors, of which the following is a specification.

This invention relates to improvements in eye protectors, and has particular reference to an eye protector especially adapted for industrial usage.

The leading object of my invention is the provision of a simple, comfortable and efficient construction especially adapted for continued comfortable wear for workmen engaged in occupations involving possible danger to the eye.

A further object of the invention is the provision of a rigid and durable construction which will readily fit faces of varying configurations, which shall have a soft and comfortable engagement with the face or head of the wearer, which will prevent contact of the metal parts with the face, and in which the various parts shall be joined in an inconspicuous, neat and durable manner.

Other objects and advantages of my improved eye protector should be readily apparent by reference to the following specification taken in connection with the accompanying drawings, and it will be understood that I may make any modifications in the specific details of construction shown and described within the scope of the appended claims without departing from or exceeding the spirit of my invention.

Figure I represents a front elevation of a protector embodying my improvement.

Fig. II represents a top plan view thereof.

Fig. III represents a view of one of the eye cups expanded.

Fig. IV represents an enlarged sectional view taken on the line IV—IV of Fig. I.

In the drawings, in which similar characters of reference are employed to denote corresponding parts throughout the several views, the numeral 1 designates the flexible face engaging portion or mask, which may be formed of a suitable leather or fabric, and is provided at each end with the clip 2 adapted to receive the head band or attaching device 3, provided with the usual adjusting slide 4 to permit of fitting of the retaining device to the head.

Supported by this mask are the improved eye cup or lens frame portions of my device particularly illustrated in detail in Figs. III and IV.

In the form of construction illustrated, I have shown the eye cup as comprising correspondingly shaped inner and outer frame members each having a front band 5 and a rear band 6 curving to form the triangular addition or shield portion 7 to fit over the side of the face, the bands 5 and 6 being connected by a plurality of cross braces 8 intermediate their length, and preferably having the solid portion 9 at each end thereof. It will thus be seen that when formed or rounded up there will be provided the top and bottom draft apertures 10 in addition to the usual draft apertures 11 in the shield. These apertures 10 are of particular advantage since, as the air inclosed by the protector becomes warm from the heat of the face, this warm air can pass out through the upper aperture 10 and fresh air enter through the lower aperture 10, providing in effect an air current across the back of the lens and preventing steaming thereof.

While the inner and outer frame members of the eye cup are substantially similar in construction and as regards the parts 5, 6, 7 and 8, exactly overlie each other to in completed form present the appearance of but a single frame, the edge portions adjacent the band 5 are modified so that they will best coöperate in retaining the lens 12 in position.

The outer frame member is provided with a flange 13 crimped outwardly to provide a V-shaped groove to fit the rear portion of the bevel on the lens 12, while the inner frame may be either plain or may be provided with a flange 14 which, however, in place of being formed with a V groove is bent inwardly, substantially normal to the main frame to rest against the rear face of the lens, thus reinforcing it against any blow on the front, as should be readily understood by reference to Fig. IV.

To shut out dirt or the like from the interior of the cup I preferably employ a wire gauze or similar material 15, this material 15 being laid between the two frames and

secured in position by the hollow cross rivets 16 which pass through both frames and through the screen to unite the several parts in a single unitary structure without the use of solder or the like.

In addition the material of the mask adjacent the eye cup is placed between the bands 6 and 7 of the inner and outer frames, overlying the screening material 15, at these points, the rivets also passing through this material and at the one time uniting the two frames, the mask and screening material.

In this connection particular attention is invited to the fact that the edge of the outer frame nearest the face is outwardly flared or rounded so that the material of the mask will fit smoothly thereover and have a soft engagement with the face, while at the same time liability of the cup cutting through the mask and then injuring the face is eliminated. In addition the inner frame is made slightly shorter than the outer frame so that there is no possibility of the inner metal frame coming into contact with the face under ordinary service conditions, since even were the mask removed the rounded portion of the outer frame would contact with the face before the edge of the inner frame, which may, therefore, be left plain and unrounded if desired.

It will be understood that to retain the lenses in position it is desirable to have the eye cups and lens retaining frames split and separable. I, therefore, preferably form or secure on the end portion 9 of the outer frame the end pieces or connecting members 17, detachably held together as by the spring clips 18, which when released will permit of sufficient separation of the members 17 to permit of the insertion or removal of a lens 12. At the same time to insure most efficient protection I cut short the screening material 15 at one end of the eye cup, as indicated by the dotted line in Fig. III, and on the other hand leave a projecting portion of screening material 19 at the opposite end of the eye cup, so that when the cups are brought into closed position the portion 19 will form a tongue fitting into the socket provided by the removal of the screening material at the opposite end of the cup, this tongue thus securely closing the joint in an extremely neat and inconspicuous manner.

I claim:

1. An eye protector including eye cups each embodying superimposed inner and outer frames, and a mask having portions fitting and secured between the inner and outer frames of the cup.

2. An eye cup construction for an eye protector, comprising similar inner and outer skeleton frames, a screening material located between the frames and filling the apertures thereof, and means for clampingly securing the inner and outer frames in engagement with the screen member.

3. An eye protector, including a lens, an outer eye cup member having a grooved flange embracing the lens and having portions extending rearwardly from the lens, an inner eye cup member impinging against the rear face of the lens, a screening medium fitting between the inner and outer frames, and a face engaging non-metallic medium fitting between the rear portions of the frames, and means connecting the frames and means piercing the frames and several parts inclosed therebetween for securing the parts together.

4. An eye cup for an eye protector, comprising a frame member having its terminal edge shaped into a V groove adapted to receive a lens, and a supplemental or auxiliary inner frame member having an inturned flange extending partially into the field of vision of the lens and bearing against the rear face of the lens for bracing the same.

5. An eye cup for an eye protector in the form of a cylinder split at one side thereof, one of the edges of the split being formed with a projecting tongue and the other of said edges being formed with a groove adapted to receive said tongue, and means for securing the parts together with the tongue interlocked with the groove, substantially as and for the purpose described.

6. A split cup for an eye protector including an outer frame member and an inner frame member inclosed by the outer frame member, the joints in said parts being arranged in staggered relation whereby the completed cup presents a smooth continuous ring.

7. An eye cup for an eye protector, comprising inner and outer substantially coextensive frames split and detachably connected at one side thereof, and a screening member located between said frames, said screening member being split to one side of the split of the inner and outer frames, whereby a screen tongue is provided on one end of the cup and a socket provided at the opposite end of the cup to receive the said screen tongue when the parts are assembled.

8. An eye protector, comprising inner and outer skeleton lens cup frames, the outer of said frames having a lens receiving groove and the inner frame a portion for engaging the lens to limit rearward movement thereof in the frames, a screening member located intermediate the frames and filling the apertures therein, and a non-metallic mask having portions fitting between the inner and outer frames at their rear portions, the inner frame being shorter than the outer frame and the outer frame having a curved terminal edge, whereby the non-metallic mask fits over the curved surface to provide a smooth face engaging portion, and is held

inwardly sufficiently beyond the inner edge of the inner frame member to prevent engagement of the face by said inner frame member, and means passing through the frames and parts inclosed therebetween for securely uniting the several parts of the protector.

In testimony whereof I affix my signature in the presence of two witnesses.

GEORGE H. DAY.

Witnesses:
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