Jan. 15, 1957 A. P. HUMMEL 2,777,129

FACE SHIELD FOR WELDERS

Filed Sept. 30, 1954

FIG. 1

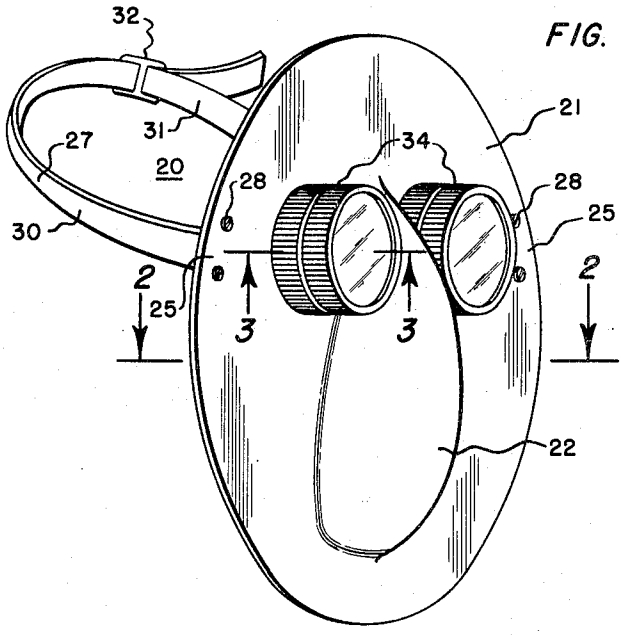


FIG. 2

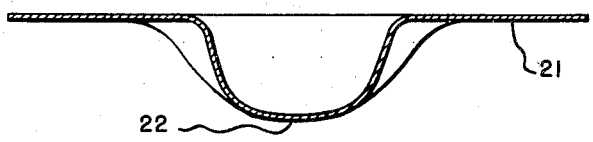
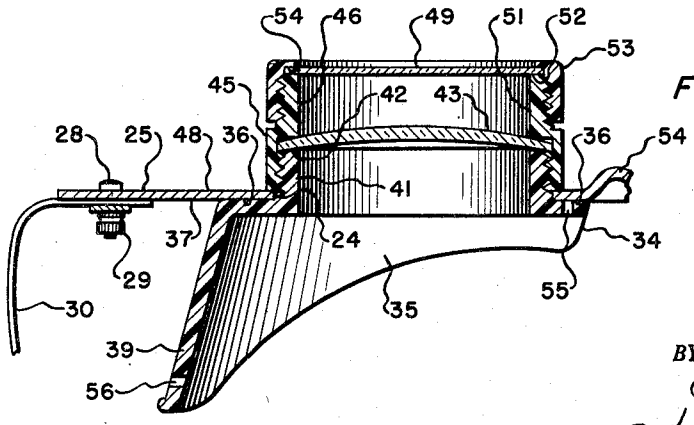


FIG. 3



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FACE SHIELD FOR WELDERS

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4 Claims. (Cl. 2—8)

The present invention relates to shields and particularly to shields for protecting the face of welders and of the type including dark glasses interposed between the eyes of the wearer and the work for the purpose of curtailing the intensity of the light rays, emanating from the arc, striking the eyes of the workman.

Goggles of the type having two eye cups, hingedly attached to one another, are available on the market. One of the objects of the present invention is to embody such individual eye cups and a mask into a suitable face and eye shield, utilizing the standard parts of such goggles as means for clamping the eye cups to the mask.

Further objects and advantages will be apparent from the following description, reference being had to the accompanying drawings wherein a preferred embodiment of the invention is illustrated.

In the drawings:

Fig. 1 is a perspective view of my improved face and eye shield;

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1; and

Fig. 3 is a sectional view taken on line 3—3 of Fig. 1.

Referring more in detail to the drawings, the shield generally designated at 20 comprises a mask 21 which may be circular or oblong in shape, and is of sufficient length and width so as to substantially cover the face of a man. This mask is formed of light weight material and may be of thermo-setting plastic.

The nose piece 22 is suitably attached to the main part of mask 21 and is preferably formed integrally therewith. Openings 24 are formed in the upper part of the mask, horizontally disposed with respect to one another, the lower portion of the holes being disposed on opposite sides of the upper part of the nose piece 22. Portions 25 of the mask extend on opposite sides of the opening, and a head band 27 is attached to each of these portions as by screw 28 and nut 29. The head band is formed of two pieces 30 and 31 adapted to be connected with one another by a buckle 32.

A pair of goggles 34 is suitably attached to the mask. These goggles include two eye pieces. Each of these eye pieces comprises an eye cup 35. The eye cup includes a forwardly extending shoulder 36 which is arranged to abut the rear face 37 of the mask 21; it further includes a rearwardly extending spacer portion 39, the rear edge of which is arranged to engage the face of the wearer about the eye. The cup also includes a forwardly extending portion 41; this forwardly extending portion 41 is annular in configuration and is externally threaded; this portion extends forwardly through an opening 24 of the mask. The forward end 42 of portion 41 forms a seat for a glass 43.

An internally threaded collar 45 is threaded onto the portion 41 and is provided with a circular inwardly extending shoulder 46 which bears against the outer face of the glass 43, near the rim thereof to thus clamp the glass against the seat 42. The rear end of the collar 45 is threaded into abutting relationship with the forward face 48 of the mask to thus clamp the eye piece 35 to the mask.

If it is desirable to provide prescription ground lenses in the goggles, the glass 43 is so ground. It may be of an extremely dark shade so as to curtail the flow of light rays emanating from the work to the worker's eyes. But preferably this lens 43 is of the lighter shade and the curtailing of the light rays is through a second glass 49 of dark shade.

In this preferred construction, the collar 45 has an extended portion 51, the end 52 of which forms a seat for the glass 49. This extended portion 51 of the collar 45 is externally threaded for receiving a second collar 53, which is internally threaded, and which is provided with a shoulder 54 arranged to abut the outer face of the glass 49, adjacent the rim thereof, to clamp the glass 49 in position.

By attaching the head band, as herein shown, to the mask instead of the goggles, less strain is placed on the goggles to prevent the misalignment of the lenses 43. It will be observed that the arcuate nose piece extends upwardly as at 54 between the openings 24 of the mask. This arcuate portion reenforces the mask at that position and thus forms a sturdy structure which will not readily bend in a vertical plane between these openings. In this manner a light weight material may be used and there is no likelihood of so distorting the material so as to effect misalignment of the lenses 43.

Standard goggles may be used in this invention. Such goggles are in mass production and can be purchased relatively cheap compared with the expense of tooling for special goggles. It will be observed that the eye cup portion is provided with a slot 55 adjacent the nose piece and a slot 56. In the standard goggles, the slot 55 is used for receiving the hinge section which connects opposite eye pieces, and the slot 56 is used for receiving the end of the head band.

Thus it is apparent from the foregoing that I have provided a face and eye shield of light weight, yet sturdy construction, and which can be manufactured at a relative low cost.

While the form of embodiment herein shown and described constitutes a preferred form, it is to be understood that other forms may be adopted falling within the scope of the claims that follow.

I claim:

1. A welder's face and eye shield including a mask having a pair of horizontally-spaced openings therein; a pair of goggles attached to the mask, said goggles including a pair of eye cups, each of said cups having a portion extending from the rear of the mask forwardly through an opening in the mask, each of said cups including a shoulder disposed rearwardly of said portion and abutting the rear face of the mask, each of said cups including a spacer portion extendingf rearwardly of the shoulder forming rear edges adapted to abut the face of the wearer of the shield, said forwardly extending portions each providing a seat for a glass, each of said goggles including a collar attached to and surrounding said forwardly extending portion of the eye cup, the rear ends of the collars abutting the forward face of the mask for clamping the goggles to the mask, each of said collars having a rearwardly facing shoulder in clamping engagement with the front of the glass; and means for clamping the shield to the face of the wearer.

2. A shield as defined in claim 1, characterized in that each of the glasses is a lens; the collars, for clamping the lenses to the forward ends of the forwardly extending portions of the eye cups, extending forwardly of the lenses and each providing a seat at the forward end thereof for a dark glass; and second collars attached

respectively to the first collars and each having a shoulder abutting the front face of the dark glass for retaining the latter in position.

3. A shield as defined in claim 1, characterized in that each of the forwardly extending portions of the eye cups and the collars are threadedly attached, respectively, to one another.

4. A shield as defined in claim 1, characterized in that each of the glasses is a lens; the collars, for clamping the lenses to the forward ends of the forwardly extending portions of the eye cups, extending forwardly of the lenses and each providing a seat at the forward end thereof for a dark glass; and a pair of second collars

each threadedly attached to the first collars and each having a shoulder abutting the front face of one of the dark glasses for retaining the latter in position.

References Cited in the file of this patent

UNITED STATES PATENTS

1,582,164	Burstein	Apr. 27, 1926
2,249,239	Goldsmith	July 15, 1941
2,638,592	Olson	May 19, 1953

FOREIGN PATENTS

18,538	Netherlands	Feb. 15, 1928
651,467	Great Britain	Apr. 4, 1951