

Feb. 16, 1954

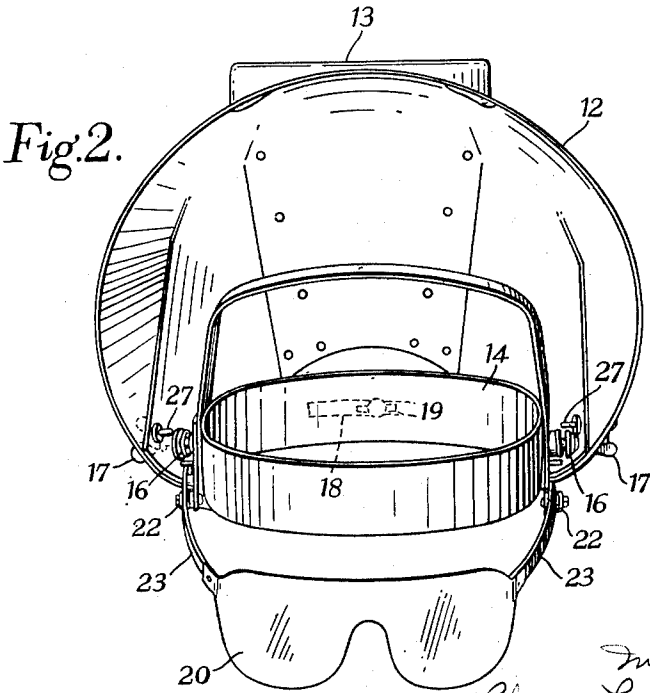
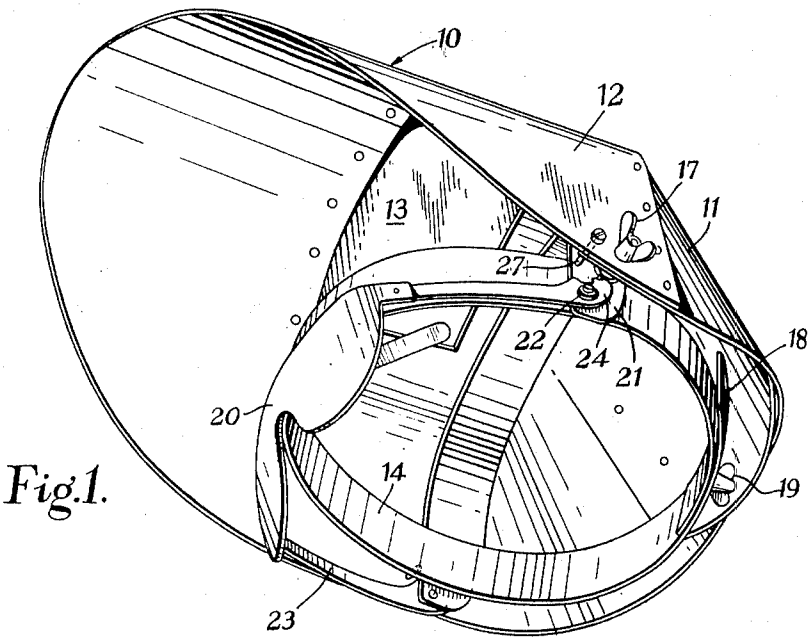
T. T. MacLEAN

2,668,951

PROTECTIVE FACE SHIELD

Filed May 1, 1951

2 Sheets-Sheet 1



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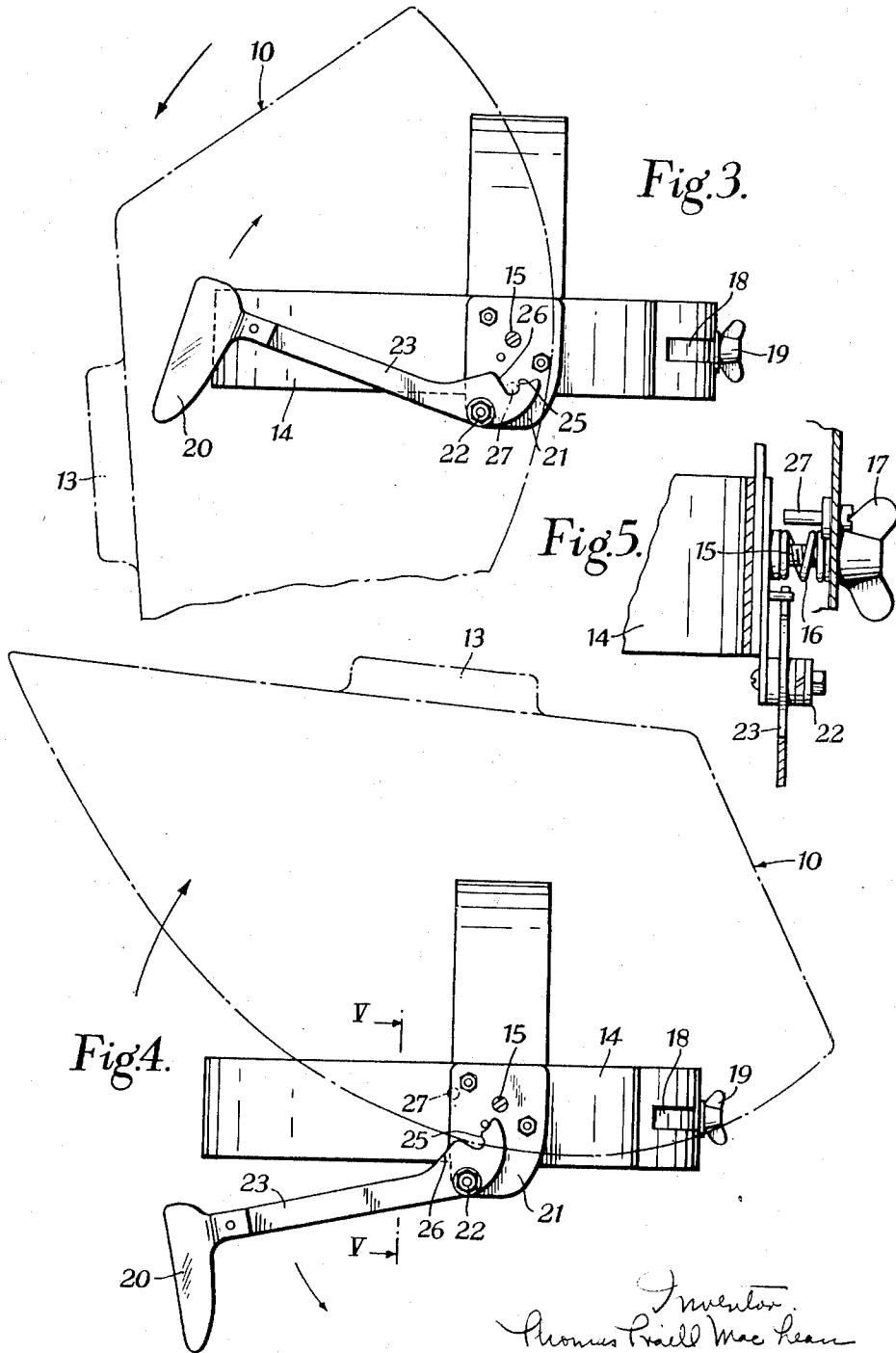
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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PROTECTIVE FACE SHIELD

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Claims priority, application Great Britain May 1, 1950

3 Claims. (Cl. 2—8)

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This invention relates to protective helmets and more particularly to the kind used by welders and the like.

Helmets used by welders normally comprise a head-engaging portion and a depending front portion embodying a dark colour filter glass which protects the eyes during actual welding. In the course of welding, scale forms on the newly deposited metal and must be removed with a scaling hammer, which involves raising the face-piece of the helmet in order to observe the work. At such times, the welder is supposed to wear protective goggles, but most welders will not bother to do this for the short time the descaling operation takes, with the result that damage to the eyes from flying scale frequently occurs. The difficulty can be overcome by wearing glasses permanently inside the helmet but welders object to this since it is unnecessary while the helmet is in position, when it entails a certain amount of discomfort and means carrying on the welding through an additional lens.

According to the present invention, an eye-shield is mounted within a protective helmet in such manner that it is located above eye-level when the helmet is in the position of use but is brought into position in front of the eyes automatically when the helmet is raised.

The eye-shield conveniently consists of a pair of glasses that is pivotally mounted inside the helmet about the ends of the side arms.

One embodiment of the invention will now be described by way of example with reference to the accompanying drawings wherein:

Figures 1 and 2 are perspective views of the helmet, Figures 3 and 4 are diagrammatic side elevations of the helmet with the face-shield respectively in the lowered and raised positions of use, and Figure 5 is a fragmentary detailed view of the eyeshield operating mechanism.

The helmet 10 comprises a crown portion 11 integral with a face shield 12 in which is incorporated a dark colour filter glass 13. The helmet 10 is pivotally mounted on a headband 14 by means of threaded pins 15 carried by the headband and passing through the helmet. Springs 16 are located between the headband and the helmet and wing nuts 17 are applied to the ends of the threaded pins whereby the ease of relative movement between the helmet and the headband may be adjusted. The headband is adjustable in length by virtue of the slots 18 and locking device 19.

A pair of glasses 20 are pivotally mounted on lugs 21 on the headband by means of pins 22

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passed through the ends of the side arms 23, the pivotal axis of the glasses thus lying somewhat in front of and below the pivotal axis of the helmet. One of the side arms 23 is formed with a nose portion 24 extending rearwardly of the pivotal axis of the glasses, said nose portion being formed with the surfaces 25 and 26. A pin 27 is provided on the helmet extending inwardly thereof and is located so that it cooperates with the surfaces 25 and 26 to effect raising and lowering of the glasses upon lowering or raising of the helmet respectively. Thus, as indicated in Figure 3, the helmet is in the lowered position of use, in which case the pin 27 is in contact with the surface 25 and maintains the glasses in the raised position. When the helmet is raised, as indicated in Figure 4, the pin 27 moves in an arc about the pivotal axis of the helmet and thus engages the surface 26 to lower the glasses about their pivotal axis. When the helmet is again lowered into position in front of the face, the pin 27 engages the surface 25 and raises the glasses into the crown of the helmet.

I claim:

1. A protective helmet of the kind comprising a head-engaging portion and a face-shield which is pivotally attached to the head-engaging portion, comprising an eyeshield, side arms to the eyeshield, the side arms being pivoted near their ends to the head-engaging portion, and the pivotal axis of the side arms being in front of and below that of the face-shield, a rearward extension to one of the side arms beyond its pivotal axis and a pin on the face-shield engageable with said rearward extension when the face-shield is in the lowered position in such manner as to maintain the eyeshield raised within the face-shield above the eyes of the wearer, the pin moving out of engagement with the rearward extension of the side arm when the face-shield is raised a given amount so as to allow the eyeshield to move downwards under its own weight until brought to rest by the bridge of the nose of the wearer and to be moved upwards by the wearer independently of the face-shield.

2. A protective helmet according to claim 1, in which the head-engaging portion is provided with downward extensions on either side, the side arms of the eyeshield being pivoted to said downward extensions whereby when the eyeshield is in position in front of the eyes its side arms are substantially horizontal.

3. A protective helmet of the kind comprising a head-engaging portion and a face-shield which is pivotally attached to the head-engaging por-

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 tion for movement between a raised position and a lowered position, comprising an eyeshield, side arms to the eyeshield, the side arms being pivoted near their ends to the head-engaging portion, and the pivotal axis of the side arms being in front of and below that of the face-shield, a rearward extension to one of the side arms beyond its pivotal axis and a pin on the face-shield so located as to be disengaged from said extension in the raised position of said face-shield and to be engageable with said rearward extension only after a given angular movement of said face-shield from its raised position toward its lowered position, for depressing said extension when the face-shield is further moved toward the lowered position thereby to raise the eyeshield and to maintain the eye shield raised within the face-

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 shield above the eyes of the wearer, the pin moving out of engagement with the rearward extension of the side arm when the face-shield is raised a given amount so as to allow the eyeshield to move downwards under its own weight until brought to rest by the bridge of the nose of the wearer, and to be moved upwards by the wearer independently of the face-shield.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
2,398,269	Young -----	Apr. 9, 1946
2,419,649	Lieg -----	Apr. 29, 1947
2,440,596	Anderson -----	Apr. 27, 1948