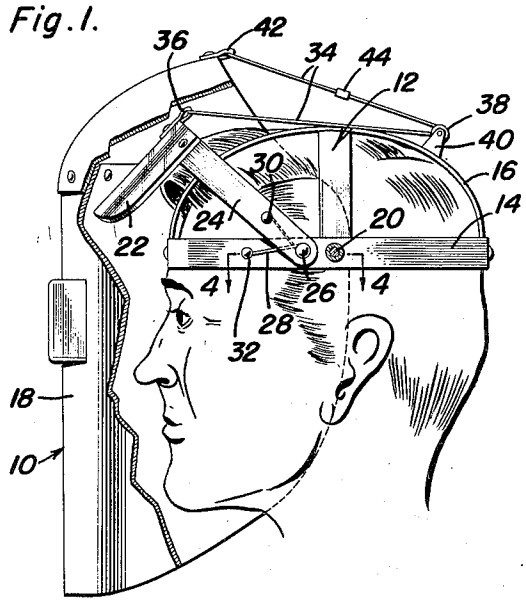
March 6, 1951 W. R. HARRINGTON 2,544,457

WELDING HELMET

Filed Dec. 12, 1949

Fig. 1.



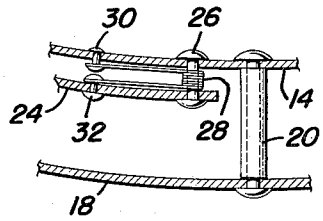
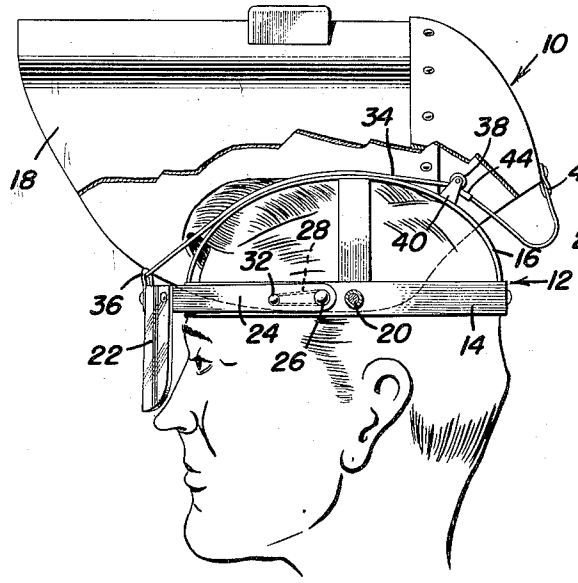


Fig. 4.

Fig. 3.



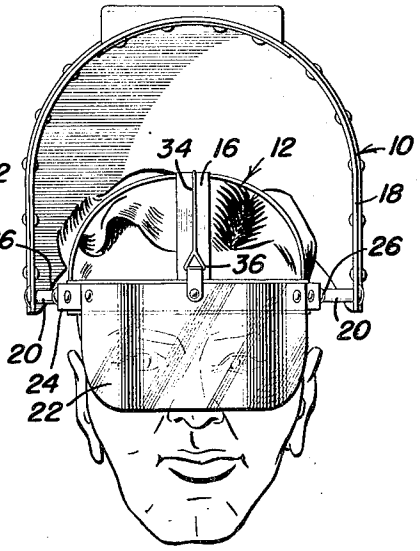


Fig. 2.

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WELDING HELMET

Walter R. Harrington, Rising Sun, Md.

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2 Claims. (Cl. 2—8)

1

This invention relates to new and useful improvements in structural refinements in welding helmets, and the principal object of the invention is to eliminate or substantially minimize the possibility of injury to the eyes of a welder in instances where the latter shifts the face mask of the helmet above his head while chipping off hot "slag" at the completion of each weld, as well as to protect his eyes from "flashes" made by other welders while his own face mask is lifted.

This object is achieved by the provision of an eye shield in the helmet, an important feature of the invention residing in the provision of means for automatically swinging the eye shield to an operative position before the eyes when the face mask is raised.

Some of the advantages of the invention reside in its simplicity of construction, in its efficient and fully automatic operation, and in its adaptability for use in welder's helmets of different types.

With the above more important objects and features in view, and such other objects and features as may become apparent as this specification proceeds, the invention consists essentially of the arrangement and construction of parts as illustrated in the accompanying drawings, in which:

Figure 1 is a side elevational view, partially broken away, showing the invention with the face mask in its operative position;

Figure 2 is a side elevational view, also partially broken away, this view being similar to that shown in Figure 1 but illustrating the face mask in its inoperative position;

Figure 3 is a front elevational view of the subject shown in Figure 2, and

Figure 4 is a fragmentary sectional detail, taken substantially in the plane of the line 4—4 on Figure 1.

Like characters of reference are employed to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawings in detail, the invention consists of a welding helmet designated generally by the reference character 10, the same embodying in its construction a conventional frame 12 adapted to be positioned on a welder's head and including a circumferential band 14 and a crown strap 16 extending from the front to the rear of the band 14, as will be clearly apparent.

A conventional face mask 18 is pivoted at 20 to the opposite side portions of the frame band

2

14 and is swingable from a lowered, operative position in front of the welder's face as shown in Figure 1, to a raised inoperative position above the welder's head, as shown in Figures 2 and 3.

It is obvious that when the face mask 18 is raised, the eyes of the welder remain unprotected, and the invention, therefore, concerns itself with the provision of means for protecting the eyes of the welder upon raising of the face mask, these means consisting of a transparent preferably colored eye-shield 22 which is secured to a substantially semi-circular band 24 which, in turn, is pivoted as at 26 to opposite side portions of the frame band 14. By virtue of this arrangement the shield 22 is swingable from a lowered operative position before the eyes of the welder (see Figures 2 and 3) to a raised inoperative position above the eyes, as shown in Figure 1. Suitable springs 28 are provided on the pivots 26 and are anchored to the bands 14, 24 as at 30 and 32 respectively, so as to urge the shield 22 to its lowered operative position.

However, means are provided for raising the eye-shield 22, these means being responsive to the lowering of the mask 18 and consisting of a flexible element such as a cable or cord 34 which is connected at one end thereof as at 36 to the eye-shield 22 and passes around a rotatable guide pulley 38 supported by a bracket 40 on the rear portion of the crown strap 16 of the frame 12.

The remaining end of the cord or cable 34 is connected at 42 to the face mask 18, and it will be apparent from the foregoing that when the face mask is in its lowered operative position as shown in Figure 1, the eye-shield 22 will be retained by the cord 34 in its inoperative position above the eyes, but when the face mask is raised to its inoperative position, the cord 34 will become slackened and the springs 28 will urge the face shield 22 to its operative position before the eyes. Similarly, when the face mask 18 is lowered, the eye shield will be drawn upwardly, and it is to be noted that a stop member 44 of any suitable type may be provided on an intermediate portion of the cord 34 for abutment with the bracket 40 of the guide pulley 38 when the eye-shield 22 is in its operative position before the eyes, for preventing the eye-shield from being urged too far downwardly by the springs 28 when the cord 34 is slackened by raising of the face mask.

It is believed that the advantages and use of the invention will be clearly understood from

the foregoing disclosure and accordingly, further description thereof at this point is deemed unnecessary.

While in the foregoing there has been shown and described the preferred embodiment of this invention it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

Having described the invention, what is claimed as new is:

1. In a welding helmet, the combination of a frame adapted to be positioned on a welder's head, a face mask pivoted to said frame and swingable from a face shielding position to an inoperative position above the head, an eye shield pivoted to said frame and swingable from an eye shielding position to an inoperative position above the eyes, a guide mounted on said frame, and a flexible connecting element passing around said guide, one end of said element being attached to said mask and the remaining end thereof being attached to said eye shield whereby the eye shield is lowered when the mask is raised and whereby the eye shield is raised when the mask is lowered.

2. In a welding helmet, the combination of a frame adapted to be positioned on a welder's

head and including a circumferential band and a crown strap extending from the front to the rear of said band, a face mask pivoted to opposite sides of said band and swingable from a face shielding position to an inoperative position above the frame, an eye shield pivoted to opposite sides of said band and swingable from an eye shielding position to an inoperative position above the frame, resilient means for urging said eye shield to the eye shielding position, a rotatable guide pulley mounted on a rear portion of said crown strap, and a flexible element passing around said pulley, one end of said element being connected to said eye shield and the remaining end thereof being connected to said mask, whereby the eye shield may be raised when the mask is lowered and whereby the eye shield may be lowered when the mask is raised.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,103,006	Helfenstein et al.	Dec. 21, 1937
2,398,269	Young	Apr. 9, 1946