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WELDER'S HELMET

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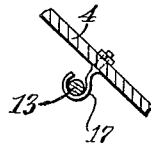
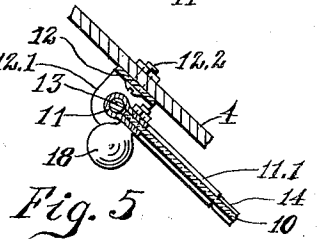
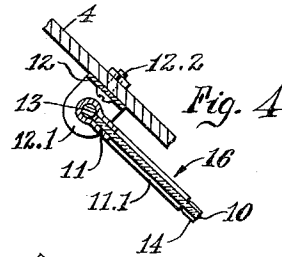
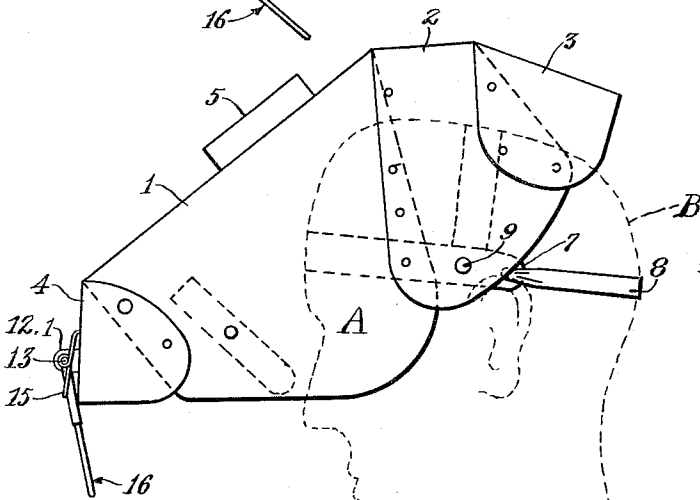
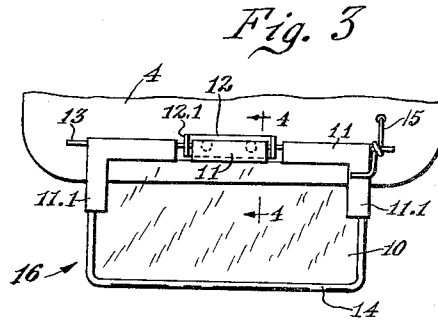
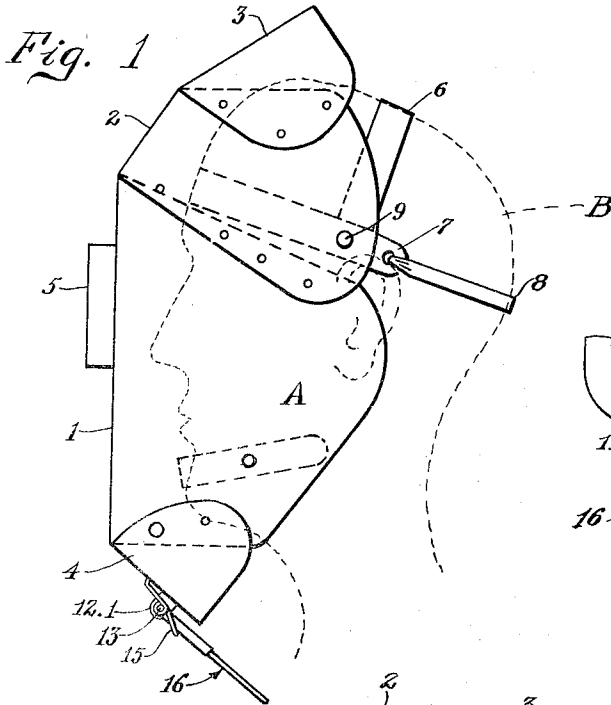


Fig. 2

Fig. 5

Fig. 6

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**WELDER'S HELMET**

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4 Claims. (Cl. 2-8)

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My invention relates to an improvement in welders' helmets.

The objects of my invention are to provide an adjustable guard for the neck of the user which will automatically guard the eyes of the user when the helmet is raised to the top of the head and will automatically return to its place to guard the neck when the helmet is lowered in front of the face of the user; to provide such a guard which is simple, light and can be easily controlled by the wearer; to provide such a guard with simple means by which it can be applied to various classes of welders' helmets which are in common use, with very little labor or expense. Other objects will appear from the description.

I accomplish these objects by the means shown in the accompanying drawings, in which—

Figure 1 is a side elevation of the helmet having my neck guard attached thereto and showing the head of the wearer in dotted lines;

Figure 2 is a similar view showing the helmet raised to an upper position with my eye guard in front of the eyes of the wearer whose head is shown in dotted lines;

Figure 3 shows an enlarged front view of the lower portion of the helmet with my neck guard attached thereto;

Figure 4 is a sectional view on the line 4-4 of Figure 3;

Figure 5 shows an alternate sectional view of Figure 3 with a weight substituted for the spring;

Figure 6 shows an alternate form of hanger for the rod 13.

Similar numerals refer to similar parts throughout the several views.

In Figure 1 I have shown the head of the wearer as B with the helmet as a whole marked A, with a head band 6, brow band 7 and fastening strap 8, with the head band and brow band pivoted together by the pivot 9.

The helmet may be composed of light sheetmetal, plastic, molded fiberboard or other suitable material molded to the proper form. I prefer to form the helmet of four separate plates 1, 2, 3 and 4, which may be fastened together by rivets or any other suitable means.

The plate 1 extends vertically in front of the face when in use and is provided with a transparent plate 5 of any suitable color and density to protect the eyes from the intense light while doing the welding. Plates 2 and 3 extend upwardly from the plate 1 to protect the brow and hair of the wearer while plate 4 slopes rearwardly to provide protection for the chin and part of the neck. All of the foregoing parts are in common use and I make no claim to a patent upon them separately.

In various helmets heretofore in use, movable goggles have been provided to be worn inside of the helmet and they must be adjusted by the hands of the operator in order to afford any protection to the eyes when the helmet is in its upper position above the top of the head instead of in front of the face.

In my helmet, I have provided a neck guard 16 which

will not only act to protect the neck of the wearer from flying sparks, but whenever the helmet is raised to allow the wearer to inspect his work, this auxiliary guard will be raised to a position in front of the eyes, so as to guard the eyes against sparks or chips which frequently fly upwardly while the wearer of the helmet is using a hammer or other tool to clear off the scale or other removable fragments from the surface of a weld in order to permit him to continue the welding by making a second application of the welding apparatus and rods thereto.

In helmets heretofore in use where auxiliary goggles have been provided, it has been necessary for the wearer to use his hands and manually place the goggles in the position to protect his eyes after lifting the helmet to its upper position and also to use his hands to remove the goggles from in front of his eyes when he lowers the helmet into its position for use.

My auxiliary guard may include a thin plate 10 of glass, isinglas, plastic, or any other suitable transparent material, and may be secured in a sheetmetal frame 11 which may be divided into sections and with a tube extending along the upper part thereof through which a pivot rod 13 may be extended. The pivot rod may be carried by flanges 12.1 at the ends of a bar 12 which may be united to the lower plate 1 of the helmet by rivets or bolts 12.2 or other suitable means.

The ends of the frame 11 extend downwardly at 11.1 along the edges of the plate 10 and the lower edge and part of the lateral edges of the plate 10 may be provided with an edge guard 14 consisting of a split rubber tube fastened thereto or any other suitable form of elastic or adhesive guard.

In order to insure proper position of my auxiliary guard, I apply thereto a light wire spring 15 which will exert pressure rearwardly upon the guard to incline it rearwardly when in its lowermost position and also to give it a slight inclination when in its uppermost position in order to facilitate the use of it by the wearer and avoid the necessity of his looking through two separate guards or glasses while doing the welding.

As an alternative to the use of such a spring or springs, a weight 18 may be adjustably attached to the frame of my auxiliary guard as shown in Figure 5 of sufficient weight to incline it rearwardly. However, neither the spring nor the weight will be made strong or heavy enough to prevent the user from easily holding the guard manually in any desired position while putting it on or adjusting it. Hook screws or bolts 17 may be utilized to support the guard 16 in place of the flanged bar 12 if desired.

Various modification may be made in the size, shape, material and arrangement of the parts of my guard without departing from the spirit of my invention as disclosed in the claims and I do not limit my claims to the precise form shown in the drawings. In the claims the mask is referred to as being in use for welding when in the vertical position shown in Figure 1 and is referred to in its raised position as shown in Figure 2.

I claim:

1. A welder's helmet including an elongated face mask substantially U-shaped in cross-section adapted to stand vertically in front of the full length of a welder's face when worn, but manually swingable upwardly to a position above the wearer's head, a head band adapted to pass around the wearer's head above his eye level with the mask pivotally united thereto at both sides of the head, an eye guard of translucent colored material mounted in the front of the helmet in line with a wearer's eyes when in use for welding, said mask having openings in the front at the eye level to permit vision of a wearer therethrough when in use, a transparent guard pivotally mounted at the bottom of the mask extending below the

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mask, and resilient means to incline the transparent guard rearwardly under the chin of a wearer when the mask is in upright position and adapted to extend into a line of vision for the eyes when the mask is in upraised position.

2. In a welder's helmet, a head band with a facial mask pivotally mounted on the sides of the head band at points in the upper side portions of the mask adapted to extend downwardly in vertical position over the entire face of a wearer when welding, openings in the mask at the eye level adapted to conveniently permit vision of a wearer therethrough when in use, an eye guard of semi-transparent colored material mounted on the front of the mask at the eye level, and a neck guard pivotally mounted upon the lower part of the mask having a rectangular frame carrying a transparent plate projecting below the bottom of the mask and inclinable rearwardly from its pivot.

3. A welder's helmet with facial mask and eye and neck guards pivotally mounted thereon as described in claim 2, and resilient means attached to the neck guard and the mask to automatically incline the lower edge of the neck guard rearwardly either in its lowermost position or when the mask is upraised.

4. A welder's helmet including an elongated face mask substantially U-shaped in cross-section adapted to stand vertically in front of the full length of a welder's face when worn, but manually swingable upwardly to a position above the wearer's head, a head band adapted to pass around the wearer's head above his eye level with

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the mask pivotally united thereto at both sides of the head, an eye guard of translucent colored material mounted in the front of the helmet in line with a wearer's eyes when in use for welding, said mask having openings in the front at the eye level to permit vision of a wearer therethrough when in use, a transparent guard pivotally mounted at the bottom of the mask extending below the mask, and resilient means to incline the transparent guard rearwardly under the chin of a wearer when the mask is in upright position and adapted to extend into a line of vision for the eyes when the mask is in upraised position, said resilient means including a light spring mounted upon the pivots of the transparent guard and bearing against said guard to automatically incline that guard rearwardly from the lower edge of the helmet.

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