March 4, 1969 H. A. RASCHKE 3,430,262

WELDER'S FACE SHIELD MOUNTING BRACKET FOR SAFETY HATS

Filed Sept. 12, 1966

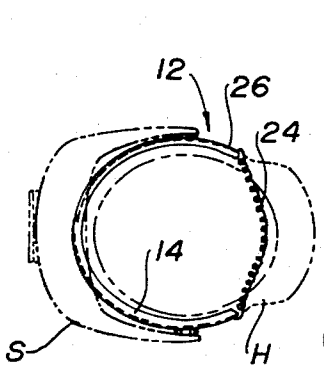


FIG. 1

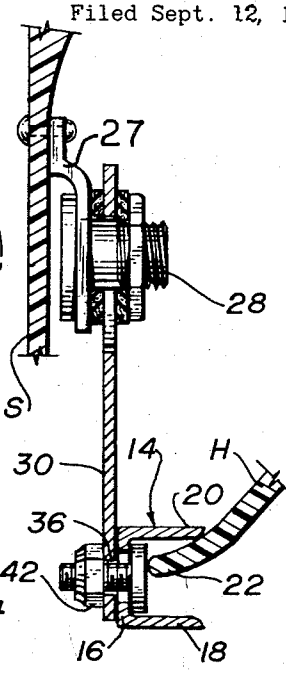


FIG. 4

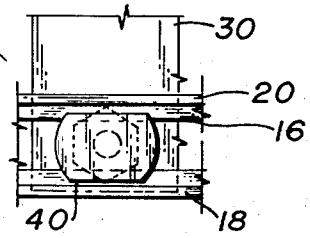


FIG. 5

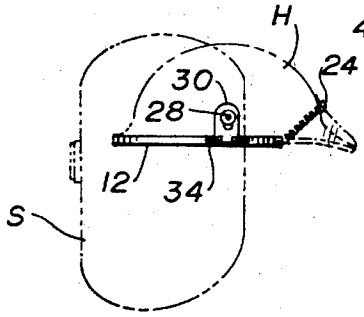


FIG. 2

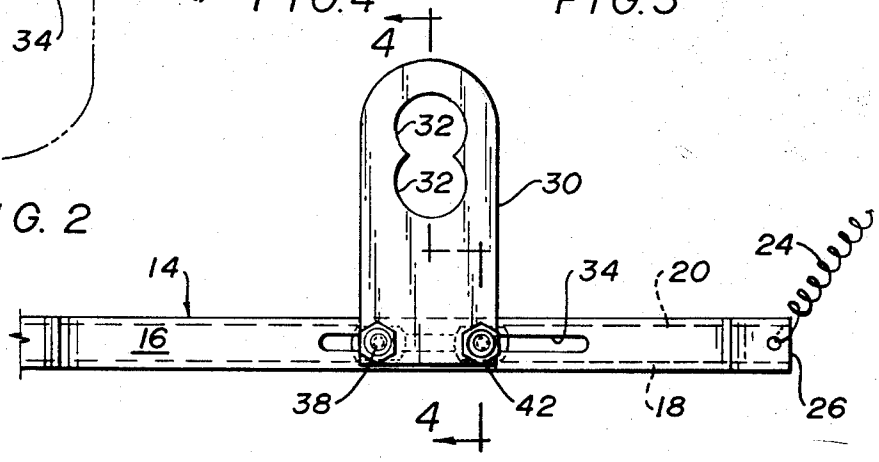


FIG. 3

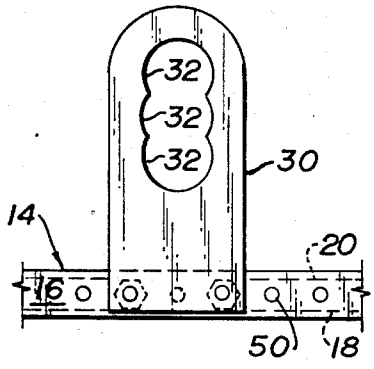


FIG. 6

INVENTOR.
HERBERT A. RASCHKE

BY
Townsend and Townsend
ATTORNEYS

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WELDER'S FACE SHIELD MOUNTING BRACKET FOR SAFETY HATS

Herbert A. Raschke, Greenbrae, Calif., assignor to E. D. Bullard Company, Sausalito, Calif.

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Int. Cl. A42b 1/00; F16p 1/00

ABSTRACT OF THE DISCLOSURE

A band or bow having a generally U-shaped cross section is held in wrapped around relation to the outwardly flared rim of a safety helmet. The band is apertured to support a pair of brackets at any desired position forwardly or rearwardly of the sides or lateral extremities of the helmet. Each bracket is provided with a plurality of holes for receiving conventional friction bolt assemblies to enable a welder's face shield to be secured to the brackets at a preselected one of a plurality of vertical positions.

This invention relates to a bracket for securing a welder's face shield onto a safety hat and more particularly to such bracket that affords a high degree of versatility to accommodate different sized face shields to a helmet.

Substantially complete protection is afforded welders by a protective mask covering the eyes and face of the wearer attached to a safety helmet which protects the head of the wearer. The present invention provides a bracket that is removably mountable on a safety hat and that is adjustable so as to accommodate a wide variety of types and sizes of face shields. More specifically the invention provides a mounting bracket having two degrees of freedom: one degree in a horizontal plane forwardly and rearwardly of the center line of the safety helmet and one in a vertical direction above the rim of the helmet.

Horizontal adjustment is achieved by providing a mounting assembly defining vertical faces that are disposed adjacent the lateral extremities of the helmet and are elongated in a horizontal direction forwardly and rearwardly of the lateral extremity. Face shield brackets are mounted at one of a number of possible locations along the faces to secure the bracket and face shield in a desired horizontal position.

Adjustment in the vertical plane is afforded by providing in the bracket a plurality of vertically spaced holes for receiving a bolt which secures the face shield to the bracket. The holes are vertically spaced from one another by an amount less than the diameter of the bolt so as to permit precise vertical adjustment of the face shield relative to the helmet.

The objects, features and advantages of the invention will be more apparent after referring to the following specification and accompanying drawing in which:

FIG. 1 is a plan view of a bracket constructed according to the present invention in place on a safety helmet;

FIG. 2 is a side elevation view of FIG. 1;

FIG. 3 is a fragmentary view of a portion of FIG. 2 at greatly enlarged scale;

FIG. 4 is a cross sectional view taken along line 4—4 of FIG. 3;

FIG. 5 is a side view of FIG. 4, and

FIG. 6 is a view similar to FIG. 2 showing a modification of the invention.

Referring more particularly to the drawing, reference numeral 12 generally indicates a mounting bracket of the present invention shown securing a welder's face shield S to a safety helmet H. Bracket 12 includes a main

body formed from a substantially C-shaped band 14 that, as shown more clearly in FIG. 4, includes a web 16 from which extends a lower flange 18 and an upper flange 20 to form a substantially U-shaped cross section. Thus the band defines a slot between flanges 18 and 20 for receiving the outwardly flared rim 22 of helmet H.

In one clamp designed in accordance with the present invention, band 14 is constructed of aluminum so that the band contains a sufficient degree of flexibility to conform with different shaped helmets having different shaped rim peripheries. As seen in FIG. 1, the band is secured onto the helmet by means of a tension spring 24 hooked into holes formed adjacent ends 26 of the band and extending over the forward portion of the helmet. The combination of the resilience of the spring and the flexibility or bendability of the band affords quick attachment of the band to a wide variety of helmets.

Welding helmets are typically provided with an apertured bracket 27 for receiving therethrough a friction bolt assembly 28. The present invention includes for mounting onto band 14 a bracket 30 having a plurality of vertically spaced holes 32 therein for receiving the bolt assembly 28. Thus, by inserting the bolt assembly 28 into a selected one of holes 32 a degree of vertical adjustment of the face shield is afforded. The vertical distance between the centers of holes 32 is less than the diameter of bolt assembly 28 to permit more precise vertical adjustment of the helmet while retaining the conventional large diameter bolt assembly 28.

Horizontal adjustment of the face shield with respect to the helmet is provided by adjustably joining bracket 30 to band 14. For this purpose an elongate slot 34 is provided in web 16 of band 14 and is positioned to extend forwardly and rearwardly of the lateral extremity of the hat (see FIG. 2). As can be seen in the figure, the horizontal extent of slot 34 is at least twice the width of bracket 30 so as to afford a sufficient range of adjustment for the bracket. Bracket 30 at the lower extremity thereof is provided with at least two horizontally aligned holes 36 for receiving therein threaded fasteners 38, which threaded fasteners also extend through elongate slot 34 to threadedly and adjustably join the bracket to the band. Threaded fasteners 38 are provided with heads that have flattened portions sized to fit within the slot defined between the flanges 18 and 20, such flattened portions acting to retain the threaded fastener within slot 34 against rotation with respect to band 14. Exteriorly of bracket 30 nuts 42 are provided for engagement with threaded fasteners 36 so as to clamp bracket 30 onto band 14.

The operation of the afore-described embodiment of the present invention can be discerned by reference to the drawing if it is assumed that friction bolt 28 is positioned into the appropriate hole 32 to provide the desired vertical relationship between face shield S and helmet H. With the face shield so mounted to bracket 30, the entire bracket is moved forwardly or rearwardly by loosening nuts 42 to permit movement along slot 34 until the desired horizontal positioning of the face shield is achieved. When the relationship is achieved, nuts 42 are tightened, and the helmet is supported in the desired position with respect to the hat. Such angular adjustment as is required is obtained in a conventional way by adjustment of friction bolt assembly.

A modification of the present invention is shown in FIG. 6 wherein, in place of continuous slot 34, a plurality of uniformly spaced-apart holes 50 is formed in web 16. Sufficient holes 50 are formed to extend both forward and rearward of the lateral extremity of the safety helmet so as to provide for a plurality of positions for bracket 30. The horizontal extent of the portion of web 16 that defines holes 50 is preferably at least twice the width of plate 30 to afford a sufficient range of adjustment for

the bracket. The structure of FIGURE 6 is additionally modified by providing three holes **32** in bracket **30** thereby providing three selected positions for the receipt of friction bolt **28**. Thus, three separate vertical positions of the helmet with respect to the face shield are possible by the apparatus of FIG. 6. Moreover, because the holes intersect, the three vertical positions afforded by the modified bracket are sufficiently close to one another that substantially precise vertical positioning of the helmet can be achieved by this invention.

Thus it will be seen that the present invention provides, in extremely simple form, a face shield mounting bracket which can be applied to existing safety helmets without drilling or other permanent attachments and which is sufficiently versatile that it can be adapted to provide mounting of different sized face shields to different sized helmets. Because the apparatus of the present invention is formed from a relatively small number of extremely simple parts, it is extremely long-lived and maintenance-free.

Although one embodiment has been shown and described it will be obvious that other adaptations and modifications can be made without departing from the true spirit and scope of the invention.

What is claimed is:

1. Apparatus for mounting a welder's face shield onto a hard helmet of the type that has an outwardly flared rim therearound, said apparatus comprising: a face shield, a body defining a pair of generally parallel vertical surfaces spaced from one another by an amount approximately equal to the transverse dimension of the helmet, means for rigidly mounting said body to said helmet with said vertical surfaces disposed on opposite lateral extremities of said helmet and in approximate juxtaposition to said rim, said surfaces being elongate in a direction substantially parallel to said rim so that said surfaces extend forwardly and rearwardly of the lateral extremities of said helmet, a pair of brackets having surfaces adapted for association with said elongate surfaces on the said body, means adjustably mounting said brackets to said vertical surfaces for adjustment to a plurality of positions along the elongate portion of said surfaces, said brackets defining a plurality of vertically spaced-apart mounting locations, and means securing the face shield to said brackets at a preselected one of said locations.

2. The invention of claim **1** wherein said bracket mounting means comprises: an elongate slot formed in each said vertical surface defining means of said body, at least one hole in each said bracket, and a threaded fastener extending through said hole and said slot mounting said bracket to said body.

3. The invention of claim **1** wherein said bracket mounting means comprises: a plurality of holes formed in each said vertical surface defining means of said body, said holes being aligned in a row parallel to the direction of elongation of said surfaces, at least one hole in each said mounting plate, and a threaded fastener extending through the hole in the mounting plate and engaged in a selected hole in said vertical surface mounting said bracket to said body.

4. The invention of claim **1** including a helmet having an outwardly flared rim and wherein said body comprises: a generally C-shaped member having a web and first and second parallel flanges extending perpendicularly from said web, said flanges being spaced apart to define a slot therebetween for receiving the helmet rim thereinto, and wherein said body mounting means comprises: a tension spring joined to opposite ends of said body so that said C-shaped body and said spring totally circumscribe said helmet to retain said slot in embracing engagement with the helmet rim.

5. The invention of claim **1** wherein said bracket includes a portion above said bracket mounting means for defining at least two vertically spaced-apart holes, said holes being vertically spaced from one another by an amount less than the diameter of said holes, and a friction bolt assembly connected at one end to said face shield and extending through one of said holes.

6. Apparatus for mounting a welder's face shield onto a hard helmet of the type that has an outwardly flared rim therearound, said apparatus comprising: a generally C-shaped member having a web and first and second parallel flanges extending perpendicularly from said web, said flanges being spaced apart to define a slot therebetween for receiving the helmet rim thereinto, a tension spring joined to opposite ends of said body so that said C-shaped body and said spring totally circumscribe said helmet to retain said slot in embracing engagement with the helmet rim, a pair of brackets having surfaces adapted for association with said web, at least one threaded fastener extending through each said bracket mounting the bracket to said web, said web being apertured to receive said threaded fasteners at any one of a plurality of locations therealong forwardly and rearwardly of the lateral extremity of said helmet, and means for attaching said face shield to said bracket at a preselected one of a plurality of vertical positions on said bracket.

7. The invention of claim **6** wherein said face shield attaching means comprises a portion of said bracket above said threaded fasteners defining at least two vertically spaced-apart holes, said holes being vertically spaced from one another by an amount less than the diameter of said holes, and a friction bolt assembly connected at one end to said face shield and extending through one of said holes.

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JAMES R. BOLER, *Primary Examiner.*

U.S. Cl. X.R.

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