

June 20, 1944.

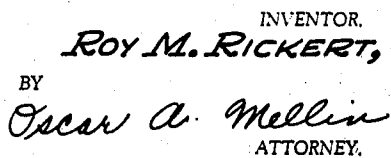
R. M. RICKERT

2,352,007

WELDER'S HOOD

Filed Oct. 9, 1942

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Fig. 4.

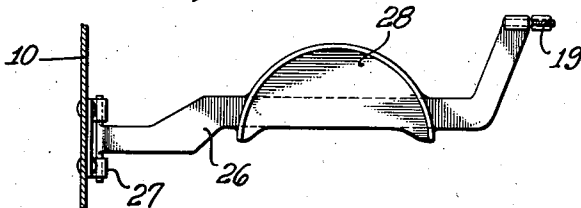


Fig. 5.

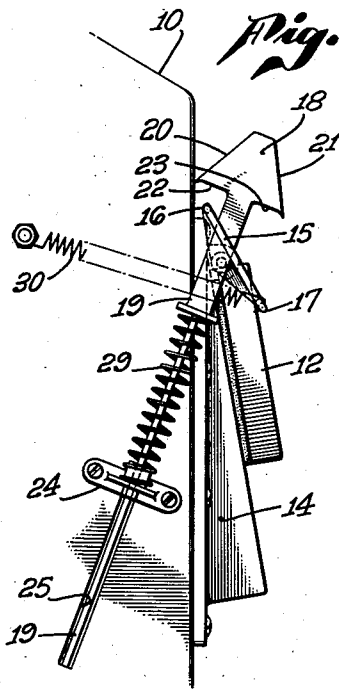


Fig. 6.

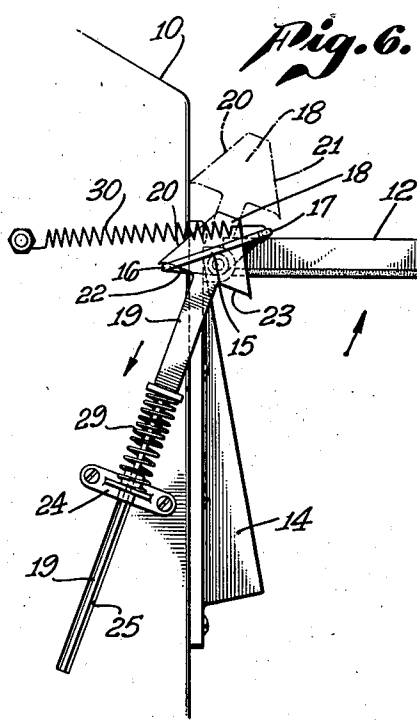
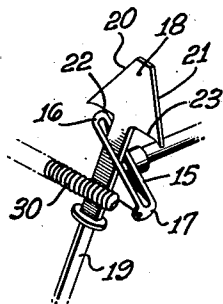


Fig. 7.

INVENTOR,

ROY M. RICKERT,

BY

Oscar A. Mellin

ATTORNEY.

UNITED STATES PATENT OFFICE

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WELDER'S HOOD

Roy M. Rickert, Oakland, Calif.

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1 Claim. (Cl. 2—8)

This invention relates to welders' hoods.

It is the principal object of my present invention to provide an improved hood for welders in which the window closure over the sight opening therein may be moved from closed to opened position by the welder without the use of his hands.

In practicing my invention I provide a welder's hood formed with a sight opening in line with the wearer's eyes. At the exterior of this opening is a window closure hinged to the hood so that it may be moved between opened and closed positions. Interiorly of the hood is positioned an operating member engaging the lower jaw of the wearer, so that the latter may operate the member by movement of the lower jaw. A connecting mechanism connects the operating member with the closure in such a manner that successive operations of the operating member alternately positions the closure in opened and closed positions.

One form which the invention may assume is exemplified in the following description, and illustrated by way of example in the accompanying drawings:

Fig. 1 is a front elevation of a welder's hood embodying the preferred form of my invention.

Fig. 2 is a rear elevation thereof.

Fig. 3 is a central vertical section through the hood taken on line 3—3 of Fig. 1.

Fig. 4 is a fragmentary plan section through the hood taken on line 4—4 of Fig. 2.

Figs. 5 and 6 are fragmentary views in side elevation showing the operating mechanism of the closure.

Fig. 7 is a fragmentary view in perspective showing certain details of construction.

Referring more particularly to the accompanying drawings, 10 indicates a welder's hood which may be of any conventional design. This hood is provided with a sight opening or window 11 fitting which is a closure member 12. The closure member 12 is positioned exteriorly of the opening 11 and overlies it in a position abutting the window frame 14 about the perimeter of sight opening 11. The closure member 12 is hinged to the frame 14 along its upper edge on a horizontal axis so that the closure 12 may swing between opened and closed positions as illustrated in Figs. 5 and 6.

At one end of the closure 12 and at one side of the hood 10, the former is fitted with a fixed yoke 15 extending co-axially of the pivot or hinge axis of the closure 12. The ends 16 and 17 of the yoke 15 are disposed equal radial dis-

tances from the pivot axis of the closure 12 as shown in Figs. 5, 6, and 7.

Projecting through the yoke 15 is the cam end 18 of a vertically reciprocal member 19 which is slightly flexible in a plane transversely of the yoke or radially with respect to the pivot axis of the closure. The cam 18 has inclined cam surfaces 20 and 21 which converge as illustrated. The sides of the cam 18 project beyond the sides of the member 19 and form lateral shoulders 22 and 23 the undersides of which alternately engage the yoke ends 16 and 17 as will be described.

The vertically reciprocable member 19 is guided for vertical reciprocation in guide 24 and in a slot 25 formed in the side of the hood 10. The lower end of the member 19 projects through this slot into the hood and is pivotally connected at its lower extremity therein to one end of an oscillatory operating bar 26. This bar 26 is hinged at its opposite end to the hood 10 as at 27 so that the bar may oscillate in the plane of movement in the member 19. Obviously oscillation of the bar 26 will be translated into reciprocation of the member 19.

The operating bar 26 has a chin socket 28 to engage the point of the lower jaw of the wearer of the hood. By movement of the jaw, the wearer may oscillate the bar and reciprocate the member 19. A spring 29 yieldingly maintains the member 19 in its uppermost position.

A spring 30 is connected to the hood 10 and to one end of the yoke 15 and is so disposed with relation to the center of the yoke 15 as to exert its tension in a manner to yieldingly maintain the latter in either of two positions. That is, in the positions where the closure 12 is in opened position and in closed position.

In operation of the device assuming that the closure 12 is in closed position as illustrated in Fig. 5, and the wearer desires to open it, the wearer moves his lower jaw downwardly depressing the operating bar 26 which pulls down the member 19. As it travels downwardly the lateral shoulder 22 on the cam 18 engages the end 16 of the yoke 15 and swings the latter about its pivot point moving the closure 12 to opened position as illustrated in Fig. 6. During this movement the shoulder 23 clears the end 17 of the yoke 15 so that no engagement therebetween results.

When the wearer raises his jaw, the spring 29 elevates the bar 26 and the member 19 to position it for a subsequent operation. A stop member 31 (Fig. 3) limits the upward movement of

the member 19 and the bar 26. The cam faces 20 and 21 and the flexibility of the member 19 in the plane of the cam 18 enables the cam 18 to pass back upwardly through the yoke 15. Obviously from Fig. 6, when the cam 18 moves upwardly and its inclined surface 21 engages the end of the yoke, the cam face 21 will cause the member 19 to flex and thus enable the cam 18 to pass through the yoke. On alternate operations of the member 19, the cam face 20 similarly cooperates with the opposite end of the yoke. The parts upon opening the window will be in the position shown in Fig. 6 so that upon the next downward movement of the member 19, the shoulder 23 will engage the yoke end 17 and swing the yoke 15 in the direction placing the closure 12 in closed position.

It is obvious that the moment that the yoke moves sufficiently so that the spring 30 is over center, a snap opening or closing of the closure 12 will result. Thus successive operations of the operating bar 26 and the reciprocable member 19 will alternately result in opening and closing of the closure 12.

It is obvious that the wearer need not use his hands at all in the operation, which is quite important in that it enables him to maintain both hands on the work or instruments with which he is engaged.

While I have shown the preferred form of my invention, it is to be understood that various changes may be made therein by those skilled in the art without departing from the spirit of the invention as defined in the appended claim.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

A welder's hood having a sight opening in the front wall thereof, a transparent closure for said opening, a hinge connection between the upper horizontal edge of said closure and the upper horizontal boundary of said opening whereby the closure will swing about a horizontal axis, a yoke rigidly fixed to one side of said closure and projecting laterally therefrom, said yoke having an elongated slot therein arranged transversely of the pivotal axis of the closure and extending equal distances on opposite sides of said axis, a vertically reciprocable member at the exterior side of the yoke, a cam end at the upper end of said member projecting through the slot in said yoke and operative on successive downward strokes of said member to alternately engage opposite ends of the yoke and swing the closure in opposite directions between closed and opened positions, a member positioned interiorly of the hood and hinged at one end to the side thereof opposite said vertically reciprocable member and connected at its opposite end through the hood to the lower end of said vertically reciprocable member, the intermediate portion of said interiorly positioned member being engageable by the chin of the wearer of the hood whereby it may be depressed to move said vertically reciprocable member downwardly, and spring means constantly tending to move said vertically reciprocable member to its uppermost position.

ROY M. RICKERT.