

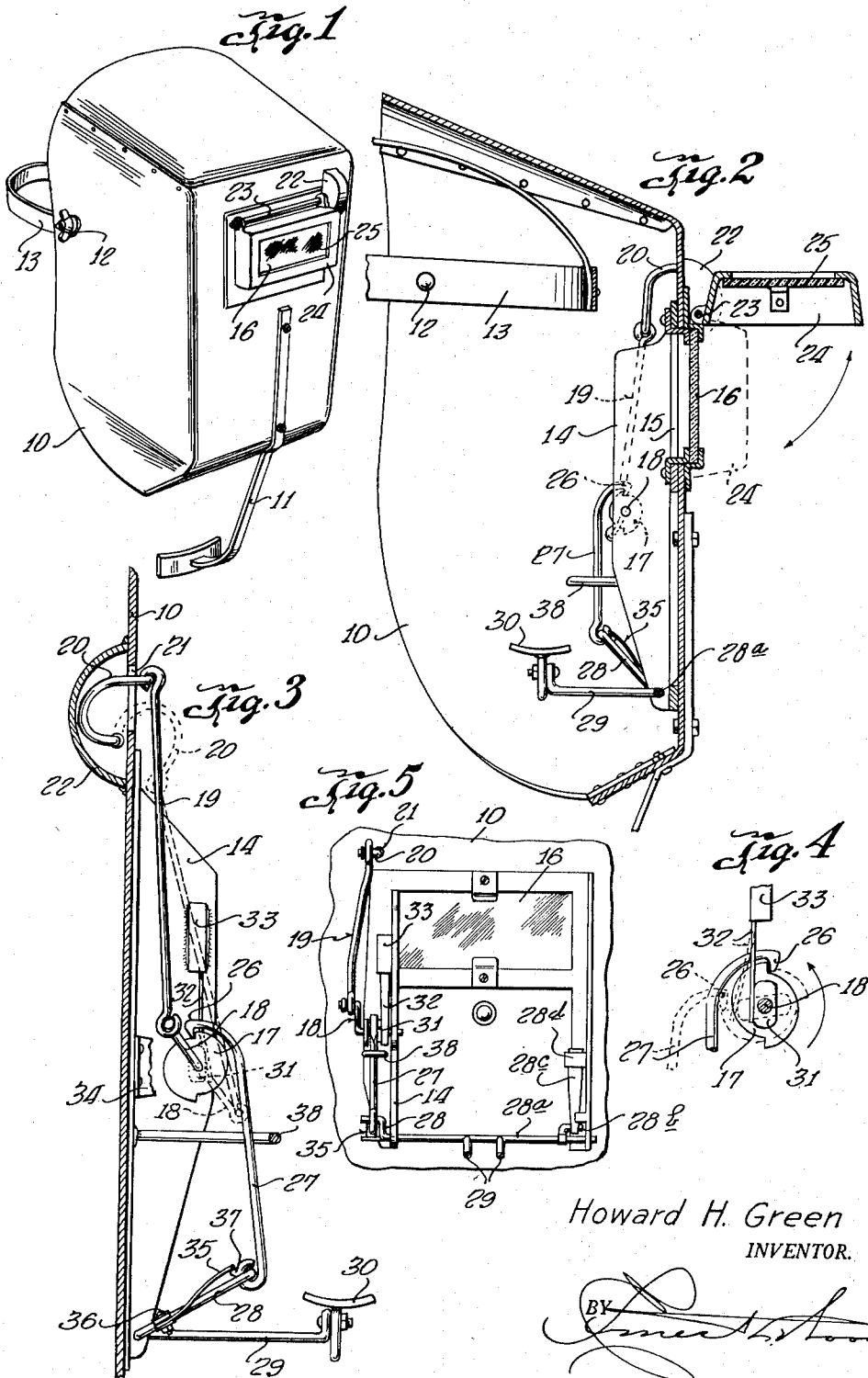
Oct. 2, 1951

H. H. GREEN

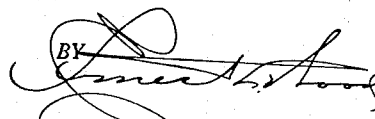
2,569,715

WELDER'S HOOD

Filed April 25, 1949



Howard H. Green
INVENTOR.

BY 
ATTORNEY

UNITED STATES PATENT OFFICE

2,569,715

WELDER'S HOOD

Howard H. Green, Bardwell, Tex.

Application April 25, 1949, Serial No. 89,398

4 Claims. (Cl. 2-8)

1

This invention relates to welder's hoods and it has particular reference to the type of hood wherein the sight opening window is opened and closed by movements of the wearer's chin.

It is the objects of the present invention, first: to simplify the mechanism for operating the sight opening window as well as to reduce the effort required for such action. Second: to provide a mechanism for the purpose which will operate with equal ease and efficiency in any position of the hood and third: to provide novel mechanism which will be effective to firmly hold the window in both open and closed positions when so moved so that shifting in positions of the hood will have no effect to dislodge the window from either position.

Broadly, the invention provides in the organization of parts composing the mechanism and arrangement which will in no way interfere with the normal use of the hood nor the ordinary practices of the welder but on the other hand, relieves the latter of the time consuming requirement for raising the hood off the face to better view the results of the work.

With the foregoing objects in view, the invention has further reference to certain features of accomplishment which will become apparent as the description proceeds, taken in connection with the accompanying drawings wherein:

Figure 1 is front perspective view of a welder's hood equipped with the invention.

Figure 2 is a vertical sectional view of the hood only a slightly larger scale showing the invention installed therein.

Figure 3 is a fragmentary sectional view of the hood rotated 180° from Figure 2 showing the invention on a still larger scale.

Figure 4 is a fragmentary view showing the relationship of the detent with the cam in different positions, and

Figure 5 is a fragmentary view showing in elevation the inner face of the side opening window and operating means therefor.

Continuing with a more detailed description of the drawing, reference numeral 10 denotes a welder's hood of any conventional shape or design, to the frontal portion of which is affixed a bracket 11 whose lower end is adapted to bear against the wearer's chest to hold the hood in parallelism with the face of the wearer. Pivoted diametrically at 12 in the hood, adjacent its top is an adjustable head band 13 by which the hood is held on the wearer's head. The pivots 12 enable the hood to be swung upwardly off the face of the wearer as provided for in conventional construction.

2

The present invention consists of a plate 14, affixed longitudinally to the inner surface of the hood and to one side of the sight opening 15, the latter being preferably covered by a transparent glass pane 16.

Pivoted to the mounting plate 15 is a ratch or double cam 17. The cam is affixed to a crank 18 to which is pivoted the lower end of a link 19, the latter extending towards the top of the hood where its upper end is pivoted to one end of a substantially U-shaped arm 20. The opposite end of the arm 20 extends through an opening 21 in the front of the hood 10 and into a small arcuate housing 22 which conceals both the arm 20 and the opening 21. The outer end of the arm 20 is turned at right angles to the longitudinal axis of the link 19 and extends through an opening in the wall of the small housing 22, to extend transversely of the hood above the sight opening 15 therein and becomes a mounting 23 from a frame 24 and to which the latter is rigidly attached. The frame 24 contains a glass 25 suitably tinted to shield the eyes of the welder from the glare of the welding torch or arc.

Cooperating with the cam 17 is a detent 26 formed by shaping the upper end of an arm 27 into a hook which overlies the top of the cam. The lower end of the arm 27 is pivotally attached to a crank extension 28 of a shaft 28a extending transversely across the lower portion of the hood. The opposite end of the shaft 28a is equipped with an L-shaped arm 28b (Fig. 5), against which bears the lower end of a leaf spring 28c, anchored at 28d at its opposite end. This spring is instrumental in resisting downward movement of a pair of parallel arms 29 which latter are affixed to shaft 28a and extend inwardly towards the face of the wearer of the mask. The arms 29 are adapted to be spaced downwardly from the chin of the wearer so that the latter, by opening the lower jaw may bring his chin against a rest 30, mounted on the outer end of the arm 29 and which is, of course, held normally in operative position by the action of the leaf spring 28c.

By observing Figure 4 especially, it will be seen that the cam 17 has on one face thereof a rectangular boss 31, against which bears a leaf spring 32, the upper end of which is anchored at 33 to the inner surface of the mounting plate 14. The purpose of this spring is to restrain the cam at each half revolution. The member 34, shown broken away in Figure 3 is a bracket serving as a bearing for the crank 18 and the cam 17 is interposed between this bracket and the mounting plate 14.

3

To hold the detent 26 in continuous engagement with the face of the cam 17, a leaf spring 35 is anchored at 36 to the extension 28 of the lever 29 and its outer end bears against a lug 37 formed on the lower end of the detent arm 27 to exert a force tending to urge the detent into operative relationship with the diametrically opposed shoulders on the face of cam 17. A substantially U-shaped guide 38 is affixed to the hood 10 and extends to embrace the detent arm 27, thus to prohibit lateral displacement thereof.

In the operation, the welder adjusts the hood to his head so that the same will be disposed parallel to his face and in this position, the chin rest 30 will be sufficiently below the chin that it will not interfere with normal movements of the lower jaw. However, when it is desired to displace the glare shield 25 after a welding operation, the lower jaw is moved to bring the chin against the rest 30 and further movement will exert a downward pull on the arm 27, against the resisting pressure of leaf spring 28c, causing the detent 26 to impart rotation to the cam 17 to the extent of half a revolution, or until the opposing shoulder of the cam is engaged by the detent. Rotation of the cam is accomplished against the resistance of the leaf spring 32 as the position of the boss 31 is reversed. When the cam has made one half revolution, the link 19 will have been moved by the crank 18 from the solid line position in Figure 3 to the dotted line position to raise the window 25 to the position shown in solid lines in Figure 2, or open position. The window is held in this position by the force exerted against the boss 31 by the leaf spring 32.

To close the window 25, it is necessary simply to again bring the chin against the rest 30 and thus complete the revolution of the cam 17 by again exerting a downward pull on the detent arm 27. The above described operation is the same except that the cam 17 acts to raise the link 19 and thus move the U-shaped arm 20 to close the window 25.

It is apparent from the foregoing that the cam 17 is caused to move a half turn in the same direction each time the chain rest 30 is depressed but successive movements of the cam cause alternate opening and closing of the window. It is also obvious that the described mechanism is unaffected by changes in positions of the hood, hence a welder may work in any position and yet rely on positive action of the mechanism to open and close the glare shield window 25.

Manifestly, the construction as shown and described is capable of some modification and such modification as may be construed to fall within the scope and meaning of the appended claims is also considered to be within the spirit and intent of the invention.

What is claimed is:

1. In a welder's hood having a sight opening, a window hinged along its upper edge for movement relative to said opening, a substantially U-shaped arm affixed at one end to the hinge of said window, a link pivoted at its upper end to the opposite end of said arm, a rotatable cam having diametrically opposed peripheral shoulders, a crank on which said cam is mounted and

4

pivotaly connected to the lower end of said link, a leaf spring adapted to restrain said cam at each half revolution to hold said window in open and closed position, an arm having a hook on its upper end adapted for alternate engagement with the shoulders of said cam and means operated by the chin and pivotaly engaging the lower end of said latter arm for rotating said cam to open and close said window.

2. In a welder's hood, a window hinged for movement to open and closed position with respect to the sight opening in said hood, a rotatable cam having diametrically opposed peripheral shoulders, a crank on which said cam is mounted, a link pivoted to said crank at its lower end and having operative engagement at its upper end with said window, an arm having a hooked end adapted for alternate engagement with the shoulders of said cam to effect rotation of the latter to open and close said window, spring means resisting rotation of said cam and effective to hold said window in open and closed positions, and means operated by the chin for reciprocating said arm to actuate said cam to open and close said window.

3. In a welder's hood having a sight opening, a window hinged to overlie said opening, a rotatable cam having diametrically opposed shoulders on its periphery, an arm having its upper end formed into a hook adapted for alternate engagement with said shoulders to rotate said cam, a crank on which said cam is mounted, a link effecting connection between said crank and said window to open and close the latter at each half revolution of said cam, spring means resisting rotation of said cam to hold said window in open and closed positions and means operated by the chin for reciprocating said arm to actuate said cam.

4. In a welder's hood having a sight opening therein, a window hinged to cover said opening, a crank pivoted in bearings attached to the inner surface of said hood, a link effecting operative connection between said crank and said window to effect opening and closing of the latter during each revolution of said crank, means to restrain said crank at each half revolution to hold said window in open and in closed positions, a lever having a chin rest, a cam mounted on said crank, an arm pivotaly connected at its lower end to said lever and adapted to be reciprocated by said lever, a hook formed on the upper end of said arm engageable at two positions on said cam to rotate the same and to effect opening and closing action of the window of the hood during each revolution of said cam.

HOWARD H. GREEN.

REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
2,190,074	Locher	Feb. 13, 1940

FOREIGN PATENTS

Number	Country	Date
537,469	Germany	Nov. 3, 1931