VENTILATED WELDING HELMET
Willis S. Hobson, Seymour, Ind., assignor to Seymour Manufacturing Co., Seymour, Ind.
Filed Mar. 18, 1968, Ser. No. 713,599
Int. Cl. AH115/06
U.S. Cl. 2—8

ABSTRACT OF THE DISCLOSURE

The ventilated welding helmet includes a face shield provided with a window and a curved hood. The face shield is pivotally attached to a head frame worn by the operator. The ventilating means includes a centrifugal blower supplying filtered air through a flexible hose having one end connected to the blower. At its other end, the flexible hose includes a nozzle having a divergent spout and a projecting lug. A pair of clamping screws threadedly attached to the lug provides a means of detachably connecting the helmet between the spout and lug whereby to direct air inwardly of the shield.

BACKGROUND OF THE INVENTION

This invention relates generally to welding helmets, and more particularly to a welding helmet which is ventilated interiorly for the protection of the operator.

Welding helmets which are ventilated to prevent the ingress into the helmet of noxious gases harmful to the operator are not generally new. However, constant improvements are sought in this field of endeavor not only because of possible danger to the operator but also because a protected operator may work for longer periods of time in close quarters in which the danger from fumes is aggravated.

One prior type of ventilated helmet effectuated the ventilation by means of a perforated tubular frame around the window, the perforated holes discharging air interiorly in the region of the nose and eyes of the operator, a supply hose being connected to the frame. The perforated tubular frame required the provision of a special helmet. Another prior type of ventilated helmet provided a fitting to the mask in the region of the mouth. Air was supplied from an external source by a hose attached to the fitting, and either a special helmet was required, which included the fitting, or modification had to be made to each helmet to accommodate the special fitting.

Ventilation has been effectuated in various other ways. For example, a semi-circular plenum tube was attached to the head band of a welding helmet, the tube being perforated with air holes discharging air in the vicinity of the nose and mouth. This semicircular tubular unit in fact became a permanent part of the helmet, because a detachable air hose supply attachment was provided. The nature of the connections between the plenum tube and the head frame did not render them susceptible to being readily connected and disconnected.

Still another prior type of helmet had a built-in fitting molded to the crown and was, therefore, a helmet which had been specially designed to receive an air hose fitting. The built-in fitting itself was not detachable from the helmet.

Thus, those prior ventilated helmets are either specially designed or require special fittings, which, in effect, convert the helmet into a special helmet. The present device avoids this complication and restriction.

One aspect of safety equipment that cannot be ignored is that it must be easy to use. In general, operators of dangerous equipment dislike being encumbered with safety devices, and when such devices are not simple to use, they will refuse, in many instances, to avail themselves of such equipment. In brief, convenience of use is paramount in safety devices.

SUMMARY OF THE INVENTION

The present device is particularly intended to be used with a conventional welding helmet of the type currently in use having a head frame with a face shield pivotally attached thereto. No special fittings of any kind are required on the helmet, and the ventilation may be provided for as long as or short a time as may be desired. In a matter of seconds, the ventilating device may be transferred to another helmet worn by another operator, and in the process of transference there is no need whatsoever for either operator to remove his helmet. Nor is there any need for the helmets in question to be of identical design, the ventilating device being adaptable to most conventional types.

The ventilated welding helmet includes a face shield with a window portion and a curved hood having a crown, the shield being pivotally attached to a head frame.

The ventilating means includes an air supply transmitted to the helmet by means of a flexible air hose which is connected to the air supply at one end and is provided with nozzle means at the other end. The nozzle means is detachably connected to the crown of the face shield whereby to direct air inwardly of the shield.

The spout includes an inlet orifice communicating with the hose to receive air therefrom and a divergent outlet orifice exhausting the air inwardly of the shield. The spout includes an upper wall cooperating with the spaced lug and associated clamping means to hold the crown in clamped relation therewith. The clamping means includes a pair of threadedly adjustable clamping screws carried by the lug, whereby to clamp the nozzle to the crown.

The spout inlet and outlet orifices are angularly related. The air supply includes a centrifugal blower unit delivering ambient air to the hose. The spout exhausts the air against the curve of the crown for deflected dispersal of the air between the inside of the shield and the face of the operator.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view illustrating the helmet with the ventilating device clamped thereto;
FIG. 2 is a perspective view illustrating the centrifugal blower and motor unit;
FIG. 3 is a fragmentary front elevation of the nozzle clamped to the crown of the face shield;
FIG. 4 is a fragmentary sectional elevation taken on line 4—4 of FIG. 3, and
FIG. 5 is a fragmentary plan view of the nozzle connected to the crown of the helmet.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, and first to FIG. 1, it will be understood that the ventilated welding helmet 10 and a ventilating nozzle generally indicated by numeral 11 connected to the helmet 10.

The helmet 10 includes a face shield 12 having a framed window 13 and a curved hood portion 14, the hood portion including a crown 15, side portions 16 and a bottom portion 17.
A ventilated welding helmet as defined in claim 3, in which:

(e) clamping means clamps the crown between the spout and the lug.

3. A ventilated welding helmet comprising:
(a) a helmet including:
(1) a face shield having a window portion and a curved hood portion, and
(2) a head frame pivotally attached to the face shield, and
(b) ventilating means including:
(1) an air supply,
(2) a flexible air hose connected at one end to the air supply, and
(3) nozzle means at the other end of the hose, detachably connected to the hood portion of the shield, the nozzle means directing air inwardly of the shield toward the window portion.
(c) the hood including a crown having a rear margin, and
(d) the nozzle means including:
(1) a spout, communicating with the hose to receive air therefrom, and
(2) a projecting lug spaced from the spout to provide a gap receiving the rear margin of the crown.

4. A ventilated welding helmet as defined in claim 3,
3,584,314

(f) the clamping means includes a pair of clamping screws carried by the lug and threadedly adjustable therewith to clamp the nozzle means to the crown.

5. A ventilated welding helmet as defined in claim 3, in which:

(f) the air supply includes a centrifugal blower unit delivering ambient air to the hose, and

(g) the spout exhausts air against the curve of the crown for deflection thereby and dispersal inwardly of the shield.

6. A ventilated welding helmet as defined in claim 5, in which:

(h) the spout inlet and outlet orifices are angularly related.