Aug. 23, 1932. F. M. BOWERS 1,872,877

SAND BLASTER'S HELMET

Filed Oct. 13, 1928

Fig. 1.

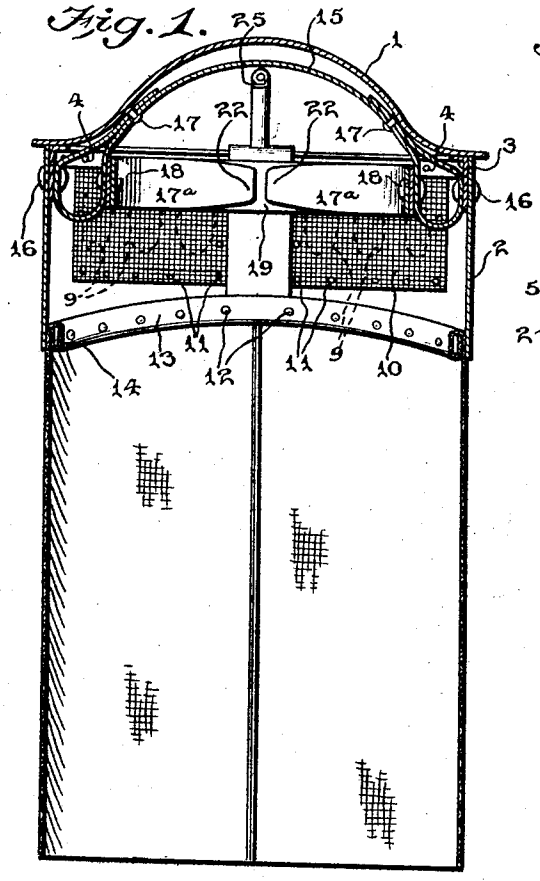
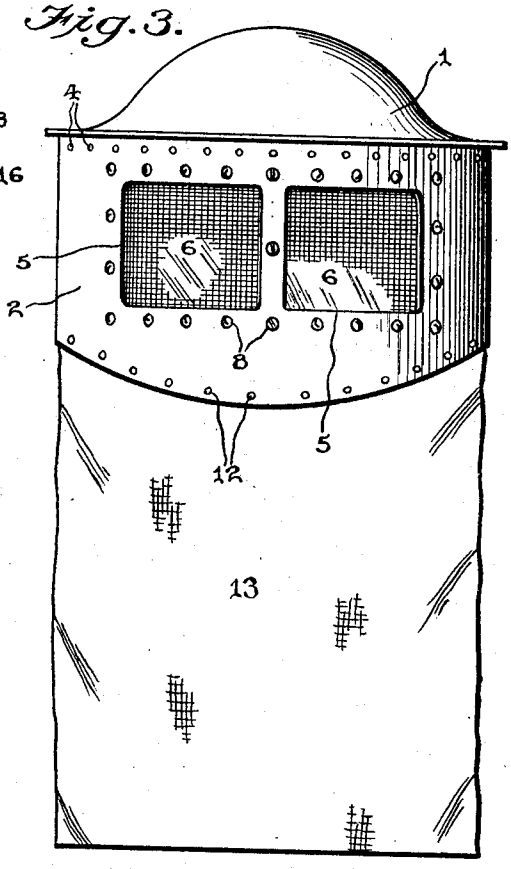


Fig. 3.



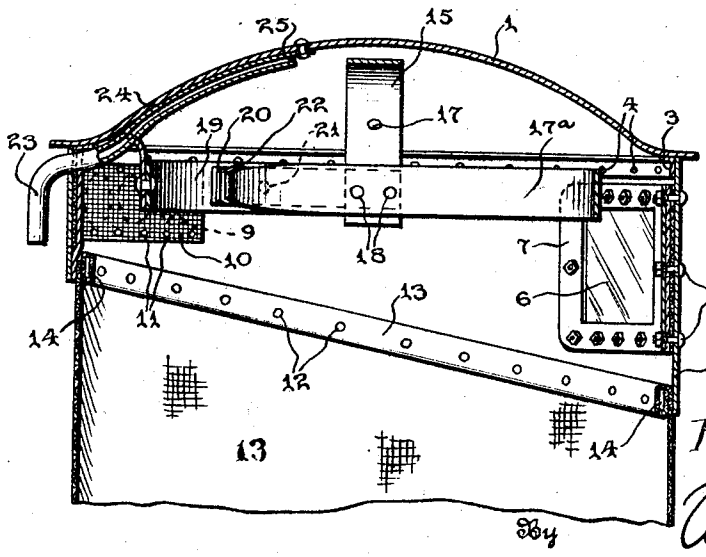


Fig. 2.

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Patented Aug. 23, 1932 1,872,877

UNITED STATES PATENT OFFICE

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SAND-BLASTER'S HELMET

Application filed October 13, 1928. Serial No. 312,232.

This invention relates to head gears and more particularly to a sand blast protection helmet.

One of the objects of the invention is to provide a helmet including a cup-shaped fibre head-piece having a relatively deep rigidly depending head-encircling flange formed of the same material, and provided with protected ventilating and sight apertures, and a tubular canvas extension secured to the lower edge of the flange and extending to the shoulders of the wearer for protecting the wearer against the sand used for blasting purposes.

Another object is to provide such a helmet with improved means for securing a screen or mesh plate in the sight apertures, such means permitting the use also of celluloid at these places. A further object is to furnish a helmet of the above mentioned type, in which the canvas extension is held spread by the rigid flange, so as to give a relatively large air space all around the head of the user.

A still further object is to provide a sand blast helmet having means for introducing compressed air into the same, and for discharging said air into the top of the helmet in such manner that it will flow forwardly and outwardly between the face of the wearer and the sight apertures. In using a sand blast, usually under cover, there would be an inflow into the helmet of dust and sand particles unless this compressed air inlet somewhat increased the pressure inside the helmet.

With the foregoing objects outlined and with other objects in view which will appear as the description proceeds, the invention consists in the novel features hereinafter described in detail, illustrated in the accompanying drawing, and more particularly pointed out in the appended claims.

Referring to the drawing,

Fig. 1 is a transverse vertical sectional view of the improved helmet.

Fig. 2 is a partial longitudinal vertical sectional view of the same.

Fig. 3 is a front elevation of the helmet.

In the drawing, 1 designates the cup-shaped top of the helmet which is preferably made of some substantially rigid relatively light material, such as fibre-board. A flange 2 formed of the same material, depends from the top, and the upper edge of the flange is preferably secured in a substantially air-tight manner to the outer edge of the top, by means of an angular ring 3, also preferably formed of fibre-board, and connected to both the top and flange by suitable fastening devices, such as rivets 4.

The flange is cut out at its front portion to provide sight apertures 5, which may be covered by windows 6 formed of wire mesh, celluloid or both, and these windows are held in place by a frame 7, located within the helmet and held against the edges of the windows by some suitable fastening devices such as bolts and nuts 8. These windows permit the operator to see through the helmet, and also protect his eyes from dust, sand or the like.

Ventilating ports 9 are arranged at the rear portion of the flange, and are covered by wire gauze 10, preferably secured in position by rivets 11.

It will be noted that the lower edge of the flange is cut on a bias, so that the front edge extends downwardly to a greater extent than the rear edge, and this bias edge is secured by rivets 12 or the like, to a tubular canvas shoulder piece or protector 13, which preferably has its upper end folded around a ring 14, in order that the rivets and ring may make a substantially dust tight joint where the canvas and fibre flange are connected.

A fibre strip 15 extends transversely across the interior of the helmet, in arc-shaped manner, and has its ends bent back upon the main portion of the strip, and secured to the flange by rivets 16. Rivets 17 connect the looped ends of the strip to the main portion of the same.

This strip supports a front horizontally disposed strip 17^a which is riveted at 18 to the cross strip, and forms the front member of a head band. The rear portion of this head band is formed by a similar horizontally disposed strip 19, which is also riveted to the cross piece, as shown, and this rear piece is provided with angular strips of resilient metal 20, riveted to the rear piece, as shown

at 21, and bearing upon the free rear ends 22 of the front piece. This provides a headpiece or band similar to that shown in my Reissued Patent No. 16,515 of Jan. 4, 1927 that is automatically adjustable to accommodate different sized heads; it being understood that when the head is inserted in the front piece, the rear ends of the latter expand against the metal strips.

For the purpose of ventilating the helmet and forcing any dust or the like out of the same, a compressed air pipe 23 is led into the helmet through the rear portion of the flange 2, and extends along the inner surface of the top, as shown at 24, and the forward end 25 of this pipe may be flared and secured to the top at about the center of the latter, so that the air entering through this pipe and under pressure, has a tendency to flow forwardly and downwardly between the face of the user, and the sight openings, and to thereby keep the sight openings clear and prevent dust from entering the same; the air escaping through the ventilating openings at the rear of the helmet.

From the foregoing it will be understood that when the helmet is in use, that the user will be protected from dust and sand particles which ordinarily enter such helmets, and at the same time, the compressed air used in ventilating will keep the user comfortable and tend to eject any dust or sand which would otherwise enter the helmet.

In view of the above, it is believed that the construction, use and advantages of the invention may be readily understood, and it is apparent that changes may be made in the construction disclosed, without departing from the spirit of the invention, as expressed in the claims.

What is claimed and desired to be secured by Letters Patent is:

1. A sand blaster's protection helmet comprising a rigid fibre cup-shaped top piece with a deep rigidly depending head-encircling flange having a tubular canvas shoulder extension attached to its bottom edge, protected front sight openings in said depending flange, diametrically opposite rear ventilating openings formed of a plurality of closely spaced apertures protected by a common screen, and a compressed air-inlet tube to said helmet terminating within the high portion of said cup-shaped top piece and opening forwardly, where said compressed air will be directed downwardly from said top past said sight apertures and escape rearwardly through said rear flange ventilator openings.

2. A sand blaster's protection helmet comprising a rigid fibre cup-shaped top piece with a deep rigidly depending head-encircling flange having diametrally opposite sight and ventilator openings and an open annular bottom rim, a tubular canvas shoulder extension attachable to said rim, having a folded-over top edge extending into said flange, a securing ring fitted to said inner flange diameter and engageable in said extension fold, and securing rivets attaching said ring to said flange rim; said helmet having a top compressed air inlet, and said extension forming a substantially air-tight junction with said depending flange.

In testimony whereof I affix my signature.

FREDERICK M. BOWERS.