

Nov. 12, 1929.

F. DUMIN

1,735,265

HELMET

Filed Dec. 30, 1927

2 Sheets-Sheet 1

Fig. 1.

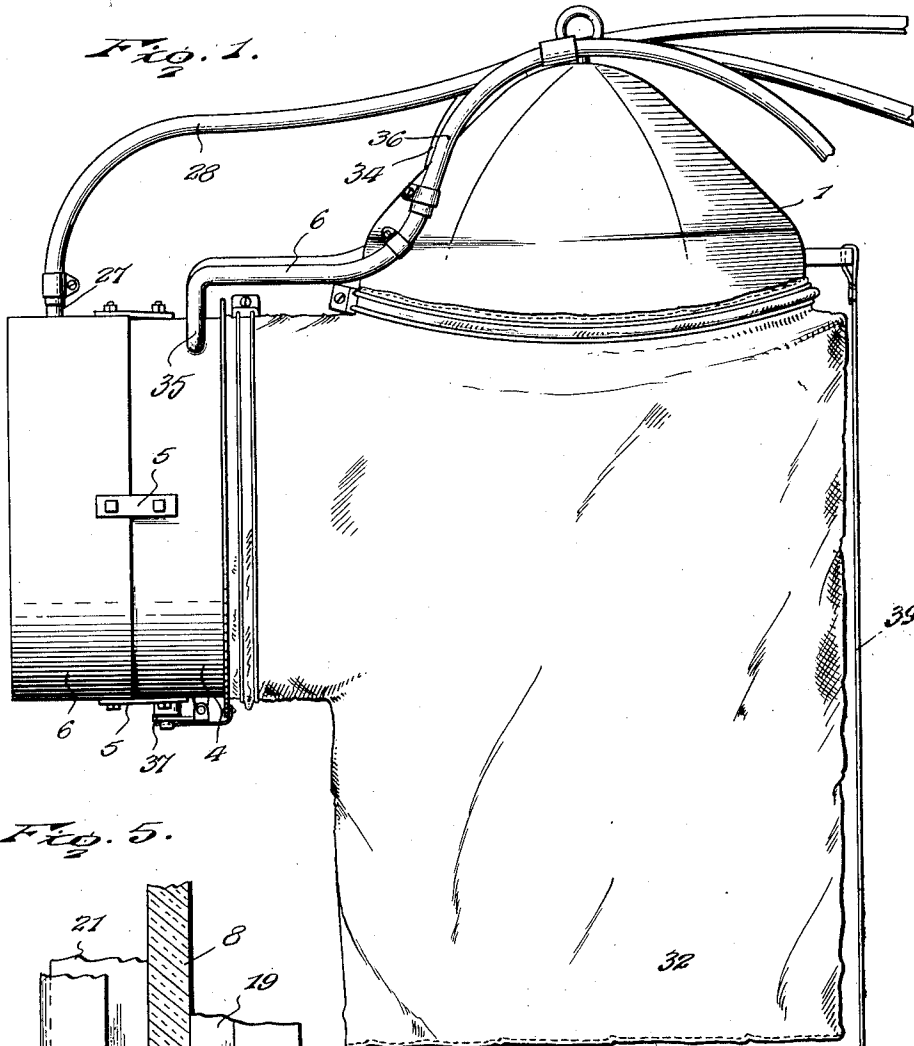


Fig. 5.

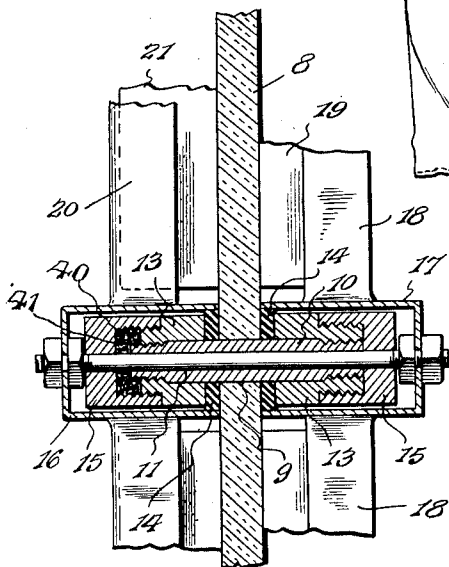
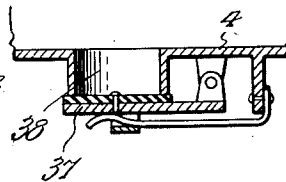


Fig. 6.



Inventor

F. Dumin.

By

Lacey & Lacey, Attorneys

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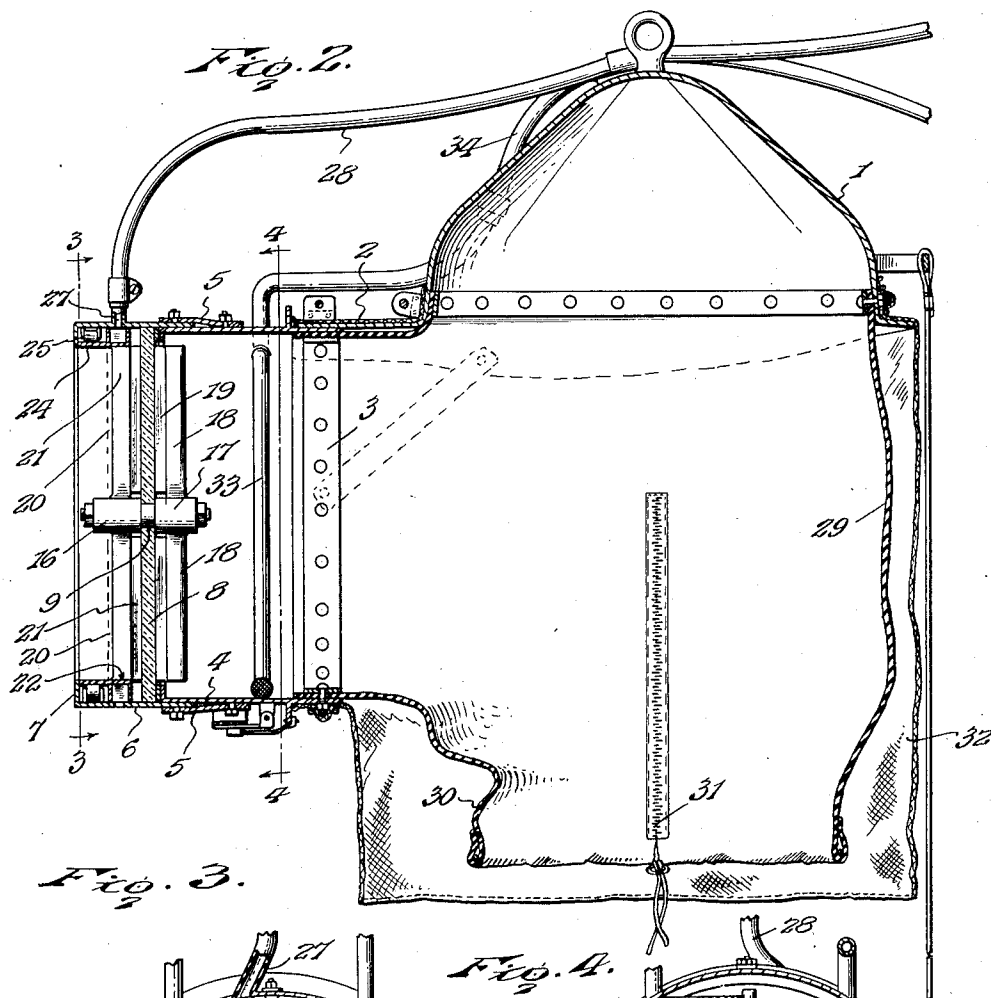


Fig. 3.

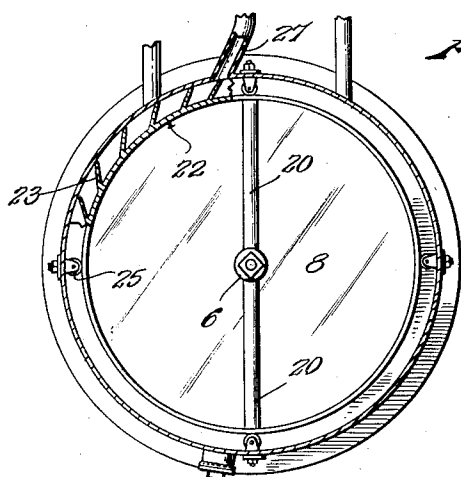
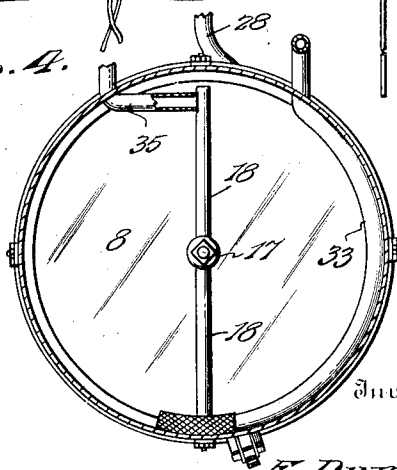


Fig. 4.



Inventor

F. Dumin.

By

Lacey, Lacey, Attorney.

UNITED STATES PATENT OFFICE

FRIEDRICH DUMIN, OF SHEBOYGAN, WISCONSIN

HELMET

Application filed December 30, 1927. Serial No. 243,682.

The present invention is directed to improvements in helmets.

The primary object of the invention is to provide a device of this character more particularly designed for use by men engaged in sand blasting, the construction being such that the user will be protected against the injurious effect of sand entering the lungs and eyes.

A further object of the invention is to provide a device of this kind so constructed that the glass pane constituting the window will be constantly maintained clean in order that the vision of the user will be in no way impaired in order that a clear view can be had of the articles being sand blasted.

Another object of the invention is to provide a device of this character wherein fresh air will be admitted to the helmet and the foul air drawn therefrom.

With these and other objects in view, this invention resides in the novel features of construction, formation, combination and arrangement of parts to be hereinafter more fully described, claimed and illustrated in the accompanying drawing, in which,—

Figure 1 is a side elevation of the device.

Figure 2 is a vertical, central, sectional view through the same.

Figure 3 is a sectional view on the line 3—3 of Figure 2.

Figure 4 is a sectional view on line 4—4 of Figure 2.

Figure 5 is an enlarged detail sectional view of the bearing for the panel wipers.

Figure 6 is a detail sectional view through the auxiliary valve.

The helmet includes a sheet metal crown 1 which has a forwardly directed flange 2 which supports a vertically disposed ring 3, and connected with the ring and flange is a collar 4.

Secured to the forward end of the collar 4 by strips 5 is a cylinder 6 having an inturned outer flange 7.

Midway the cylinder is supported a glass panel 8 having a central bearing 9 in which is fitted a sleeve 10, having an axial bore 11 for rotatably receiving the bolt 12, said bolt having nuts 13 upon its ends which have

their inner ends engaged with rubber washers 14, which bear against the opposite sides of the panel and maintain the sleeve and bolt in the position as shown in Figure 5. Jam nuts 15 are engaged upon the nuts 13 in order that the sleeves 9 will be firmly held in place.

Hollow heads 16 and 17 are fixed to the opposite ends of the bolt 12, the heads 17 carrying oppositely directed diametrically disposed arms 18 which have their outer ends spaced from the interior surface of the collar 4, said arms having felt strips 19 carried thereby for wiping the inner surface of the panel 8 when the arms are rotated.

The outer head 16 also has a pair of diametrically disposed arms 20 carried thereby and provided with felt strips 21 for wiping the outer surface of the panel. The outer ends of the arms 20 are fixed to the inner periphery of the rotor wheel 22, said wheel having impeller blades 23 fixed to its outer periphery. The rotor wheel has an annular flange 24 carried thereby for engaging the anti-friction rollers 25 carried by the brackets 26 which are fixed to the interior wall of the cylinder 6, said rollers serving to maintain the rotor wheel in true alinement and relieve the bearing 9 of strain.

In order to impart rotary movement to the wheel 22 air under pressure is directed against the blade 23 through a nipple 24, the air being conducted thereto through a hose 28 which leads from a source of supply.

A thin rubber hood 29 is supported by the crown 1, flange 2 and collar 4 and has a neck portion 30 designed to fit closely around the neck of the user, a suitable fastening means 31 being provided to assure a tight fit of the neck portion upon the neck of the user.

Enveloping the head 29 is a fabric covering 32 which will envelop the shoulders of the user and serves as additional means to prevent the entrance of sand to the helmet. The cover is supported by the crown 1, flange 2 and ring 3.

A tube 33 extends into the collar 4 and has its exit end arranged upon the lower portion of said collar, there being a hose 34 connected to the tube and through which fresh air

under pressure is forced into the tube for distribution in the collar and adjacent parts.

To draw foul air from the helmet a tube 35 extends into the upper part of the collar 4 and has a hose 35 leading therefrom to a suction pan or the like.

An auxiliary spring pressed disk 33 is carried by the collar 4 and normally closes the opening 38, this valve being capable of being opened when it is desired to supply fresh air to the helmet should the compressed air supply fail.

In order to prevent the helmet from tilting forwardly, a strap 39 is provided and has its upper end connected to the crown 1, the lower end of the strap being adapted to be secured to the belt of the user.

In operation the helmet is placed upon the head and the neck 30 fastened, whereupon compressed air from the nipple 27 will rapidly rotate the rotor wheel 22 in order that the strips 19 and 20 will maintain the opposite faces of the panel 3 free from dust and grit. Since the rotor wheel rotates rapidly the view of the user will not be obstructed. The foul air will be drawn from the device through the tube 35 and replenished by fresh air from the tube 33, thus assuring a constant supply of fresh air to the user.

The outer jam nut 15 is provided with a cavity 40 in which is placed oiled packing 41 to assure proper lubrication of the many parts.

Having thus described the invention, I claim:

1. A helmet for the purpose specified, comprising a crown, a cylinder associated with the crown, a glass panel mounted in the cylinder, a bolt journaled in the panel and having arms rotatable therewith, said arms being located upon opposite sides of the panel, and having felt strips carried thereby for engagement with the opposite faces of the panel, an impeller wheel fixed to one set of arms, and means for conducting air under pressure to rotate the wheel and thus both sets of arms, as and for the purpose set forth.

2. A helmet for the purpose specified, comprising a crown, a cylinder associated with the crown, and in the line of vision of the user, a glass panel mounted in the cylinder, an impeller wheel mounted in the cylinder, oppositely extending arms rotatably supported by the panel, and connected to the wheel, means for conducting air under pressure to the wheel for imparting rotary movement thereto and thus to the arms, and wiping elements carried by the arms for engagement with the panel, as and for the purpose set forth.

In testimony whereof I affix my signature.

FRIEDRICH DUMIN. [L. s.]