A. BLANC.

BREATHING AND FACE PROTECTING APPARATUS FOR ROCK DRILLS.

APPLICATION FILED MAY 21, 1917.

1,271,012.

Patented July 2, 1918.

2 SHEETS—SHEET 1.

Fig. 1.

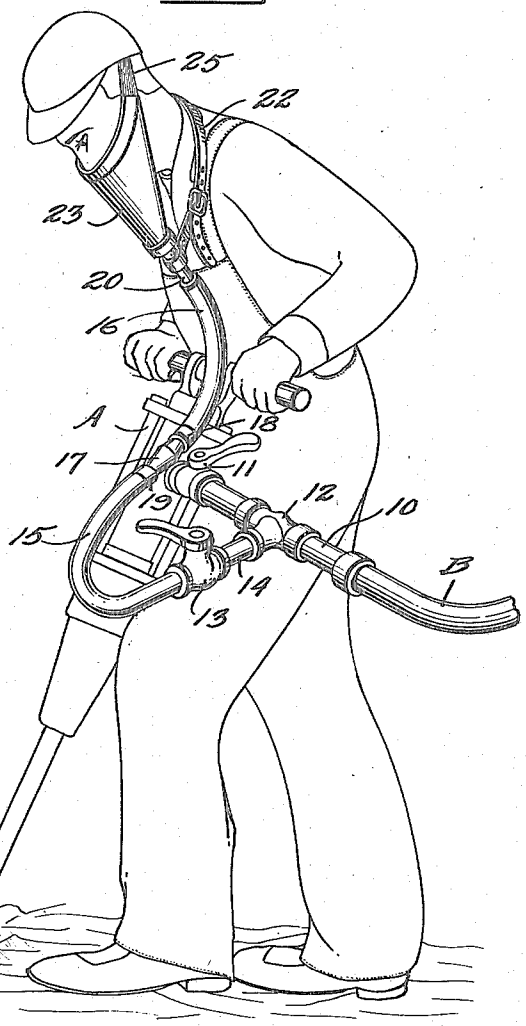
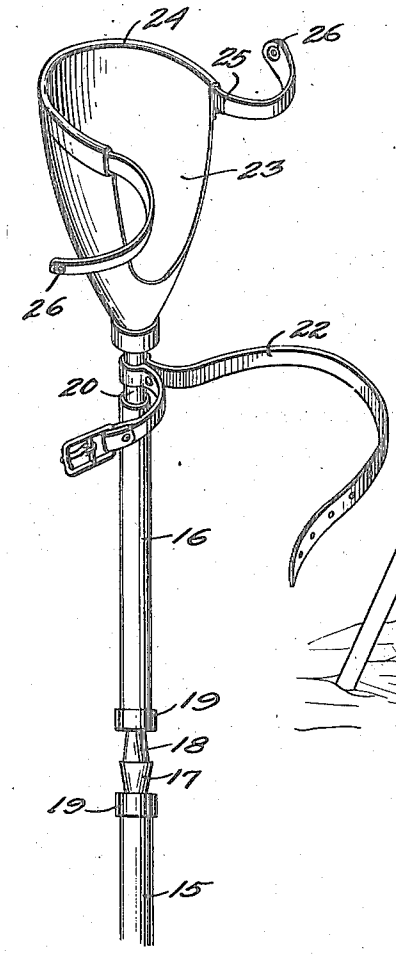


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

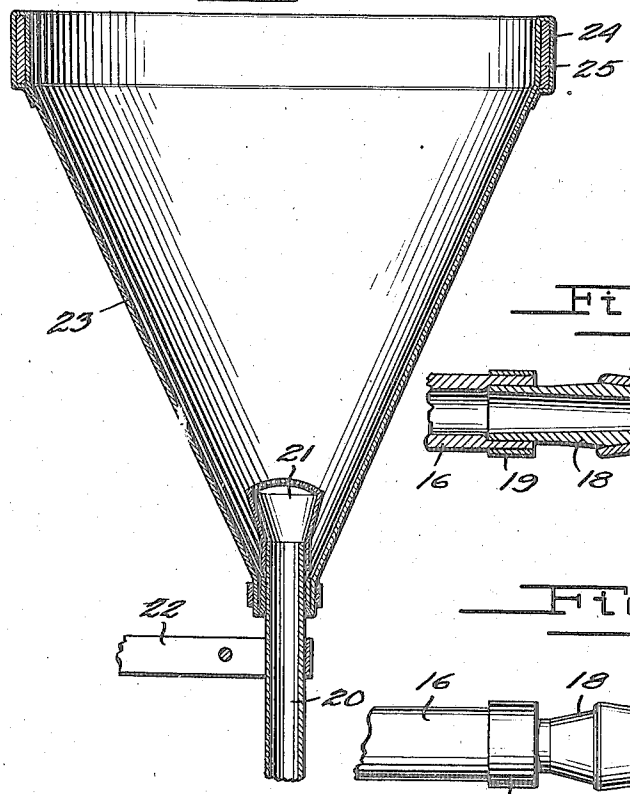


Fig. 5.

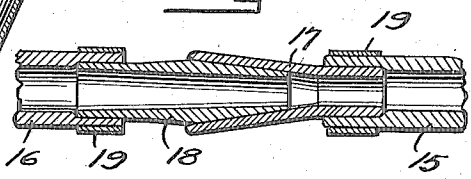


Fig. 6.

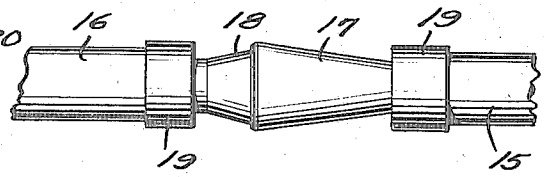
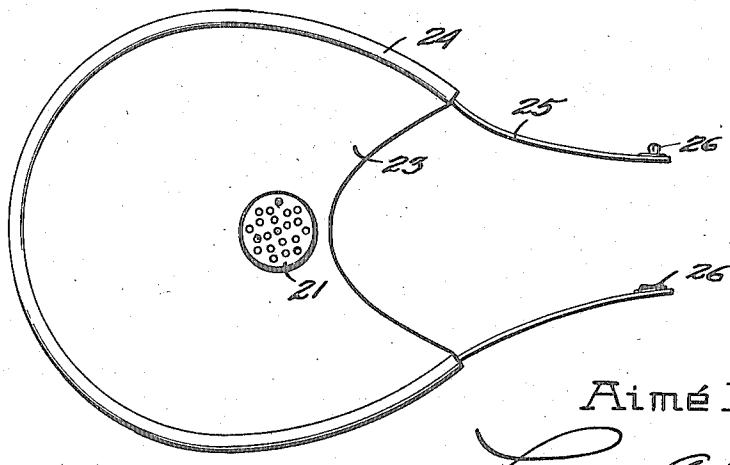


Fig. 4.



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UNITED STATES PATENT OFFICE.

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BREATHING AND FACE-PROTECTING APPARATUS FOR ROCK-DRILLS.

1,271,012. Specification of Letters Patent. Patented July 2, 1918.

Application filed May 21, 1917. Serial No. 170,018.

To all whom it may concern:

Be it known that I, AIMÉ BLANC, a citizen of the United States, and a resident of Aspen, in the county of Pitkin and State of Colorado, have invented a certain new and useful Improvement in Breathing and Face-Protecting Attachments for Rock-Drills, of which the following is a specification.

The present invention relates to rock, mining, and like drills, and more particularly to an attachment to be applied to the same for supplying air to the operator, and for protecting the face and head of the operator from dust and the like in the surrounding atmosphere.

An object of the present invention is to provide a novel simply constructed attachment to be applied to rock drills and to be supported upon the shoulders and head of the operator for supplying air for breathing purposes, and deflecting and warding off dust and fine particles of stone and the like carried in the surrounding air.

Another object of the present invention is to provide an improved quickly and readily detachable connection in the pipe line leading from the head attachment to the rock drill supply pipe for disconnecting the head attachment from the drill should the latter fall, as in case of accident and the like where it is necessary to quickly free the operator from the apparatus.

The above, and various other objects and advantages of this invention will be in part described, and in part understood from the following detailed description of the present preferred embodiment, the same being illustrated in the accompanying drawings, wherein:

Figure 1 is a perspective view of the attachment of this invention as applied to a rock drill, the view showing the attachment as applied to an operator in the act of applying the drill.

Fig. 2 is a detail perspective view, enlarged, of the head attachment and the adjacent parts thereof.

Fig. 3 is a longitudinal sectional view, further enlarged, of the hood for engagement over the face, the air-feeding nozzle being shown in section.

Fig. 4 is a top plan view of the same.

Fig. 5 is a longitudinal section through the quickly detachable coupling in the branch pipe leading to the hood.

Fig. 6 is a side elevation of the coupling.

Referring to these drawings, 10 designates a connecting pipe joining the rock drill A to the main air feed pipe B, a pressure-controlling valve 11 being interposed in the pipe 10 adjacent to the rock drill A.

The pipe 10 also includes a T-coupling 12, the shank of which is connected to a valve 13 in a branch 14 leading from the shank of the T-coupling 12, and which has connection with a flexible hose section 15 to supply air for breathing purposes. The flexible pipe line between the pipe 10 and the head attachment also includes a second flexible hose section 16, the hose sections 15 and 16 being detachably connected together by a pair of telescopically engaging coupling members 17 and 18.

As best seen in Figs. 5 and 6, the coupling section 17 is provided with a flaring mouth adapted to receive therein the section 18, the latter having a conical outer wall forming a plug for frictional engagement in the flaring end of the section 17. The sections 17 and 18 are adapted to be detached or separated from one another by a slight longitudinal pressure on the hose sections 15 and 16. The coupling members 17 and 18 are provided upon their inner ends with nipple portions adapted to engage in the adjacent ends of the hose sections 15 and 16, and are secured therein by bands or clamps 19 adapted to compress the adjacent ends of the hose sections 15 and 16 upon the nipples.

The free end of the hose section 16 is suitably secured over a shank 20 of tubular form, provided upon its extremity with a nozzle 21 in the form of a head having suitable perforations therein for the distribution of the air delivered to the shank 20. A neck strap 22 is secured intermediate its ends to the shank 20 and adapted to engage about the neck and over the shoulders of the op-

erator, as shown in Fig. 1, and may be provided with the usual buckle and perforations for adjusting the strap 22 about the neck of the operator.

A hood 23, of substantially inverted conical form, is secured at its apex about the shank 20, beneath the head 21, and is preferably formed of flexible material, such as canvas, and cut away at one side to receive the nose and face of the operator therein. The hood 23 is of a height adapted to engage across the bridge of the nose below the eyes, for warding off dust and particles of stone and the like in the air, from entering the nostrils and the mouth. The lateral marginal edges of the hood 23 are adapted to lie closely against the sides of the face to substantially seal the lower portion of the hood about the head.

The upper edge of the hood 23 may be turned over to form a hem 24, for the reception of a resilient strap or band 25, the end portions of which project beyond the ends of the hem 24 and are provided with suitable interlocking fastener members 26 for securing the free ends of the flexible band 25 about the head. As the hem 24 engages across the nose of the operator, sufficient space is provided at opposite sides of the nose and between the hood 23 and the head of the operator to admit of the upward flow of air through the hood 23 for driving off dust and the like from the eyes and for clearing the air in front of the face.

The valve 13 is arranged adjacent to the pipe coupling section 10 so that the valve is supported in a raised position adjacent to the side of the drill A, and may be readily grasped by the hand for controlling the flow of air through the branch pipe into the hood. Sufficient air only is admitted to the hood for the purpose of facilitating breathing on the part of the operator and for driving dust and fine particles from in front of the face. When desired, the operator may readily release the hood from the tool by dropping the latter, or drawing the coupling sections 17 and 18 apart.

This may be done in case of accident or under other conditions where it is required that the branch pipe be quickly disconnected from the main pipe and the tool.

The device is relatively light in weight, and the branch pipe section with the hood, are the only parts required to be supported from the neck and shoulders of the operator. As the hood 23 is formed of flexible material, it readily adapts itself to the head of the operator and fits snugly against the opposite sides of the hood when the flexible and resilient band 25 is drawn taut and secured in position.

It is of course understood that various changes and modifications may be made in the details of construction and design of the above specifically described embodiment of the invention, without departing from the spirit thereof, and being restricted only by the scope of the following claims:

I claim:

1. In a face protecting attachment for rock drills, the combination with an air hose for conveying air under pressure, of a substantially inverted conical shaped hood of flexible material having its apex secured about said hose near the outlet end thereof, said hood having one side cut away to receive a portion of the face of a wearer, an elastic band attached to the upper base end of said hood for engagement over the head of a wearer and to draw the hood into binding engagement with the face of the wearer, the flexibility of said hood permitting it to conform to the configuration of and fit snugly against the face of the wearer.

2. In a face protecting attachment for rock drills, the combination, of a substantially inverted conical hood formed of flexible material, an air guiding hose entering through the apex of said hood, a nozzle mounted upon the end of said hose within said hood and having a plurality of perforations therein to cause air entering the hood from the hose in small streams, said hood having one side cut away to permit the insertion of a wearer's face therein, and elastic means for binding the upper base portion of said hood about the face of the wearer.

3. In a face protecting attachment for rock drills, the combination of a substantially inverted conical shaped hood formed of flexible material and having one side cut away to permit the insertion of the face of the wearer therein, an elastic band attached to the upper base end of said hood and adapted to fit about the head of a wearer to cause the upper portion of the hood to conform to the configuration of and snugly fit against the face of the wearer.

4. In a face protecting attachment for rock drills, the combination of a substantially inverted conical shaped hood formed of flexible material and having one side cut away to permit the insertion of the face of the wearer therein, an elastic band attached to the upper base end of said hood and adapted to fit about the head of the wearer to cause the upper portion of the hood to conform to the configuration of and snugly fit against the face of the wearer, a hose for conducting air under pressure entering the apex end of said hood, and a nozzle upon the end of said hose within said hood.

5. In a face protecting attachment for rock drills, the combination of a substan-

tially inverted conical shaped hood formed of flexible material and having one side cut away to permit the insertion of the face of the wearer therein, an elastic band attached to the upper base end of said hood and adapted to fit about the head of a wearer to cause the upper portion of the hood to conform to the configuration of and snugly fit against the face of the wearer, a hose for conducting air under pressure entering the apex end of said hood, a nozzle upon the end of said hose within said hood, a flexible neck engaging strap attached to said hose and adapted to be fastened about the neck of the wearer.

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