

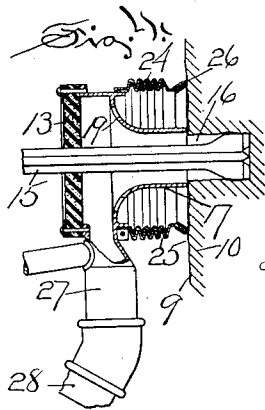
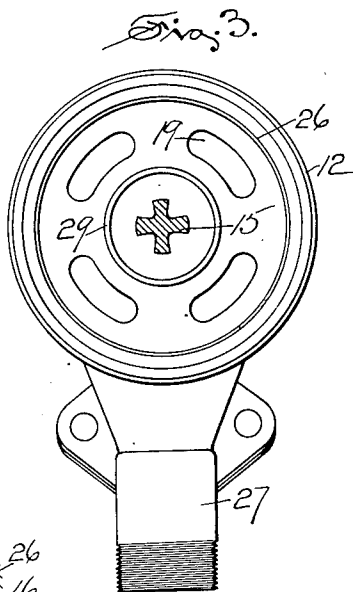
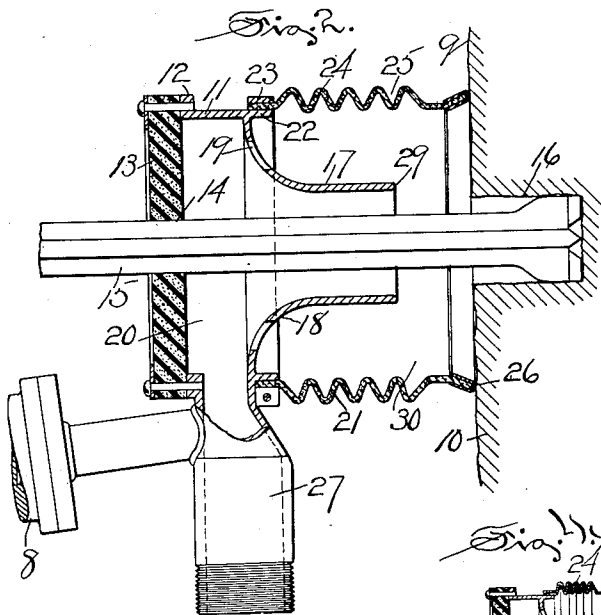
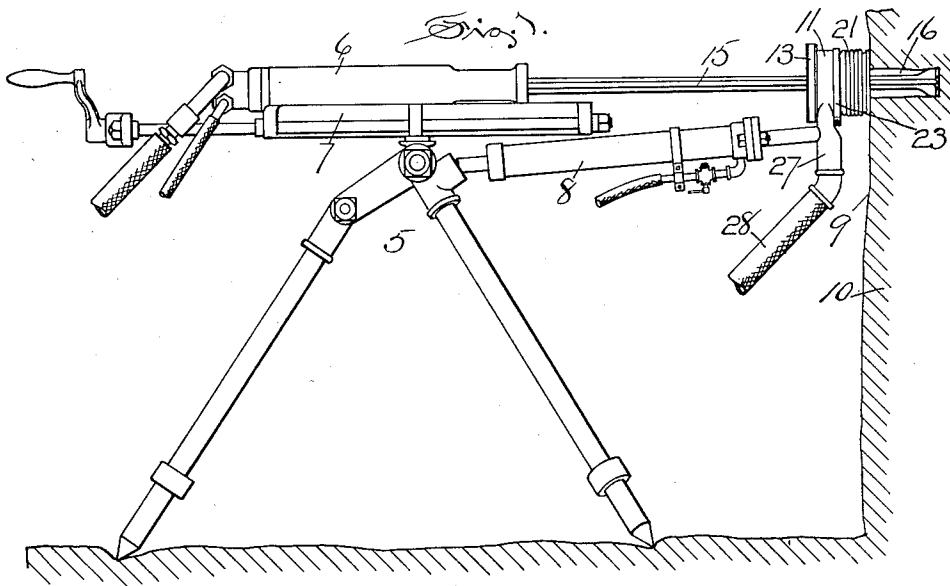
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HOOD FOR ROCK DRILLS

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HOOD FOR ROCK DRILLS

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4 Claims. (Cl. 255—50)

My invention relates to the class of apparatus that is commonly employed for drilling holes in rock, and an object of my invention, among others, is the production of a shield or hood by means of which dust produced in drilling operations is satisfactorily removed from the air surrounding such operations.

One form of a device embodying my invention and in the construction and use of which the objects herein set out, as well as others, may be attained is illustrated in the accompanying drawing in which

Figure 1 is a side view of a pneumatic drill equipped with my improved device and showing its method of operation.

Figure 2 is a view in central lengthwise section through the device, the scale being enlarged over that shown in Figure 1, the skirt not being collapsed.

Figure 3 is an end view looking into the mouth of the hood.

Figure 4 is a view similar to Fig. 2 but on reduced scale and showing the drill and hood in operating position.

In the accompanying drawing the numeral 5 denotes a tripod in general upon which the drilling apparatus is supported and which, briefly stated, consists of a pneumatic cylinder 6, a feed device 7, and a holding cylinder 8 by means of which the hood is held in place against the face or breast 9 of a mass of rock 10.

In drilling operations in which pneumatic drills are commonly employed it is essential and the law occasionally requires that the dust produced by the drill in such operations shall be removed so that the air will not be impregnated with the dust and will not therefore be inhaled by the persons conducting the drilling operations or working in proximity thereto. By the use of my improved device these results are readily attained, such device comprising a hood through which the drill projects and which is held securely in place against the breast of the rock being drilled and surrounding the hole being produced, such hood comprising a shell 11 preferably round and composed of any suitable material as metal. A flange 12 extends around one edge of the case and a cover 13 is secured to said flange said cover being composed preferably of rubber, leather, or other durable, flexible material. A hole 14 is formed through the cover through which a drill 15 extends into a well 16 being created by the drill in the rock 10. A spout 17 is formed preferably integrally with the shell 11, said spout being smaller in diameter than the shell and

having a bell-shaped connection 18 with the shell, as shown in Fig. 2 of the drawing. Openings 19 are formed through the bell into an outlet chamber 20 within the shell.

A skirt 21 is secured to a flange 22 projecting from one edge of the shell 11 as by means of a clamping band 23 of any suitable construction. Said skirt is preferably composed of rubber and is of corrugated form comprising ribs and grooves 24 and 25, respectively, on its outer surface which produce similar ribs and grooves on the inner surface. The material of which this skirt is formed is preferably somewhat thick so that it will have some rigidity while at the same time having yielding qualities sufficient to enable the mouth of the spout 17 to be pressed against the face or breast of the rock and held in such position as by means of the action of the piston within the holding cylinder 8. The stiffness of the material will be such as to retain the edge 26 of the skirt securely against the face of the rock. In other words it will be stiff enough to resume its normal position as shown in Fig. 2 when pressure is removed from it but it will yield to permit the hood to rest upon the edge of the spout.

A tubular projection 27 extends from one side of the case, as shown in Figs. 1 and 2, this being suitable for attachment of a tube 28 extending from any suitable suction apparatus by means of which the dust within the hood is removed and conveyed to any suitable receptacle, usually in the form of a separator.

In the operation of the device the hood is held securely against the face or breast of the rock as shown in Figs. 1 and 4, in this position the skirt 21 being collapsed sufficiently to permit the edge 29 of the spout 17 to rest firmly against the face of the rock, the device being held in this position by action of the piston within the holding cylinder 8, and in a manner that will be readily understood. Most of the dust created by action of the drill in the well 16 will be drawn by suction from the well 16 through the spout 17 and out through the projection 27 and tube 28. As more or less of an opening will exist between the edge 29 of the spout 17 and the face of the rock, owing to unevenness of the latter, any dust which enters the annular chamber 30 between the skirt 21 and the spout 17 will pass through the openings 19 into the outlet chamber 20 and will commingle with the volume of dust passing through the spout 17 and be drawn out of the device in a manner that will be readily understood.

I claim:

1. A drill hood including a shell closed at one end creating an outlet chamber, a spout smaller in diameter than said shell projecting from the opposite end of said shell and having openings into said outlet chamber; a skirt projecting from said shell and surrounding said spout creating an annular chamber communicating with said openings, and an outlet from said outlet chamber.
2. A drill hood including a shell closed at one end creating an outlet chamber, a spout smaller in diameter than said shell projecting from the opposite end of the shell and having a bell-shaped connection with said shell with openings through said bell-shaped formation into said outlet chamber, a skirt projecting from said shell and surrounding said spout creating an annular chamber communicating with said openings, and an outlet from said outlet chamber.
3. A drill hood including a shell closed at one end creating an outlet chamber, a spout smaller

in diameter than said shell projecting from its opposite end and having openings into said outlet chamber, a skirt projecting from said shell and surrounding said spout creating an annular chamber communicating with said openings, said skirt being corrugated and of sufficient stiffness to maintain an extended position, and an outlet from said outlet chamber.

4. A drill hood including a shell closed at one end creating an outlet chamber, a spout smaller in diameter than said shell projecting from its opposite end and having an opening into said outlet chamber, said spout having a flared connection with said shell and having openings through said flared connection, a skirt projecting from said shell and surrounding said spout creating an annular inlet chamber communicating with said openings, said skirt being of sufficient thickness to maintain an extended position, and an outlet from said outlet chamber.

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