

Dec. 14, 1926.

T. W. HARRISON

1,611,028

DRILL SPRAY

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Fig. 1.

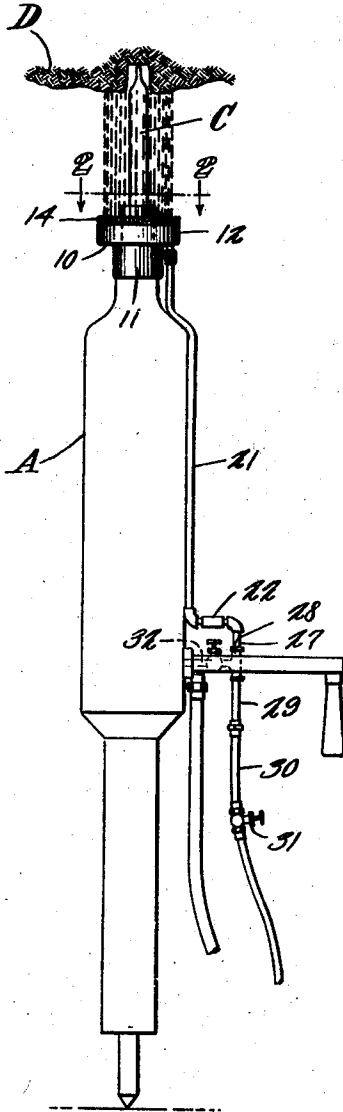


Fig. 2.

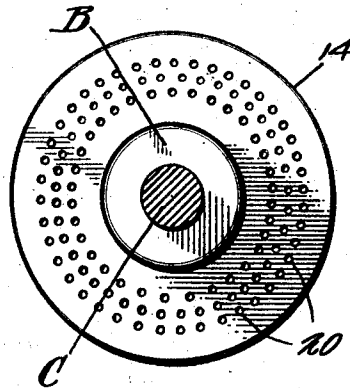
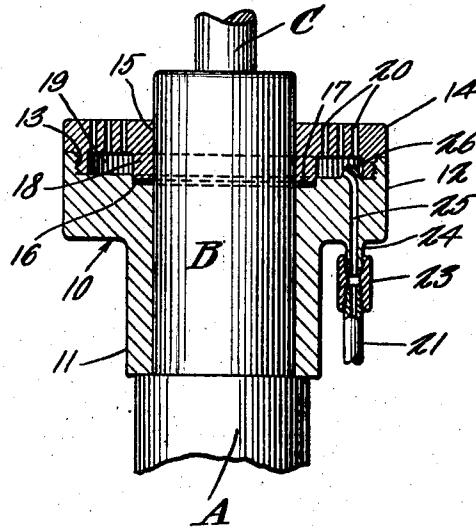


Fig. 3.



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WITNESS:

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DRILL SPRAY.

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This invention relates to an attachment for use in connection with pneumatic drills used in mining, or for other purposes, and has for its object the provision of a novel spraying device adapted to be mounted upon the drill chuck and supplied with water from a suitable source, the water being fed to the attachment by a portion of the air pressure used for operating the drill.

10 An important object is the provision of a device of this character having a perforated spray nozzle for directing a plurality of streams of water against the surface being bored or drilled in order to wash away the chips and the like and to allay the dust.

15 Another object is the provision of a device of this character which may be constructed as a complete and separate entity adapted to be engaged upon an already existing drill without necessitating any changes in the construction thereof.

20 An additional object is the provision of a device of this character which will be simple and inexpensive in manufacture, easy to apply and use, positive in action, efficient and durable in service, and a general improvement in the art.

25 With the above and other objects and advantages in view, the invention consists in the details of construction to be hereinafter more fully described and claimed, and illustrated in the accompanying drawings, in which:—

30 Figure 1 is a side elevation of a mining drill equipped with my device.

Figure 2 is a section on the line 2—2 of Figure 1.

Figure 3 is a detail longitudinal section through the attachment.

40 Referring more particularly to the drawings, the letter A designates a pneumatic drill of the type used in mines or other places, and B represents the chuck portion thereof. This chuck portion is used for holding a drill represented at C. In the present instance, the drill is represented as in upright or vertical position for cutting a hole in the roof D of a mine tunnel or gallery. However, it should be understood that there is no limitation as to the manner of use as the invention does not apply to the drill itself.

45 In carrying out the invention, I provide a spraying attachment which comprises a body member 10 having a constricted or reduced portion 11 telescopically engaged up-

on the chuck B of the drill. The other end of the body 10 is formed with an outstanding flange 12 which is internally threaded for the reception of an inwardly extending externally threaded flange 13 on a cap 14 which is formed with a central opening 15 accommodating the chuck B. The outer end of the body 10 is preferably formed with a comparatively shallow recess 16 within which is located a packing gasket 17 engaged by a depending central extension 18 on the cap 14 for the purpose of making a tight joint which will prevent leakage around the chuck B. The structure of the cap and body is such as to provide an annular chamber 19 from which extends a plurality of holes 20 formed in the cap 14 for the purpose of providing a nozzle structure which will give a spray or plurality of fine streams.

75 The numeral 21 designates a suitable water supply pipe which extends along the drill A and connects at the point 23 with a nipple 24 on the body 10 having a passage 25 leading into the chamber 19. At the discharge end of this passage 25 is a lip or flange 26 which will operate to deflect the water laterally as it enters this chamber so that it will be discharged therefrom through all of the perforations 20 with equal pressure. The pipe 21 connects by a union 22 with a pipe 27 connected with one branch of a T 28, from the opposite branch of which extends a nipple 29 on which is engaged a hose 30 equipped with a valve 31 and leading from a suitable source of supply.

80 While it is quite true that the water may be forced through the pipe 21 by any desired means such as pressure at the source, I have in the present instance, shown a pipe 32 connected with the remaining branch of the T 28 and connected with the interior of the drill body A so that the air pressure used for operating the drill may be permitted to enter the pipe 21 for forcing the water to the spray nozzle. A suitable control valve 33 is interposed in the pipe 32 for varying the pressure.

85 In the operation of the device, it will be apparent that when the valves 31 and 33 are opened to a greater or lesser extent, water will flow along the pipe 21 into the chamber 19 and will be discharged through the holes or perforations 20 against the surface D being drilled, thereby washing away all chips and preventing the flying of any dust whatsoever.

From the foregoing description and a study of the drawings, it will be apparent that I have thus provided a very simply constructed and consequently inexpensive device for the purpose specified, which will efficiently perform all the functions for which it is intended and which may be manufactured and sold as a complete and separate entity or unit adapted for engagement upon an already existing drill. Owing to the fewness of the parts and the ruggedness of the construction, it is evident that there is very little to get out of order so that the device should have a long and satisfactory life.

While I have shown and described the preferred embodiment of the invention, it should be understood that I reserve the right to make all changes in the form, construction and arrangement of parts as will not depart from the spirit of the invention or the scope of the subjoined claims.

Having thus described the invention, I claim:

1. A spray device for drills, comprising the combination with a drill chuck, of a body member engaged thereon and having a recessed outer portion internally threaded, a cap member arranged in surrounding relation to the chuck and having an externally threaded flange fitting within and screwed

into the threaded recess portion, said cap member being formed with a plurality of perforations, arranged in parallel relation to the longitudinal axis of the chuck, the body member being formed with a passage at one side parallel to the longitudinal axis and leading out through a nipple, and a water supply pipe detachably connected with said nipple.

2. A spray device for drills, comprising the combination with a drill chuck, of a body member engaged thereon and having a recessed outer portion internally threaded, a cap member arranged in surrounding relation to the chuck and having an externally threaded flange fitting within and screwed into the threaded recess portion, said cap member being formed with a plurality of perforations, arranged in parallel relation to the longitudinal axis of the chuck, the body member being formed with a passage at one side parallel to the longitudinal axis and leading out through a nipple, and a water supply pipe detachably connected with said nipple, said passage leading into the chamber defined between the body member and the cap and having its inner end curved whereby to discharge water toward the longitudinal axis of the chuck.

In testimony whereof I affix my signature.
THOMAS W. HARRISON.