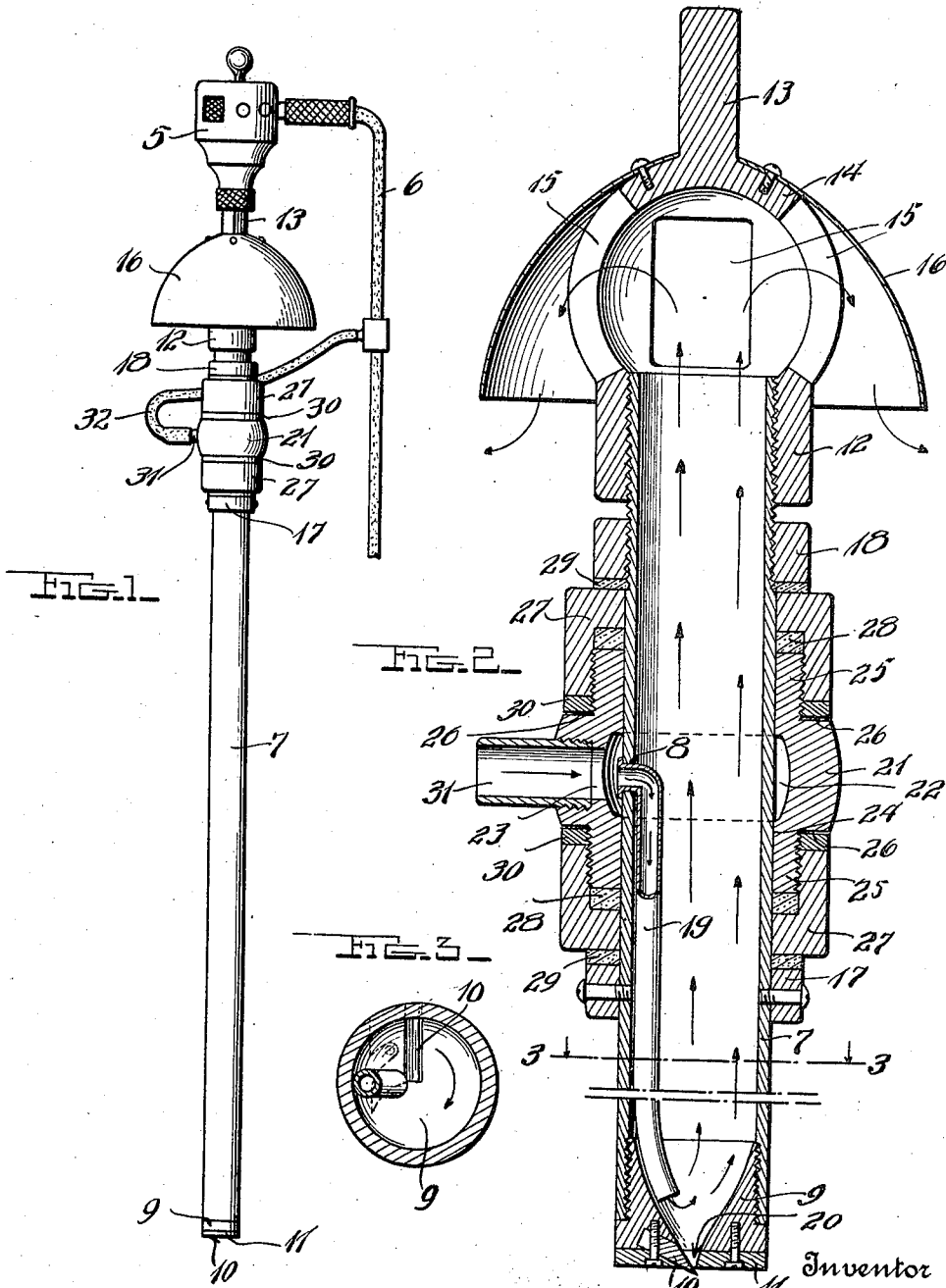


R. DODGE.
AUGER.

APPLICATION FILED MAY 13, 1918.

1,311,265.

Patented July 29, 1919.



Witness
J. R. Pierce

Inventor
R. Dodge
By *H. B. Wilson & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

REN DODGE, OF SOUTH BELLINGHAM, WASHINGTON.

AUGER.

1,311,265.

Specification of Letters Patent.

Patented July 29, 1919.

Application filed May 13, 1918. Serial No. 234,351.

To all whom it may concern:

Be it known that I, REN DODGE, a citizen of the United States, residing at South Bellingham, in the county of Whatcom and State of Washington, have invented certain new and useful Improvements in Augers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to augers, and it relates more particularly to an improved tubular auger.

The main object of this invention is to generally improve upon devices of this character.

Other objects and advantages may become apparent to persons who read the following details of description in connection with the accompanying drawings, in which:

Figure 1 is a side elevation of an auger constructed in accordance with the present invention, also illustrating a convenient form of the operating device;

Fig. 2 is an enlarged longitudinal central sectional view; and

Fig. 3 is a transverse sectional view along the line 3—3 of Fig. 2.

Referring to these drawings in detail in which similar reference characters correspond with similar parts throughout the several views, the operating device 5 may be of any appropriate character such as, for instance, a compressed air motor and is not described in detail, except to mention the air-tube 6 through which air may be forced for operating the motor.

The auger comprises a hollow shaft 7 having an aperture 8 between its primarily open ends, an apertured and screw-threaded plug or bit holder 9, a bit 10, a securing means or foot 11 and a connecting member 12. The connecting member 12 is formed with a shank 13 which engages with the motor 5, internal screw threads which engage with the upper end of the hollow shaft 7, and a hollow enlargement 14 provided with apertures or outlets 15. A hood or deflector 16 is secured on the spherical enlargement 14, a collar 17 surrounds and is secured to the shaft 7, and an adjusting nut 18 also surrounds the shaft 7. An air-tube or passage 19 is disposed within the shaft 7 and communicates with the exterior thereof through the aperture 8, and the lower end of the

tube 19 is adjacent to an opening 20 through which the cuttings pass from the knife or cutting bit 10.

The elements 7 to 19 inclusive constitute a unitary structure which is rotatable through a pneumatic connection which will now be described. This connection comprises a member 21 having an air-chamber 22 and an air-inlet 23 therein, a cylindrical opening 24 therethrough, externally threaded end portions 25 and shoulders 26; packing glands 27 engaging with the threaded ends 25; packing 28 between the ends of the member 21 and the respective glands; packing 29; and lock nuts 30. The elements 21 to 30 inclusive form a second unitary structure which is rotatable with relation to the shaft 7, although in practice it remains substantially non-rotary while the shaft 7 rotates.

A pipe connection 31 extends from the member 21 and connects with an air-tube 32, and the latter connects with the air-tube 6, so that air for rotating and for cleaning the auger may be supplied from one and the same source.

From the foregoing description it will be seen that, as the first described unitary structure rotates through the second described unitary structure, the air-passage 19 is always in communication with the air-inlet 23 through the medium of the air-chamber 22, and the air from the passage 19 passes under the cuttings as they enter through the aperture 20 and lifts them until they reach the openings 15 where they pass out to the open air. It will be seen that the deflector 16 protects the face and eyes of the operator by deflecting the cuttings toward the cutting end of the auger.

Although I have described this embodiment of my invention very specifically, it is not intended to limit this invention to these exact details and arrangement of parts, but my invention is susceptible of minor changes without a departure from the inventive idea disclosed in the foregoing description and following claims.

What I claim as my invention is:

1. An auger comprising a rotatable tubular shaft having an outlet at one end and having an aperture between its ends, a cutting bit at the other end of said shaft and in a position to deliver the cuttings into the tubular shaft, an air-tube in said tubular shaft and communicating with the exterior thereof through said aperture, an annular

air-chamber surrounding the tubular shaft and communicating with said air-tube, and means through which air may be introduced into said annular air-chamber so as to co-
5 operate therewith and with said air-tube for removing said cuttings through said outlet.
2. The combination of an air-chamber, means for introducing compressed air there-
into, a tubular shaft extending through said
10 air-chamber and rotatable relative thereto and having an air-passage and an outlet, said air-passage communicating with said air-chamber and with the interior of said tubular shaft, and a cutting bit on said tubular shaft in a position to deliver cuttings into
15 the latter and into a position to be blown by air from said air passage out through said outlet.

In testimony whereof I have hereunto set my hand.

REN DODGE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."