No. 776,504. PATENTED DEC. 6, 1904.

H. N. FAAS.

DISK DRILL.

APPLICATION FILED OCT. 30, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

FIG. 1.

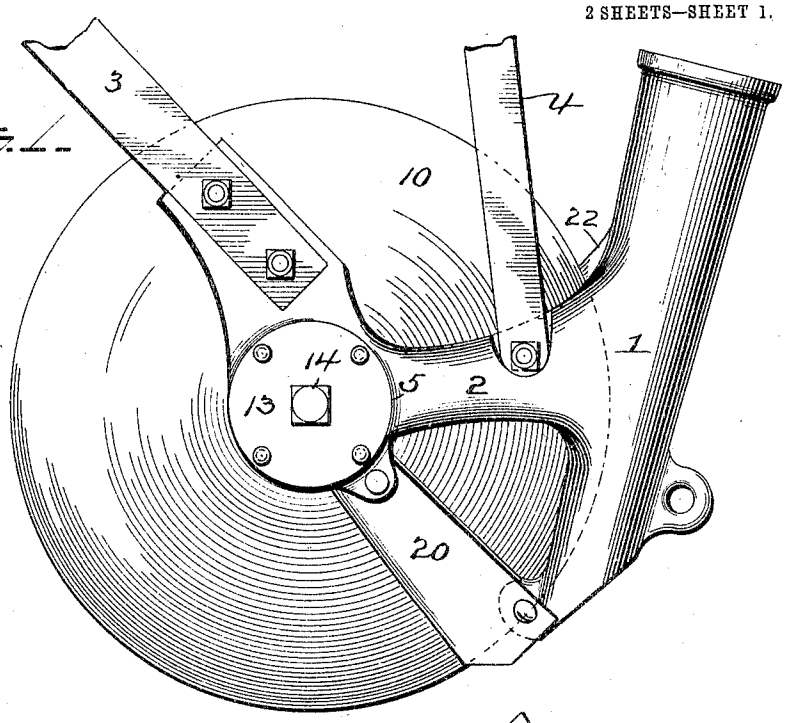
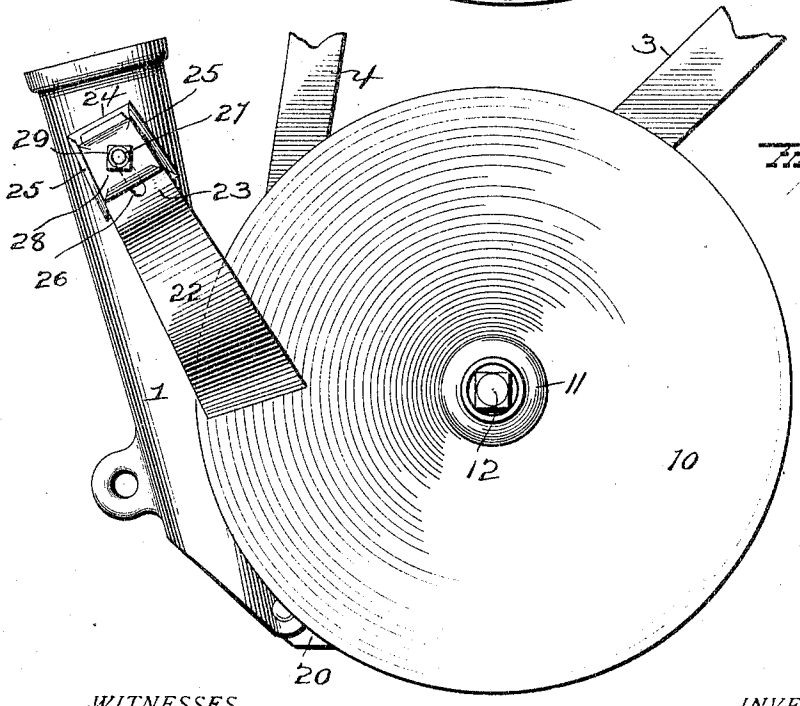


FIG. 2.



WITNESSES

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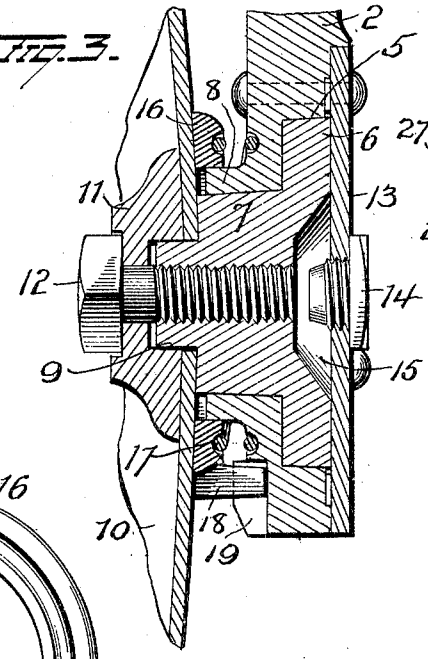
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NO MODEL. 2 SHEETS—SHEET 2.

FIG. 3.



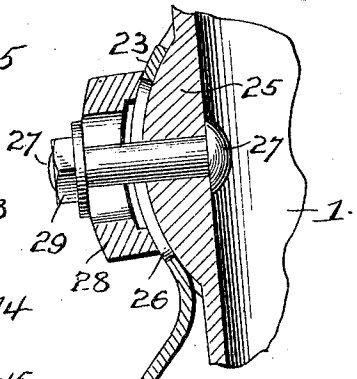


FIG. 5.

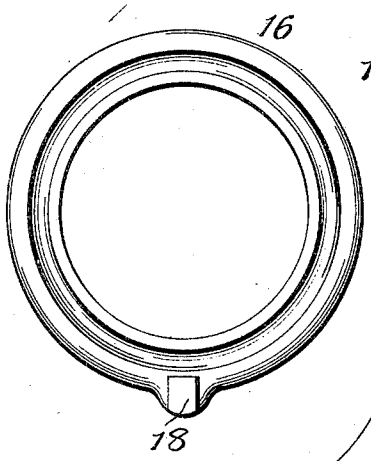
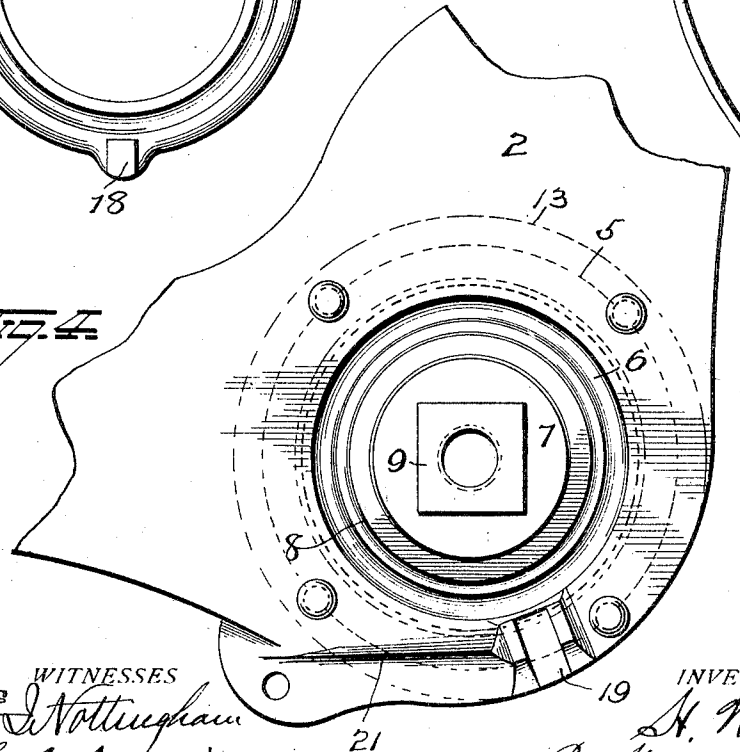


FIG. 6.



FIG. 4.



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UNITED STATES PATENT OFFICE.

HENRY NICK FAAS, OF LA CROSSE, WISCONSIN, ASSIGNOR TO FOUNTAIN CITY DRILL COMPANY, OF LA CROSSE, WISCONSIN.

DISK DRILL.

SPECIFICATION forming part of Letters Patent No. 776,504, dated December 6, 1904.

Application filed October 30, 1903. Serial No. 179,177. (No model.)

To all whom it may concern:

Be it known that I, HENRY NICK FAAS, a resident of La Crosse, in the county of La Crosse and State of Wisconsin, have invented certain new and useful Improvements in Disk Drills; and I do hereby 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.

My invention relates to an improvement in disk drills, the object of the invention being to construct a disk drill with improved bearing and arrangement of scrapers whereby a narrow perfect-running bearing is secured and the disk so held with relation to its scrapers that it will not be liable to clog or become inoperative on account of accumulation of dirt and trash thereon.

With this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figures 1 and 2 are views in elevation of opposite sides of my improved drill. Fig. 3 is a view in section through the bearing, and Figs. 4, 5, and 6 are views of various details of construction.

1 represents a seed-conducting boot, having a forwardly-projecting integral arm 2, to which is attached the ordinary drag-bar 3 and lifting-bar 4. The arm 2 is made with a circular bearing-box 5 for a disk-shaped bearing-block 6, having a cylindrical journal 7 projecting through the arm and through a tubular extension 8 thereon. The outer end of journal 7 is made angular, as shown at 9, to enter an angular central opening in a concavo-convex furrow-opening disk 10, having its convex face adjacent to the arm and boot. On the end of angular extension 9 which projects through disk 10 a washer 11 is mounted and made with an angular socket to receive the extension and having a convex face to firmly seat against the concave face of disk 10. A headed bolt or screw 12 is passed through a central opening in washer 11 and screwed into extension 9 and journal 7 to effectually clamp the disk 10 onto the journal extension 9.

The bearing-box 5 is closed by a disk 13, secured by rivets or otherwise to arm 2 and made with a central screw-threaded lubricant-opening normally closed by a screw-plug 14, and the bearing-block 6 is provided centrally in its face adjacent to disk 13 with a lubricant-pocket 15 to receive a supply of lubricant and feed it to the bearing.

Instead of the above-described manner of forming the bearing-box and securing the bearing-block therein I might employ various other constructions and arrangements of parts, and therefore do not restrict myself to the precise construction shown and described.

Around the tubular extension 8 my improved ring or dust-cap 16 is located and elastically held in engagement with the convex face of disk 10 by means of a spring 17, interposed between the ring and arm 2, and a lug 18 is provided on the inner face of ring or dust-cap 16, entering a socket 19 in arm 2 to prevent rotary movement of the ring or cap. This ring 16 serves to overcome the end thrust of the disk against the outer end of the bearing. Furthermore, it steadies the disk, so that it will rest evenly and steadily against the scrapers (to be hereinafter described) and also acts as a dust-cap, preventing the entrance of dirt and grit into the bearing.

The convex face of the disk is kept clear by a scraper 20, extending from the toe of boot 1 to the arm 2 adjacent to the bearing and securely riveted to both boot and arm, which latter at the juncture of the scraper 20 is enlarged, as shown at 21, forming a wall or abutment, assisted by the lug-and-socket connection 18 and 19, to prevent the entrance of trash at this point between the arm and disk, which would be most difficult to dislodge, owing to the slow movement of the central portion of the disk during the rotation thereof.

The concave face of the disk is kept clear by my improved scraper 22, having a large curve or bowed portion where it engages the disk to give an escapement for trash and made with a smaller curved portion 23 where it is

attached to the boot. The boot 1 is made with a curved enlargement 24 to receive the curved portion 23 of scraper 22, and the latter is confined between flanges 25 on the enlargement. An elongated slot 26 is provided in the upper end of scraper 22 to receive a bolt 27, which passes through the enlarged side 24 of the boot, through slot 26, and through a curved washer 28 and has a clamping-nut 29 screwed thereon. It will be seen that by adjusting the scraper vertically over the rounded enlargement 24 the tension of the scraper 22 on disk 10 can be adjusted at will.

A great many slight changes might be made in the general form and arrangement of the parts described without departing from my invention, and hence I do not restrict myself to the precise details set forth, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a support having an opening and an enlarged circular recess in rear of said opening, of a disk, and a bearing-block secured to the disk and shaped to conform to the opening and recess in the support and mounted to turn in said opening and recess.

2. The combination with a support having an opening and an enlarged circular recess in rear of said opening, of a disk and a bearing-block secured to the disk and shaped to conform to the opening and recess in the support and mounted to turn in said opening and recess, and a plate secured to the support and inclosing the rotatable bearing-block.

3. The combination with a support having an opening and an enlarged circular recess in rear of said opening, of a disk, and a bearing-block secured to the disk and shaped to conform to the opening and recess in the support and mounted to turn in said opening and recess, said bearing-block having a portion passing through the disk, a washer on the opposite face of the disk and a screw passing through said washer and the extension thereon and entering the body of the bearing-block.

4. The combination with a support having an opening therein and having an enlarged recess in rear of said opening, and a tubular extension on said support, of a disk, a bearing-block secured to the disk and shaped to conform to the opening and recess in the arm and mounted to turn in said opening and recess, and a spring-pressed ring encircling the tubular extension on the support and bearing against the disk.

5. The combination with a support having an opening therein and having an enlarged recess in rear of said opening, and a tubular extension on said support, of a disk, a bearing-block secured to the disk and shaped to conform to the opening and recess in the arm and mounted to turn in said opening and recess, and a spring-pressed ring encircling the tubular extension on the support and bearing against the disk, and means for preventing the turning of said ring.

6. The combination with a support having an opening therein and having an enlarged recess in rear of said opening, of a disk having an angular opening, a bearing-block shaped to conform to the opening and recess in the support and mounted to turn therein, an angular extension projecting from the bearing-block and passing through the angular opening in the disk, a washer disposed against the opposite face of the disk and having an angular socket to receive the angular enlargement on the bearing-block and a screw passing through said washer and entering the bearing-block.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

HENRY NICK FAAS.

Witnesses:
F. E. MARSH,
E. O. EDWARDS.