No. 692,190. Patented Jan. 28, 1902.

A. S. BAILEY.

DISK PLOW.

(Application filed Sept. 3, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

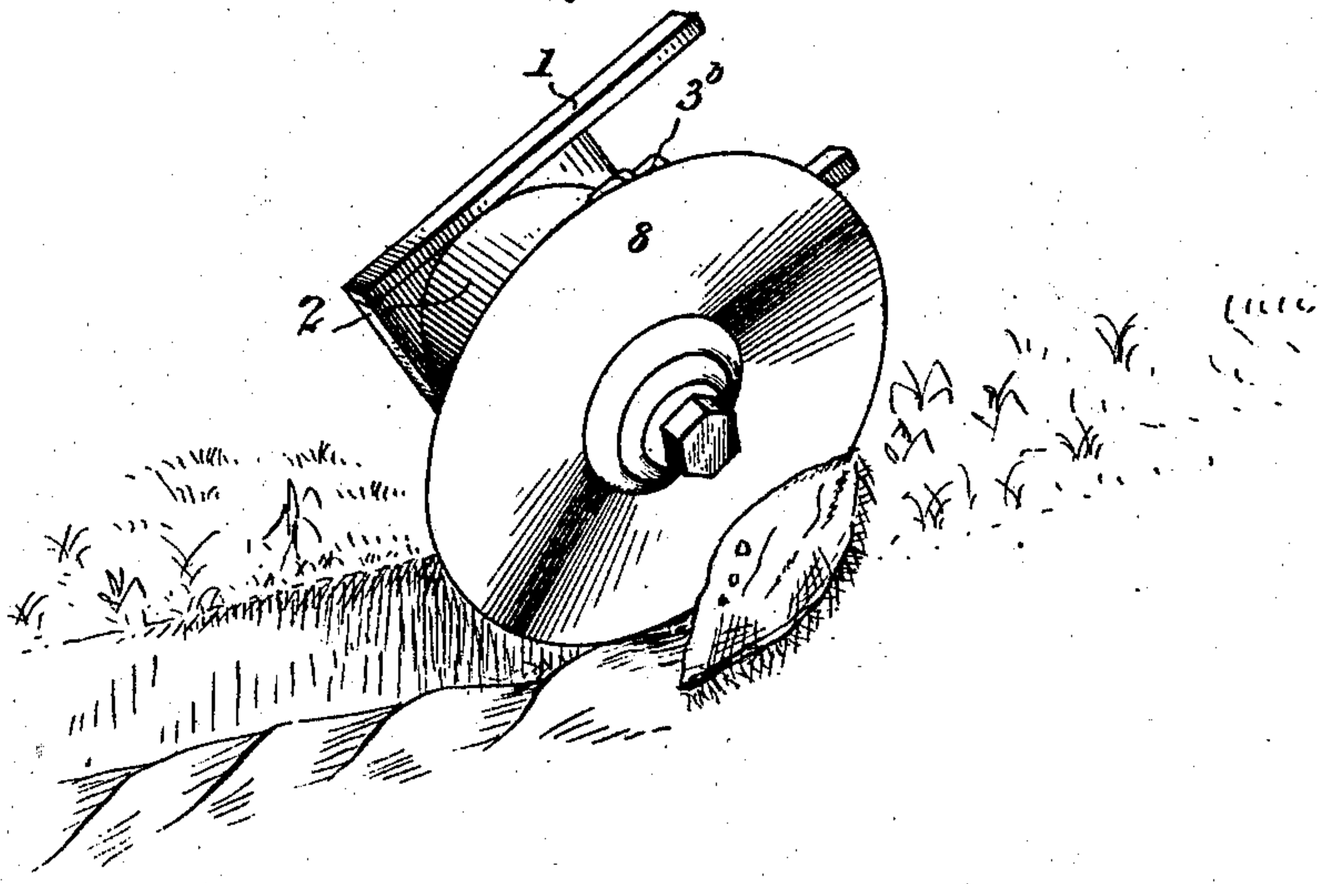

Fig. 2.

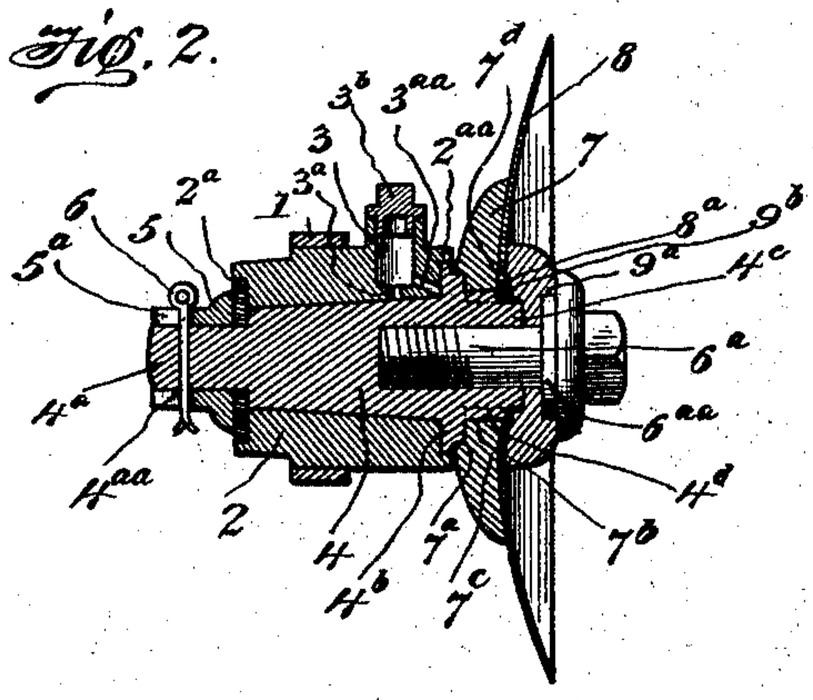

Fig. 3.

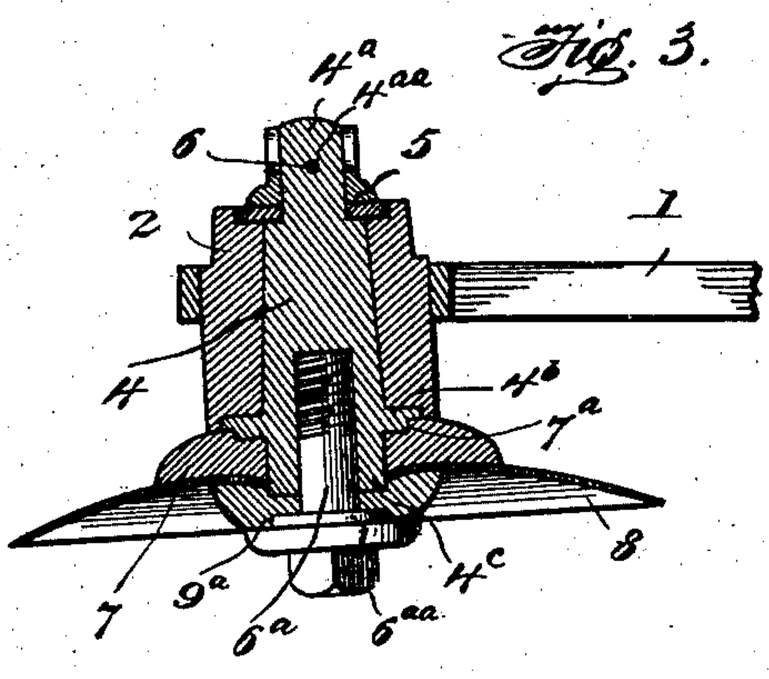

Fig. 4.

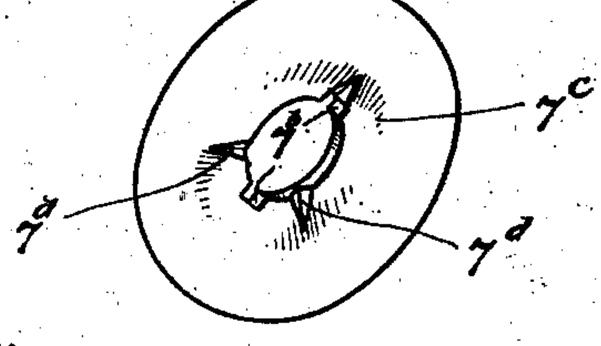

Fig. 5.

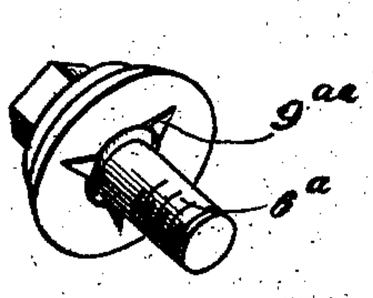

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Fig. 6.

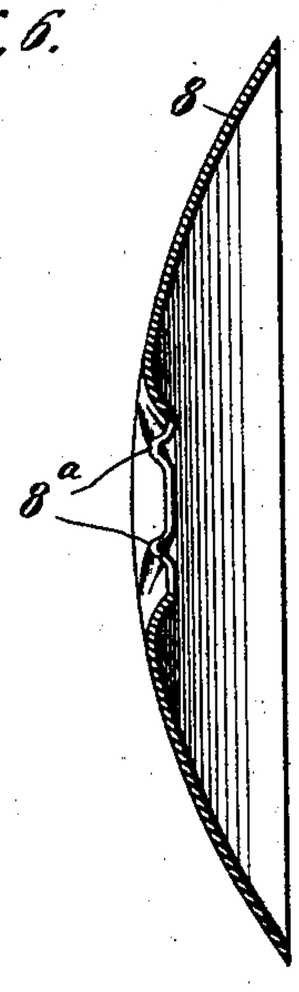


Fig. 7.

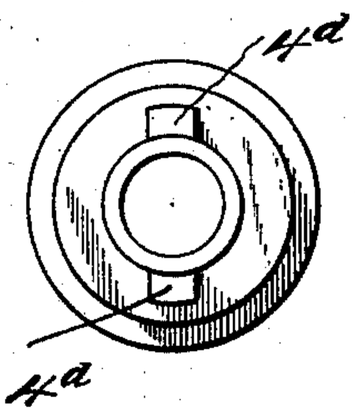
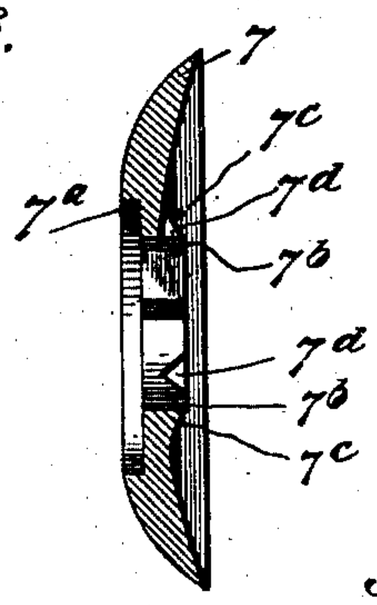


Fig. 8.



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UNITED STATES PATENT OFFICE.

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DISK PLOW.

SPECIFICATION forming part of Letters Patent No. 692,190, dated January 28, 1902.

Application filed September 3, 1901. Serial No. 74,224. (No model.)

To all whom it may concern:

Be it known that I, ALVA S. BAILEY, a citizen of the United States, residing at Lovelock, in the county of Humboldt and State of Nevada, have invented certain new and useful Improvements in Disk Plows; 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 improvements in disk plows. It has in view to overcome certain objections or difficulties heretofore contended with, more especially in excluding dirt, &c., from the bearings and in providing for the lubrication of the same.

It consists of the combination and arrangement of parts, substantially as hereinafter more fully disclosed, and specifically pointed out by the claims.

In the accompanying drawings, Figure 1 illustrates so much of a disk plow as is necessary to aid in the disclosure of my invention. Fig. 2 is a transverse section taken axially through the same. Fig. 3 is a similar longitudinal section. Fig. 4 is a detail perspective view of one of the disk clamp-plates, viewed from the inner side. Fig. 5 is a similar view of the opposed like part, also viewed from the inner side. Fig. 6 is a detailed perspective view of the rotary plow or cutter. Fig. 7 is an end view of the plow-carrying axle or shaft. Fig. 8 is a detached section of one of the clamp-sections.

Latitude is allowed herein as to details, as they may be changed or varied at will without departing from the spirit of my invention and the same yet remain intact and be protected.

In carrying out my invention I suitably provide the usual hanger or beam 1, as employed in this class of plows, with a bearing or hub 2, having a tapered bore and preferably fixed or integral with a plate secured to said beam or hanger, said hub being arranged in the diagonal therein, as shown. In the ends of said hub or bearing are annular recesses 2^a 2^{aa}, and upon the upper side of said hub is a lubricant-cup 3, whose chamber, however, extends into the area of said hub, having an opening 3^a in its bottom, delivering lubricant interiorly of said hub to an axle or shaft 4, turning therein, as presently described. A lateral opening 3^{aa}, communicating with the interior of the chamber of the cup 3, delivers the lubricant to an enlargement of the axle, as also further referred to later on. Said cup is also furnished with a bored-out or hollow cover or cap 3^b, fitting lubricant and dust tight thereon. The axle or shaft 4, correspondingly tapered with the bore of the hub or bearing 2, has at one end a reduced cylindric extension 4^a, with a transverse opening 4^{aa} therethrough, and upon said cylindric extension is screwed or fitted a nut 5, having a number of longitudinal slits 5^a, and through the slits, registering with the opening 4^{aa}, is inserted a pin 6. Said axle has also near its larger end a stepped annular enlargement 4^b, with the greater diametered portion thereof housed or let into the annular recess 2^{aa} in one end of the hub or bearing 2, to which, as above intimated, is delivered or fed lubricant through the opening or passage 3^{aa}. The axle or shaft 4 has outside of the less diametered portion of said enlargement a relatively reduced tubular or bored extension 4^c, having at opposite points upon its outer circumference lugs or projections 4^d, terminating a short distance inward from the end of said extension, the purpose of which will be presently apparent. The bore or chamber of said extension 4^c extends into or penetrates the axle or shaft 4 some distance and has a screw-thread and receives a screw-plug 6^a, again referred to later on.

A clamp disk or section 7 is slipped upon the bored extension 4^c of the axle 4, having an annular recess or countersink 7^a in one side to correspond with and receive the less diametered portion or shoulder of the enlargement 4^b of said axle, and at opposite points in the edge of the passage through said clamp disk or section are notches or recesses 7^b to receive the lugs or projections 4^d of the tube extension 4^c to prevent the turning of said disk or section. Said disk or section has also around the passage therethrough a raised or convexed surface 7^c, and indenting said surface at about equal intervals apart is a number of recesses or notches 7^d, the object of which will be presently seen.

A disk plow or cutter 8 of the usual dished or concavo-convex construction is also slipped upon the tube or bored extension 4^c of the axle. Said plow or cutter has also around the passage therethrough a central concavo-convex surface, with the concavity thereof presented next to the convexity of the clamp disk or section 7, and bent up or produced in said concavity are ribs or projections 8^a, adapted to engage the notches or recesses 7^b in said clamp-section to aid in effectively securing the same in position.

The screw-plug 6 has upon the inner surface of its head a shoulder 6^{aa}, and slipped upon said plug is a second clamp-section $6^{\times}$, having a countersink or recess 9^a around its passage or opening to receive said shoulder, making a tight joint between the parts. Upon the opposite side said clamp-section is slightly dished or concaved to conform to the convexity of the central concavo-convex portion of the plow, while also upon said dished surface of said clamp-section is a number of ribs or projections 9^{aa}, engaging the notches or recesses 9^b, the converse of the ribs formed or bent up upon the opposite side of the plow, thus uniting with the previously-described clamp-section 7 to secure the plow in position upon the axle or shaft.

This invention provides for effectively excluding dust, &c., from the bearing and for the advantageous distribution of the lubricant thereto.

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

1. The combination of a plow-carrying shaft or axle, a clamp-section having opposite notches or recesses in its passage, engaging lugs on said axle, a plug engaging said shaft or axle, and a second clamp-section carried by said plug and having ribs engaging notches produced in the plow, substantially as set forth.

2. The combination of a plow-carrying shaft or axle, a clamp-section having opposite notches or recesses in its passage, engaging lugs on said axle, a plug engaging said shaft or axle, and a second clamp-section carried by said plug and having ribs engaging notches produced in the plow, one of said clamp-sections also having additional notches engaging ribs upon the plow, substantially as set forth.

3. The combination of a plow-carrying shaft or axle, a clamp-section having opposite notches or recesses in its passage, engaging lugs on said axle, a plug engaging said shaft or axle, and a second clamp-section carried by said plug and having ribs engaging notches produced in the plow, one of said clamp-sections having a convexed surface around its central passage, and additional notches produced in said convexed surface, substantially as set forth.

4. The combination of a plow-carrying shaft or axle, a clamp-section having opposite notches or recesses in its passage, engaging lugs on said axle, a plug engaging said shaft or axle, and a second clamp-section carried by said plug and having ribs engaging notches produced in the plow and said clamp-sections having annular recesses around their passages, one adapted to receive a corresponding portion of said axle and the other adapted to receive a shoulder on the inner surface of said plug, substantially as set forth.

5. The combination of a plow-carrying shaft or axle, a clamp-section having opposite notches or recesses in its passage, engaging lugs on said axle, a plug engaging said shaft or axle, and a second clamp-section carried by said plug and having ribs engaging notches produced in the plow, and said shaft or axle having the tubular or bored extension and a differently-diametered enlargement near its larger end partially housed in one of said clamp-sections, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

A. S. BAILEY.

Witnesses:
GEO. YOUNG,
J. B. CARMICHAEL.