No. 678,248. Patented July 9, 1901.

W. F. HOYT.

DISK GRAIN DRILL.

(Application filed Mar. 10, 1900.)

(No Model.)

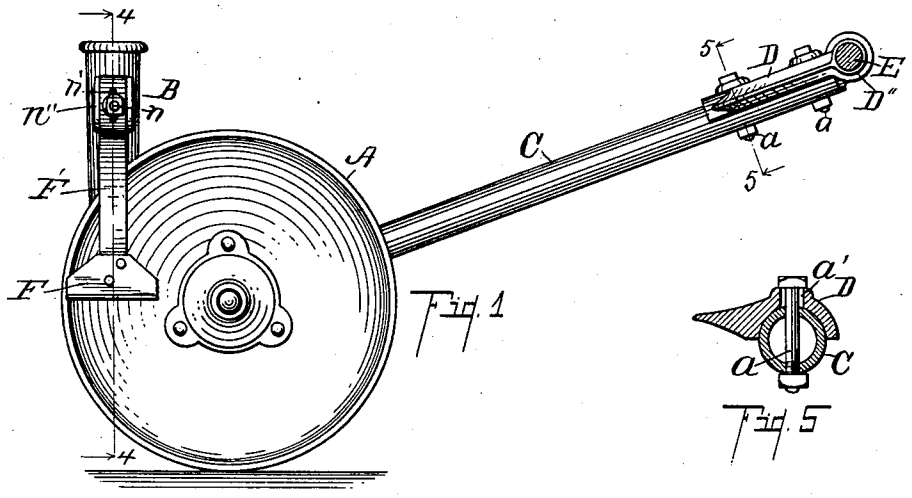


Fig. 1

Fig. 5

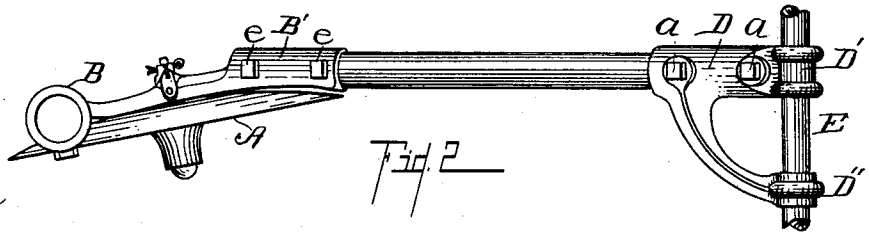


Fig. 2

Fig. 4a

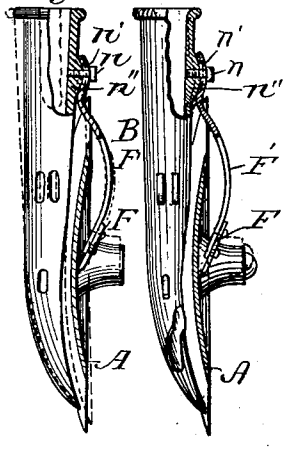


Fig. 4

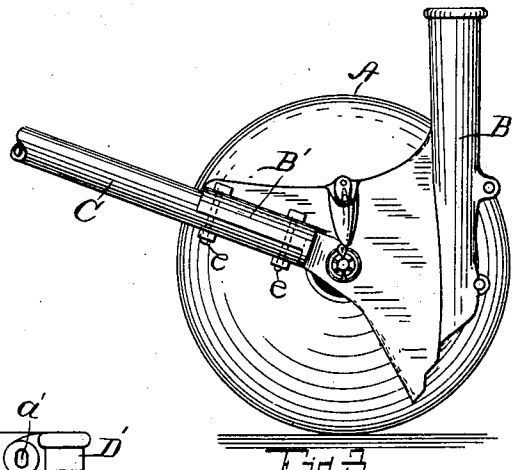


Fig. 3

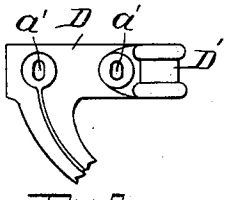


Fig. 6

Witnesses:

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UNITED STATES PATENT OFFICE.

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DISK GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 678,248, dated July 9, 1901.

Application filed March 10, 1900. Serial No. 8,235. (No model.)

To all whom it may concern:

Be it known that I, WILL F. HOYT, a citizen of the United States, residing at the city of Dowagiac, in the county of Cass and State of Michigan, have invented certain new and useful Improvements in Disk Grain-Drills, of which the following is a specification.

This invention relates to improvements in disk drills.

As heretofore constructed it has been very difficult to secure a draw-bar construction of sufficient rigidity for a disk drill or to provide such a construction with proper adjustments for varying the angle of the disk to the perpendicular to regulate the "thrust" of the disk, as it is called. These remarks apply particularly to the disk construction where concavo-convex disks are provided. These being set at such an angle as to plow a furrow in the soil put a very strong lateral strain on the draw-bar, and it consequently needs a very rigid lateral connection, and, as in hard soils it is necessary to apply pressure, the connection should be rigid in the vertical direction as well. It is also in this connection sought to provide an efficient scraping means for removing any accumulations of soil from the disk as soon as it is raised from the ground. From these statements the objects of my invention will be clear, although still further objects will appear in the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in this specification.

The invention is clearly defined and pointed out in the claims.

A structure embodying the features of my invention is illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a detail side elevation of a grain-drill disk and its draw-bar and connections. Fig. 2 is a detail plan view of the parts appearing in Fig. 1. Fig. 3 is a detail side elevation taken from the opposite side of the view appearing in Fig. 1, a portion only of the draw-bar being shown. Fig. 4 is a detail rear elevation view, partially in section, on line 4 4 of Fig. 1. Fig. 4ª is a sketch of the structure appearing in Fig. 4, the dotted lines showing the adjustment of the disk to and from the perpendicular. Fig. 5 is a detail cross-sectional view through the draw-bar and its front bracket, taken on line 5 5 of Fig. 1. Fig 6 is a detail plan view of the front bracket removed, showing the slotted bolt-holes a' a' at that point.

In the drawings all of the sectional views are taken looking in the direction of the little arrows at the ends of the section-lines, and similar letters of reference refer to similar parts throughout the several views.

Referring to the lettered parts of the drawings, A is a grain-drill disk of the usual concavo-convex form.

B is a combined boot, shield, and bracket to which the draw-bar C is connected. The draw-bar C is made of pipe, and a bracket D is provided for attaching the same to a suitable shaft or pivotal connection E at the front end. This bracket D is provided with arms D′ D″ to afford a broad base and bracing support for the draw-bar. The bracket D is also hollowed out on its under side and receives the draw-bar C at that point, to which it is secured by suitable bolts a, which extend through slotted holes a' in the bracket D. This enables the draw-bar to be rocked from side to side to adjust the position of the disk to and from the perpendicular position, as appears in Fig. 4ª. A similar seat is formed on the under side of the portion B′ of the combined bracket B, where it is rigidly secured by the bolts e e. The disk A is journaled to this bracket, so that it revolves in the usual manner. On the disk side of the boot I provide a bulging curved seat N″, to which I secure an arm F′, containing a slot n', through which a bolt n fits to adjust the arm to and from the disk. A scraper F is on the lower end of the arm or shank F′, which is a spring and scrapes the concave side of the disk as it rises from the soil. The particular scraping means can be utilized in other relations than with the special connection of draw-bar and disk.

I desire to state that the structure can be greatly modified without departing from my invention. By utilizing in this connection a pipe with suitable brackets I provide a connection so rigid that it holds the disk always

in proper relation to each other and in proper relation to the frame of the machine to which they are attached.

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

1. In a disk grain-drill, the combination of the disk A; a bracket B having combined with it a boot; a draw-bar C formed of a piece of pipe; and a bracket D at the forward end divided into arms D′, D″ adapted to receive a pivotal connection on the frame of the grain-drill, coacting for the purpose specified.

2. In a disk grain-drill, the combination of the disk; a bracket therefor; a draw-bar formed of a piece of pipe connected to said bracket; and a bracket at the forward end of said pipe to form a suitable pivotal connection with the frame of the machine, coacting as specified.

3. In a disk grain-drill, the combination of the disk; a bracket with a bearing for said disk; a draw-bar consisting of a piece of pipe; a bracket at the forward end of said draw-bar containing slotted holes; bolts extending through said slotted holes and the draw-bar connecting the same adjustably together, so that the angle of the disk can be varied to and from the perpendicular, for the purpose specified.

4. In a disk grain-drill, the combination of the disk; a draw-bar, connecting therewith; a bracket for said draw-bar; and slotted connections for the draw-bar whereby the angle of the disk can be adjusted to and from the perpendicular, for the purpose specified.

5. In a disk grain-drill, the combination of the revolving disk; suitable connection from the same to the frame of the machine; and means for adjusting the connection to vary the angle of the disk to and from the perpendicular, for the purpose specified.

6. In a disk grain-drill, the combination of a concavo-convex disk; a boot on the convex side of the same having a curved seat on the side thereof; a scraper having a curved spring-shank conformed to the curved seat whereby the scraper can be adjusted to vary its tension on the disk, for the purpose specified.

7. In a disk grain-drill, the combination of a disk; a bracket therefor; a draw-bar extending forwardly from the said bracket to a pivotal connection on the frame of the machine; a means for adjusting the disk to and from the perpendicular, to vary the action of the same, substantially as described.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

WILL F. HOYT. [L. S.]

Witnesses:
C. L. FOWLE,
F. W. JONES.