No. 834,680. PATENTED OCT. 30, 1906.

C. H. PELTON.

DISK DRILL.

APPLICATION FILED OCT. 14, 1905.

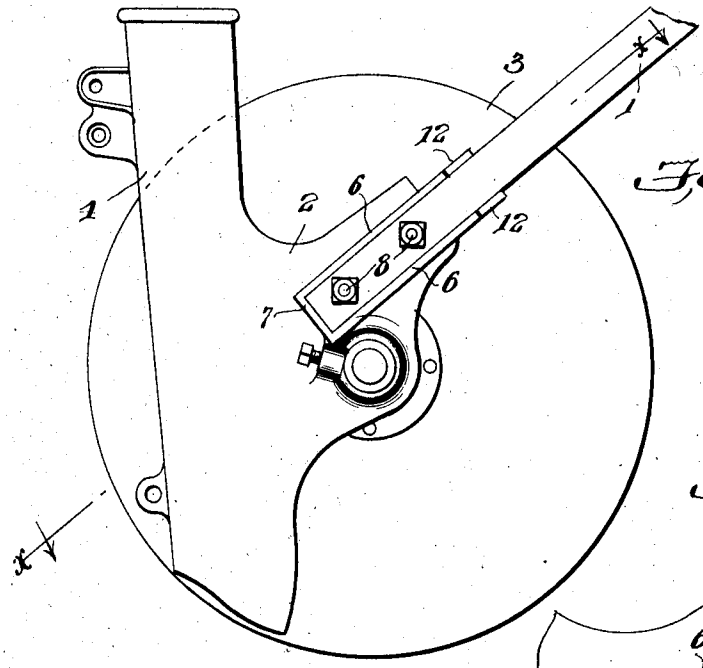


Fig. 1.

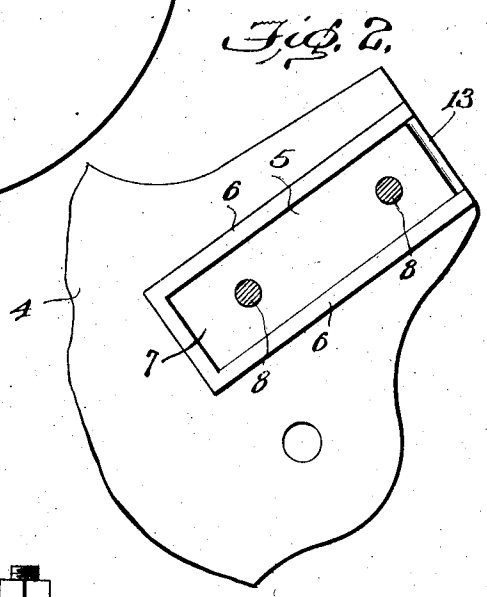


Fig. 2.

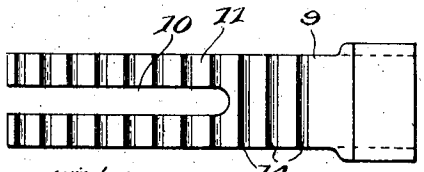


Fig. 3.

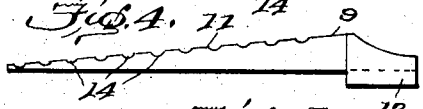


Fig. 4.

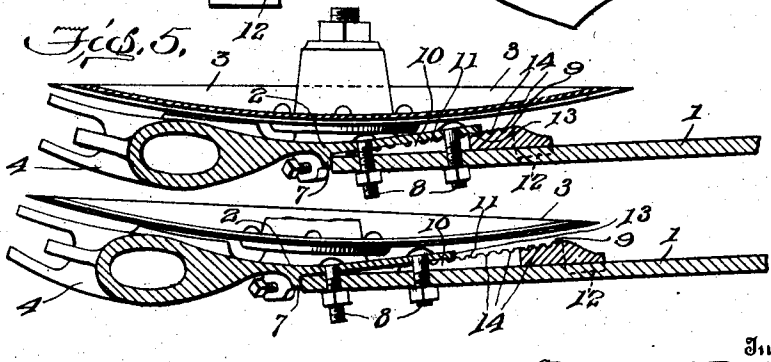


Fig. 5.

Fig. 6.

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DISK DRILL.

No. 834,680. Specification of Letters Patent. Patented Oct. 30, 1906.

Application filed October 14, 1905. Serial No. 282,696.

To all whom it may concern:

Be it known that I, CHARLES H. PELTON, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Disk Drills, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to disk drills, and more particularly to that class known as "single-disk" drills, in which each drag-bar of the seeding-machine carries a single furrow-opening disk.

The object of my present invention is to provide a simple and efficient means whereby the angular relation of the disk to the drag-bar and line of draft may be readily adjusted to suit different conditions of soil, &c., the structure being such that the firmness of the connection between the disk and drag-bar is in no way diminished, the parts remaining fixed in any position to which they may be adjusted without any possibility of working loose or shifting under the strains to which they are subjected when in use.

To these and other ends my invention consists in certain novel features which I will now proceed to describe and will then particularly point out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a portion of a drag-bar and a furrow-opener connected therewith, the same having my improvements applied thereto in one form. Fig. 2 is a detail view of a portion of the disk-support with the drag-bar and disk removed. Fig. 3 is a detail view of the inner face of the wedge. Fig. 4 is an edge view of the wedge, Figs. 2, 3, and 4 being on a somewhat-enlarged scale. Fig. 5 is a detail sectional view taken on the line x x of Fig. 1 and looking in the direction of the arrows, showing the parts adjusted to give the furrow-opening disk a minimum angle to the line of draft; and Fig. 6 is a similar view showing the disk adjusted to a greater angle.

In the said drawings, 1 indicates a drag-bar, and 2 a disk-support carrying a furrow-opening disk 3 and seed tube or boot 4. This disk-support is shown provided with the usual seat 5 to receive the rear end of the drag-bar, having the parallel flanges or shoulders 6 to fit against the upper and lower edges of the drag-bar and the transverse terminal flange or shoulder 7 to fit against the end of the drag-bar. The usual bolts 8 pass through the drag-bar and disk-support and serve to firmly unite the two. This construction is a usual and approved construction to which my invention is applicable.

Owing to the varying conditions of soil, &c., it is sometimes desirable to change the angle of the furrow-opening disk to the line of draft in order to form a wider or narrower furrow, as the angle is greater or less. Various constructions have been proposed for effecting this result; but so far as I am aware they have not been adopted in practice, chiefly by reason of their complication and expense and by reason of their failure to hold the parts firmly in adjusted position, owing usually to the fact that their construction involves a pivotal and frictional clamping connection which lacks ability to withstand the strains of use. To overcome these objections and effectually and readily adjust and firmly hold the parts, I employ an adjusting-wedge, which is interposed between the drag-bar and disk-support. This wedge is shown in detail in Figs. 3 and 4 and is indicated as a whole by the reference-numeral 9. It is slotted centrally from its free end lengthwise for a considerable distance, as indicated at 10, to accommodate the bolts 8, which connect the drag-bar and disk-support, said slot permitting the wedge to be adjusted in the direction of its length between the drag-bar and disk-support. By reason of this adjustment of the wedge the angle of the disk relatively to the drag-bar, and consequently to the line of draft, may be readily varied, for it will be seen that when the wedge is entirely omitted and the drag-bar is clamped directly against the face of the disk-support the disk is then at a maximum angle to the line of draft. When, on the contrary, the wedge is inserted between the disk-support and drag-bar to its maximum extent, as shown in Fig. 5, then the disk is at a minimum angle to the line of draft, the inclined face 11 of the wedge bearing against the face of the seat 5 of the disk-support for its full length. Any intermediate angle may be readily given to the disk by adjusting the wedge to different intermediate positions, the rear end of the drag-bar resting

against the seat of the disk-support and the front edge of said seat resting against the inclined face of the wedge. Whatever position is given to the parts the bolts 8 when tightened up will firmly unite the same and hold them against displacement when at work. The wedge is preferably provided with lugs 12 at its outer or thicker end, which are adapted to fit against the sides of the drag-bar and give additional security against lateral displacement of the drag-bar relatively to the remaining parts. Of course it will be understood that where the disk-support is provided with a seat having the shoulders 6 and 7 hereinbefore described, the drag-bar fitting at its end against the shoulder 7 and both drag-bar and wedge fitting between the shoulders 6, the parts are more firmly and accurately held in place by the connecting-bolts 8, and these latter are relieved of transverse strains when the parts are seated.

My invention in its broadest form contemplates the interposition of a wedge between the drag-bar and disk-support without any special construction of these latter parts for purposes of coöperation with the wedge, and in this form of my invention the wedge constitutes an attachment or addition which may be applied to any drag-bar and disk-support of the general type shown. I prefer, however, for additional security in the firm locking of the parts together after adjustment to provide special means for locking the wedge against longitudinal movement relatively to the other parts. To this end in my preferred construction I provide at the forward end of the seat 5 a transverse rib or tooth 13, while the face of the wedge which lies next to said seat, being the inclined face 11, is provided at intervals with transverse grooves 14, adapted to receive the rib 13. Of course it will be understood that this arrangement may be reversed and that the seat may be provided with grooves and the wedge with corresponding ribs. When this construction is employed, the wedge is adjusted to a position such that, giving the desired angle to the disk, it will when the connecting-bolts are tightened up receive the rib13 in one of the grooves 14, and thereby firmly lock the wedge against movement in the direction of its length. When this construction is employed, the slipping out of the wedge and consequent loosening of the parts is rendered practically impossible.

It will be seen that I have provided a simple and inexpensive means for adjusting the disk to any desired angle to the line of draft within practical limits, the construction being such as to firmly hold the parts when adjusted and being in its simpler form applicable to furrow-openers already in use.

I do not wish to be understood as limiting myself to the precise details of construction hereinbefore described, and shown in the accompanying drawings, as it is obvious that these details may be modified without departing from the principle of my invention.

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

1. In a disk drill, the combination, with a drag-bar, a disk-support provided with a furrow-opening disk and having a seat to receive the drag-bar, and bolts connecting said drag-bar and disk-support, of a wedge adapted to be inserted and adjusted longitudinally of the drag-bar between the drag-bar and disk-support and fitting within the seat of the latter, substantially as described.

2. In a disk drill, the combination, with a drag-bar, a disk-support provided with a furrow-opening disk and having a seat to receive the drag-bar, and bolts connecting said drag-bar and disk-support, of a wedge adapted to be inserted and adjusted longitudinally of the drag-bar between the drag-bar and disk-support and fitting within the seat of the latter, said wedge being slotted longitudinally for the passage of the connecting-bolts, substantially as described.

3. In a disk drill, the combination, with a drag-bar, a disk-support provided with a furrow-opening disk and having a seat to receive the drag-bar, said seat having a transverse rib at its forward end, and bolts connecting said drag-bar and disk-support, of a wedge adapted to be inserted and adjusted longitudinally of the drag-bar between said drag-bar and disk-support, said wedge fitting the seat of the disk-support and being provided with transverse grooves to receive the rib thereof, substantially as described.

4. In a disk-drill, the combination, with a drag-bar, a disk-support provided with a furrow-opening disk and having a seat for the drag-bar, and bolts connecting said drag-bar and disk-support, of a wedge adapted to be inserted and adjusted longitudinally of the drag-bar between said drag-bar and disk-support, said wedge fitting the seat of the disk-support, extending forward beyond the same, and provided with lugs to embrace the drag-bar, substantially as described.

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

CHARLES H. PELTON.

Witnesses:

E. O. HAGAN,

IRVINE MILLER.