

935,873.

L. D. WHITNEY.
 DRILL CUP CLEANER.
 APPLICATION FILED MAY 24, 1909.

Patented Oct. 5, 1909.
 2 SHEETS—SHEET 1.

FIG. 1

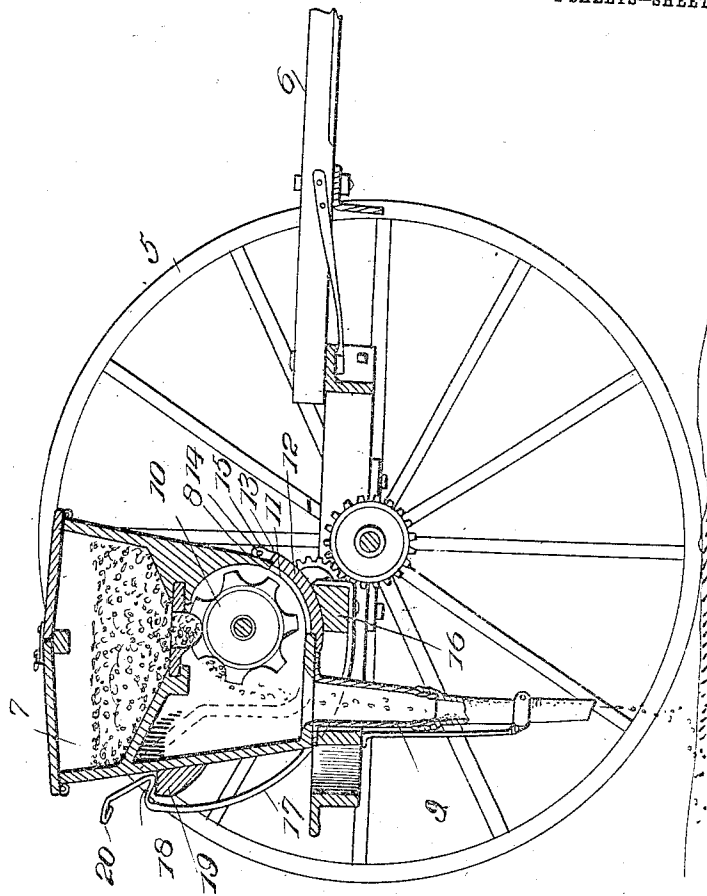
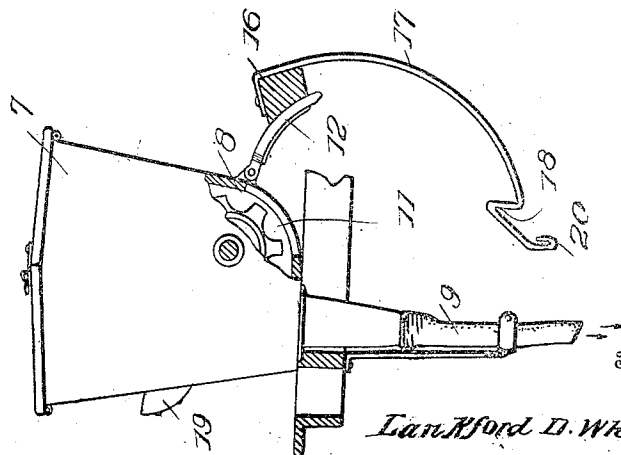


FIG. 2



Witnesses
Wm. M. ...
Juana M. Fallon

Inventor
Lanford D. Whitney

By *H. M. Macy* Attorneys

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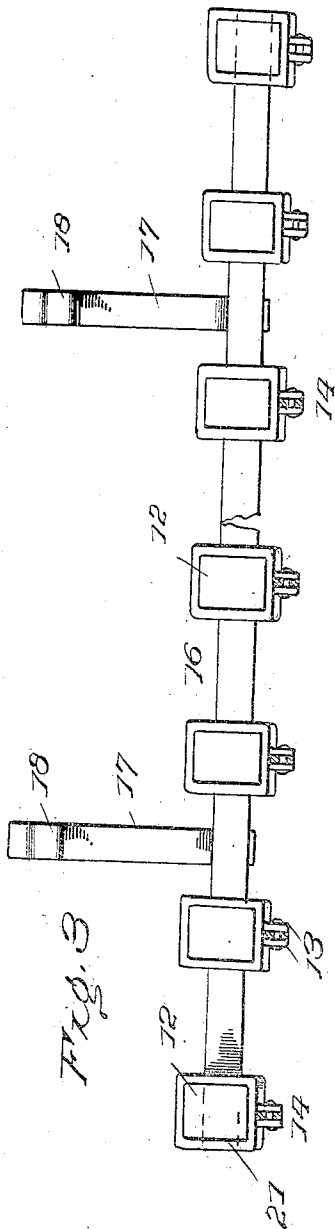


Fig. 3

Witnesses
W. M. Woodson
J. H. H. Hallin

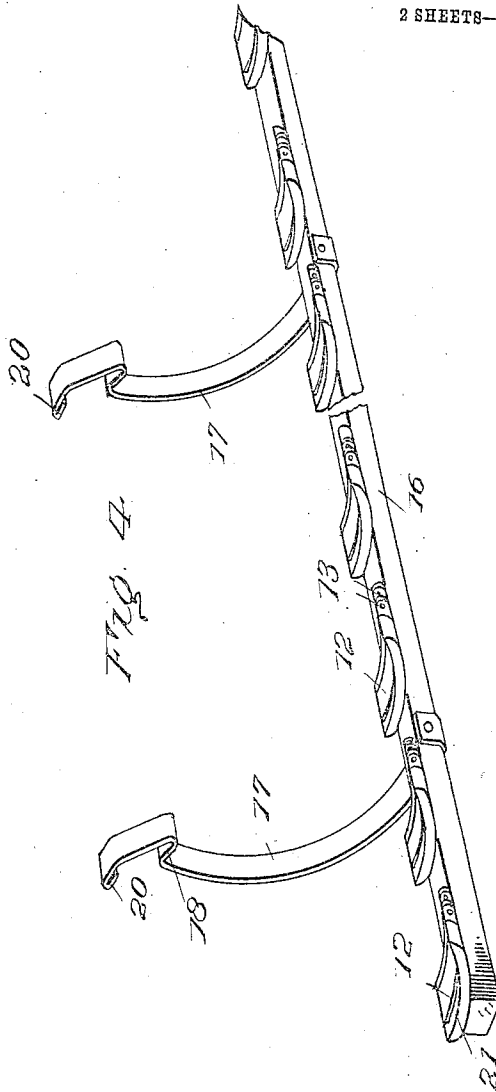


Fig. 4

Larkford D. Whitney, Inventor

By

W. M. Woodson, Attorneys

UNITED STATES PATENT OFFICE.

LANKFORD D. WHITNEY, OF DEERING, NORTH DAKOTA.

DRILL-CUP CLEANER.

935,873.

Specification of Letters Patent.

Patented Oct. 5, 1909.

Application filed May 24, 1908. Serial No. 497,343.

To all whom it may concern:

Be it known that I, LANKFORD D. WHITNEY, a citizen of the United States, residing at Deering, in the county of McHenry and State of North Dakota, have invented certain new and useful Improvements in Drill-Cup Cleaners, of which the following is a specification.

This invention relates to grain drills and more particularly to means for the discharge of the contents of the drill cups in changing from one kind of grain to another.

The object of the invention is to provide a grain drill attachment comprising an oscillating bar having a plurality of valves or closures secured thereto and adapted to normally close corresponding openings in the drill cups, said valves being movable simultaneously to open position to permit the discharge of the grain in the cups when it is desired to empty the latter preparatory to sowing a different kind of grain.

A further object is to provide means for normally and yieldably supporting the valves in closed position, thereby to prevent the escape of grain from the drill cups during the sowing operation.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in the form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a vertical sectional view of the grain drill provided with a cleaning attachment constructed in accordance with my invention, showing the valves or gates in closed position; Fig. 2 is a side elevation partly in section showing the valves in open position to permit the discharge of the grain in the drill cups; Fig. 3 is a front elevation of the bar carrying the several valves or gates detached; Fig. 4 is a perspective view of the same.

The improved device forming the subject

matter of the present invention is principally designed for attachment to grain drills, and by way of illustration is shown in connection with a grain drill of the ordinary construction in which 5 designates the truck wheels, 6 the tongue, and 7 the seed or drill box mounted on the axle of the truck wheels, as shown.

Depending from the seed box 7 are a plurality of spaced drill cups 8 each provided with a depending seed spout or funnel 9 and feed cylinder 10 for delivering the grain or seed from the box 7 to the seed feed spouts. Formed in the bottom of each drill cup 8 is a discharge opening 11, the latter being normally closed by a pivoted gate or valve 12. One end of each gate or valve 12 is provided with spaced ears 13 which span a perforated lug 14 formed on the curved wall of the adjacent drill cup to permit the insertion of a cotter pin or similar fastening device, indicated at 15.

The lower ends of the gates or valves 12 are rigidly secured to an oscillating bar 16 interposed between the truck wheels 5 and extending transversely across the grain drill at the front of the latter, as shown, so that when the bar 16 is oscillated the several gates or valves will be simultaneously opened to permit the discharge of the contents of the drill cups when it is desired to change from one kind of grain to another.

As a means for normally and yieldably supporting the gates or valves 12 in closed position, there are provided one or more spring arms 17 having their lower ends rigidly secured to the bottom of the oscillating bar 16 and their upper ends curved laterally and provided with spring catches 18 adapted to engage inclined blocks or clips 19 fastened to the rear wall of the seed box 7. The metal forming the catches or shoulders 18 is extended longitudinally to form finger pieces 20 by means of which the catches 18 may be readily disengaged from the members 19 when it is desired to oscillate the bar to effect the opening of the several valves or closures 12.

Attention is here called to the fact that the valves 12 are curved to conform to the curvature of the drill boxes 8 and are each provided with a marginal flange 21 which bears against the walls of the adjacent openings 11, thus positively to prevent the escape of seed or grain from the drill cups when

the catches 18 are in engagement with the locking members or clips 19.

In order to discharge the contents of the drill cups preparatory to filling the latter with a different seed, it is merely necessary to disengage the shoulders 18 from the members 19 and then swing the spring arms 17 downwardly, when the several gates or valves may be moved to open position so that any grain remaining in the cups 8 will fall by gravity through the openings 11 onto the ground. After the contents of the drill cups have been discharged the gates or valves are moved to closed position and held in such position by means of the shoulders 18 on the arms 17, as before stated. Thus it will be seen that by means of the attachment described the contents of all of the drill cups may be simultaneously discharged prior to filling the drill cups with a different kind of grain without the necessity of the operator inserting his hand into the drill cups and manually removing the grain or seed that may be left in said drill cups after the sowing operation.

The device is very simple in construction and may be readily attached to any approved type of grain drill without the necessity of changing the construction of the latter.

Having described the invention, what is claimed is:

1. In a grain drill, the combination with a drill cup having an opening formed therein, of a bar mounted for oscillation beneath the drill cup, a valve connected with the drill cup and oscillating bar respectively, and movable to open and closed position when the bar is oscillated, and means for normally and yieldably holding the valve in closed position.

2. In a grain drill, the combination with a drill cup having an opening formed therein, of a bar mounted for oscillation beneath the opening in the drill cup, a valve having one end thereof secured to the oscillating bar and its opposite end pivotally connected with the drill cup, and a spring carried by the bar for normally and yieldably holding the valve in closed position.

3. In a grain drill, the combination with a drill cup having an opening formed therein, of a bar mounted for oscillation beneath the opening in the drill cup, a valve adapted to close said opening and having one end thereof rigidly secured to the oscillating bar and its free end pivotally connected to the drill cup, and a finger piece for oscillating

the bar to effect the opening and closing of the valve.

4. In a grain drill, the combination with a seed box, of a drill cup, the latter having an opening formed in the bottom thereof, a bar mounted for oscillation beneath the drill cup, a valve adapted to close the opening in the drill cup and having one end thereof rigidly secured to the oscillating bar and its other end pivotally connected with the drill cup, a catch secured to the said box, and a spring arm carried by the oscillating arm and provided with a terminal locking member adapted to engage the catch for normally and yieldably supporting the valve in closed position.

5. In a grain drill, the combination with a seed box, of a drill cup having an opening formed therein and provided with a perforated lug, an oscillating bar disposed beneath the drill cup, a valve having one end thereof secured to the bar and its opposite end provided with spaced ears for pivotal connection with the perforated lug, and means carried by the bar and engaging the seed box for normally and yieldably retaining the valve in closed position.

6. In a grain drill, the combination with a seed box, of a plurality of drill cups each having a discharge opening, an oscillating bar disposed beneath the drill cups, valves carried by the bar and each having a pivotal connection with the adjacent drill cup, and spring arms secured to the bar and adapted to engage the seed box for normally and yieldably supporting the valves in closed position, said arms terminating in finger pieces.

7. In a grain drill, the combination with a plurality of spaced drill cups having their rear walls provided with discharge openings, of a bar mounted for oscillation beneath the drill cups, a plurality of valves carried by the bar and each having a pivotal connection with the adjacent drill cup, said valves being provided with marginal flanges adapted to bear against the walls of the drill cups at the openings therein, spring arms carried by the bar and engaging the seed box, said arms terminating in finger pieces for swinging the arms downwardly, thereby to simultaneously open or close all of said valves.

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

LANKFORD D. WHITNEY. [L. S.]

Witnesses:

W. W. WEDGE,
R. F. WEIGEL.