No. 860,695. PATENTED JULY 23, 1907.

S. W. ROWELL.

GRAIN DRILL ATTACHMENT.

APPLICATION FILED APR. 15, 1907.

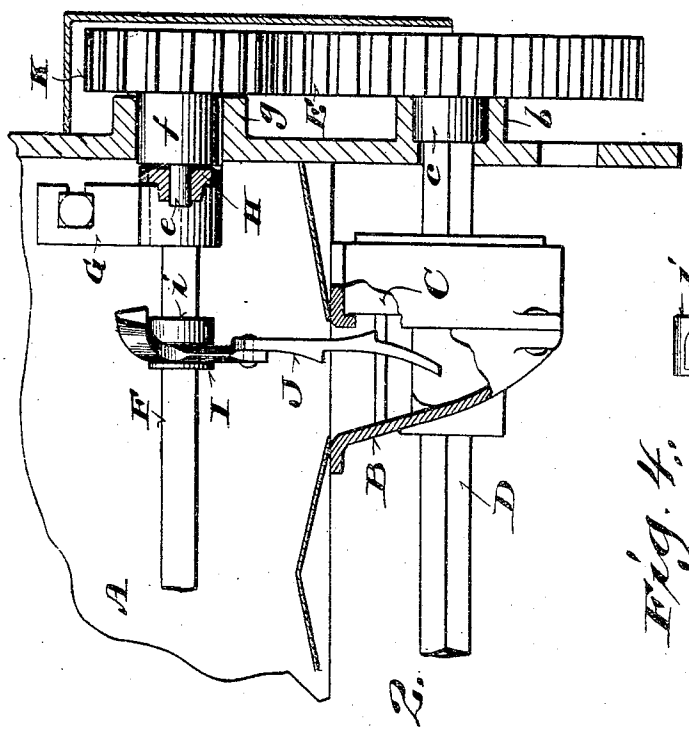


Fig. 2.

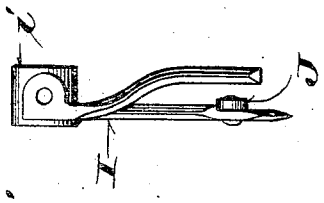


Fig. 4.

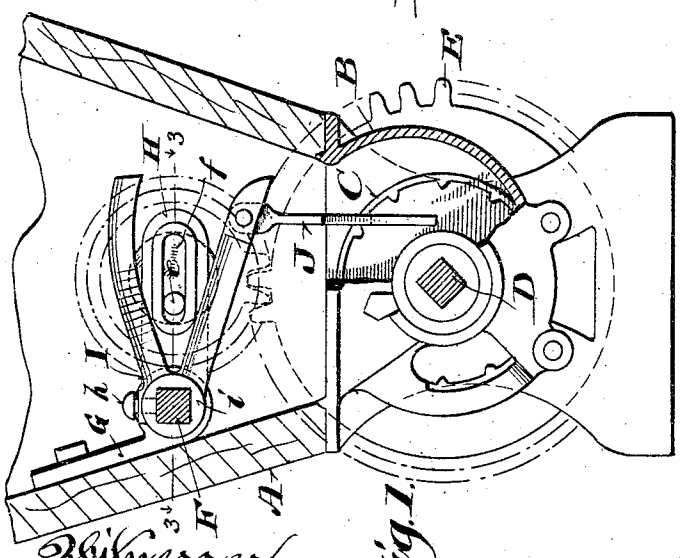


Fig. 1.

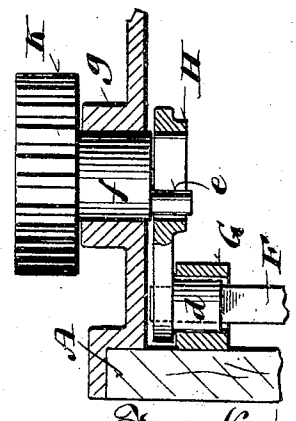


Fig. 3.

Witnesses:
Thos. Palm
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UNITED STATES PATENT OFFICE.

SAMUEL W. ROWELL, OF BEAVER DAM, WISCONSIN, ASSIGNOR OF ONE-HALF TO JOHN S. ROWELL, OF BEAVER DAM, WISCONSIN.

GRAIN-DRILL ATTACHMENT.

No. 860,695. Specification of Letters Patent. Patented July 23, 1907.

Application filed April 15, 1907. Serial No. 368,151.

To all whom it may concern:

Be it known that I, SAMUEL W. ROWELL, a citizen of the United States, and a resident of Beaver Dam, in the county of Dodge and State of Wisconsin, have invented certain new and useful Improvements in Grain-Drill Attachments; and I do hereby declare that the following is a full, clear, and exact description thereof.

The improvements consist in what is herein shown, described and claimed; the object of the invention being to provide simple, economical, durable and efficient agitator-attachments for grain-drills, the same being especially designed for preventing clogging of bearded oats in the feeds of said drills.

Figure 1 of the accompanying drawings represents a transverse sectional view of a fragment of a grain-drill provided with an agitator-attachment in accordance with my invention; Fig. 2, a front elevation of same partly in vertical longitudinal section; Fig. 3, a horizontal section view indicated by line 3—3 in Fig. 1, illustrating a detail of the agitator, and Fig. 4, a plan view of one of a series of forks constituting parts of said attachment and each provided with a depending pivotal finger that has its play in a seed-cylinder casing of the grain-drill.

Referring by letter to the drawings, A indicates the hopper of a grain-drill, B one of the depending seed-cylinder casings of the same, C the seed-cylinder in the casing and D the seed-cylinder drive-shaft. When the drill is provided with the herein described attachment, a spur-gear wheel E is made fast on one end of the drive-shaft aforesaid outside the hopper, one end of which hopper is provided with a bearing *b* for the cylindrical hub *c* of said gear-wheel.

The attachment is herein shown as embodying a preferably squared shaft F having oscillatory support in hangers fastened to a wall of the hopper A, only one of these hangers G being herein shown. This shaft is provided with a longitudinally slotted crank H having a cylindrical hub *d* loose in one of the hangers, and fast on said shaft is shown one of a series of forks I each of which is provided with a depending pivotal finger J that has its play in a seed-cylinder casing of the machine. The slot of the crank H is engaged by a wrist-pin *e* of the cylindrical hub *f* of a spur-pinion K meshed with the gear-wheel E aforesaid, the adjacent end of the hopper being provided with a bearing *g* for said hub. The spur-gearing aforesaid is shown within a suitable housing.

Each fork I is fastened in its proper position on the shaft F by a set-screw *h* or otherwise, as may be found most convenient or desirable in practice. The lower branch of each fork is preferably at a right-angle to the shaft-engaging sleeve portion *i* of same and the upper branch of said fork is for the most part offset to be on another plane from that of the branch first aforesaid, both branches being preferably triangular in cross-section. This preferred construction of fork is designed to facilitate agitation of the grain in the hopper, and the depending finger in pivotal connection with the lower fork branch is preferably barbed and curved to facilitate agitation of the grain in the seed-cylinder casing with which it engages. Oscillation being imparted to the shaft F by the gearing aforesaid, the pivotal finger J companion to each seed cylinder casing has vertical play incidental to the rock of the fork to which it is connected and on downward movement it finds its way to the bottom of said casing. Hence the play of the finger is such that the grain in the casing is agitated to its full depth, this being an important feature of my invention, as otherwise the best results cannot be obtained.

I claim:

1. A grain-drill agitator-attachment comprising an oscillatory shaft in the drill-hopper, a supporting device in rigid connection with the shaft companion to each seed-cylinder casing of the drill, and a finger hung in pivotal connection with said device to have its play in said casing.

2. A grain-drill agitator-attachment comprising an oscillatory shaft in the drill-hopper, a supporting device in rigid connection with the shaft companion to each seed-cylinder casing of the drill, and a barbed and curved finger hung in pivotal connection with said device to have its play in said casing.

3. A grain-drill agitator-attachment comprising an oscillatory shaft in the drill-hopper, a fork in rigid connection with the shaft companion to each seed-cylinder casing of the drill and having one branch thereof offset from the other, and a finger pivotally hung from the lower fork-branch to have its play in said casing.

4. A grain-drill agitator-attachment comprising an oscillatory shaft hung in the drill-hopper, a fork in rigid connection with the shaft companion to each seed-cylinder casing of the drill, the fork-branches being triangular in cross-section and one offset from the other; and a finger pivotally hung from the lower fork-branch to have play in said casing.

5. A grain-drill having its seed cylinder shaft provided at one end with a spur-gear wheel, a pinion meshed with the same and having a wrist-pin hub for which the adjacent end of the drill-hopper is provided with a bearing, a shaft hung in said hopper and provided with a longitudinally slotted crank engaged by the wrist-pin of the pinion-hub, a supporting device in rigid connection with the latter shaft companion to each seed-cylinder casing of the drill, and a finger in pivotally hung connection with said device to have its play in said casing.

In testimony that I claim the foregoing I have hereunto set my hand at Beaver Dam in the county of Dodge and State of Wisconsin in the presence of two witnesses.

SAMUEL W. ROWELL.

Witnesses:
B. S. BARBER,
M. H. BROWER.