(No Model.) 2 Sheets—Sheet 1.

W. SHARKEY.

BROADCAST GRAIN SOWING MACHINE.

No. 342,644. Patented May 25, 1886.

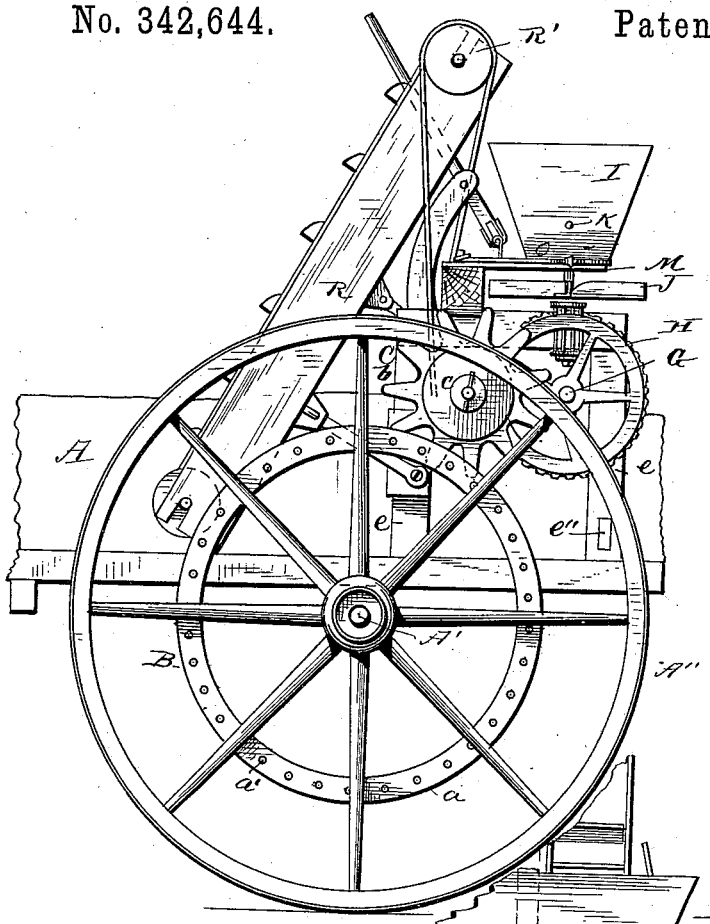

Fig. 1.

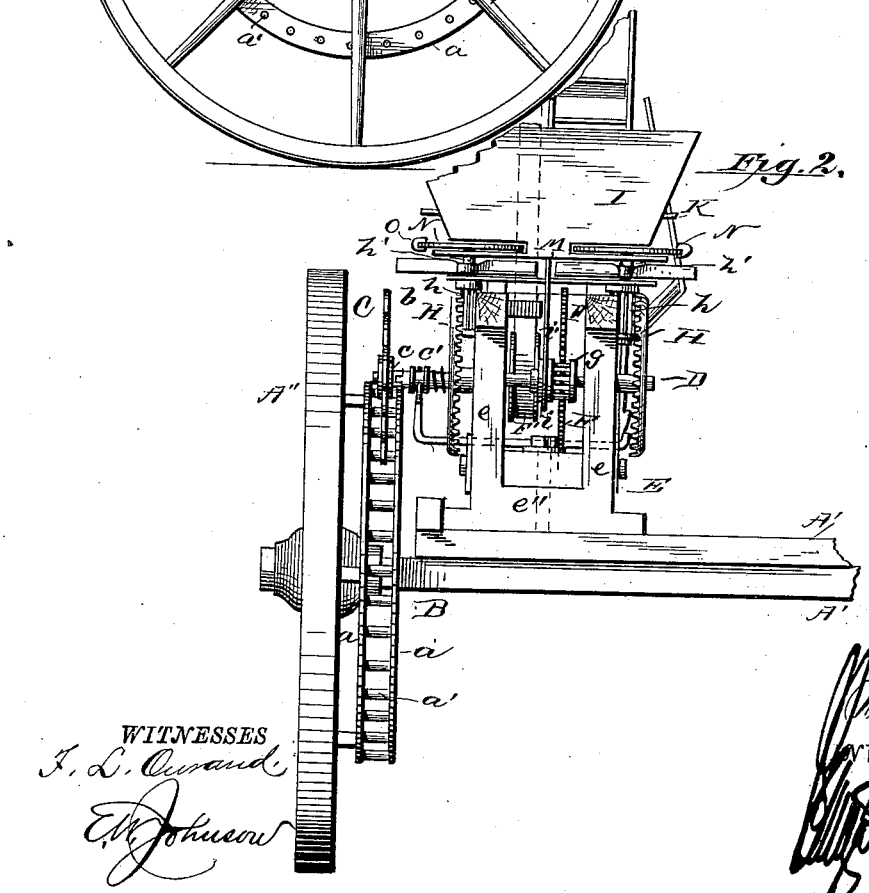

Fig. 2.

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Fig 3.

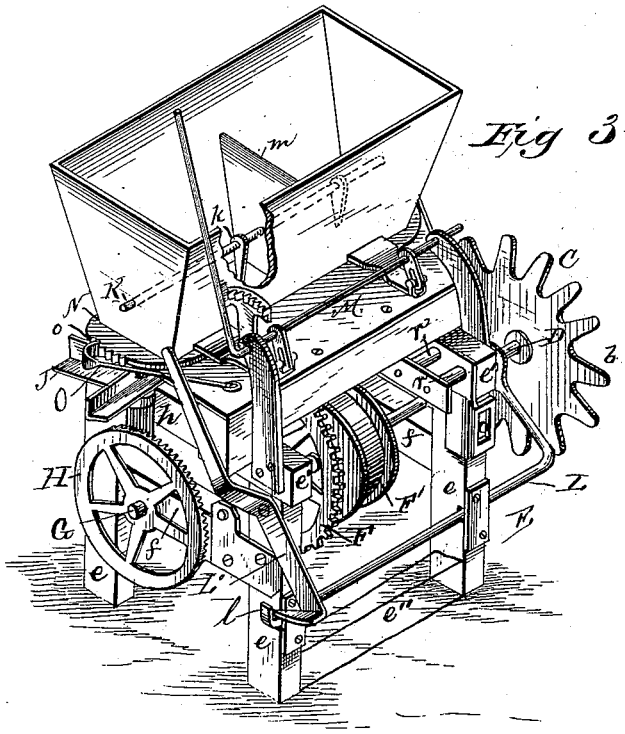


Fig. 4.

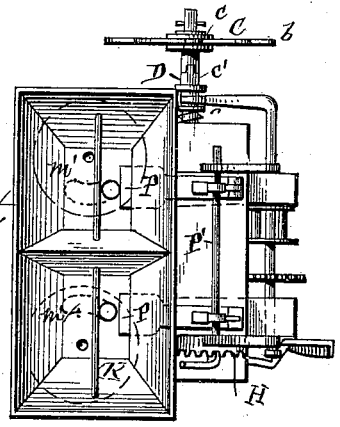
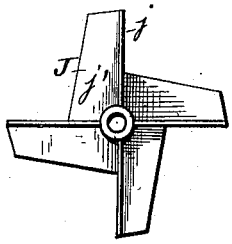


Fig. 5



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UNITED STATES PATENT OFFICE.

WILLIAM SHARKEY, OF OROVILLE, CALIFORNIA.

BROADCAST GRAIN-SOWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 342,644, dated May 25, 1886.

Application filed November 12, 1885. Serial No. 182,594. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SHARKEY, a citizen of the United States of America, residing at Oroville, in the county of Butte and State of California, have invented certain new and useful Improvements in Broadcast Grain-Sowing Machines; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to that class of broadcast seed-sowers which are adapted to be used in connection with a wagon, so as to distribute the seed from the rear portion of said wagon; and my invention consists more especially in the construction and combination of the parts, as will be hereinafter fully set forth and specifically pointed out in the claims.

In the accompanying drawings, which illustrate my invention, Figure 1 is a side view of my improvement, showing the same attached in position for use upon a wagon-body. Fig. 2 is a rear view. Fig. 3 is a perspective view of a seed-sowing apparatus, showing the same detached from the wagon. Fig. 4 is a plan view, and Fig. 5 is a detail view, of one of the distributers.

In the accompanying drawings, A represents the wagon-body, A′ the rear axle, and A″ the rear wheel of the wagon, these parts being of ordinary construction and forming no part of my invention, a further description whereof is not necessary. The wheel A″ has removably attached thereto by means of bolts a crown-wheel, B, which consists of two rims, *a a*, which are connected to each other by pins *a′*, which pins form the teeth with which the gear-wheel C, which is attached to the seed-sowing apparatus will engage. The gear-wheel C is provided on its periphery with tapering and deep-cut teeth *b*, and the thickness of said wheel C at its periphery is slight, so that should the wheel B, which is attached to the supporting-wheel A″, not run in line, the rotation of the gear-wheel C will not be affected. By this construction the crown-wheel B may have a slight irregular vertical as well as lateral movement, and it will not effect the rotation of the gear-wheel C.

c represents the loose hub upon which the gear-wheel C is mounted, said hub having its inner face formed so as to engage with a sliding clutch *c′*, which is mounted on the shaft D.

E represents a suitable frame, which is provided with corner-posts, *e*, upper transverse beams, *e′*, and lower transverse beams, *e″*, which are provided with bolt-holes, through which pass bolts for attaching the said frame to the bottom of the wagon-body.

f represents intermediate cross-beams, which form bearings for the shafts, that will be hereinafter set forth.

The shaft D is journaled in bearings attached to the upper sides of the beams *f*, and said shaft carries near the bearing farthest from the gear-wheel C a large cog-wheel, F, which is keyed securely to said shaft, and adjacent to the cog-wheel F within the frame is secured a flanged pulley, F′.

G represents a shaft, which is journaled in bearings located rear of the shaft D, and said shaft is provided, on a line with the gear-wheel F, with a pinion, *g*, with which said gear-wheel meshes, and the outer end of said shaft projects under the frame E for rigidly attaching thereto crown-wheel H H, the teeth of which engage with vertical pinions *h*, which are journaled in horizontal bearings attached to the upper beams, *e′*, of the frame, and the shaft *h′*, which carries the pinions *h*, extends upwardly into the hopper I, and is provided immediately under said hopper with distributing-plates J, as shown in Fig. 5.

To one side of the pinion *g*, so as to be about on a central line with the hopper, is attached a cam, *i*, over which passes the end of a connecting-bar, *i′*, the upper end being pivotally attached to the projecting arm, which is secured upon a transverse rod which is journaled in the hopper, so that when the shaft G is rotated the stirrers *k* will be oscillated, said stirrers being located on the rod K adjacent to the feed-openings through which the seed passes from the hopper.

L represents a bent bar, which is journaled in the rear of the beams *e e* of the frame E, so

that its bent end, which is bifurcated, will engage with a recess in the sliding clutch, and its opposite end, *l*, is bent upwardly, so as to engage with a beveled or wedge-shaped portion of the lower end of a pivoted lever, L′. A spiral spring is located on the shaft D adjacent to the clutch *c′*, so that one end will bear against the crown-wheel H, while the other end bears against the clutch, said spring having a tendency to throw said clutch against the hub of the wheel C, and when it is desired to throw said clutch out of engagement with the hub of said wheel the lever L′ is moved so that the thickest portion of the wedge will be under the bent portion *l*. Thus it will be seen that by simply moving the lever the seed-distributing device can be thrown in and out of gear with the drive-wheel A″. The hopper I is provided with a central partition, *m*, which covers the rock-bar of the rod *k*.

M represents the bottom plate of the hopper, which is secured rigidly to the upper transverse beam of the frame E, and said plate is provided with slotted openings *m′*, above which are located the circular feed-plates or disks N, which are pivotally attached to the upper ends of the shafts *h′*, and these feed-plates are each provided with openings *n*, which will register with the slotted openings in the plate M, and by adjusting these feed-plates the position of the supply of the grain upon the distributers can be regulated. These disks are provided on their outer edges with serrations or notches *o*, with which the bent ends of the spring-arms O will engage to hold them in position after they have been adjusted, and by means of these, with plates, the throw or spread of the grain can be regulated, and when the grain is thrown too much behind the wagon the holes are moved forward, thus causing the grain to be spread, and if the grain is being sown too thin by moving the holes backward a larger quantity will be fed upon the distributers and the grain will be sown thicker.

P P represents cut-offs, which are connected to a rock-bar, P′, which engages with a toothed segment attached to the frame, so that by moving the cut-offs rearwardly the holes in the feed-plates can be covered, and the size of said openings can be increased or diminished by moving said plates over said openings. Thus the cut-off will regulate the movement of grain fed upon the rotary distributers, and the openings in the feed-plates will govern the spread of said grain.

R represents the frame of an endless conveyer, which is connected to and held in position by bars attached thereto, and to the frame E, and under the bottom of said conveyer-belt is placed the grain which it is desired to sow. The belt which drives the endless conveyer passes over the flanged pulley attached to the shaft D, and from thence between rollers *r r*, which are adjustable upon the frame and serve as a belt-guide, said belt passing over the pulley R′, which is attached to the upper shaft of the conveyer. The upper end of this conveyer will be located above the hopper, and the grain will be fed into the same therefrom.

The distributers, as shown in Fig. 5, have vertical plates, *j*, which throw the grain outwardly, and bottom pieces, *j′*, upon which the grain will strike after leaving the hopper.

By making the wheel B as hereinbefore described it forms an efficient means for conveying the motion from the wagon-wheel, and is more effective and less expensive than a chain-belt, beveled gear-wheels, or other equivalent form of gearings, and the twin distributers, being arranged in pairs, throw the grain from the center outwardly, one of said distributers throwing the grain to the right, while the other throws the same to the left.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a broadcast seed-distributing apparatus, a frame, E, adapted to be removably secured to a wagon-body and provided with horizontal shafts D and G, the shaft D having wheel C, which engages with a wheel, B, attached to the wagon-wheel, the cog-wheel F, mounted on said shaft, so as to engage with the pinion on the shaft G, crown-wheels H H, and pinions *h h*, for rotating the shafts on which the distributers J are secured, and a lever for throwing the wheel C out of engagement with the shaft D, and an endless elevating-belt with buckets for carrying the grain from the wagon-body to the hopper, the parts being combined and organized substantially as shown, and for the purpose set forth.

2. The feed-plates N, pivoted above the bottom of the hopper and provided with openings *n* and serrations *o*, the spring-catches O, for engaging with said serrations, substantially as shown, and for the purpose set forth.

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

WILLIAM SHARKEY.

Witnesses:
FRANK A. PEACHY,
W. M. BOWERS.