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J. H. ARNEY.

Seed-Drills.

No. 152,315. Patented June 23, 1874.

Fig. 1.

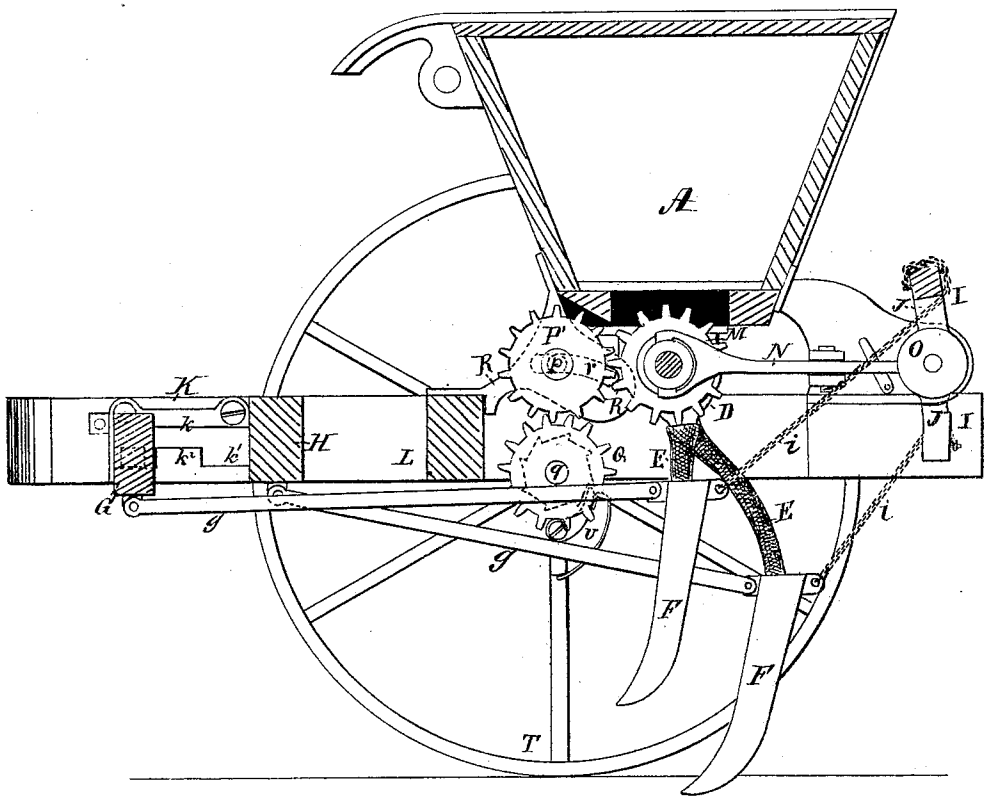
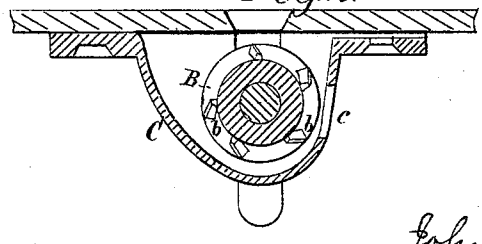


Fig. 2.



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AM. PHOTO-LITHOGRAPHIC Co. N. Y. (OSBORNE'S PROCESS.)

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J. H. ARNEY.

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No. 152,315. Patented June 23, 1874.

Fig. 3.

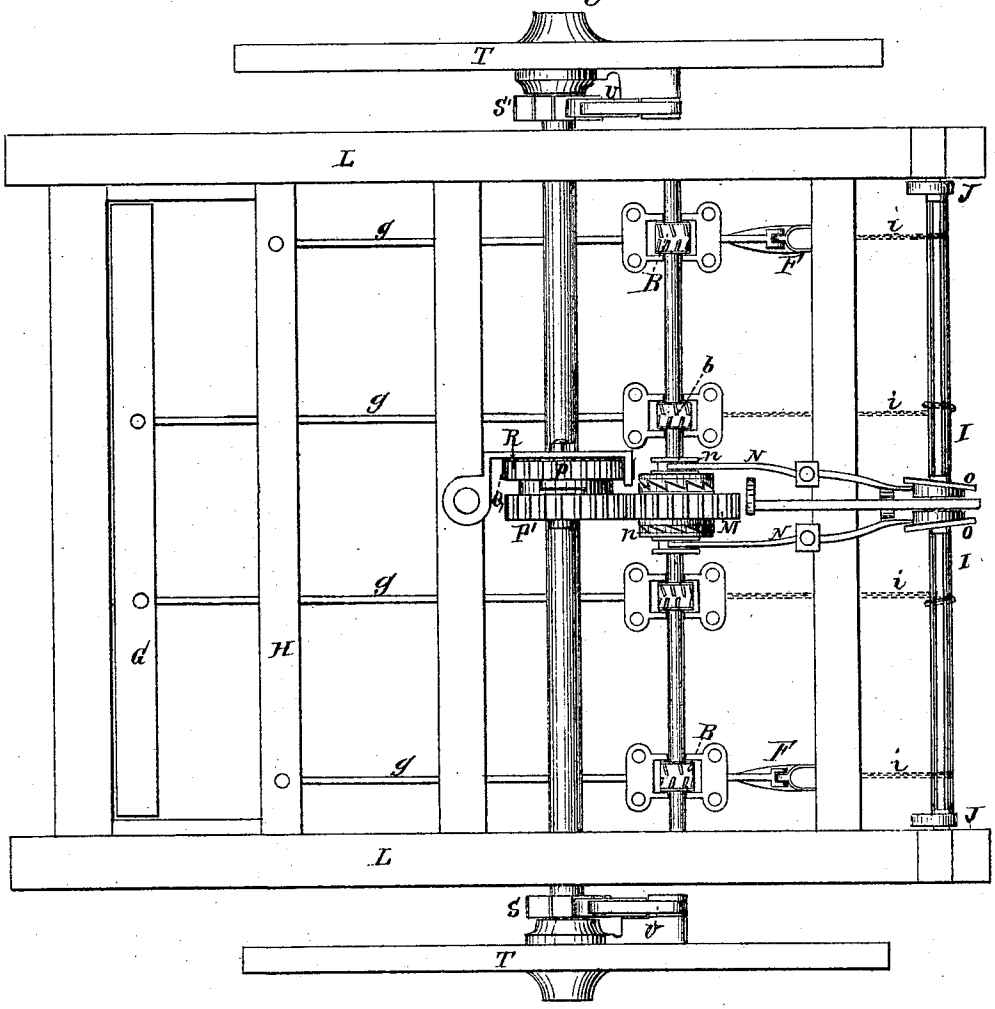
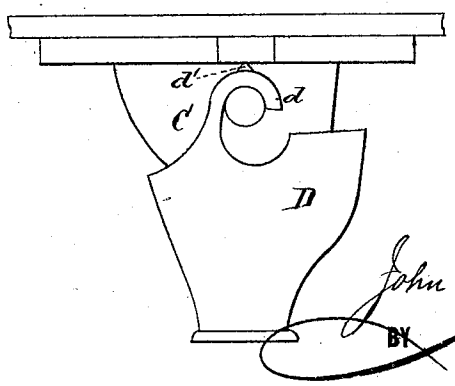


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN H. ARNEY, OF LANCASTER, OHIO.

IMPROVEMENT IN SEED-DRILLS.

Specification forming part of Letters Patent No. **152,315**, dated June 23, 1874; application filed April 2, 1874.

To all whom it may concern:

Be it known that I, JOHN H. ARNEY, of Lancaster, in the county of Fairfield and State of Ohio, have invented a new and Improved Seed-Drill; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figures 1 and 2 are longitudinal sectional elevations, and Fig. 3 a plan view; and Fig. 4 is a side view, showing the manner of attaching the hopper.

The invention relates to novel means, whereby a seed-drill may be rendered more convenient and useful in its action, as well as provided with an independent feed for each of its hoes. These means will first be fully described in connection with all that is necessary to a full understanding thereof, and then pointed out in the claims.

A represents the usual bottom-apertured grain-box, beneath which revolve the several feed-wheels, B, having the two sets of flanges *b b* placed obliquely on their peripheries, about half-way across, and one set alternating with the other. These revolve in receptacles C, gather up the grain, and discharge it through holes *c* in rear of the receptacles, and into the hopper D, from which depend flexible tubes that enter the mouth of the hoes in the usual manner. The hoes F are connected by drag-bars *g*, in front, alternately with the movable and stationary cross-bars G H, and in the rear with the lift-bars I, by chains or other flexible connections *i*. K K are two opposite plates, attached to the longitudinal bars L L of the frame, having a long slot, *k*, and two recesses or seats, k^1 k^1, with an intervening upward projection, k^2. The end tongues of bar G play in these slots, and rest in either of the seats k^1 k^1, according as the subjacent hoes are aligned across the machine or placed zigzag. The middle clutch-wheel M *m* is brought into connection with the two independent shafts on which are placed the feed-wheels B by means of the sliding clutches *n n*. The latter are provided with levers N N, vibrated laterally by the cam-plates or disks *o o*. The lift-bars I are placed on pivoted arms O. By this construction, whenever one or more of either series of hoes is about to come into contact with a stump, or the edge of a field is being finished where only one series of hoes is required, the series not required for use can be raised out of the ground by the lift-bar, which will simultaneously stop the feed of the grain to that series of hoes. P P′ are intermediate wheels, which connect the spur-wheel M with a spur-wheel, Q, on the axle *g* of the drill. The wheels P P′ have side clutches, by which they are fastened together, and turn upon a stud, *p*, that is adjustable in the arc-slot *r* of a plate, R, affixed to the frame and bottom of hopper. By moving the stud *p* in a slot described from the axle *g* as a center, the stud and axle are always preserved at the same distance from each other, and the spur-wheels P Q consequently in gear, while the outside wheel P′ may be readily removed, and a larger or smaller one substituted in order to give greater or less speed. S S′ are ratchet-wheels, one on and near each end of axle; T T, the loose wheels, and U U pawls pivoted to hub or one of the spokes, and held to the ratchet by a spring. In turning either to right or left, one of the wheels will continue to turn the axle, and continue to feed. The hoppers D are provided with the usual hooks *d d*, by which they are hung to the shafts of feed-wheels B, but instead of retaining by springs, which are always objectionable, or leaving them so as to be possibly unhooked when the hoes are elevated, I make on the top a projection, *d′*, that strikes the bottom of hopper, forms an effectual stop, and prevents them from being unhooked.

Having thus described my invention, what I claim as new is—

1. The plates K K, having slots *k*, seats k^1, and intermediate projections k^2, to enable the end-tenoned cross-bar G of a grain-drill to be adjusted as shown and described.

2. The lift-bar I, placed on pivoted arms J, and having the cam-plates *o*, arranged as and for the purpose specified.

3. In a seed-drill a single gear-wheel, M, provided with two side clutches, combined with mechanism operating two sets of feed-wheels, and brought into connection by its own clutch upon both sides of said wheel, as and for the purpose described.

4. In a seed-drill, a hopper, D, having on the hook *d* a projection, *d′*, to strike the bottom of grain-box A, and prevent itself from becoming unhooked, as shown and described.

JOHN H. ARNEY.

Witnesses:
SOLON C. KEMON,
CHAS. A. PETTIT.