

W. F. WEST.
Seed-Drills and Planters.

No. 142,599.

Patented September 9, 1873.

Fig. 1.

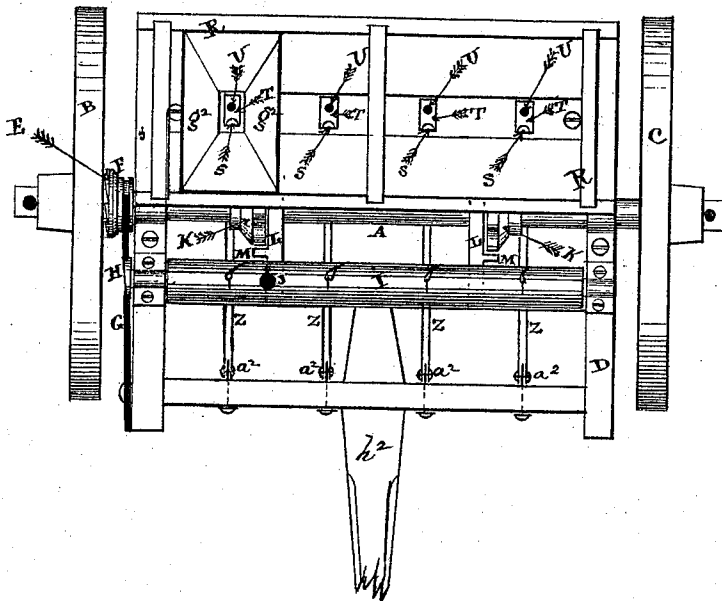
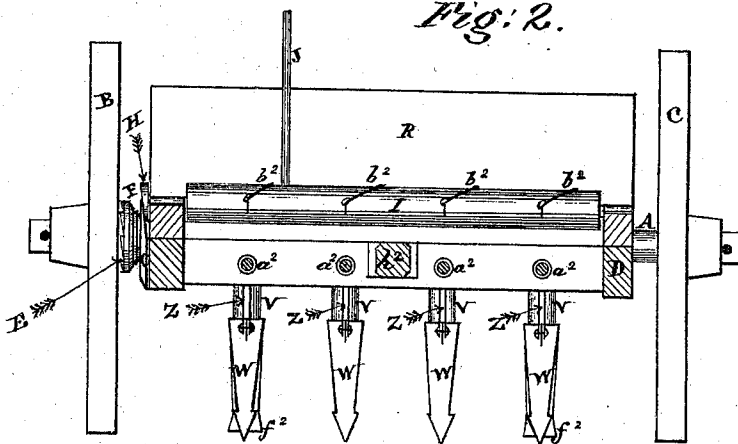


Fig. 2.



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Fig: 3.

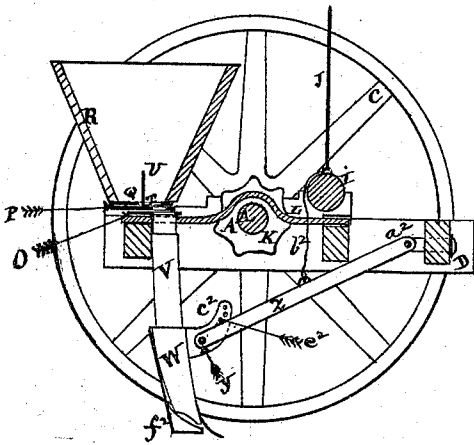


Fig: 4.

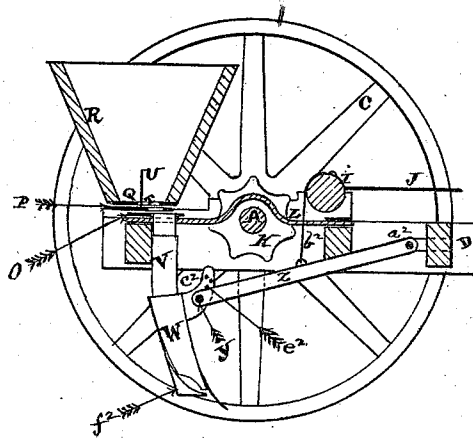
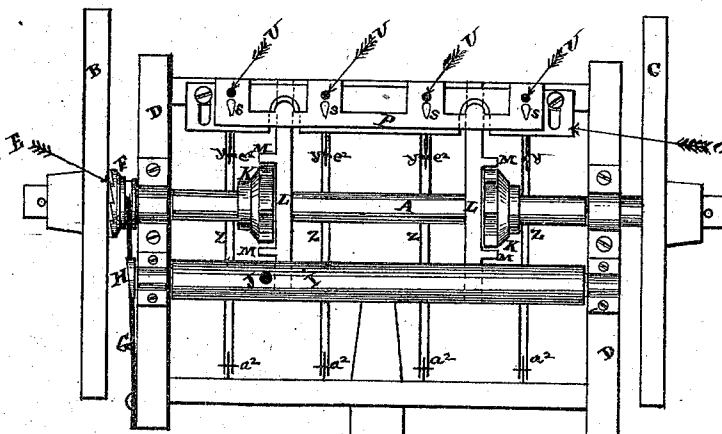


Fig: 5.



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Fig. 6.

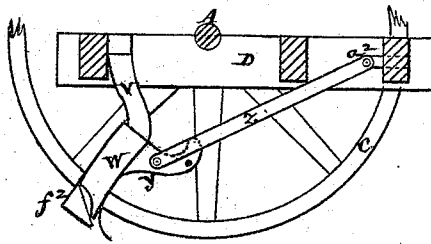


Fig. 7.

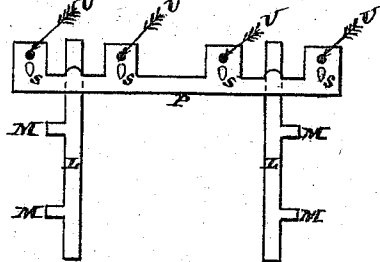


Fig. 8.

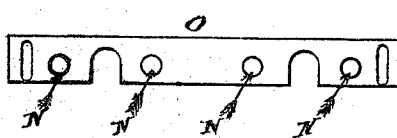


Fig. 9.

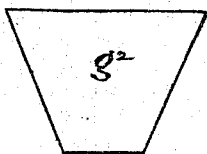
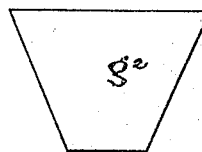


Fig. 9.



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IMPROVEMENT IN SEED DRILLS AND PLANTERS.

Specification forming part of Letters Patent No. **142,599**, dated September 9, 1873; application filed July 27, 1871.

To all whom it may concern:

Be it known that I, WILLIAM F. WEST, of Haverstraw, of Rockland county and State of New York, have invented certain new and useful Improvements in Seed Drills and Planters; and I do hereby declare the following to be a full description of the same.

The nature of my invention consists in combining with the axle of the cart loosely-running propelling-wheels, having couplings on the inner face of the hub of one of them, and on the axle, so that they may be coupled together by a cam-roller operated by the driver of the cart, as desired. The object of this is to permit or intermit the dropping of the seed, accordingly as the axle is coupled or uncoupled with the propelling-wheels. By this means it avoids dropping seed on barren or stony ground, or on roadways, and at the same time lessens the wear on the mechanism when going to and from the place of planting; but to describe my invention more particularly I will refer to the accompanying drawings forming a part of this specification, the same letters of reference wherever they occur referring to like parts.

Figure 1, Sheet 1, is a plan view of the seed-drill. Fig. 2, Sheet 1, is a front view of the seed-drill. Fig. 3, Sheet 2, is a sectional view of the seed-trunks when making the furrows and dropping the seed. Fig. 4, Sheet 2, is a sectional view of the same, showing the position of the seed-trunks when lifted out of the furrow by the jointed rod to which they are suspended. Fig. 5, Sheet 2, is a plan view of the seeder, having the hopper taken off to exhibit the seed-valves. Fig. 6, Sheet 3, is a detached side view of the jointed lifting-rod, with the seed-trunks attached thereto, and showing its position bent backward to avoid breaking when suddenly coming in contact with any obstruction. Fig. 7, Sheet 3, is a detached plan view of the double-acting valve-rods. Fig. 8, Sheet 3, is a detached plan view of the cut-off or cap-plate of the seed-trunks. Figs. 9, Sheet 3, are views of the adjustable partitions of the seed-hopper.

Letter A is the axle of the cart, having on its ends two loosely-running propelling-wheels, B and C, and secured to a frame, D, by any suitable boxes for such purposes. On the

inner face of the hub of the wheel B is formed a coupling, E, so that it may lock into an adjustable coupling, F, working on the axle, and thus, when coupled together, cause it to rotate with the wheels to operate the mechanism to drop the seed. To effect this operation of coupling the wheel with the axle, a spring, G, is secured at one end to the side of the cart-frame, and the other end into a channel cut in the periphery of the sliding or adjustable coupling, and, by means of a cam, H, on the end of a roller, I, arranged across the cart-frame in proper bearings, the driver of the cart, by means of the lever J, throws the coupling into gear with the wheel, and thus causes the axle to rotate with it. To throw them out of gear, the lever J is restored to its original position, when the spring-lever G, by its own action, uncouples the wheel from the axle. It will be obvious that the adjustable coupling on the axle has only a longitudinal sliding motion, and thus, when coupled with the wheel, causes its rotation to operate the seed-valves. For this purpose two cam wheels or collars, K, are solidly secured on the axle, having their peripheries subdivided into seven, or a greater or less number, of tappets, as may be desired for the different kinds of seed to be sown. The shape of these tappets is like a scalloped edge. The object of making them in this way is to admit of the use of double-acting valve-rods L, whereby the valve-rod, by means of the two pins M at each side of the cam K, will be vibrated with a positive motion to open and close the openings N in the adjustable cut-off or cap plate O of the seed-trunks. This is effected by means of the slide or valve P secured to the ends of the double-acting valve-rods, and working between the cut-off plate O and the bottom plate Q of the seed-hopper R. These valves are formed with small openings S in them, proportioned in size to the kind of seed to be sown, so that, when the outlets N through the cut-off plate to the seed-trunks are closed by the retraction of the valves, they will fill with seed through the openings T in the bottom of the seed-hopper. When thus filled it forms a charge of seed to be dropped at each opening of the valve to the seed-trunk. To keep the seed in the hopper from choking up

the openings in its bottom plate, and facilitate the charging of the openings in the valves, agitator-pins U are inserted into the upper side of the valves, so as to project up into the hopper through the openings in its bottom. By this means, at each vibration of the valves, the seed in the hopper will be stirred up and caused to enter the charging-holes in the valves. Letters V are a series of flexible tubes, secured to the under side of the cut-off plate O, directly under the openings for dropping the seed from the hopper. The lower ends of these tubes are inserted into the upper ends of what are called the seed-trunks W. These trunks are made of metal, with a furrowing-point, or with a detachable furrowing-point, as may be desired. The object of making the seeding-trunk in two parts—that is, a flexible upper end, and separable metallic lower end—is to adapt them to overcome obstructions by lifting them out of the furrow. For this purpose the trunks W are secured, by working-joints Y, to a lifting-rod, Z, having its opposite or front end connected to the front rail of the cart-frame by a center-pin or link-joint, a^2 . To lift the trunks out of the furrow, cords or chains b^2 are attached to the lifting-rods at about half-way their length, and the other ends of the cords secured to the roller I, which is rotated by means of the lever J, as shown in Fig. 4, Sheet 2, to wind up the cord and lift the trunks at the same time that the cam H on the end of the roller I throws the propelling-wheel out of gear with the axle. By this means of lifting the trunks out of the furrows, the driver of the cart may prevent breaking them by contact with surface obstructions. To overcome such obstructions as are below the surface, and not possible to be guarded against by the driver of the cart, is the object of securing the trunks to the rods by the joint Y. This joint is formed by means of a curved arm, c^2 , projecting from the upper front side of the trunk, and secured by a center-pin to the end of the lifting-rod Z. To keep the trunk in its proper position, the end

of the arm c^2 is curved at right angles nearly with the rod Z, and extends above it a sufficient distance, as shown in Figs. 3 and 4, Sheet 2, to admit of the insertion of detent-pins c^2 . These detent-pins may be made of wood or metal, but of such strength only as would sustain the strain on the trunk while furrowing, and yet break readily if opposed by any obstruction, and bend back, as shown in Fig. 6, Sheet 3, to avoid the destruction of the trunk if not thus relieved. Letters f^2 are shoes secured to the backs of the seed-trunks. These shoes are detachable from the trunks, but when attached thereto are intended to become a part thereof, so that it will be lifted out of the furrow at the same time that the trunks are, and thus at all times be out of the way of obstructions. Letters g^2 are detachable slides or partitions, which are intended for subdividing the hopper-box into as many compartments as there are seed-trunks, or alternating them where greater width of rows is required, or alternate rows of different kinds of seed are to be sown. These slides are shown as applied to the hopper in Fig. 1, Sheet 1, and as detached therefrom in Figs. 9, Sheet 3. They may be made of thin sheet metal or wood, as desired, and fitted into the hopper by sliding them in grooves or other suitable means, as may be desired.

Having now described my invention, I will proceed to set forth what I claim and desire to secure by Letters Patent of the United States:

In combination with the detachable axle A, the couplings E F, spring G, cam H on the transverse roller I, and hand-lever J, for the purpose of throwing the wheels in and out of gear with the axle by a to-and-fro motion of the lever J by the driver, substantially as described.

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Witnesses:

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