(No Model.) 2 Sheets—Sheet 1.

J. R. HUNTER.

SEED PLANTER OR FERTILIZER DISTRIBUTER.

No. 511,890. Patented Jan. 2, 1894.

Fig. 3.

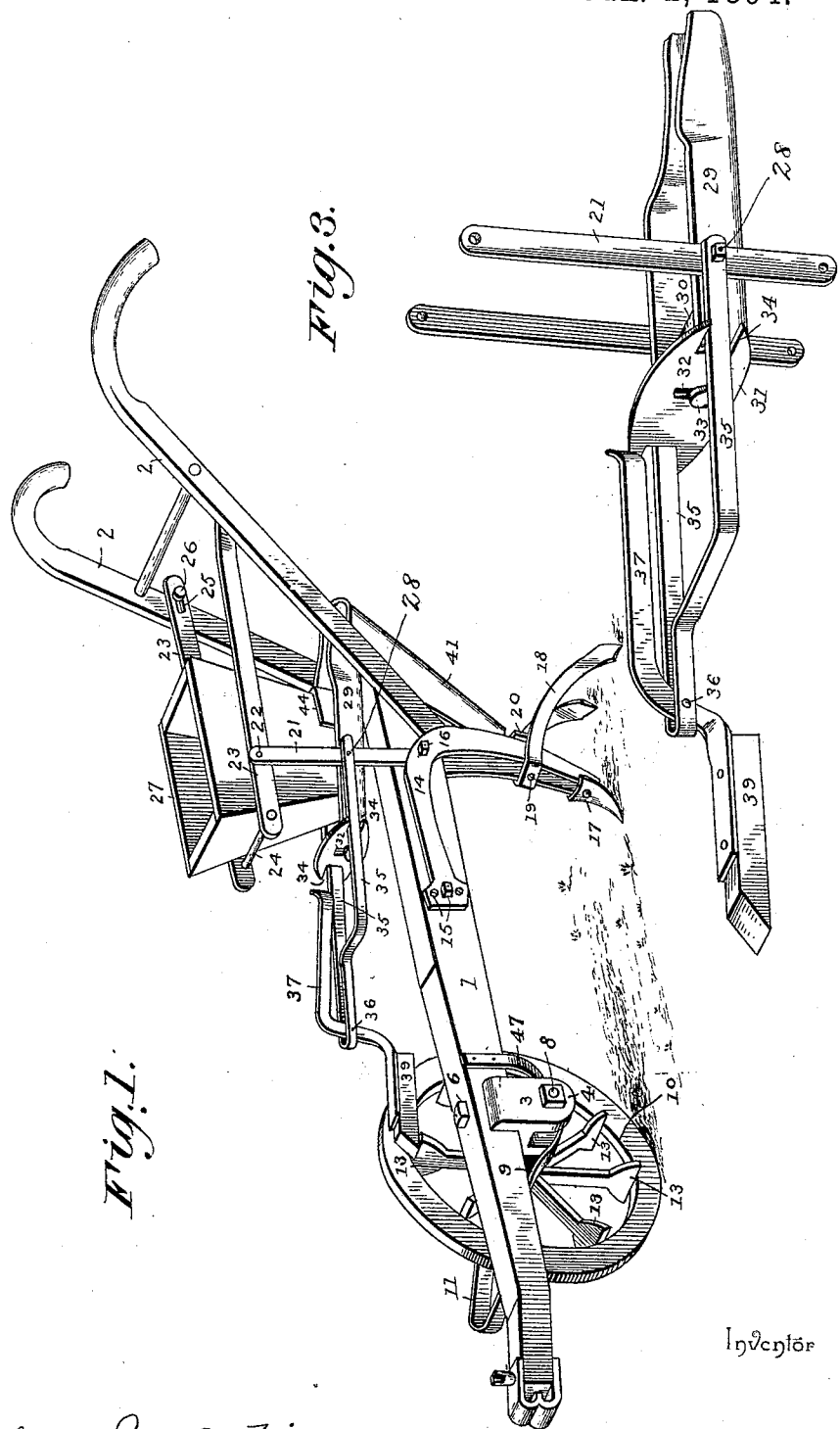

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

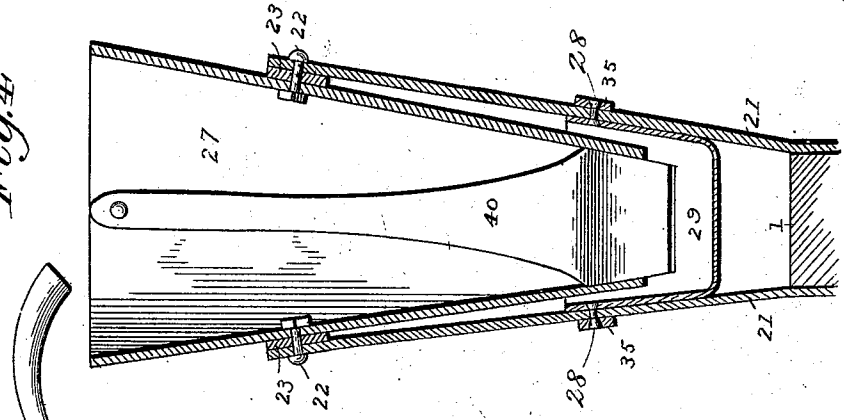
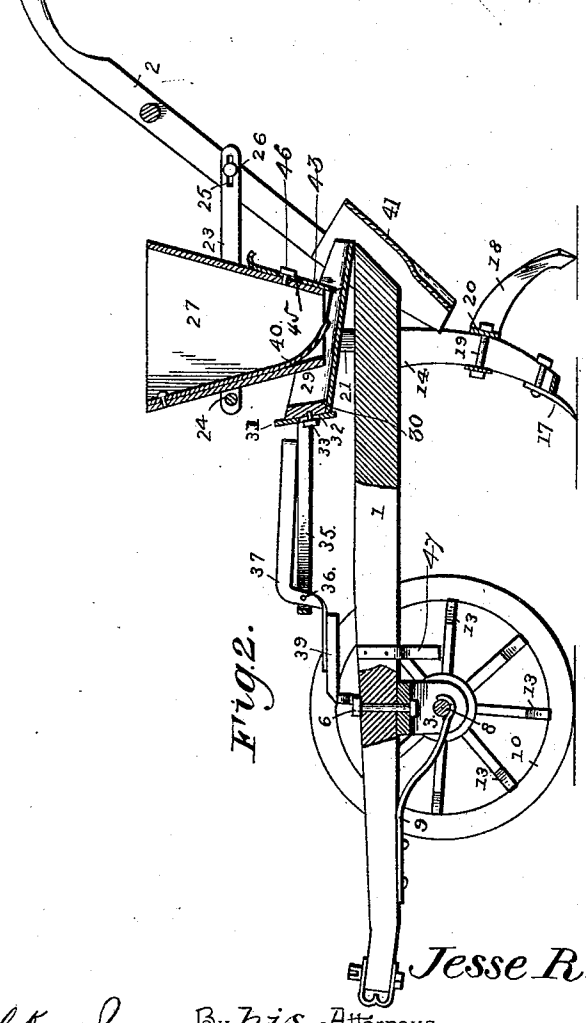


Fig. 2.



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UNITED STATES PATENT OFFICE.

JESSE RUTLEDGE HUNTER, OF GRIFFIN, GEORGIA.

SEED-PLANTER OR FERTILIZER-DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 511,890, dated January 2, 1894.

Application filed June 30, 1893. Serial No. 479,295. (No model.)

To all whom it may concern:

Be it known that I, JESSE RUTLEDGE HUNTER, a citizen of the United States, residing at Griffin, in the county of Spalding and State of Georgia, have invented a new and useful Combined Planter and Fertilizer-Distributer, of which the following is a specification.

My invention relates to improvements in combined planters and fertilizer-distributers, the objects in view being the provision of a machine of this class designed to operate effectually either as a planter or fertilizer-distributer, the same being of cheap, simple, and durable construction, whose discharge may be regulated as may be desired and which in operation shall keep up a constant flow of seed or fertilizing-agent and deposit the same in a furrow formed by the machine, and subsequently close the furrow, all in one continuous unbroken operation.

With these and other objects in view the invention consists in certain features of construction hereinafter specified and particularly pointed out in the claims.

Referring to the drawings:—Figure 1 is a perspective view of a combined planter and fertilizer-distributer constructed in accordance with my invention. Fig. 2 is a vertical longitudinal sectional view through the hopper. Fig. 3 is a detail in perspective of the discharge-shoe and its agitating-mechanism. Fig. 4 is a vertical transverse sectional view through the hopper and shoe.

Like numerals of reference indicate like parts in all the figures of the drawings.

I employ in my invention the usual beams 1 at the rear ends of which are fixed the diverging inclined handle-bars 2. A cast-metal block 3 has its upper side recessed or bifurcated as at 4 to engage with the under side of and embrace the beam near its front end. The block is retained in position through the medium of a vertical bolt 6 passed therethrough and through the beam. The under side of the block is bifurcated and its opposite walls are provided with bearings, which accommodate a transverse shaft or axle 8. A flat spring 9 is bolted to the under side of the beam and curved downward and rearward terminating at its rear end under the axle 8 for the purpose of aiding in the support of the same and retaining it snugly in the upper portions of the bearings 7, thus preventing any looseness that may be occasioned by wear. The axle 8 extends beyond one side of the block and accommodates a ground-wheel 10. The axle projects beyond the outer side of the ground-wheel 10, and a bearing-strap 11 is bolted to the side or face of the beam 1, is curved outward in front and to the side of the wheel, and terminates in a bearing for the accommodation of the outer end of the axle. The spokes of the wheel 10 are at opposite sides provided with duplicate series of lugs or projections 13.

A bifurcated goose-neck standard 14 embraces the opposite faces or sides of the beam 1 near the rear end thereof, the said bifurcations having their front ends terminating in heads, each provided with a series of perforations for the accommodation of a bolt 15. A single bolt 16 passes through the bifurcations at their curved portions and through the beam and serves as a means of pivoting the bifurcations to the beam. It will be seen that by an adjustment of the bolt 15 the standard may be disposed at any desired angle so as to adapt the furrow-opening shovel 17 carried thereby to form a deep or shallow furrow as may be desired. A pair of covering-shovels or blades 18 embrace the standard 14 and are secured adjustably thereto by means of a bolt 19 which extends between the bifurcations of the standard, and through the front portion of the covering-blades and a rear clip-plate 20.

A pair of standards 21 have their lower ends notched, are located at opposite sides of the beam 1 and between it and the bifurcations of the standard 14, the lower notched ends of said standards resting on the bolt 16, whereby they are capable of oscillation. The upper ends of the standards 21 are pivoted as at 22 to intermediate portions of a pair of horizontal straps or bars 23, whose front ends are connected by a transverse bolt 24 and whose rear ends are slotted as at 25 and adjustably connected with the inner sides of the handle-bars 2 by means of bolts 26.

Supported between the bars 23, the bolt 24, and the standards 21 is the hopper 27, the same being secured in position by means of the bolts 22 which pass through the standards 21, bars 23, and walls of the hopper.

Below the hopper there is pivoted by means of bolts 28 a vibratory shoe 29, the same having a general U-shape in cross-section and terminating at its rear end in a discharge mouth. The front wall of the shoe is preferably a wooden block 30 which is located in advance of the front wall of the hopper, and there is secured to the said block a metal plate 31. This plate 31 is provided with a slot 32 and an adjusting bolt or screw 33 passes through the slot and into the block, whereby as will be obvious the plate may be raised and lowered upon the bolt and secured at any point desired. The opposite sides of the plate 31 are provided with recesses or notches 34, and the same receive opposite bars 35 that embrace the shoe and are pivoted by the bolts 28. The front ends of the bars 35 converge and meet at one side of the beam 1 adjacent to the rim of the wheel and have pivoted therebetween by a bolt 36 a clip-arm 37, whose rear end is laterally projected so as to contact with or cross one of the adjacent bars 35, and whose front end is downwardly bent and provided with a wear-shoe or block 39, which is arranged in the path of the trip-lugs or tappets 13. Secured to the interior of the front wall of the hopper is a curved blade or plate 40, the lower end of which takes in the shoe and passes through the open bottom of the hopper. This plate is of spring-metal, and besides forming a guide for the grain, serves to give the shoe a sudden impetus in its return movement so as to insure a prompt discharge of the grain.

Secured to the rear end of the beam 1 is a discharge-spout 41, the same extending down to a point in rear of the furrow-opening shovel and in advance of the covering-blades, the upper end or mouth of the discharge being flared and designed to receive seed and fertilizer as the same are dropped from the rear end or discharge mouth of the shoe. The rear side or wall of the discharge-spout it will be seen is crimped vertically so that the stream of fertilizer or seed is divided during its passage therethrough.

To the rear side of the hopper immediately above the shoe a vertically movable cut-off plate 43 is located, the same being provided with an intermediate vertical slot 45, through which a set-screw 46 takes.

In operation the vertical cut-off is of course adjusted and also the notched plate at the front of the shoe, and in accordance with the latter will the shoe be vibrated, that is to say, by lowering the plate the vibrations of the shoe will be increased and by raising the plate they will be decreased or made lighter. This may also be effected by means of the movable straps or bars 23, they being slotted at their rear ends so that it will be obvious the standards 21, together with the shoe, hopper, and straps 23 may move forward or backward so as to expose more or less surface of the block 39 to the action of the tappets. An inclined finger or guard 47 is secured to the beam 1 in rear of the block 3, the said guard curving inward under the beam toward the wheel and being designed to prevent the same becoming entangled in stalks, &c.

By reason of the wheel being provided with tappets on each side and being removably mounted it may be reversed so as to bring either set of tappets in position. Thus when one set wears out the others may be employed.

It will be seen that either fertilizer or seed may be dropped from the machine, and in either instance the operation is the same. The wheel revolving through the medium of the trip-arm vibrates the shoe and feeds in predetermined quantities the fertilizer or seed, the same being dropped in the middle of the furrow formed by the advance shovels, and subsequently covered by the blades that follow.

I do not limit my invention to the precise details of construction herein shown and described, but hold that I may vary the same to any degree and extent within the knowledge of the skilled mechanic.

Having described my invention, what I claim is—

1. In a machine of the class described, the combination with the beam, hopper, discharging devices, and a ground-wheel arranged at one side of the beam, of an inclined guard located at the opposite side of the beam and disposed under the same and toward the wheel, substantially as specified.

2. In a machine of the class described, the combination with the beam, the bifurcated block located upon the under side of and secured thereto, a transverse axle extending through and beyond one side of the block, the wheel carried by the axle, of the flat spring secured to the under side of the beam and bearing against the under side of the axle, and the metal bearing-strap secured to the outer side of the beam, bent around the wheel, and terminating in a bearing for the outer end of the axle and planting mechanism carried by the beam, substantially as specified.

3. In a machine of the class described, the combination with the beam, the ground wheel having tappets, the vertical pivoted standards 21, the side bars 23 connected between their ends to the upper ends of the standards and to an intermediate hopper and having their rear ends slotted, of handle-bars extending upward from the beam, bolts passed through the same and through the slots of the bars 23, a vibratory shoe arranged below the hopper and pivoted to the standards 21, and an arm connected thereto and extending into the path of the tappets of the wheel, substantially as specified.

4. In a machine of the class described, the combination with the beam, the vertical standard pivoted thereon, the hopper supported thereby, a shoe arranged below the hopper and pivoted between the standards, a notched plate slotted and arranged at the front end of the shoe, an adjusting-bolt passed through

the slot and into the front wall of the shoe, of a pair of bars located in the notches of the plate and pivoted at their rear ends to the standard, a curved trip-arm pivoted between the front ends of the bars and deflected at one side to overlap one of the same and carrying at its front end a wear-shoe arranged in the path of the tappets, substantially as specified.

5. In a machine of the class described, the combination with the beam, the hopper, and the shoe pivoted below the hopper, of means for operating the shoe, and a curved spring-plate secured to the front wall of the hopper and depending through the bottom thereof into the shoe, where its free end terminates substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JESSE RUTLEDGE HUNTER.

Witnesses:
R. SEMMES KELL,
G. R. WALL.