(No Model.) 3 Sheets—Sheet 1.

J. W. MOORE.

COMBINATION PLANTER AND CULTIVATOR.

No. 523,226. Patented July 17, 1894.

FIG. 1.

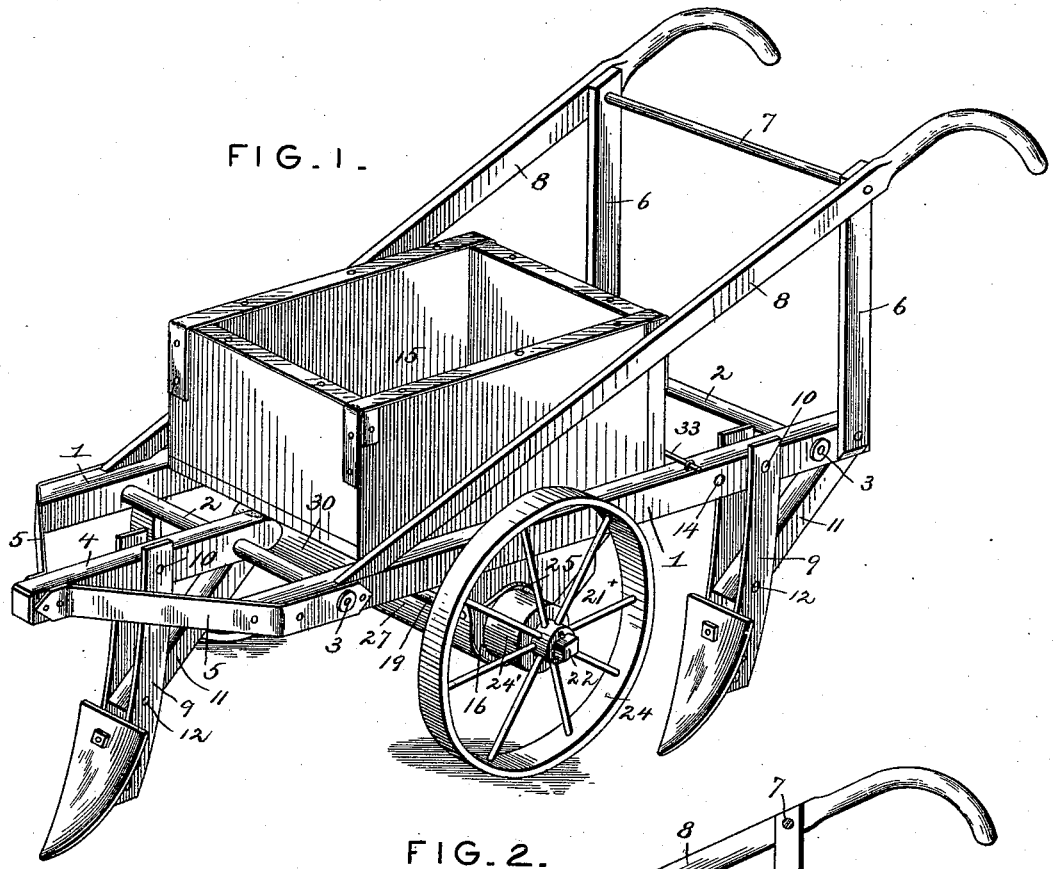
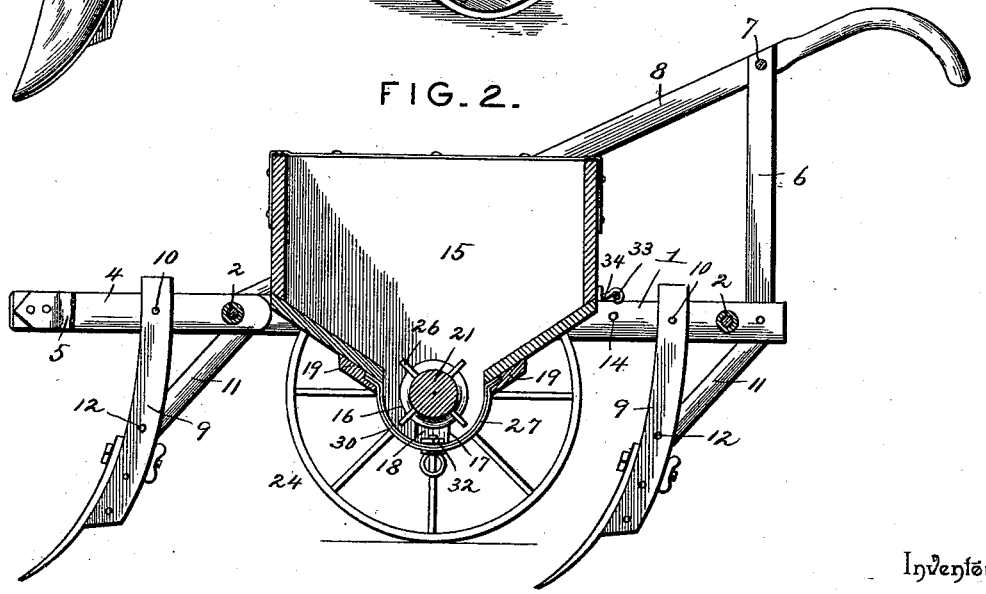


FIG. 2.



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(No Model.) 3 Sheets—Sheet 2.

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FIG. 3.

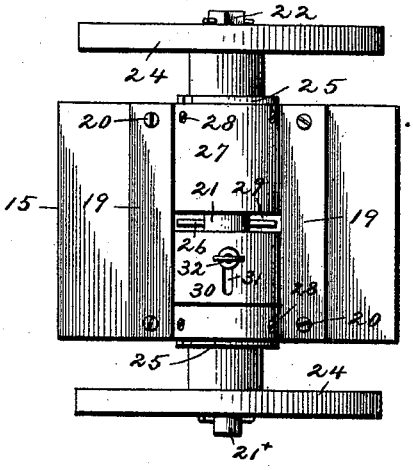

FIG. 4.

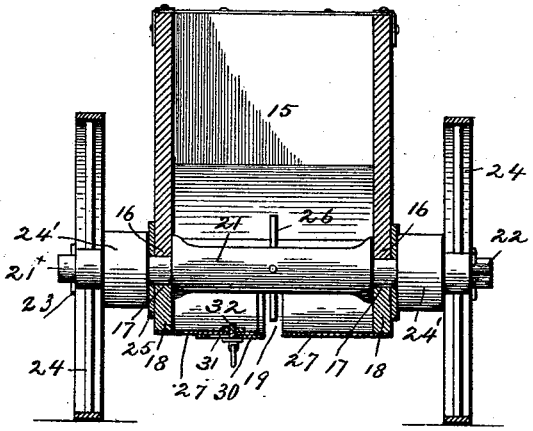

FIG. 6.

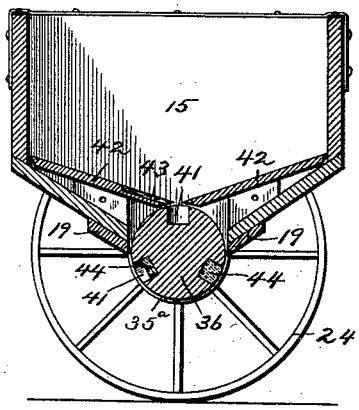

FIG. 7.

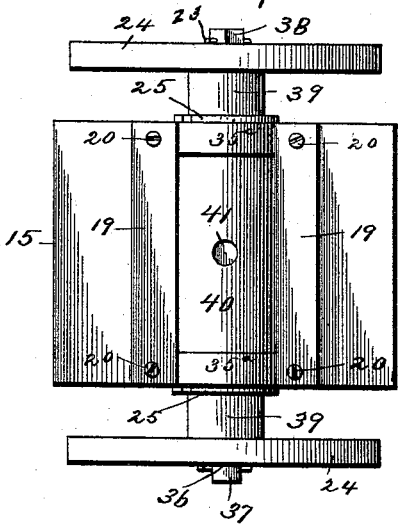

FIG. 5.

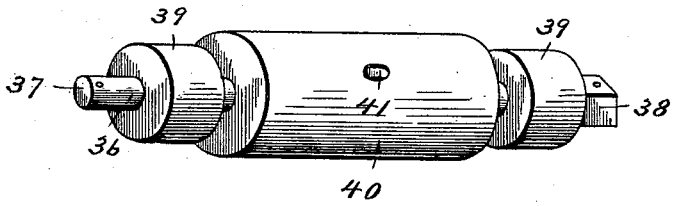

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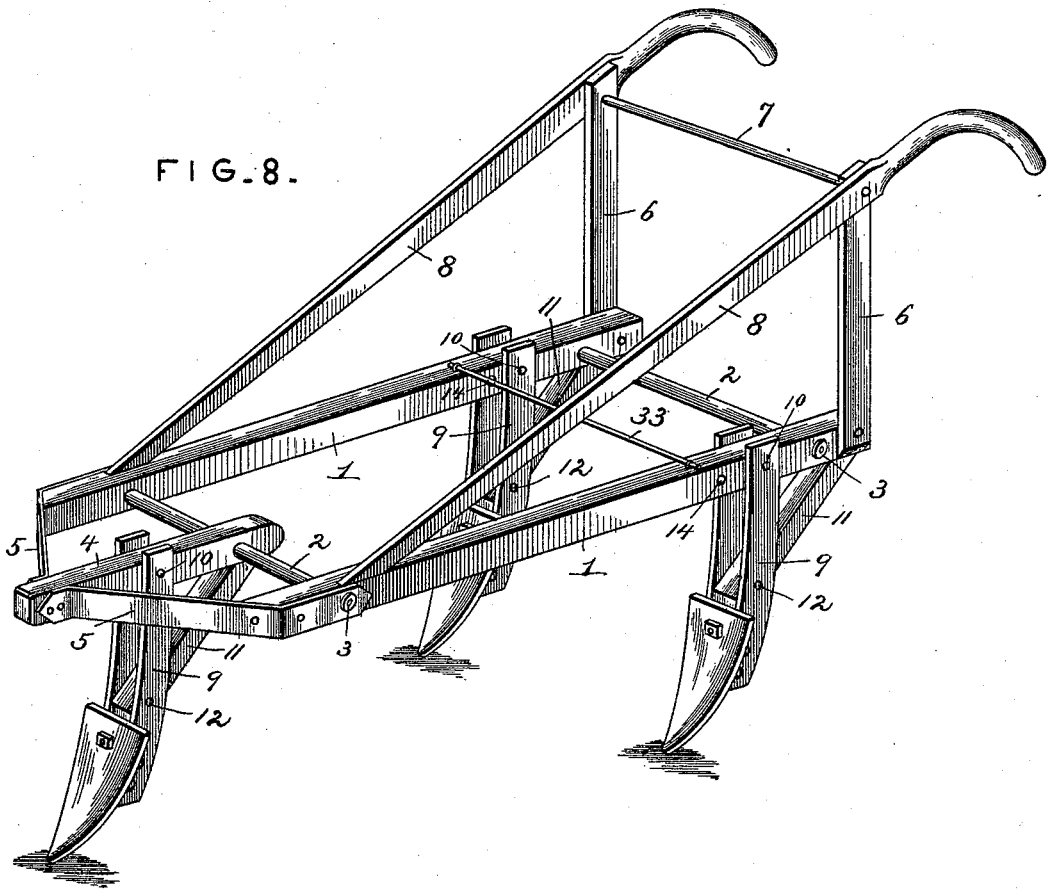
FIG. 8.



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UNITED STATES PATENT OFFICE.

JAMES W. MOORE, OF HOMER, LOUISIANA.

COMBINATION PLANTER AND CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 523,226, dated July 17, 1894.

Application filed December 4, 1893. Serial No. 492,744. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. MOORE, a citizen of the United States, residing at Homer, in the parish of Claiborne and State of Louisiana, have invented a new and useful Combination Planter and Cultivator, of which the following is a specification.

My invention relates to improvements in planters; and the objects in view are to provide a planter adapted for dropping in predetermined quantities cotton-seed, or, at desired distances apart, corn, peas, sorghum, or other grain; for dropping fertilizer; and for serving as a straddle-row or other cultivator.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings: Figure 1 is a perspective view of a machine constructed in accordance with my invention, the same being designed to serve as a cotton-planter. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a bottom plan view of the hopper. Fig. 4 is a vertical transverse sectional view of the machine. Fig. 5 is a detail of the seed-roll and its shaft. Fig. 6 is a longitudinal sectional view of the hopper converted to a planter adapted for seed. Fig. 7 is a bottom plan view of the same. Fig. 8 is a detail of the machine adapted to serve as a cultivator.

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

In the practice of my invention I employ a pair of opposite side-beams 1, which are connected near their front and rear ends by transverse adjustable tie-rods 2, having jam-nuts 3 located at the outer side of each of the beams 1. A draft-beam 4 is located between the front ends of the beams 1, and is perforated so as to permit of the passage therethrough of the front tie-rod 2. Diverging hounds 5 are secured to the opposite sides of the draft-bar 4, and at their outer ends overlap the exteriors of and are bolted to the beams 1. Standards 6 rise from the rear ends of the beams 1 and are secured to the transverse rung 7 of a pair of inclined handles 8 which project in rear of the beams 1 above the same, and at their lower front ends are secured to said beams 1.

Upon each of the beams 1 near the rear end thereof and upon the draft-beam 4, I locate a bifurcated plow-carrying standard 9, the same being removably bolted in position by transverse bolts 10. Braces 11 are pivoted at 12 between the bifurcations of the standards, and at their rear ends are bolted to the under sides of the respective beams upon which they are located. Either of the rear standards may be moved in advance of its companion, and its bolt passed through a supplemental perforation 14 with which each of the beams 1 is provided. By removing the front standard the machine, as thus constructed, serves as a straddle-row cultivator, and by advancing one of the rear standards I produce a side cultivator.

When the machine is not used as a planter it may be used as a cultivator in a manner that will be obvious from the foregoing description, and as shown in Fig. 8.

Arranged within the framework thus constructed is a rectangular hopper 15, the same having its bottom inclining from its front and rear ends toward its center, and between the same the sides of the hopper are provided with bearing openings 16 and are rounded at the lower edges. Each side of the hopper is provided with a slot or recess 17, and arranged therein is a filling-block 18. Cleats 19 are secured to the inclined bottoms adjacent to their edges, and are held in position by means of screws 20. A transverse axle 21 may be located in the bearing-openings in a removable manner and retained in position by the aforesaid filling-blocks. The outer ends of the axle are reduced, one of said ends being made cylindrical, as indicated at $21^{\times}$ and the other rectangular, as indicated at 22. Ground-wheels 24 are arranged removably upon the ends of the axle, and by reason of one of said ends being cylindrical one ground-wheel will be loose while the other is fast and the axle is caused to move with it. Keys 23, or other devices, may serve to retain the wheels removably in position. Collars 24′ are formed on the axle at the outer sides of the bearings and washers 25 may be interposed between the collars and the bearings.

The axle, which is employed, when the machine is designed for planting cotton seed, or spreading fertilizer, is provided with a series

of radiating stirring arms arranged within the hopper.

A pair of sheet-metal curved bottom sections 27 have their opposite edges let under the cleats 19 and are secured to the bearing-standards by means of screws 28. The sections 27 terminate short of the center of the machine and produce a feed-slot 29. One of the sections has mounted thereon a sliding cut-off 30, which may be moved so as to cover the feed-opening. This sliding section is slotted transversely at 31, and a clamping-bolt 32 passes through the slot and is threaded in a perforation in the bottom section.

In rear of the hopper I locate a transverse rod 33, the same having its ends secured to the beams 1. The hopper is temporarily and removably secured to this rod by means of a swiveled hook 34 arranged in the back wall of the hopper and engaging over said rod. A disengagement may be effected at any time by simply turning the hook and lifting the frame from over the hopper in a manner that will be obvious.

The machine as thus constructed is designed for distributing fertilizer or planting cotton seed, the discharge being regulated by the sliding cut-off, in a manner obvious. As the machine moves along the front shovel forms the furrow, the cotton-seed is dropped in the bottom of the furrow, and the covering-shovels following thereafter serve to return the soil to the furrow and produce the drill.

I may substitute for the cotton-seed mechanism a suitable mechanism designed for dropping corn, peas, sorghum, or any grain, and have illustrated an axle adapted for this purpose (see Fig. 5 of the drawings). The axle 36, in this instance, has a cylindrical end 37 and a square end 38, and between the same the fixed collars 39 are located. Between the fixed collars the axle is provided with a roll 40, which fits the transverse opening in the bottom of the hopper and is provided with peripheral cavities or seed-cups 41.

In order to make the change necessary to convert the machine from a cotton-planter to a seed-planter, the hook is disconnected from the transverse rod in the manner heretofore described, the frame lifted from the hopper, and the latter inverted, the cleats 19 are removed as are also the bottom sections, the filling-blocks, and the axle, and the substitute axle inserted, the filling-blocks returned, and curved strips 35^a are secured by the screws 20 to the lower edges of the sides of the hopper and by suitable fastening devices to the filling blocks. I also locate in the hopper a pair of inclined false bottom-sections 42, which correspond to the permanent bottom of the hopper and overlap the seed-roll. These bottoms 42 are notched at the centers of their lower edges, and one of said notches has arranged thereover a flexible flap or brush 43 to prevent injury to a seed should the same project above the seed-cup. The depth of these cups may be regulated by a partial filling of the same with corks 44, whereby their capacities may be decreased, or if desired, one or more of the cups may be completely closed or plugged, and thus the distance between the droppings be regulated. The substitute axle having been arranged in position the hopper is returned to the frame and reconnected. The operation is the same as heretofore, the front shovel forming the furrow in which the grain is dropped and the rear shovels covering the same after such dropping.

From the foregoing description in connection with the accompanying drawings, it will be seen that I have provided a very simple machine adapted for planting cotton or grain of any kind in a convenient accurate manner, the parts being capable of adjustment so as to regulate the out-put, and also that the machine may be employed as an ordinary cultivator either as a straddle-row cultivator or as a side cultivator. It will be seen that the machine will only feed when moving in a straight line as across fields, and that when turning at the end of a row that wheel which turns the axle will remain stationary as will also the axle, and its companion wheel will not revolve and not influence the axle so as to cause a feed of the grain.

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 planter, the combination with the rectangular framework, and the front and rear shovel-carrying standards, of the transverse rod arranged on the framework the detachable hopper loosely arranged within the framework, means for supporting the hopper, removable feed-devices carried by the hopper, and a swiveled hook arranged on the rear end of the hopper for engaging the rod in a removable manner, substantially as specified.

2. In a planter, the combination with a framework, a hopper supported therein and having its bottom inclined from opposite sides and provided with a transverse central opening, and with bearing openings and having the lower edges of its sides rounded the sides of the hopper being provided with recesses, filling-blocks removably arranged in the recesses, curved bottom sections secured to the hopper and terminating short of each other producing an intermediate discharge-slot, screws passing through the bottom sections into the hopper, a curved cut-off having a slot, a clamping-screw passed through the same into one of the bottom-sections, a transverse axle arranged in the bearing openings, feed-devices carried by the axle, and ground-wheels arranged on the ends of the axle, substantially as specified.

3. In a planter, the combination of a frame-

work, a hopper having an inclined bottom and having the lower edges of its sides curved and provided adjacent to the curved edges with bearing openings and having recesses, cleats arranged under the bottom and at opposite sides of the curved edges, and of a transverse opening formed in the bottom, filling blocks arranged in the recesses, a transverse shaft removably mounted in the bearings and having ground-wheels, feed-devices carried by the shaft, curved bottom sections terminating under the cleats and secured to the standards in a removable manner, and a slotted cut-off secured to one of the bottom-sections and provided with a clamping-bolt passing through the slot and into said section, 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.

JAS. W. MOORE.

Witnesses:
J. M. BROWN,
A. H. FRY.