2 Sheets—Sheet 1.

J. F. TUCKER.

Planter and Fertilizer.

No. 103,688. Patented May 31, 1870.

Fig. 1.

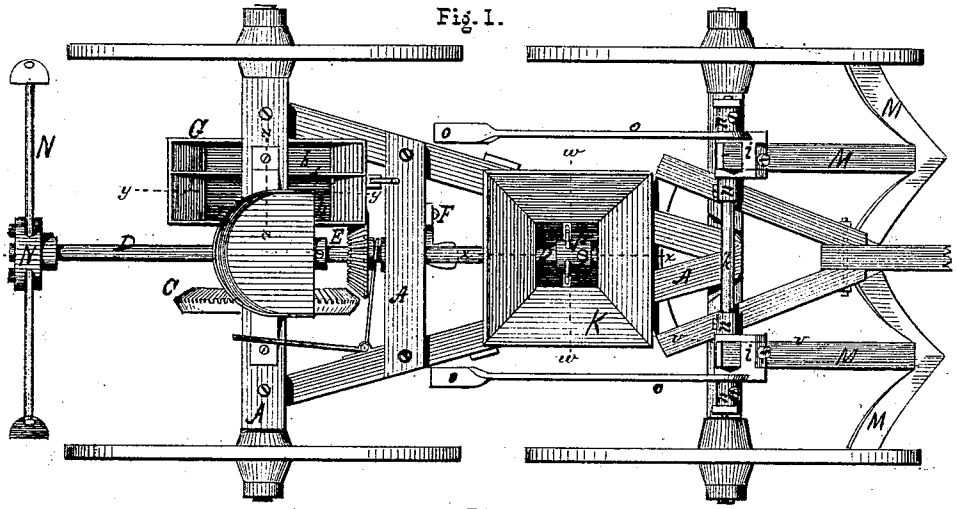

Fig. 2.

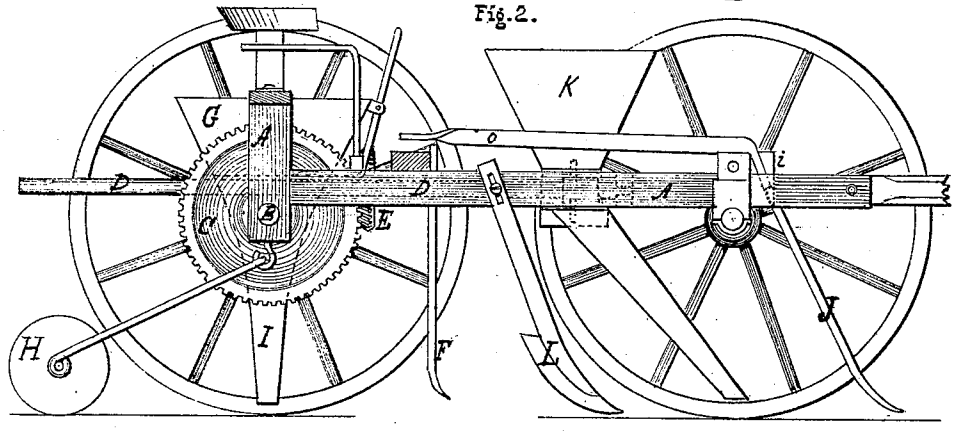

Fig. 3.

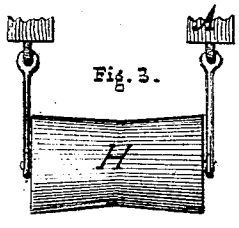

Fig. 4.

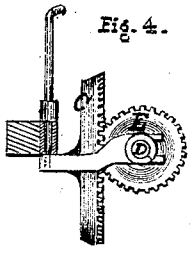

Fig. 5.

Fig. 6.

Witnesses.

Chas. H. Poole

Elphonzo Young

Inventor.

James F. Tucker

2 Sheets—Sheet 2.

J. F. TUCKER.

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Fig. 7.

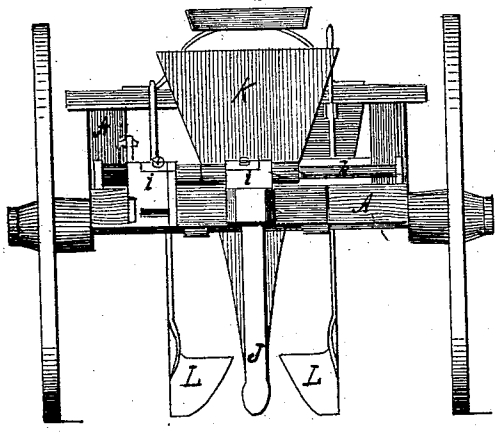


Fig. 8.

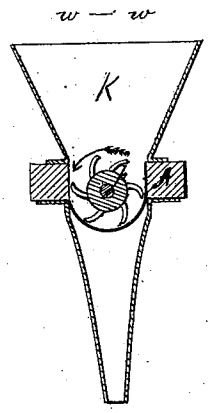


Fig. 9.

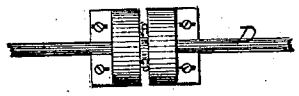


Fig. 10.

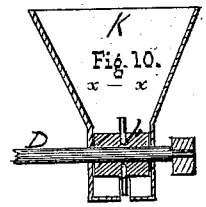


Fig. 11.

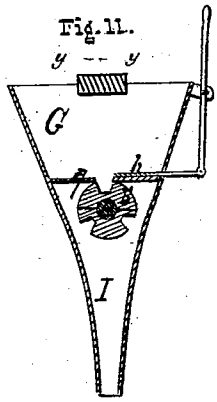


Fig. 12.

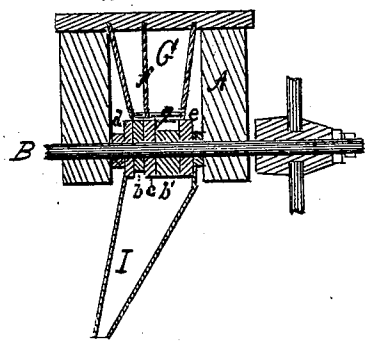
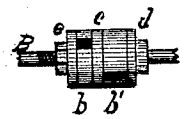


Fig. 13.



Witnesses.

Chas. H. Poole

Elphonzo Young

Inventor.

James F. Tucker

United States Patent Office.

JAMES F. TUCKER, OF MONTICELLO, FLORIDA.

Letters Patent No. 103,688, *dated May* 31, 1870.

IMPROVEMENT IN CORN AND COTTON-PLANTER, FERTILIZER-DISTRIBUTER, COTTON-CHOPPER AND CULTIVATOR COMBINED.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, JAMES F. TUCKER, of Monticello, in the county of Jefferson and State of Florida, have invented certain new and useful Improvements in Machines for Planting Corn and Cotton, Distributing Fertilizer, for Chopping Cotton, and for Cultivating Corn, Cotton, and Sugar-Cane; and the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 represents a plan or top view.

Figure 2 is a side elevation, with the near wheels removed.

Figure 3 is a broken-off section of the frame, with the roller attached.

Figure 4 is a detached view of the gear-wheels, and the mechanism for throwing them into and out of gear.

Figure 5 is a section through, on line *v v*, fig. 1, of the adjustable blocks.

Figure 6 is a side view of the same.

Figure 7 is a front elevation or end view.

Figure 8 is a cross-section of hopper and feed-wheel, on line *w w*, fig. 1.

Figure 9 is a view, from beneath, of the adjustable bottoms of the hoppers, with the spout detached.

Figure 10 is a longitudinal section of hopper and feed-wheel, on line *x x*, fig. 1.

Figure 11 is a longitudinal section of fertilizer-distributer and corn-planter, and the apparatus for cutting off the feed, on line *y y*, fig. 1.

Figure 12 is a section through at *z z*, fig. 1, showing the hoppers for containing corn and fertilizer, and the apparatus for feeding out the same.

Figure 13 is a detached view of the mechanism for feeding corn and fertilizer.

The object of my invention is to provide a farm implement more especially adapted to the wants of the southern country, combining in one machine the necessary apparatus for performing the work of planting corn and cotton, and, at the same time, distributing-fertilizers, or, by changing the attachments, cultivate corn, cotton, or sugar-cane.

My invention consists in the mechanism and mode of operation by which I arrive at this result, namely, in the construction of the hoppers and the feeding-mechanism, and the arrangement of plows and covering-roller, for opening the soil, covering the fertilizer and seed, and for cultivating.

To enable others to make and use my improvements, I will proceed to describe them more fully, referring by letter to the accompanying drawing.

A is the frame of the machine, which is made of wood, and is supported upon axles of iron, to which the wheels are attached, the rear axle, B, being made fast to, and turning with its wheels.

A bevel gear-wheel, C, is hung upon this axle, being secured to it by a set-screw.

A shaft, D, is placed at right angles to, and passes immediately above the shaft B, which works in suitable journal-boxes in the frame A.

Upon this shaft, and attached to it by means of a groove fitting a feather upon it, is a bevel-wheel, E, which meshes into the wheel C, by which means motion is communicated to the operating parts attached to it. This wheel is, relatively, half the diameter of the wheel C.

Its attachment to the shaft, by means of the groove and feather, permits it to be thrown into and out of gear by means of the lever *a*, attached to the frame A, which lever is forked, and works in a groove in its hub, as shown in figs. 1 and 4.

The mechanism for planting corn, and dropping fertilizer for the same, consists of the colter F, fig. 2, hopper G, feed-wheels *b b*, washer *c*, collar *d*, nut *e*, shown in figs. 11, 12, and 13, and cover-roller H, figs. 2 and 3.

The colter F is bolted to a cross-piece which is a portion of the frame A, in a central position between the wheels. It is made adjustable, so that it may be set at any required depth, by means of an oblong hole at the upper end of its shank, through which the bolt passes. Its use is to open the ground for the reception of the corn and fertilizer.

The hopper G is constructed with a division or partition, *f*, figs. 1 and 12, the object being to provide separate places for the corn and fertilizer.

The bottom *g* of the hopper comes in immediate contact with the feed-wheels. It has a narrow opening in it for the purpose of allowing the contents of the hoppers to pass to the feed-wheels.

A plate, *h*, fig. 11, operated by a lever attached to the side of the hopper, rests upon the bottom *g*, by sliding which the opening can be covered and the communication cut off.

The feed-wheels or droppers *b b* have recesses or pockets for receiving the seed and fertilizer. These droppers are made in halves, as shown in fig. 11, that they may be easily attached or removed. When attached, they may be placed so that the pockets of the corn and fertilizer-droppers will stand in any suitable position in relation to each other desired, for the purpose of depositing the seed and fertilizer together, or at any desired distance apart.

The washer *c* is placed upon the shaft between the seed and fertilizer-droppers *b b*. They are all clamped and held in position by means of the nut *e*, fitted to a

screw-thread upon the axle B, which clamps them between it and the collar *d*.

A spout, I, is attached to the hopper G to convey the seed and fertilizer into the trench made by the colter F.

The cover-roller H, figs. 2 and 3, has a concave surface. It is connected to the frame A in such a manner that it may be detached when not needed.

The mechanism for planting cotton and distributing fertilizer for the same consists of the colter or shovel-plow J, figs. 2 and 7, the hopper K, figs. 1, 2, 7, 8, 9, and 10, with its feed-wheel *h*, the coverers or half-shovel plows L L, figs. 2 and 7, the colter F, the hopper G, and the cover-roller H.

The colter J is attached to one of the adjustable blocks *i*, figs. 2, 5, 6, and 7.

This block is hung upon a rod, *k*, which is attached upon the top of the bolster of the forward axle. The colter is made adjustable to any desired depth, by means of the slot in the block *i*, through which the upper end of its shank passes, and in which it is secured by a set-screw. Its use is to open the ground for the reception of the fertilizer.

The hopper K, for containing fertilizers, is constructed with an adjustable bottom, as shown in fig. 9, which is of two pieces of semicircular form, with flanged portions, in which are oblong holes, through which pass screws, securing it to the flanges upon the lower end of the hopper, a space or opening being left between them for the passage of the fertilizer.

The feed-wheel *p*, figs. 1, 8, 9, and 10, for distributing the fertilizer, has curved arms, the ends of which are made concave, so as to present sharp edges on the sides coming in contact with the fertilizer when in operation. It is hung upon the shaft D, to which it is fastened by a set-screw, the motion being in the direction of the arrow, fig. 8. The feed-wheel works directly over the space or opening between the adjustable bottoms, but entirely within them, so that, if desired, they could be closed together. A spout is also attached to convey the fertilizer into the trench made by the colter J.

The coverers or half-shovel plows L L are bolted to the frame A, the holes through which the bolts pass being oblong, to allow them to be set at any desired depth, their use being to cover the fertilizer in the trench and throw up a ridge.

The colter F has been already described in connection with corn-planting. Its use in this connection is to open a shallow trench in the ridge for the reception of the cotton-seed.

The hopper G is used for containing the cotton-seed, but for this purpose the partition *f*, bottom *g*, and slide *h*, and also the corn and fertilizer-droppers *b b*, are removed, and in their stead a feed-wheel and adjustable bottom, similar to that used in connection with the fertilizer-distributer, is attached, with the exception that the arms of the feed-wheel work through the space or opening in the bottom; the seed is thus fed through continuously in any desired quantity, and is conducted into the trench by means of the spout, where it is covered by the concave roller already described.

For cultivating or siding and chopping cotton, the sweeps M M and the revolving chopper N, fig. 1, are used.

The hopper K, the colters, covering-plows, and concave roller are detached.

The sweeps M M are attached to the adjustable blocks *i i* in the same manner as the shovel-plow J.

These blocks can be moved to any desired distance apart upon the rod *k*, and held in position by means of the collars *n*, which are provided with set-screws.

They have a dovetail groove, (shown in fig. 6,) in one side, into which are fitted levers *o o*, figs. 1 and 2, running back toward the driver's seat.

The blocks turning freely upon the rod, allows the sweeps to be raised above the surface of the ground by placing the feet upon the ends of the levers. The blocks rest against the front side of the bolster, which, with the rod, resists the strain brought to bear upon the sweeps when in operation.

The chopper N, fig. 1, is attached to the rear end of the shaft D. It consists of four hoes placed equidistant from each other. The arms fit into square sockets in the hub, which, being provided with set-screws, renders them adjustable, so as to cut any desired depth. Motion is communicated to it by means of the gearing, as already explained.

For cultivating corn, cotton, and sugar-cane, the chopper is removed, and the sweeps, or any other implements, may be used.

In cultivating or siding cotton, the adjustable blocks are arranged upon the rod so that a sufficient space is left between the sweeps for the cotton-row, which, at the same time, brings their outer wings in front of the forward wheels, thus leveling the ground in advance of them, and giving the machine steadiness of motion.

In corn-planting or fertilizing the revolving droppers may be regulated to feed out any desired quantity, by placing pieces of wood or leather in the recesses or pockets and filling them, so as to leave the desired space.

I contemplate duplicating my corn-planting and fertilizing mechanism so as to plant two or more rows at a time, and also using an arched axle and small wheels in front, so that the machine may be turned short about.

Having thus fully described my invention,

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

1. The construction and arrangement of the seed-dropper *b* and fertilizer-dropper *b'*, so placed and secured upon the shaft that they may be adjusted by rotating to such relative positions as to discharge their contents together, or at any desired distance apart.

2. The hopper G, constructed with removable partition, bottom, and cut-off, substantially as shown, and for the purpose specified.

3. The concave in the ends of the curved arms of the feed-wheel *p*, for the purpose specified.

4. The adjustable blocks *i i*, in combination with the rod *k* and the levers *o o*, for the purpose of attaching the sweeps or other implements, varying their depth and distance apart, and elevating them above the surface of the ground.

5. The combination of the shovel-plow J, fertilizer-distributer K, coverers L L, opener F, cotton-seed feeder, and concave roller H, for the purpose of cotton-planting.

In testimony whereof I hereunto set my hand and affix my seal this 26th day of April, 1870, in the presence of—

JAMES F. TUCKER. [L. S.]

Witnesses:
ELPHONZO YOUNGS,
E. W. WOODRUFF.