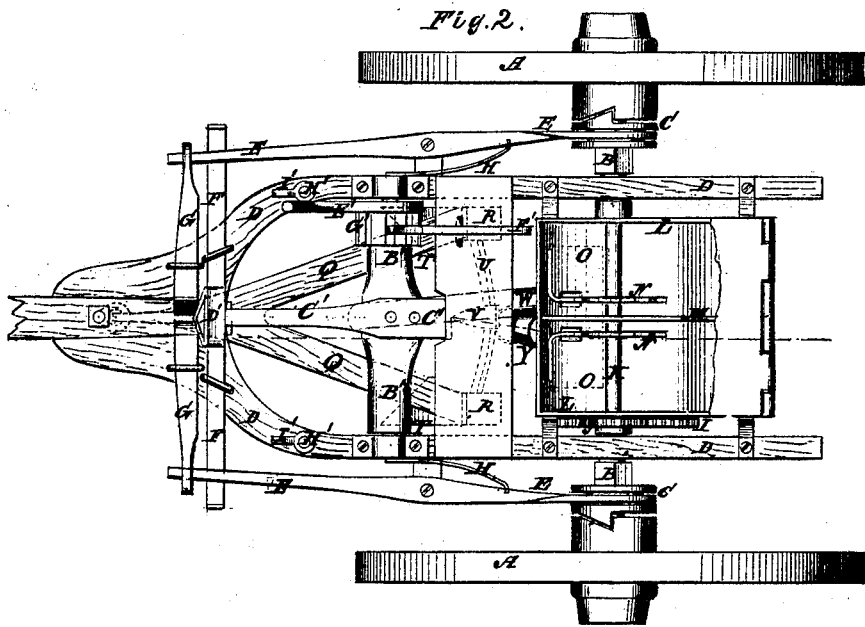
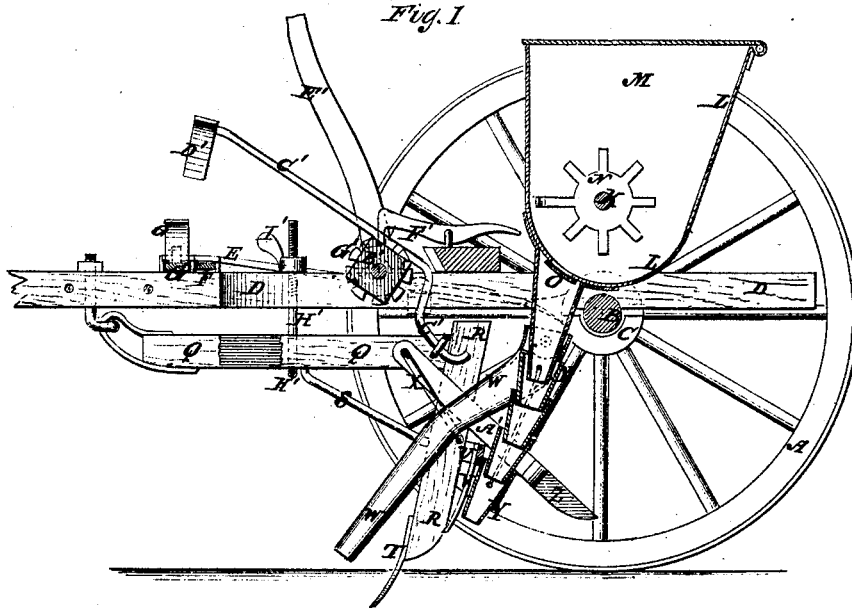


J. H. Nicholas,

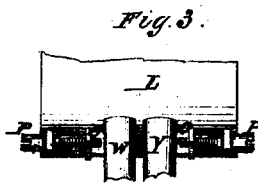
Cotton Planter.

No. 112,169.

Patented Feb. 28. 1871.



Witnesses:
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JOHN H. NICHOLS, OF SUMTER, SOUTH CAROLINA.

Letters Patent No. 112,169, dated February 28, 1871.

IMPROVEMENT IN COMBINED COTTON-PLANTERS AND GUANO-DISTRIBUTERS.

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, JOHN H. NICHOLS, of Sumter, in the District of Sumter and State of South Carolina, have invented a new and useful Improvement in Combined Cotton-Planter and Guano-Distributor; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

Figure 1 is a detail vertical section of my improved machine, taken through the line *xx*, fig. 2.

Figure 2 is a top view of the same, part being broken away to show the construction.

Figure 3 is a detail view of the device for adjusting the size of the discharge-openings.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved machine for planting cotton-seed and distributing guano, which shall be simple in construction, effective and reliable in operation, and convenient in use; and

It consists in the construction and combination of the various parts of the machine, as hereinafter more fully described.

A are the wheels which revolve upon the journals of the axle B, and are made to carry the said axle with them in their forward movement by the clutches C, which slide upon the axle B and take hold of the inner ends of the hubs of the said wheels, said clutches being so formed as to allow the wheels to turn backward without carrying the axle with them.

The axle B revolves in bearings attached to the frame D, which frame rides upon the said axle, and with it are connected the other parts of the machine.

The clutches C are operated to throw them into and out of gear with the wheels A by the levers E, which are pivoted to the side bars of the frame D, and the forked rear ends of which ride in grooves in the clutches C.

The forward parts of the levers E rest upon the projecting ends of the cross-bar F attached to the forward part of the frame D, and the ends of which are turned upward to serve as stops to the said levers E. The forward ends of the levers E are pivoted to the outer ends of the short bars G, which slide in keepers attached to the forward part of the frame D, and the inner ends of which are bent upward and slightly inclined outward or from each other to form a V or wedge-shaped space or opening between them to receive the wedge or V-shaped block, by which the said slides G are pushed apart to withdraw the clutches C from the wheels A.

When the slides G are released the clutches C are forced outward to again take hold of the wheels A by

the springs H, which are attached to the side-bars of the frame D, and the free ends of which press against the inner sides of the rear parts of the levers E, as shown in fig. 2.

To the axle B is attached a gear-wheel, I, the teeth of which mesh into the teeth of the gear-wheel J attached to the projecting end of the shaft K, which revolves in bearings in the sides of the hopper L, which is connected with and supported from the frame D, and which is divided into two compartments by the partition M, one of said compartments being designed to receive the cotton-seeds and the other to receive the guano.

To the shaft K are attached two wheels N, one upon each side of the partition M, which wheels are thus revolved by the advance of the machine. The wheels N are toothed, and one or more of said teeth are prolonged or bent over, as shown in figs. 1 and 2, so as to keep the substances in the hopper stirred up and fed to the discharge-openings.

The size of the discharge openings in the bottom of the hopper are regulated by slides O, operated by swiveled hand-screws P, as shown in fig. 3.

Q are the plow-beams, the forward ends of which meet at an angle, are secured to each other, and are pivoted to the forward part of the frame D by an eye-bolt or other convenient means.

To the rear ends of the beams Q are attached the plow-standards R, the draft-strain upon which is sustained by the brace-rods S, the rear ends of which are attached to the lower parts of the said standards R, and the forward ends of which are attached to the beams Q.

To the lower ends of the standards R are attached the plows T that throw up the bed or ridge to receive the seed.

The standards R are connected by a bar, U, to the middle part of which is attached a small plow, V, to open a furrow to receive the seed, said plow being so arranged as to be a little in the rear of and midway between the plows T.

W is the spout that conducts the guano to the ground. The spout W is pivoted at its upper end over the discharge-opening from the hopper L, so that its lower end may be raised from the ground when desired. The lower part of the guano-spout W is inclined or bent forward to conduct the guano to the ground in front of the plows T, so that the guano may be covered by the soil thrown up by the said plows in forming the bed or ridges.

X is a bent rod or wire loop, which passes around the rear side of the spout W, and the ends of which are connected with the plow-beams Q, so that the lower end of the said spout may be raised from the ground by raising the said beams.

Y is the spout, through which the cotton-seed is

conducted to the ground. The spout Y is made in sections, shutting into each other somewhat in the manner of a telescope. The upper section of the spout is attached to the hopper L, and the lower section is attached to the rear side of the small plow V, so that the spout Y will be closed or contracted by raising the the plow-beams, and opened or extended by lowering said beams. The different sections of the spout Y may be connected to each other to keep them in their proper relative positions by chains, links, or other flexible connections.

Z is the covering-block, the lower edge of which is concaved to give the desired form to the top of the ridge.

The coverer Z is attached to the rear ends of the bars A, the forward ends of which are pivoted to the rear parts of the plow-beams Q. The bars A pass above the bar U, so that the coverer may be raised from the ground by raising the plow-beams Q.

B is a roller or shaft, the journals of which work in bearings attached to the frame D.

To the shaft B is rigidly attached a bar, C, the rear end of which is forked, the ends of the said forks passing through keepers attached to the rear parts of the beams Q, so that by turning the said shaft the plow-beams and the various parts connected with them may be raised from the ground all at the same time and by the same operation.

The forward end of the bar C which projects above and in front of the shaft B has a wedge or V-shaped block, D', attached to it, and so arranged that when the shaft B is operated to raise the plow-beams the wedge or V-shaped block D' will be lowered and forced into the wedge or V-shaped space between the inner ends of the sliding-bars G to withdraw the clutches from the wheels, so that the machine will be thrown out of and into gear by the single operation of raising the plow-beams from and lowering them to the ground.

To one end of the shaft B' is attached a lever, E', the upper end of which projects upward into such a position that it may be conveniently reached by the driver.

The shaft B' is held in any position into which it may be adjusted by the lever-pawl F', the forward or engaging end of which takes hold of a ratchet-wheel, G', attached to or formed upon the end part of the shaft B'. The rear end of the pawl F' projects so that it may be operated by the driver with his foot to release the shaft B'.

The depth at which the plows work in the ground is regulated by the bar H, which passes beneath the plow-beams Q, and the ends of which are bent upward pass through the side bars of the frame D, and have screw-threads cut upon their said upper ends to receive the hand-nuts I, so that by turning the nuts I up or down the bar H will be lowered or raised to limit the downward movement of the plow-beams Q to the desired point.

Having thus described my invention,

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

1. The combination of the plows Q R T, shaft B', bar C' D', bars G, levers E, clutches C C, wheels A, shaft B, gears I J, and stirrers N, all arranged to operate substantially as shown and described.

2. The spouts W Y, coverer Z, plows Q R T, shaft B', lever E, pawl-lever F', and ratchet G', all arranged as specified.

3. The shaft B', lever E', bar C' D', sliding bars G, levers E, clutches C, wheels A, axle B, gears I J, shaft K, stirring-wheels N, and hopper L, all constructed and arranged as specified.

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