(No Model.) 4 Sheets—Sheet 1.

E. & A. SHANNON.

CORN PLANTER.

No. 263,064. Patented Aug. 22, 1882.

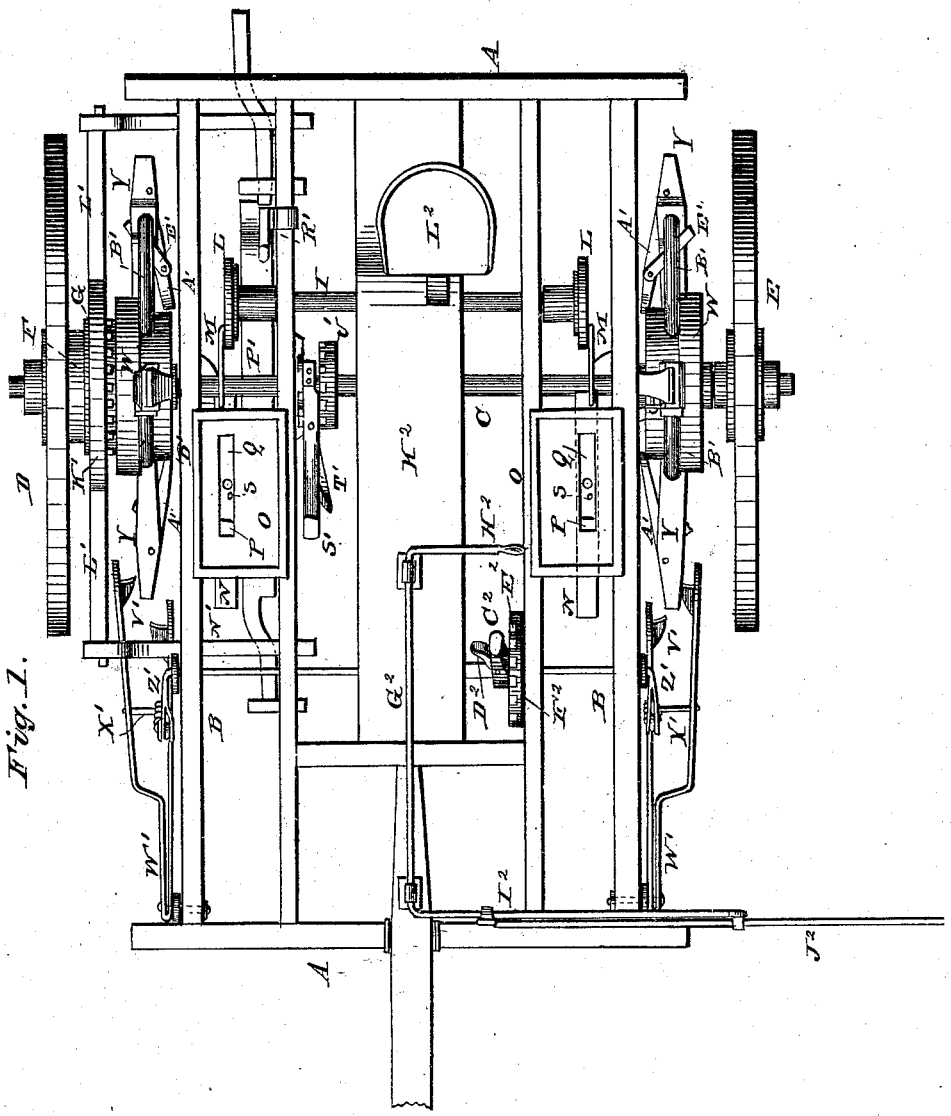

Fig. 1.

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(No Model.) 4 Sheets—Sheet 2.

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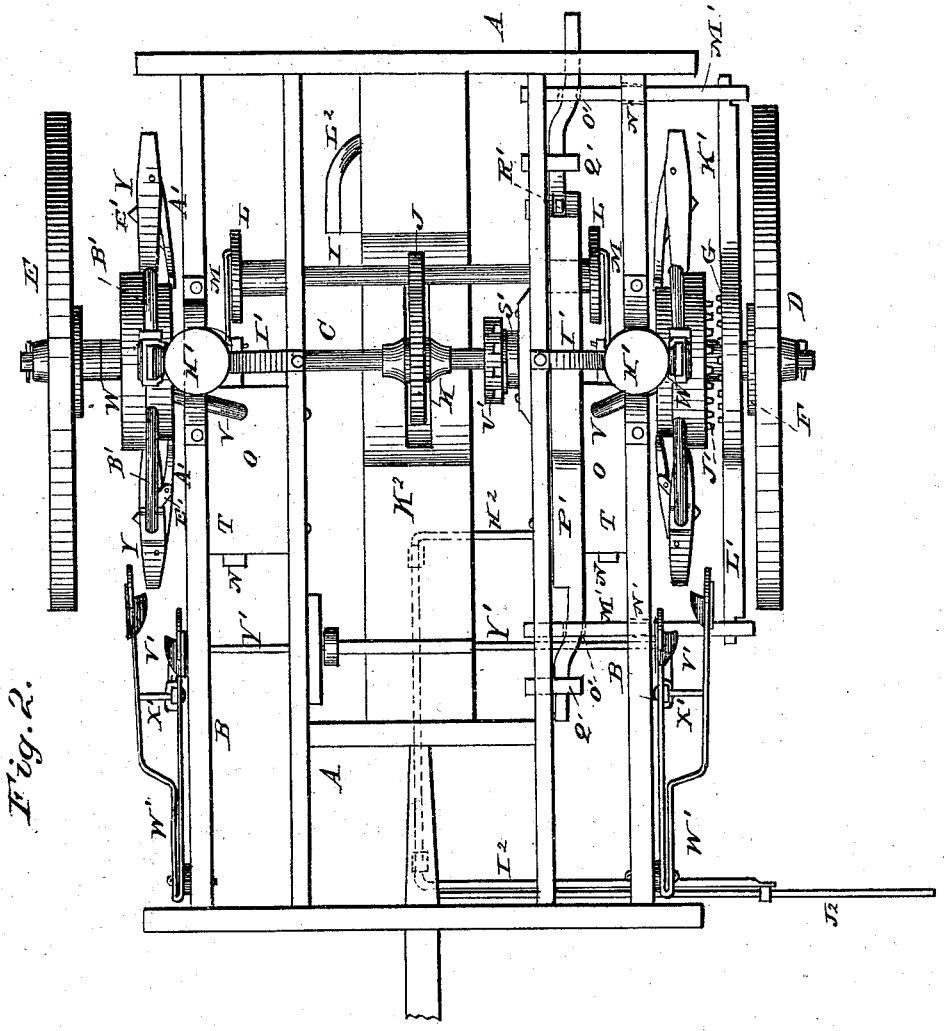

Fig. 2.

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CORN PLANTER.

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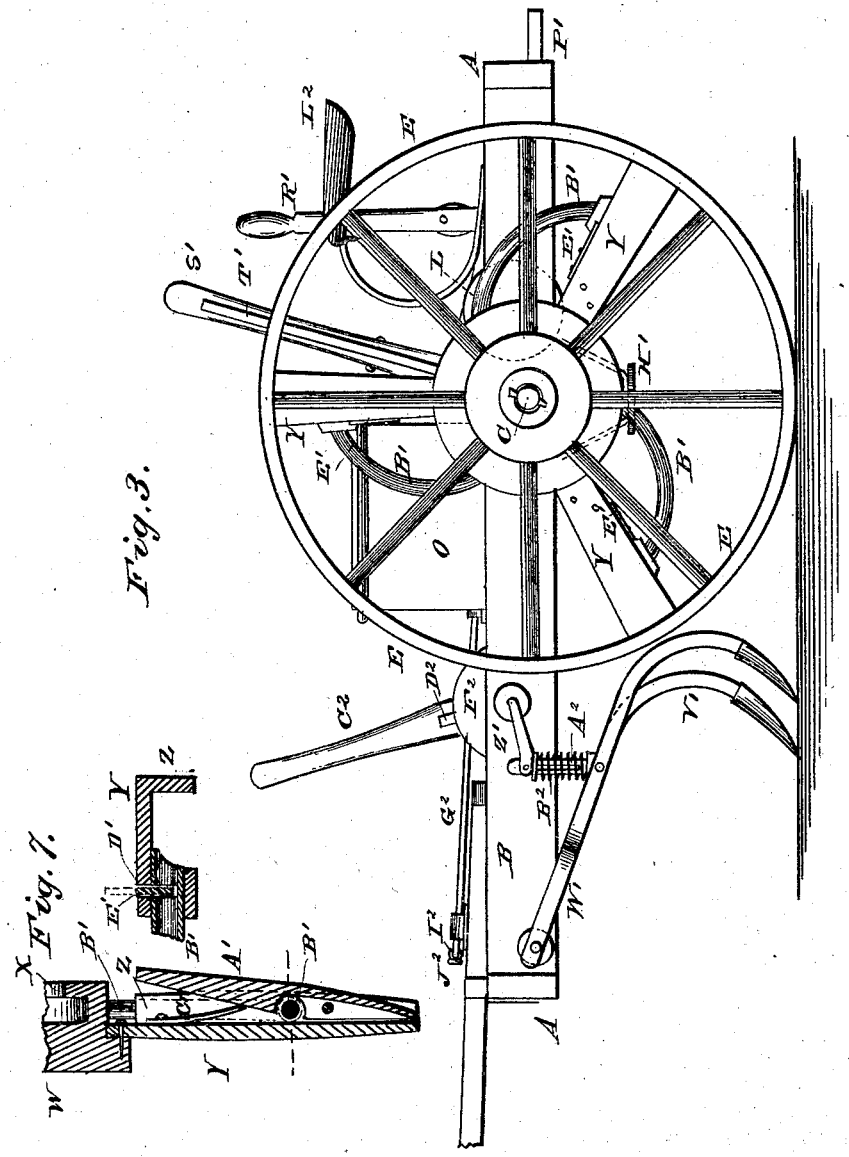

Fig. 3.

Fig. 7.

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CORN PLANTER.

No. 263,064. Patented Aug. 22, 1882.

Fig. 4.

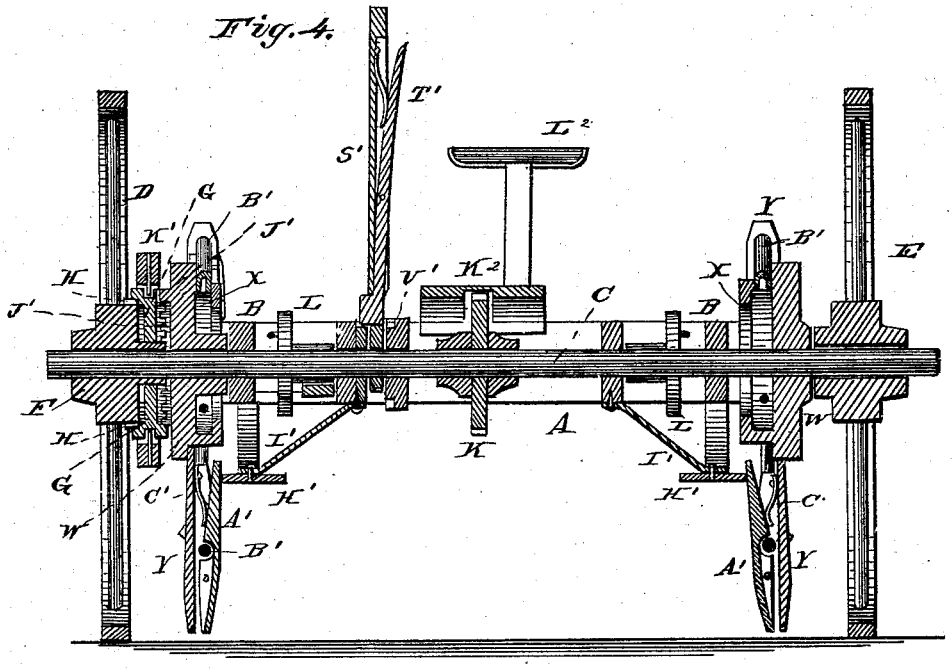


Fig. 5.

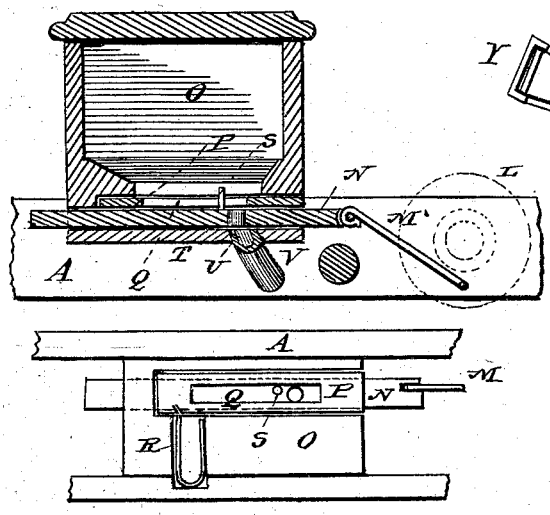
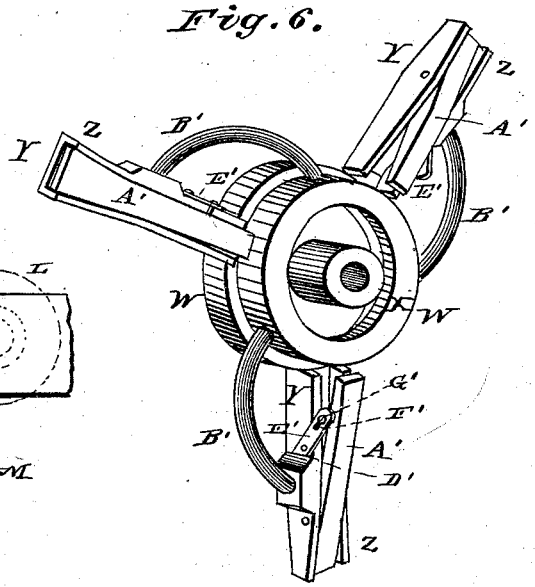


Fig. 6.



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UNITED STATES PATENT OFFICE.

EDGAR SHANNON AND ALBERT SHANNON, OF CATAWISSA, MISSOURI.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 263,064, dated August 22, 1882.

Application filed March 13, 1882. (No model.)

To all whom it may concern:

Be it known that we, EDGAR SHANNON and ALBERT SHANNON, of Catawissa, in the county of Franklin and State of Missouri, have invented certain new and useful Improvements in Corn-Planters; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a top plan view of our improved corn-planter. Fig. 2 is a bottom plan view. Fig. 3 is a side view. Fig. 4 is a vertical sectional view taken through the shaft or axle. Fig. 5 is a longitudinal vertical sectional view of one of the seed-boxes. Fig. 6 is a detail view, in perspective, of one of the seed-dropping wheels with its planting-tubes. Fig. 7 is a detail sectional view of one of said planting-tubes.

Corresponding parts in the several figures are denoted by like letters of reference.

This invention relates to corn-planters; and it consists in certain improvements in the construction of the same, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, A represents the frame of the planter, the longitudinal beams of which, B, have bearings for the axle C, upon the spindles of which the wheels D E are mounted loosely.

Upon the hub F of wheel D is mounted a clutch-collar, G, sliding longitudinally and prevented from turning by a key, H. The collar G is capable of engaging a clutch, secured firmly upon the axle, which may thus be made to revolve, as will be hereinafter described.

Mounted in the frame A, in rear of axle C, is a shaft, I, carrying a pinion, J, engaging a gear-wheel, K, of three times its size, mounted upon the axle, so that shaft I shall make three revolutions to each one of the axle. At its ends the shaft I carries crank-wheels L, which are connected by pitmen M with the seed-slides N, which reciprocate longitudinally in the seed-boxes. The latter, which are mounted in the usual manner upon frame A, consist of suitably-constructed hoppers O, having double bottoms, between which the seed-slides are arranged, as shown.

Above the seed-slides are placed the cut offs P, which consist of plates having slots Q to admit the seed to the openings or seed-cups in the slides and forced in a forward direction by suitably-arranged springs R. The slides N have upward-projecting pins S, which work in the slots Q, and which, as the slides move in a rearward direction, strike the rear ends of the slots and move the cut-offs slightly back against the tension of the springs. By this construction the seed-corn is prevented from being bruised or otherwise injured by coming between the seed-cups and the cut-offs.

The bottoms T of the seed-boxes have openings U, which receive the seed-corn from the cups or openings in the slides, which on their rearward movement convey it to said openings U. Curved tubes V receive the seed-corn from the openings U and convey it to the seed-wheels, the construction of which we shall now proceed to describe.

W are the seed wheels or disks, which are mounted upon the axle adjoining the transporting-wheels. The disks W are provided upon their inner sides with flanged rims X, forming annular grooves or gutters, into which the seed conveyed through the curved tubes V from the seed-boxes is discharged. Each of the disks W is provided with three equidistant radiating arms, Y, having flanges Z, between which the lids or covers A′ are pivoted, as shown, thus forming tubes which serve to deposit the seed in the ground. The seed is conveyed to the dropping-tubes through curved tubes B′, connected to said dropping-tubes and to the flanged rims or gutters X. The upper ends of the lids A′ are forced in an outward direction, so as to keep the lower ends of the seeding-tubes closed, by suitably-arranged springs C′.

The sides of the arms or seeding-tubes Y have slots D′, in which small plates or cut-offs E′ are pivoted, their inner ends being capable of extending into said slots, so as to cover the discharge ends of the curved tubes B′. The outer ends of the cut-off plates E′ have slots F′ to receive pins G′ projecting from the hinged lids or covers A′. It will be seen that when the

upper ends of said lids are pressed against the tension of their respective springs, so as to open the seed-depositing tubes, the cut-off plates E′ are thrown into the slots D′, so as to close the discharge ends of the curved tubes B′. The lids A′ are operated so as to effect this result by means of disks H′, pivoted or journaled to brackets I′ upon the under side of the seeder-frame. As the seed-wheels revolve with the axle of the machine, the lids A′ of the dropping-tubes will in passing come in contact with the edges of the disks H′, and thus be pressed open. By this construction and method of operation resistance by friction is almost completely avoided, and the seed is deposited regularly at proper intervals.

Secured to the axle C, or forming part of one of the seed-wheels W, as shown in the drawings, Fig. 2, is a clutch, J′, adapted to engage the clutch-collar G upon the hub of wheel D. Said clutch-collar is journaled in a frame, K′, having arms L′, to the ends of which are attached rods M′, sliding in slots N′ in the longitudinal frame-beams B, so that the said frame may have a transverse sliding motion, by which it causes the clutch G to be engaged with or disengaged from the clutch J′, as the case may be. The inner ends of the rods M′ have slots O′ to receive the diagonal bent ends of a longitudinally-sliding bar, P′, for which bearings are provided in brackets Q′, secured to the frame. It will be seen that by operating the bar P′, which is done by means of a suitably-arranged lever, R′, the frame K′ may be slid in either direction, thus coupling or uncoupling the clutches G J, and thus connecting or disconnecting the operating mechanism of the machine with the driving and transporting wheel D, as may be desired.

S′ is a lever, pivoted loosely upon the axle, and having a spring-catch, T′, capable of engaging a cog-wheel or pinion, U′, mounted securely upon the axle. When the latter is disconnected from the driving-wheel D it may be turned by means of the said lever so as to bring two of the dropping-tubes down to the ground in proper position for planting at the starting-point.

V′ are the furrow-openers, which are hinged by the front ends of their beams W′ to the front end of the frame A. The furrow-openers are used in sets of two, suitably constructed and connected by a cross-brace, X′.

Y′ is a shaft mounted transversely in the frame A, and provided at its ends with cranks Z′, connected to the furrow-openers by slotted plates A^2, around which springs B^2 are coiled, which will give when necessary, and thus permit the furrow-openers to pass over rocks, stumps, and other obstructions without injury.

C^2 is a lever secured upon the shaft Y′, and provided with a spring-catch, D^2, which engages the teeth E^2 in a segmental ratchet-plate, F^2, secured to the frame. By this mechanism the furrow-openers may be raised from the ground and retained in any position to which they may be adjusted.

A shaft, G^2, journaled longitudinally upon the frame near its front end, is provided with a handle, H^2, and with an arm, I^2, having an extension-slide, J^2, serving as a gage, and which, by means of the handle, may be turned so as to project on either side of the frame.

The central longitudinal frame-beam, K^2, carries the driver's seat L^2, which is so arranged as to be within convenient reach of the several operating-levers.

In operation the seed passes from the hoppers through the curved tubes V to the flanged rims or gutters X of the seed-wheels. As the latter revolve the seed passes into the curved tubes B′. When the seed-tubes Y reach the disks H′ the lids A′ are opened and the cut-offs E′ closed. When the disks H′ are passed the lids A′ are again closed and the cut-offs opened, thus permitting the seed to pass into the seeding-tubes. When the same seeding-tubes again reach the disks H′ and the operation is repeated the seed is deposited in the ground by the seeding-tube, which, as soon as the disk H′ is passed, receives a new supply from the curved tube B′, by which it is connected with the seed-wheel.

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

1. The combination of the hoppers O, the seed-slides N, having pins S, the cut-off plates P, having slots Q, and the springs R, arranged to force the said cut-off plates in a forward direction, as described, for the purpose set forth.

2. In a corn-planter, the combination, with the seed-boxes, of cut-offs forced in a forward direction by springs which will give or yield when subjected to pressure by the seed-slides, substantially as set forth.

3. The combination of the hoppers, the curved delivery-tubes V, and the seed-wheels W, having flanged rims or gutters X, substantially as set forth.

4. The seed-wheels W, having flanged rims or gutters X, radiating arms or seed-tubes Y, and curved connecting-tubes B′, substantially as set forth.

5. The seed-wheels W, having flanged rims or gutters X, radiating flanged arms or seed-tubes Y, provided with hinged lids A′ and springs C′, and the curved connecting-tubes B′, substantially as set forth.

6. The flanged arms or seeding-tubes Y, having hinged lids A′, provided with pins G′, springs C′, slots D′, and pivoted cut-off plates E′, operated by the pins G′, in combination with the supply-tubes B′ and mechanism for operating the hinged lids, substantially as set forth.

7. The combination of the hoppers, the delivery-tubes V, the revolving seed-wheels W, having flanged rims X, radiating flanged arms

Y, provided with hinged lids A′, springs C′ and cut-offs E′, and connecting-tubes B′, and the brackets I′, having loosely-journaled disks H′, substantially as set forth.

8. The combination of the driving-wheel D, having sliding clutch-collar G, the axle C, having seed-wheel W, provided with clutch J′, the frame K′, having arms L′, and rods M′, provided with slots O′, the longitudinally-sliding bar P′, having diagonally-bent ends working in slots O′, and an operating-lever, all constructed and operating substantially as set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

EDGAR SHANNON.
ALBERT SHANNON.

Witnesses:
JOHN CARAHAR,
P. F. MCBREARTY.