(No Model.)

2 Sheets—Sheet 1.

A. RUNSTETLER.

CORN PLANTER.

No. 347,643. Patented Aug. 17, 1886.

Fig. 1.

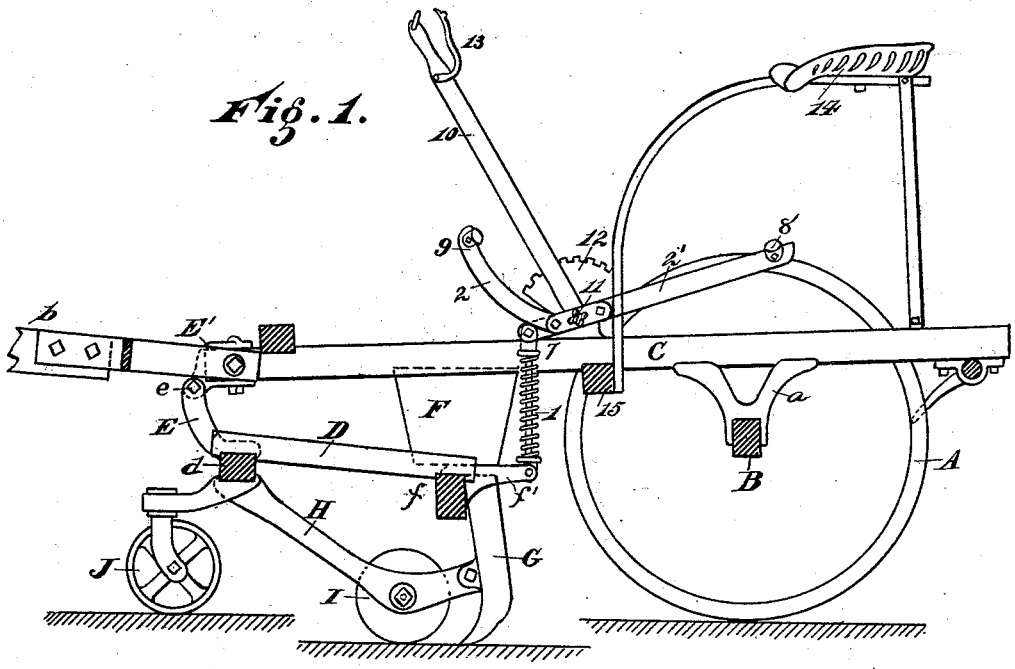


Fig. 2.

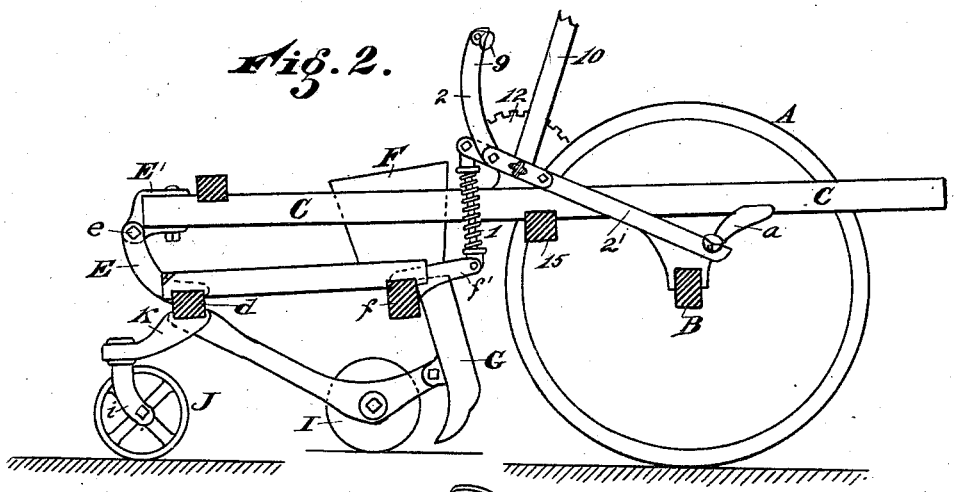
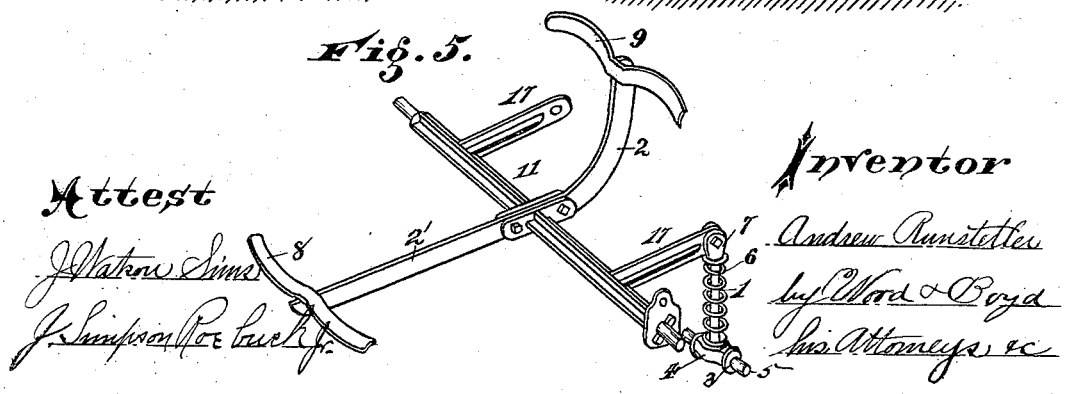


Fig. 5.



Attest

J. Watson Sims

J. Simpson Pope Lucky Jr.

Inventor

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his Attorneys &c

(No Model.)

2 Sheets—Sheet 2.

A. RUNSTETLER.

CORN PLANTER.

No. 347,643. Patented Aug. 17, 1886.

Fig. 3.

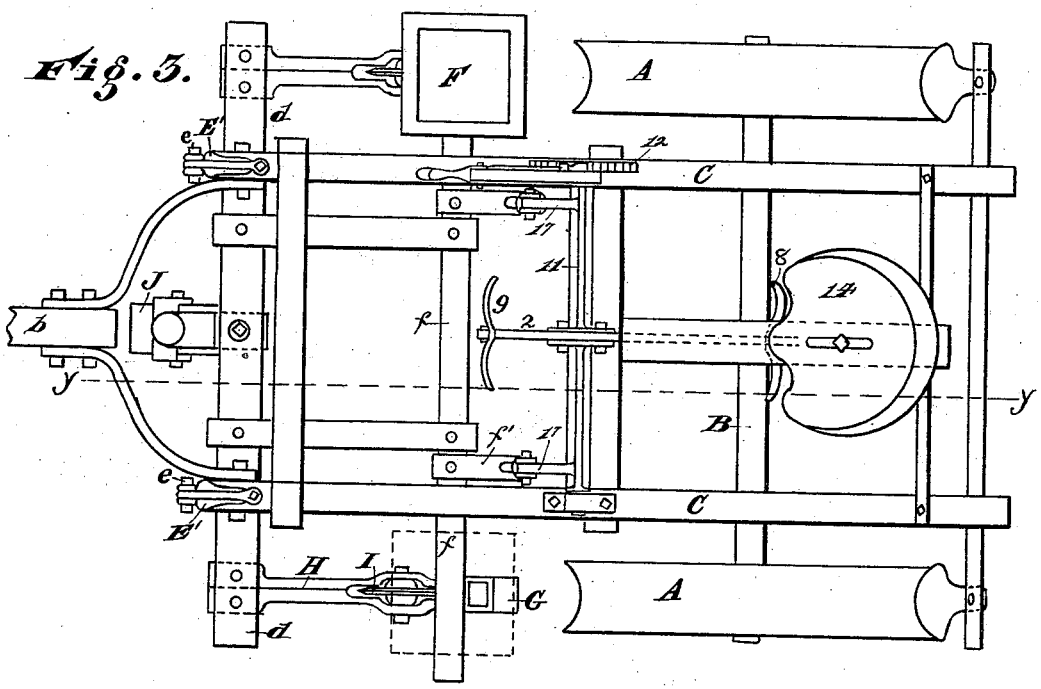


Fig. 4.

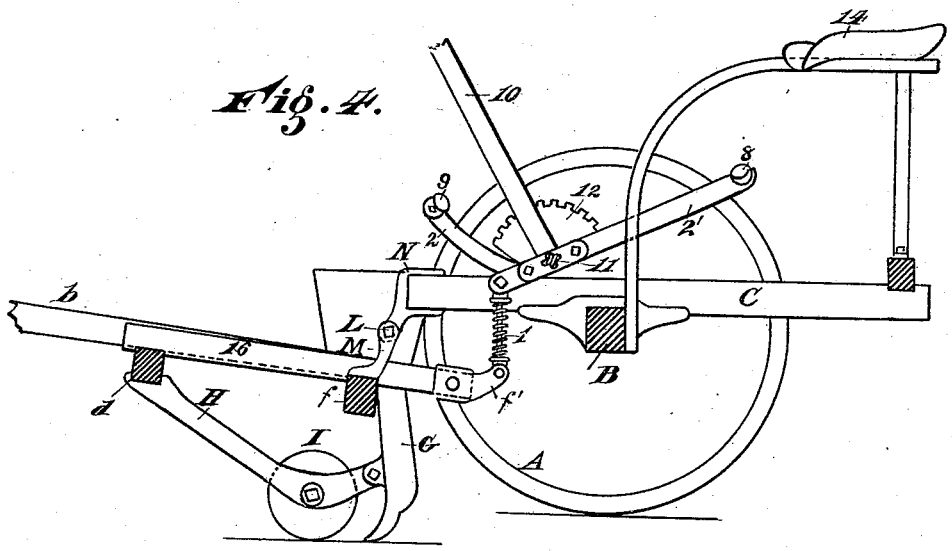
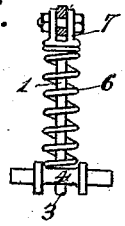


Fig. 6.



Attest

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UNITED STATES PATENT OFFICE.

ANDREW RUNSTETLER, OF DAYTON, OHIO, ASSIGNOR TO THE FARMERS FRIEND MANUFACTURING COMPANY, OF SAME PLACE.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 347,643, dated August 17, 1886.

Application filed March 10, 1886. Serial No. 194,728. (No model.)

To all whom it may concern:

Be it known that I, ANDREW RUNSTETLER, of Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Corn-Planters, of which the following is a specification.

My invention relates to that class of corn-planters which employs a main frame supported by two ground-wheels and a seeding-frame attached to and in front of the main frame.

One of the objects of my invention is to provide a front ground caster-wheel, to support the tongue and a portion of the weight of the seeding-frame.

Another object of my invention is to dispense with the ordinary shoes or runners, and to employ seed-hoes with revolving cutters.

Another object of my invention is to connect the seeding-frame and its hoe devices to the elevating and depressing device mounted on the main frame, so that the same can be readily operated by the attendant from his seat.

Various other features of my invention will be fully set forth in the description of the accompanying drawings, making a part of this specification, in which—

Figure 1 is a sectional elevation of my improvement on line *y y*, Fig. 3. Fig. 2 is a similar elevation, showing the seeding-hoes elevated out of the ground. Fig. 3 is a top plan view of Fig. 1. Fig. 4 is a modification of the main seeding-frame shown in Fig. 1. Fig. 5 is a perspective view of the lever and treadle. Fig. 6 is a detail view of the coupling-link and spring.

A represents the ground-wheels; B, the axle; C, the side rails of the main frame; *a*, brackets connecting the axle to the side rails.

b represents the tongue, hinged at its rear end to the frame.

d represents the cross-rail of the seeding-frame.

E represents brackets secured to the front cross-rail, *d*.

E′ represents brackets attached to the side rails C of the main frame.

e represents pivot-bolts hinging brackets E′ to brackets E.

F represents the seed-boxes.

G represents a hollow seed hoe or tube rigidly connected to the seed-boxes and the cross-rail *f* of the seeding-frame.

H represents coupling-arms, the rear ends of which are bolted to the seed-tube G, and the front ends rigidly secured to the cross-rail *d* of the seeding-frame, for bracing the seed-tube. It is shown of curved form, and serving as a journal-support for the revolving cutter I.

J represents a caster-wheel supported in a forked standard, *i*, the upper end or shank of which swivels in bracket K, which bracket is attached to the cross-rail *d*.

The front of the seeding-frame hinges on the pivot-bolts *e*. It is raised and lowered by means of the following devices: 1 1 represent coupling-rods, hinged at each side by brackets *f′* to the cross-rail *f* of the seeding-frame. The upper ends of said connecting-rods are hinged to arms 17, extending forward from rod 11 on each side of the foot-lever.

I prefer to have the seeding-frame flexibly hinged to the operating-lever 2, mounted on the main frame, which is accomplished by the following devices: Coupling-rod 1 is provided with a head, 3, at its lower end, which passes through a socket, 4, to which socket the brackets *f′* are hinged or connected by pins 5. 6 represents coiled springs, the lower end of which seat in the thimbles or sockets 4, and the upper ends are seated in socket-heads 7, which are rigidly connected to the rods 1 and hinged to the arms 17. By this means undue strains to which the colter and seed-tube G are subjected will cause the seeding-frame to rise out of the ground and turn on its hinge center *e*, compressing the coiled spring 6, and as soon as it has passed the obstruction the retraction of the spring presses the tube or shoe G into the ground. The lever 2 is rigidly attached to a shaft, 11, which journals upon the side rails, C, of the main frame. I prefer to make the shaft in two pieces, the inner ends of which are provided with flanges for bolting to the lever, as shown. It may, however, be made in one piece and the lever secured to it in any suitable manner. The shaft is provided with two rigidly-attached arms, 17, extending for-

ward—one at each side of the lever—to a point about over that where pressure is to be applied to the seeder-frame; and I prefer to extend the lower end of the lever backward, as at 2', and to provide the rear end of the extension with a foot-piece, S, so as to allow the seeding-frame to be elevated by the feet of the operator depressing the rear end of the lever. 9 represents a foot-piece upon the front end of the lever, which is preferably curved up, so as to be within convenient reach of the operator, for forcing the tube G of the seeding-frame into the ground. 10 represents a hand-lever keyed upon the rod or lever-shaft 11. In Figs. 1 and 2 both foot and hand levers are attached to this shaft. In Fig. 5 the hand-lever is not shown. It is obvious that either the hand or foot lever, or both, may be used, as desired. 12 represents a sector-rack, and 13 a hand-lock device for setting the lever 10 in any desired position. 14 represents the driver's seat, which is preferably attached to the cross-rail 15 of the main frame. The revolving colter I and the seed hoe or tube G open the ground in a better manner than the ordinary shoe or seed-runner and are easily operated by means of the lever; and the method of constructing the seed-frame and hinging it to the main frame is such that the planter can be used with good effect in unplowed stubble ground.

A modification of the method of hinging the seed-frame to the main frame is shown in Fig. 4, in which the caster-wheel J is omitted and the tongue rigidly connected to the cross-rails *d* and *f*. 16 represents braces or hounds of the seeding-frame, which project far enough in rear of the seed-tube to form a journal for the hinge-rods 1, which couple them to the arms 17, which parts are designed to operate in the same manner as that before explained. In this figure L represents bolts, which act as centers for hinging the seed-frame to the main frame. M represents a bracket attached to the seed-frame, and N a bracket secured to the side rails of the main frame. The bolt L brings these two brackets together. The foot and hand levers are mounted on the main frame in the same manner as shown in Fig. 1; but the method of hinging the seed-frame to the main frame is different. The operations are, however, substantially the same, except that when force is applied to the elevating-levers, the seed-frame moves backward on its hinge-bolts L, and the front end of the main frame rises by rocking over the axle, to allow the seed-frame and hoes to be elevated.

I have shown a single caster-wheel centrally connected to the main frame; but it is obvious that two caster-wheels may be employed, provided they are swiveled in a similar manner, as their office is to support the front end of the seeder-frame and take weight off of the tongue by which the planter is guided in its direction in the field.

By means of the rock-shaft 11 and the crank-arms 17 the force applied by the elevating and depressing lever is exerted equally upon both sides of the seeder-frame, which is raised, lowered, and controlled in a better manner than where the lever is centrally hinged to the seeding-frame.

I claim—

1. The combination, in a corn-planter, of a main frame provided with carrying and covering wheels, a seeding-frame hinged to the forward part of the main frame, with seed-boxes, revolving colters, and seeding-hoes attached to the seeding-frame, substantially as described.

2. The combination, in a corn-planter, of a main wheel-frame, a seeding-frame hinged to the forward part of the main frame, seed-boxes, revolving colters, seeding-hoes, brace-arms attached to the hinged seeding-frame, and a lever for bodily elevating and depressing the latter, substantially as described.

3. The combination, in a corn-planter, of a main wheel-frame, a seeding-frame hinged at its forward part to the forward part of a main frame, seeding-boxes, revolving colters, seeding-hoes attached to the hinged seeding-frame, and one or more levers for bodily elevating and depressing the latter, substantially as described.

4. The combination, in a corn-planter, of a main wheel-frame, a seeding-frame hinged to the forward part of the main frame, and seed-boxes, colters, and seeding-hoes attached to the hinged seeding-frame, and one or more levers for bodily elevating and depressing the seeding-frame, seeding-hoes, and colters, and a locking device for holding them in any desired position, substantially as described.

5. The combination, in a corn-planter, of a main wheel-frame, a seeding-frame hinged to the forward part of said main frame, seed-boxes mounted on the seeding-frame, and a rock-shaft provided with crank-arms, and a lever or levers for the purpose of elevating and depressing the seeding-frame and transmitting pressure equally on both sides thereof, substantially as described.

6. The combination, in a corn-planter, of the wheeled main frame, the seed-box frame having a hinged connection with the forward end of the main frame, the seed-box mounted on said hinged frame, the seeding-hoe connected to the hinged frame, the colter connected with the hoe and with the hinged frame, and a lever for raising and lowering the latter and thereby bodily elevating and depressing the seed-box, with the seeding-hoe and the colter, substantially as described.

7. The combination, in a corn-planter, of the wheeled main frame, the seed-box frame having a front cross-rail hinged to the forward end of the main frame, the seed-box mounted on the seed-box frame entirely in rear of its hinged attachment, the seed-hoe secured to the hinged frame, the colter carrying coupling-arm attached to the hinged frame and to the seed-hoe, and the lever for raising and lower-

ing the hinged frame and thereby bodily elevating and depressing the seed-box with the seeding-hoe and colter, substantially as described.

8. The combination, in a corn-planter, of the wheeled main frame, the seed-box frame hinged at its forward end to the forward end of the main frame and provided at its rear with a cross-rail, the seed-box mounted on the seed-box frame in rear of its hinged attachment, the seeding-hoe secured to said cross-rail, the colter carrying coupling-arm, attached at one end to the seeding-hoe and at the other end to the hinged frame, and a lever for raising and lowering the hinged frame and thereby bodily elevating and depressing the seed-box with the seeding-hoe and colter, substantially as described,

9. The combination, in a corn-planter, of a wheeled main frame, a seed-box frame hinged to the forward end thereof, a seed-box mounted on the hinged frame, a seeding-hoe secured to the latter, and a colter-carrying arm secured to the seeding-hoe and to the hinged frame, with a transverse rock-shaft journaled on the main frame, and having two crank-arms, one at each side of the machine, pivotally connected, respectively, with the opposite sides of the hinged frame, and a lever for rocking said shaft, substantially as described.

10. In combination with the main frame of a corn-planter, supported on ground-wheels, and a seed-frame hinged at its rear end to elevating and depressing levers on the main frame and at its front end to the front end of the main frame, the caster-wheel J, swiveled upon the front end of the seeding-frame, whereby the weight is removed from the tongue and borne by said caster-wheel, substantially as specified.

11. In combination with the seed-frame hinged to a main frame and to elevating and depressing levers operated from the main frame, the seed-tube G, colter I, secured to the seed-frame, and a swiveling caster-wheel, J, supporting the front end of said seed-frame, substantially as specified.

12. In a corn-planter, the lever 2, connected to a transverse shaft journaled on the main frame and provided with forwardly-extending arms, one at each side of the machine-frame, adapted to form hinged connections to the seeder-frame for the purpose of transmitting pressure equally on both sides thereof, substantially as specified.

13. In combination with the main frame, the transverse rock-shaft journaled thereon and an elevating and depressing lever rigidly connected thereto and crank-arms rigidly connected to the rock-shaft, one at each side of the machine-frame and hinged to both sides of the seeder-frame, substantially as specified.

In testimony whereof I have hereunto set my hand.

ANDREW RUNSTETLER.

Witnesses:

GEORGE O. WARRINGTON,

WM. H. LEFEVRE.