

(No Model.)

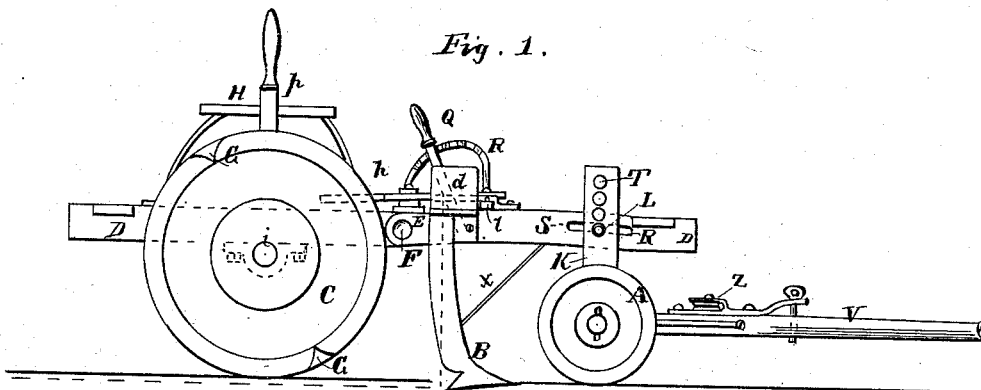
S. SMITH.

CORN PLANTER, CHECK ROWER AND DRILL.

No. 265,165.

Patented Sept. 26, 1882.

Fig. 1.



*Fig. 2.*

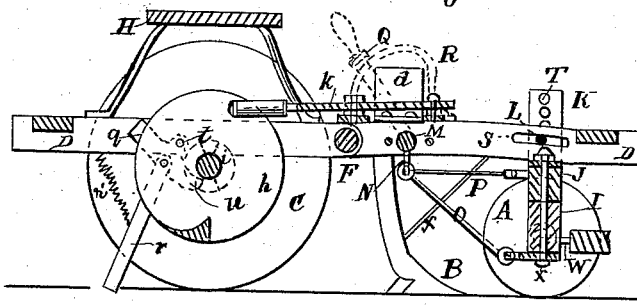


Fig. 5.

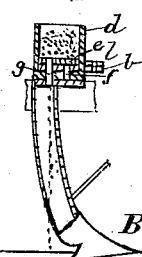


Fig. 3.

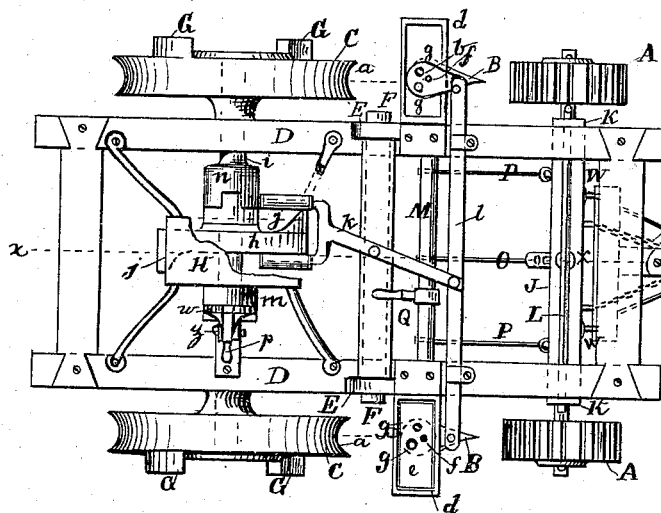
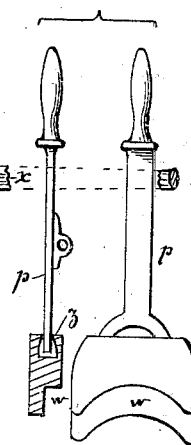


Fig. 4.



**WITNESSES:**

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# UNITED STATES PATENT OFFICE.

SIMEON SMITH, OF GRAYMONT, ILLINOIS.

## CORN-PLANTER, CHECK-ROWER, AND DRILL.

SPECIFICATION forming part of Letters Patent No. 265,165, dated September 26, 1882.

Application filed April 25, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, SIMEON SMITH, of Graymont, in the county of Livingston and State of Illinois, have invented a new and Improved  
5 Corn-Planter, Check-Rower, and Drill, of which the following is a full, clear, and exact description.

This invention relates to the construction and arrangement of the mechanism of a combined corn-planter or drill and check-rower,  
10 the object of which is to simplify the construction and operation of such machines and improve their efficiency, the said improvements being as hereinafter described, and pointed  
15 out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

20 Figure 1 is a side elevation of my improved machine. Fig. 2 is a longitudinal sectional elevation of the machine, taken on line *x x* of Fig. 3. Fig. 3 is a plan view. Fig. 4 represents  
25 side and sectional elevations of the clutch-lever, and Fig. 5 is a section of seed-box and drill or shovel.

I make a truck having a pair of leading-wheels, A, provided with transverse cutting-edges on its periphery, which I employ for cutting  
30 weeds, stalks, and other trash ahead of the shovels B, said truck also having main wheels C, which are broad and grooved on the face *a*, to roll along behind the shovels B to cover the corn and pack the earth down on the corn, and  
35 also to check-mark the transverse rows, for which they are provided with blocks G, to be detachably connected in the practical machine.

The side bars of the frame D are jointed at  
40 E on pivots F, so that the frame can be raised on said joints to lift the shovels B out of the ground at the sides of the field, which may be done by the driver shifting his weight back on the seat H sufficiently for balancing the front  
45 part of the frame upward; or foot-levers may be attached to the axle and to the frame—say one to each side of the seat—in a manner that will be readily understood, so that the driver can, by rising off the seat and transferring  
50 his weight to said levers, readily balance the

frame up in the same way to carry the shovels over the ground.

The front axle, I, is connected to the truck-frame by means of a bolster, J, uprights K, and a pivot-rod, L, so that said axle can swing  
55 backward to draw the rolling cutters A back to the points of the shovels when at work and to throw them ahead again to take the weight off the horses' necks in raising the plows out  
60 of the ground for turning around at the sides of the field. The axle is connected to arm N of the rock-shaft M by rod O, and the bolster J is also connected similarly to arms of said  
65 rock-shaft by rods P, so that the wheels can be swung back, as described, when desired, by the hand-lever Q, attached to rock-shaft M, and having a rack, R, Figs. 1 and 2, to fasten it.

The pivot-rod L is fitted in slots S through the side beams, to allow the bolster J freedom to shift forward and backward a little, as may  
70 be required in the working of the machine over uneven ground, and the uprights K of the bolster have a series of holes, T, by which to shift the wheels A up and down on the truck-frame to alter the shovels for working more or less  
75 deep. The frame is governed as to its height by the main wheels C.

The tongue V is attached to the axle I in the usual way, by hooks and eye-studs or other approved means, at W, so that the axle and  
80 the tongue swing together on the king-bolt X; but as it is also desirable to connect the tongue to the bolster J, which cannot swing as the axle does, the connection is made by means of a chain, Y, having its ends attached to the  
85 bolster, and passing around a pulley, Z, on the tongue. This enables the tongue to draw on the bolster as well as the axle, and at the same time allows the tongue to swing as it requires to do.

*b* represents vibrating corn-dropper slides in the hoppers *d*, suitably arranged under a cover, *e*, (see lower side of Fig. 3,) in said hopper, to receive the corn through a hole in the  
90 cover at one place and transfer it below the covers to another hole, through which it falls to the ground, as is common in such machines; but I propose, in order to lessen the movements of the slides, to make them double-acting—that is to say, I fix them on the centers  
95 100

*f* with two dropping-holes, *g*, in them and also in the covers *e*, so that when moving one way the slides will receive the corn through one of the holes *g* and drop it in the same movement, and, similarly, when going the other way, will receive the corn from the other hole and drop it in like manner. By this arrangement the cam-wheel *h* on the axle *i* of the truck-wheels only requires to make one throw of the dropper-slides for each drop, by which the cams *j* may be made less abrupt, and will thus work easier. The dropper-slides *b* are worked from this cam-wheel by the forked lever *k* and sliding bar *l*. When the frame is tilted upon the joints *F*, as before stated, it lifts the forked lever *k* off from the cam-wheel, so that its operations are stopped until the machine is ready to resume dropping. There is also a sliding clutch, *m*, on the axle *i*, and a fixed hub, *n*, therefor, by which to connect and disconnect the cam, when desired, by a clutch-lever, *p*, said clutch-lever having a broad and concave notched end, *w*, as usual in such cases, to work in a groove in the hub of the clutch, and the handle *p* being connected to end *w* by an articulated joint, *z*.

In order that the wheels *C* can be readily shifted at the starting-point to set the check-markers *G* to register with the check-rows, I provide jacks consisting of a short lever, *q*, and a standard, *r*, to lift the axle temporarily by the driver stepping on the lever while rising on but not dismounting from the seat, so as to enable him to shift the wheel by hand to turn the check-markers to the proper position. In practice a jack of this kind will be employed on each side of the machine. The short arm of the lever *q* extends from the pivot *t* under the axle, as shown in dotted lines at *u*, Fig. 2, and the standards *r* have a foot that rests on the ground for use, and will have springs *r'* to swing them up and hold them off the ground when the machine is at work.

The shovels *B* are to be constructed in any approved form suitable for use in corn-planters, and will, besides being attached to the side

bars of the frame *D* at the upper end, have a stay-brace, *x*, connecting them lower down with the frame.

I propose to convert the machine into a drill for drilling in the seed, instead of planting it in hills, by the employment of a cam-wheel, *h*, having five cams or more, and making the cam-wheels interchangeable.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the shovels *B*, of the wheels *A*, adapted to revolve in front thereof, and provided with transverse cutting-edges on its periphery, substantially as described, and for the purpose set forth.

2. The front axle, *I*, and cutting-wheels *A*, connected to the frame by a bolster, *J K*, arranged to swing back and elevate said wheels *A*, substantially as specified.

3. The combination of rock-shaft *M*, handle *Q*, and rods *O* and *P* with the axle *I* and bolster *J*, pivoted to the frame, substantially as specified.

4. The bolster *J* and uprights *K*, having axle *I* attached, and being pivoted to the frame *D* by rod *L*, in slots *S* of the frame, substantially as specified.

5. The axle *I*, having cutter-wheels *A*, combined with bolster *J* and uprights *K*, and being vertically adjustable on the frame by pivot-rod *L* and holes *T*, substantially as specified.

6. The tongue connected with axle *I*, to swing with it in a vertical plane, and connected to bolster *J* by chain *Y* and pulley *Z*, substantially as specified.

7. The combination, with the frame *D*, the axle *i*, and the wheel *C*, provided with check-marker *G*, of the foot-jack *q r w* and springs *r'*, whereby the check-markers can be adjusted without the driver dismounting from the machine, substantially as described.

SIMEON SMITH.

Witnesses:

WM. B. LYON,

H. C. GREENEBAUM.