

No. 671,922.

Patented Apr. 9, 1901.

A. C. PETERSON.
CORN PLANTER.

(Application filed Sept. 7, 1900.)

(No Model.)

Fig. 1.

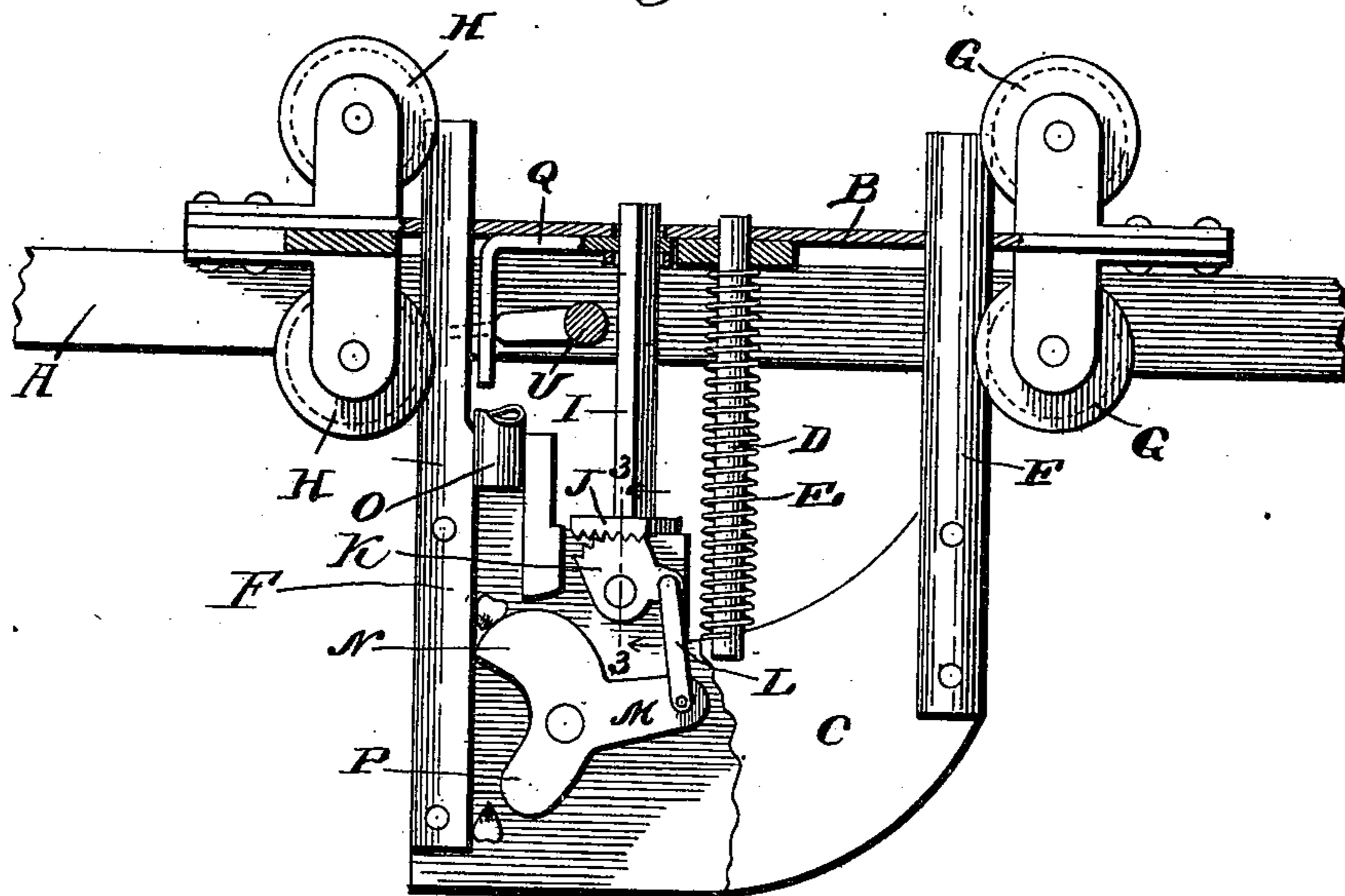


Fig. 4.

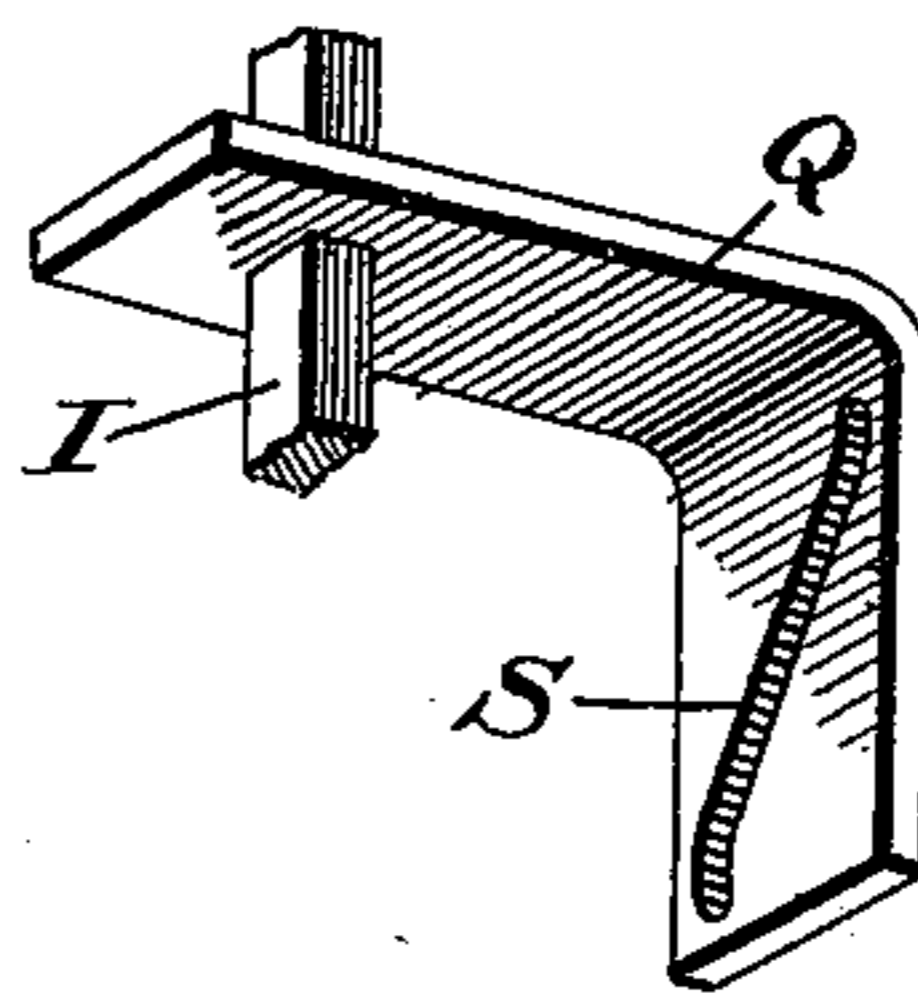


Fig. 2.

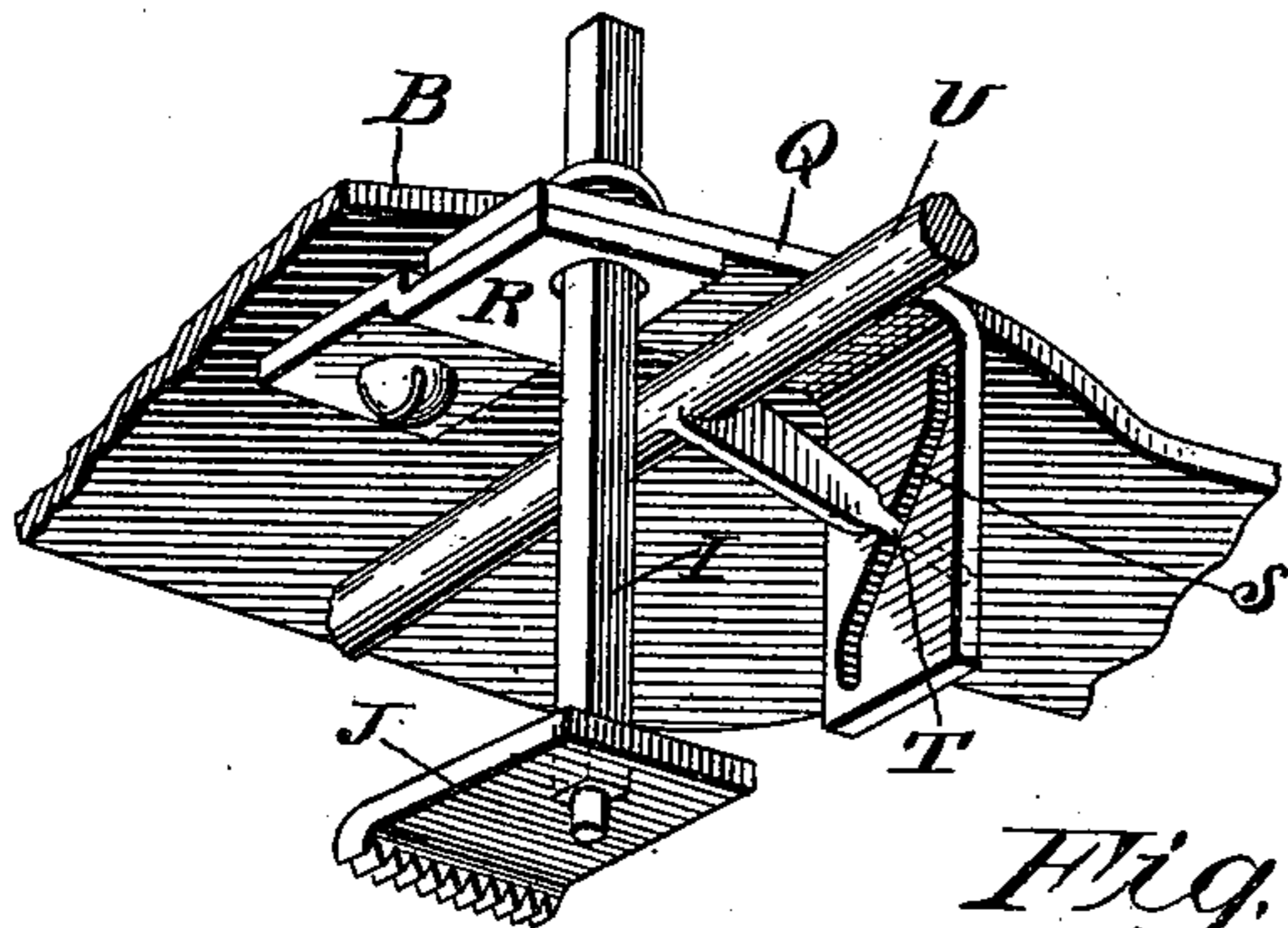


Fig. 5.

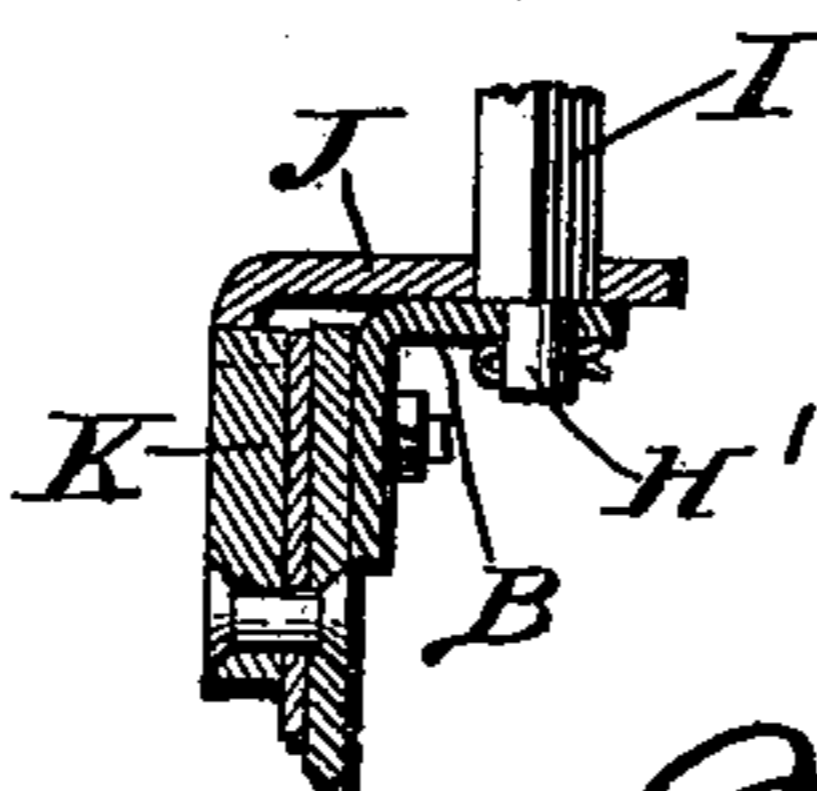
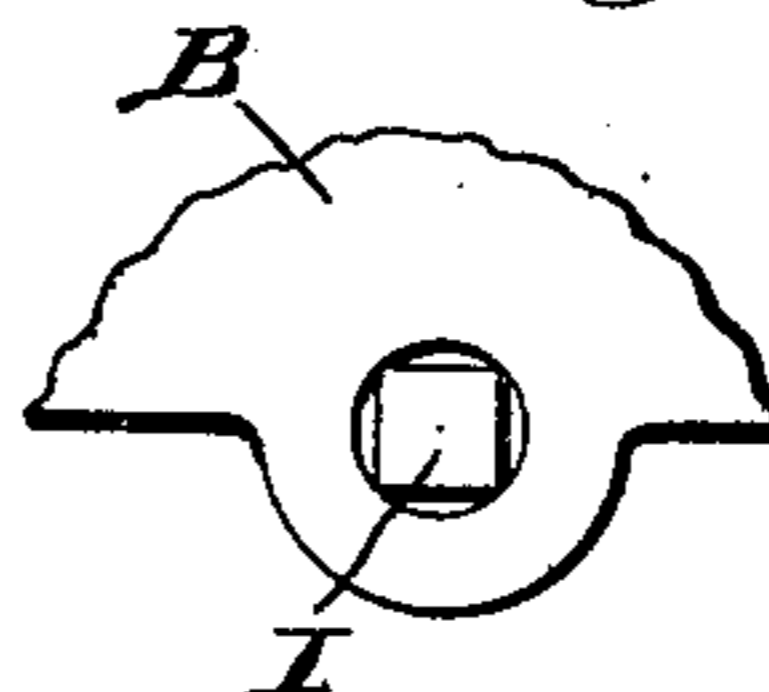


Fig. 5.



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UNITED STATES PATENT OFFICE.

AUGUST C. PETERSON, OF ALTONA, ILLINOIS.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 671,922, dated April 9, 1901.

Application filed September 7, 1900. Serial No. 29,244. (No model.)

To all whom it may concern:

Be it known that I, AUGUST C. PETERSON, a citizen of the United States, residing at Altona, in the county of Knox and State of Illinois, have invented certain new and useful Improvements in Corn-Planters, of which the following is a specification.

This invention relates to improvements in corn-planters, and more particularly to the devices for operating the seed-tube valve, and has for its primary object a cheap, simple, and effective device for controlling the discharge of the grain from the seed-tube.

Another object is to have such devices capable of continued and uninterrupted operation upon a floating runner—that is, a runner free to rise and fall, following the inequalities of the ground, independent of the vertical movements of the runner-frame.

These and such other objects as may hereinafter appear are attained by the devices illustrated in the accompanying drawings, in which—

Figure 1 is a sectional elevation through a portion of a planter and runner embodying my invention. Fig. 2 is a detail perspective view of the valve-operating mechanism. Fig. 3 is a transverse vertical section on the line 3 3 of Fig. 1 looking in the direction indicated by the arrows. Fig. 4 is a detail perspective view of the cam-arm and the valve-operating shaft, and Fig. 5 is a detail plan view of a portion of the runner-frame.

Similar letters of reference indicate the same parts in the several figures of the drawings.

Referring by letter to the accompanying drawings, A indicates a portion of the tongue of the planter, B a portion of the forward or runner frame of the planter, and C a runner or furrow-opener, which I prefer should be of the floating type—that is, free to rise and fall, as required by the inequalities of the ground, independently of and not affecting the runner-frame. To this end I provide a rod D, secured at its lower end to the runner and at its upper end passing freely through the frame B, which serves as a guide therefor. Upon this rod is sleeved a coiled spring E, confined between the frame B and the runner C, which spring exerts a tension upon the runner, tending to yieldingly force the same

against the ground. At the front and rear ends of the runner is provided a pair of posts F, which extend up through the frame B and contact with antifriction-rollers G G and H H, mounted upon the frame B, which rollers serve as guides for the posts, and consequently for the runner in its vertical movements.

Journaled at its lower end H' in the runner C is a square shaft I, which extends up through a circular opening in the frame B, as clearly illustrated in Fig. 5, the lower end of the shaft being reduced and cylindric in cross-section, so as to afford a pivot and rest for the shaft, which when the seed-valve-operating mechanism, hereinafter described, is mounted on a floating runner rises and falls with the runner, working freely through the runner-frame. Near the lower end the shaft has rigidly mounted thereon, preferably by passing through a square hole therein, a segmental crank-plate J, the teeth of which engage corresponding teeth upon the edge of a cam-plate K, pivoted to the runner, said cam-plate having a lateral extension connected by a link L with one arm M of a three-armed valve, also pivoted to the runner in such position that the two remaining arms lie one above the other opposite and adjacent to the rear post F, forming one side of the seed-tube, or the corresponding member performing such function. This seed-tube valve performs the usual functions of the two valves usually located at the upper and lower ends, respectively, of the seed-tube, the upper arm N of the valve when in contact with the post F forming a stop for the seed when dropped down through the seed-tube O, while the other arm P of the valve is away from the post, allowing the corn which has been previously dropped onto it from the upper arm N to drop out of the pocket formed by the valve and into the ground. It will of course be understood that when the valve is next rocked upon its pivot the arm P will move over in contact with the post F and the arm N will move away from the post, thus allowing the corn on the arm N to drop down into the pocket formed by the arm P. The next vibration of the valve will allow the corn on the arm P to drop into the earth, and simultaneously the arm N will catch the next corn falling through the seed-tube. Of course this alternate action of the seed-tube valves

and the interrupted fall of the corn is common to most all machines of this class; but so far as I am aware my mechanism for accomplishing this result is entirely novel, and it is quite inexpensive, simple, and efficient, while requiring but little power to operate it.

A rocking action may be imparted to the shaft I, and consequently to the seed-tube valve, in any desired manner, and such means may well differ when the valve-operating mechanism is mounted upon a fixed instead of a floating runner. As shown in the drawings, mounted upon a floating runner, I provide a crank-arm Q, having a square hole therein through which the shaft may move freely, said arm being held against vertical movement by being confined between the frame B and the bracket R thereon or in any suitable manner. As shown, this crank-arm Q is in all essential respects a cam-arm, being provided with a cam-slot S therein, through which projects freely a pin T, extending radially from the actuating-shaft U, which latter shaft is the usual rock-shaft of a corn-planter by means of which the seed-dropping plates are operated. It will thus be readily seen that with the oscillation of the shaft U the shaft I will be rocked correspondingly and the crank-plate J will be vibrated, and through it the seed-tube valve, in the manner before referred to. By reason of the shaft I passing freely through the cam-plate Q the seed-valve (not shown) will be operated in all positions notwithstanding the floating or rising and falling of the runner, carrying with it the seed-tube valve and its operating mechanism.

It will of course be understood that the runner is composed, as usual, of two side plates, which are separated at their rear ends by the post F, so as to form the seed-tube, and that the double rocking seed-tube valve and the cam-plate will be covered by the side plates of the runners, the near side plate in Fig. 1 being shown as broken away to more clearly disclose the internal mechanism.

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

1. In a corn-planter, the combination with the rock-shaft, the runner and the seed-tube thereof, of a double rocking valve located in the seed-tube, a vertical shaft journaled in the runner, a segmental crank-plate on said shaft, means connecting said plate with the valve and means connecting said shaft with the rock-shaft, substantially as described.

2. In a corn-planter, the combination with the rock-shaft, the runner and the seed-tube

thereof, of a vertical shaft journaled in the runner, a segmental crank-plate secured thereto, a toothed cam-plate meshing with said segmental plate, a double valve located in the seed-tube, a connection between said valve and the cam-plate and means for connecting said shaft with the rock-shaft, substantially as described.

3. In a corn-planter, the combination with the rock-shaft, the runner and the seed-tube thereof, of a vertical shaft journaled in the runner, a segmental crank-plate secured thereto, a toothed cam-plate meshing with said segmental plate, a double rocking valve located in the seed-tube, a link connecting said valve with the cam-plate and means connecting said shaft to the rock-shaft, substantially as described.

4. In a corn-planter, the combination with the rock-shaft and a floating runner of a seed-tube valve mounted on the runner and means for connecting said valve with the rock-shaft for actuating said valve, substantially as described.

5. In a corn-planter, the combination with a frame and a runner and seed-tube movable relatively to the frame, of a valve mounted on the runner, and mechanism for actuating said valve, said mechanism including engaging parts carried by the frame and runner, respectively, said parts being relatively movable whereby the runner may move relatively to the frame without disengaging said parts, substantially as described.

6. In a corn-planter, the combination with the rock-shaft, a floating runner and a rocking seed-tube valve mounted in the runner, of a vertical shaft journaled in the runner, a connection between said shaft and the seed-tube valve and between said shaft and the rock-shaft, substantially as described.

7. In a corn-planter, the combination with the rock-shaft, a floating runner and a rocking seed-tube valve mounted in the runner, of a vertical shaft journaled in the runner, a segmental crank-plate on said shaft, a toothed cam-plate meshing with said crank-plate, a connection between said cam-plate and the rocking valve, a cam-crank rotated with said shaft but through which the shaft has free endwise movement and a radial arm on the rock-shaft engaging a cam-slot in the cam-crank, substantially as described.

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Witnesses:

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