

(No Model.)

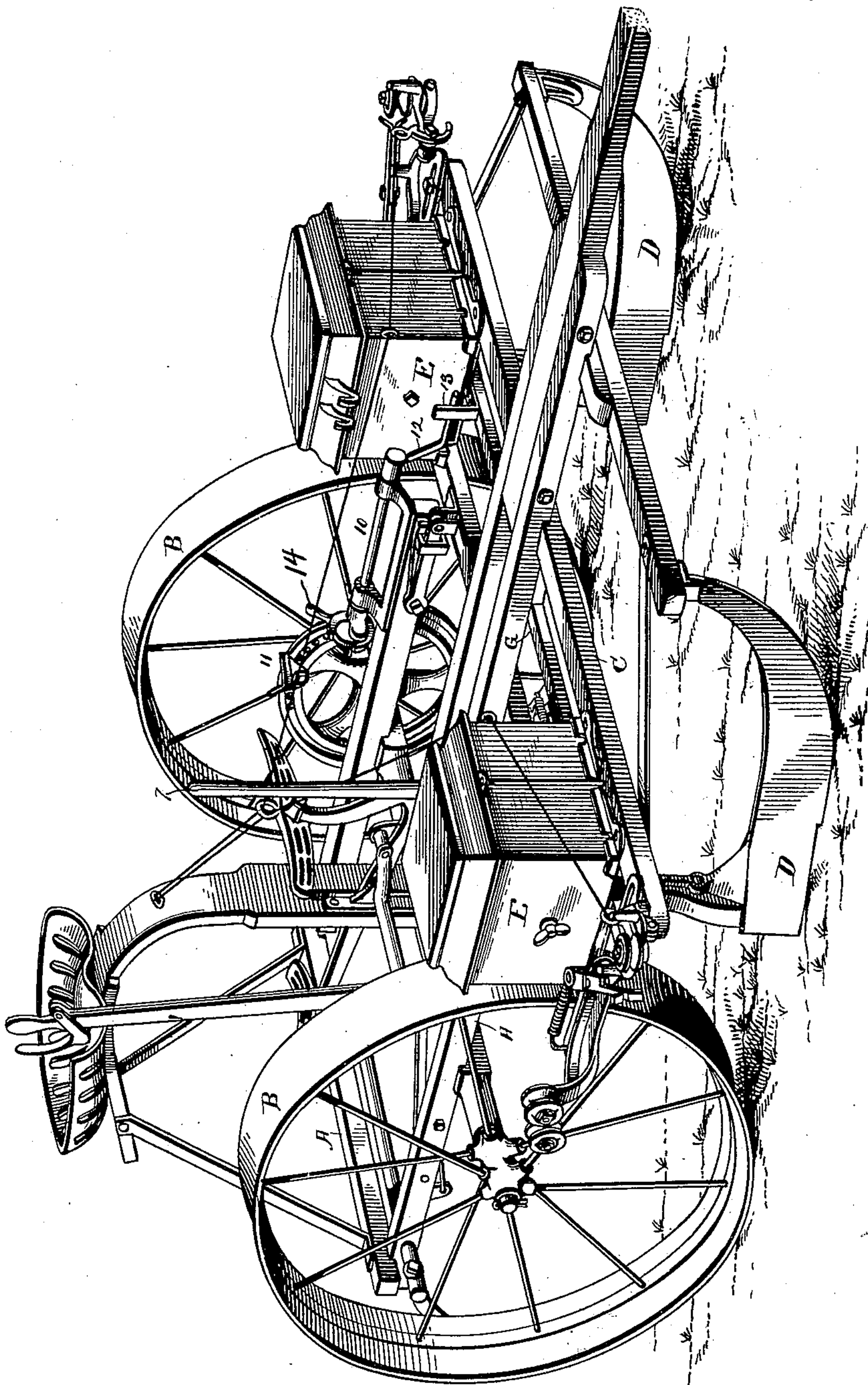
2 Sheets—Sheet 1.

L. SCOFIELD.
CHECK ROW ATTACHMENT.

No. 463,457.

Patented Nov. 17, 1891.

Fig. 1.



Witnesses

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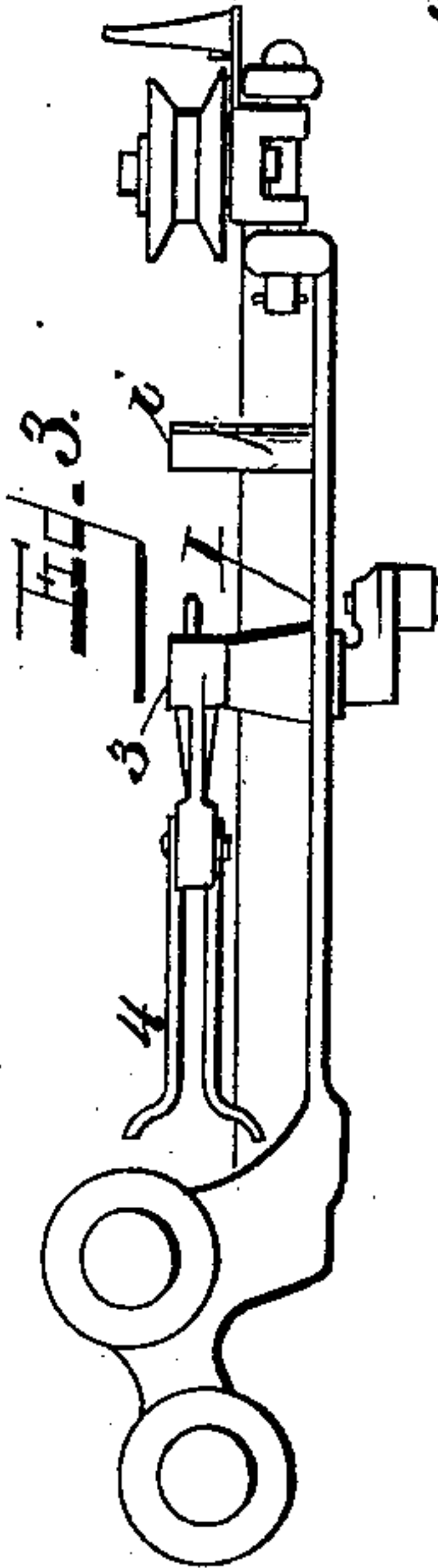
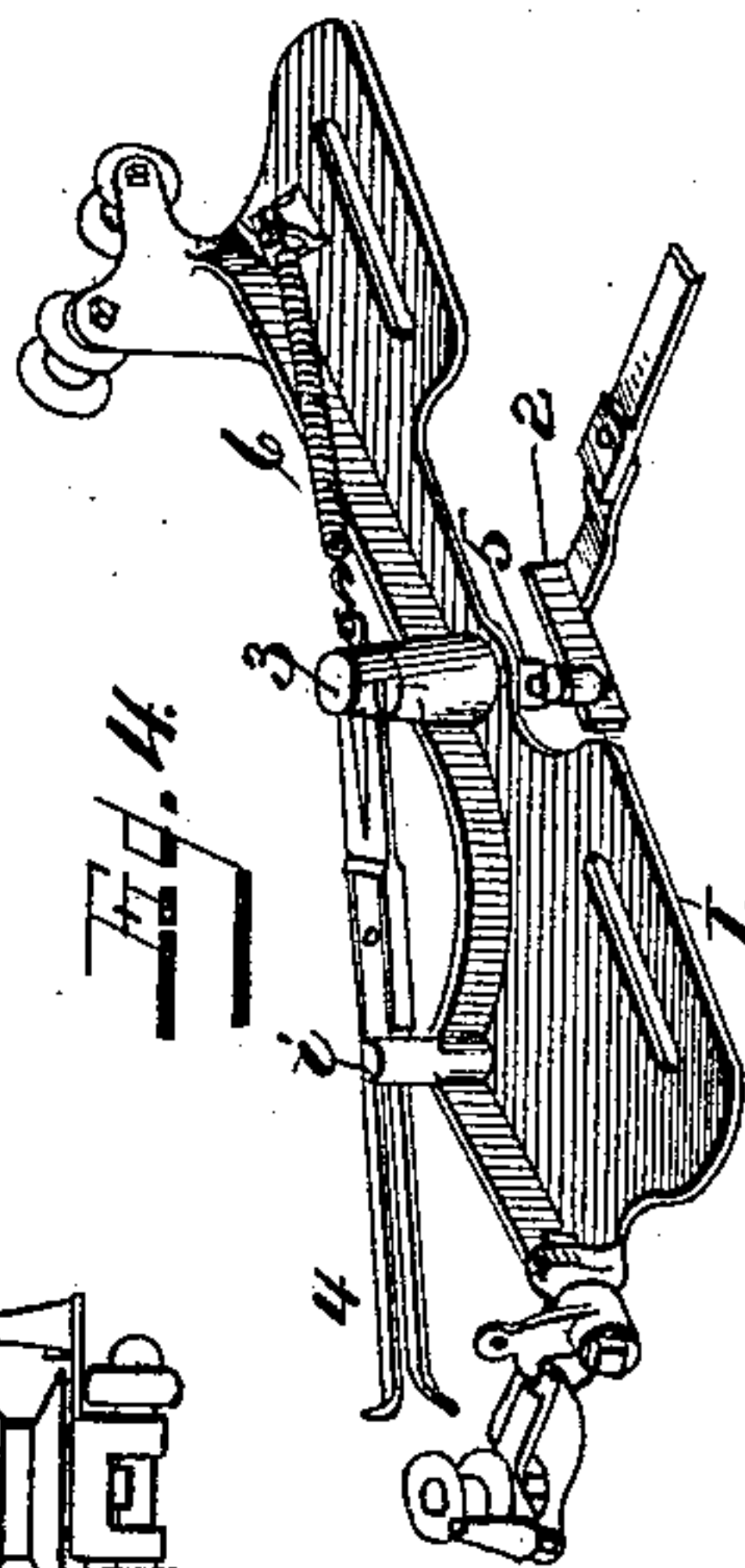
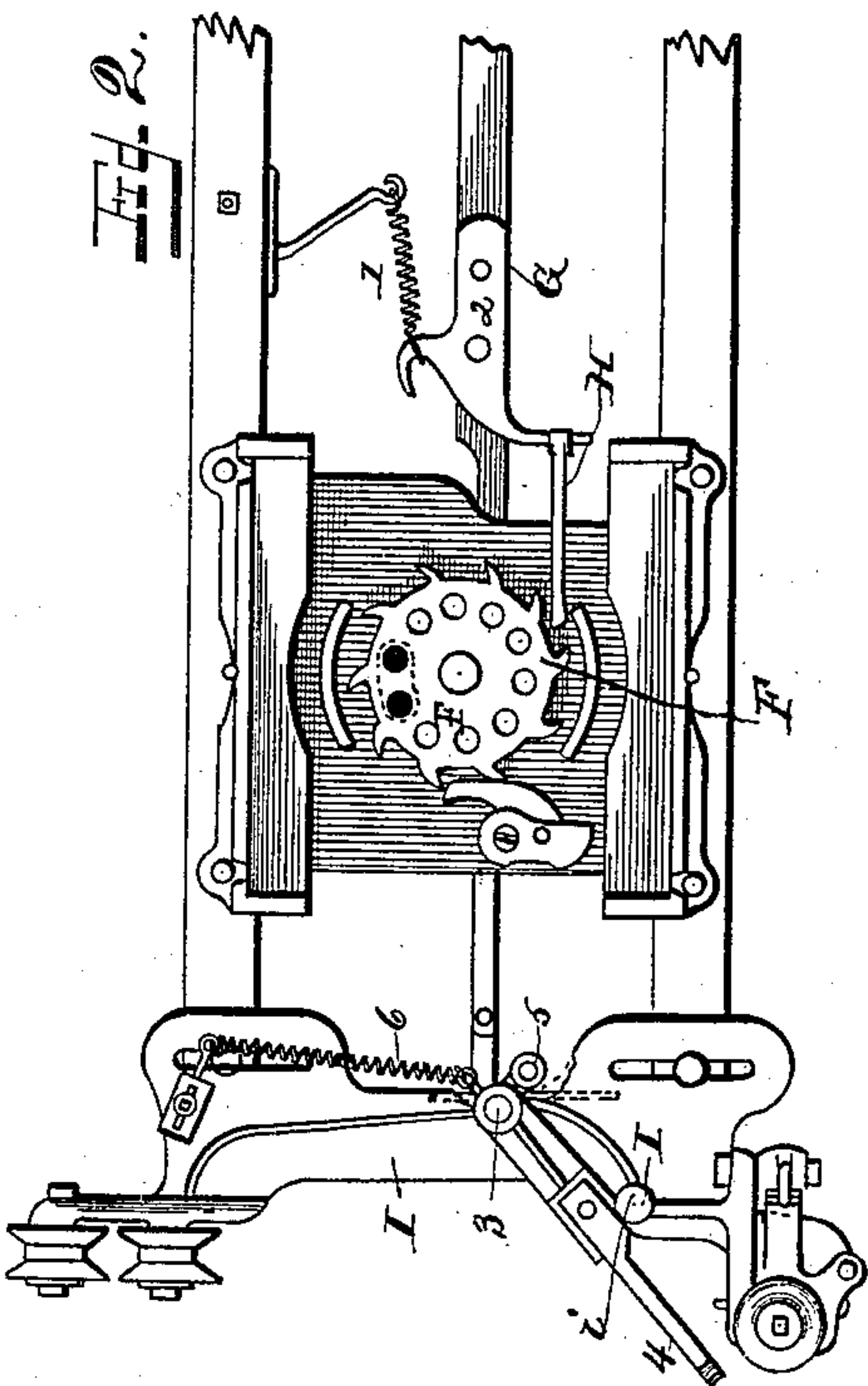
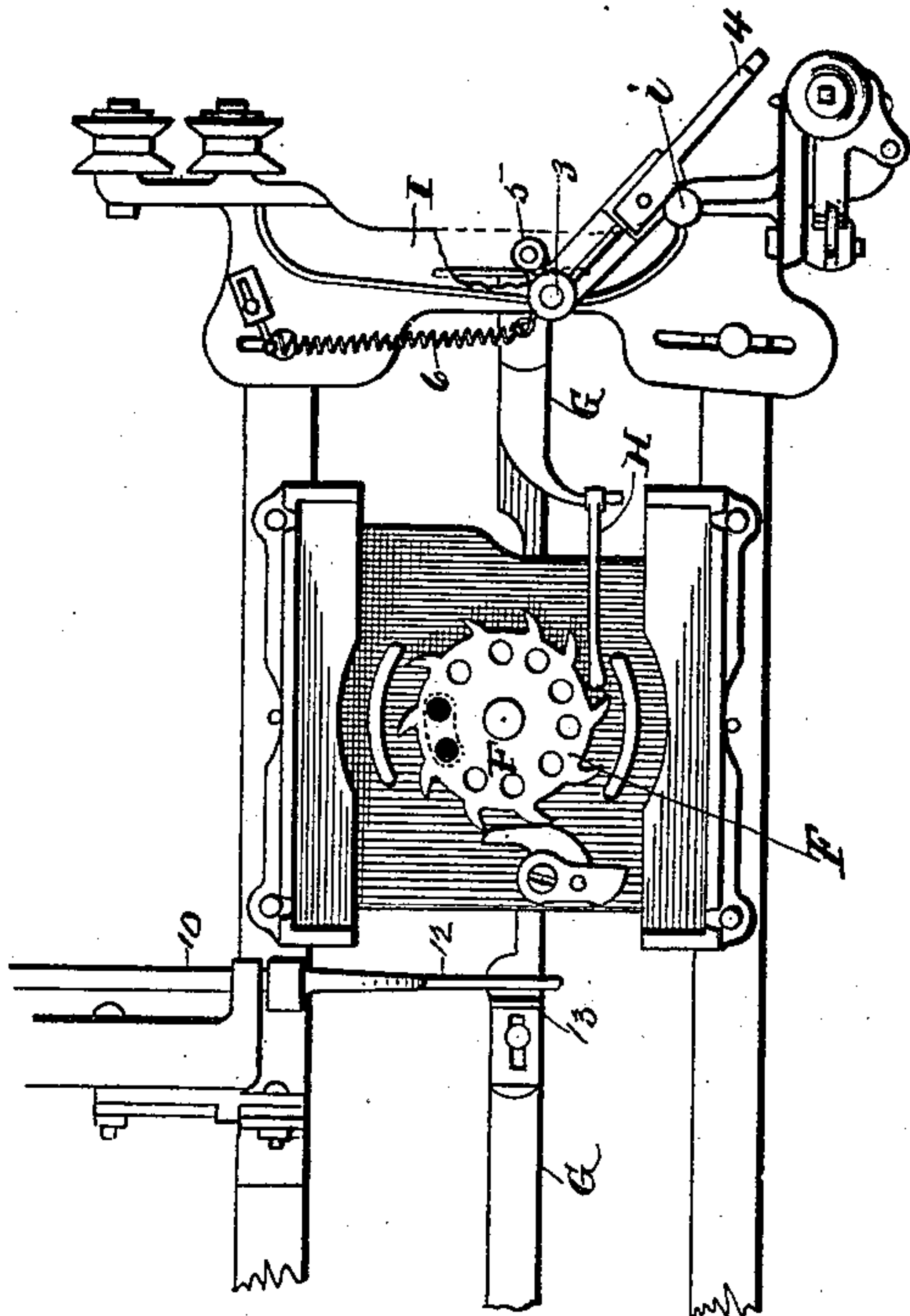
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2 Sheets—Sheet 2.

L. SCOFIELD.
CHECK ROW ATTACHMENT.

No. 463,457.

Patented Nov. 17, 1891.



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UNITED STATES PATENT OFFICE.

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CHECK-ROW ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 463,457, dated November 17, 1891.

Application filed August 21, 1891. Serial No. 403,312. (No model.)

To all whom it may concern:

Be it known that I, LEVI SCOFIELD, of Grand Haven, in the county of Ottawa and State of Michigan, have invented certain new and useful Improvements in Check-Row Attachments; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

This invention relates, primarily, to improvements in the actuating mechanism of check-row planters, and has for its object to improve and simplify the transmitting devices through which motion is communicated to the feeding mechanism, and, incidentally, to provide means whereby other forms or varieties of actuating devices may be thrown into action and substituted for the check-row cord without requiring the readjustment or removal of any part of the check-row attachment.

In the accompanying drawings, Figure 1 is a view in perspective of a planter with the present improvements applied thereto. Fig. 2 is a top plan view of a portion of the feeding mechanism and the actuating devices therefor. Fig. 3 is a side elevation, and Fig. 4 a view in perspective, of one of the attachments.

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

The planter shown in the drawings to illustrate the preferred application of the present improvements is one well known and much used, and hence specific description of its construction and mode of operation is deemed unnecessary. Its principal parts are the main frame A, supported upon ground-wheels B B, and runner-frame C, hinged to the main frame and provided with runners D, seed-boxes E, and a feeding mechanism, of which latter the seed-plate F is shown.

The feeding mechanisms for the two runners are connected and actuated by the usual seed or shake bar G, which is supported to reciprocate longitudinally, and is provided with a pawl H or other suitable form of actuating device engaging the seed-plate to operate the latter intermittingly.

According to my present invention the actu-

ating devices for effecting the reciprocating movements of the shake-bar G, instead of being attached to the latter, are entirely independent and merely engage a shoulder or abutment upon the bar to project it in one direction, a spring being employed for returning the bar. Thus, in the example illustrated, the shake-bar is held retracted by a spring 1, and is provided at each end with a plate or shoulder 2, standing, preferably, at about right angles to the length of the bar.

To the cross-pieces on which the seed-boxes are mounted are attached the usual adjustable frames or plates I, carrying guides or pulleys for the check-row cord, and in each of said plates is journaled a shaft 3, having a forked lever 4 at one end and a crank-arm or cam 5 at the lower end and in proximity to the plate 2 on the shake-bar. A spring 6 may be employed for retracting the forked lever, with a stop 7 for limiting the return movement, and when a crank is employed its wrist-pin may be furnished with a collar to produce rolling contact with the plate or abutment. The two cranks 5 make contact with corresponding sides of the plates or abutments 2 on the shake-bar, so that the movements effected by both cranks, when the forked levers are forced back by the passage of a knot or protuberance on the check-row cord, will be in the same direction, and as soon as the forked lever is released from the knot the shake-bar will be immediately returned by the spring 1, which latter tends to hold the shake-bar normally retracted.

It will be observed that the cams or cranks and their furcated levers constitute the only actuating devices intermediate the check-row cord and the shake-bar, and that said actuating devices while engaging are not connected to the shake-bar. Not only is the actuating mechanism thus reduced to the least possible number of elements, (for the forked lever, shaft, and crank may be regarded as a single element in that they move as one,) but the shake-bar is left entirely free and unconnected from both actuating devices, so that it can be reciprocated by the usual hand-lever 7 or by a seeding attachment mounted upon the machine, of which an example is illustrated in Fig. 1, wherein a shaft 10, mounted in bearings on the main frame, is

operated upon by cams 11, adjustably secured to the ground-wheel, and a crank 12, secured to said shaft 10, is arranged to engage a plate or abutment 13 on the shake-bar. A disengaging device 14 is provided for throwing the shaft 10 into or out of engagement with the cams 11 to start or stop the seeding attachment.

By constructing the actuating devices so as to contact with the shake-bar when moving in one direction only and employing a spring for effecting the return stroke of the shake-bar I am enabled to dispense with all detaching contrivances, as each actuating device until brought into action by the driver, be it the hand-lever, ground-wheel, or check-row cord, will retain its place and be unaffected by the movements of the shake-bar, and at the same time each will be in position to be immediately brought into action. Thus when the check-row cord is in position and acting upon one forked lever the other remains inactive, but in position to receive the check-row cord when transferred from the opposite side. So, too, when the check-row cord is withdrawn and the seeding attachment is started up both forked levers will be retained in position ready for operation.

The spring 1 for retracting the shake-bar may, if desired, be utilized for effecting the return of the forked levers after the knot passes off from them; but it is preferred that each lever should be furnished with a separate spring, as it will operate to hold the levers in retracted position when not in use.

Another advantageous feature of my present invention lies in the arrangement of the actuating devices and their disposition relative to the shake-bar. The shaft 3 is journaled in a long sleeve on plate I, with the forked lever above and the crank below. This brings the crank nearly in the line of motion of the shake-bar, reducing side pressure and lost motion. Moreover, the adjustment of the frames or plates I to accommodate the speed of the team can be effected without in the least disturbing the relation or adjustment, for there is no connecting-link or other attachment to be provided for, and the shifting of the crank upon the abutting surface carried by the shake-bar cannot change the stroke of the latter.

The improved check-row attachment, consisting of the guide-pulleys, forked lever, and crank-arm, together with the supporting-frame, can readily be applied to any planter having a shake-bar, as all that is required for the purpose is the application or arrangement of proper abutting surfaces for the crank-arms to bear against.

I do not claim herein the particular construction of the seeding attachment, as that forms the subject of another application, Serial No. 403,313, and is hereby reserved.

Having thus described my invention, what I claim as new is—

1. In a planter such as described, provided

with feeding devices and a connecting shake-bar, the combination, with said shake-bar, of a check-row attachment whose operating part, such as the crank-arm, is disconnected from but arranged to impinge upon the shake-bar or a part connected thereto to move said bar in one direction only, substantially as described.

2. In a planter such as described, the combination, with the feeding devices, a shake-bar, and a retracting spring therefor, of a check-row attachment disconnected from the shake-bar, but held in position to actuate the latter in opposition to the spring, substantially as described.

3. In a planter and in combination with the feeding devices and connecting shake-bar, a crank-arm or cam actuated by a forked lever and held in position to engage a shoulder or abutment on the shake-bar, substantially as described.

4. In a planter and in combination with the feeding devices and a reciprocating shake-bar, a spring connected to the shake-bar for retracting and holding the latter, a forked lever connected to a crank-arm, and a shoulder or abutment connected to the shake-bar and held in position to be engaged by said crank-arm for moving the shake-bar in opposition to the spring, substantially as described.

5. In a planter, the combination of the feeding devices, the shake-bar provided with a transverse shoulder or abutment, a retracting-spring, and a crank-arm opposite said shoulder and provided with a forked lever, substantially as described.

6. In a check-rower, the combination, with the feeding devices and their connecting shake-bar, of two check-row attachments, each provided with a lever and crank-arm, the latter held on corresponding sides of two shoulders or abutments carried by the shake-bar, substantially as described.

7. In a check-rower, and in combination with the feeding devices and the shake-bar, two check-row attachments, one for each side of the machine, both of said attachments being disconnected from the shake-bar to permit independent motion of the latter and each held in position to engage said shake-bar upon being brought into action, substantially as described.

8. In a check-rower, and in combination with the feeding devices and the shake-bar, a retracting-spring for the shake-bar, abutments or shoulders located upon the shake-bar at substantially right angles to its line of motion, and a check-row attachment provided with a crank-arm standing in line with the shake-bar and engaging a shoulder or abutment thereon, substantially as described.

9. In a check-rower, the combination of the two forked levers, each carrying a crank-arm and provided with a retracting-spring, a shake-bar provided with shoulders opposite the crank-arms, and a retracting-spring for said shake-bar, substantially as described.

10. In a check-rower, the combination of the shake-bar and its transverse shoulder or abutment, the adjustable frame or plate carrying the guiding-pulleys, and the forked lever, 5 shaft, and crank-arm mounted on said adjustable frame, with the crank-arm opposite the shoulder on the shake-bar, substantially as described.

11. In a combined check-rower and seeder, 10 the combination, with the feeding devices, of a shake-bar, a retracting-spring for the latter, and the seeding and check-row attachments mounted on the frame and all arranged to move the shake-bar in the same direction and 15 against the pressure of the retracting-spring, whereby each actuating device is held in position to advance the shake-bar against the pressure of its spring, but is not connected to and is not moved by the shake-bar, substantially as described. 20

12. The improved check-row attachment herein described, consisting, essentially, of

the frame carrying guide-pulleys for the check-row cord and the forked lever with dependent crank-arm arranged to bear against 25 a shoulder on the shake-bar, substantially as described.

13. The combination, in a planter such as described, with the shake-bar connecting the feeding devices of a check-row attachment 30 provided with a reciprocating member, such as a crank-arm, deriving motion from the check-row cord and contacting with the shake-bar or a part connected thereto, but not otherwise attached to said bar, substantially as de- 35 scribed, whereby the shake-bar is moved in but one direction by the check-row attachment and is free to move independently of the latter.

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Witnesses:

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