

(No Model.)

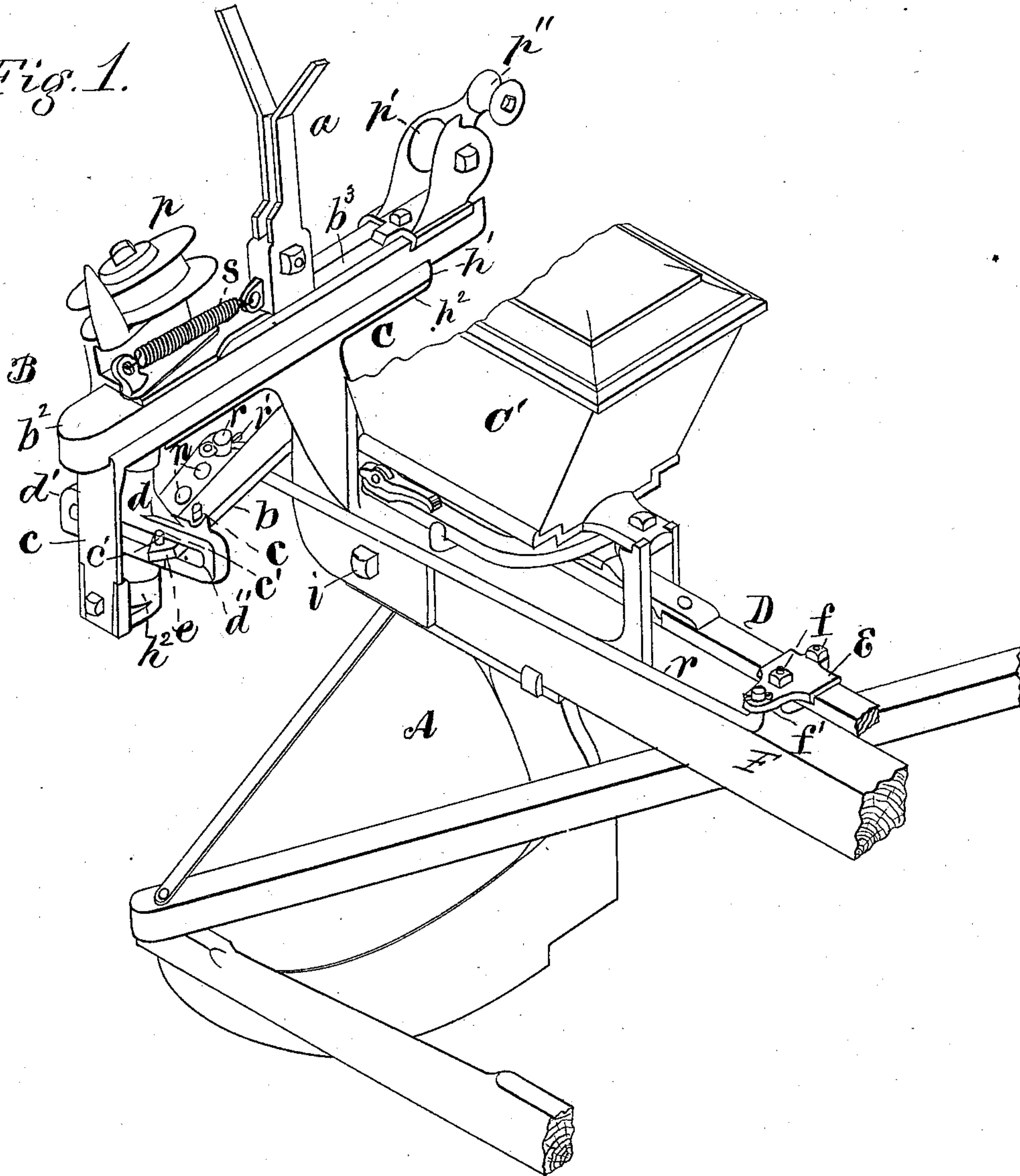
2 Sheets—Sheet 1.

A. C. EVANS.
CHECK ROWER.

No. 308,834.

Patented Dec. 2, 1884.

Fig. 1.



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2 Sheets—Sheet 2.

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Fig. 2.

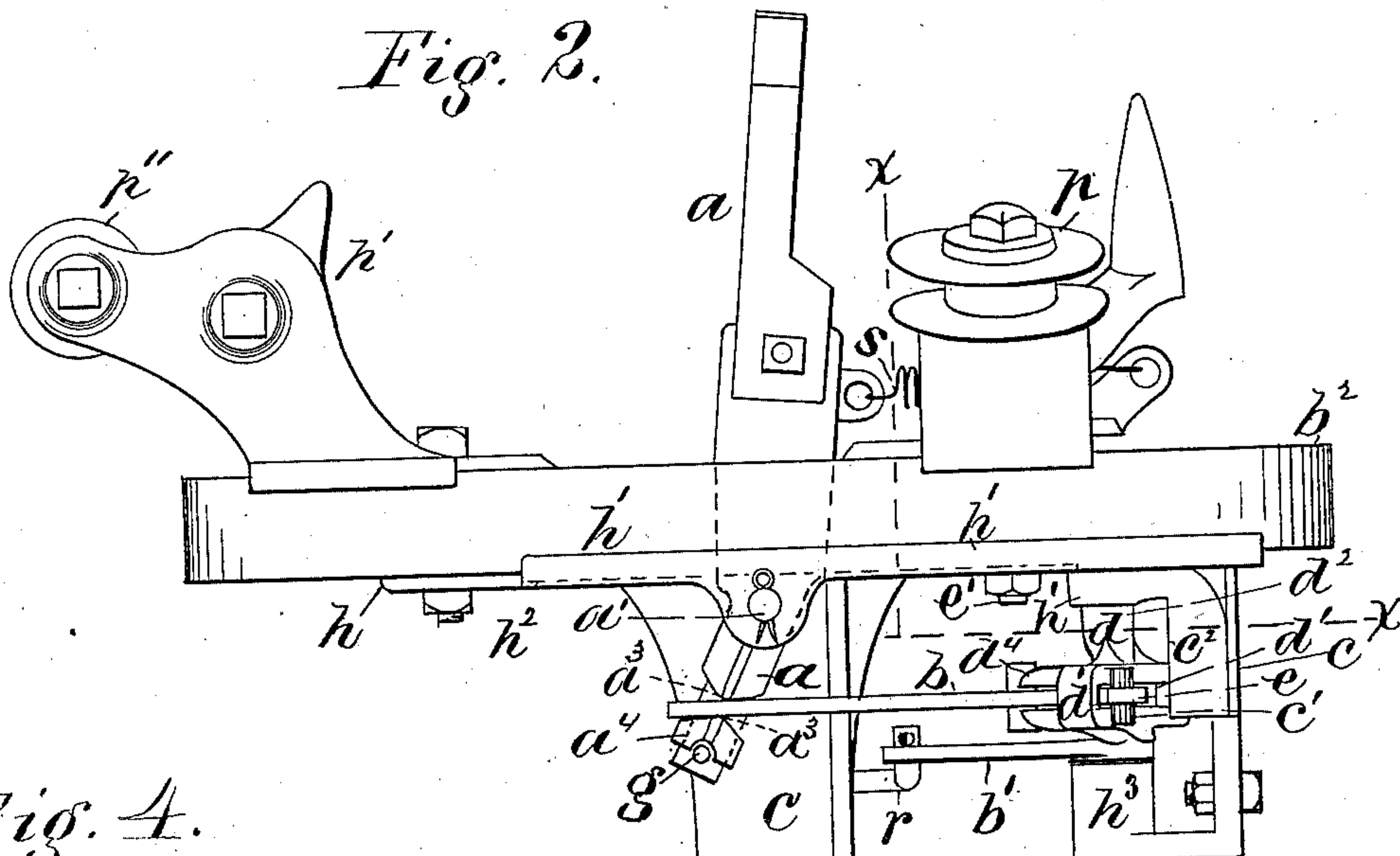


Fig. 4.

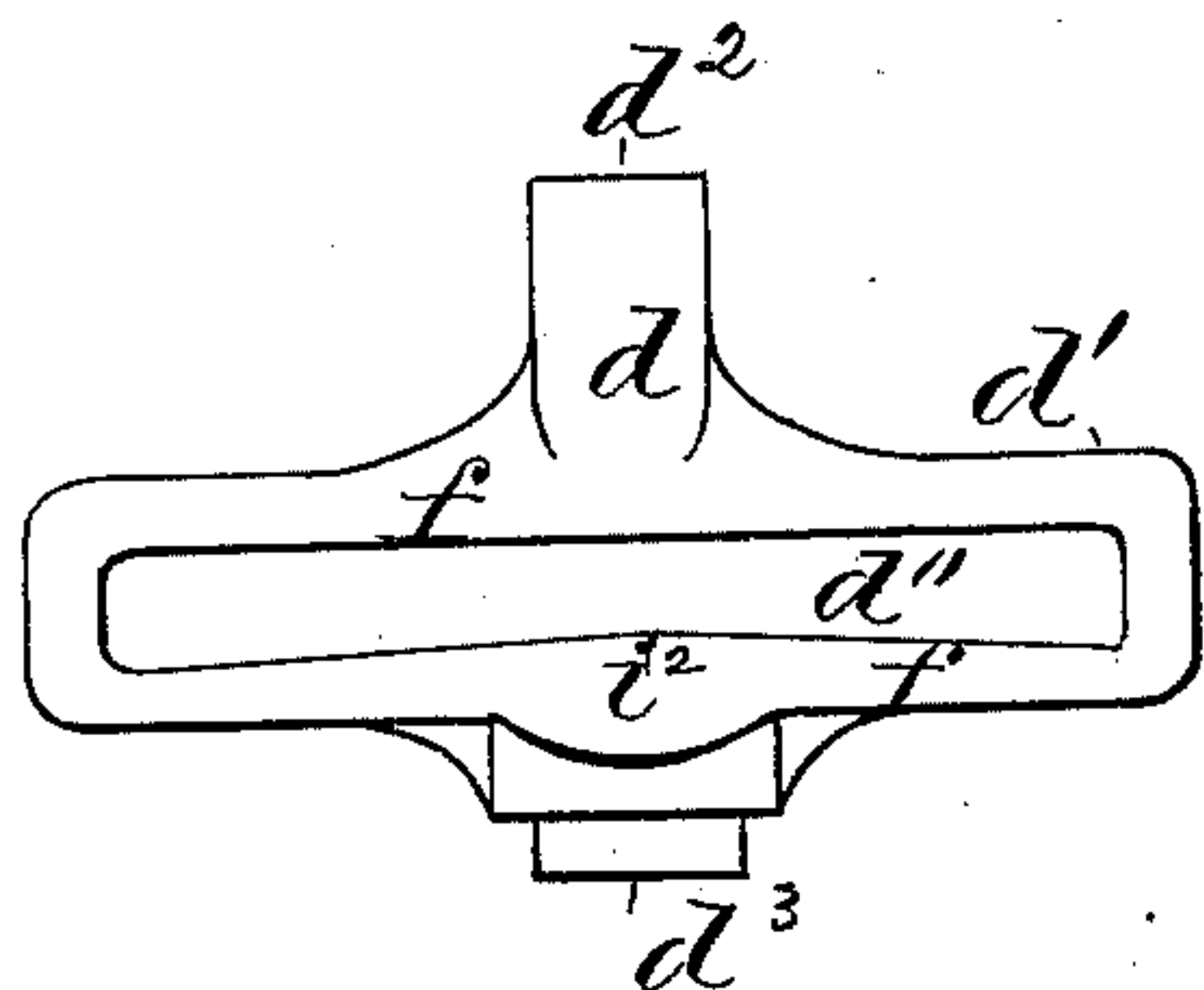
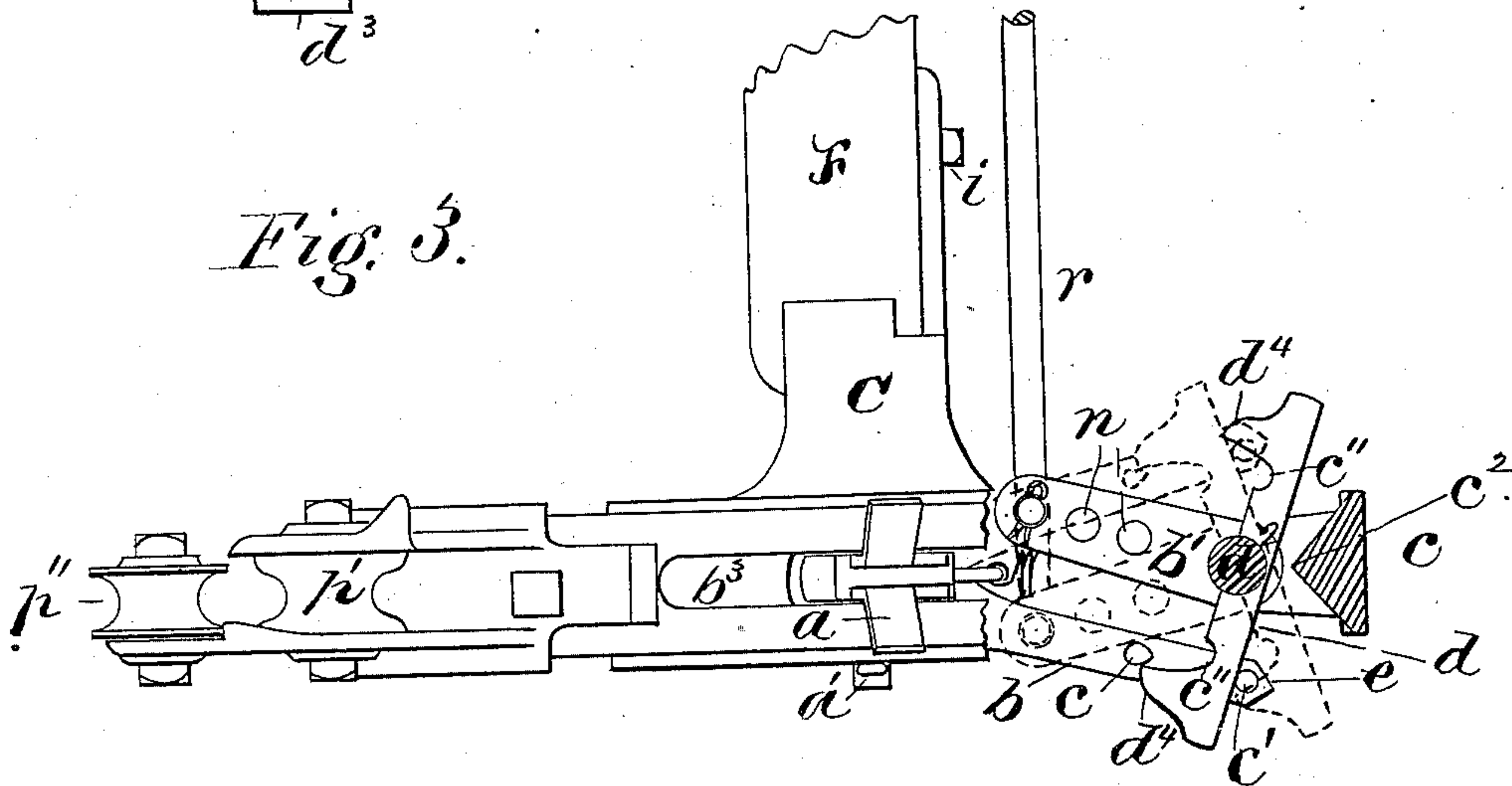


Fig. 3.



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AUSTIN C. EVANS, OF SPRINGFIELD, OHIO.

CHECK-ROWER.

SPECIFICATION forming part of Letters Patent No. 308,834, dated December 2, 1884.

Application filed May 16, 1884. (No model.)

To all whom it may concern:

Be it known that I, AUSTIN C. EVANS, a citizen of the United States of America, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Check-Rowers, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in check-rowers; and it consists of improvements in the devices for transmitting the movement (given to the button-fork by the wire) to the slide-bar of the planter, the object being to simplify these devices, and also to dispense with the cumbrous frame and its attachments ordinarily used in the construction of check-rowers.

Two sheets of drawings illustrate this invention, Sheet 1, with Figure 1, and Sheet 2 with Figs. 2, 3, and 4.

Fig. 1 is an isometric view of one-half of the front section of a two-horse corn-planter. Fig. 2 is an end elevation of the main cross-bar of the same with my improved check-rower attached thereto. Fig. 3 is a top view of the same with a section through line x broken away to exhibit the devices for operating the slide-bar of the planter under the right arm of the bracket. Fig. 4 is a front view of the T-shaped lever which transmits the movement of the button-fork to the slide-bar of the planter.

A is the front or runner section of a corn-planter. B is the check-rower attachment, which is attached to an elevated bracket, C, having its lower end turned at about a right-angle to the stem, and is fastened to the end of the main cross-bar F, on either side of the planter-section A, by a single bolt, i . The brackets are not connected with each other except by the planter-frame itself, but each bracket and the check-row devices attached thereto is separate and distinct from the other.

As the check-rower attachment is the same upon both sides of the planter, duplicate drawings of the device are considered unnecessary. The bracket C has its head end, which is long and narrow, extended toward the front and rear, and has a wooden bar, b^2 , on the top, upon either end of which are attached the usual guide-pulleys, p , p' , and p'' , respectively.

At the center of the bracket and bar b^2 is the button-fork a , which extends down through a long slot, b^3 , in the middle of the bar and bracket, and is pivoted to the latter below its head, in the middle vertical line of its stem, over the end of the main cross-bar, by a horizontal bolt, a' .

As may be seen in Fig. 2, the fork-lever or "button-fork" a extends below the head, is bent at an angle rearward from its pivot, and has its lower end cut down to form an angle, a^3 , on either side, in the middle line of the same, (outside and on the inner side of its stem.) Below the shoulder formed by this downwardly-projecting angle, and directly opposite thereto in near approximation, is seen the angle a^3 of a loose collar, a^4 , which latter is held by a pin, g , on the end of a .

Between the two angles a^3 - a^3 is pivoted the rear end of the long flat horizontal bar b , which transmits motion from the fork a to an oscillating T-shaped lever b' . To form bearing-points for the journals of lever b' , the front end of the head h of the bracket C depends downward, backward, and upward, forming a hanger, c , with a vertical bearing or box, h^3 , at its terminal or inner end, opposite to which, on the under side of the head, is another bearing, h' , in which bearings are pivoted the head end of lever b' , upon its two opposite vertical journals, d^2 and d^3 , seen projecting from the axial line of the head d , on the upper and lower side of the same, in Fig. 4, which shows a front view of the head. The head d lies in a plane above the stem of lever b' as will be noticed by reference to Fig. 2, and has a long horizontal slot, d'' , therein extending from one side to the other, and through this slot extends the front end of lever b , which latter has a pin, c and c' , vertically through it on the rear and front sides of the head d , respectively. The pin c is formed with an angle on its front side, and engages with a notch, c'' , seen in the head, on the rear side, in Fig. 3, near each end of the same. To guide the pin c into this notch there is an angular projection, d^4 , extending rearward on the outside of each of the notches c'' . These projections prevent the pin from being freed from the line of its engagement, as the pin c cannot be drawn backward (from the rebound of lever a) beyond the projection d^4 , but lies

with its angle inside and forward of the latter before engaging the notch c'' to push that end of the head forward on which it lies. The rear end of the stem of lever b' is connected with the slide-bar D of the planter by rod r , each end of which is turned up at right angles, and is pivoted in the stem of lever b' , and in a lug, f' , of a clamp-plate or clip, E, adjustably attached to the slide-bar, respectively.

The operation of the check-rower can be understood by reference to the figures, and to Fig. 3, particularly, which shows in dotted lines the movements of levers b and b' . When the button-fork lever a is engaged by a button of a check-row wire and thrown backward, lever b is thrust forward, its rear pin, c , engaging notch c'' , and throwing the outside end of the head d of lever b forward to the position seen in the dotted lines. Lever a now being released from the button, its lower end is thrown backward by the reaction of spring s attached to the fork, (in the usual manner,) and lever b is pulled backward, its front pin, c , comes in contact with the front of the head d , and this (front) end of the lever b is drawn to the opposite end of the head d , (in the slot d''), which latter, being thrown back, makes this the shortest route for said lever b when drawn backward. It is now in the position seen in the dotted lines before referred to, and when the next button of the wire engages fork a the pin c of lever b engages the notch c'' on that side of the head in which it lies, and it is again thrust forward and the movement repeated as before, the slide-bar D of the planter being thrown in the opposite direction. The stem of lever b is provided with a series of holes, n , to adjust the throw, and the clamp-plate E can also be adjusted by bolts f , which secure its upper and lower sections together over the slide-bar. The horizontal slot d'' in the head of lever b' has an angle, i^2 , at the middle of its lower side elevated above the plane of that side of the slot, for the purpose of preventing the end of lever b from dropping toward the lower end of the slot when operating the planter on a side-hill, and to retain it at either end of the slot preparatory to its movement from one end of the latter to the other.

By reference to Figs. 2 and 3 it will be seen that the front end of the thrust-lever b has a central point or angle, e , with inclined sides. The hanger-bar c has also a similar angle, e^2 , on the rear side, so that when lever b is thrust forward its end must invariably pass on one side of the angle e^2 of the hanger, thus preventing any danger of a lock or dead point in its throw.

In order to adjust the check-rower forward or backward to time its movement the top of bracket C is made in two parts, h' and h^2 , it being divided horizontally and longitudinally, as seen in Figs. 1 and 2, and in the details D of the latter figure. The entire top plate, h' , with bar b^2 and the check-rower movement attached thereto slides endwise on the lower

plate, h^2 , which is attached to and is a part of the bracket itself. A longitudinal slot, e^2 , in the plate h^2 , through which the vertical bolt e' extends, allows of this adjustment. As the hanger-plate h' with all of the operative devices of the check-rower is moved in making the adjustment in either direction their relation to each other remains unchanged.

The detail figure D shows a side and top view of the parts at the point of their adjustment.

I claim as my invention—

1. In a check-rower movement, the combination of the pivoted button-fork lever, the thrust-lever connected directly with said button-fork lever, and the T-shaped oscillating lever having a horizontal slot in the head of the same, as set forth.

2. In a check-rower, the combination, with the bracket on the end of the main cross-bar of the planter, of an oscillating T-shaped lever having a horizontal slot therein and pivoted in bearings in said bracket, a thrust-lever operating in said slot, and the pivoted button-fork lever having its lower end directly connected with said thrust-lever, as set forth.

3. In a check-rower, a bracket attached to the main cross-bar of a corn-planter, an oscillating T-shaped lever having a horizontal slot therein and pivoted in bearings in said bracket, a thrust-lever operating in said slot, and a button-fork lever pivoted over said thrust-lever and directly connected with the latter, as set forth.

4. The combination, with a detachable bracket on the end of the main cross-bar of a corn-planter supporting the check-row devices, of an oscillating T-shaped lever pivoted in said bracket, and having a horizontal slot in the head of the same, a thrust-lever operating in said slot, and a button-fork lever pivoted over said thrust-lever and directly connected with the latter by a flexible joint.

5. In a check-rower, a bracket for supporting the check-row devices, and means for attaching the same to the end of the main cross-bar of a corn-planter, in combination with the movement for operating the slide-bar of the latter pivoted in said bracket, and consisting of a T-shaped oscillating lever with a horizontally-slotted head, a thrust-lever extending through said slot, having a stud or studs thereon engaging the latter, and a button-fork lever pivoted over said thrust-lever, its lower end extending below the bracket-head and directly connected with said thrust-lever, as set forth.

6. In a movement for a check-rower, the T-shaped oscillating lever with a horizontal slot in the head of the same, said slot having an angle at the middle part to prevent the thrust-lever operating therein from dropping back to the lower end of the slot at the end of its stroke when the planter is operated on a side-hill.

7. In combination with the guide-pulleys and the pivoted button-fork lever, the thrust-lever b , having pins c and c' , projecting angle e at the front end, the vertically-pivoted oscillat-

ing lever *b'*, having the horizontally-slotted head *d*, within which the end of said lever *b* operates from one end to the other of the head alternately, notches *c''*, and rear projections *d'*, said projections guiding said pin *c* on the thrust-lever into said notches *c''* of the head *d* of said oscillating lever at each thrust of said lever *b* as the latter is engaged alternately with each end of the head *d* of said oscillating lever in transmitting the movement from said button-fork lever to the slide-bar of the planter, as set forth.

8. In combination, bracket C, with its pivoted button-fork lever and wire-guiding pulleys, the hanger *c*, depending from the end of said bracket, the oscillating T-shaped lever pivoted in bearings in said bracket and hanger, with a horizontally-slotted head, provided with an angle therein, and notches and projections at the ends on the rear side of the same, said oscillating lever having its stem connected with the slide-bar of a planter, and provided with holes therein for adjustment therewith, and a thrust-lever extending through the head of said oscillating lever, with pins thereon engaging said

notches and projections, and having its rear end pivotally connected with the button-fork lever below the pivot of the latter, whereby the movement made by the engagement of the button of a check-row wire with said button-fork lever is transmitted to the slide-bar of a corn-planter.

9. In a check-rower movement, the combination, with the thrust-lever having an angle at the front end, of the vertical bar on the bracket in front of said thrust-lever, formed with an angle on the rear side of the same to cause said thrust-lever to be thrown on one side of the angle of said vertical bar, and to prevent locking the same in operating, as set forth.

10. In a check-rower adapted for attachment to the main cross-bar of a corn-planter, a bracket for supporting said check-rower, having its head made in two parts, and one part made adjustable upon the other, for the purpose set forth.

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