

(No Model.)

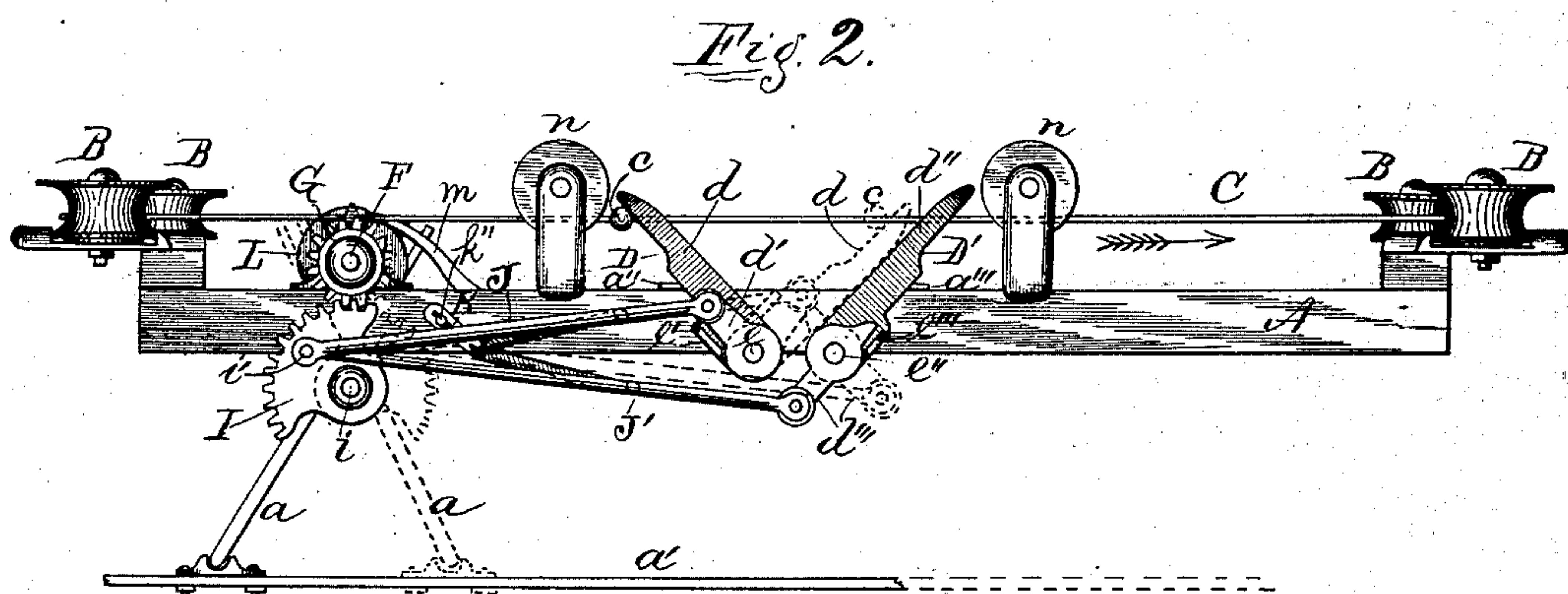
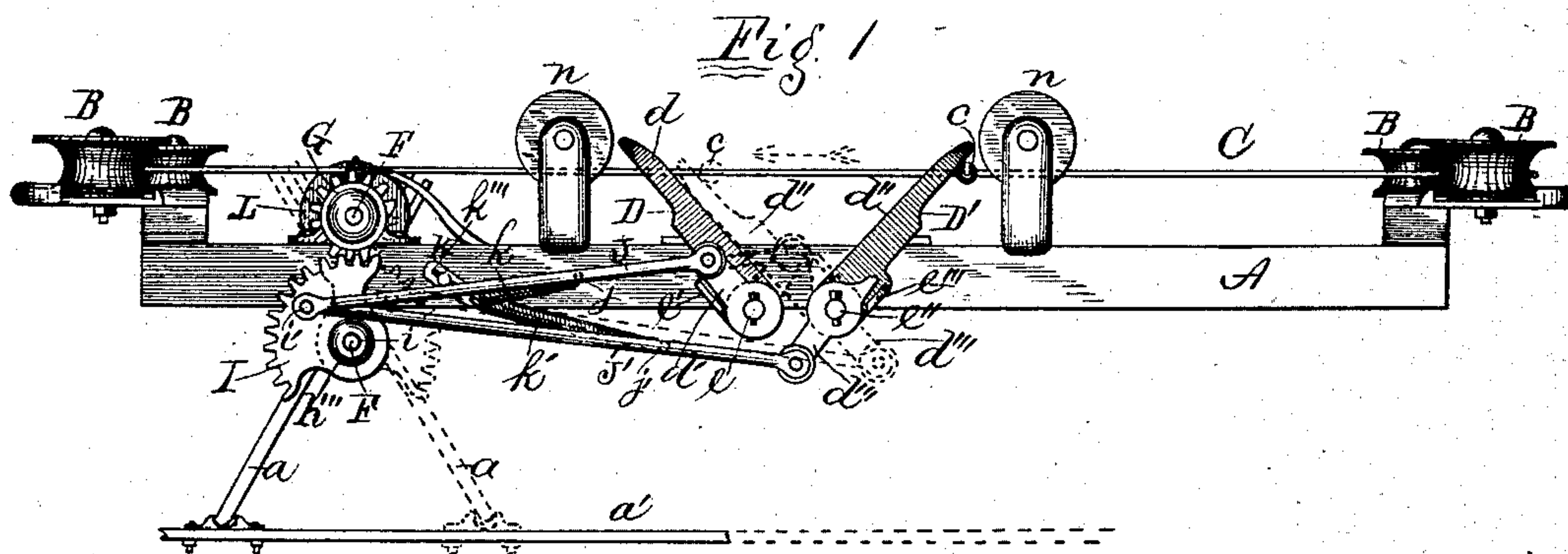
2 Sheets—Sheet 1.

W. B. RUSH.

CORN PLANTER CHECK ROWER.

No. 315,446.

Patented Apr. 7, 1885.



Witnesses:
O. R. Richards,
Thos. Brown

Inventor:
W. B. Rush,
By W. B. Richards,
Atty.

(No Model.)

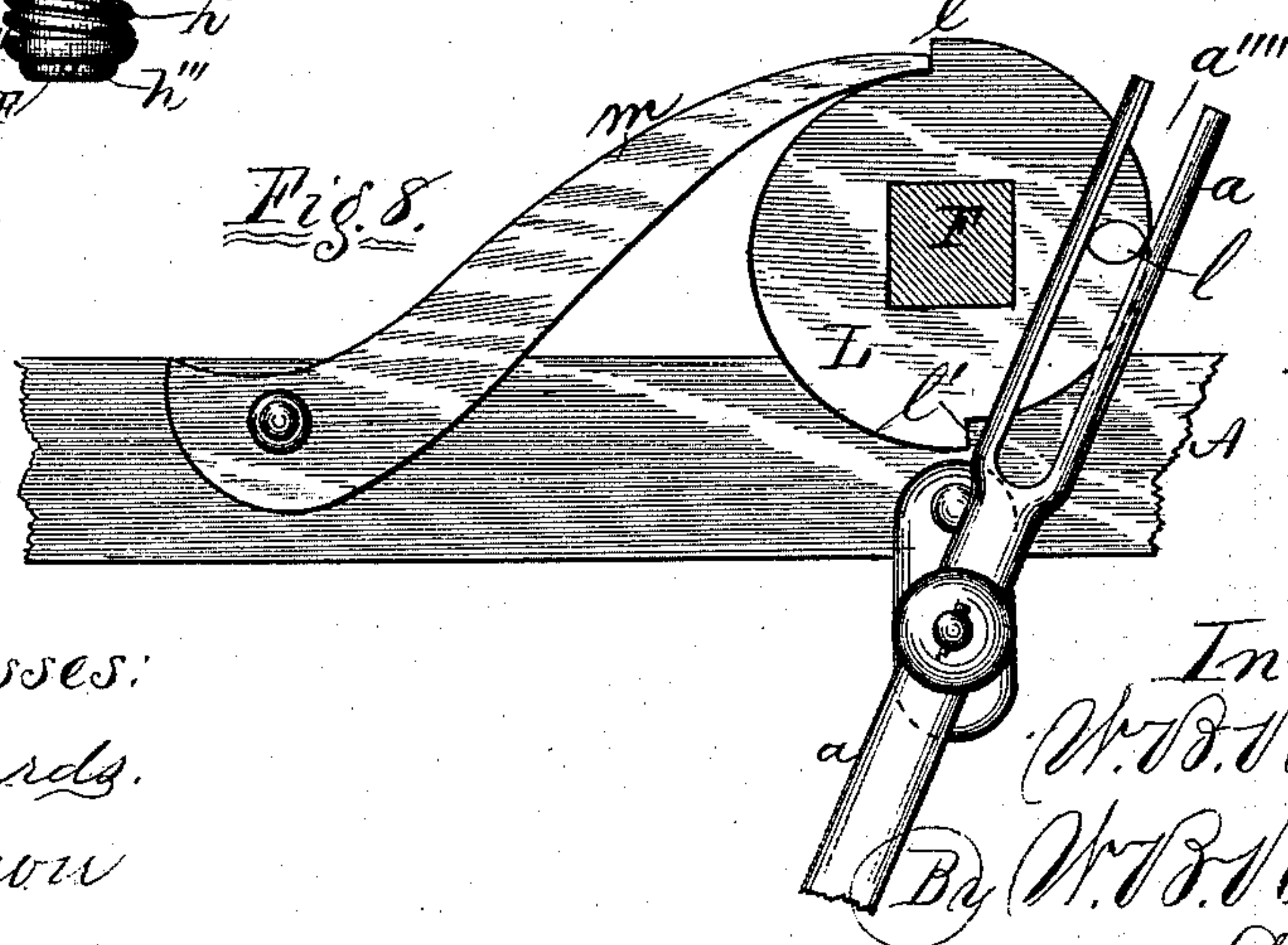
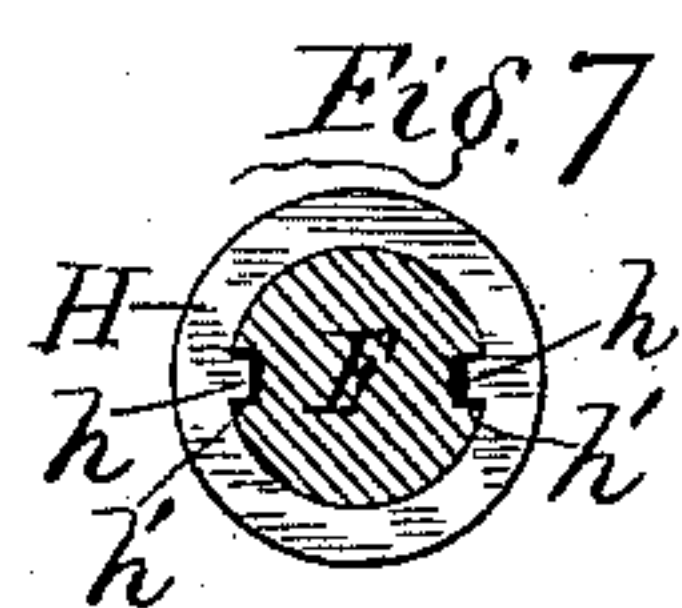
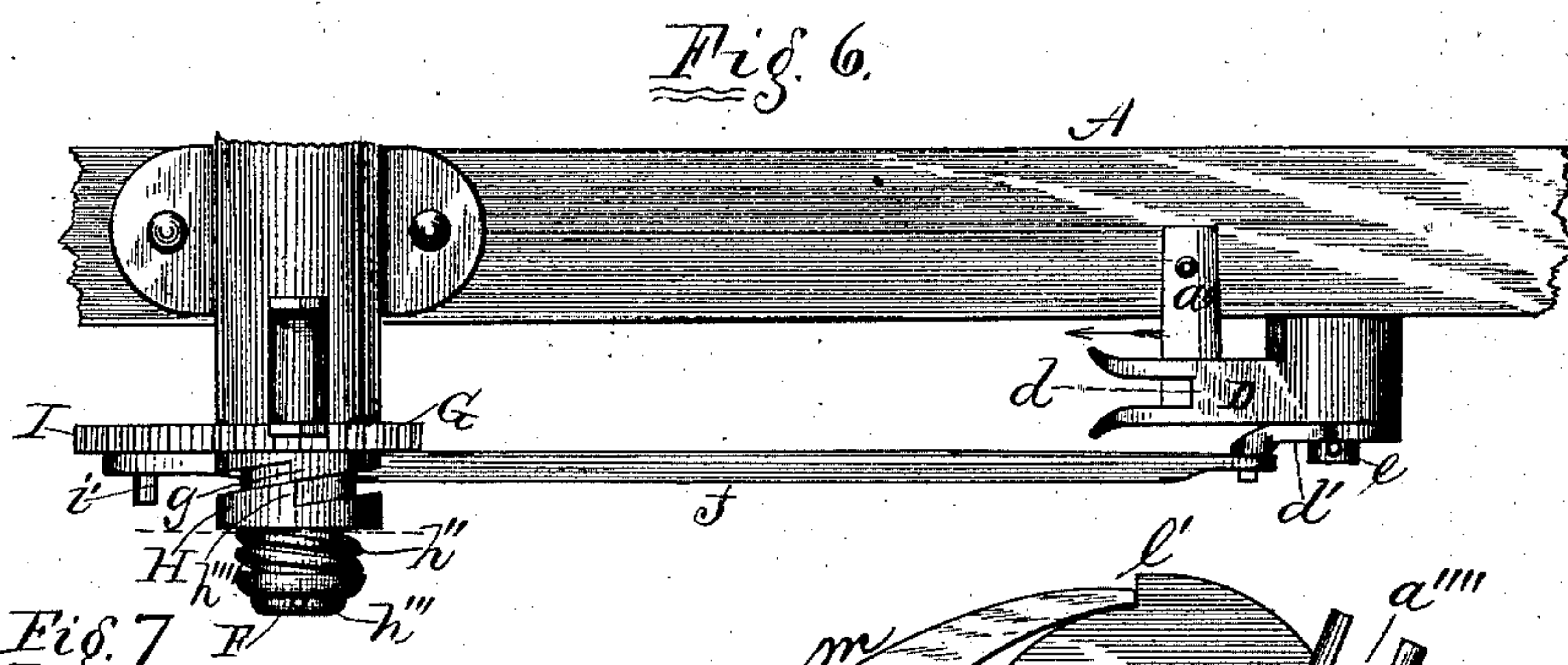
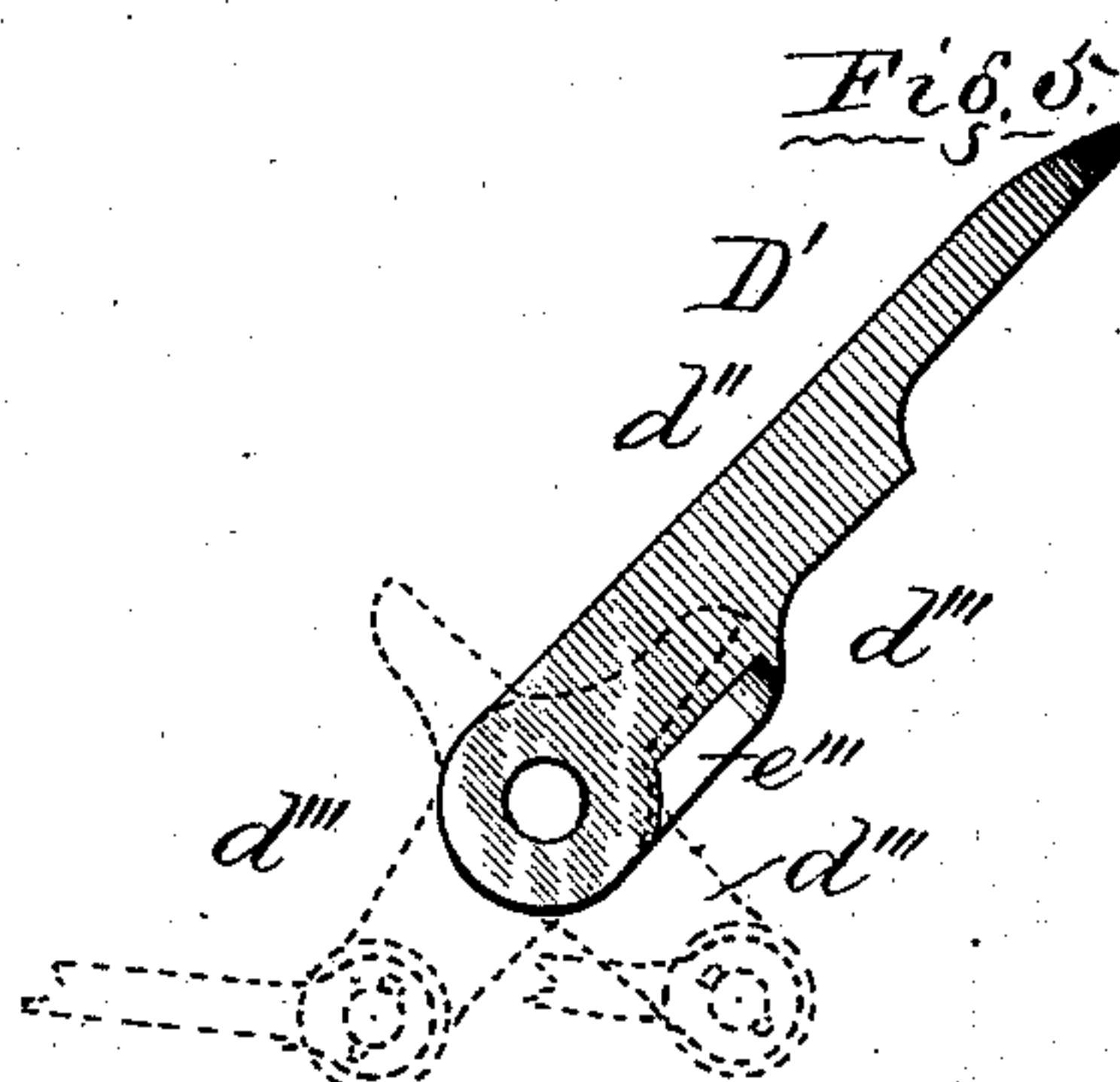
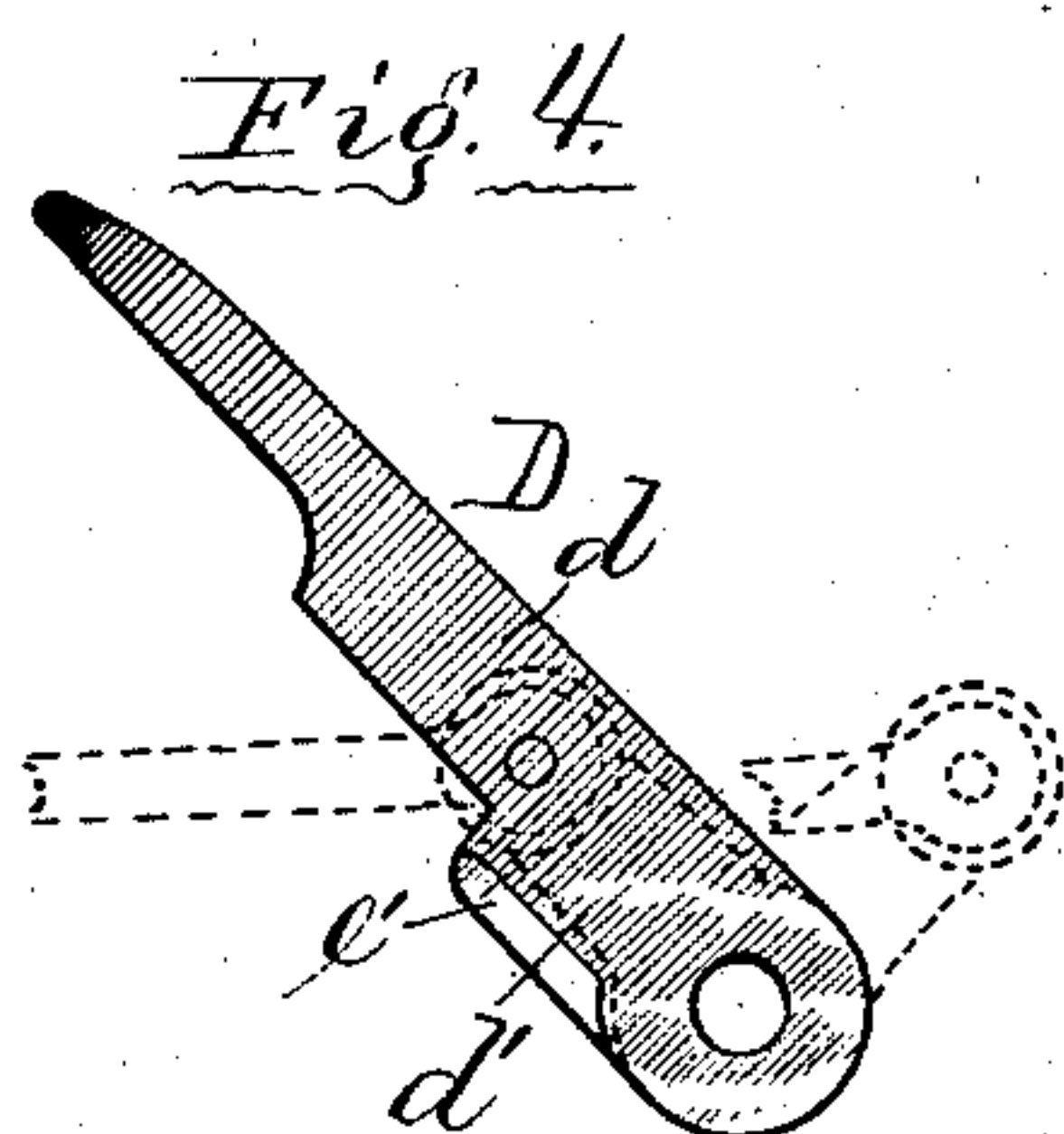
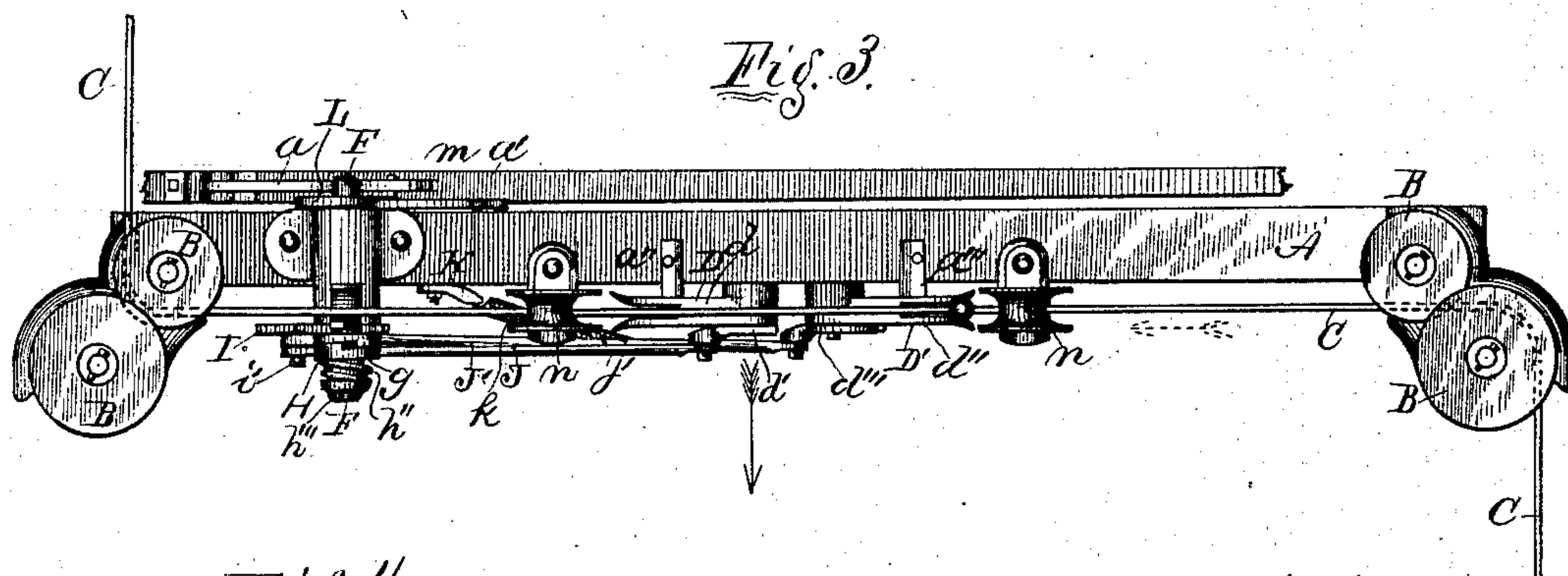
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Witnesses:
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Thos. Brown



Inventor:
 W. B. Rush,
 W. B. Richards,
 Atty.

UNITED STATES PATENT OFFICE.

WILLIAM B. RUSH, OF DECATUR, ILLINOIS, ASSIGNOR TO THE CHAMBERS, BERING, QUINLAN COMPANY, OF SAME PLACE.

CORN-PLANTER CHECK-ROWER.

SPECIFICATION forming part of Letters Patent No. 315,446, dated April 7, 1885.

Application filed October 28, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. RUSH, a citizen of the United States, residing at Decatur, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Corn-Planter Check-Rowers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to corn-planter check-rowers of that class in which a tappet-carrying wire or cord, which is stretched along the path to be traversed by the corn-planter, is used to actuate the check-row devices, and to that particular type of this class of check-rowers in which the tappet wire or cord crosses the planter; and the invention consists in constructions and combinations, hereinafter described and claimed.

In the accompanying drawings, which illustrate my improvements, Figure 1 is a front elevation. Fig. 2 is also a front elevation, differing from Fig. 1, as hereinafter described. Fig. 3 is a top plan. Fig. 4 is a front elevation of one of the forked levers. Fig. 5 is a front elevation of the other forked lever. Fig. 6 is an enlarged top plan of parts of the device. Fig. 7 is a detail. Fig. 8 is a rear elevation of parts of the device.

Referring to the drawings by letters, the same letter indicating the same part in the different figures, A represents a bar on which the working parts of the check-rower are mounted. This bar A is adapted, as in this class of check-rowers, to be secured transversely on the planter, and may be so secured in any desired manner and in such position that the lever *a* may be connected at its lower end with the ordinary seed-slide connecting-bar, *a'*. As herein shown and described, that side of the bar A which is toward the front part of the planter is shown in front at Figs. 1 and 2, and at the lower or bottom side of Fig. 3.

At Figs. 1 and 3 the planter is assumed to be moving in the direction of the arrow at Fig. 3, and at Fig. 2 to be moving in the opposite direction.

The operation of the pulleys B in guiding and directing the tappet-wire C across the planter and to the forked levers, as the planter is moved across the field, need not be herein described, as it is well known to those skilled in the art of making or using check-rowers of this type.

D D' are forked levers, pivoted at their lower ends to the bar A. The forked levers D D' in their normal positions incline in opposite directions to each other, and rest against stops *a'' a'''*, respectively. The lever D is formed in two separate parts, *d d'*, the longer and forked part *d* and the shorter part *d'*, both journaled on the same stud-journal *e*. The part *d* has a projecting ledge, *e'*, which comes in contact with the part *d'* and swings it on the journal *e*, and with the part *d* when the part *d* is swung toward the lever D', as shown by dotted lines at Fig. 2. The lever D' is formed in two parts, *d'' d'''*, the longer part *d''* journaled on the stud-journal *e''* at its lower end, and the part *d'''* journaled on the same stud at its mid-length portion. The part *d''* has a projecting ledge, *e'''*, which comes in contact with the upper end of the part *d'''*, and swings the part *d'''* with the part *d''* when said part *d''* is swung toward the lever D.

F is a shaft journaled in suitable bearings transversely on the bar A.

G is a segment gear-wheel journaled loosely on the shaft F and its outer face provided with ratchet-teeth *g*.

H is a clutch mounted on the shaft F so as to slide endwise of said shaft, and held so as to rotate with the shaft F by lugs *h*, which slide in grooves *h'* in said shaft. The clutch H is pressed toward the segment-gear G by a spring, *h''*, which rests between the clutch H and a collar, *h'''*, on the outer end of the shaft F. The clutch H has ratchet-teeth *h''''*, which gear with the ratchets *g*.

I is a segment-gear journaled on a stud-bolt, *i*, and in gear with the segment-gear G. The segment I carries a crank-pin, *i'*, from which

a connecting-rod, J, extends to the upper end of the part d' of the lever D. Another connecting-rod, J', extends from the crank-pin i' to the lower end of the part d''' of the lever D'.

5 K is a plate from which a retracting-spring, k , extends to and is connected with the connecting-rod J at j , and another retracting-spring, k' , extends to and is connected with the rod J' at j' . The plate K is adjustable to
10 regulate the tension of the springs k k' , and is held after adjustment by a set-screw, k'' , which passes through a slot, k''' , in said plate.

L is a circular plate fixed to the end of the shaft F, and carries a crank-pin, l , which extends into a slot, a''' , in the upper end of the lever a . The plate L has two teeth, l' , on which
15 a gravitating detent, m , operates to prevent return or backward movement of the shaft F from any cause, but especially from the friction of the segment G in its return or backward movement.

As shown at Figs. 1 and 3, the planter is supposed to be moving in the direction of the full-line arrow shown at Fig. 3, and hence the
25 tappets c cross the check-rower in the direction shown by the dotted-line arrow at said Figs. 1 and 3, and while moving in the direction last named the tappets c act only on the lever D', and not on the lever D. Each tappet c coming in contact with the forked lever
30 D', as shown by full lines at Figs. 1 and 3, swings said lever over to the position shown by dotted lines at Fig. 1, and permits the tappet to escape in the usual manner. The movement of the lever D', last described, swings its
35 part d''' , connecting-rod J', and segment-gear plate I into the respective positions shown by dotted lines at Fig. 1. The segment-gear I, being in gear with the clutch H, as shown at
40 Fig. 1, its last-described movement will give the clutch H, and thereby the shaft F and plate L, a half-rotation, and this semi-rotation of the plate L will swing the lever a in one direction of its throw by means of the crank-pin l in the slotted upper end of said lever a .

45 When the tappet c escapes from the forked lever D', as hereinbefore described, the spring k will retract the rod J, and thereby draw the lever D' back into its normal position by acting on its part d''' , which will act on its part d'' . The retraction of the rod J last described will also swing the plate I back to its normal position, (shown by full lines at Figs. 1, 2,
50 and 3,) and this return movement of the plate I will give a return or backward movement to the gear G. As the gear G makes the return movement last described, it does not act on the clutch H nor shaft F, as the inclined sides of its ratchet-teeth g press against the inclined
55 sides of the ratchet-teeth on the clutch H, and thus force the clutch H outward on the shaft F, as shown at Fig. 6, and permit the segment I to return to its normal position while the clutch H and shaft F remain at rest. Hence,
60 the swinging movement of the lever D' will impart an intermittingly-rotating movement to the shaft F, and thereby a swinging move-

ment to the lever a . When the lever D' is swung by a tappet, c , as hereinbefore described, it will move the rod J by the movement of the segment I, and this movement of
70 the rod J will swing the part d' of the lever D back to the position shown by dotted lines at Figs. 1 and 4; but this movement of the part d' will not move the part d , which, if
75 moved, would interfere with the movement of the lever D'. The next movement of the lever D' effects the same results on all the parts except on the lever a , which it swings in an opposite direction to its last movement, and thus
80 the tappets c , acting on the lever D' alone, as the planter moves in one direction across the field, will actuate the seed-slides of the planter. When the planter is turned at the end of the row, and commences a new bout in the opposite direction from that last described, the
85 tappets c then move across the planter in the direction shown by the arrow at Fig. 2, and act alone on the lever D, and not on the lever D'. As each tappet swings the part d' of the lever D backwardly, it carries the part d' with
90 it, as shown at Fig. 2 by dotted lines, and thereby actuates the rod J, segment I, and other parts, leading to the seed-slides of the corn-planter in the same manner as the lever D', and hence need not be any more fully herein
95 described. When the lever D is swung by a tappet, it moves the rod J' and the part d''' of the lever D', as shown by dotted lines at Figs. 2 and 5, but does not move the part d'' , the
100 movement of which would interfere with the movement of the lever D. Thus, as the planter moves in one direction across the field, the tappets c act on the lever D, and as the planter moves in the opposite direction the tappets
105 act on the lever D', and the movement of either lever does not move the other, while both act upon the same oscillating plate. The pulleys n serve to guide the tappet-wire and to insure its contact with the forked levers. 110

What I claim as new, and desire to secure by Letters Patent, is—

1. In a check-rower, in combination, the forked lever D, formed of parts d d' , forked lever D', formed of parts d'' d''' , rods J J', and an
115 oscillating plate, to which the rods J J' are hinged or journaled, substantially as and for the purpose specified.

2. In a check-rower, in combination, guide-pulleys for guiding and directing the tappet-wire across the corn-planter machine, forked
120 levers on which the tappet-wire acts, one lever at a time, and a connecting-rod extending from each forked lever to a plate, which they oscillate, each forked lever adapted to remain
125 stationary, while the other actuates the oscillating plate, substantially as and for the purpose specified.

3. In a check-rower, in combination, the forked levers D D', each formed of two parts,
130 substantially as described, the rods J J', and oscillating plate I, located at one side of the forked levers D D', substantially as and for the purpose specified.

4. In combination, the forked levers D D', constructed of two parts, substantially as described, rods J J', springs k k', and an oscillating plate, to which both rods J J' are journaled, substantially as and for the purpose specified.

5. In combination with the levers D D', rods J J', oscillating plate I, and springs k k', the adjustable plate K, for regulating the tension of the springs, substantially as and for the purpose specified.

6. In a check-rower of the type herein specified, in combination, forked levers located near the center of the planter, and adapted to act, either one, while the other one does not move, on connecting-rods which extend to and are journaled to an oscillating plate, substantially as and for the purpose specified.

7. In a check-rower, in combination, the forked levers D D', rods J J', oscillating plate I, oscillating segment G, and clutch H, substantially as and for the purpose specified.

8. In a check-rower, in combination, the forked levers D D', rods J J', oscillating plate

I, oscillating segment G, clutch H, shaft F, plate L, and lever a, substantially as and for the purpose specified.

9. In a check-rower, in combination, a bar, A, adapted to be secured transversely on a planter, forked levers D D', journaled to the bar A near its mid-length portion, and each formed of two parts, substantially as described, rods J J', and an oscillating plate to which the rods J J' are journaled, and which imparts movement to the planter seed-slides through suitable intermediate devices, substantially as and for the purpose specified.

10. In combination, levers D D', rods J J', springs k k', plates I and G, clutch H, spring h'', shaft F, plate L, lever a, and detent m, substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM B. RUSH.

Witnesses:

HENRY A. WOOD,
JOHN B. PRESTLEY.