

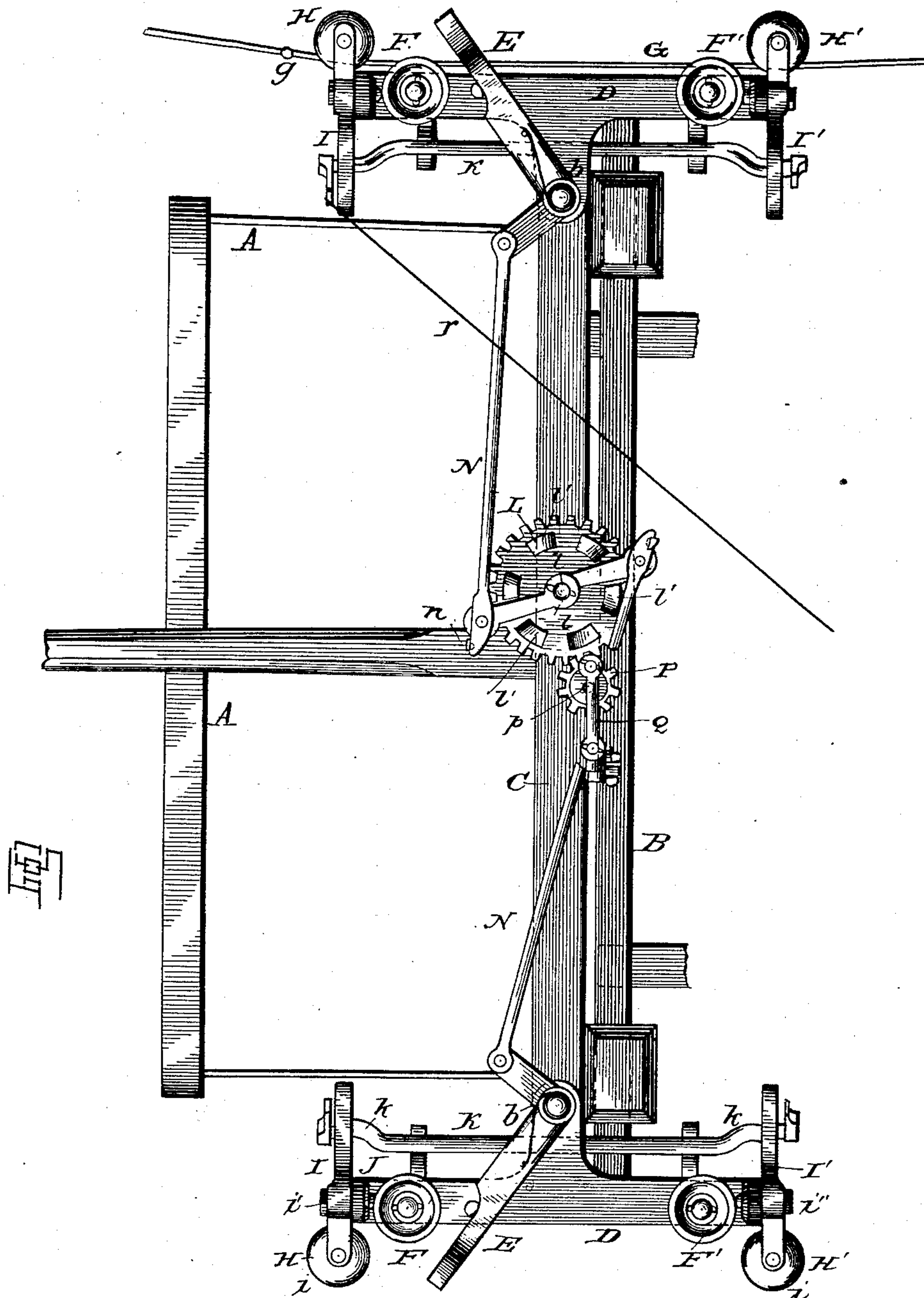
(Model.)

3 Sheets—Sheet 1.

A. & M. BARNES.
CORN PLANTER CHECK ROWER.

No. 315,220.

Patented Apr. 7, 1885.



WITNESSES:

Frederick L. Dieterich
Geo. G. Handel

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(Model.)

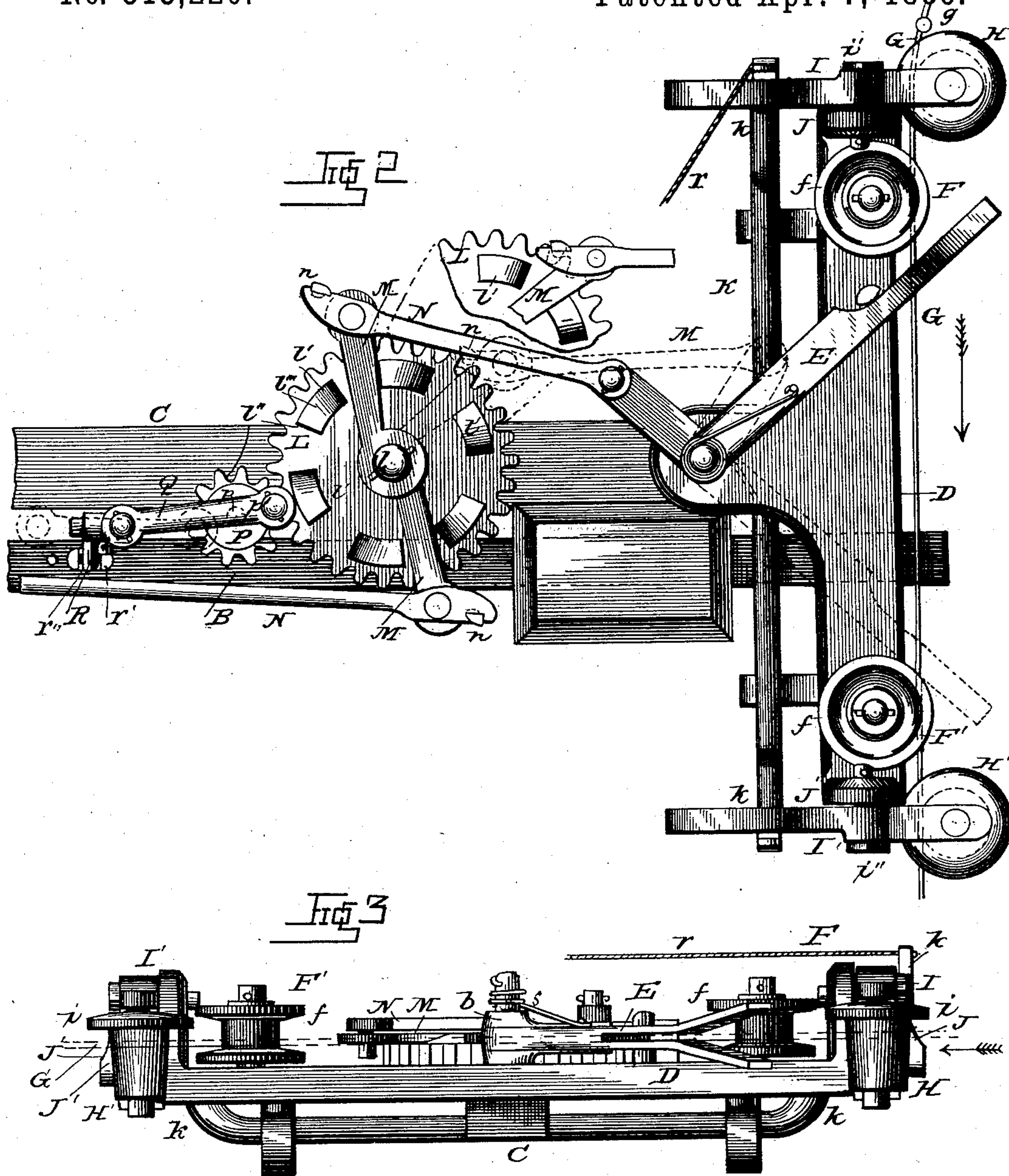
3 Sheets—Sheet 2.

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WITNESSES :

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(Model.)

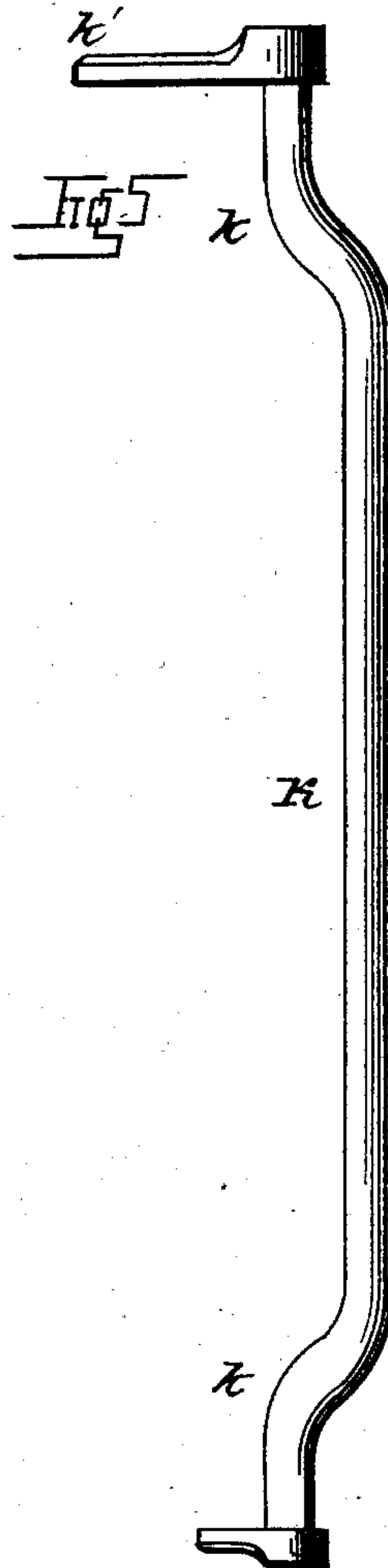
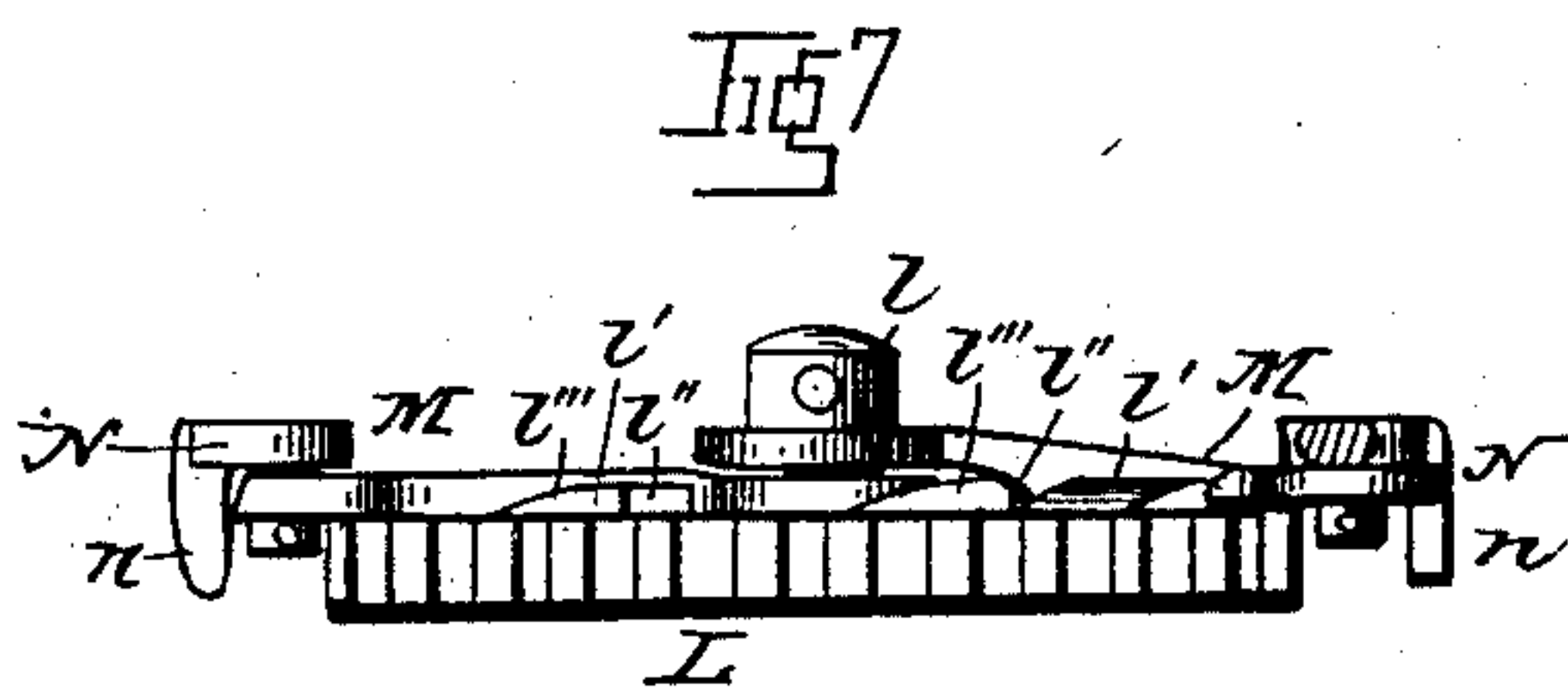
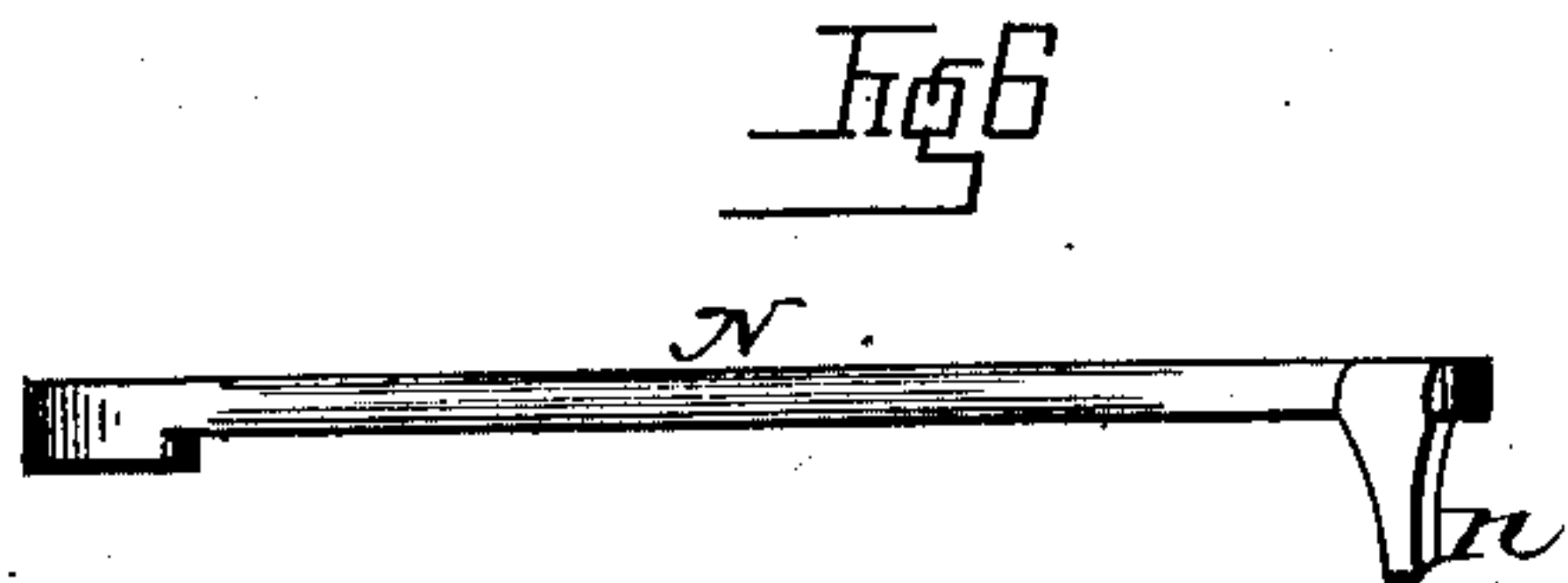
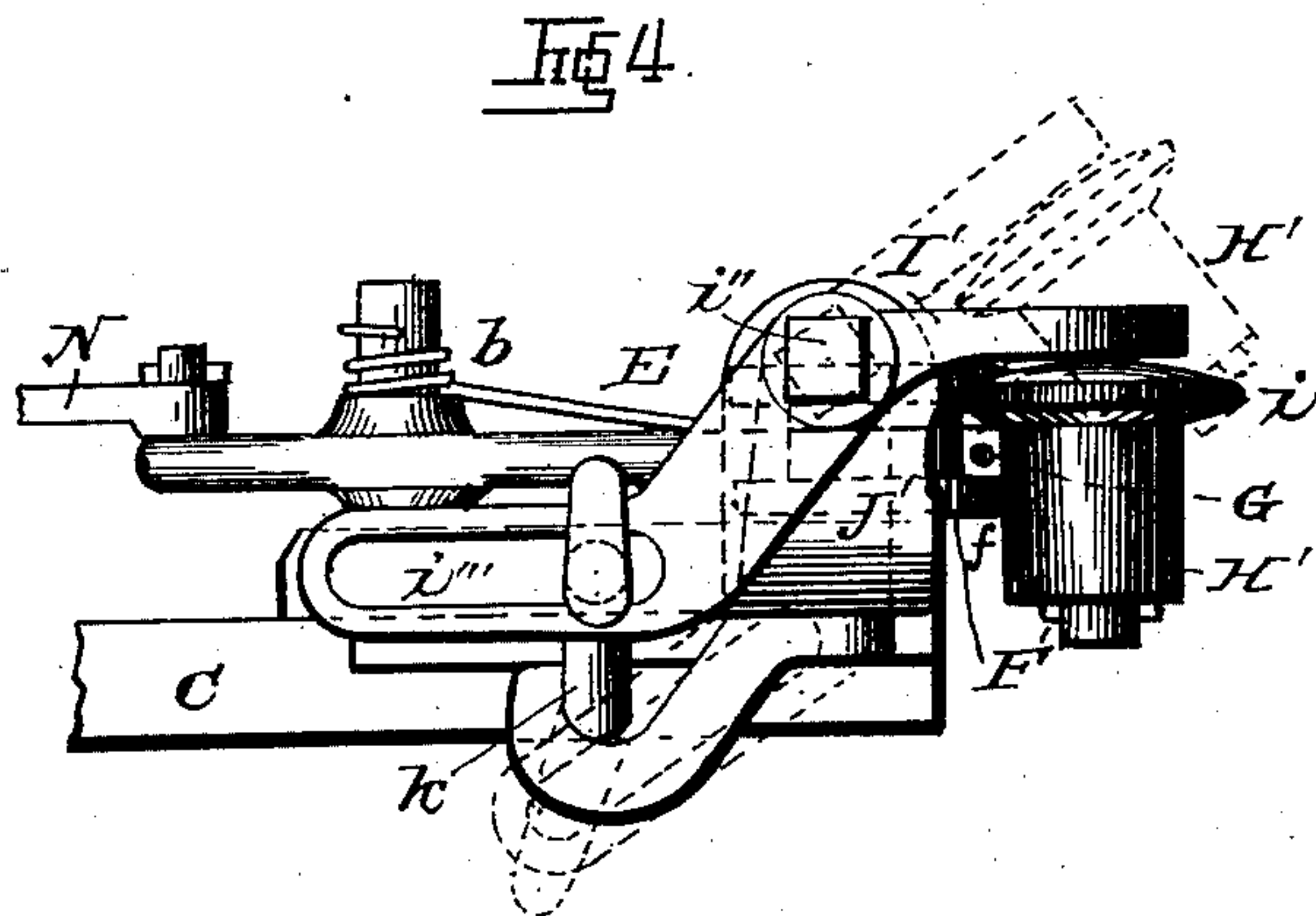
3 Sheets—Sheet 3.

A. & M. BARNES.

CORN PLANTER CHECK ROWER.

No. 315,220.

Patented Apr. 7, 1885.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ALDEN BARNES AND MONROE BARNES, OF BLOOMINGTON, ASSIGNORS TO
CHAMBERS, BERING, QUINLAN COMPANY, OF DECATUR, ILLINOIS.

CORN-PLANTER CHECK-ROWER.

SPECIFICATION forming part of Letters Patent No. 315,220, dated April 7, 1885.

Application filed February 9, 1883. (Model.)

To all whom it may concern:

Be it known that we, ALDEN BARNES and MONROE BARNES, citizens of the United States, residing at Bloomington, in the county of McLean and State of Illinois, have invented certain new and useful Improvements in Corn-Planter Check-Rowers; and we 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-rows of that class in which a tappet-wire stretched over the ground to be planted is used as a means for actuating the seed-slides through the instrumentality of a forked lever with which the tappets on the wire come in contact; and the invention relates especially to that subdivision of this class of check-rows in which the forked lever swings in a horizontal plane.

The invention consists, first, in improved means of transmitting motion from the forked lever to the seed-slides of the planter; second, in a novel manner of arresting the motion of the drive-wheel; third, in a new combination of the guide-pulleys for the tappet-wire; fourth, in a novel means for doffing or releasing the wire from the check-rower; and, further, in constructions and combinations hereinafter described.

In the accompanying drawings, which illustrate our invention, and in which the similar letters used as marks of reference apply to the like parts in all of the figures—

Figure 1 is a top plan of the check-row device and the forward part of an ordinary corn-planter on which it is located for operation. Fig. 2 is an enlarged top plan of part of the check-rower. Fig. 3 is a side elevation. Fig. 4 is a rear elevation. Fig. 5 is a plan of the crank-bar for operating the swinging pulleys. Fig. 6 is a side elevation of one of the links connecting the forked levers with the pawls. Fig. 7 is a side elevation of the drive-pinion and its actuating-pawls.

Referring to the drawings by letters, A represents the forward part of an ordinary corn-planter, and B the sliding bar, which connects and moves the seed-slides in any ordinary manner.

C is the ordinary bar which carries the check-row devices. The bar C may be fixed to the seed-boxes of the planter, as shown, or otherwise, as required.

To each end of the bar C a plate, D, is fixed, each of which carry similar devices, only one set of which need be described herein.

E is an elbow-shaped forked lever, pivotally connected at its bend *b* to the plate D or the bar C, as may be desired, so that it may swing in a horizontal plane in an ordinary manner.

F F' are grooved guide-pulleys journaled on the plate D, so as to rotate in or about in horizontal planes. The pulleys F F' are located one in front and one in rear of the forked lever, and serve as guides thereto for the tappet-wire G with its tappets *g*.

H H' are pulleys journaled, respectively, to the outer ends of swinging levers I I', so that in their normal positions, when the machine is planting, they rotate in or about in horizontal planes, and while in said normal positions are located so that the flanges *f* of the pulleys F F' project beyond the cylindrical part of the pulleys H H', as shown by full lines at Fig. 4, and thereby retain the tappet-wire between the pulleys H H' and the pulleys F F', as shown by the full lines at same figure. The pulleys H H' are plain cylinders with a flange, *i*, on the upper end of each, which flange may be dispensed with. The levers I I' are journaled at *i'* *i''*, respectively, to standards J J', which project upwardly from the outer ends of the plate D. The inner end of each lever I I' has a slot, *i'''*, which receive, respectively, the crank ends *k* of a rock-shaft, K. The inner ends of the levers I I' are shown as bent downward somewhat, in order that the rock-shaft may be located beneath the bar C. These levers may be used straight by locating the shaft K above the bar C.

To one of the cranks *k*, preferably the one

in the rear as relates to the planter, an arm, k' , is fixed, from which a cord, r , or any other suitable device, extends to within reach of the driver in his seat on the planter, and by means of which, when the planter reaches the ends of the rows, he may turn the shaft K, so that the cranks k will swing the levers II' , as shown by dotted lines at Fig. 4, and thereby releases the tappet-wire, so that it will fall clear of the planter, which may then be turned round to commence the next bout without the driver dismounting to remove said wire. In commencing the new bout the driver places the tappet-wire to the pulleys $F F'$, and then turns the rock-shaft K to swing the levers and to bring the pulleys $H H'$ into position to retain the wire, as hereinbefore described.

L is a drive-pinion journaled on a stud, l , which projects from the bar D, and provided on its upper side with a series of ratchet-teeth or lugs, l' . Each tooth l' has a vertical side, l'' , and a sloping top side, l''' .

M M are pawls, each loosely fitted at one end on the stud l , so that it may swing or oscillate horizontally thereon, and also so that their outer parts may rise slightly to pass over the teeth l' . A link, N, connects one pawl M with the inner end of the forked lever, which is at one end of the bar C, and a similar link N connects the other pawl M with the forked lever at the other end of the bar C, as shown at Fig.

1. The end of each link N extends a short distance beyond its pivotal connection to its respective pawl M, and has a detent-pin, n , projecting downwardly therefrom.

P is a pinion journaled on a stud, p , and is in gear with the pinion L.

Q is a link connecting a crank-pin, p' , on the pinion P with the ordinary lever R, which lever extends downward and has a pin, r'' , on its lower end that rests in a slotted standard, r' , which is connected with the bar B.

As the planter moves forward in operation each tappet g swings the outer end of the forked lever rearward in the direction of the arrow shown at Fig. 2, and the spring s returns said lever to its normal position and ready for the action of the next tappet in the ordinary manner.

As the outer end of the forked lever swings rearward its inner end, by means of the link N, connected therewith, will swing the pawl M, connected to said link, and the pawl M, engaging with the vertical side l'' of a ratchet-tooth, l' , will give a partial rotation to the drive-pinion L, as shown by dotted lines at Fig. 2. The movement of the pinion L last described is arrested at the proper time by means of the detent n coming in contact with one of the cogs of said pinion, as shown by dotted lines at same figure. Each movement of the pinion L as last described gives a half-rotation to the pinion P, and thereby through the link Q and lever R a throw to the bar B and seed-slides of the planter. Each movement of the pinion P is terminated with the crank-pin p' on its "dead-center," thereby forming a lock in the ordinary manner to pre-

vent accidental movement of the seed-slides. When the spring s returns the forked lever to its normal position, the pawl M will be swung backward thereby, and will slide up the sloping side of one of the ratchet-teeth l' , and falling behind said tooth will be ready for action on its vertical side at the next movement of the forked lever. When the forked lever at one side of the planter and its connected link N and pawl M are moving the pinion L, the forked lever at the other side of the planter and its connected link N and pawl M will remain stationary, thus saving the useless and, in some respects, injurious movements of these parts when not required.

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

1. The combination, with a check-row wire and with forked levers adapted to be oscillated thereby, of push bars or rods connected with said levers and a central revolving plate or wheel connected with the seed-slide, and provided with a series of projections whereby an intermittent rotary motion is given to the central wheel by either rod, substantially as and for the purpose specified.

2. In a check-rower, in combination with the tappet-wire, the horizontally-swinging forked lever, and the guide-pulleys $F F'$, rotating in or about in horizontal planes, the pulleys $H H'$, also adapted to rotate in horizontal planes and journaled to the ends of swinging levers $I I'$, by means of which they may be turned downward to retain the tappet-wire or upward to doff or release it, substantially as and for the purpose specified.

3. In combination with the tappet-wire, horizontally-swinging forked lever, guide-pulleys $F F'$ and $H H'$, and slotted levers $I I'$, which carry the pulleys $H H'$, the rock-shaft K, having cranks which operate in said slotted levers to swing them, substantially as and for the purpose specified.

4. In combination with the tappet-wire, horizontally-swinging forked levers, and horizontally-rotating guide-pulleys $F F'$, the swinging levers $I I'$, carrying pulleys $H H'$, adapted to carry said pulleys outwardly and upwardly to doff the tappet-wire, substantially as and for the purpose specified.

5. In combination with the elbow-shaped forked lever, and the drive-pinion L, having ratchet-lugs l' on its upper side, the pawl M, journaled, as described, and adapted to engage with said ratchet-lugs, and link N, connecting the forked lever and pawl M, substantially as and for the purpose specified.

6. In combination, the elbow-shaped forked lever E, link N, pawl M, and drive-pinion L, having ratchet teeth or lugs l' , substantially as and for the purpose specified.

7. In combination with the elbow-shaped forked lever, pinion L, having ratchet-lugs l' , and oscillating pawl M, the link N, provided with a detent, n , adapted to engage with the pinion L, substantially as and for the purpose specified.

8. In combination with the drive-pinion L, having ratchet-lugs ℓ' , and the swinging pawl M, adapted to coact with said lugs in giving intermittent rotary motion to said pinion, the link N, actuated by any suitable mechanism and adapted to swing the pawl M, and provided with a detent, n , for arresting the movements of the pinion L, substantially as and for the purpose specified.

9. In combination, the elbow-shaped forked lever, link N, swinging pawl M, drive-pinion L with ratchet-lugs ℓ' , and pinion P, the crank-pin of which is connected with the seed-slide actuating-lever, substantially as and for the purpose specified.

10. In a check-rower, in combination with the elbow-shaped levers E E, links N N, and pawls M M, the pinion L, having ratchet-lugs ℓ' , adapted to receive motion from one of the pawls, while the other pawl, together with its connected link and forked lever, remains stationary, substantially as and for the purpose specified.

11. In a check-rower, in combination with the elbow-shaped levers E E, links N N, and pawls M, the pinion L, geared with the pinion P, which is adapted to move the seed-slides,

substantially as described, and said pinion L, having ratchet-lugs ℓ' , adapted to receive motion from one of the pawls, while the other pawl, together with its connected link and forked lever, remains stationary, substantially as and for the purpose specified.

12. In combination with the tappet-wire and forked lever and a grooved pulley journaled on a vertical axis, a cylindrical pulley also journaled on a vertical axis connected to a swinging arm, by means of which said cylindrical pulley may be swung to or away from the grooved pulley, substantially as and for the purpose specified.

13. In combination with the forked lever and link N, adapted to impart movement to a pawl which gives an intermittent movement to the pinion L, a detent, n , fixed to the link N and adapted to arrest the motion of the pinion L, substantially as and for the purpose specified.

In testimony whereof we affix our signatures in presence of two witnesses.

ALDEN BARNES.

MONROE BARNES.

Witnesses:

LEWIS E. IJAMS,

ROBT. S. MCINTYRE.