

(No Model.)

H. A. ALLEN.

CORN PLANTER CHECK ROW.

No. 316,514.

Patented Apr. 28, 1885.

Fig. 1.

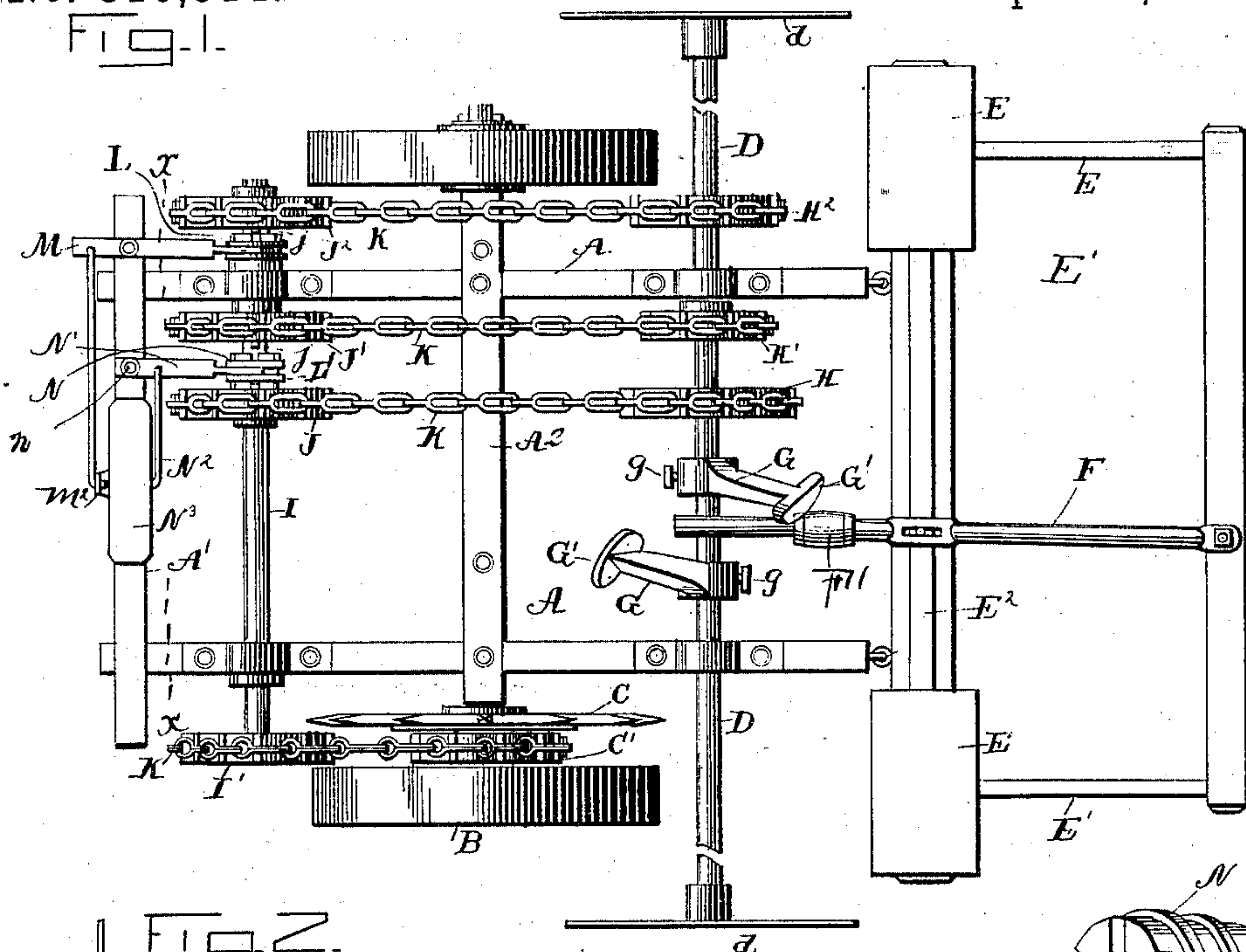
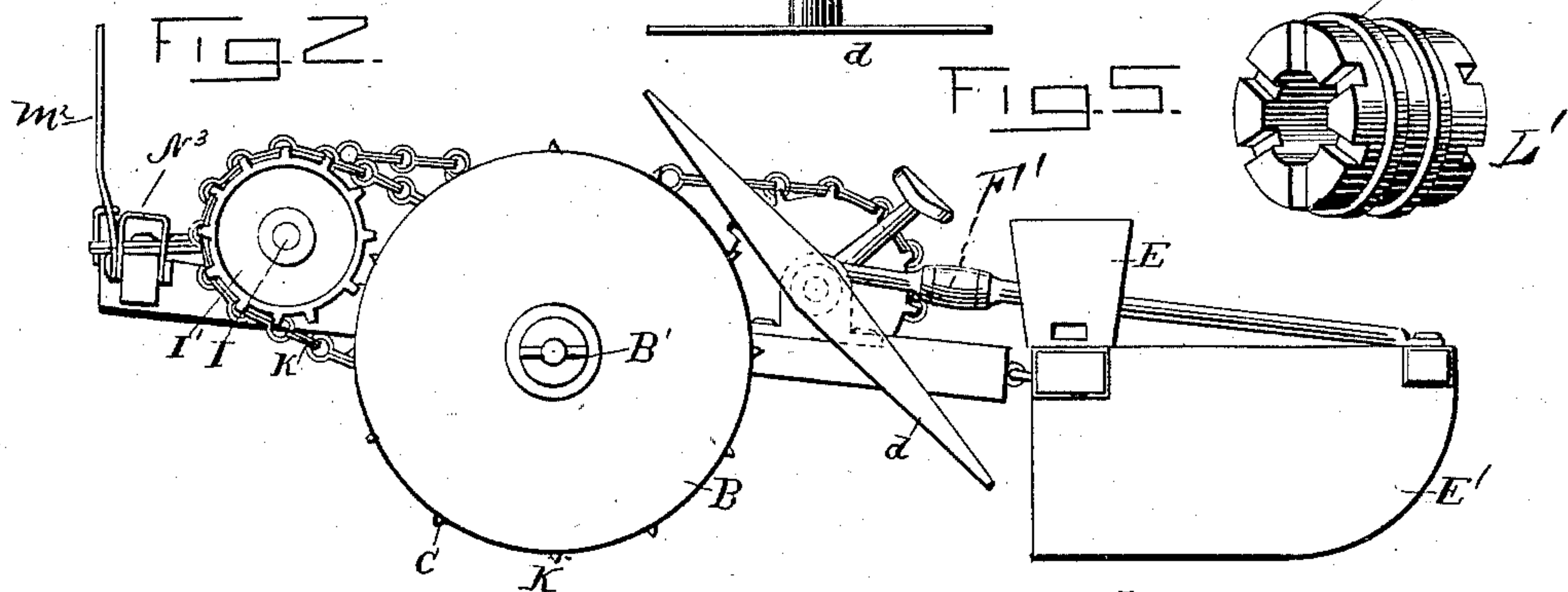


Fig. 2



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Fig. 3.

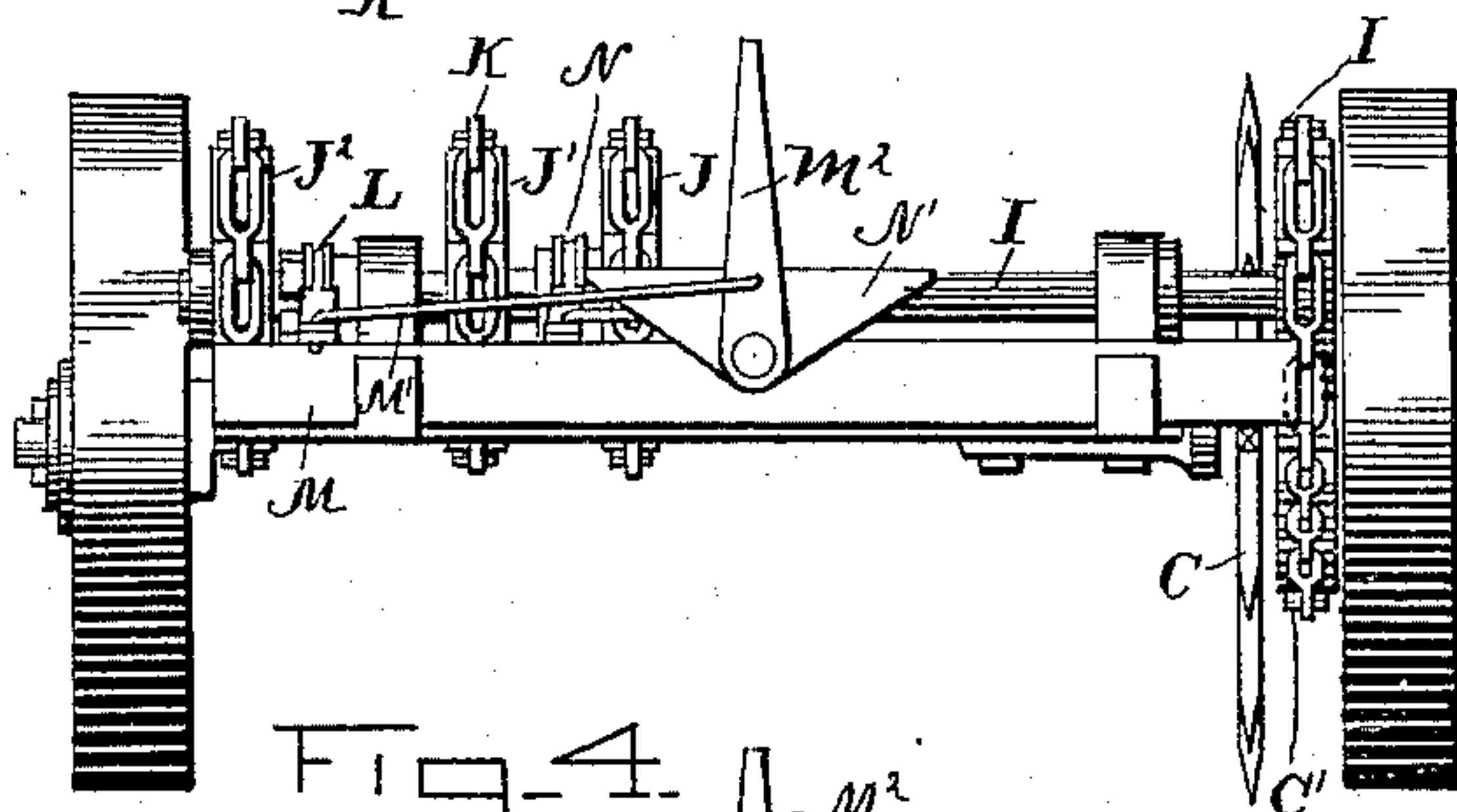
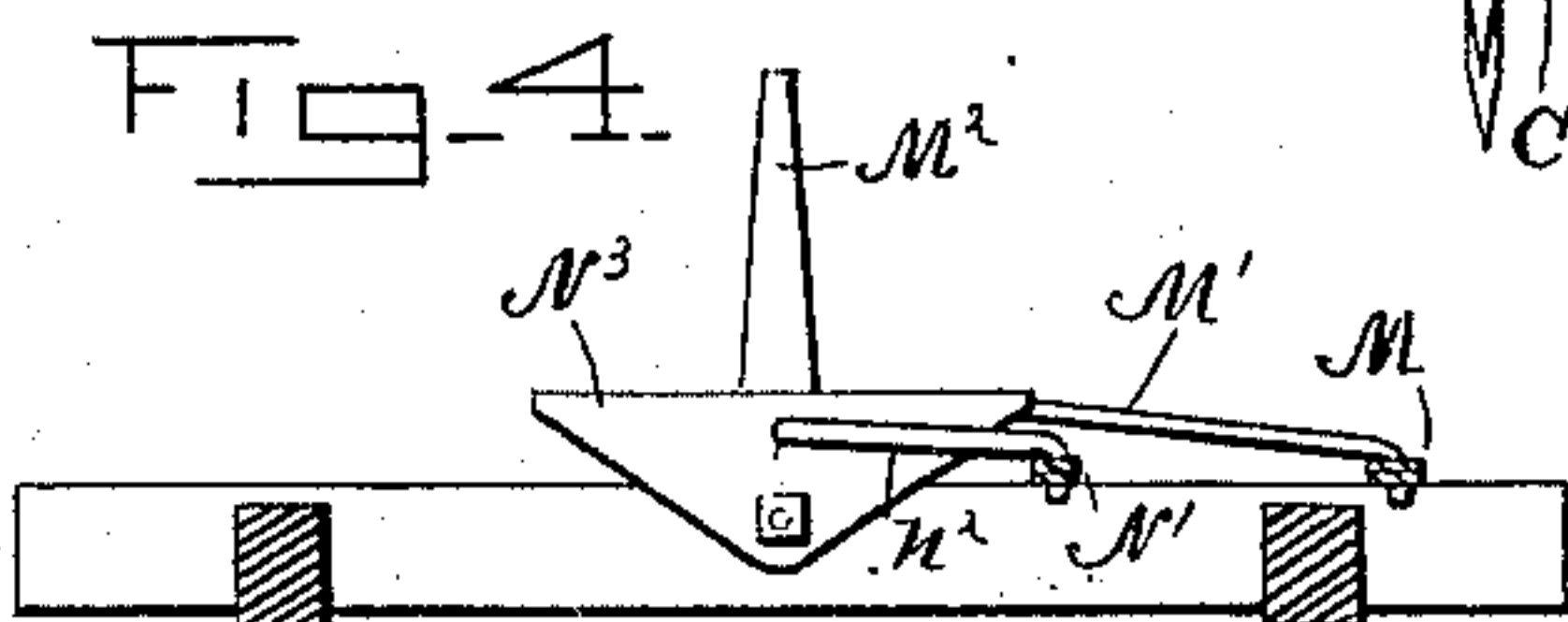


Fig. 4.



WITNESSES

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CORN-PLANTER CHECK-ROW.

SPECIFICATION forming part of Letters Patent No. 316,514, dated April 28, 1885.

Application filed August 21, 1884. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. ALLEN, a citizen of the United States, residing at Tecumseh, in the county of Johnson and State of Nebraska, have invented certain new and useful Improvements in Corn-Planter Check-Rows; and I do 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 the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to the class of check-row corn-planters; and it consists, essentially, in the novel combination of devices whereby the speed of the marker-shaft may be accelerated or reduced, and in other improvements, as will be hereinafter more fully described and claimed.

In the drawings, Figure 1 is a plan, Fig. 2 a side elevation, and Fig. 3 a rear elevation, of my machine. Fig. 4 is a detail sectional view on about line *x x*, Fig. 1. Fig. 5 is a detail view of the double-ended clutch, all of which will be described.

In carrying out my invention I employ a suitable framing, which may be formed of the side beams, A, the back beam, A', and cross-beam or axle A², having the wheels B, supported on suitable spindles, B', at its ends. One of these spindles is made sufficiently long to provide a bearing for the armed wheel C, the arms of which extend beyond the periphery of the wheels, so as to engage the ground and effect the revolution of the wheel C, as will be understood. To this wheel C is secured a sprocket-wheel or pulley, C'.

The marker-shaft D is journaled in the framing, preferably in advance of the axle, and has the marking-shoes *d* on its opposite ends.

The seed-box frame is pivoted to the main frame, and has the seed-boxes E, flukes E', and dropping-slide E², which latter operates into or through the seed-boxes. The slide-operating arm F is pivotally supported in advance of the slide, and extends rearwardly across and beyond the same, being connected with it by means of slot and pin, or in other suitable manner.

On the marker-shaft I secure arms G, hav-

ing cams G' on their outer ends, and their inner ends provided with sleeves slipped on and secured to the marker-shaft by clamping-screws *g*, so they can be adjusted on the shaft to any desired point. The cams G', it will be noticed, engage one on each side of the arm F, and, being inclined in opposite direction, force the arm first in one and then in the other direction, causing the dropping-slide to properly reciprocate, as will be understood from the drawings. By setting the arms G nearer together or farther apart the length of the stroke of the dropping-slide may be varied as desired. In practice I employ a collar or anti-friction roller, F', on the arm F at the point of same, which is engaged by the cams to take the wear off same and arm F, as will be understood. It will be noticed that the base or sleeve of arms G serve as stops to limit the distance to which the end of the arm F may move laterally, and thus prevent the cams from being forced laterally so far as to damage the seed-box or throw the said arm out of position to be engaged by the following cams.

The marker-shaft is provided with a plurality of pulleys, H H' H², preferably three in number, as shown. These wheels are made of different sizes, as shown, and for the purposes presently described.

The shaft I is journaled in the framing parallel with the marker-shaft, and by preference in rear of the axle. This shaft I term the "intermediate shaft," and it receives motion by means of a wheel, I', on its end, which is geared with the wheel C', as shown. It is manifest that the wheels C and C' could be dispensed with and the shaft I be driven from the main or supporting wheels B; but I prefer to use the construction as shown and before described.

On the shaft I are sleeved pulleys J J' J², corresponding in number to those on the marker-shaft, and geared therewith in the following manner: wheels J J' J² with respectively wheels H H' H². It will be noticed that these wheels J J' J² are about the same size, so that as one or the other is keyed to and revolved with shaft I it drives its fellow gear on the marker-shaft at a different rate of speed than the other wheels. I prefer to gear these wheels J, H, &c., I', and C' by means of sprocket-chains K, though other form of gearing might

be used—for instance, gear-teeth on the wheels, in which case the intermediate and marker shafts should be arranged close together, and the wheels J J' J^2 would necessarily be different sizes to properly mesh their fellows on the marker-shaft.

It is manifest that instead of making the wheels H H' H^2 of different sizes the wheels J J' J^2 may be so formed and the same results be secured. The wheels J J' J^2 , as before stated, are loose on the shaft I . I provide them with clutch-pins j or other projections suitable to be engaged by the clutches L L' , which are keyed on and movable along the intermediate shaft.

The clutch L is movable to and from wheel J^2 by means of lever M , pivoted on the framing midway its ends, and having its outer end connected by link M' with lever M^2 , whereby it is adjusted into and out of clutch with the wheel J^2 . The wheels J J' have their clutch projections formed on their adjacent sides, and the clutch N is adapted on both ends to engage such projections, and is movable into engagement with one or the other wheel, as desired. This clutch N is actuated by means of lever N' , pivoted at n on the framing, and connected by link N^2 with the foot-levers N^3 , and operating as will be understood from Figs. 1, 3, and 4. By this construction it will be seen any one of the wheels J , J' , or J^2 may be clutched to the shaft I , the others remaining free.

It will be noticed that by the convenient arrangement of parts above described the same devices are employed to clutch both wheels J or J' to the shaft. I prefer to employ such construction, though it is manifest the clutch may be moved by hand into and out of engagement with the wheels.

It will also be understood that instead of sleeving the wheels J J' J^2 and providing clutches therefor they may be fixed on their shaft and the wheels H H' H^2 be sleeved on the marker-shaft and provided with clutches. It will also be understood that the same results will be secured if the wheels H H' H^2 be made of equal diameters and the wheels J J' J^2 of different sizes.

By throwing one or the other pairs of wheels J H , J' H' , or J^2 H^2 into operating gear it will be seen the marker-shaft may be driven at different rates of speed, so that any inaccuracies in the dropping and marking of the rows may be corrected by accelerating or retarding the

marker-shaft, as will be understood by those skilled in the art.

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

1. The combination of the marker-shaft, the drive mechanism, the intermediate shaft connected with and actuated by the drive mechanism, a series of wheels secured on the marker and intermediate shaft and geared together, the comparative relative diameters of each wheel of one intergeared pair differing from that of the other pairs, and one wheel of each pair being loose on its shaft, and clutch mechanism whereby the wheel may be keyed on its shaft at will, substantially as set forth.

2. In a corn-planter, the combination, with the wheels J J' , sleeved on their supporting-shaft, and the said shaft geared with and continuously operated by the driving mechanism, of the double-ended clutch keyed on the shaft between the said wheels and movable into engagement with one or the other thereof, substantially as set forth.

3. The combination of the marker-shaft, the intermediate shaft connected with the drive mechanism, a series of wheels arranged on the marker and intermediate shaft, the comparative relative arrangement of the wheels of each pair differing from that of the other pairs, and means whereby either pair desired may be operatively geared together, substantially as set forth.

4. The combination of the dropping-slide, the operating-arm F , the marker-shaft provided with cams arranged to engage arms F , wheels J J' J^2 , arranged on the marker-shaft, the intermediate shaft, wheels H H' H^2 , arranged thereon, and means whereby either pair of wheels desired on the intermediate and marker shaft may be operatively geared, substantially as set forth.

5. In a corn-planter, the combination of the shaft I , the wheels J J' , the double-ended clutch keyed on the shaft between wheels J J' and movable into engagement with either one of the wheels J J' , the lever N' , link N^2 , and lever N^3 , substantially as set forth.

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

HENRY A. ALLEN.

Witnesses:

D. F. OSGOOD,

A. D. FLANAGAN.