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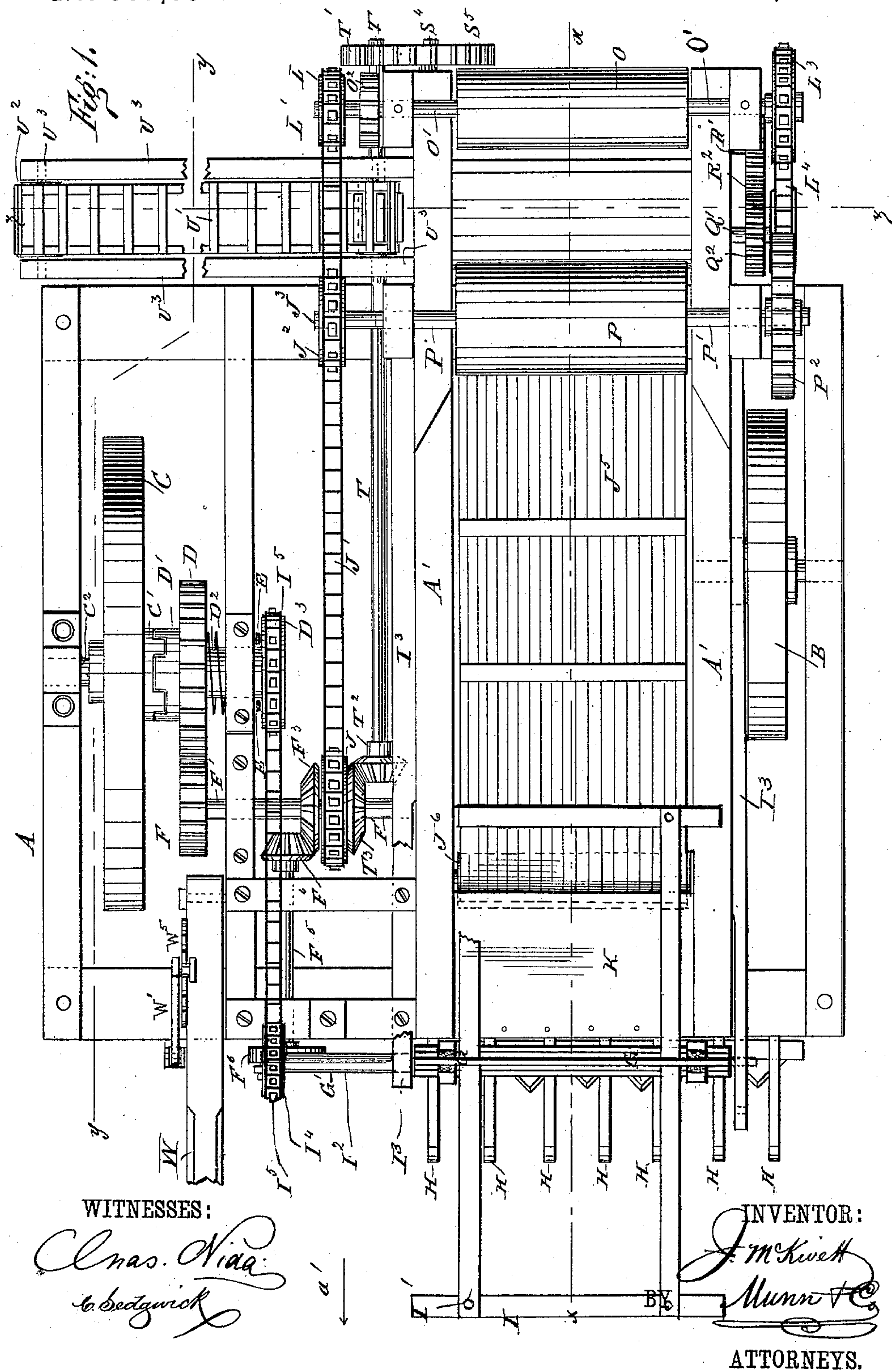
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J. McKIVETT.

## CORN HARVESTER.

No. 397,656.

Patented Feb. 12, 1889.



**WITNESSES:**

Chas. Wida  
to Beadgwick

INVENTOR:

INVENTOR:  
J. McKewell  
Munn & Co.

ATTORNEYS.

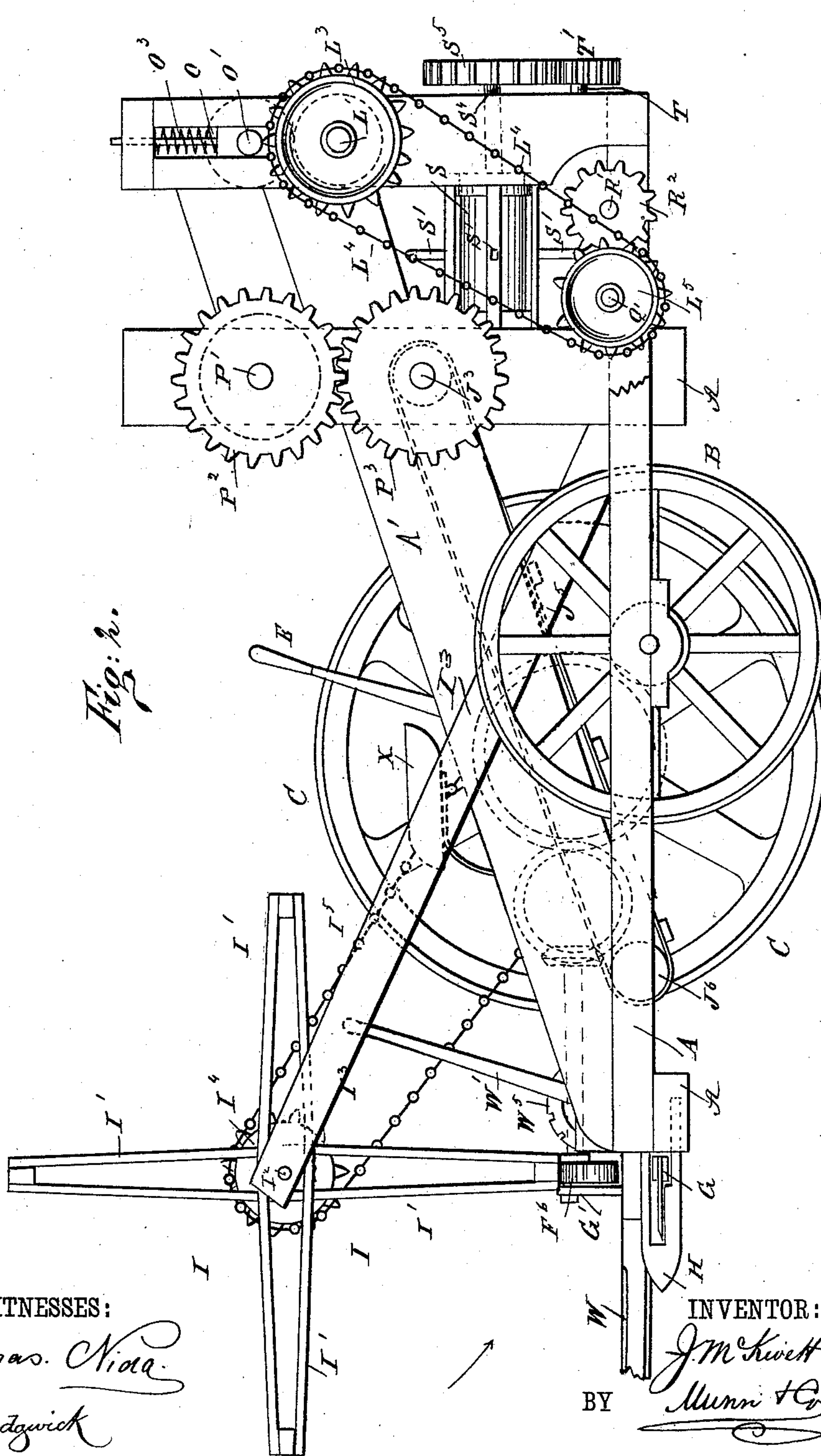
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J. McKIVETT.  
CORN HARVESTER.

No. 397,656.

Patented Feb. 12, 1889.



WITNESSES:

Chas. Nida  
C. Sedgwick

INVENTOR:

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ATTORNEYS.



(No Model.)

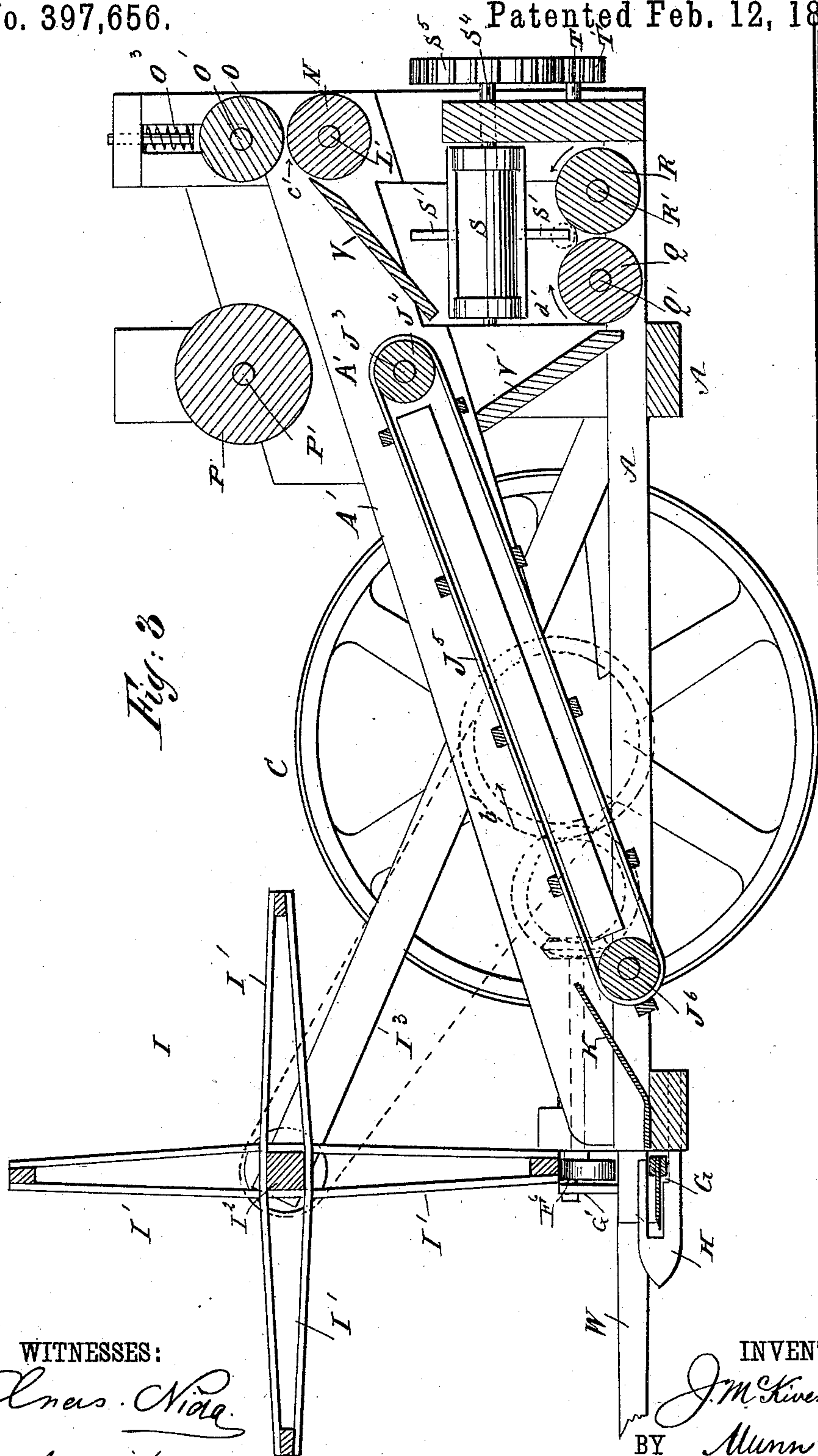
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J. McKIVETT.

## CORN HARVESTER.

No. 397,656.

Patented Feb. 12, 1889.



**WITNESSES:**

Enas. Nide.  
C. Sedgwick

INVENTOR:

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ATTORNEYS.

(No Model.)

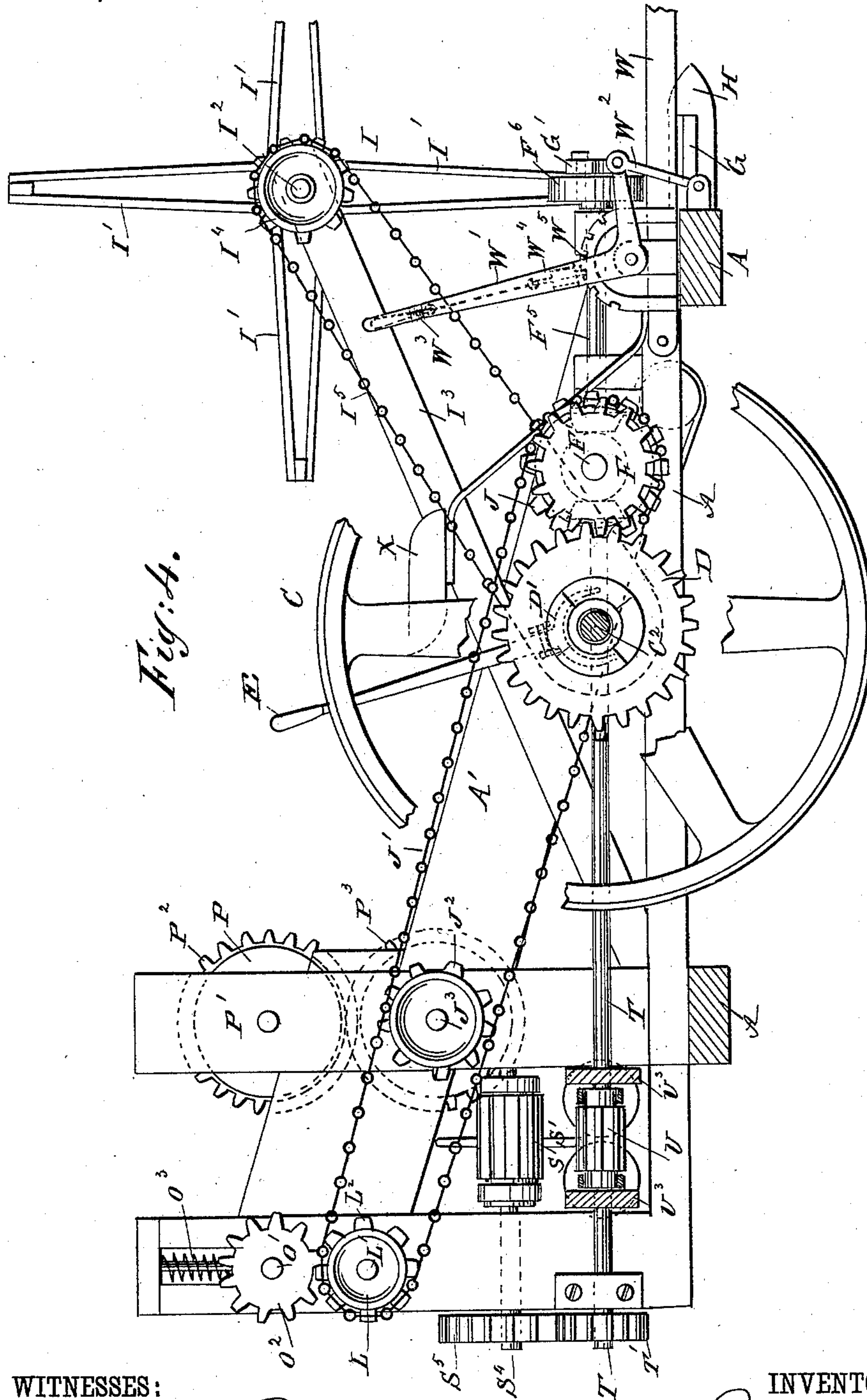
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J. McKIVETT.

# CORN HARVESTER.

No. 397,656.

Patented Feb. 12, 1889.



**WITNESSES:**

Ernest Widen  
to Sedgwick

INVENTOR:

INVENTOR.  
J. McKivett  
BY Munn & Co.  
ATTORNEYS.



(No Model.)

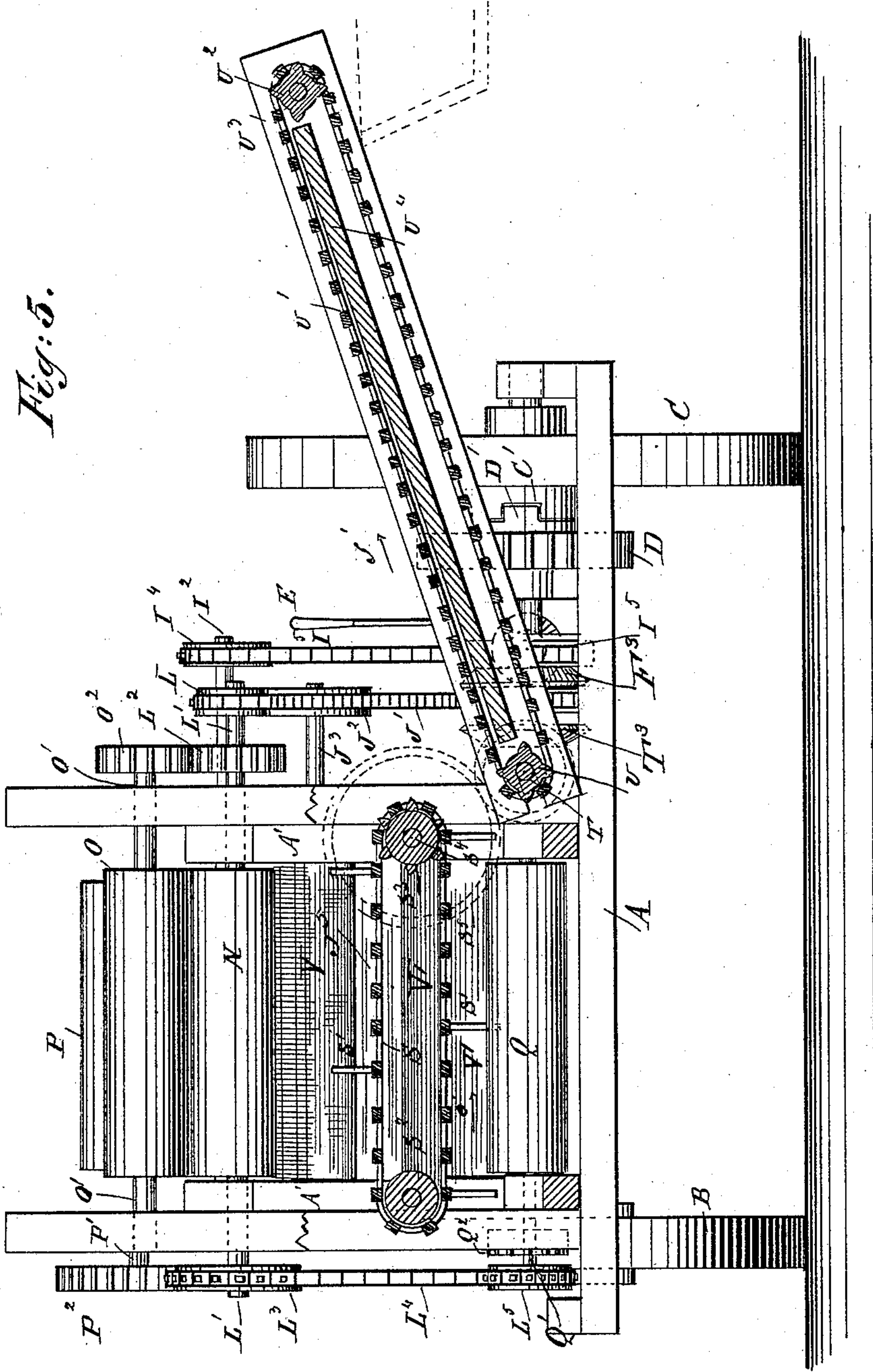
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J. McKIVETT.  
CORN HARVESTER.

No. 397,656.

Patented Feb. 12, 1889.

Fig: 5.



WITNESSES:

*Chas. Nida*  
*C. Sedgwick*

INVENTOR:

*J. McKivett*  
BY *Munn & Co*  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

JAMES MCKIVETT, OF GARRISON, IOWA.

## CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 397,656, dated February 12, 1889.

Application filed October 5, 1887. Serial No. 251,516. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES MCKIVETT, of Garrison, in the county of Benton, State of Iowa, have invented a new and Improved  
5 Corn-Harvester, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved corn-harvester capable of gathering corn whether the latter is planted  
10 in rows or not, of husking the cut corn, and finally delivering the husked ears to a bag or wagon traveling alongside the machine.

The invention consists in the construction and arrangement of various parts and details  
15 and combinations of the same, as will be fully described hereinafter, and then pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification,  
20 in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of my improvement with parts broken out. Fig. 2 is a side elevation of the same. Fig. 3 is a longitudinal sectional elevation of the same on the line  $xx$  of  
25 Fig. 1. Fig. 4 is a similar view of the same on the line  $yy$  of Fig. 1, and Fig. 5 is a vertical cross-section of the same on the line  $zz$  of Fig. 1.

30 A suitably-constructed frame, A, is mounted at one side on the wheel B and at the other side on the main driving-wheel C, secured to an axle, C<sup>2</sup>, having its bearings on the main frame A. On the main driving-wheel C is  
35 formed a clutch, C', engaging a clutch, D', formed on the face of a gear-wheel, D, mounted loosely on the axle C<sup>2</sup> and adapted to be moved sidewise by a lever, E, engaging in  
40 any suitable manner the hub D<sup>2</sup> of said gear-wheel D, and thus, when the lever E is moved sidewise, said clutches C' and D' are engaged or disengaged from each other, thereby establishing the connection between the main driving-wheel C and said gear-wheel D or discon-  
45 necting the same.

The gear-wheel D meshes into a pinion, F, fastened on one end of a shaft, F', mounted transversely in suitable bearings secured to the main frame A. On the shaft F' is secured  
50 a bevel gear-wheel, F<sup>3</sup>, meshing into the bevel-pinion F<sup>4</sup>, secured on one end of a shaft, F<sup>5</sup>,

mounted longitudinally in bearings secured to the main frame A. To the front end of the shaft F<sup>5</sup> is secured a crank-disk, F<sup>6</sup>, connected by its crank-pin with a pitman, G', secured to  
55 the sickle G, moving laterally in front of the main frame A in guard-fingers H, of any approved construction. Directly above this cutting mechanism is placed a reel, I, provided with the usual reel-arms, I', and secured to a  
60 shaft, I<sup>2</sup>, having its bearings in arms I<sup>3</sup>, secured to the main frame A and side beam, A'. To one end of the shaft I<sup>2</sup> is secured a sprocket-wheel, I<sup>4</sup>, over which passes an endless sprocket-chain, I<sup>5</sup>, also passing over a sprocket-wheel, 65  
D<sup>3</sup>, secured to the inner end of the hub D<sup>2</sup> of the gear-wheel D. This reel I operates, in conjunction with the cutting mechanism reciprocated below it, in the usual manner of harvesters and mowers, and is operated from the  
70 main driving-wheel C by the connections above described.

On the shaft F', next to the bevel gear-wheel F<sup>3</sup>, is secured a sprocket-wheel, J, over which passes a sprocket-chain, J', passing over  
75 the sprocket-wheel J<sup>2</sup>, secured on one end of the shaft J<sup>3</sup>, carrying a roller, J<sup>4</sup>, held between two side beams, A', secured on the main frame A and extending in an inclined direction from the front upward toward the  
80 rear. Over the roller J<sup>4</sup> passes an endless slat-belt, J<sup>5</sup>, forming a stalk-carrier, also passing over a roller, J<sup>6</sup>, mounted in suitable bearings at the lower ends of the side beams, A'. On this lower end of the slat-belt J<sup>5</sup> discharges  
85 the inclined shield K, secured to the front cross-beam of the main frame A, so that the corn cut by the sickle G falls upon the said shield K by the action of the reel I and passes from the shield K upon the slat-belt J<sup>5</sup>, which  
90 carries the cornstalks upward. The shield K prevents the stalks and ears in their rearward passage from falling between the front cross-bar of the frame and the front end of the slat-belt.  
95

Above the slat-belt roller J<sup>4</sup> is held a large roller, P, secured to a shaft, P', carrying a gear-wheel, P<sup>2</sup>, which meshes into a gear-wheel, P<sup>3</sup>, secured to the shaft J<sup>3</sup>, carrying  
100 said roller J<sup>4</sup>. The sprocket-chain J', above referred to, also passes over a sprocket-wheel, L, secured to a transverse shaft, L', mounted



in suitable bearings on the main frame A, and carrying between the side beams, A', a roller, N, above which is held a similar roller, O, secured on a shaft, O', mounted in bearings, against which springs O<sup>3</sup> press, so as to hold said roller O in contact with said roller N. The roller O is rotated with said roller N by means of the gear-wheel O<sup>2</sup>, secured to said shaft O' and meshing into a gear-wheel, L<sup>2</sup>, fastened on the shaft L', which carries said roller N.

The shaft L', which carries the roller N, also carries a sprocket-wheel, L<sup>3</sup>, over which passes a sprocket-chain, L<sup>4</sup>, which also passes over a sprocket-wheel, L<sup>5</sup>, secured to one end of a shaft, Q', mounted transversely in suitable bearings on the main frame A, and carrying between the side beams, A', a roller, Q, which rotates toward a roller, R, fastened on the shaft R', and carrying a gear-wheel, R<sup>2</sup>, meshing into a gear-wheel, Q<sup>2</sup>, secured to the shaft Q', so that the two rollers Q and R rotate toward each other in a manner similar to that in which the rollers N and O rotate, from which latter rollers the rollers Q and R derive their motion, whereby said two sets of rollers, N O and Q R, are rotated simultaneously.

Directly above the rollers Q and R is located a slat-belt, S, running in a transverse direction and being provided with a number of pins or prongs, S', extending at right angles to the belt and placed at suitable intervals on the same. The endless slat-belt S passes at one end over a roller, S<sup>2</sup>, mounted longitudinally in suitable bearings on the main frame A, and said slat-belt S also passes over a roller, S<sup>3</sup>, secured to a shaft, S<sup>4</sup>, having its bearings in the main frame A and carrying a gear-wheel, S<sup>5</sup>, which meshes into a gear-wheel, T', secured to a shaft, T, mounted longitudinally in suitable bearings on the main frame A and carrying on its front end a bevel-pinion, T<sup>2</sup>, which meshes into a bevel gear-wheel, T<sup>3</sup>, secured on the shaft F'.

On the shaft T is secured a roller, U, over which passes an endless slat-belt, U', also passing over a roller, U<sup>2</sup>, mounted in suitable bearings at the outer end of the side frames, U<sup>3</sup>, fulcrumed on said shaft T and adapted to be swung in any desired position, so that the outer end of said slat-belt U' discharges either into a bag or into a wagon traveling along by the machine. The upper ply of the slat-belt U' passes over a board, U<sup>4</sup>, uniting the two side frames, U<sup>3</sup>, and adapted to sustain a heavy load placed on the slat-belt U'.

In front of the rollers N and O and between the side beams, A', is placed an inclined board, V, extending downward from the roller N toward and slightly below the roller J<sup>4</sup> and discharging upon a second inclined board, V', discharging at its lower end on the roller Q, by which latter the material passing down the inclined board V' is carried between the two rollers Q and R.

On one side of the front part of the frame

A is fulcrumed a tongue, W, near the fulcrumed end of which is pivoted a bell-crank lever, W', connected at one end by a link, W<sup>2</sup>, with the front beam of the main frame A. The other arm of the bell-crank lever W' carries the hand-lever W<sup>3</sup>, connected with a pawl, W<sup>4</sup>, adapted to engage the notched rim of a segment, W<sup>5</sup>, secured to the tongue W. It will be seen that when the operator moves said lever W' backward or forward he causes the main frame A to swing upward or downward, so that the machine can take the standing corn or can gather corn which has been blown down.

The hand-lever W<sup>3</sup> on the bell-crank lever W' and the handle of the lever E extend upward into the near neighborhood of the driver's seat, mounted in any suitable manner on the main frame A. The operator occupying the seat is thus enabled to manipulate both levers W' and E at pleasure.

The operation is as follows: When the machine is drawn forward in the direction of the arrow a' in the usual manner, then the main driving-wheel C imparts, by means of the clutches C' and D', a rotary motion to the gear-wheel D, which, by the pinion F, imparts a similar motion to the shaft F'. The latter, by the bevel-gear wheel F<sup>3</sup> and pinion F<sup>4</sup>, imparts a rotary motion to the longitudinal shaft F<sup>5</sup>, which, by its crank-disk F<sup>6</sup>, imparts a reciprocating motion to the sickle G, which, in connection with the guard-fingers H, cuts the cornstalks near the ground. The cornstalks are beaten into the machine by the reel I, which receives its rotary motion from the gear-wheel D by the sprocket-wheel D<sup>3</sup>, secured to the hub of said gear-wheel and connected by the sprocket-chain I<sup>5</sup> and wheel I<sup>4</sup> with the shaft I<sup>2</sup>, carrying said reel I. The cornstalks which have been thus cut fall, by the action of the reel I, on shield K and on the slat-belt J<sup>5</sup>, which travels in the direction of the arrow b', thus carrying the stalks upward and between the rollers O and N, which travel toward each other in the direction of the arrow c'. The slat-belt and rollers N and O receive their rotary motion from the shaft F' before mentioned by means of the sprocket-chain J'. The tops of the stalks are received first by the rollers N O, the operating-faces of which revolve toward each other, and as the stalks are drawn between the rollers the points of the ears come in contact therewith, which causes the ears to be bent toward the lower end of the stalk, thereby presenting the stem of the ear to the rollers. The stem and the husks adhering will be drawn inward and this action will cause the stem to be severed at its junction with the bulk of the ear, as the butt cannot pass between the rollers. The stalks with the empty husks pass onward and out between the rollers N and O, while the husked ears fall on the inclined board V and from the latter on the inclined board V', which delivers the husked ears on the roller Q, which rotates in the direction of the arrow



*d'*, so that the ears pass above and between the rollers Q and R and are placed in a transverse position relatively to the machine. The silk and other matter adhering to the ears of corn are removed by the action of the two rotating rollers Q and R, the operating-faces of which revolve toward each other. The slat-belt S travels in the direction of the arrow *e'*, whereby the pins S' impart a sidewise motion to said ears, whereby the latter are finally landed on the lower end of the endless slat-belt U', which moves in the direction of the arrow *f'*, thereby carrying the cleaned ears of corn upward, and finally discharging them into a bag or wagon traveling along by the machine. The motion of the endless slat-belt S in the direction of the arrow *e'* is derived from the shaft T, which receives its rotary motion from the shaft F' aforesaid, and said shaft T also imparts a motion in the direction of the arrow *f'* to the endless slat-belt U', as one of the rollers of said slat-belt U' is directly secured to said shaft T.

Thus it will be seen that with my machine I am enabled to cut corn whether it is planted in rows or out of rows as the machine is driven across a field of corn in the same manner as a mower or reaper is driven in a field of grass or grain. In using the machine I prefer to drive it around a field in the same manner as is now done in mowing and harvesting. It

will further be seen that with my improved machine I not only cut the stalks but also remove the ears of corn from the husks which remain on the stalks, and then I clean the husked ears from their silk and other matter, and finally deliver the cleaned ears into a bag or wagon traveling beside the machine.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

In a corn-harvester, the combination, with the rollers N O, the operating-faces of which rotate toward each other, and the endless carrier J<sup>5</sup>, said rollers N O arranged at the upper discharging end of said carrier, of the lower rollers, Q R, the operating-faces of which rotate toward each other, the endless belt S, traveling above the rollers Q R in the direction of their lengths and provided with pins to enter the space between said rollers, the inclined board V above said belt receiving the corn from rollers N O, and the lower inclined board, V', receiving from the inclined board V and delivering upon the upper surface of the rollers Q R, substantially as set forth.

JAMES MCKIVETT.

Witnesses:

J. B. REEVE,  
M. REEVE.