

(No Model.)

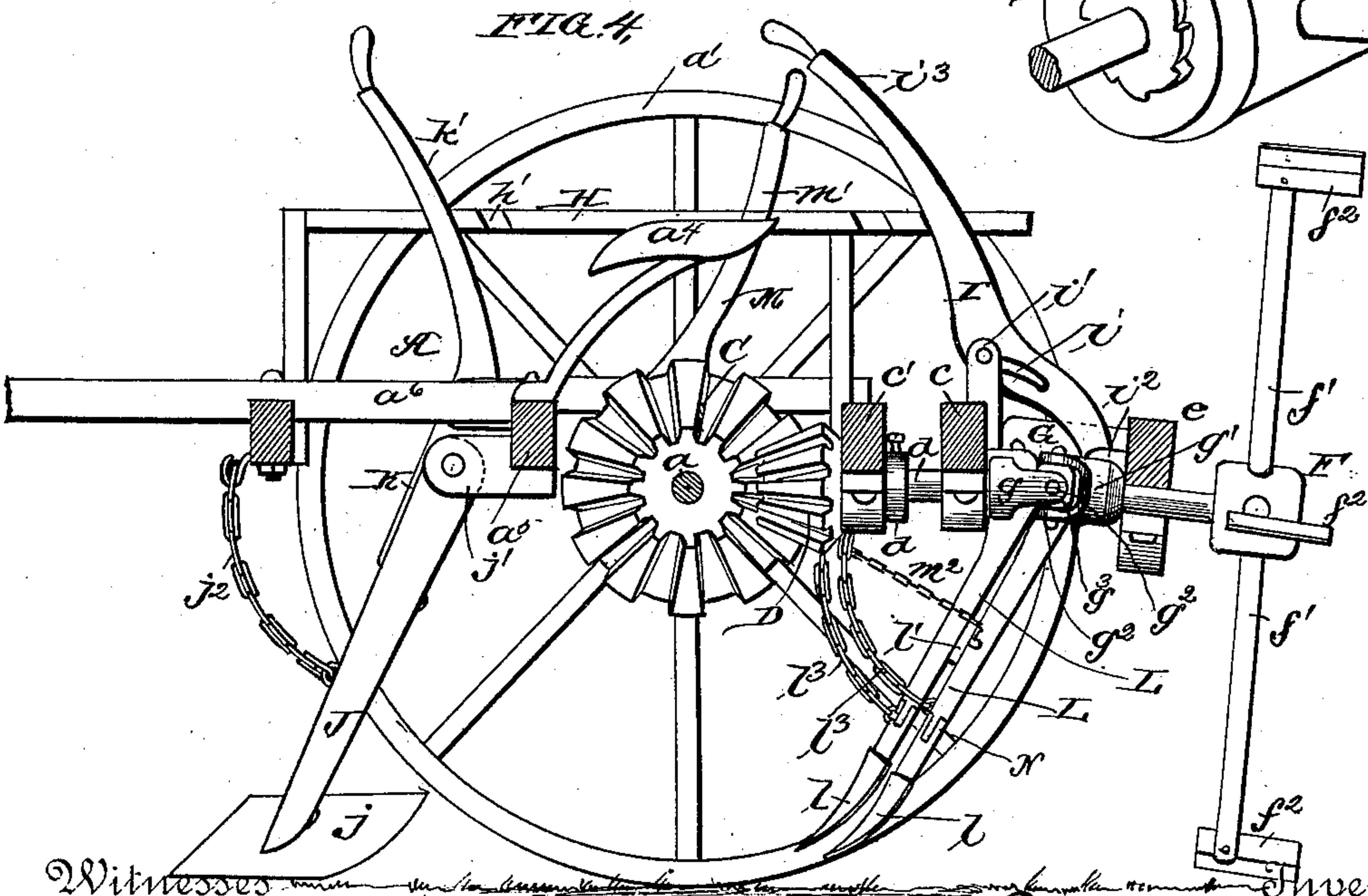
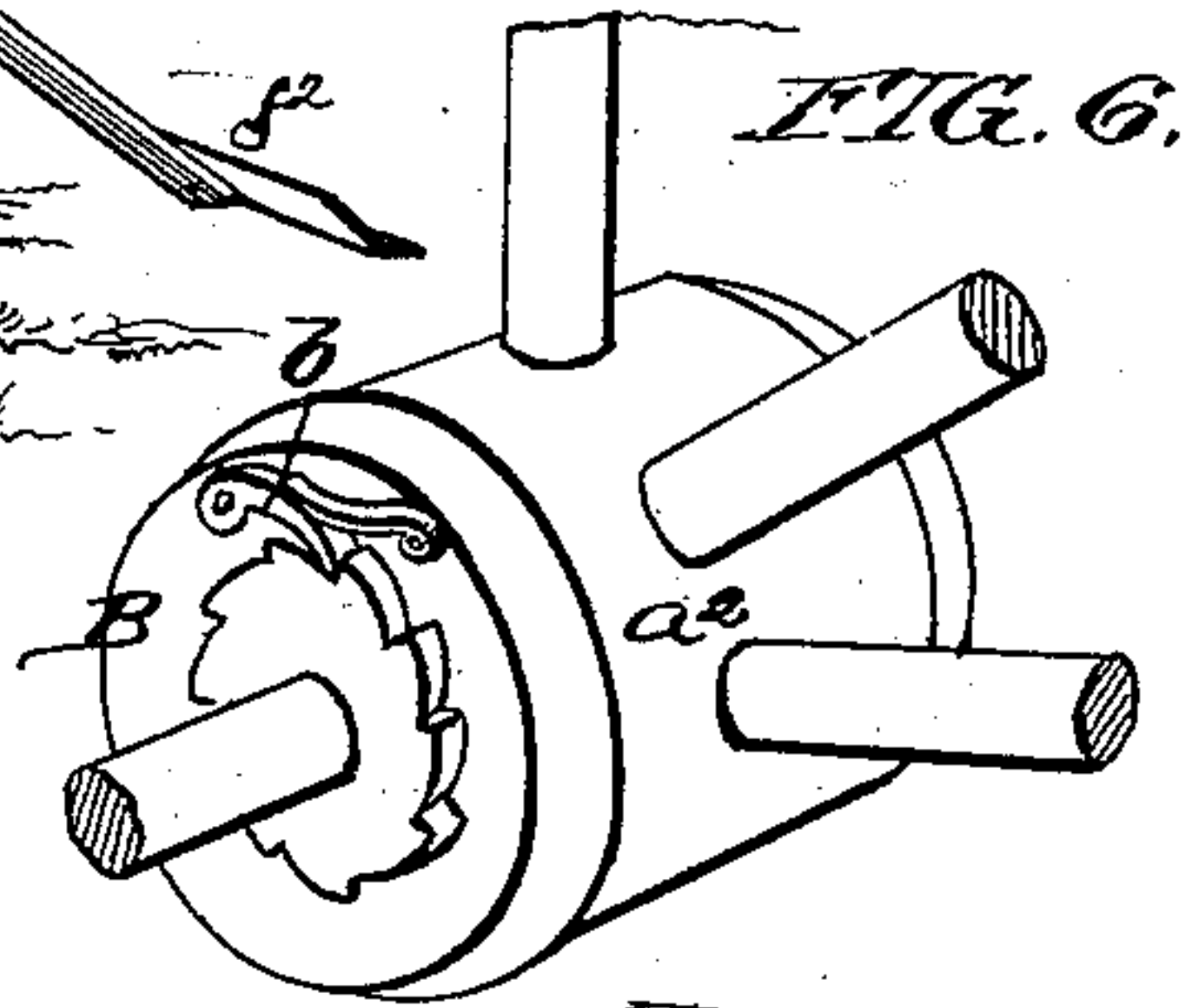
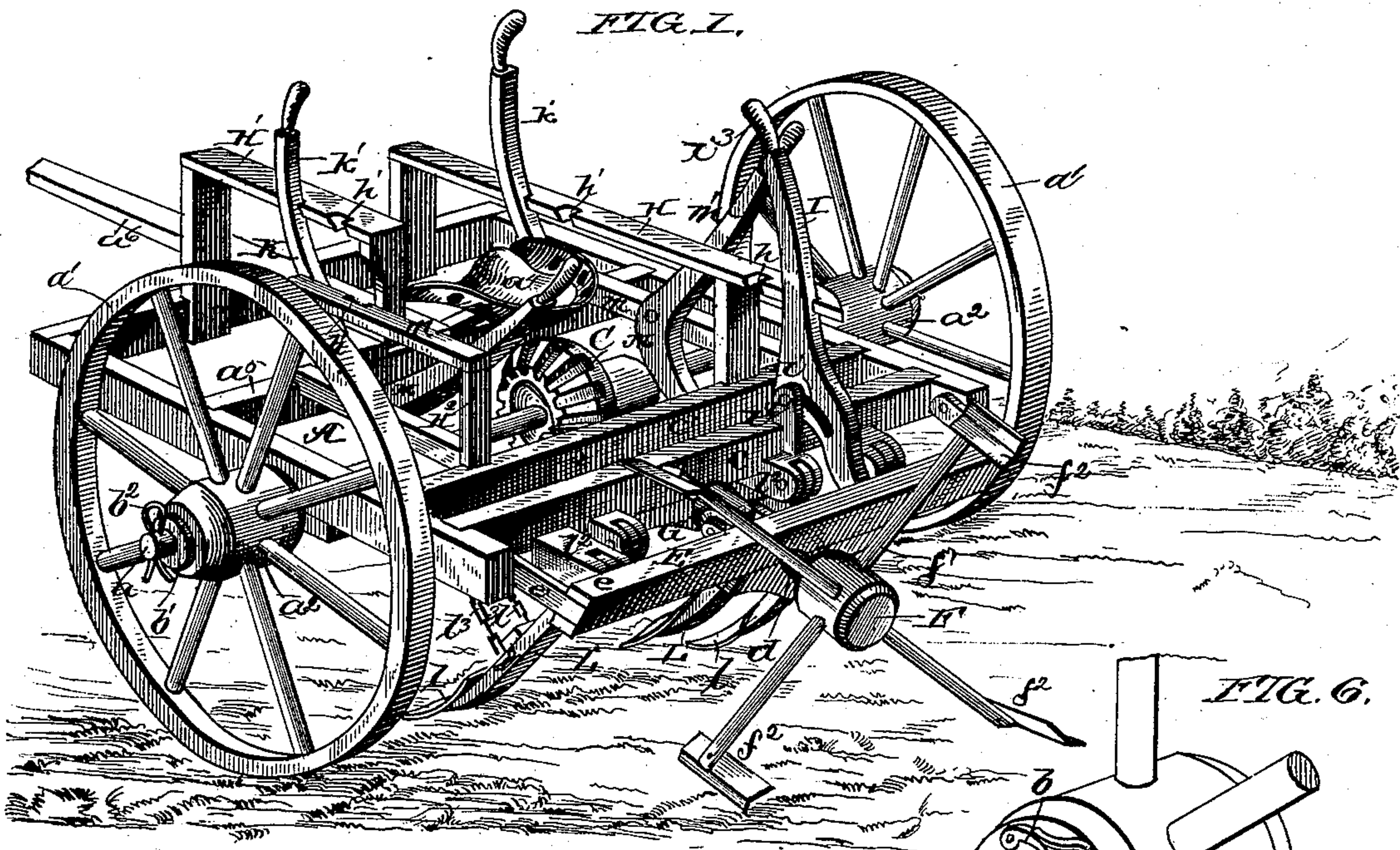
2 Sheets—Sheet 1.

C. D. BAILEY & J. J. WESTER.

COTTON CHOPPER.

No. 364,746.

Patented June 14, 1887.



Witnesses

Inventors

John A. Ryan
E. G. Siggel

By their Attorneys,

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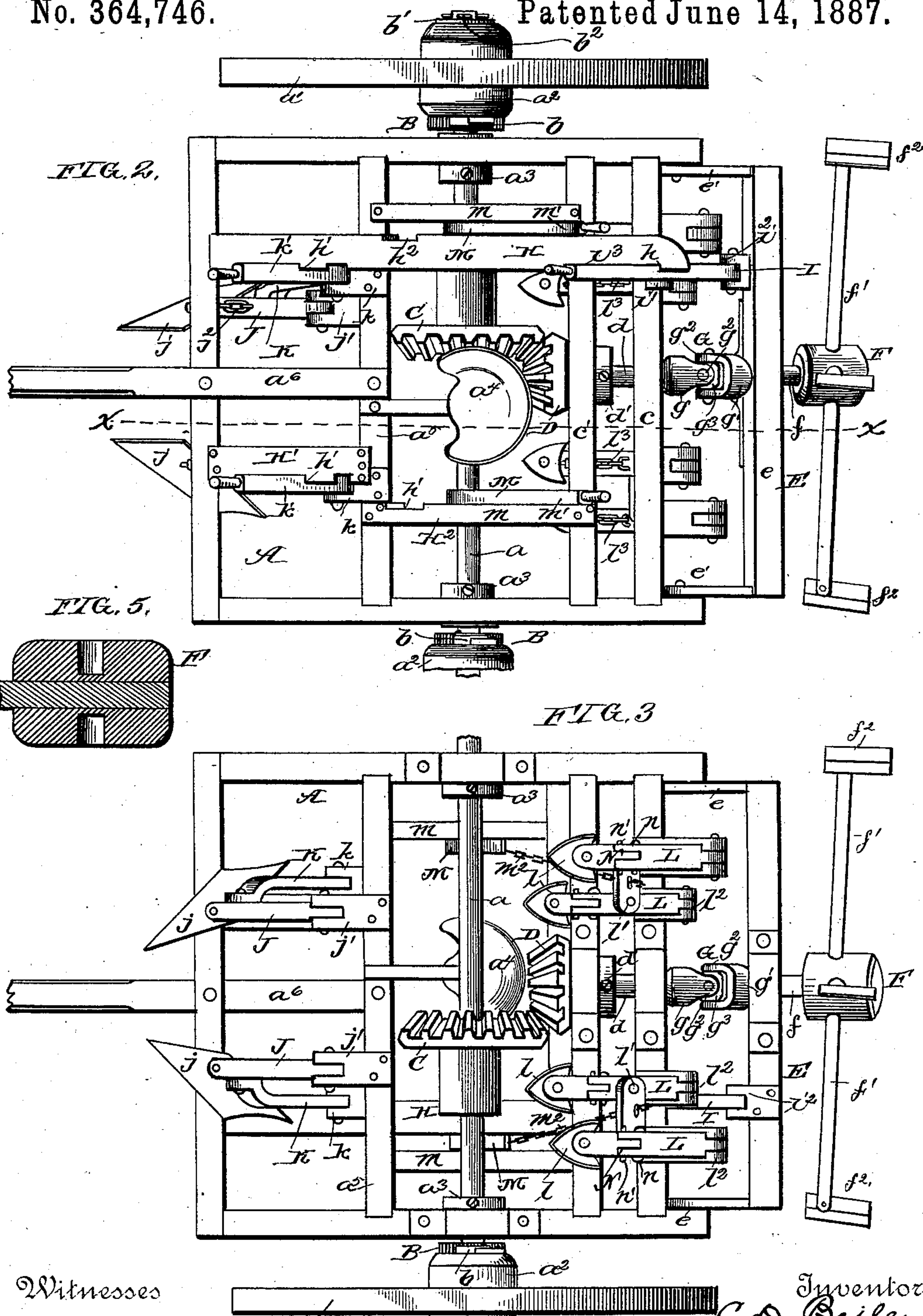
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UNITED STATES PATENT OFFICE.

COLUMBUS D. BAILEY AND JOHN J. WESTER, OF DEXTER CITY, MISSOURI.

COTTON-CHOPPER.

SPECIFICATION forming part of Letters Patent No. 364,746, dated June 14, 1887.

Application filed March 17, 1887. Serial No. 231,306. (No model.)

To all whom it may concern.

Be it known that we, COLUMBUS D. BAILEY and JOHN J. WESTER, citizens of the United States, residing at Dexter City, in the county of Stoddard and State of Missouri, have invented new and useful Improvements in Cotton Choppers or Cultivators, of which the following is a specification.

The invention relates to improvements in cotton choppers or cultivators, the object being to provide a machine having adjustable scrapers and plows on each side, and an adjustable chopper at the rear end, all of which may be readily manipulated by the driver, by means hereinafter described; and it consists in the construction and novel arrangement of parts hereinafter described, illustrated in the drawings, and pointed out in the claims hereto appended.

In the accompanying drawings, Figure 1 represents a perspective view of the invention, seen from the rear. Fig. 2 is a plan view of the same. Fig. 3 represents a reversed plan of the machine, showing clearly the bearing-joints and connections. Fig. 4 is a vertical section on the line $x x$ of Fig. 2. Fig. 5 is a detailed sectional view of the hub of the chopper to show the connection of the arms thereto. Fig. 6 is a detail perspective view of one of the wheel-hubs and part of the axle to show the ratchet and pawl adjacent thereto.

Referring to the drawings by letter, A designates the main frame of the machine, of general rectangular form; a , the axle, journaled in bearings secured about centrally to the under surface of the side rails of the main frame; and a' , the wheels, with their hubs a^2 turning loosely on the axles outside the main frame. The axle is prevented from sliding in its bearings by the collars $a^3 a^3$, secured upon it adjacent to and inward from the side rails of the main frame.

a^4 is the driver's seat, supported on a suitable standard rising from the transverse rail a^5 of the main frame a proper distance in rear of the front end thereof; and a^6 is the tongue, having its heel secured centrally to the rail a^5 and secured and supported by the front rail of the main frame at its point of intersection there-with.

B B are ratchet-wheels secured to the axle

and adjoining the inner ends of the hubs a^2 , and $b b$ are spring-controlled pawls pivoted on said ends and engaging the corresponding ratchet-wheels in such manner that the wheels are compelled to rotate forward with the axle, but can rotate freely thereon in the reverse direction to permit the machine to be turned in a small compass. The hubs are held on their axles by the washers $b' b'$, resting against their outer ends, and the spring-keys $b^2 b^2$, which pass through openings in the axles outside of the washers.

Secured upon the axle at a proper point is the bevel-gear C, which meshes with and rotates the bevel-pinion D, secured to the inner end of the longitudinal shaft d , turning in bearings secured centrally to the rear rail, c , of the main frame and the transverse rail c' , a proper distance inward from said rear rail. The said shaft d is prevented from sliding too far in its bearing by the collar d' , secured upon it between the rails c and c' .

E is the chopper-frame, consisting of the transverse rail e and the longitudinal arms $e' e'$, having their ends secured thereto and their front ends pivoted on the inner surfaces of the side rails of the main frame extending inward beyond the end rail, c .

f is a shaft turning in a bearing secured centrally to the under surface of the rail e , connected to the shaft d by means hereinafter described, and having secured to its outer end the chopper-hub F. The said hub is provided with equidistant tapped recesses, preferably four in number, into which the tapped ends of the chopper-arms f' are engaged, the outer ends of said arms having secured to them the chopper-blades f^2 , each of which is fixed upon the corresponding arm at a suitable angle, as shown, to give it a proper amount of shear, and is bent longitudinally upon itself at a proper angle to cause the cutting-edge to strike the stalks properly.

G is a universal joint connecting the contiguous ends of the shafts d and f , composed of the similar cylindrical heads, $g g'$, provided each with diametrical arms g^2 and the ball g^3 , upon which the arms of each head are pivoted at right angles, those of one head to those of another.

H, H', and H² are longitudinal rectangular

frames rising vertically from the top of the main frame, and serving purposes hereinafter explained.

I is the lever by which the chopper-frame E is raised and lowered. The said lever is pivoted, to give it ease of motion through its curved slot i , between the arms of the bifurcated bracket i' , rising from the rear rail, c , of the machine, and has the end of its lower arm pivoted between the arms of the similar bracket, i'' , secured to the rail e of the chopper-frame. The upper arm, i^3 , of the lever is within easy reach of the driver and can by him be inserted into any one of the notches h h , made in the adjacent edge of the top rail of the frame H, so as to raise and hold the chopper-frame and chopper at the proper elevations.

J J are the scraper-arms, having attached to their lower ends the scraper-blades j j , which incline from their points rearward and outward, as shown, and have their front edges bent slightly forward and inward to more readily throw the refuse away from the plants in rows between them. The upper ends of the scraper-arms are pivoted between the arms of the corresponding bifurcated brackets, j' , standing forward from the rail a^5 of the main frame at equal distances from the side rails thereof.

j^2 j^2 are chains connecting eyebolts or hooks on the scraper-arms with similar eyebolts or hooks on the front rail of the main frame, for the purpose of preventing the said arms and attached scraper-blades from dropping too far down.

K K are the scraper-levers, having their lower ends pivoted to the corresponding scraper-arms at suitable points, pivoted at suitable distances above said ends between the arms of the bifurcated brackets k k , secured to the rail a^5 , and with their upper arms, k' , which are within easy reach of the driver, arranged to fit into any of the notches h' h' , made in the adjacent edges of the top rails of the frames H and H', respectively, so that the driver can, by means of said levers, raise and hold the scraper-blades at different elevations, as circumstances require.

L L are the plow arms or standards, having the shares l l secured to their lower ends, which shares may be of any proper construction, but are preferably curved laterally and pointed centrally, as shown in the drawings.

The plow shares and arms are each preferably four in number, two at equal distances on each side of the central line of the main frame, and the inner one of each pair standing forward of the outer one of the same.

l' l' are transverse bars securing together the plow-arms of each pair, so that the said arms will move or oscillate together.

The upper ends of the plow-arms are pivoted between the arms of the bifurcated brackets l^2 l^2 , standing rearward from the rail c of the main frame; and the said arms and attached plowshares are prevented from drop-

ping too low by the chains l^3 l^3 , which connect eyebolts or hooks on the arms with similar eyebolts or hooks secured to the rail c' of the main frame.

M M are the plow-levers, pivoted upon the rails m , connecting the rails a^5 and c' of the main frame, and with their upper arms, m' m' , within easy reach of the driver. The lower arms of the levers have secured to them eyebolts or hooks, which are connected with similar eyebolts or hooks on the transverse bars l' by the chains m^2 m^2 , so that the driver can, by means of the said chains m^2 and the levers, raise and hold the plows in proper position, by inserting the arms m' of the levers into the proper notches h^2 , made in the edges of the top rails of the frames H H', respectively, adjacent to the levers.

Each of the plow-arms may be adjusted to different lengths by a joint, N, which is formed by making the arm in two sections, with the meeting end of one section notched rectangularly and the meeting end of the other section reduced and shouldered to fit thereon. The arms of the notch are longitudinally slotted, and a bolt, n , and stay-pin n' each pass through said slots and suitable openings in the reduced end, fitting in the notch. The ends can thus be slid out on each other and fixed in position, the pin preventing any lateral movement of one on the other.

When the machine is in operation, the scrapers clear away refuse on each side of the row of plants between them, the following plowshares loosen and hill-up the soil around the plants in the usual manner, and the rotating chopping device makes the necessary gaps in the rows as the machine moves onward.

The driver can easily adjust the scrapers, plows, and choppers by the means and in the manner described, and the machine can be made to turn quickly and in small space on account of the described ratchet-wheels and pawls.

Having described our invention, we claim—

1. The combination, with the main frame, the chopper-frame pivoted thereon, the slotted lever pivoted through its slot to a bracket on the main frame and at its lower end to a similar bracket on the chopper-frame, and the rectangular frame rising from the main frame and provided with notches for the engagement of the upper arm of said lever, of the shafts connected by a universal joint, the chopper consisting of the hub, arms, and blades, the bevel gear-wheel secured to and rotating with the axle, and the bevel-pinion meshing with said gear-wheel and secured to the inner one of the two said shafts, substantially as specified.

2. The combination of the pivoted plow-arms, the plowshares secured thereto, the pivoted plow-levers connected by chains, as described, with the plow-arms, and the frames provided with notches to engage the upper arms of the plow-levers, with the chopper-frame adjustable upon the main frame, the

chopper consisting of the hub, arms, and blades, the two shafts connected by a universal joint, and with the chopper-hub secured to the outer of said shafts, and mechanism, substantially as described, whereby said shafts and chopper are rotated by the forward rotation of the axle, substantially as specified.

3. The combination, with the rotating chopper consisting of the hub, arms, and blades, and mechanism, substantially as described, whereby said chopper is adjusted vertically on the main frame, and with the plows, pivoted plow-arms, and means whereby the said arms are adjusted back and forth on the main frame, of the scraper-arms pivoted upon brackets on the main frame, the scraper-blades secured to

said arms, the scraper-levers pivoted to brackets on the main frame and having their lower ends pivoted to the scraper-arms, and the frames rising from the main frame and provided with notches to engage the upper arms of the scraper-levers, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

COLUMBUS D. BAILEY.
JOHN J. WESTER.

Witnesses:

W. P. SPRINKLE,
J. A. BRADFORD.