

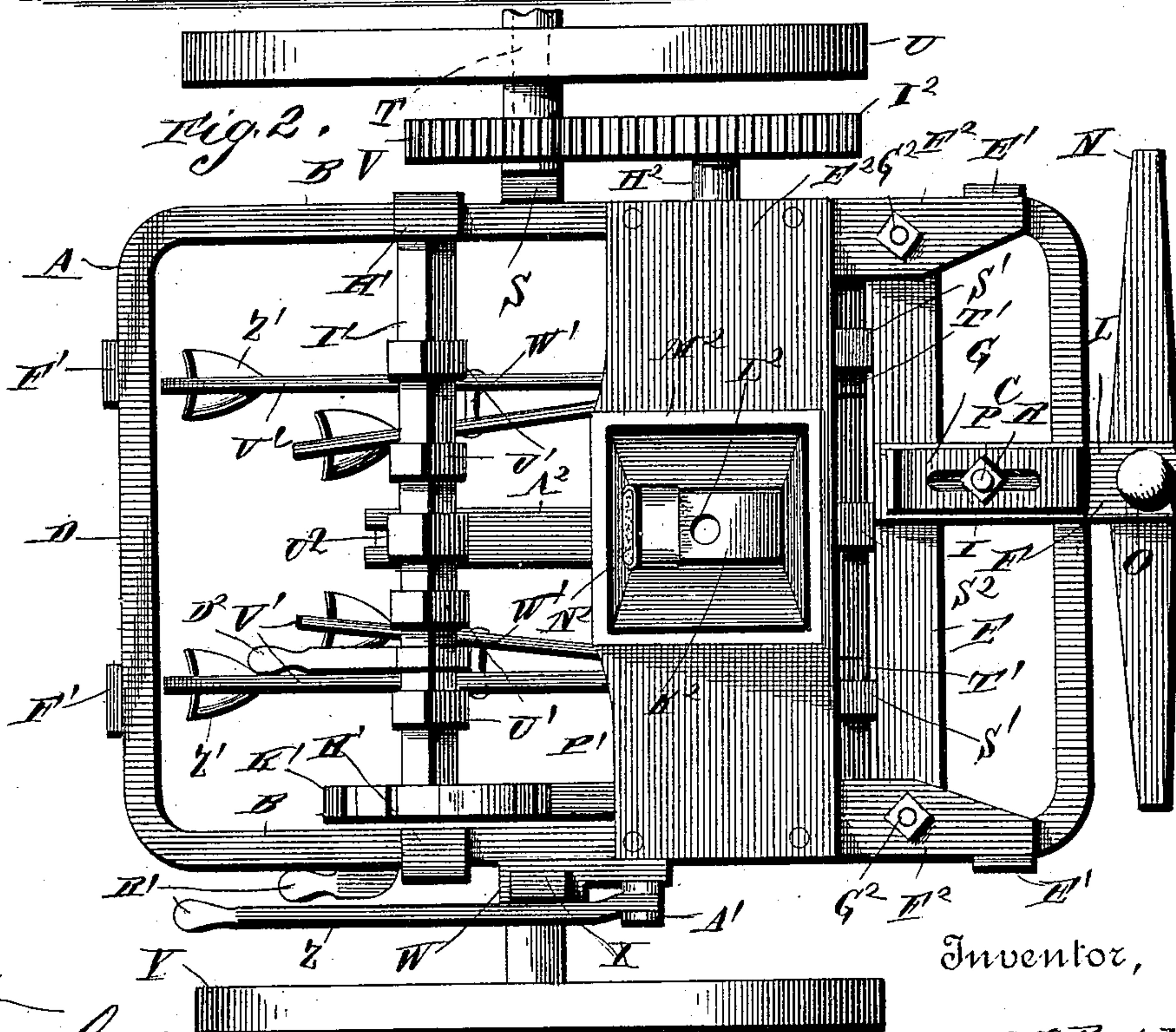
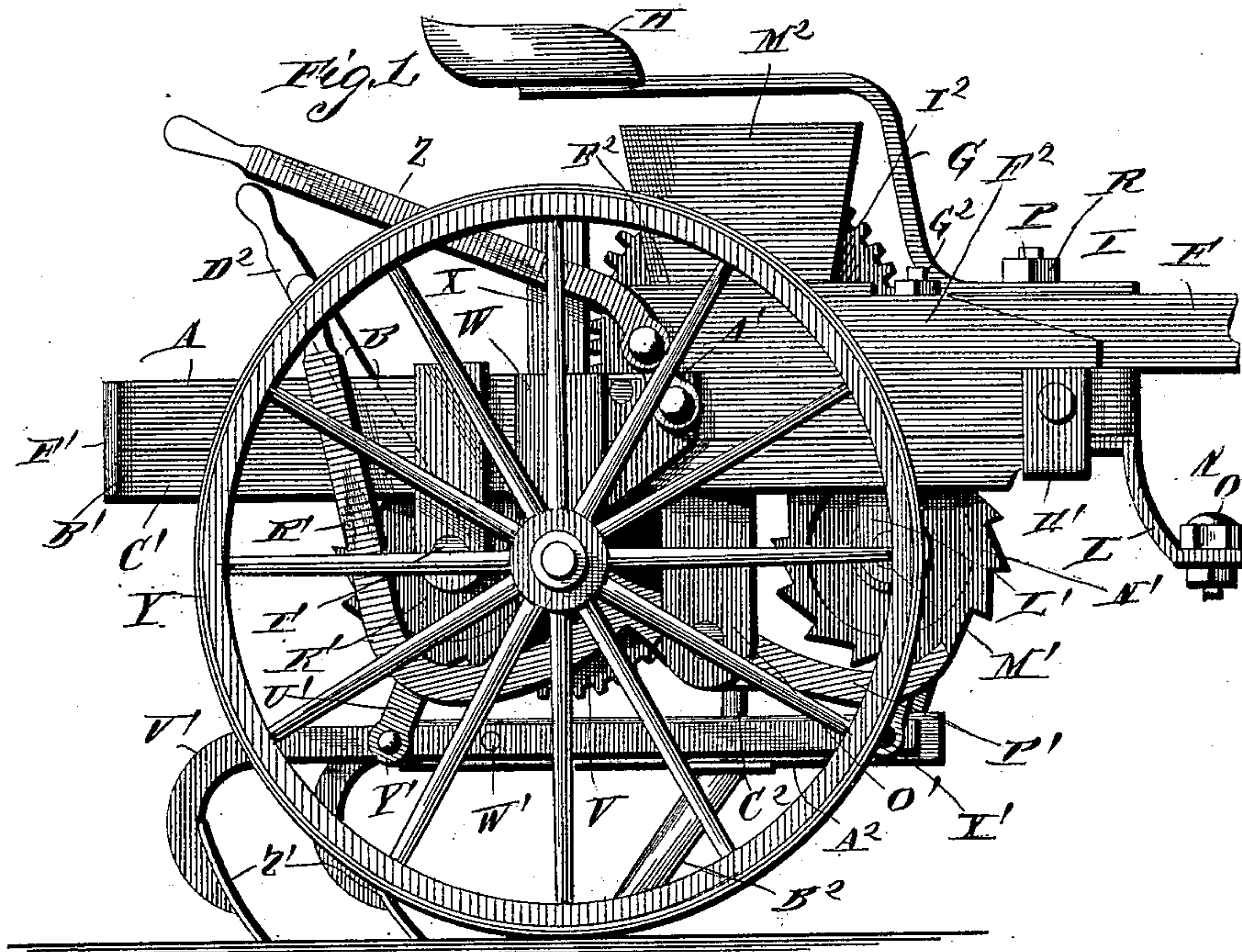
(No Model.)

3 Sheets—Sheet 1.

A. B. McBRIDE.
COMBINED CULTIVATOR, PLOW, &c.

No. 401,045.

Patented Apr. 9, 1889.



Witnesses

R. B. Taylor,
Geo. Garner

Inventor,

Abram B. McBride

By *his* Attorneys

C. H. Snow & Co.

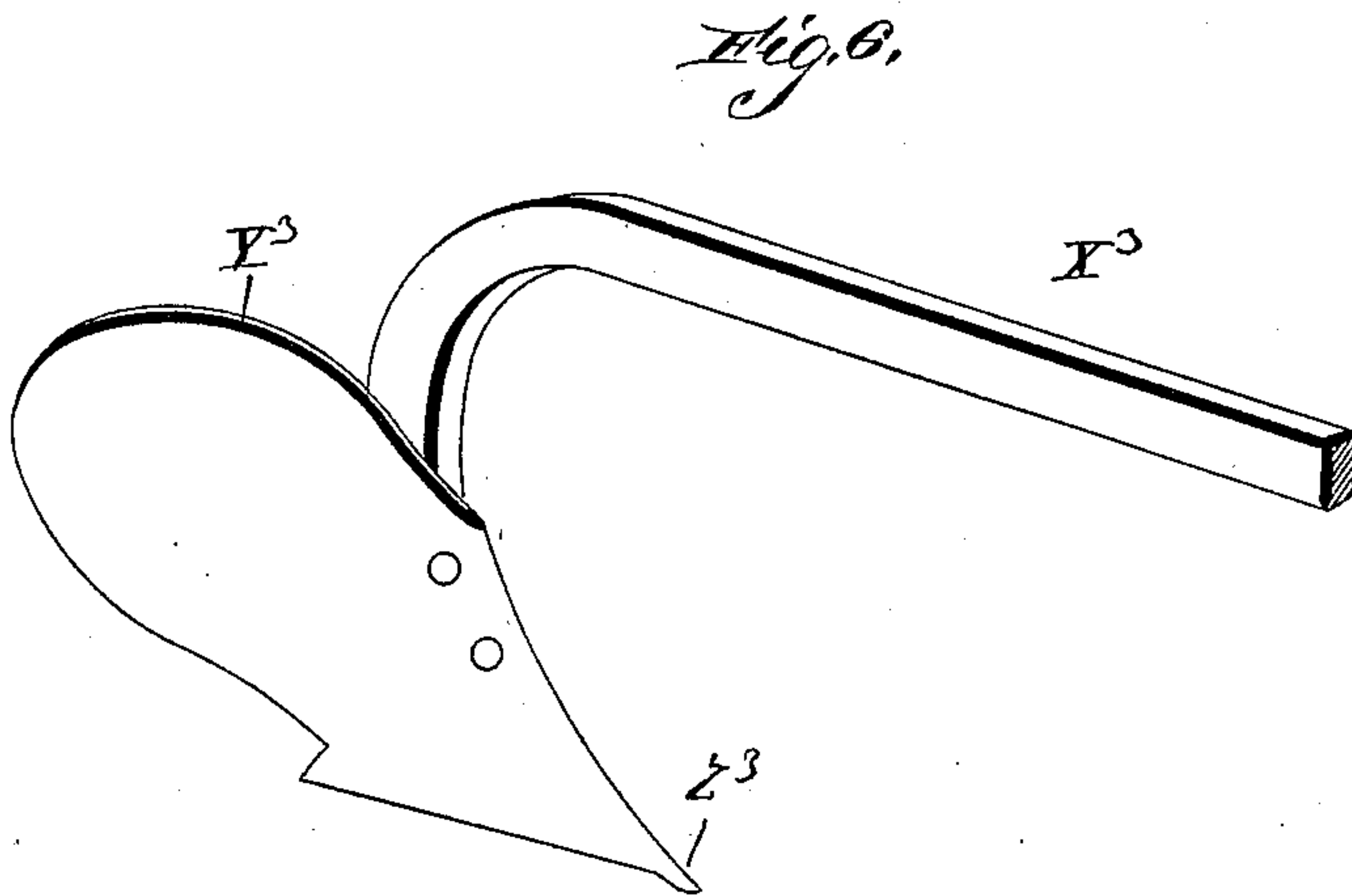
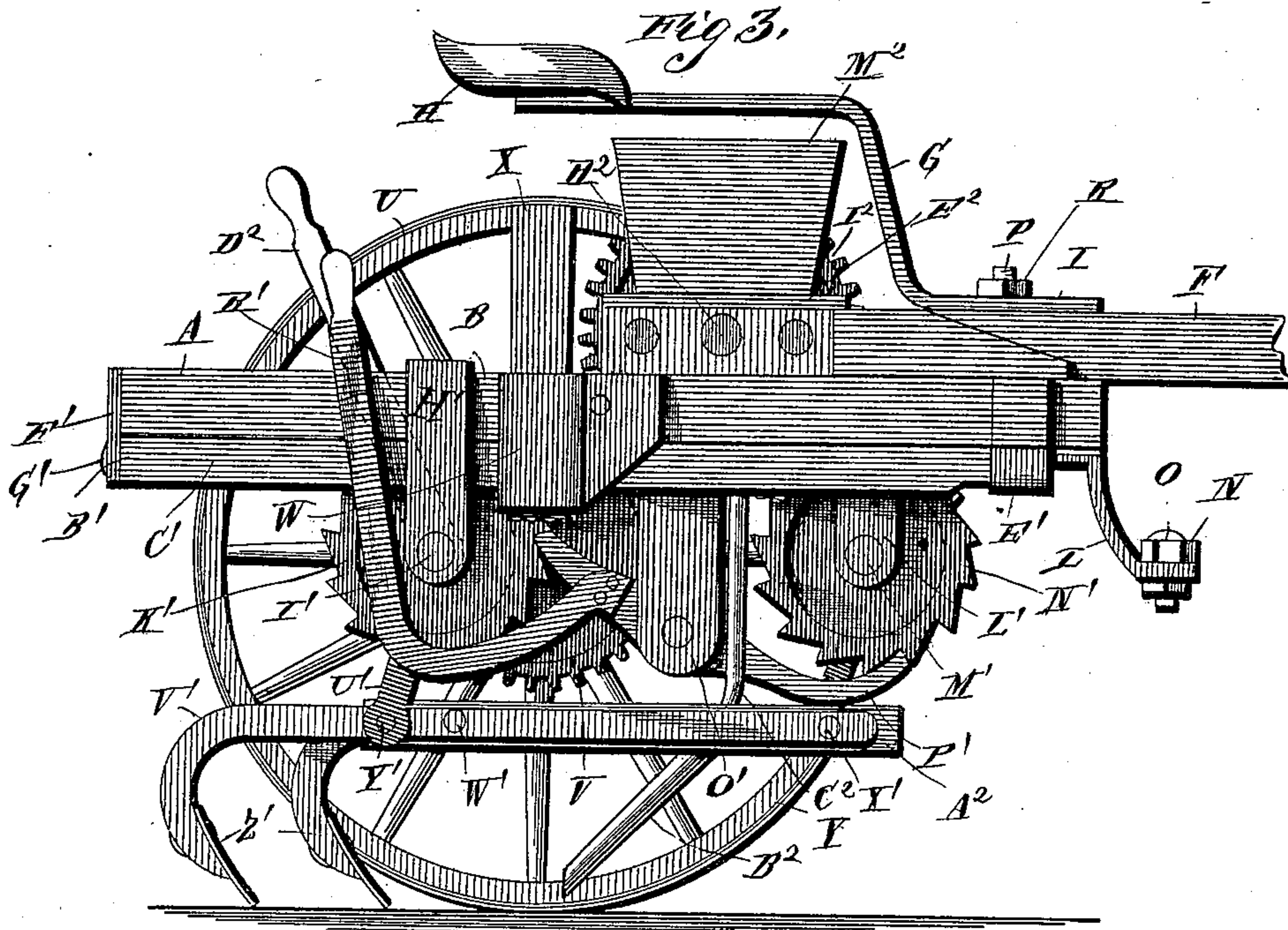
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3 Sheets—Sheet 2.

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Patented Apr. 9, 1889.



Witnesses.

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C. Shreve

(No Model.)

3 Sheets—Sheet 3.

A. B. McBRIDE.
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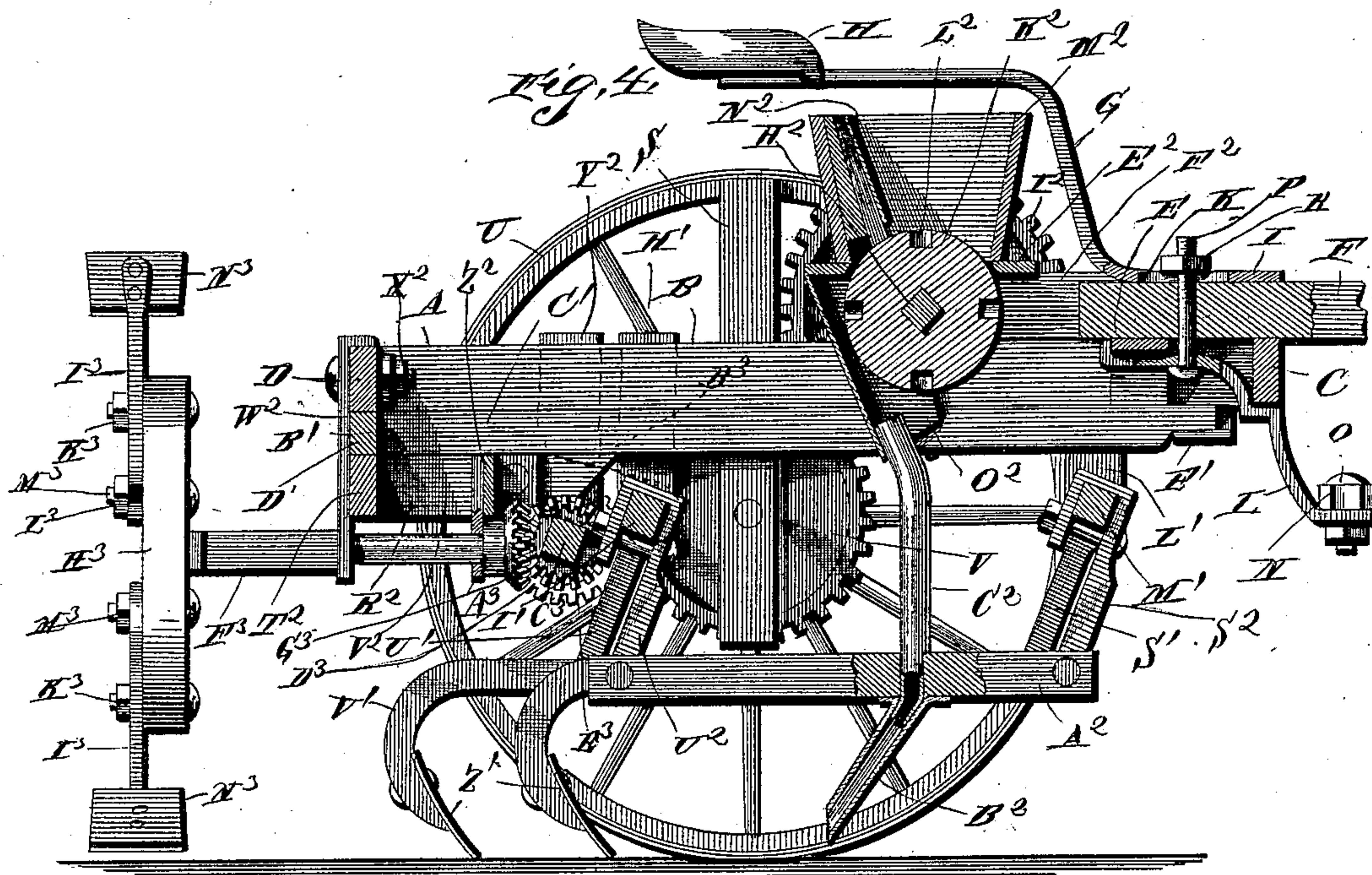
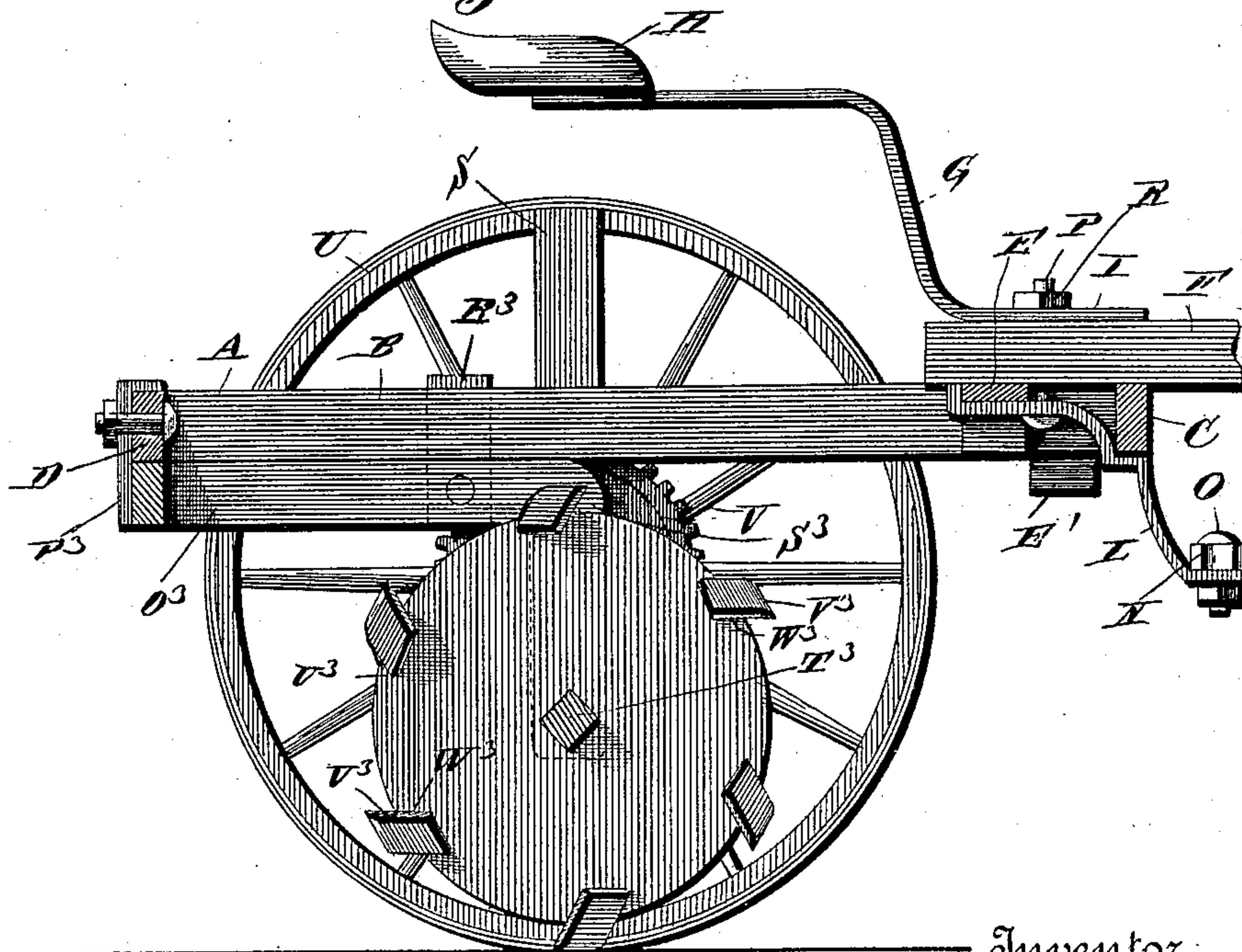


Fig. 5.



Witnesses.

O. B. Taylor,
J. Warner

Inventor,

Abram B. McBride,

By *his* Attorneys

C. H. Snow

UNITED STATES PATENT OFFICE.

ABRAM B. McBRIDE, OF MEDINA, TEXAS, ASSIGNOR OF ONE-FOURTH TO
ROBERT I. HARRELL AND W. F. HARRELL, OF SAME PLACE.

COMBINED CULTIVATOR, PLOW, &c.

SPECIFICATION forming part of Letters Patent No. 401,045, dated April 9, 1889.

Application filed October 30, 1888. Serial No. 289,529. (No model.)

To all whom it may concern:

Be it known that I, ABRAM B. McBRIDE, a citizen of the United States, residing at Medina, in the county of Bandera and State of Texas, have invented new and useful Improvements in Combined Cultivators, Plows, &c., of which the following is a specification.

My invention relates to improvements in combined cultivators, plows, planters, stalk-cutters, and cotton-choppers; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

The object of my invention is to provide a machine having a main frame and a driving-gear with interchangeable planting, cultivating, stalk-cutting, and cotton-chopping mechanism, whereby the machine is adapted to be used for a variety of purposes.

In the accompanying drawings, Figure 1 is a side elevation of my invention when arranged as a planter. Fig. 2 is a top plan view of the same. Fig. 3 is a vertical longitudinal central sectional view of the same. Fig. 4 is a similar view with the planting mechanism removed and the cotton-chopping mechanism arranged in operative position. Fig. 5 is a similar view showing the stalk-cutter secured to the machine. Fig. 6 is a detail perspective view of a turning-plow forming part of my invention.

A represents a rectangular frame, which comprises the side beams, B, the bar C, which connects the front ends thereof, and the bar D, which connects their rear ends. The said beams B C D may, if preferred, be formed integrally when the frame is constructed of metal. Arranged parallel with the front bar, C, and at a suitable distance in rear thereof, is a cross-bar, E, the ends of which are bent downward at right angles and bolted to the inner sides of the beams B, as shown.

F represents the tongue or draft-pole, which has its rear end arranged on the bars C E.

G represents a supporting-bar, which has the seat H for the driver at its upper end and has its lower end bent forward at right angles to form an arm I, which bears upon the upper side of the tongue, and is provided with the longitudinal slot K.

L represents a metallic strap, which bears against the lower side of the bars C E, has a flange, M, at its rear end, which engages the rear side of the bar E, and has its front end curved downward and forward, and secured to the center of a whiffletree, N, by means of a pivotal bolt, O. A clamping-bolt, P, passes through vertical openings in the strap L and in the tongue and through the slot K of bar G, and to the upper end of the said bolt is screwed a clamping-nut, R, said bolt and nut thereby serving to clamp the seat-support, the tongue, and the metallic strap together, and to clamp the tongue and the strap to the bars E C of the frame, thus adapting the tongue and the strap, together with the seat-bar, to be adjusted laterally on the front end of the frame A, and adapting the seat to be adjusted longitudinally, as will be readily understood.

Secured to one side of the frame A, at a slight distance in rear of the center thereof, is a vertical standard, S, the lower end of which projects for a suitable distance below the said frame, and has an outwardly-extending spindle, T, on which is journaled a driving-wheel, U. Rigidly secured to the inner side of the driving-wheel, and also journaled on the spindle T, is a gear-wheel, V.

W represents a vertical guide or loop, which is secured on the side of the frame A directly opposite the standard S, and in the said guide or loop is arranged a vertically-movable standard, X, on the spindle of which is journaled a wheel, Y, of the same size and diameter as the wheel U.

Z represents a hand-lever, which is fulcrumed to the standard X, near the upper end of the latter, and has its front end connected to the frame A by means of a link, A', the said link having its upper end pivoted to the lever and its lower end pivoted to the frame, as shown. By operating the lever Z the wheel Y may be raised and lowered in order to keep the frame A in a horizontal position on uneven ground, as will be readily understood.

B' represents a rectangular frame, which comprises a pair of longitudinal side arms, C', and a cross-bar, D', which connects the rear ends thereof. The width of the said frame is equal to the width of the frame A, and the length of the arms C' is about equal to the

length of frame A, and the said frame B' is adapted to be arranged directly under the frame A with its arms C' in engagement with a pair of right-angled brackets, E', that depend from the frame A, near the front corners thereof. Said frame B' has at its rear side a pair of vertical brackets, F', which are adapted to bear against the rear cross-bar, D, of frame A, and to be secured thereto by bolts G', and the arms of frame B' are provided on their outer side with vertical right-angular brackets H', the upper ends of which are adapted to engage the side beams of frame A, as will be readily understood, thereby adapting the frame B' to be secured to and detached from the frame A at pleasure.

The lower ends of the brackets H' depend from the side arms of frame B', and in the same is journaled a transverse shaft, I', which is square in cross-section and has a ratchet-wheel, K', secured near one of its ends.

L' represents a pair of brackets or arms, which depend from the sides of frame B', near the front end thereof, and in which is journaled a transverse shaft, M', the same being similar in cross-section to the shaft I', and having rigidly secured near one of its ends a ratchet-wheel, N'.

O' represents a hanger, which is secured to one of the side arms of frame B' at a point between the ratchet-wheels K' and N', and fulcrumed to the lower end of the said hanger is a double-ended pawl or detent, P', which is adapted to engage the ratchet-wheels K' N', and thereby secure the same and the shafts to which they are attached against rotation. A lever, R', is secured to the said pawl or detent and has its upper end extending vertically and arranged near one side of the frame B'. By means of the said lever the pawl or detent may be caused to disengage the ratchet-wheels, as will be readily understood.

S' represents a pair of rock-arms, which have rectangular openings at their inner ends, in which the shaft M' is inserted, the said arms being thereby firmly secured to and adapted to turn with the said shaft. These arms are near the opposite ends of the shaft, are capable of lateral adjustment thereon, and are rigidly secured at any desired adjustment by means of keys T'. A similar arm, S², is secured to the shaft M', near the center thereof.

U' represents two pairs of arms, which are similar to the arms S', and are attached to the shaft I', near the ends thereof, and also secured to the center of said shaft is an arm, U², which is similar to the arm S².

V' represents two pairs of cultivator-beams, which are connected together, near their rear ends, by cross-bolt W'. The said cultivator-beams have their front ends arranged on opposite sides of the lower ends of arms S' and pivoted thereto by bolts X', and are connected to the lower end of the arms U' by pivotal bolts Y'. To the lower ends of the standards, which are curved downward from the rear

ends of the cultivating-beams are secured plows or teeth Z'.

A² represents a beam, which has its front end connected to the lower end of the arm S² by a pivotal bolt and its rear end connected to the lower end of arm U² in the same manner. Depending from the said beam is a spout, D², and communicating with the upper end of the said spout is a flexible tube, C², for the purpose to be hereinafter stated.

D² represents a hand-lever, which is detachably secured to the shaft I', and by means of which the latter may be partly rotated when the detent or pawl is disengaged from the ratchet-wheels. When the said hand-lever is moved rearward, the arms U' are turned forward, and the cultivator-beams, which connect the said arms to the arms S', cause the latter arms to also turn forward and partly rotate the shaft M', and thereby the cultivator plows or shovels are raised, as will be readily understood. When the lever D² is turned forward, the shafts I' M' are turned in the reverse direction, and the cultivators are lowered until the arms S' U' reach a vertical position, and if the hand-lever continues to be moved forward said arms incline rearwardly and raise the cultivators, as will be readily seen. By this means the cultivators may be readily disengaged from the ground when they encounter a stump, stone, or other obstruction, and hence the cultivators are prevented from being injured.

I will now describe the seed dropping or planting mechanism.

E² represents a cross-board, which has its ends secured on the upper side of a pair of longitudinal arms, F², at the rear ends of said arms. The said arms bear on the upper sides of the beams B of frame A, at the front end of the latter, and are bolted to the cross-bar E of the frame by bolts G². The board E² and arms F² constitute the frame of the planting or seed-dropping mechanism, and it will be understood from the foregoing description that said frame may be readily secured to or detached from the main frame A. In suitable bearings in the arms F² is journaled a shaft, H². To one end of the said shaft is secured a gear-wheel, I², which meshes with the wheel V, and to the center of the said shaft is secured a seed wheel or disk, K², the upper side of which projects through an opening in the bottom board, E². Said seed wheel or disk has a series of peripheral seed cups or recesses, L², which are arranged at suitable regular distances apart.

M² represents a hopper having downward converging sides and ends. The said hopper is secured on the board E², and on the rear side of the hopper is secured a brush, N², which bears on the periphery of the seed wheel or disk, and is adapted to sweep superfluous seeds from the seed-cups as the seed wheel or disk rotates.

O² represents a spout, which is secured to

the board E^2 under the hopper and depends therefrom, the said spout being adapted to direct the seeds that drop from the seed wheel or disk into the upper end of the flexible pipe C^2 , through which they pass into the spout B^2 , and from the latter the seeds drop onto the ground.

When the frame B' and the planting mechanism are secured to the main frame A and the machine is in operation, the cultivators serve to thoroughly stir and pulverize the soil while the seeds are being planted and to effectually cover the seeds, and thereby insure the germination thereof.

I will now describe the cotton-chopping mechanism which is adapted to be attached to the main frame A and to be used in connection with the cultivators, the latter serving to cultivate the growing cotton-plants, and the chopping mechanism serving to thin out the same to "stands" at suitable distances apart.

R^2 represents a substantially U-shaped frame, which comprises the rear cross-bar, T^2 , and the forward extending arms V^2 at the ends thereof, said cross-bar and forward extending arms being adapted to bear against the rear cross-bar and the side beams of the frame A , respectively. Secured to the center of the cross-bar T^2 is a vertical bracket, W^2 , the upper end of which is bent forward at right angles and adapted to engage the upper edge of the bar D of frame A , and said bracket may be secured to the said bar by means of a suitable bolt, X^2 , as shown.

Secured near the front ends of the arms V^2 are a pair of vertical brackets, Y^2 , the upper ends of which are bent inwardly at right angles and adapted to bear upon the upper sides of the bars B . A cross-bar, Z^2 , connects the arms V^2 , and is arranged at a suitable distance in advance of the bar T^2 , and from the center of the said cross-bar depends a vertical bracket, A^3 .

B^3 represents a forward and downwardly-extending bracket, which is also secured to the cross-bar Z^2 . Journaled in the said bracket and in the lower end of one of the brackets Y^2 is a shaft, C^3 , which has at one end a pinion, D^3 , that is adapted to engage the wheel V , and thereby impart rotary motion from the driving-wheels to the shaft C^3 ; also rigidly secured to the said shaft is a miter gear-wheel, E^3 .

F^3 represents a longitudinal shaft, which is journaled in bearings in the lower ends of the brackets W^2 and A^3 . The front end of the said shaft has a miter-wheel, G^3 , that engages the wheel E^3 , and to the rear end of the said shaft is secured a circular disk, H^3 .

I^3 represents a pair or more of arms, which are arranged on the rear side of the wheel or disk, and are pivoted on bolts K^3 . At the inner ends of the said arms are curved open slots L^3 , which are concentric with the bolts K^3 , and are engaged by clamping-bolts M^3 , by

which means the arms I^3 may be secured at any desired adjustment, either radially or tangentially, on the disk, and thereby cause the outer ends of the said arms to describe circles of varying diameters. To the said outer ends of the arms are secured chopping-hoes N^3 .

When this cotton-chopping mechanism is attached to the machine, the planting or seed-dropping mechanism is detached therefrom, though it may be retained, if preferred.

I will now describe an attachment for cutting cornstalks and broom-corn into short pieces when clearing the ground for fall seeding.

O^3 represents a substantially U-shaped frame of the same size as the frame R^2 and adapted to be secured under the frame, A , at the rear end thereof, in lieu of the frame R^2 , the said frame O^3 being likewise provided with vertical brackets P^3 and R^3 at its rear end and at its sides, which are adapted to engage the rear cross-beam and side beams of the frame A . The side arms of the frame O^3 are provided at their front ends with depending standards S^3 , in which is journaled a shaft, T^3 . To the ends of the latter are secured a pair of circular disks or heads, U^3 , of suitable diameter, and the said disks or heads are connected together by a series of obliquely-arranged cutter-blades, V^3 , which have their ends inserted and secured in tangential slots W^3 in the peripheries of the disks or heads.

When the machine is in motion, the cutter-blades successively engage the ground, impart rotary motion thereby to the cutting-wheel, and serve to cut the cornstalks or stalks of broom-cane in short pieces, as will be readily understood.

In Fig. 6 I illustrate one of a pair of turning-plows, which are adapted to be used in lieu of the cultivating-plows hereinbefore described, said turning-plows comprising the beams X^3 , adapted to be pivotally bolted to the lower end of the arms S' and U' , and having their rear ends curved downward to form standards, to which are secured the integral mold-boards and points Y^3 Z^3 .

Having thus described my invention, I claim—

1. The combination, with the frame A , having the supporting-wheels, and a supplementary detachable and removable frame carrying the implements and adapted to bear against the lower side of frame A , and the devices to detachably secure said frame to the frame A , whereby the machine is adapted for using various cultivating and cutting devices, substantially as described.

2. The combination, with the frame A , having the supporting-wheels, and a supplementary detachable and removable frame carrying the implements and adapted to bear against the lower side of frame A , said supplementary frame being provided with the vertical right-angular brackets adapted to

engage the sides and rear end of the frame A, and the bolts to secure the said supplementary frame to the frame A, whereby the machine is adapted for using various cultivating and
5 cutting devices, substantially as described.

3. The combination, with the main frame A, having the driving or supporting wheels, of the frame B', detachably secured thereto, and having the depending brackets, the rock-
10 shafts journaled in said brackets and having the ratchet-wheels and the rock-arms, the plow-beams pivotally bolted to the lower ends

of the rock-arms, the double-ended pawl or detent to engage said ratchet-wheels and having the operating-lever, and the lever secured
15 to one of the rock-shafts, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ABRAM B. McBRIDE.

Witnesses:

W. M. BENNETT,
B. M. MAYFIELD.