

(No Model.)

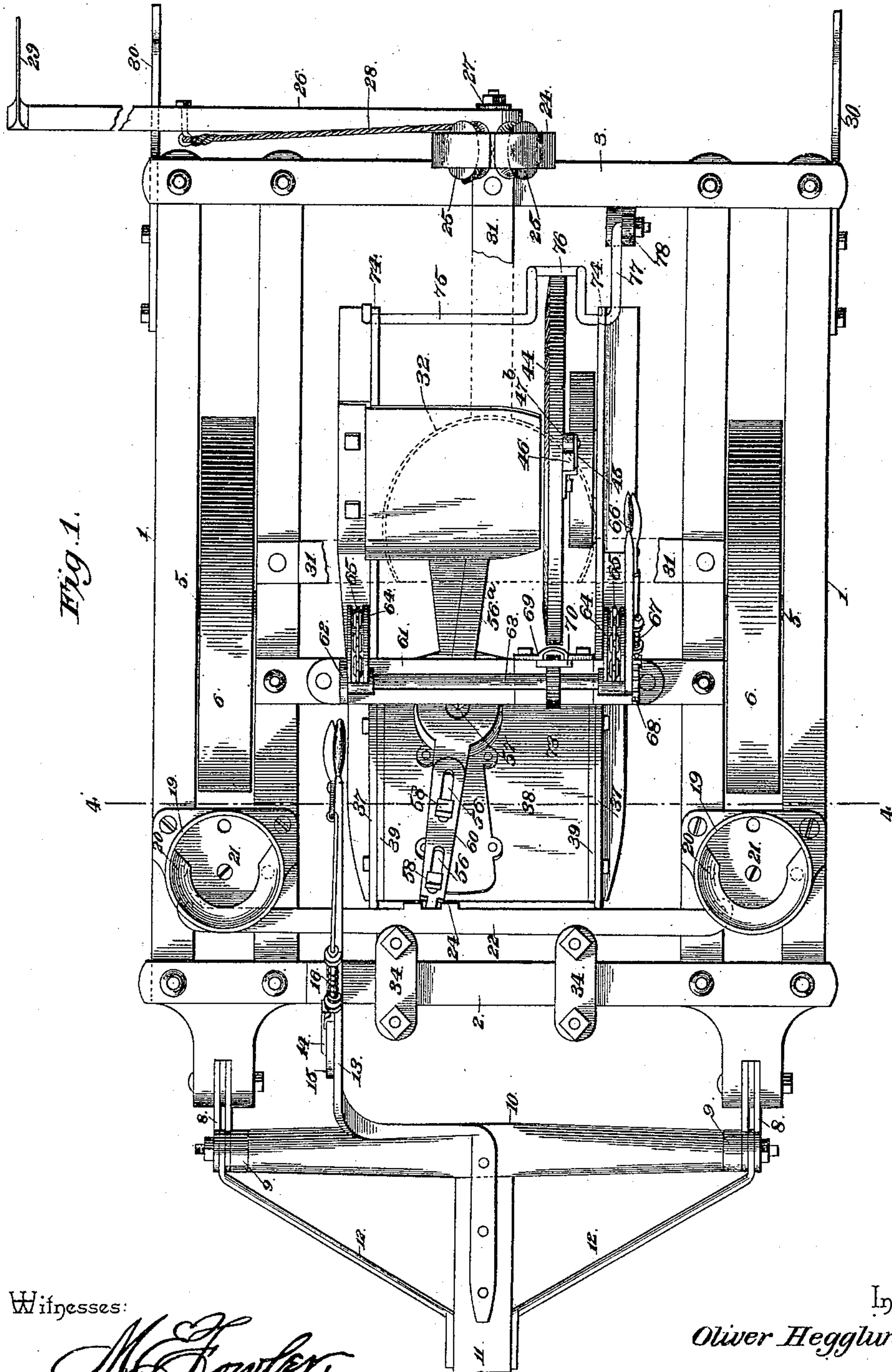
3 Sheets—Sheet 1.

O. HEGGLUND.
CORN PLANTER.

No. 467,099.

Patented Jan. 12, 1892.

Fig. 1.



Witnesses:

M. Fowler,
W. S. Duval.

By *his* Attorneys,

Inventor

Oliver Hegglund

C. A. Snow & Co.

No Model.)

3 Sheets—Sheet 2.

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Fig. 2.

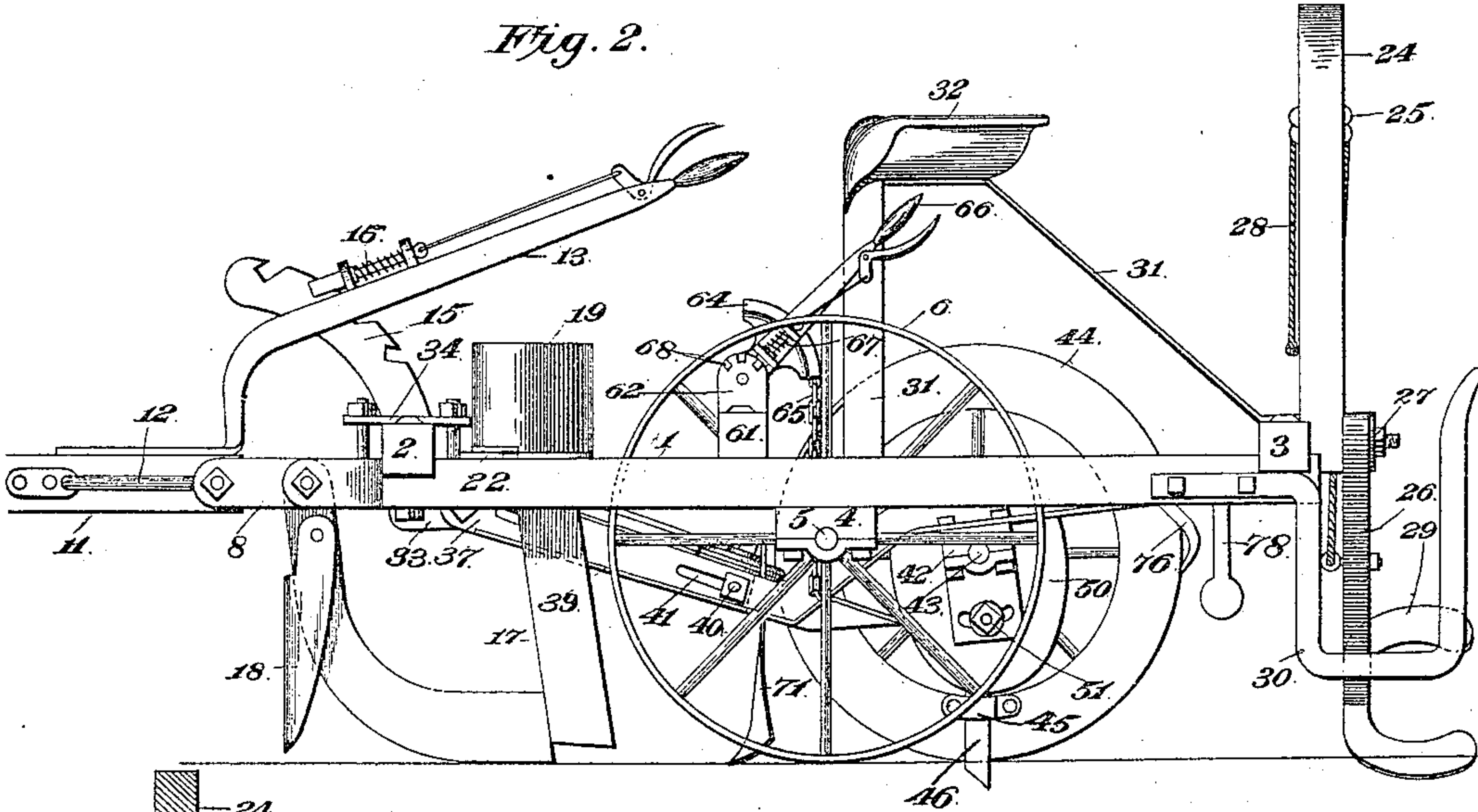


Fig. 3.

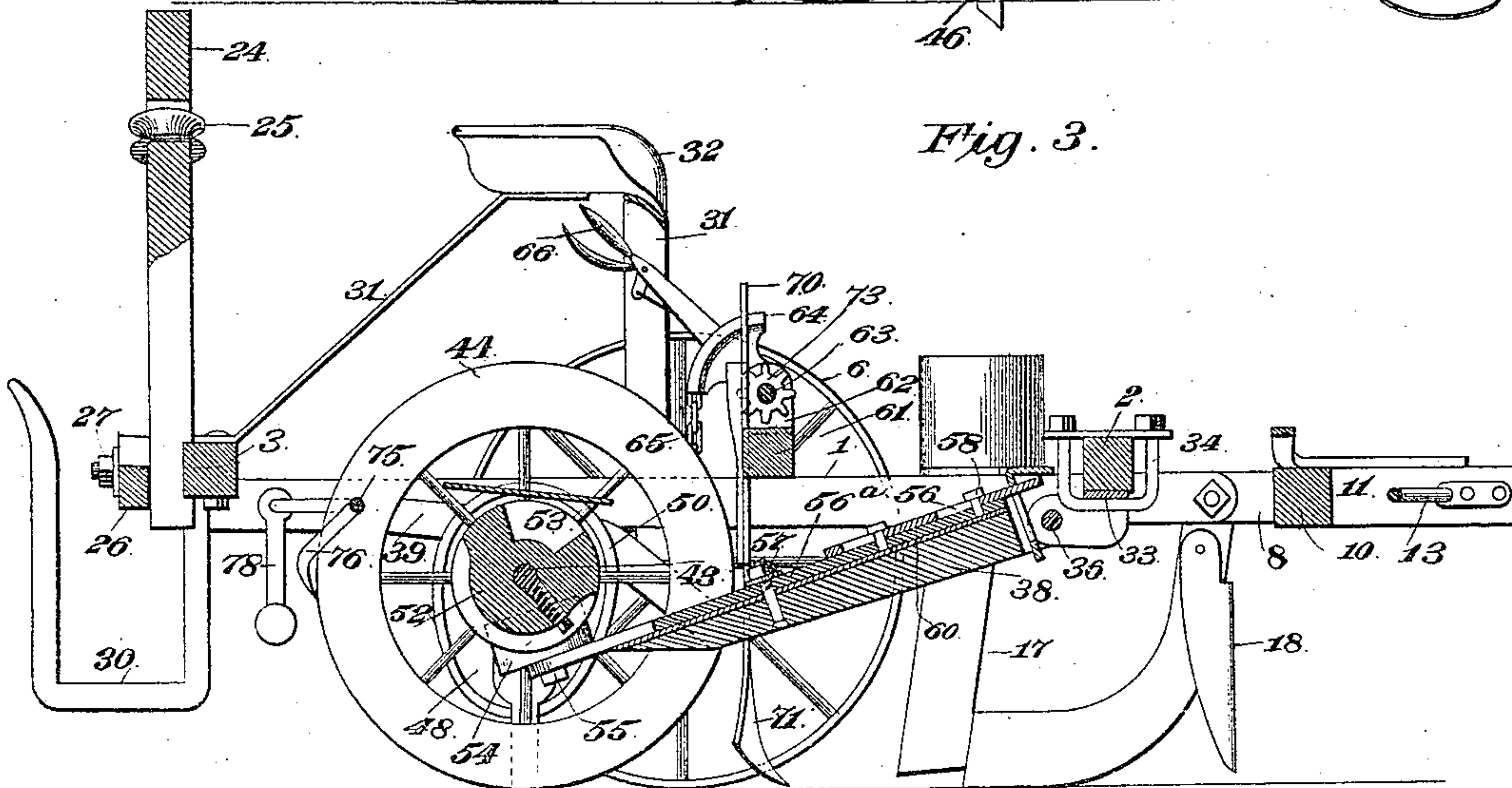


Fig. 7.

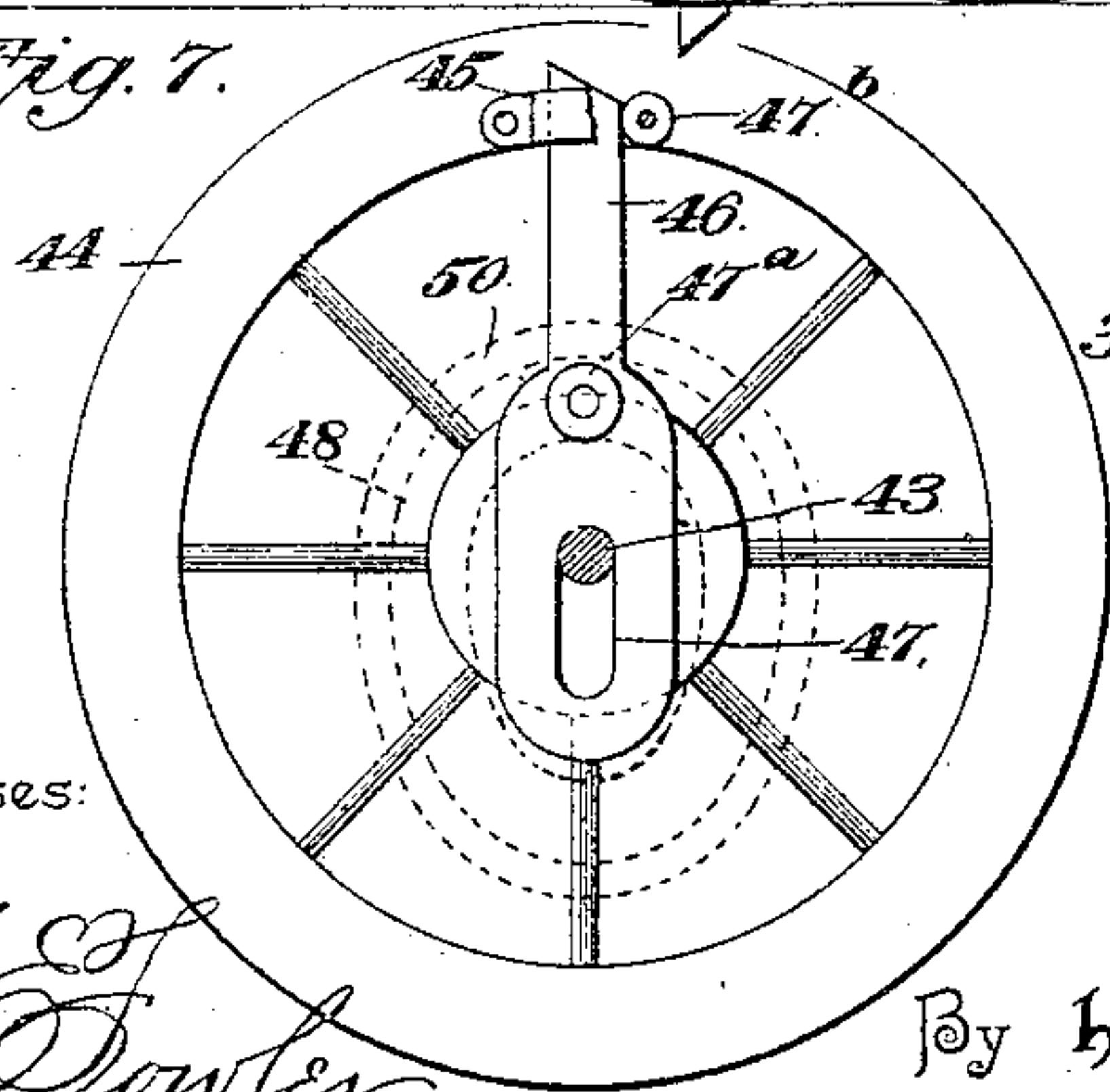
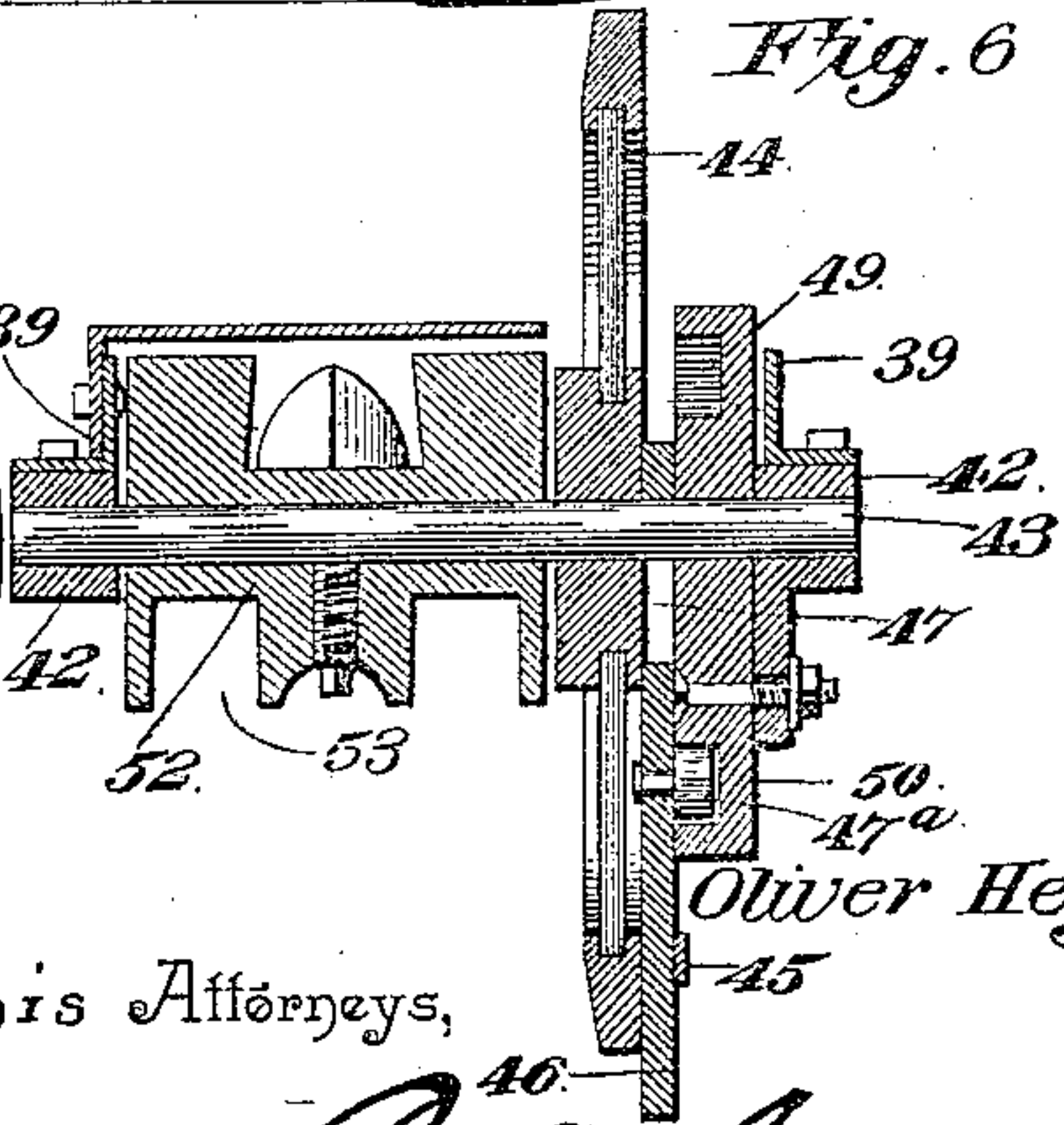


Fig. 6.



Witnesses:

M. Fowler
M. S. Duval

By his Attorneys,

C. A. Snow & Co.

Inventor

Oliver Hegg Lund

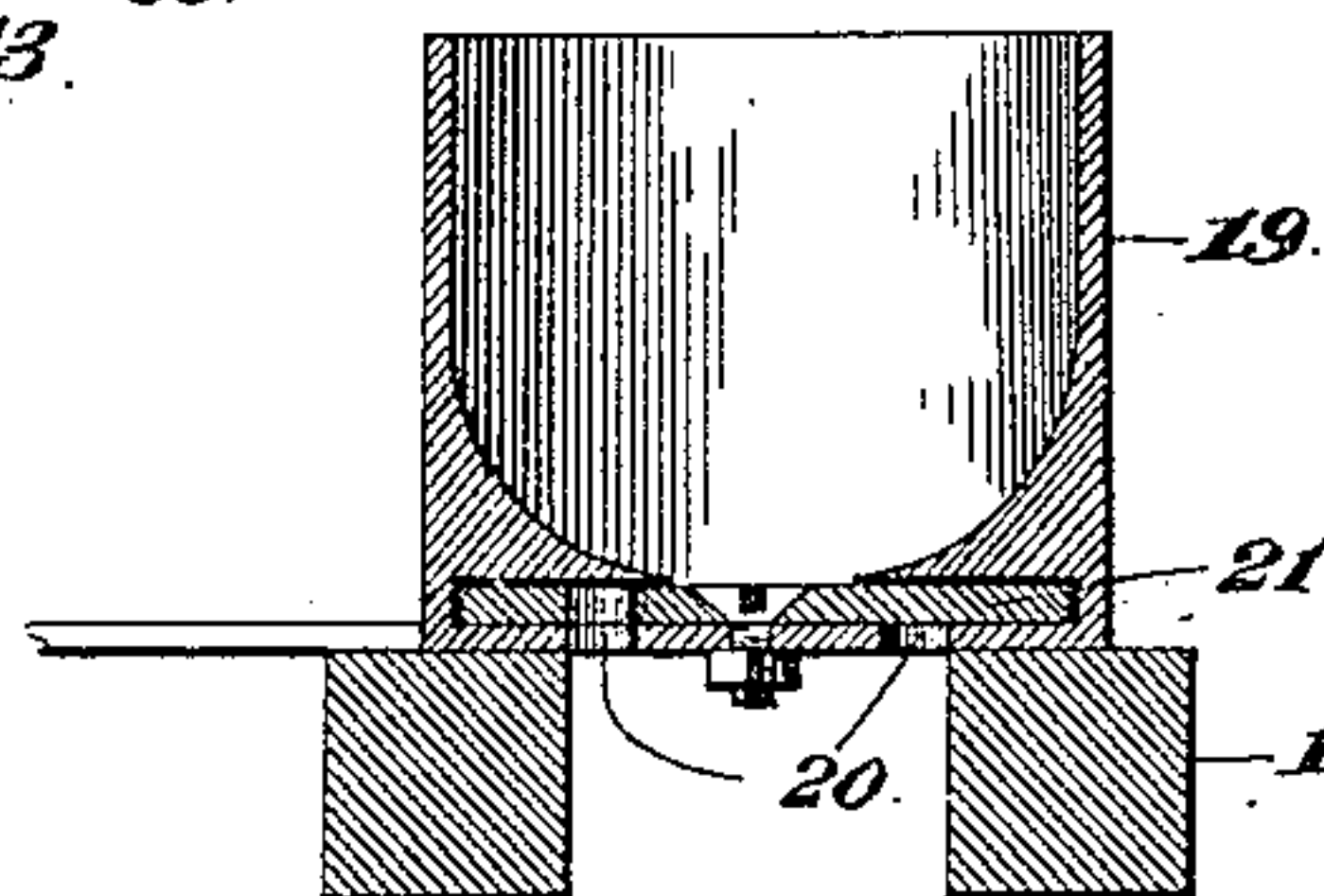
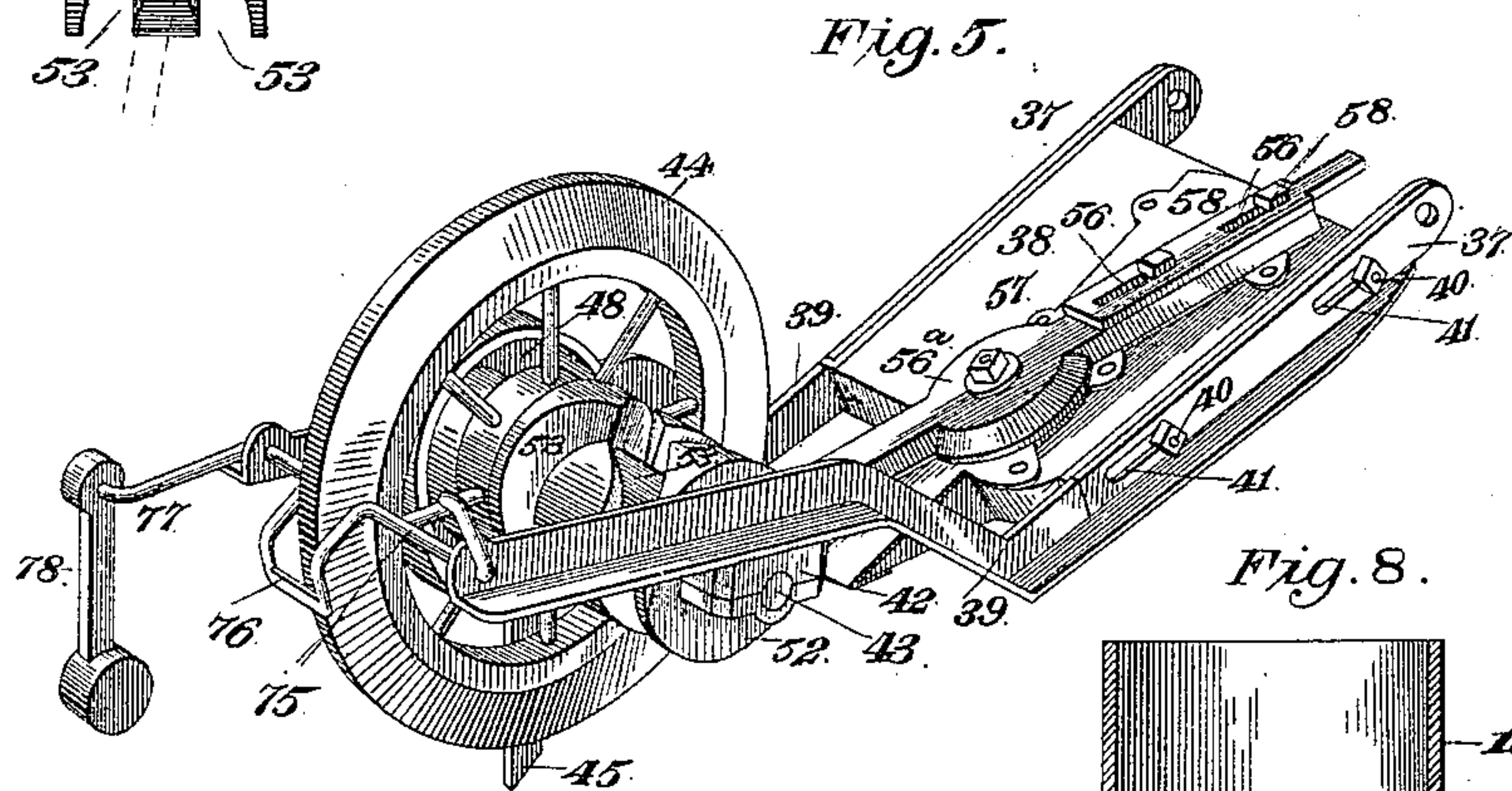
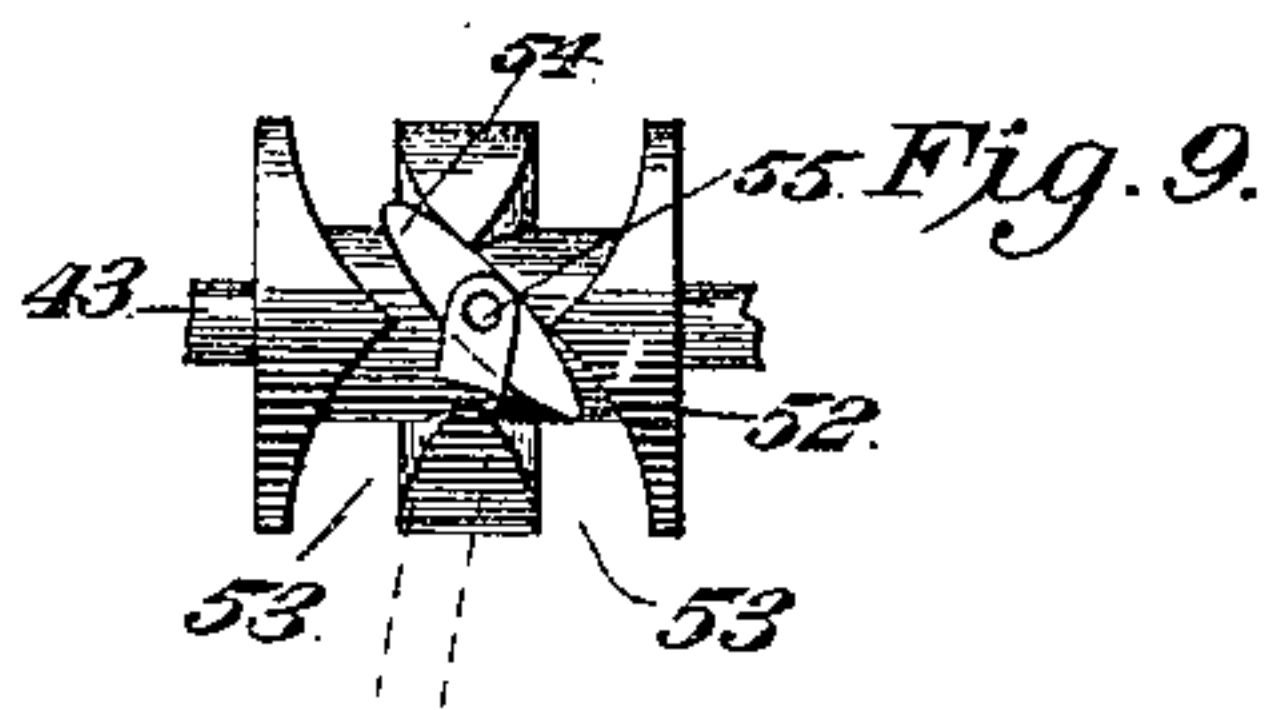
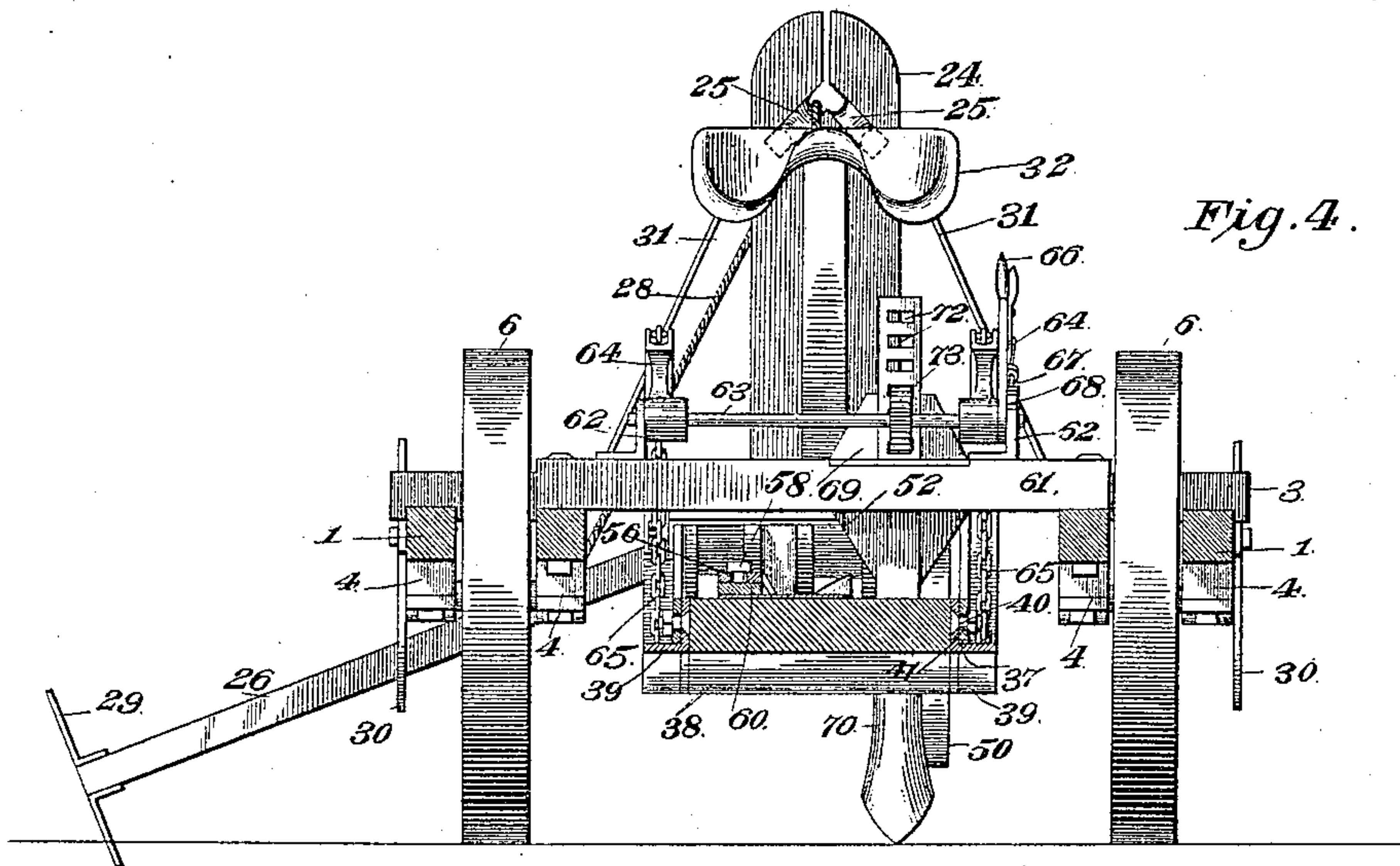
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3 Sheets—Sheet 3.

O. HEGGLUND.
CORN PLANTER.

No. 467,099.

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Witnesses:

M. J. Fowler
W. S. Dugall

Inventor

Oliver Heggland

By his Attorneys,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

OLIVER HEGGLUND, OF OAKLAND, NEBRASKA.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 467,099, dated January 12, 1892.

Application filed June 30, 1891. Serial No. 398,038. (No model.)

To all whom it may concern:

Be it known that I, OLIVER HEGGLUND, a citizen of the United States, residing at Oakland, in the county of Burt and State of Nebraska, have invented a new and useful Corn-Planter, of which the following is a specification.

This invention relates to improvements in corn-planters, the objects in view being to provide a planter of cheap and simple construction that will successively plant at proper distances apart the grains of corn, that will automatically indicate the points at which the grains are planted, and to provide means for raising and lowering the frame.

A further object in view is to adapt certain of the mechanism to be applied in the form of an attachment to the ordinary corn-planters of the present day.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a plan of a corn-planter constructed in accordance with my invention, the driver's seat being removed to expose the mechanism below. Fig. 2 is a side elevation. Fig. 3 is a vertical longitudinal section. Fig. 4 is a transverse section on the line 4 4 of Fig. 1. Fig. 5 is a detail in perspective of the seed-box-operating mechanism or attachment. Fig. 6 is a transverse section through the wheel and cam of the same. Fig. 7 is a detail in elevation of the wheel, the indicating-plunger, the cam being shown by dotted lines. Fig. 8 is a transverse section through one of the seed-boxes. Fig. 9 is a detail of the cam-cylinder.

Like numerals of reference indicate like parts in all the figures of the drawings.

In constructing the frame-work of my planter I employ opposite pairs of side beams 1, extending parallel to each other and the pairs connected at their front ends by a transverse bar 2 and at their rear ends by a transverse bar 3. The beams 1 of each pair are spaced apart, as shown, at points between the front and rear transverse bars and are provided with a pair of bearing-boxes 4, which receive the axles 5 of a pair of ground-wheels 6. The front ends of the side beams are bifurcated, and from the same extend rigid draft-arms 8, in the outer extremities of which are pivoted or journaled the bearing ends 9

of a draft-bar 10, from which extends the draft-pole 11, braced by means of a pair of opposite diverging braces 12, leading to the outer ends of the arms 8, between which the braces take and are bolted, as shown. A rigid lever 13 is securely bolted to the upper side of the draft-pole 11 and extends rearwardly over and beyond the cross-bar 2 of the frame, the said lever being provided at one side with a keeper 14, in which slides a curved notched sector or locking-standard 15, rigidly secured to the front cross-bar 2. A spring-bolt 16 of ordinary construction is mounted on the lever 13 and engages with the teeth of the locking-standard 15, whereby the frame as a whole may be raised and lowered at its front end and locked in such relation with the draft-bar, as will be obvious.

To the under sides of the beams 1 are secured the seed conductor and shoes 17, of ordinary construction, and in front of the same and bolted to and embracing said shoes are located the clearers or colters 18. Above the rear ends of the shoes, upon the beams 1, are located the seed-boxes 19, the bottoms of which are provided with perforations 20, and have pivoted thereto oscillating perforated seed-disks 21, the two seed-disks being connected by means of a seed-disk-operating bar 22, which bar is provided at its center with a depending slotted tongue 24.

To the rear cross-bar 3 is secured a standard 24, which near its upper end is provided with a pair of oppositely-inclined pulleys 25. A marker-bar 26 is pivoted, as at 27, to the rear cross-bar, and a rope 28 leads from the marker-bar between the pulleys, riding over either one of the same in accordance with the side of the planter to which the bar is thrown. The bar is provided with a suitable marker 29 and is adapted to rest in the supporting-brackets 30, secured to the opposite corners of the frame.

Upon the frame by three standards 31 there is mounted a driver's seat 32. The rope for the marker-bar is within easy reach of the driver, who by drawing upon the rope may readily shift the bar from one side to the other.

33 designates an inverted-U-shaped plate secured by clips 34 to the under side and at the center of the transverse beam 2. In this plate there is located a transverse bearing-pin 36, which passes through and serves as a

pivotal connection with the front ends of a pair of rearwardly-disposed metal straps 37. A block 38 is provided at opposite sides with metal straps 39, and from the same extend bolts 40, which pass through slots 41, formed in the metal straps 37. The straps 39 are therefore adjustable, together with the block 38, upon the straps 37. The metal straps 39 are L-shaped in cross-section or formed of angle-iron and in rear of the block 38 are somewhat upwardly disposed, as shown, being provided near their rear ends with bearing-boxes 42, in which is mounted a transverse axle 43, adapted for rotation. A wheel 44, having a narrow tread is mounted for rotation on the axle, and is provided upon the outer side of its rim with a keeper 45, having at one end a friction-roller 47^b, against which is mounted a reciprocating plunger 46, the upper end of the plunger being slotted, as at 47, to loosely embrace the axle, while the outer or operating end of the plunger is beveled or sharpened, as shown. To one side of the plunger is secured a friction-roller 47^a, and the same travels in an elliptical cam path or track 48, formed in the inner face of a cam-plate 50, located at one side of the wheel 44 and securely bolted, as at 51, to the adjacent bearing-box 42.

At one side of the wheel 44 there is mounted upon the axle and adapted to rotate therewith a cylinder 52, which cylinder is provided with a pair of oppositely-disposed spiral crossing cam tracks or grooves 53, in which at the under side of the cylinder is mounted a substantially diamond-shaped cam-block 54. This cam-block is pivoted, as at 55, upon the rear end of a vibrating lever 56^a, which is pivoted between its ends, as at 57, to the block 38. The lever at its front end is provided with a pair of upwardly-disposed lugs 58, which pass through a pair of slots 56, formed in an extension-arm 60, the front end of which is in engagement with the slotted tongue. It will be seen that the metal straps 37 may be adjusted a suitable distance from the bar 2 and that the slotted extension-arm 60, just mentioned, may be elongated, so as to engage with and operate the seed-slide-operating bar 22.

The attachment thus described may be applied to any ordinary planter and need not necessarily be built in the machine herein illustrated, as will be evident, and I therefore do not limit said attachment to use in connection with the other adjuncts heretofore described and hereinafter described.

A cross-bar 61 connects the two beams 1, and upon the same are mounted standards 62, in which is journaled a rock-shaft 63, provided with grooved sectors or rock-arms 64, from which chains 65 lead to the opposite metal bars 39 of the seed-operating attachment. The rock-shaft may be operated by a hand-lever 66, which is bolted to one of the sector-shaped rock-arms 64 and is provided with a spring-actuated bolt 67, adapted to en-

gage with teeth 68, formed in the upper edge of the adjacent bearing-standard 62. By operating this lever 66 it will be obvious that the seed-operating attachment may be raised and lowered into and out of contact with the ground.

In keepers 69, located upon the bar 61, is a vertically-reciprocating shovel-standard 70, terminating at its lower end in a shovel 71, while its standard or shank portion is provided with a series of openings 72. Opposite the standard, upon the rock-shaft 63, a gear 73 is located, the teeth of the gear engaging with the openings in the standard, so that as the lever 66 is operated to elevate the indicating and seed-slide-operating mechanism so also is the shovel, and in a like manner are the two simultaneously lowered into operative positions. The shovel is located directly in front of the wheel 44 and is designed to form a level smooth furrow or way in which the wheel may travel.

In bearing-eyes 74, formed in the rear ends of the side bars 39, is journaled the transverse shaft 75, which shaft is provided between its bearings with a cranked scraping portion 76 and is extended beyond one of its bearings to form a crank 77. To the latter is loosely suspended a weighted lever 78, which when thrown to the rear yieldingly maintains the scraping cranked portion of the shaft against the periphery of the wheel 44, and by throwing said lever to the front so as to rest upon a convenient portion of a side bar 39, said scraping portion of the shaft is maintained out of contact with the wheel.

The operation of the machine will be readily understood from the foregoing description, taken in connection with the accompanying drawings, and a restatement of the same is thought unnecessary. However, the following synopsis may be given: After the operator has arrived at the field or point of operation he adjusts the lever 13 so as to give the planter the proper elevation, after which he adjusts his marker-bar to the proper side of the machine, and, swinging the scraper into position upon the wheel, lowers the slide-operating attachment, together with the shovel, and starts the machine. As the machine moves the rotations of the wheel 44 are transmitted to the axle thereof and to the cam-cylinder, which, by reason of the described position and disposition of its grooves, causes the cam-block to vibrate back and forth from side to side as the cam-cylinder revolves. The cam-block, being pivoted to the seed-disk-operating lever, transmits motion therefrom to the seed-slide-operating bar 22, thus opening and closing the seed-disks of the hoppers and permitting successive discharges of seed, which are thus successively dropped. As the wheel 44 revolves it carries with it the reciprocating marker or plunger, and the cam-plate being stationary said marker or plunger is reciprocated beyond the periphery of the wheel at each revolution of the latter and at

such times as the marker is directly in contact with the ground, so that as the wheel travels in the furrow it is marked at intervals corresponding with the location of the corn dropped.

From the foregoing description it will be seen that I provide a cheap and simple construction of planter adapted to plant corn at suitable distances apart, clearly indicate the point of planting, and which planter is complete in all the details mentioned, and which require no recapitulation.

Having described my invention, what I claim is—

1. The combination, with the planter-frame having opposite seed-hoppers provided with disks, and the intermediate vibrating disk-operating connecting-bar, of the frame-work located within the planter-frame and adjustably connected thereto, the vibrating lever pivoted on the frame-work and at its front end provided with the extension-arm engaging the seed-disk-operating bar, the axle, the wheel mounted thereon and rotating therewith, the cam-cylinder mounted on the axle, and the cam-block pivoted to the rear end of the lever and moving in the cam-slot of the cylinder, substantially as specified.

2. The combination, with the planter-frame having opposite seed-hoppers provided with disks, and an intermediate connecting-bar for operating the disks, of the frame-work located within the planter-frame and adjustably and pivotally connected thereto, the vibrating lever pivoted on the frame-work and having the extension-arm engaging the seed-disk-operating bar, the axle, the wheel mounted thereon, the cam-cylinder having oppositely-disposed spiral intersecting tracks, a cam-block mounted for movement in the tracks and pivoted loosely at the rear end of the vibrating lever, and means for raising and lowering the frame-work, substantially as specified.

3. The combination, with the planter-frame having opposite seed-hoppers provided with disks, and an intermediate connecting-bar for operating the disks, of the frame-work located within the planter-frame and adjustably and pivotally connected thereto, the vibrating lever pivoted on the frame-work and having the extension-arm engaging the seed-disk-operating bar, the axle, the wheel mounted thereon, the cam-cylinder having opposite crossing tracks, a cam-block mounted for movement in the tracks and pivoted loosely at the rear end of the vibrating lever, a transverse bar, bearings mounted thereon, a rock-shaft, a lever for operating the rock-shaft, means for locking the lever, rock-arms mounted upon the rock-shaft, and connections between the rock-arms and the frame-work, substantially as specified.

4. The combination, with the planter-frame having opposite seed-hoppers provided with disks, and an intermediate connecting-bar for operating the disks, of the frame-work located within the planter-frame and adjust-

ably and pivotally connected thereto, the vibrating lever pivoted on the frame-work and having the extension-arm engaging the seed-disk-operating bar, the axle, the wheel mounted thereon, the cam-cylinder having opposite crossing tracks, a cam-block mounted for movement in the tracks and pivoted loosely at the rear end of the vibrating lever, a transverse cross-bar, bearings mounted thereon, a rock-shaft, a lever for operating the rock-shaft, means for locking the lever, rock-arms mounted upon the rock-shaft, connections between the rock-arms and the frame-work, a keeper mounted on the cross-bar, a shovel-standard mounted for vertical movement in the keeper and provided with a series of notches, and a gear mounted on the rock-shaft and engaging the notches of the standard, substantially as specified.

5. The combination, with the planter-frame comprising the front transverse bar, the hoppers having the disks, and the intermediate pivoted disk-operating bar, of the inverted-U-shaped plate, the clips connecting the same to the transverse bar, the opposite slotted straps, the bolt passed through the ends of the straps and the plate, the opposite side bars, bolts passing through the same and through the slots in the straps, and the seed-disk-operating mechanism supported by the bars, substantially as specified.

6. The combination, with the frame-work, the seed-boxes, their disks, and the intermediate connecting-bar, of the indicating-wheel, the shaft for the same, a lever located between the connecting-bar and the shaft, and means for transmitting vibratory motion from the shaft to the lever, a plunger slotted and mounted on the shaft at the side of the wheel, a keeper secured to the wheel and loosely receiving the plunger, a friction-roller located at one side of the plunger, and a cam-plate having an elliptical cam-track located at one side of the wheel and receiving the roller, substantially as specified.

7. The combination, with the rearwardly-disposed bars and the indicating-wheel mounted thereon, of the scraper-shaft journaled in the bars in rear of the wheel and between its bearings provided with a cranked scraping portion adapted to lie against the wheel when lowered, and beyond one of its bearings provided with a crank-arm, and a weight loosely suspended from the crank-arm and adapted to be thrown to opposite sides of the shaft for the purpose of throwing and maintaining the scraper portion of the shaft into or out of contact with the wheel, and means for supporting the weight when thrown to the front, substantially as specified.

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

OLIVER HEGGLUND.

Witnesses:

C. K. CULL,

W. HEGGLUND.