

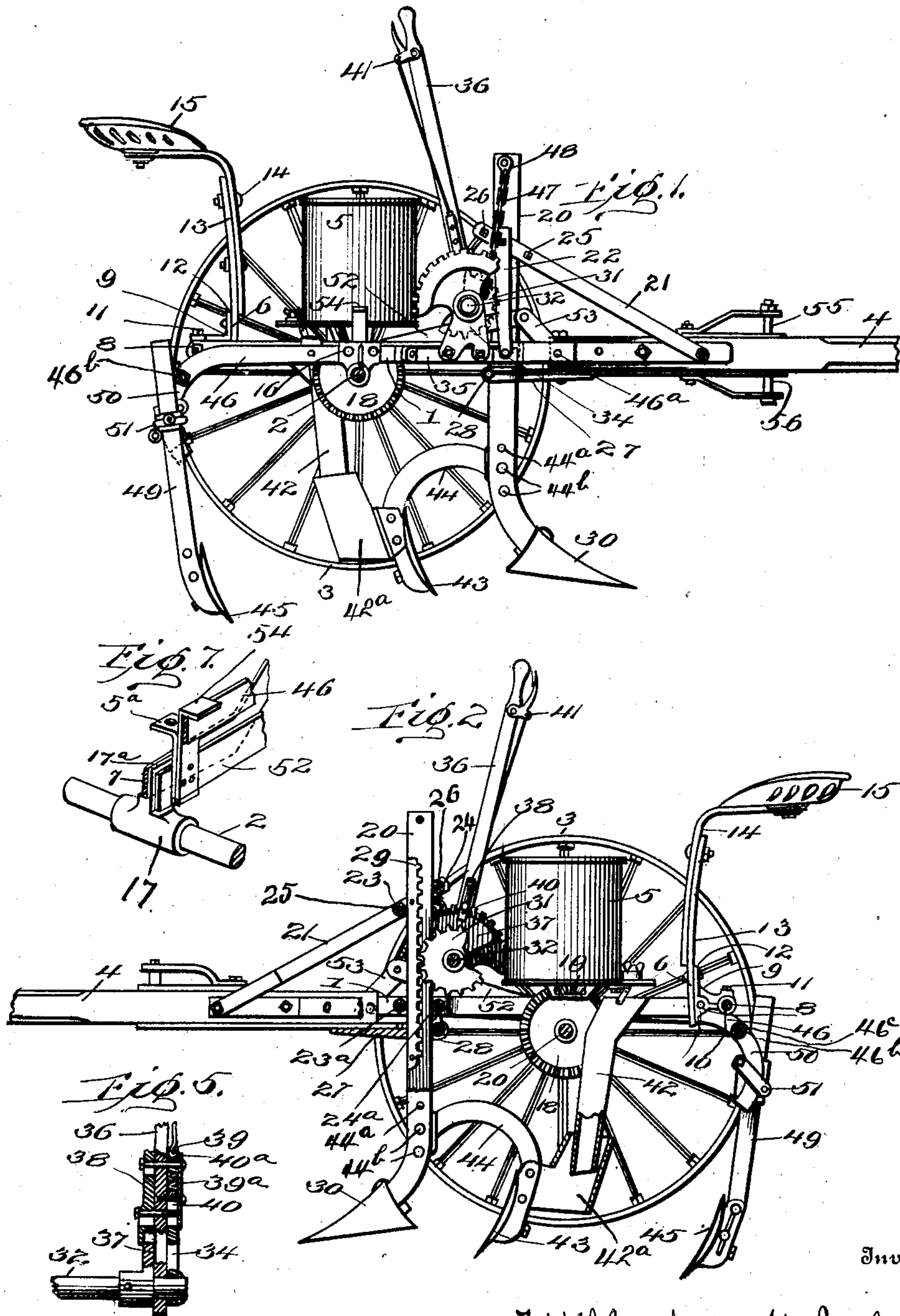
No. 845,003.

PATENTED FEB. 19, 1907.

W. H. HOLSCLAW.
PLANTER.

APPLICATION FILED JAN. 24, 1907.

2 SHEETS—SHEET 1.



Inventor

Wilford H. Holsclaw.

Witnesses

J. M. Fowler Jr.
A. L. Kitchen

By

Mason, Fenwick Lawrence
his Attorneys.

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Fig. 3.

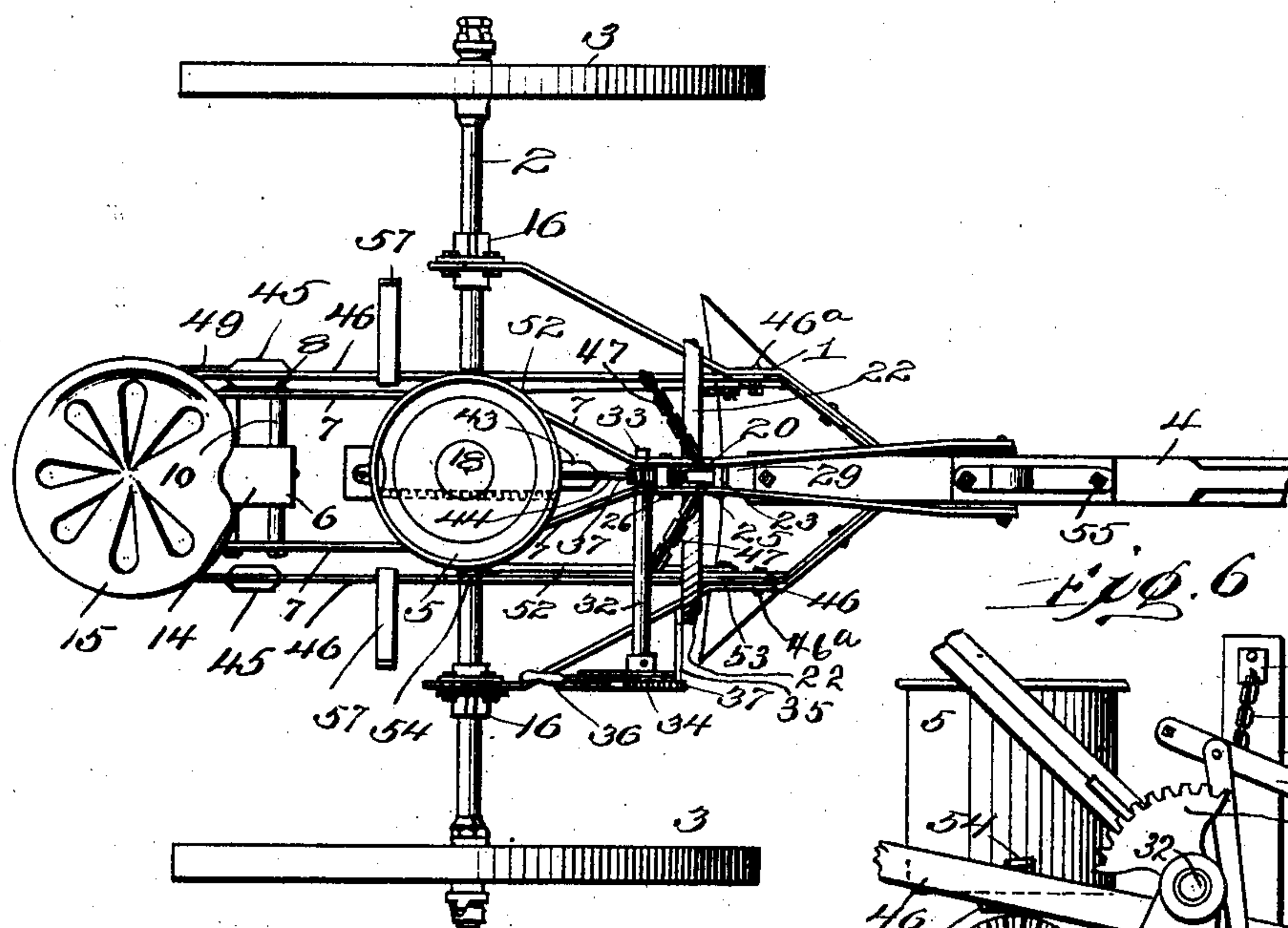


Fig. 6.

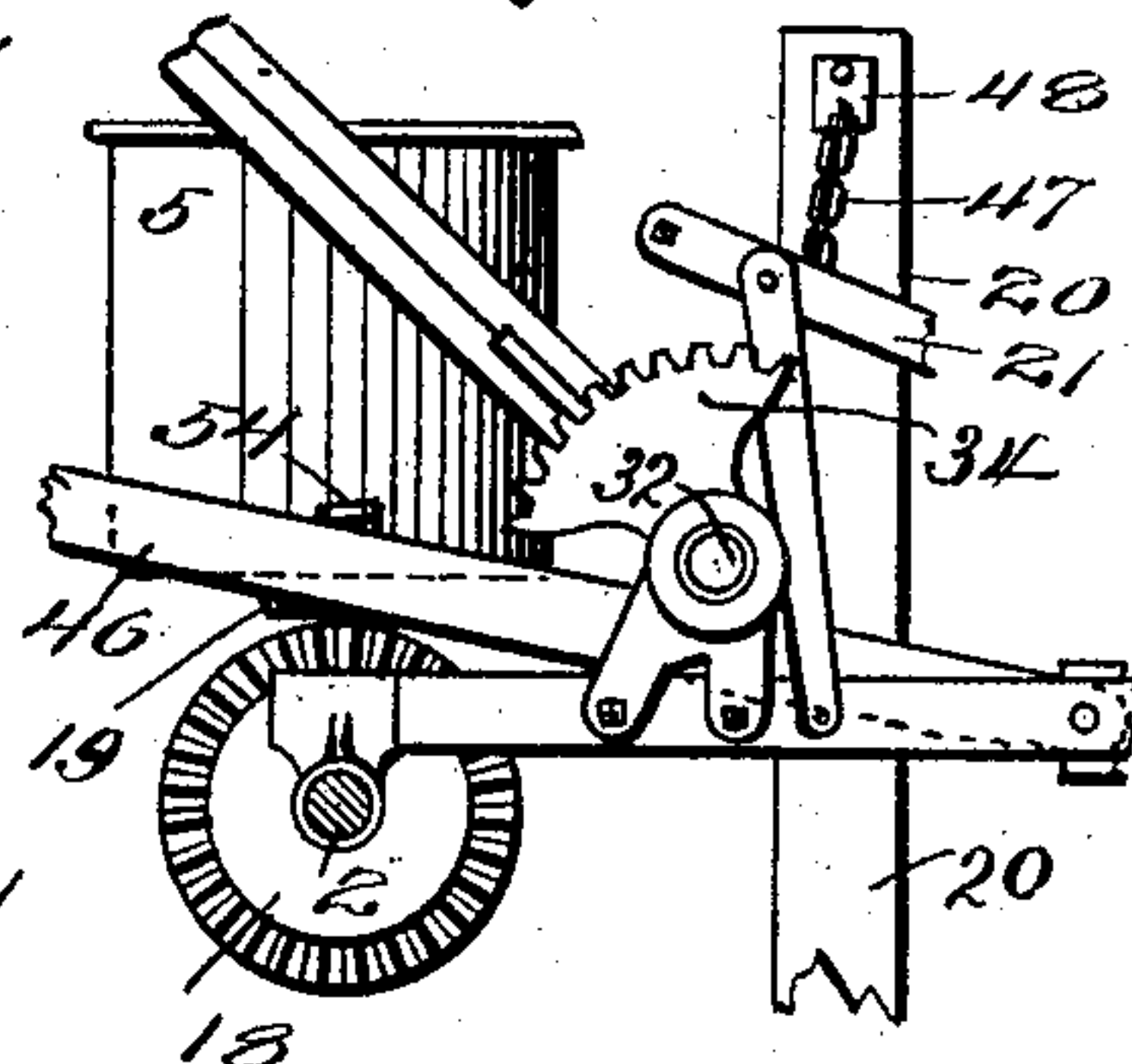
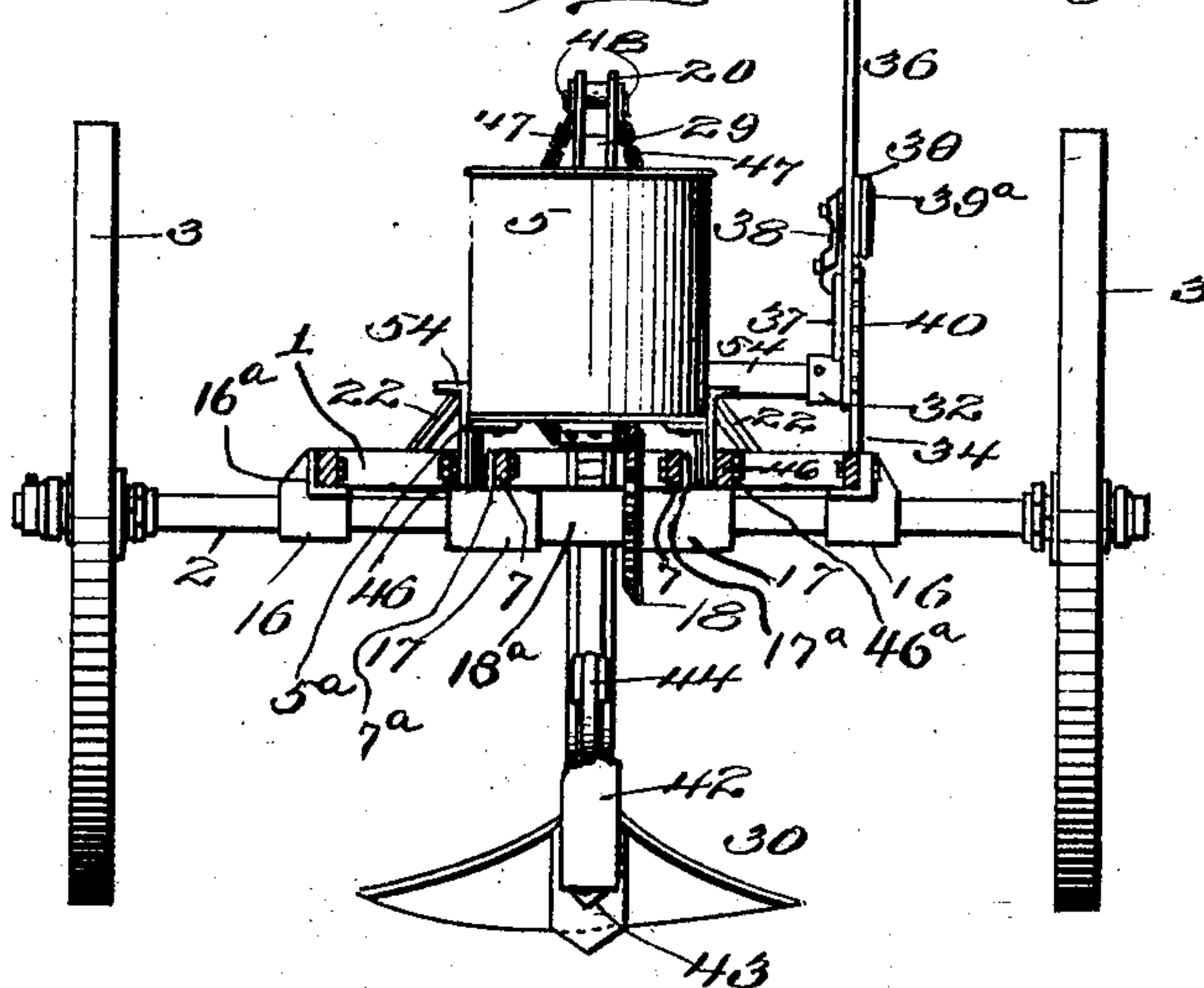


Fig. 4.



Inventor

Wilford H. Holsclaw.

By

Mason, Fenwick Lawrence
his Attorneys

Witnesses

J. M. Fowler
A. L. Kitchen.

UNITED STATES PATENT OFFICE.

WILFORD H. HOLSCLAW, OF LOUISVILLE, KENTUCKY, ASSIGNOR TO B. F. AVERY & SONS, OF LOUISVILLE, KENTUCKY, A CORPORATION OF KENTUCKY.

PLANTER.

No. 845,003.

Specification of Letters Patent.

Patented Feb. 19, 1907.

Original application filed September 10, 1903, Serial No. 172,647. Divided and this application filed January 24, 1907. Serial No. 353,857.

To all whom it may concern:

Be it known that I, WILFORD H. HOLSCLAW, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Planters; and I do hereby 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.

The invention relates to improvements in planters, and particularly to such as are supported by suitable carrying-wheels and an axle and are provided with pivoted drag-bars; and the object in view is the provision of means for supporting the drag-bars when in their lowermost position out of contact with the axle or other moving parts of the planter.

With this and other objects in view, which will become obvious hereinafter, the invention comprises certain novel constructions, combinations, and arrangement of parts, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this application, Figure 1 is a side elevation of a seed-planter involving one embodiment of the present invention. Fig. 2 is a vertical longitudinal section through the central portion of the planter, portions being shown in side elevation. Fig. 3 is a top plan view of the planter. Fig. 4 is a rear elevation thereof. Fig. 5 is a detail sectional view through a part of the operating-lever and its sectors. Fig. 6 is a detail view showing a portion of the planter-frame and illustrating the manner of mounting the seed-hopper thereon, the gears being shown slightly separated. Fig. 7 is an enlarged detail perspective view of a bearing-sleeve and surrounding mechanism forming part of the present invention.

In embodying the present invention in practical form I preferably provide a framing 1, which may be termed a "rigid" frame, which framing is supported by an axle 2, mounted on carrying-wheels 3. The framing 1 is made up preferably of flat bars, but may be formed, of course, of any suitably-shaped material, the bars being arranged to converge near their front ends and terminating in forwardly-extending parallel portions

overlapping the sides of a tongue 4, retaining-bolts being passed through the parallel portions and the tongue. The bars comprising framing 1 diverge rearwardly, as clearly seen in Fig. 3, and then extend rearwardly substantially parallel to each other. The said bars are thus spaced apart at their rear ends, the two inner bars 7 7 of framing 1 being connected at their rear ends by bolts 8 8, which, with the bars 7, form what may be termed an "inner loop" or "inner frame." The bars 7 are prevented from spreading laterally by bolts 8, and each of the bolts 8 is provided with a surrounding sleeve or tube 10, which is of a length equal to the distance apart of the bars 7, each of said sleeves or tubes having its ends engaging the inner faces of the bars 7 for preventing movement of the bars 7 toward each other. The bars 7 are bolted intermediate their length to the upstanding shoulders 17^a, formed on bearing-sleeves 17, which sleeves are loosely mounted on the axle 2. The two other bars of framing 1 produce what may be termed an "outer frame." Bearing-sleeves 16, formed with upstanding shoulders 16^a, are loosely mounted on the axle 2, and the bars of the outer frame are bolted to the shoulders 16^a of said sleeves.

A seat 15 is provided and carried by a standard 6, formed, preferably, of an upper part 14 and a lower part 13, connected together by suitable bolts in such manner that the upper and lower parts of the standard are susceptible of adjustment with respect to each other. A block 9 is provided with apertures for receiving the bolts 8, together with their sleeves, and said block 9 is formed with a vertical bearing-face 12, to which the lower end of standard 6 is bolted or otherwise suitably secured. The block 9 is preferably firmly retained in place by a set-screw 11, threaded through the block into engagement with one of the bolts 8. The seat 15 is disposed at the rear of the framing and in the longitudinal central line thereof.

In front of the seat 15 is arranged a seed-box or hopper 5, which is provided with suitable seed-dropping mechanism of any preferred type, (not illustrated,) which dropping mechanism is arranged to be operated by a gear-wheel 19. The gear 19 is adapted during operation to mesh with a gear 18 for being actuated thereby, the said gear 18 be-

ing fixed to a sleeve 18^a, as clearly seen in Fig. 4, which sleeve surrounds and is fixed to the axle 2. Said sleeve 18^a is of sufficient length to extend from one of the bearing-sleeves 17 to the other of the bearing-sleeves 17, so that said bearing-sleeves are prevented from being moved toward each other, and owing to the rigidity of the connection between the inner and outer frames of framing 1 the sleeve 18^a determines the position of the framing 1 and parts carried thereby with respect to the axle. To the hopper 5 are secured brackets 5^a 5^a, which brackets are also secured to a pivotally-mounted frame embodying side bars 52 52. The side bars 52 extend forwardly and upwardly from beneath the hopper and at their forward ends are pivotally connected to upwardly-extending bars 53 53, which bars 53 are fixed in the forward end of the framing 1. The bars 52 when the hopper 5 is in its lowermost position rest upon the bearing-sleeves 17, as clearly seen in Fig. 4, the hopper 5 being thus supported by said bars upon the said sleeves 17 when the seed-dropping mechanism is in operative position. The hopper 5 is provided at each side with a stop or projection 54, extending laterally therefrom across the path of movement of operating means hereinafter described. Preferably pivotally connected with the bottom of the hopper in the usual manner and arranged to receive the discharge therefrom is a chute 42, which chute extends into a delivering-boot 42^a, carried by a curved bar 44, which bar also carries a furrow-opening shovel 43. The chute 42 projects loosely into the said boot, so that the said boot and chute may be moved telescopically and independently of each other.

In the framing 1, immediately in the rear of the tongue 4, is arranged a standard 20, which standard is vertically and longitudinally shiftable. The standard is engaged above the framing 1 by an upstanding bracing-frame, which is fixed to the framing 1. Said upstanding frame consists preferably of inclined bars or straps 21 and laterally-arranged inclined bars or straps 22, the bars 21 being secured at their front ends to the framing 1 and to the tongue 4 by a bolt passing through the connected parts. The laterally-arranged inclined bars 22 are fixed to and extend from the upper portion of the bars 21 outwardly and downwardly to and are connected with the bars of the outer frame of the framing 1. The bars 21 are spaced apart at the upper ends a sufficient distance for accommodating the standard 20 therebetween. The bars 21 are connected at their upper ends by bolts 25 and 26, the bolt 25 being surrounded by an antifriction-roller 23 and the bolt 26 being surrounded by a similar antifriction-roller 24, said antifriction-rollers being preferably in the form of sleeves adapted to engage the respective front and rear

edges of the standard 20 to guide and position the standard while permitting free reciprocating thereof. The antifriction-rollers 23 and 24 are of a length equal to the space between the bars 21 and have their ends engaging the inner faces of said bars, so as to prevent the bars from being moved toward each other. It is thus seen that the said upstanding frame serves to guide the standard 20 and at the same time to prevent the upper end of the standard from being thrown outwardly or otherwise moved out of proper position when subjected to the strain due to the draft. The standard 20 also extends between the bars 7 of the inner frame of framing 1, and the said bars 7 are provided with connecting-bolts carrying antifriction-rollers 23^a and 24^a, engaging the opposite edges of the standard 20. A draw-bar 27 is fixed to the under face of the tongue 4 and extends rearwardly to the standard 20. The rear end of draw-bar 27 is provided with a yoke or stirrup surrounding the standard, the rear of said yoke being supplied with an antifriction-roller 28, which engages the rear edge of the standard in position for subjecting the standard to draft, the entire draft applied to the standard 20 being applied through the yoke and its associated parts. The standard, therefore, does not receive its draft through the framing 1, and hence does not tend to strain the framing during operation.

The standard 20 is designed to be freely reciprocated vertically, and I have illustrated in the drawings an efficient means for accomplishing this result, which involves a special construction of standard. The standard 20 consists of a pair of plates with a rack-bar 29 interposed therebetween. The parts of the standard are of course firmly bolted or otherwise rigidly secured together, and the teeth of the rack-bar 29 are preferably disposed rearwardly in position for being engaged by a gear 31, which gear has its periphery projecting between the side plates of the standard while meshing with the teeth of the rack-bar 29. The gear 31 is fixed to a rock-shaft 32, which in operation constitutes a shifter rock-shaft and which shaft is journaled at its inner end in a standard 33, rising from the framing 1, and the outer end of said shaft is journaled in a standard 34, rising from an extension-frame 35, which extension-frame projects laterally from one of the bars of the outer frame of the framing 1. It is of course obvious that any suitable bearings may be provided for the shaft 32 aside from those specifically described. A sector 37 is rigidly fixed to the rock-shaft 32, preferably near the outer end thereof, and a lever 36 has its lower end loosely fitted upon the shaft 32 contiguous to sector 37. An adjustable latch 38 is carried by the lever 36 in position for engaging any of the notches formed in the periphery of sector 37. The latch 38 is preferably

slotted longitudinally and clamped rigidly in place by suitable bolts or other retaining means for locking the lever 36 and sector 37 against independent movement. When it is desired to alter the relation of the lever 36 to the shaft 32, the bolts or other retaining means for the latch 38 are loosened, and the latch is raised out of engagement with the notches of sector 37. The lever 36 is then swung to the new position desired, and the latch is dropped into the proper notch of the sector 37 and the bolts tightened for again rigidly securing the lever 36 to the sector 37. Thus in operation when the lever 36 is swung the sector 37 will move with it, and the shaft 32 will be correspondingly moved. In order to retain the shaft 32 at any given adjusted position, the lever 36 is provided with any suitable, preferably spring-actuated, latch 39, which latch is longitudinally slotted and is arranged to successively engage the notches of a rack 40, which rack is rigidly fixed to the standard 34. The latch 39 is preferably connected by a suitable rod with a bell-crank lever 41, pivoted near the free end of the lever 36 in position for forming a hand or grip lever for manipulating the latch 39. The latch 39 is preferably inclosed in a housing 39^a, (seen best in Fig. 5,) which housing is retained in place by a rivet, bolt, or other securing means passed through the housing and through the lever 36, said rivet also extending through the longitudinal slot formed in the latch 39. As indicated in Fig. 5, one of the bolts which retains the latch 38 in place may be utilized also as a retaining means for the housing 39^a, the said bolt extending from said housing through the longitudinal slot in the latch 39, through the lever 36, and through the slot in the latch 38. A spacing-sleeve 40^a may be provided for the last-mentioned bolt for preventing housing 39 from being pressed toward the lever 36.

The lower end of the standard 20 is preferably curved forwardly for adapting it to receive a cultivating-point 30 or other implement designed to prepare the soil for the furrow-opener 43. In employing the planter for planting cotton or corn I preferably fix to the lower end of the standard 20 a double-winged sweep 30, which sweep is adapted for taking off a portion of the ground, usually at the top of a ridge, and leaving the ground over which the sweep passes at a proper height for the planting of the corn or cotton. The standard is of course adapted for receiving various forms of cultivating-points—as, for instance, when “listing” cotton or corn. A double moldboard-plow, or what is known as a “middle burster,” is usually applied to the standard.

The curved bar 44 has its front end extending between the side plates of the standard 20 and secured therebetween by bolts 44^b, which are passed through the standard

20 and through said curved bar 44. The standard 20 is provided with apertures 44^a for the reception of the bolts 44^b, and it is obvious that as many of the apertures 44^a may be provided as desired, so that the curved bar 44 may be adjusted longitudinally of the standard 20 by simply removing the bolts 44^b, moving the bar 44 to the desired position, and then replacing the bolts 44^b in the new set of apertures 44^a. Thus the furrow-opening shovel 43 may be adjusted vertically with respect to the standard 20 and the sweep 30, the depth of the furrow produced by shovel 43 being accordingly varied, and the boot 42^a, carried by bar 44, may be adjusted with respect to the chute 42, said boot serving as a shiftable section of the chute.

Pivoted to the framing 1 is a drag-bar frame, which is mounted to swing pivotally in vertical planes, the said pivoted frame consisting of side bars or drag-bars 46, which are spaced apart, one being positioned between each of the bars 7 and the contiguous bar of the outer frame of the framing 1, the forward end of each of the bars 46 pivotally engaging a bolt 46^a, passed through the respective bar of the outer frame and through the contiguous bar 53. The rear ends of the bars 46 are curved downwardly, as indicated at 50, said bars 46 extending rearwardly beyond the rear ends of the bars 7 of the inner frame of the framing 1. A transverse bolt 46^b connects bars 46 near the rear end thereof, the said bars 46 being spaced apart by a sleeve 46^c, which surrounds the bolt 46^b, the said bolt and sleeve being at a sufficient distance in the rear of the rear ends of the bars 7 to permit the free upward swinging of the pivoted frame. Below the bolt 46^b the curved rear ends 50 of the bars 46 are engaged by adjustable clamps 51, each of said clamps carrying a shovel-standard 49. The lower end of each shovel-standard 49 carries a covering-shovel 45. It is of course obvious that when one of the clamps 51 is moved about the curved portion 50 of the respective bar 46 the angular relation of the respective shovel 45 to the surface of the earth will be altered. The bars 46 are a sufficient distance apart and so positioned as to cause the shovels 45 to engage the ground along lines parallel with the line of the furrow-opening shovel 43 and on opposite sides thereof, so as to fill or partly fill the furrow opened by the shovel 43, and as the shovels 45 are in the rear of the chute 42 the grain deposited therefrom will be covered.

It will be observed from Fig. 4 of the drawings that each of the bars 46 extend beneath one of the lateral projections 54, each of the projections being spaced a sufficient distance above the respective bar 46 for permitting free articulation of the drag-bar frame, so as to enable the shovels 45 to accommodate

themselves to the usual unevenness of the surface of the ground without the bars 46 engaging projections 54. It is obvious, of course, that when the drag-bar frame is lifted to a certain degree the bars 46 will come into contact with the projections 54, and if the bars 46 are then lifted still further the hopper 5 will be swung in vertical planes upwardly out of operative position, the gear 19 being disconnected from the gear 18. The frame embodying the bars 52 serves to guide the hopper 5 in its movement, and after the hopper has been lifted guides it in its return to the proper position for having the gear 19 again mesh with the gear 18 when the bars 46 are lowered.

In order to make possible the ready manipulation of the drag-bar frame for accomplishing the moving of the seed-hopper to an inoperative position, the respective bars 46 of said drag-bar frame are engaged by chains 47, which chains extend to the standard 20 and are detachably connected therewith by means of suitable hooks or other detachable connecting means 48. It is to be observed that each of the chains 47 may have any one of several of its links engage the corresponding connecting means 48, so that the said chain is adjustable vertically with respect to the standard 20 and the drag-bar frame is also thereby rendered adjustable with respect to said standard 20, the said drag-bar frame being of course adjusted in vertical planes with the vertical adjustment of the chains 47. It is of course obvious that other means may be employed for connecting the standard 20 with the bars 46 as may be found desirable, the function of such connecting means being principally to transmit motion from one of the connected elements to the other. In the particular embodiment of the invention seen in the drawings movement is imparted from the standard 20 through chains 47 to the drag-bar frame; but other movement may be transmitted by other connecting means within the spirit of the present invention. There is, however, a special advantage in the use of the chains 47 in the particular embodiment illustrated in the drawings, as the said chains permit the free pivotal movement of the bars 46. It is of course obvious that when the chains 47 are taut the beams 46 are still at liberty to swing pivotally upwardly, but may not swing downwardly below the limit fixed by the taut conditions of the chains. It is, however, noted that in operation the standard 20 is sufficiently lowered to permit the chains 47 to remain slack. The drag-bar frame is thus free to be lifted independently of the lifting means illustrated, as, for instance, by grasping the said frame and manually lifting the same, and when so lifted the bars 46 will engage the projections 54 and move the hopper 5 for disconnecting the op-

erating-gear thereof. It is to be observed in this connection that the bars 46 are free to swing downwardly in operation and would strike the axle 2 but for the fact that the bearings 17 are elongated sufficiently for having their outer ends form seats to support the bars 46 when the bars are in their lowermost position. This prevents the bars 46 from ever having their lower edges rest upon a revolving shaft or axle.

When only a light draft is required, due to the conditions of the soil and the nature of the implement applied to the lower end of the standard 20, the draft is applied to the upper portion 55 of a pin or bolt, which pin or bolt is passed through the tongue 4 and through the front end of the draw-bar 27; but when a heavier draft is required the draft is preferably applied to the lower end 56 of the same bolt, so that the heavier draft will be caused to act directly upon the draw-bar 27. This places the greatest strain directly upon the rear edge of the standard 20, a greater proportion of draft being required for producing forward movement of the standard 20 with its implements in the ground than for producing a forward movement of the balance of the planter.

As clearly seen in Fig. 3, rests may be provided for the feet of the operator, such foot-rests consisting of treads 57, secured to and projecting laterally from the bars 46 in front of the seat 15.

From the foregoing it is to be observed that when it is desired to operate the present improved planter in conveying the planter to the field the lever 36 is swung downwardly and rearwardly, which causes the standard 20 to be raised, elevating the chains 47 and the drag-bars 46, and consequently lifting the hopper 5 to an inoperative position. All of the parts of the planter except the carrier-wheels are thus free from the ground and the seed-dropping mechanism is in an inoperative condition. After the planter arrives at the field where the planting is to be done the lever 36 is swung upwardly and forwardly sufficiently for lowering the standard 20 to the desired extent, which results in permitting the chains 47 to become slack, allowing the bars 46 to drop to a position permitting the shovels 45 to engage the ground by force of gravity. If the bars 46 or connected parts should fail to drop, owing to friction or rust of the parts, the operator may readily force the said bars downwardly by placing his feet upon the treads 57. As the draw-bar frame is being lowered the hopper 5 is free to swing downwardly therewith into an operative position, after which the parts are in condition for operation.

This application is a division of my co-pending application for patent for improvements in planters, filed September 10, 1903, and designated by Serial No. 172,647, the

claims herein being directed solely to matter not claimed in said other application.

What I claim is—

1. In a planter, the combination with an
5 axle and carrying-wheels therefor, of bearing-
sleeves loosely surrounding said axle, a main
frame fixed to said sleeves, a frame pivotally
connected with said main frame in position
for resting upon the said sleeves when the piv-
10 oted frame is in its lowermost position, and
seed mechanism sustained by said pivoted
frame.

2. In a planter, the combination of carrier-
wheels, an axle sustained thereby, bearing-
15 sleeves loosely surrounding said axle, a main
frame fixed to said sleeves, and a pivoted
frame pivoted to said main frame in position
for resting upon said sleeves when the pivoted
frame is in its lowermost position.

20 3. In a planter, the combination with car-
rying-wheels, and an axle sustained by said
wheels, of sleeves loosely surrounding said
axle, a main frame fixed to said sleeves, a
pivoted frame pivotally connected with said
25 main frame in position for normally resting
upon some of said sleeves, a seed mechanism
carried by said pivoted frame, a gear for actu-
ating said seed mechanism arranged for being
in operative relation to the seed mechanism
30 only when said pivoted frame is in its lower-
most position, a drag-bar frame pivotally con-

nected with the main frame in position for
having the bars of said drag-bar frame rest
upon some of said sleeves when the drag-bar
frame is in its lowermost position, and means 35
for simultaneously lifting both said drag-bar
frame and seed-mechanism-carrying frame.

4. In a planter, the combination with an
axle and means supporting the same, of a
frame and draft-tongue, said frame compris- 40
ing inner and outer side bars spaced apart at
their rear ends, and having forward converg-
ing ends secured to said tongue, and bearing-
boxes for said axle secured to the separated
rear ends of said inner and outer side bars. 45

5. In a planter, the combination with an
axle and supporting means therefor, of a
frame and draft-tongue, said frame compris-
ing inner and outer side bars spaced apart at
their rear ends, and having forward converg- 50
ing ends secured to said tongue, bearing-
boxes for said axle, said bearing-boxes being
formed with shoulders, and means securing
the rear separated ends of said inner and outer
side bars to said shoulders. 55

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

WILFORD H. HOLSCLOW.

Witnesses:

C. H. FESLER,
T. C. HUMPHRIES.