S. V. WEEKS.

WHEELED PLOW.

APPLICATION FILED APR. 8, 1907.

903,120.

Patented Nov. 3, 1908.

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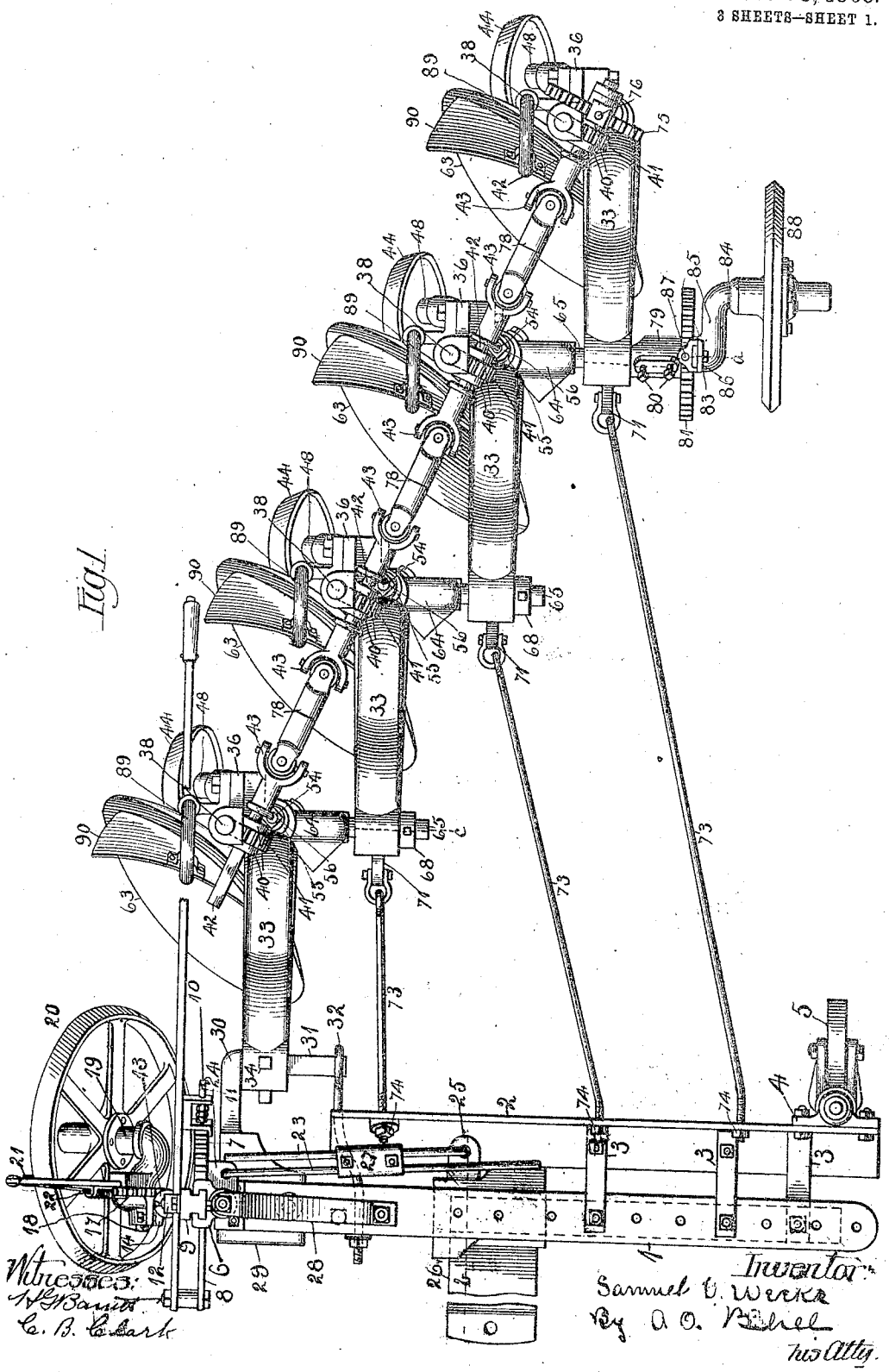


Fig. 1.

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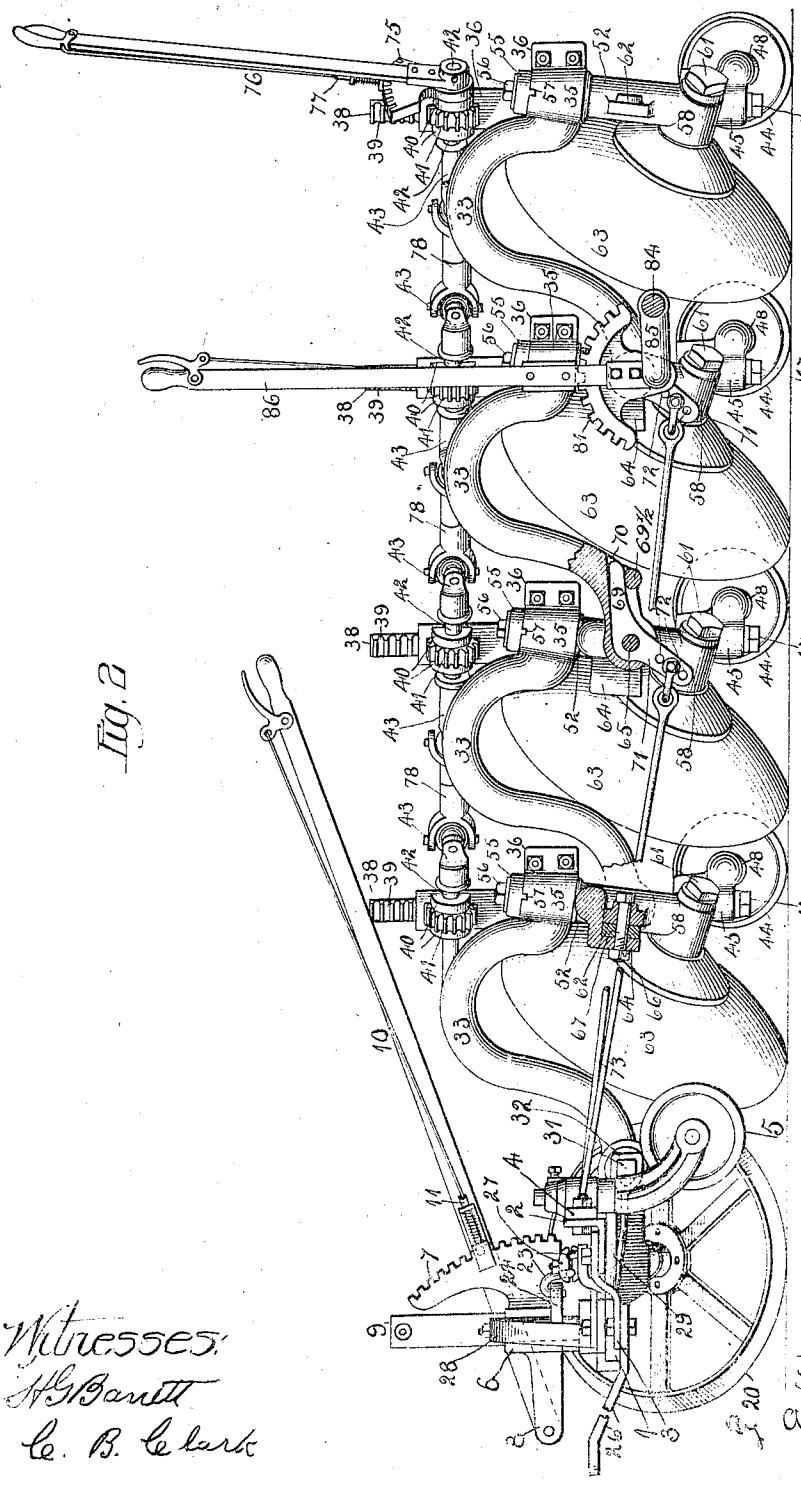


Fig. 2

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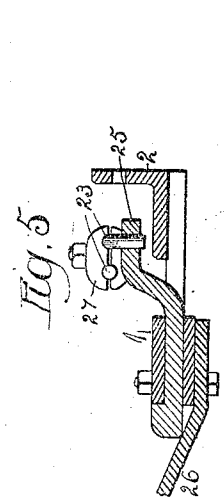
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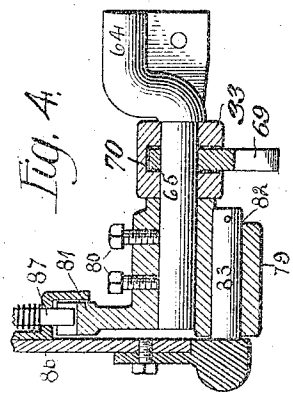
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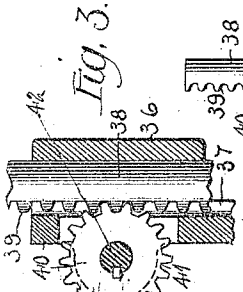
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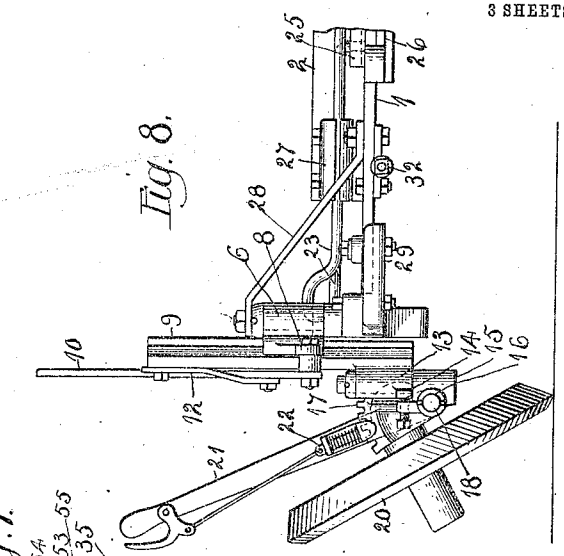
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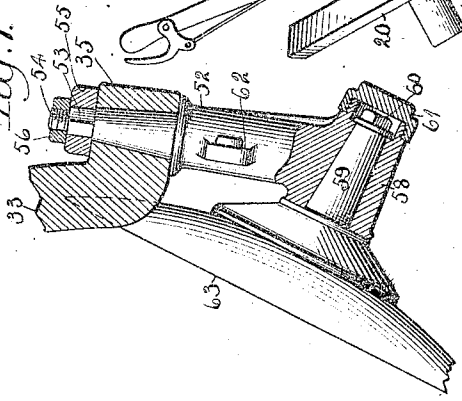
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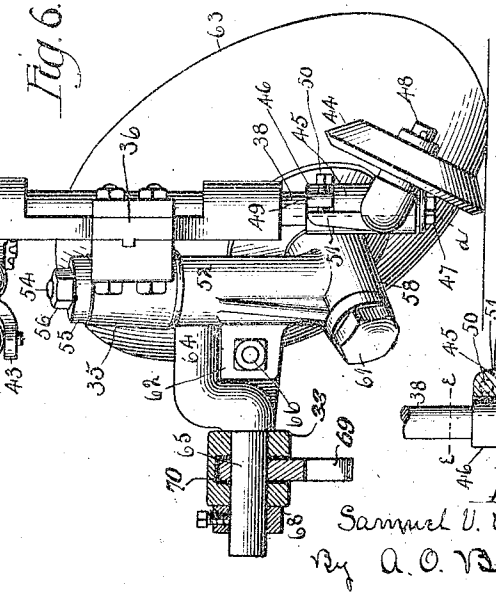


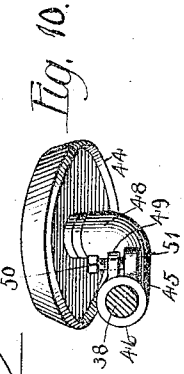


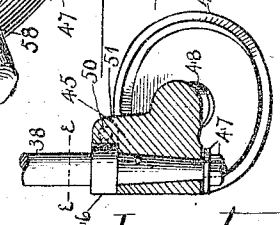












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UNITED STATES PATENT OFFICE.

SAMUEL V. WEEKS, OF HIGHLAND PARK, TENNESSEE. ASSIGNOR TO EMERSON MANUFACTURING COMPANY, OF ROCKFORD, ILLINOIS, A CORPORATION OF ILLINOIS.

WHEELED PLOW.

No. 903,120. Specification of Letters Patent. Patented Nov. 3, 1908.

Application filed April 8, 1907. Serial No. 367,113.

To all whom it may concern:

Be it known that I, SAMUEL V. WEEKS, a citizen of the United States, residing at Highland Park, in the county of Hamilton and State of Tennessee, have invented certain new and useful Improvements in Plows, of which the following is a specification.

The object of this invention is to construct a wheeled plow in which a furrow wheel is employed in connection with each disk in order that the weight of the entire frame is supported by a plurality of furrow wheels in connection with a land wheel.

The further object of this invention is to form a wheel-frame with which the draft connections are made.

The further object of this invention is to connect a furrow-wheel with the rear portion of each section and a flexible connection between the supports of the furrow-wheels by means of which the various sections are raised in unison but permitted an independent vertical movement.

In the accompanying drawings, Figure 1 is a plan view of my improved plow. Fig. 2 is a side elevation of the plow as seen from the land side, and in which certain parts are shown in section. Fig. 3 is a vertical section through the support for one of the gear connections for a furrow-wheel. Fig. 4 is a vertical section through the support for the land wheel on dotted line *a* Fig. 1. Fig. 5 is a transverse section through the draft-bar on dotted line *b* Fig. 1. Fig. 6 is a vertical section on dotted line *c* Fig. 1. Fig. 7 is a partial elevation and section of a disk support. Fig. 8 is a front elevation of the furrow end of the front portion of the plow. Fig. 9 is a vertical section of the support for a furrow-wheel on dotted line *d* Fig. 6. Fig. 10 is a transverse section of the support for a furrow-wheel on dotted line *e* Fig. 9.

My improved plow is made up of a number of sections, the front end of one connected to the rear of another, each section having an independent connection with the draft appliance.

The draft appliance consists of a frame made up of the flat-bar 1 and rear angle-bar 2 connected by the straps 3. To the land side end of the frame is connected a bracket 4 with which is connected a caster-wheel 5. To the furrow end of the frame is pivotally connected a bracket 6 to which is secured a toothed segment 7, and a forwardly extending arm 8. A support 9 is located to move vertically in the bracket 6.

A hand lever 10 has a pivotal connection with the arm 8 and provided with the usual dog 11 engagement with the toothed segment 7. A link 12 has its upper end connected with the upper end of the support 9 and its lower end is pivotally connected with the hand lever 10.

From the support 9 extends a laterally vertically arranged tubular projection 13, from the lower end of which extends a stop 14. Within the tubular projection 13 is located a support 15 having a horizontal opening 16 near its lower end. From the support 15 extends a toothed segment 17.

Within the opening 16 of the support 15 is located one branch 18 of a crank-arm, and to the other branch 19 is connected the front furrow-wheel 20. A hand lever 21 has a fixed connection with the branch 18 and has a dog 22 carried by the lever and adapted to support 15 extends a toothed segment 17.

By means of the hand lever 21 the front furrow-wheel can be staggered more or less and the dog engaging the toothed segment will hold it in its adjusted position.

By means of the hand lever 10 the furrow end of the frame can be raised and lowered in its connection with the front furrow-wheel and held when adjusted by the dog of the lever engaging the toothed segment 7.

The rods 23 form a connection between the eye 24 extending from the pivoted bracket and the eye 25 extending from the draft hitch 26 and the free ends made lengthwise adjustable in connection with one another by means of the clamp 27 in order that the bracket may be turned axially and held when adjusted. This adjustment permits of the front furrow-wheel being turned more or less toward the land or toward the plowed ground. A brace-bar 28 connects the upper end of the bracket 6 with the frame and serves to hold the bracket in a vertical position. The hitch plate is made bodily adjustable in connection with the flat-bar to properly locate it, to get a central connection with the plow.

From the bracket 29 connected to the bar 1 extends an arm 30 and its free end has an extension 31. A brace-bar 32 connects the free end of the extension 31 with the bar 1.

To the extension 31 is connected the forward end of a section 33 by the set screw 34 and in a manner to permit it to be moved bodily in the lengthwise direction of the extension. The rear end of this section is formed with a tubular portion 35, and a vertically arranged bracket 36 having a vertical opening 37. A support 38 is located to move vertically in the opening 37, of the bracket 36, and has a toothed rack 39, formed in one face. The upper end of the bracket 36 is formed with projecting ears 40, between which is located a toothed pinion 41 which meshes with the teeth of the rack 39. A short section of shaft 42 is supported by the ears 40 and it supports the toothed pinion 41. The end 43 of the shaft is in fork form being one-half of a universal joint.

A small furrow-wheel 44 has a connection with the lower end of the support 38, by a sleeve 45 surrounding the lower end of the support, and is held in place against the collar 46 by the nut and washer 47.

From the sleeve 45 extends the branch 48 of a crank-arm, and supporting the small furrow-wheel 44 lobsely connected thereto in a manner to permit it to rotate thereon. From the collar 46 extends a fixed stop 49 through which a set screw 50 passes, and from the sleeve 45 extends a projection 51 which rests against the set-screw 50, thereby holding the caster-wheel 44 in proper alinement, but permitting it to caster when necessary.

The tubular portion 35 of the rear end of the section 33 supports an arm composed of the vertical portion 52, and having a squared section 53 and a screw threaded end 54. In the vertical portion 35 is located a tubular portion 52, a collar 55 is placed on the squared portion 53, and a nut 56 is turned on the upper screw threaded end 54 and prevents the displacement of the vertical portion 35. The collar 55 is provided with a projection 57 which enters a recess in the upper portion of the portion 35 and holds the arm from axial movement. The upwardly included tubular portion 58 extends from the lower end of the arm and is located diagonal to the line of draft and the spindle 59 of the disk 63 is held in connection therewith by the nut 60. A sand cap 61 has a screw thread connection with the horizontal portion 58.

From the vertical portion 52 extends a perforated projection 62 and to this projection is bolted a bracket 64, having a cylindrical extension 65. A bolt 66 passes through the projection and bracket, and a section of packing or blocking 67 is located between the projection and bracket to properly locate the bracket with respect to the length of the section.

The forward end of the second section receives the cylindrical extension 65 of the first section and a collar 68 is placed on the extension outside of the section to hold the sections in proper alinement.

As the construction of each of the sections is the same, the same reference numerals are applied to all. At Fig. 2 the connection between the first and second sections is broken away to show the construction of the bracket 64 and its connection with the projection 62, and the forward end of the third section is in vertical section to show the bar located on the cylindrical extension 65, and composed of the horizontal section 69 located in a pocket 70 formed in the underface of the forward end of the section, and a vertically arranged section 71 provided with a series of holes 72. This horizontal section 69 rests on the cross bar $69\frac{1}{2}$, which virtually makes a fixed connection with section 33. The vertically arranged section 71 of the bars for the second, third and fourth plow sections have a connection with the angle-bar 2 of the wheel frame through the rods 73 as shown at Fig. 1, and nuts 74 turned on the screw-threaded ends of the rods form the connection.

A toothed segment 75 has a fixed connection with the bracket 36 of the rear section, and a hand lever 76 is provided with the usual dog 77 for engagement with the toothed segment. This hand lever has a fixed connection with the shaft 42 of the last section, and this shaft is connected through the portions 43 and 78 and form a universal joint connection with the toothed pinions of all the sections. A movement of this hand lever will oscillate the universal joints of the entire chain, and oscillate the toothed pinions of all the sections for a purpose to appear hereinafter.

To the cylindrical extension 65 of the third section and outside of the connection of the fourth section therewith, is connected a bracket 79 by the set screws 80, and to this bracket is fixedly connected a toothed segment 81. This bracket 79 has a horizontal tubular opening 82 within which is located a crank-arm composed of the two horizontal parallel sections 83 and 84 connected by a right-angled section 85. A hand lever 86 has a fixed connection with the horizontal section 83, and is provided with a dog 87 for engagement with the toothed segment 81. The horizontal section 84 has a land wheel 88 connected to it in a manner to permit it to revolve.

By means of the hand lever 86, the land wheel 88 is moved in the arc of a circle thereby elevating or lowering that side of the plow sections.

To each of the brackets 36 of the sections with which the disks are connected is secured a scraper arm 89 to which is connected a scraper 90.

By this construction of plow, a furrow-

wheel is located in rear of each disk and in a furrow made by the disk, and the furrow-wheels are staggering in order to resist the tendency of the disks to go to land. A furrow-wheel is located adjacent to the connection between any two sections and support the weight of the rear portion of one section and the forward portion of the next rear section.

The universal joint connection between the sections permit the sections to rise and fall independently of each other in a limited degree, and all of the sections can be raised in unison by reason of the hand-lever 76 which will partially rotate the toothed pinions 41 and cause the sections to move vertically in connection with the toothed racks. The hand-lever 10 of the front furrow-wheel will raise the front end of the first section, and the hand-lever 86 of the land-wheel 88 will level up the sections after they are raised by the hand-lever 76.

I claim as my invention:

1. In a wheeled-plow, the combination of a plurality of connected sections, a plowing attachment supported by each section, a vertically arranged shaft connected to each section, a furrow-wheel connected to each shaft, a toothed rack connected to each shaft, a pinion for each rack, a system of universal joints connecting the pinions, and a lever for oscillating the connections.

2. In a wheeled-plow, the combination of a plurality of connected sections, a plowing attachment supported by each section, a vertically arranged shaft connected to each section, a furrow-wheel connected to each shaft, a toothed-rack connected to each shaft, a pinion for each rack, a system of universal joints connecting the pinions, a toothed segment, a hand-lever for oscillating the connection and having an engagement with the toothed-segment.

3. In a wheeled plow, the combination with a frame, of a plurality of plowing attachments, a plurality of ground wheels, each cooperating with one of the attachments, and an oscillatory shaft composed of flexibly connected sections for elevating and lowering the plowing attachments upon the various ground wheels.

4. In a plow, the combination with a beam, of a plowing attachment connected thereto, the beam provided with a recessed underface terminating in a cavity, a pressure member having an end located in the cavity, and a draft device having a connection with the pressure member and causing the same to exert a downward pressure on the beam.

5. In a wheeled plow, the combination of a plurality of sections, an arm extending laterally from the rear portion of one section and with which the next rear section is pivotally connected, a land side wheel connected with the arm, and a plowing attachment supported by each section.

6. In a wheeled plow, the combination of a plurality of sections, an arm extending laterally from the rear portion of one section and with which the next rear section is pivotally connected, a land side wheel connected with the arm, a furrow wheel for each section, and a plowing attachment supported by each section.

7. In a wheeled plow, the combination with a plurality of sections, an arm extending laterally from the rear portion of one section and with which the next rear section is pivotally connected, a land side wheel connected with the arm, a ground wheel for each section, and a plowing attachment supported by each section.

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