No. 878,890. PATENTED FEB. 11, 1908.

E. S. PEARSON.

SELF LOADING CART.

APPLICATION FILED MAY 18, 1907.

5 SHEETS—SHEET 1.

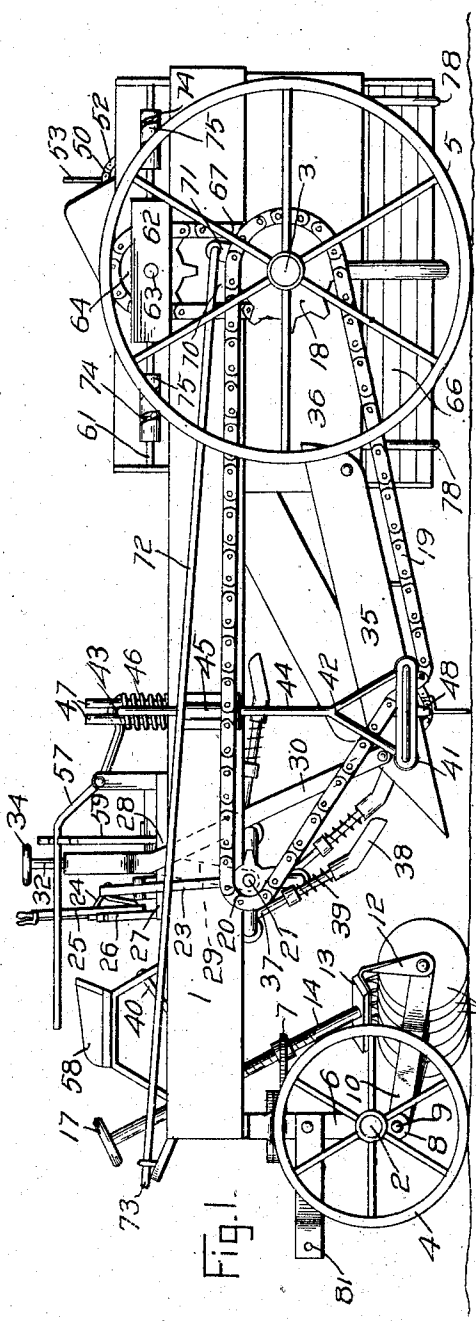

Fig. 1.

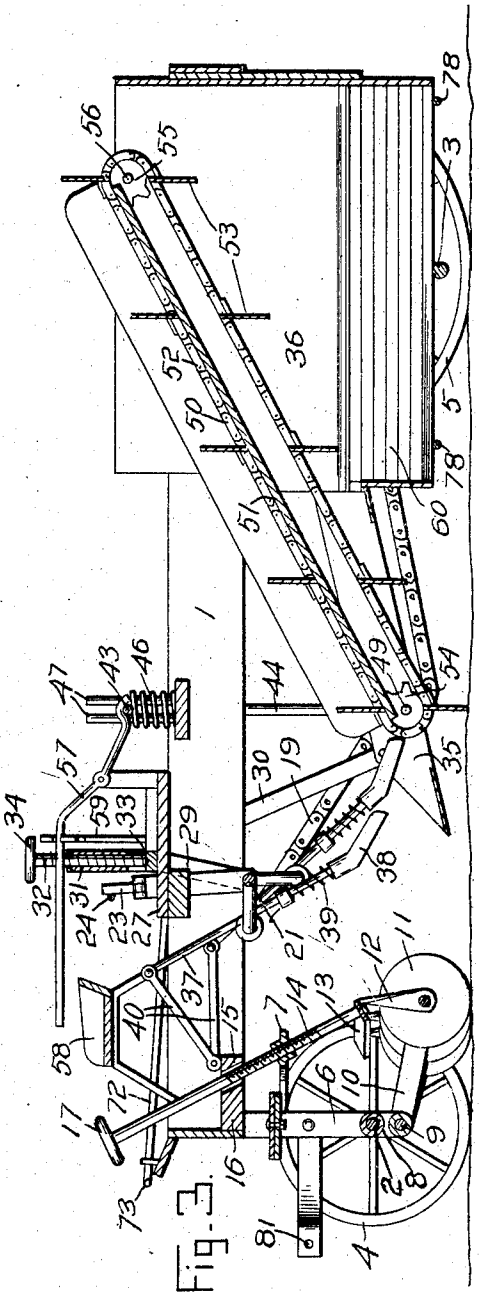

Fig. 3.

Witnesses

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5 SHEETS—SHEET 2.

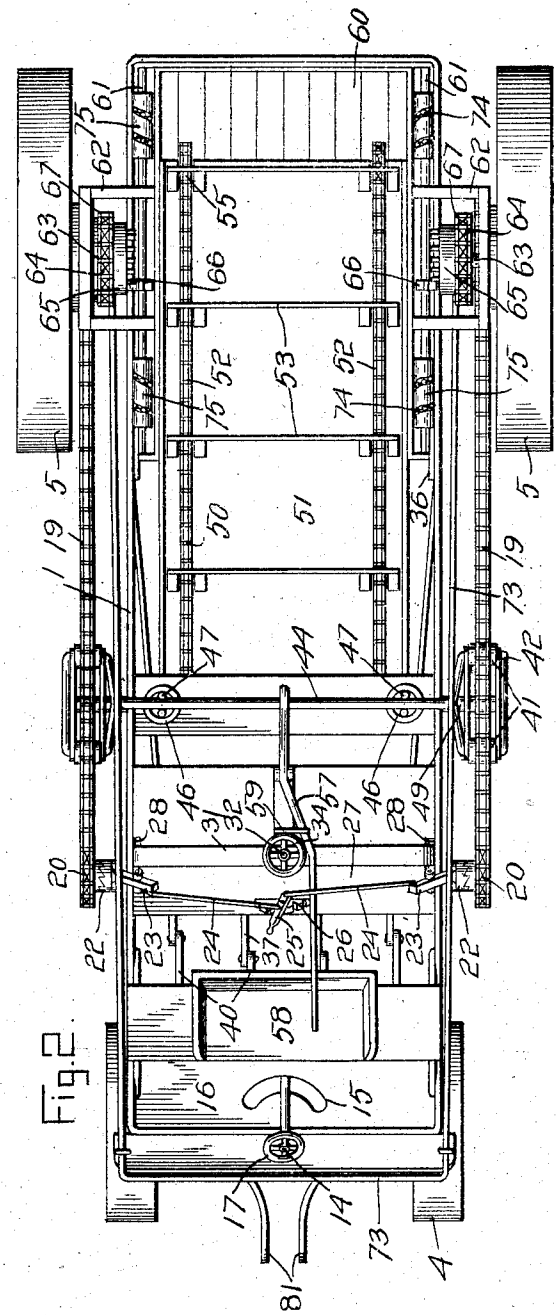

Fig. 2.

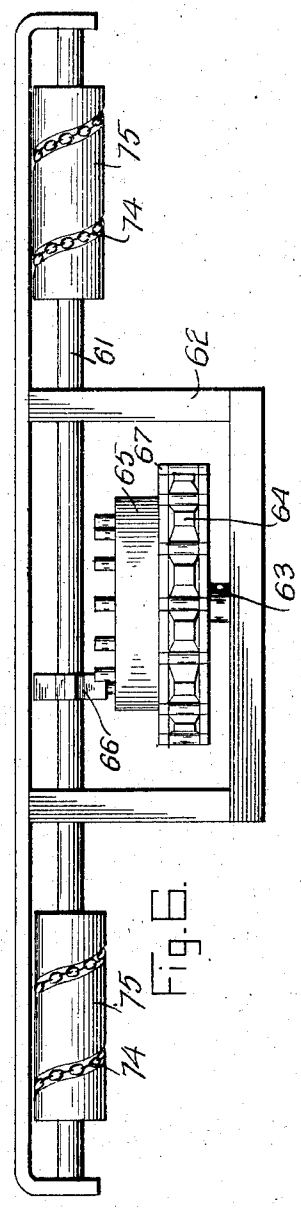

Fig. 6.

Witnesses

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5 SHEETS—SHEET 3.

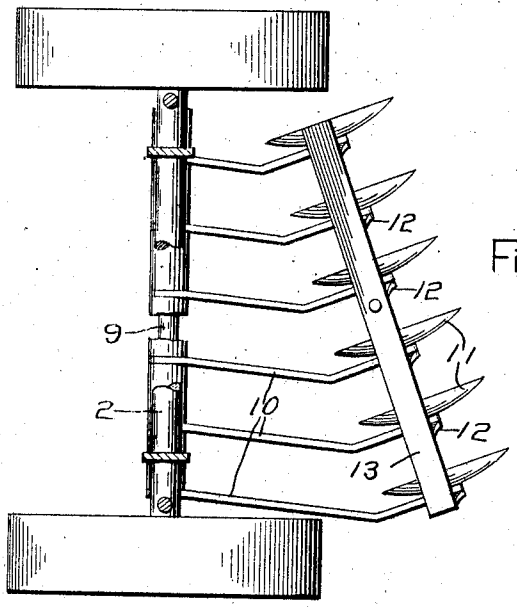

Fig. 4.

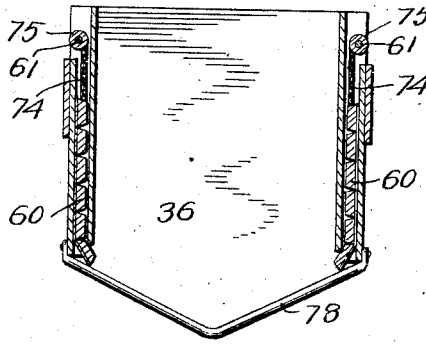

Fig. 5.

Witnesses

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5 SHEETS—SHEET 4.

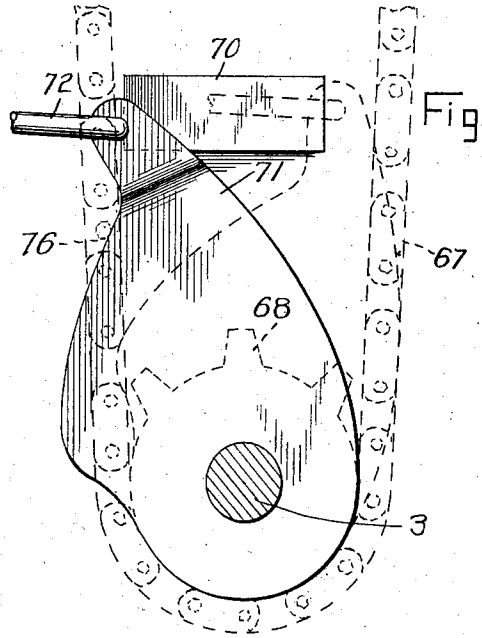


Fig. 7.

Fig. 12.

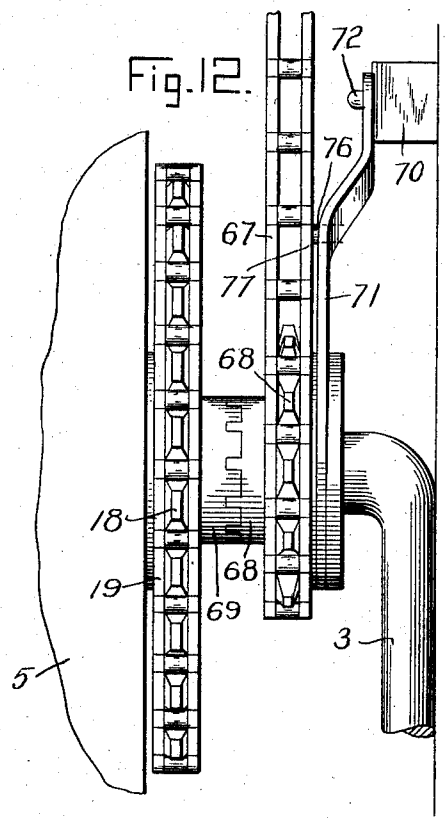


Fig. 10.

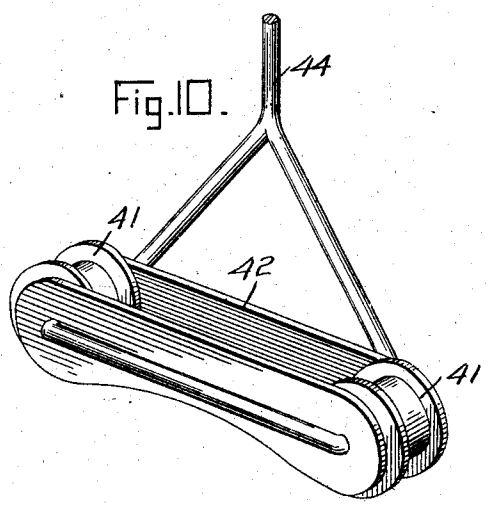
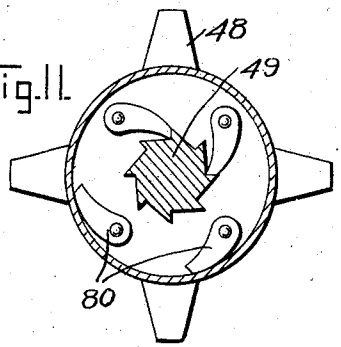


Fig. 11.



Witnesses

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THE NORRIS PETERS CO., WASHINGTON, D. C.

No. 878,890. PATENTED FEB. 11, 1908.

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SELF LOADING CART.

APPLICATION FILED MAY 18, 1907.

5 SHEETS—SHEET 5.

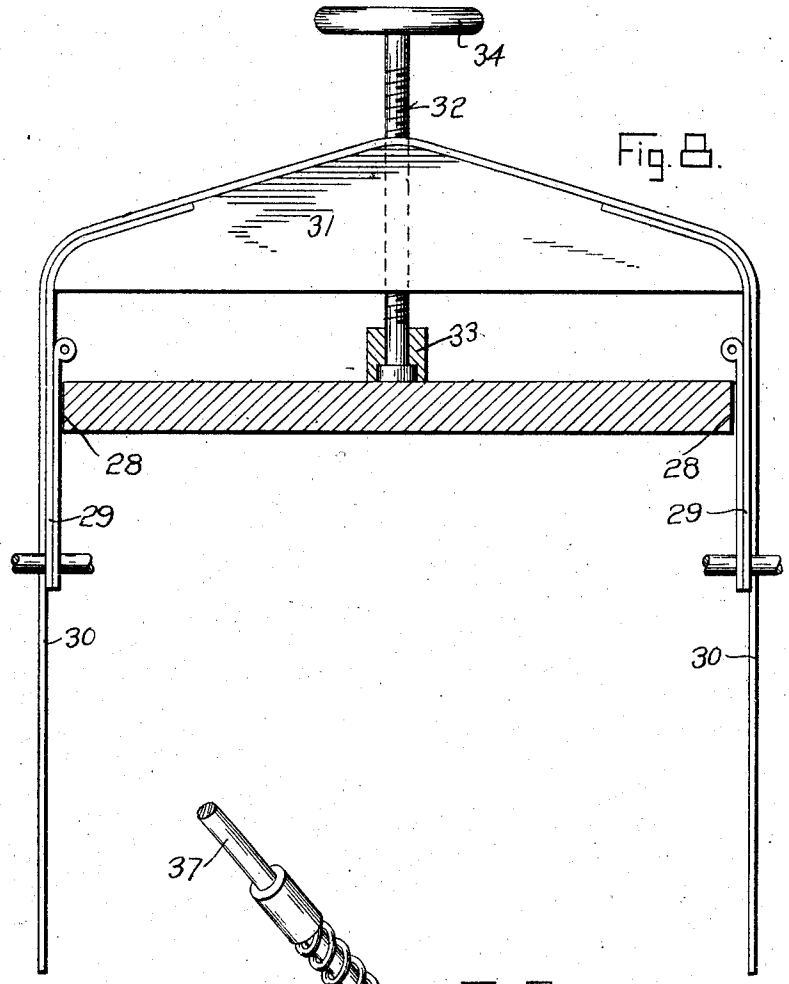

Fig. 8.

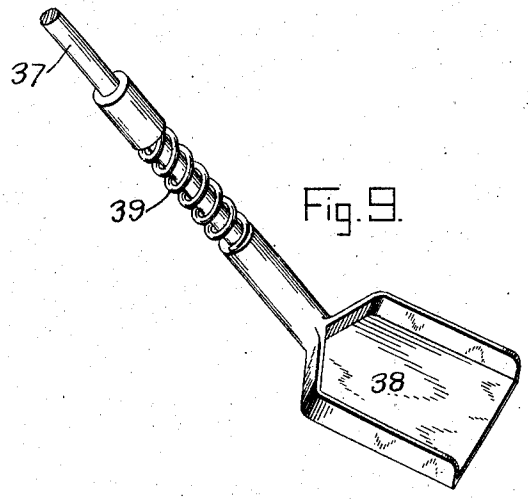

Fig. 9.

Witnesses

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UNITED STATES PATENT OFFICE.

ELLIS S. PEARSON, OF BRADFORD, OHIO.

SELF-LOADING CART.

No. 878,890. Specification of Letters Patent. Patented Feb. 11, 1908.

Application filed May 18, 1907. Serial No. 374,382.

To all whom it may concern:

Be it known that I, ELLIS S. PEARSON, a citizen of the United States, residing at Bradford, in the county of Miami, State of Ohio, have invented certain new and useful Improvements in Self-Loading Carts; 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 present invention has reference to self loading carts, and it aims, broadly, to provide an exceedingly efficient machine of that class which shall include in coöperative combination means for plowing the ground; means for scooping into piles the sod or dirt overturned by the plows; means for shoveling the piles of dirt so formed onto a moving elevator which in turn discharges the dirt into a receptacle; and means for effecting the discharge of the dirt from the receptacle.

More particularly, however, the invention resides in the provision of means for raising or lowering the several plow disks bodily out of or into operative position; means for bodily raising or lowering the elevator scoop and the shaft to which the shovels are pivoted; and clutch mechanism for throwing the shovel shaft and the drive shaft of the elevator into and out of operation.

The invention further consists in the provision of a two-part slatted bottom for the receptacle, the members of the bottom being simultaneously raised out of engagement with each other, to effect the discharge of the contents of the receptacle, through the action of a mechanism which is operatively connected therewith and with the rear traction wheels of the machine, the mechanism just referred to including a clutch by means of which it is thrown into and out of operation.

The invention still further resides in the provision of means for automatically unshipping the last-mentioned clutch upon the completion of the dumping operation, whereby the parts of the slatted bottom of the receptacle will at once return to their normal position, in contact with each other.

With the above and other ends in view, the invention consists in the construction, combination, and arrangement of parts, all as hereinafter more fully described, specifically claimed, and illustrated in the accompanying drawings, in which like parts are designated by corresponding reference numerals in the several views.

Of the said drawings—Figure 1 is a side elevation of a self-loading cart constructed in accordance with the present invention. Fig. 2 is a top plan view thereof. Fig. 3 is a vertical section taken longitudinally through Fig. 2. Fig. 4 is a detail view of the plows and the mechanism for operating the same. Fig. 5 is a transverse section through Fig. 2, showing the parts of the slatted bottom in raised position. Fig. 6 is a detail view of the mechanism for raising the parts of the slatted bottom. Fig. 7 is a detail view of the clutch and trip connected with the mechanism shown in Fig. 6. Fig. 8 is a detail view of the mechanism for adjusting the position of the elevator scoop and the shaft to which the shovels are pivoted. Fig. 9 is a detail view of one of the shovels. Fig. 10 is a perspective view of one of the members for moving the main sprocket chains into and out of engagement with the sprockets on the elevator drive-shaft. Fig. 11 is a detail view of one of the sprockets above referred to. Fig. 12 is an enlarged detail view in side elevation of the sprocket wheel and clutch members located upon the rear axle.

In its practical embodiment, the self loading cart comprises an open, rectangular main frame 1, which is provided at its front and rear ends with the axles 2 and 3 carrying traction wheels 4 and 5, loosely mounted thereon, the rear wheels being approximately twice the size of the front wheels, as shown.

The front axle 2 has connected thereto an upstanding U-shaped bracket 6, to which the usual fifth-wheel is secured, said bracket being in turn provided with a rearwardly extending arcuate plate 7 having an opening formed therethrough intermediate its ends. The axle 2 is further provided with a pair of depending hangers 8 secured thereto at opposite sides of the bracket 6, said hangers having bearings formed therein for the reception of the opposite ends of a horizontal shaft 9 which is thus disposed parallel with said axle. This shaft has pivoted thereto a series of rearwardly-extending parallel straps 10, which are retained in spaced relation to each other by spacing blocks, each strap having a laterally-projecting pin or stub-shaft located at its rear end upon which a disk cutter 11 is rotatably mounted. The several straps are bent slightly intermediate

their ends, and decrease gradually in length from one side of the machine to the other, so that the cutters are angled to the line of draft of the machine. Each stub-shaft is in turn connected to the lower end of a depending hanger 12 formed upon the rear edge of a horizontal rod 13, which is likewise angled to the line of draft and is provided intermediate its ends with an opening through which the lower end of a shaft 14 is swiveled, said shaft being inclined rearwardly and downwardly of the machine and disposed longitudinally with respect thereto. The shaft 14 extends intermediate its ends through the opening formed in the arcuate-plate 7 above referred to, and through an arcuate slot 15 formed through a platform 16 disposed at the front end of the machine frame. It will thus be apparent that when the hand-wheel 17, with which the upper end of said shaft is provided, is turned in one direction or the other, the rod 13 will be correspondingly raised and lowered, whereby the plow disks 11 will be moved towards or from the ground, owing to the connection between the stub shafts upon which the disks are mounted and the hangers formed upon said rod, and to the pivotal connection between the straps 10 and shaft 9.

The extended hub of each rear wheel 5 carries on its inner end a sprocket 18, which is connected by a chain 19 with a smaller sprocket 20, loosely mounted upon each end of a crank-shaft 21 disposed transversely of the machine frame and located a slight distance rearwardly of the platform 16, the inner face of each last-mentioned sprocket being toothed to form one member of a clutch, the opposite member of which is formed by a serrated disk 22 keyed upon the crank-shaft exteriorly of the machine frame. The disks 22 are moved into and out of engagement with clutch faces of the sprockets 20 by means of a pair of levers 23, whose upper ends are connected by links 24 to an actuating lever 25 pivoted to a bracket 26 mounted upon a second platform 27, a segmental rack of the usual type being located adjacent the lever 25, which latter is provided with the usual spring-pressed dog.

The opposite sides of the platform 27 are cut away at their forward corners to provide openings 28, through each of which a pair of depending hangers 29 and 30 pass, said hangers forming extensions of a transversely-disposed block 31 mounted upon said platform and provided with a threaded vertical opening formed centrally therethrough for the reception of a threaded shaft 32, whose lower end is swiveled in a block 33 secured to the platform below the block 31, the upper end of said shaft carrying a hand-wheel 34.

The hangers 29 are provided at their lower ends with bearings in which the opposite ends of the crank-shaft are received, while the hangers 30 are pivoted at their lower ends to the sides of a scoop 35 at the forward ends thereof, the rear ends of the scoop sides being pivoted to the sides of a receptacle 36 carried by the frame at its rear end, the rear axle 3 being bent so as to extend therebeneath.

Rotation of the shaft 32 in one direction will therefore cause the block 31 to move upwardly thereupon, thus effecting, in consequence, a similar movement of the scoop and crank-shaft simultaneously; by reversing the direction of rotation of said shaft, the scoop and crank-shaft will be lowered bodily, as will be understood.

Each crank portion of the shaft 21 carries a roller to which is centrally pivoted the stem 37 of a shovel, the blade 38 of which is cushioned thereon by means of a coil-spring 39. The upper end of each shovel is pivoted to a link 40, which is in turn pivoted to the front platform 16. When, therefore, the clutch members 22 are engaged with the clutch faces of the sprocket 20 and the crank-shaft is, in consequence, in motion, each shovel will move downwards towards the dirt piled up by the scoop and will be forced rearwardly of the machine, through the piled up dirt and directly across the upper face of the scoop blade, throwing the dirt upon an endless elevator hereinafter described. The springs 39 cushion the shovel blades, and prevent injury thereto upon striking the ground.

The lower stretch of each drive chain 19, which connects the sprockets 18 and 20 passes between a pair of spaced rollers 41 carried by a tension device 42 at each end thereof, said device comprising a single rod of metal bent into U-shape, its bight portion 43 being disposed transversely of the machine and its arms 44 being slidable in brackets 45 secured to opposite sides thereof, the free end of each arm being looped, as shown in Fig. 10, to provide a supporting portion for the rollers above referred to. The tension device is normally held in raised position by means of a pair of coil-springs 46, which embrace a pair of bifurcated brackets 47 secured to a cross-beam carried by the frame, said springs bearing against the under face of the bight portion of said device which fits in the bifurcations in said brackets.

Disposed between and below each pair of rollers 41 is a sprocket 48, mounted upon the corresponding end of a shaft 49, which serves as the main drive-shaft of a rearwardly and upwardly inclined elevator 50, which discharges into the receptacle 36, the upper end of the elevator projecting over the front wall thereof, the height of which is much less than that of the rear wall. The elevator above referred to travels over a platform 51, and its chains 52, which are connected by vertical slats 53, pass around sprockets 54 carried by

the shaft 49 and around similar sprockets 55 carried by a shaft 56, mounted in bearings secured to the upper end of the platform 51.

Downward movement of the tension device 42 against the action of the springs 46 will therefore force the sprocket chains 19 into engagement with the sprockets 48, thus effecting the rotation of the shaft 49, which in turn drives the elevator chains. Such downward movement of the tension device is effected by a lever 57, which is fulcrumed intermediate its ends upon an upwardly-projecting shoulder formed upon the platform 27, said lever having a hooked gear end which is adapted for engagement with the bight portion of the tension device, while its forward end extends across the seat 58, disposed between the platforms 16 and 27, the several levers and hand-wheels being thus arranged within easy reach of the occupant of the seat. The lever 57 is retained in adjusted position by means of a notched rack 59, which is likewise mounted upon the platform 27.

The side walls of the receptacle 36 are of double thickness, as shown in Fig. 2, thereby providing a pair of chambers into which the two members of the slatted bottom 60 are movable when the dirt is to be discharged from the receptacle. Within each of the chambers so formed and disposed at the upper end thereof is a horizontal shaft 61, whose opposite ends fit in bearings formed in the front and rear walls of said chambers, each shaft passing through a supplemental frame 62 secured to the corresponding side of the receptacle.

Disposed within the supplemental frame is a transverse stub-shaft 63, upon which is mounted a sprocket 64 compounded with a pinion 65, which meshes with a smaller pinion 66 carried by the adjacent shaft 61, the sprocket above referred to being connected by a sprocket chain 67 with a sprocket 68 loosely mounted upon the hub of the corresponding rear wheel 5 adjacent the sprocket 18 thereon, each sprocket 68 having a toothed inner face with which a clutch member 69, splined upon the hub, engages.

The outer wall of each side of the machine is provided with a wedge-shaped member 70 secured thereto directly in line with the clutch member 69, above referred to, said wedge-shaped member tapering towards the rear end of the machine. Each clutch member 69 is likewise provided with a radially-extending tongue 71, having a perforated upper end, in which is pivoted the adjacent end of the corresponding arm 72 of a **U**-shaped foot-operated lever, whose bight portion 73 is disposed at the front end of the machine, the various portions of said lever being slidable within guides attached to the sides of the machine.

The slatted bottom 60 of the receptacle, as above stated, is formed in two parts or sections, each of which is movable into and out of the corresponding chamber formed by the double side walls of the receptacle. To raise or lower each section, its uppermost slat is connected with a pair of chains or cables 74, whose opposite ends are made fast to a pair of drums 75 carried by each shaft 61. When, therefore, the foot-lever is moved forwardly, the tongues 71 secured to the sliding clutch members 69 will be moved along the inclined outer faces of the wedges 70, thereby forcing said members into engagement with the clutch faces of the sprockets 68; the shafts 61 will then be rotated through the intermeshing pinions 65 and 66, whereby the two sections of the bottom of the receptacle will be raised into their proper chambers and the contents of the receptacle immediately discharged.

The invention further contemplates the provision of means for automatically disengaging the clutch members 68 and 69 immediately upon the dumping of the contents of the receptacle 36, and to this end the sprocket chain 67 is provided with a laterally-projecting trip 76 formed on a link 77 carried thereby. It will be apparent, therefore, that since the forward movement of the **U**-shaped lever will swing the tongues 71 correspondingly in the same direction, the continued movement of the sprocket chains 67 will cause the trips 76 carried thereby to contact with said tongues and force them rearwardly into their first position, thus unshipping the movable clutch members 69, whereupon rotation of the shafts 61 will at once cease and the bottom sections will be free to fall of their own weight into their original position, with their lower edges in contact with each other, thus completely closing the bottom of the receptacle. In resuming such position, said sections are movable along the downwardly-curved rear axle, which, with a pair of cross-rods 78, form guides for said bottom sections.

In the operation of the machine, the ground overturned and cut up by the plows and formed into piles by the action of the scoop blade, will be fed by the several shovels carried by the crank-shaft 21, onto the traveling elevator, whence it is discharged into the receptacle 36. When said receptacle has been sufficiently filled, the plows and scoop are raised out of contact with the ground, and the shovels then thrown out of action by unshipping the sliding clutch disks 22, through the actuating lever 25. After all of the dirt discharged upon the elevator has been fed thereby into the receptacle, the lever 57 is released from its notched rack 59, whereupon the bight portion of the **U**-shaped tension device 42 will be free to move upwardly within the bifurcated brackets 47, thus withdrawing the lower stretch of the

drive-chains 19 from engagement with the sprockets 48 upon the drive-shaft 49 of the elevator; movement of the elevator will therefore be discontinued. The machine is then advanced to the point at which the dirt is to be dumped, and the U-shaped foot-lever then actuated, whereupon the sections of the receptacle bottom will be raised and the dirt discharged therefrom, the said bottom sections being finally returned, automatically, to their lowered or normal position by the action of the trip mechanism already described.

The sprockets 48 upon the elevator drive-shaft are preferably provided with pawls 80, while the bracket 6 carried by the front axle 2 has secured thereto a strap 81, to which the pole of the machine (not shown) is fastened.

Modifications and changes may obviously be made within the scope of the appended claims, as it is not intended to limit the invention to the exact details of construction shown and described.

What is claimed, is—

1. In a machine of the class described, in combination, a wheeled frame; a plowing mechanism connected to the front axle of the frame; means for moving said plowing mechanism bodily into or out of operative position; a crank-shaft carried by the frame; a series of shovels carried by said crank-shaft; means for driving said crank-shaft; a forwardly extending scoop pivoted to the frame; a single means for adjusting the position of said scoop and said crank-shaft; a rearwardly-extending elevator having its lower end disposed adjacent the blade of said scoop; means for driving said elevator; and a receptacle carried by said frame at its rear end, said receptacle being adapted to receive from the elevator the dirt shoveled thereonto.

2. In a machine of the class described, in combination, a wheeled frame; a plowing mechanism connected to the front axle of the frame; means for moving said plowing mechanism bodily into or out of operative position; a crank-shaft carried by the frame; a series of shovels carried by said crank-shaft; means for driving said crank-shaft; means for throwing said driving means into and out of action; a forwardly-extending scoop pivoted to the frame; a single means for adjusting the position of said scoop and said crank-shaft; a rearwardly-extending elevator having its lower end disposed adjacent the blade of said scoop; means for driving said elevator; vertically movable means for moving said last-mentioned driving means into and out of action; and a receptacle carried by said frame at its rear end, said receptacle being adapted to receive from the elevator the dirt shoveled thereonto.

3. In a machine of the class described, in combination, a wheeled frame; a plowing mechanism connected to the front axle of the frame; means for moving said plowing mechanism bodily into or out of operative position; a crank-shaft carried by the frame; a series of shovels carried by said crank-shaft; means for driving said crank-shaft; a forwardly extending scoop pivoted to the frame; a single means for adjusting the position of said scoop and said crank-shaft; a rearwardly extending elevator having its lower end disposed adjacent the blade of said scoop; means for driving said elevator; a receptacle carried by said frame at its rear end, said receptacle being adapted to receive from the elevator the dirt shoveled thereonto, said receptacle including a bottom formed of a pair of sections movable vertically towards and from each other; means for raising said sections to discharge the contents of the receptacle; and means for throwing said last-mentioned means out of action, to permit said sections to move downwardly towards each other, to close the bottom of said receptacle.

4. In a machine of the class described, in combination, a wheeled frame; a plowing mechanism connected to the front axle of the frame; means for moving said plowing mechanism bodily into or out of operative position; a crank-shaft carried by the frame; a series of shovels carried by said crank-shaft; means for driving said crank-shaft; a forwardly extending scoop pivoted to the frame; a single means for adjusting the position of said scoop and said crank-shaft; a rearwardly extending elevator having its lower end disposed adjacent the blade of said scoop; means for driving said elevator; a receptacle carried by said frame at its rear end, said receptacle being adapted to receive from the elevator the dirt shoveled thereonto, said receptacle including a bottom formed of a pair of sections movable vertically towards and from each other; positive means operatively connected with the rear axle of the machine for raising said sections simultaneously, to discharge the contents of the receptacle; and means for automatically throwing said last-mentioned means out of operation upon the completion of the discharging operation, to permit said sections to move downwardly towards each other, to close the bottom of said receptacle.

5. In a machine of the class described, in combination, a wheeled frame; a platform disposed at the front end of the frame and provided with a slot; a plowing mechanism connected with the front axle and including a series of cutting disks and a rod connected thereto, said rod having a threaded opening formed therethrough; a rearwardly extending bracket connected with said front axle and provided with an opening; a shaft extending upwardly through said slot and bracket opening and having a threaded lower end fitted in the opening in said rod: a hand-

wheel secured to the upper end of said shaft for rotating the latter in one direction or the other, to raise or lower said plowing mechanism bodily; a crank shaft carried by the frame; a series of shovels carried by said crank-shaft; means for driving said crank-shaft; a forwardly extending scoop pivoted to the frame; a single means for adjusting the position of said scoop and said crank-shaft; a rearwardly-extending elevator having its lower end disposed adjacent the blade of said scoop; means for driving said elevator; and a receptacle carried by said frame at its rear end, said receptacle being adapted to receive from the elevator the dirt shoveled thereonto.

6. In a machine of the class described, in combination, a wheeled frame; a platform disposed within the frame at the front end thereof and provided with an arcuate slot; a shaft connected at opposite ends with the front axle; a series of rearwardly extending straps pivoted to said shaft in spaced relation to each other; an annular cutting disk rotatably mounted upon the rear end of each strap; a horizontal rod disposed above said disks and provided with a series of depending hangers connected with said straps, said rod having a threaded opening formed therethrough; a rearwardly extending bracket connected with the front axle and provided with an opening; a shaft extending upwardly through said slot and bracket opening, and having a threaded lower end fitted in the opening in said rod; a hand-wheel secured to the upper end of said shaft for turning the latter in one direction or the other, to raise or lower said rod and disks bodily; a crank shaft carried by the frame; a series of shovels carried by said crank-shaft; means for driving said crank-shaft; a forwardly extending scoop pivoted to the frame; a single means for adjusting the position of said scoop and said crank-shaft; a rearwardly-extending elevator having its lower end disposed adjacent the blade of said scoop; means for driving said elevator; and a receptacle carried by said frame at its rear end, said receptacle being adapted to receive from the elevator the dirt shoveled thereonto.

7. In a machine of the class described, in combination, a wheeled frame; a plowing mechanism connected to the front axle of the frame; a crank-shaft carried by the frame and provided at each end with a sprocket; a pair of sockets mounted upon opposite ends of the rear axle; a sprocket chain connecting each of said last-mentioned sprockets with the adjacent sprocket on said crank-shaft; a series of shovels carried by said crank shaft; a rearwardly extending elevator disposed within the frame and provided at its forward end with a drive shaft having a sprocket secured to each end thereof directly beneath the adjacent sprocket chain; a receptacle carried by said frame at its rear end and adapted to receive from the elevator the dirt shoveled thereonto; a vertically-movable tension device slidably carried by the frame and connected with said sprocket chains; means for normally retaining said tension device in raised position, to hold said sprocket chains out of engagement with the sprockets on said elevator shaft; and means for forcing said tension device downwardly against the action of said last-mentioned means, to move said sprocket chains into engagement with said last-mentioned sprockets, to drive the elevator.

8. In a machine of the class described, in combination, a wheeled frame; a plowing mechanism connected with the front axle of the frame; a transverse shaft carried by the frame and provided with sprockets at its opposite ends; a pair of sprockets mounted upon opposite ends of the rear axle; a sprocket chain connecting each of said last-mentioned sprockets with the corresponding sprocket on said shaft; a series of shovels carried by said shaft; a rearwardly extending elevator disposed within the frame and provided at its forward end with a drive shaft having a sprocket secured to each end thereof directly beneath the adjacent sprocket chain; a receptacle carried by said frame at its rear end and adapted to receive from the elevator the dirt thrown thereupon by the shovels; a vertically-movable U-shaped tension device disposed transversely of the frame and having its arms slidable across the side members of the frame, the lower end of each arm being connected with the lower stretch of the adjacent sprocket chain; means carried by the frame and bearing against the bight portion of the tension device for normally retaining the latter in raised position, to hold said sprocket chains out of engagement with the sprockets on the elevator shaft; a platform carried by the frame; and a lever fulcrumed upon said platform and having its lower end engaged with the bight portion of said tension device, to force the latter downwardly against the action of said last-mentioned means, to move said sprocket chains into engagement with said last-mentioned sprockets, to drive the elevator.

9. In a machine of the class described, in combination, a wheeled frame; a platform carried by said frame and having openings formed therethrough at its side edges; a vertically movable block mounted upon said platform and provided with a threaded opening formed vertically therethrough; hangers secured to said block and extending through said platform openings, said hangers being provided with bearings at their lower ends; a crank-shaft journaled in said bearings; a plurality of shovels carried by said crank-shaft; means for rotating said crank-shaft; a threaded shaft fitted in the openings in said

block and having its lower end connected to the platform; and means secured to the upper end of said shaft, for turning the latter in one direction or the other, to bodily raise or lower said block and the crank-shaft connected thereto.

10. In a machine of the class described, in combination a wheeled frame; a platform carried by said frame and having openings formed therethrough at its side edges; a vertically movable block mounted upon said platform and provided with a threaded opening formed vertically therethrough; a pair of hangers arranged at each end of said block and extending through said platform openings, one member of each pair of hangers being provided with a bearing at its lower end; a crank-shaft journaled in said bearings; a plurality of shovels carried by said crank-shaft; means for rotating said crank-shaft; a forwardly-extending downwardly-inclined scoop disposed within the frame and pivoted at its forward end to the other member of each pair of hangers; a threaded shaft fitted in the opening in said block and having its lower end connected to the platform; and means secured to the upper end of said shaft for turning the latter in one direction or the other to bodily raise or lower said block and the scoop and crank-shaft carried thereby.

11. In a machine of the class described, the combination, with a wheeled frame and plowing mechanism disposed within the frame at the front end thereof, of a receptacle located at the rear end of the frame, said receptacle having spaced inner and outer side walls and a slatted, two-part bottom; means for feeding into said receptacle the ground turned up by the plowing mechanism; means disposed within the space between each inner wall and the adjacent outer wall and connected with the adjacent section of said bottom, for raising said sections, to discharge the contents of said receptacle; means positively connected with the rear axle for operating said raising means; and means for throwing said last-mentioned means out of action, to permit said sections to move downwardly towards each other, to close the bottom of said receptacle.

12. In a machine of the class described, the combination, with a wheeled frame and plowing mechanism disposed within the frame at the front end thereof, of a receptacle located at the rear end of the frame, said receptacle having spaced inner and outer side walls, and a slatted two-part bottom; means for feeding into said receptacle the ground turned up by the plowing mechanism; a longitudinal shaft disposed in the space between each inner wall and the adjacent outer wall; a pair of drums carried by each of said shafts; flexible connections between said drums and the adjacent section of the receptacle bottom; means positively connected with the adjacent rear traction wheel for rotating said shafts and raising said sections, to discharge the contents of the receptacle; and means for automatically throwing said last-mentioned means out of operation upon the completion of the discharging operation, to permit said sections to move downwardly towards each other, to close the bottom of said receptacle.

13. In a machine of the class described, the combination, with a wheeled frame and plowing mechanism disposed within the frame at the front end thereof, of a receptacle located at the rear end of the frame, said receptacle having spaced inner and outer walls, and a slatted two-part bottom; means for feeding into said receptacle the ground turned up by the plowing mechanism; a supplemental frame secured to each inner wall of said receptacle and extending across the face of the adjacent outer wall; a longitudinal shaft extending through each supplemental frame and projecting at opposite ends therebeyond; a pair of drums carried by each shaft; flexible connections between said drums and the adjacent section of the receptacle bottom; a pinion mounted upon each shaft and disposed within the frame through which said shaft passes; a stub-shaft journaled in each supplemental frame and provided with a pinion in mesh with the adjacent first-mentioned pinion; means operatively connected with the hub of the adjacent rear traction-wheel for rotating the pinions carried by said stub-shafts, to raise said bottom sections upwardly and discharge the contents of the receptacle; and automatically operated means for throwing said last-mentioned means out of action upon the completion of the discharging operation, to permit said sections to move downwardly towards each other, to close the bottom of said receptacle.

14. In a machine of the class described, the combination, with a wheeled frame and plowing mechanism disposed therewithin; of a receptacle located at the rear end of the frame and including a pair of sections movable towards and from each other; means for feeding into said receptacle the ground turned up by the plowing mechanism; a shaft located at each side of said receptacle and connected with the adjacent bottom section; means for positively rotating said shafts simultaneously to raise said bottom sections and discharge the contents of the receptacle, said means including a sprocket loosely mounted upon the hub of each rear traction wheel and provided with a clutch face and a sliding clutch member movable into engagement therewith, each sliding clutch member having a radially-extending tongue; a single lever carried by the frame and connected with said tongues, for moving said sliding clutch members simultaneously

into engagement with the adjacent clutch-faced sprockets; and means for automatically moving said tongues in the opposite direction, to disengage said sliding clutch members and permit said bottom sections to move downwardly towards each other, to close the bottom of said receptacle.

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

ELLIS S. PEARSON.

Witnesses:
SAMUEL HERSHEY,
P. B. MILLER.