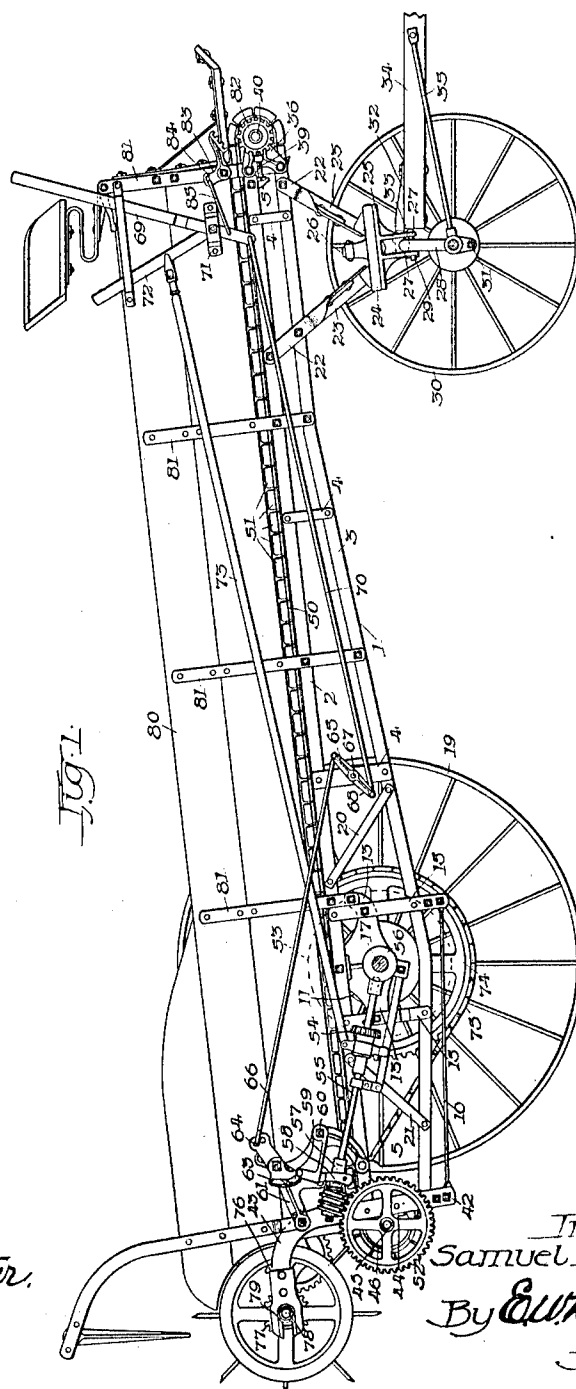


S. K. DENNIS.
MANURE SPREADER.
APPLICATION FILED JUNE 20, 1910.

1,001,366.

Patented Aug. 22, 1911.

3 SHEETS—SHEET 1.



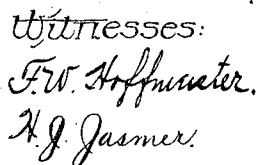
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APPLICATION FILED JUNE 20, 1910.

Patented Aug. 22, 1911.

3 SHEETS--SHEET 2.



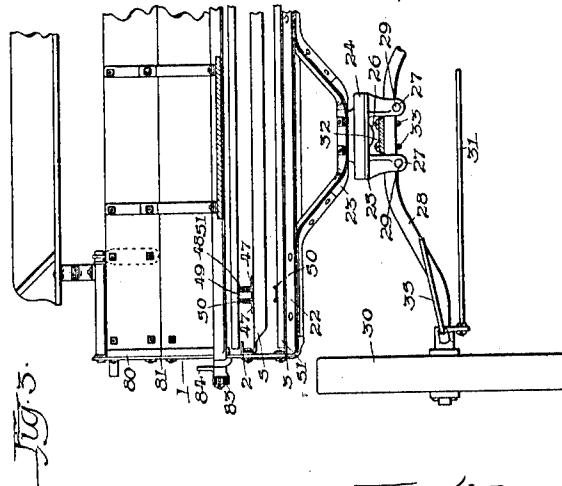
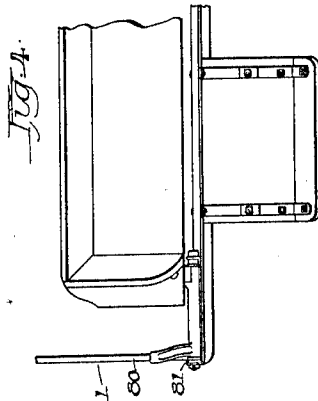
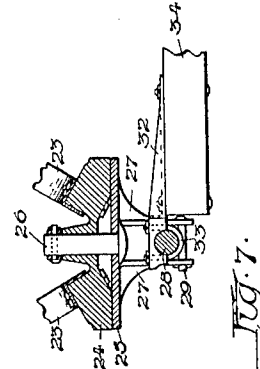
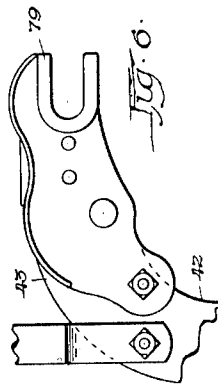
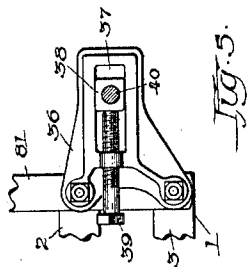
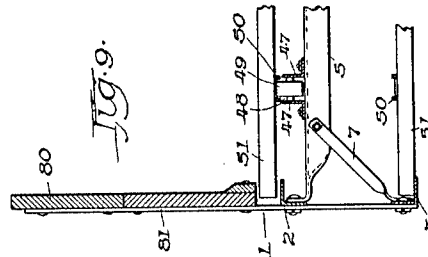
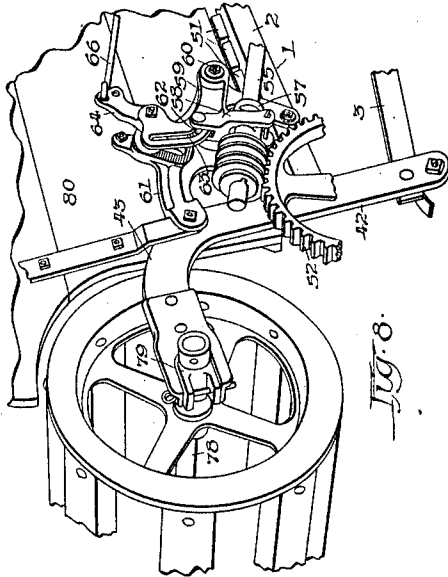
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

SAMUEL K. DENNIS, OF CHICAGO, ILLINOIS, ASSIGNOR TO INTERNATIONAL HAR-
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MANURE-SPREADER.

1,001,366.

Specification of Letters Patent.

Patented Aug. 22, 1911.

Application filed June 20, 1910. Serial No. 567,799.

To all whom it may concern:

Be it known that I, SAMUEL K. DENNIS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Manure-Spreaders, of which the following is a specification.

My invention relates to manure spreaders having a receptacle and a movable bottom therefor that delivers the material to a distributing cylinder deriving motion from the traction wheels, and consists in an improved bed frame construction forming part of the receptacle, and in the manner of mounting the transmission gears and gear carrying members thereon, the object of my invention being to provide a bed frame constructed entirely of steel, strong and durable and having a light weight of material. I attain these objects by means of the mechanism illustrated by the accompanying drawings, in which

Figure 1 represents a side elevation of a manure spreader having one of the traction wheels removed and having my invention embodied in its construction; Fig. 2 is a top plan view of Fig. 1; Fig. 3 is a front end elevation of part of Figs. 1 and 2; Fig. 4 is a top plan view of part of Fig. 3; Fig. 5 is a detail of one of the parts connected with the movable bottom; Fig. 6 is a fragmentary detail of one of the frame members supporting the bearings for the distributor shaft; Fig. 7 is a detail in cross section illustrating the bolster and axle connection at the front end of the machine; Fig. 8 is a perspective view of part of the motion transmitting means connected with the distributing cylinder; and Fig. 9 is a sectional elevation of part of the frame and receptacle construction.

The same reference numerals designate like parts throughout the several views.

1 represents the bed frame of a machine, including straight longitudinally arranged main sills 2 upon opposite sides thereof, made of angle steel bars and having their legs in depending vertical and inwardly approaching horizontal planes. 3 represents longitudinally arranged base sill members below said first mentioned sills and having their legs in upwardly extending vertical and inwardly approaching horizontal planes. The main and base sill members of the bed frame are in parallel relation

from front toward the rear of the machine throughout a portion of their length, and then the base sill members are inclined downward and rearward for the greater portion of their length, and then upward and rearward at the rear end thereof, the vertically disposed legs of the sills being connected by means of vertical truss bars 4 secured thereto. The opposite main sill members are connected by means of a series of transverse frame members 5, and 7 represents truss members connecting the ends of each member of the series with the adjacent base sill member, as shown in Fig. 9.

8 and 9 represent two pairs of brace members having their inner ends connected with one of the series of transverse bars near its middle portion, and upon the front and rear sides thereof, respectively, the brace members 8 diverging forward and outward and the members 9 rearward and outward and having their outer ends secured to other bars of the transverse series; and 10 represents a pair of brace members crossing each other at their central portion and having their outer ends diverging and secured to the base sill members upon opposite sides of the machine.

11 and 12 represent right and left-hand brackets secured at their upper sides to the main sill members upon opposite sides of the machine and having forwardly and rearwardly extending arms 13 and 14, respectively, that are secured to the vertical truss bars 15 and 16, respectively, the truss bars being connected at their opposite ends with the main and base sill members.

17 represents an axle journaled in bearings 18 carried by the brackets, and 19 represents traction wheels journaled upon the axle.

20 represents tie bars having their upper ends secured to the main sills in front of the axle, and inclining downward and forward have their lower ends secured to the base sill members, and 21 represents truss bars having their upper ends secured to the main sills in rear of the axle, and inclining downward and rearward have their lower ends secured to the base sills, the two pairs of bars forming angularly arranged truss supports for the main and base sill members upon opposite sides of the axle.

At the front end of the bed frame are two transversely arranged parallel angle

bars 22, having their outer ends secured to the sills and their body portions extending below the sills and inclined toward each other, and 23 represents a pair of inverted arched bolster members having their outer and upper ends secured to bars 22 and converging inward and downward have their arched portions secured to a bolster plate 24 that is pivotally connected with axle plate 25 by means of a pin 26, the axle plate being provided with saddle members 27 adapted to receive an arched axle 28 that is retained therein by means of pins 29.

30 represents wheels journaled upon opposite ends of the axle.

31 represents a truss rod connection between opposite ends of the axle, 32 a tongue member secured to the axle between the saddle members 27 of plate 24 by means of U-bolts 33, and 34 represents the tongue having its rear end secured to the plate and sustained laterally by means of brace members 35, having their rear ends connected with the axle and their front ends with the tongue.

36 represents brackets secured to opposite sides of the bed frame at its forward end and provided with slots 37 arranged in the direction of length of the bed, and 38 represents bearing blocks that are received by the slots in a manner to be adjustable lengthwise thereof, and 39 represents controlling bolts that are threaded in the brackets and have their forward ends contacting with the blocks in a manner to control their movement.

40 represents a transverse shaft journaled in the bearing blocks and having sprocket wheels 41 secured thereto near its outer ends.

42 represents frame members having lower substantially vertical portions secured to the rear ends of the main and base sill members upon opposite sides of the machine, and rearwardly curved portions 43 at their upper ends.

44 represents bearing boxes secured to the vertical portions of frame members 42, and 45 represents a shaft journaled in said boxes and having sprocket wheels 46 secured thereto in line with sprocket wheels 41 at the front of the machine.

47 represents longitudinally arranged angle rails secured to the series of transverse frame bars 5, having intervening spaces 48 between them that are in line with the front and rear sprocket wheels at opposite ends and upon opposite sides of the bed frame, the space being adapted to receive a series of rollers 49 that are journaled transversely in the vertical legs of the rails and adapted to support the upper run of an endless bottom consisting of chains 50 engaging with the rollers and sprocket wheels and having secured thereto transverse slats 51 in a common way, the lower run of the bottom being

supported by the ends of the slats resting upon the horizontal legs of the base sill members.

52 represents a worm wheel secured to one end of shaft 45, 53 a gear wheel secured to the hub of one of the traction wheels and having gears upon its inner face that are adapted to engage with pinion 54 slidably mounted upon a longitudinally arranged shaft 55, having its front end journaled in a block 56 adapted to rock about the axis of gear wheel 53, and its rear end in a box 57 that is carried by a swinging arm 58 having a branch portion 59 pivotally connected at 60 with a bracket 61 that is secured at its lower side to one of the main sills and at its upper side with one of the frame members 42, the arm 58 being also provided with a roller 62 that is received by a cam slot 63 formed in the rear end of a shipping lever 64 that is pivotally connected intermediate its ends with bracket 61, the front end of the lever being connected with an arm 65 by means of a link 66, the arm being secured to a rock shaft 67 journaled upon the bed frame of the machine, and 68 represents an oppositely disposed lever secured to the rock shaft and connected with a hand lever 69 by means of a rod 70, the hand lever being pivotally mounted at the front end of the machine by means of a bracket 71 convenient to the hand of the operator.

72 represents a hand lever, preferably pivoted coaxially with lever 69 and connected with sliding pinion 54 by means of a bar 73. Connected with the axle upon the opposite side of the machine is a large sprocket wheel 74 that is operatively connected by means of a chain 75 with a combined sprocket wheel and pinion 76 that is journaled upon a stud secured to one of the frame members 42, the pinion meshing with a pinion 77 secured to the end of the distributing cylinder shaft 78 that is journaled in bearing box 79 secured to the rear ends of frame members 42. The sides 80 of the receptacle are secured to vertically arranged bars 81, the lower ends of the bars being secured to the main and base sill members and forming additional truss supports therefor.

Secured to one end of the transverse shaft 40 is a toothed wheel 82, and 83 represents a toothed arm pivotally mounted upon a fixed part of the machine and adapted to engage with the wheel in a manner to lock it against a turning movement when the worm gear is disengaged, the arm being provided with a branch 84 that is connected with the hand lever 69 by means of a link 85 in a manner to disengage the arm from the wheel when the lever is thrown forward for the purpose of causing the worm gears to be moved into operative relation.

What I claim as my invention, and desire to secure by Letters Patent, is:

1. A manure spreader including, in combination, a receptacle, said receptacle including longitudinally arranged main sill and base sill members spaced apart in vertical planes upon opposite sides of the machine and connected by means of truss members, a series of transversely arranged bars having their opposite ends secured to said main sill members, and truss members inclining inward and upward upon opposite sides of the machine, having their inner upper ends secured to said transverse bars and their outer lower ends to said base sill members.

2. A manure spreader including, in combination, a receptacle, said receptacle including longitudinally arranged main sill and base sill members spaced apart in vertical planes upon opposite sides of the machine and connected by means of truss members, a series of transversely arranged bars having their opposite ends secured to said main sill members, truss members inclining inward and upward upon opposite sides of the machine, having their inner upper ends secured to said transverse bars and their outer lower ends to said base sill members, and brace members arranged upon opposite sides of one of said transverse bars, having one end of each secured to said bar near its middle and diverging outward and secured at their outer ends to other members of the series of transverse bars.

3. A manure spreader including, in combination, a receptacle, said receptacle including side walls and longitudinally ar-

ranged main sill and base sill members spaced apart in vertical planes upon opposite sides of said machine and connected by means of vertically arranged truss members that extend above said main sills and having said side walls secured thereto, brackets secured to said main sill members near their rear ends and provided with forwardly and rearwardly extending arms, truss members secured to said arms and said main and base sill members, journal boxes carried by said brackets, an axle journaled in said boxes, said base sills being in a plane parallel with the plane of said main sills throughout a portion of their length from front to rear and then inclined downward and rearward and extending below and in rear of said axle.

4. A manure spreader including, in combination, a receptacle, said receptacle including side walls and longitudinally arranged main sill and base sill members spaced apart in vertical planes upon opposite sides of said machine and connected by means of vertically arranged truss members that extend above said main sills and having said side walls secured thereto, frame members having vertically arranged lower portions secured to said main and base sill members at their rear ends and upon opposite sides of the machine, and rearwardly curved upper portions having bearing boxes secured thereto, and a distributor shaft journaled in said boxes.

SAMUEL K. DENNIS.

Witnesses:

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ALF. G. WILLIAMS.