O. C. SEELOW.

DUMP WAGON.

APPLICATION FILED SEPT. 14, 1908.

919,964.

Patented Apr. 27, 1909.

2 SHEETS—SHEET 1.

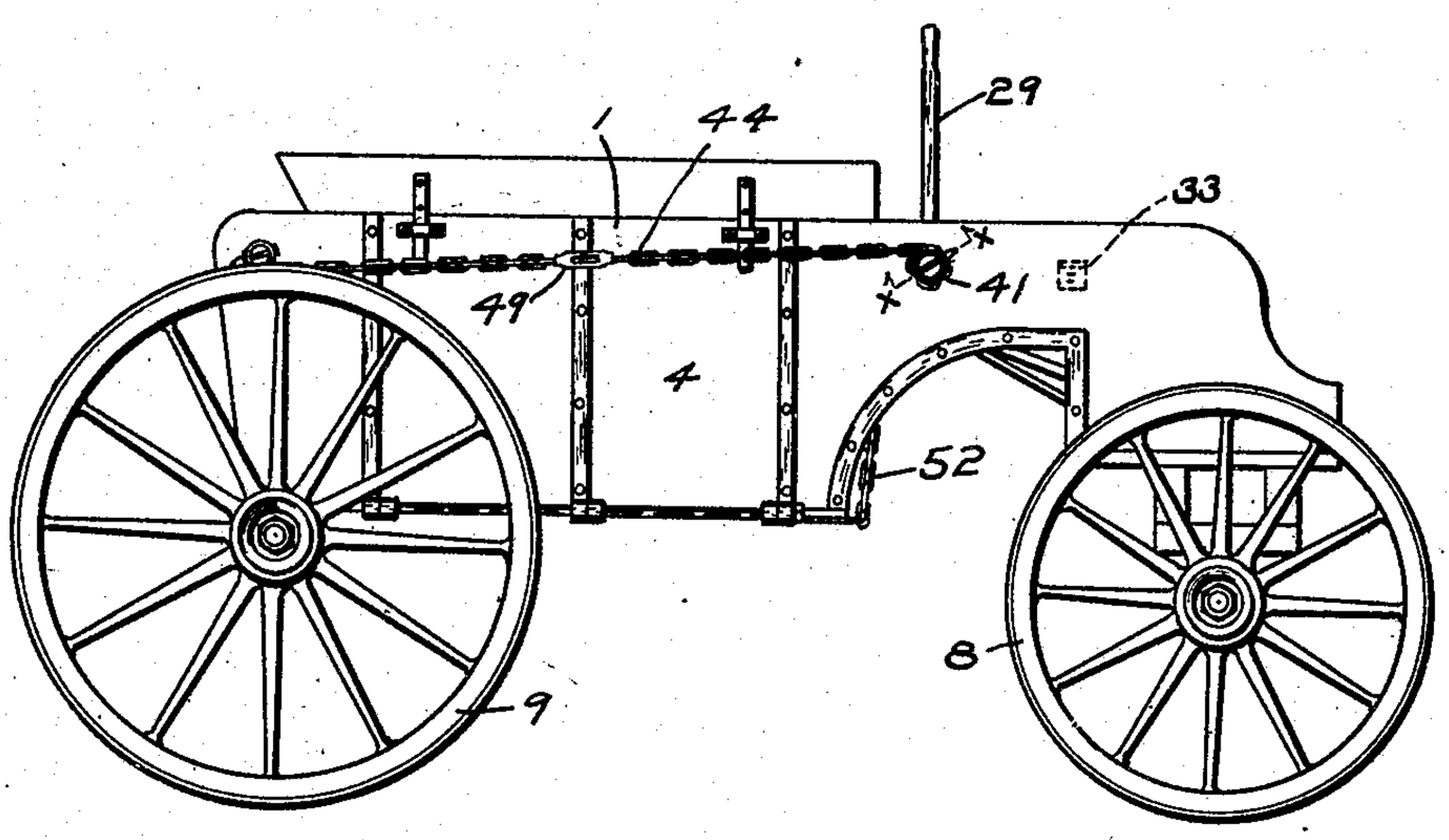

Fig. 1

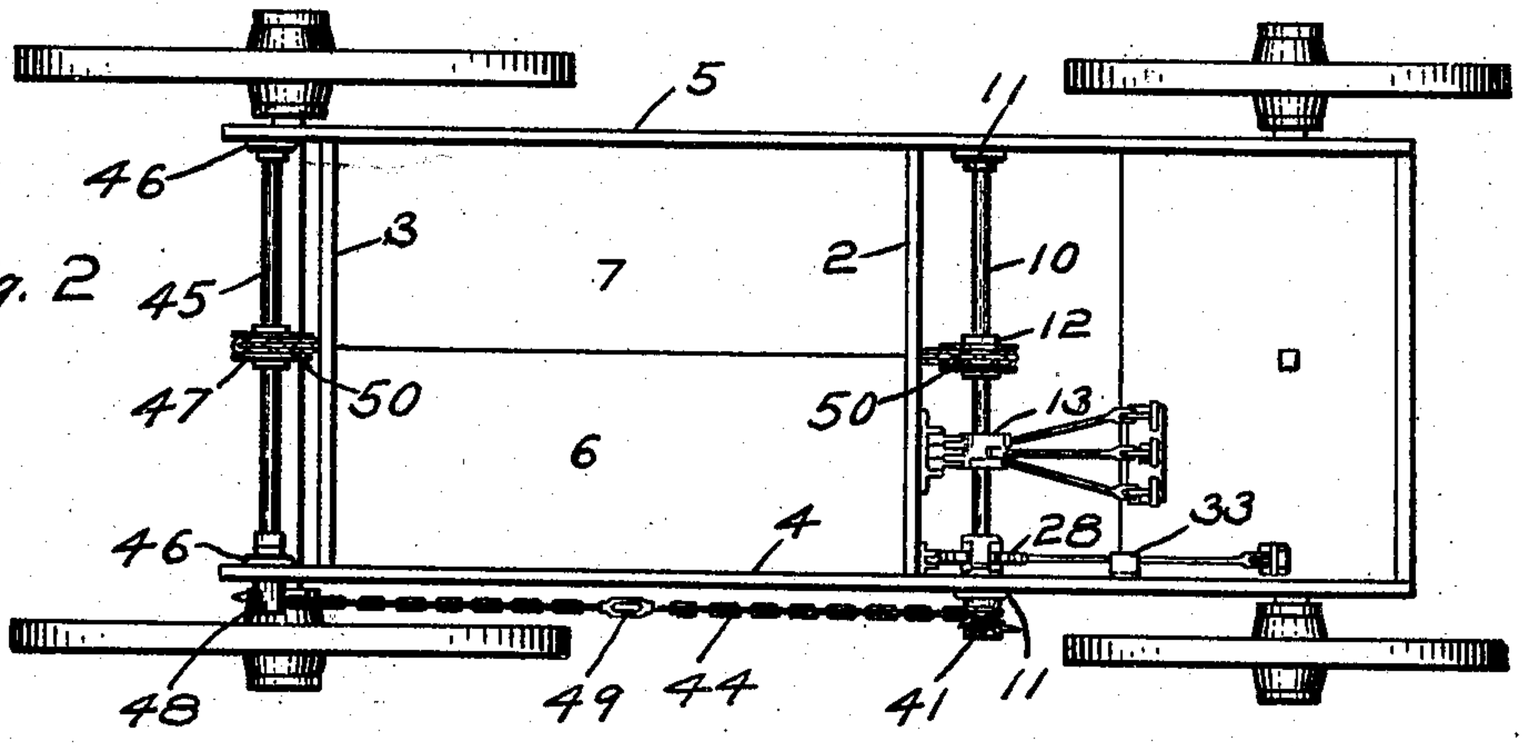

Fig. 2

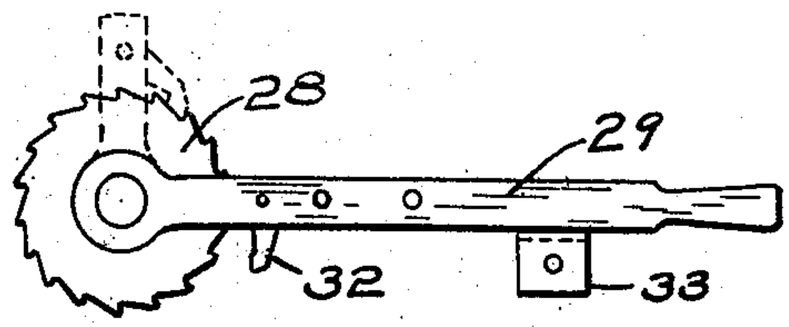

Fig. 7

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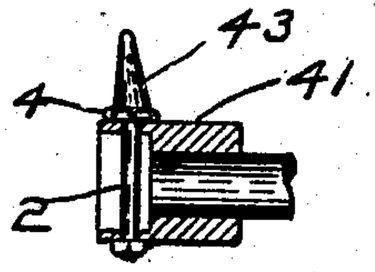

Fig. 5

Fig. 3

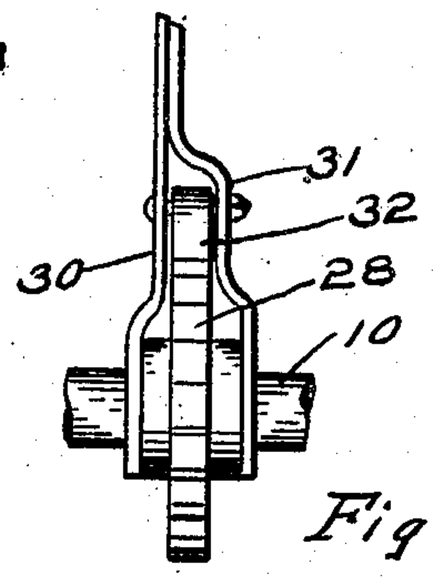

Fig 6

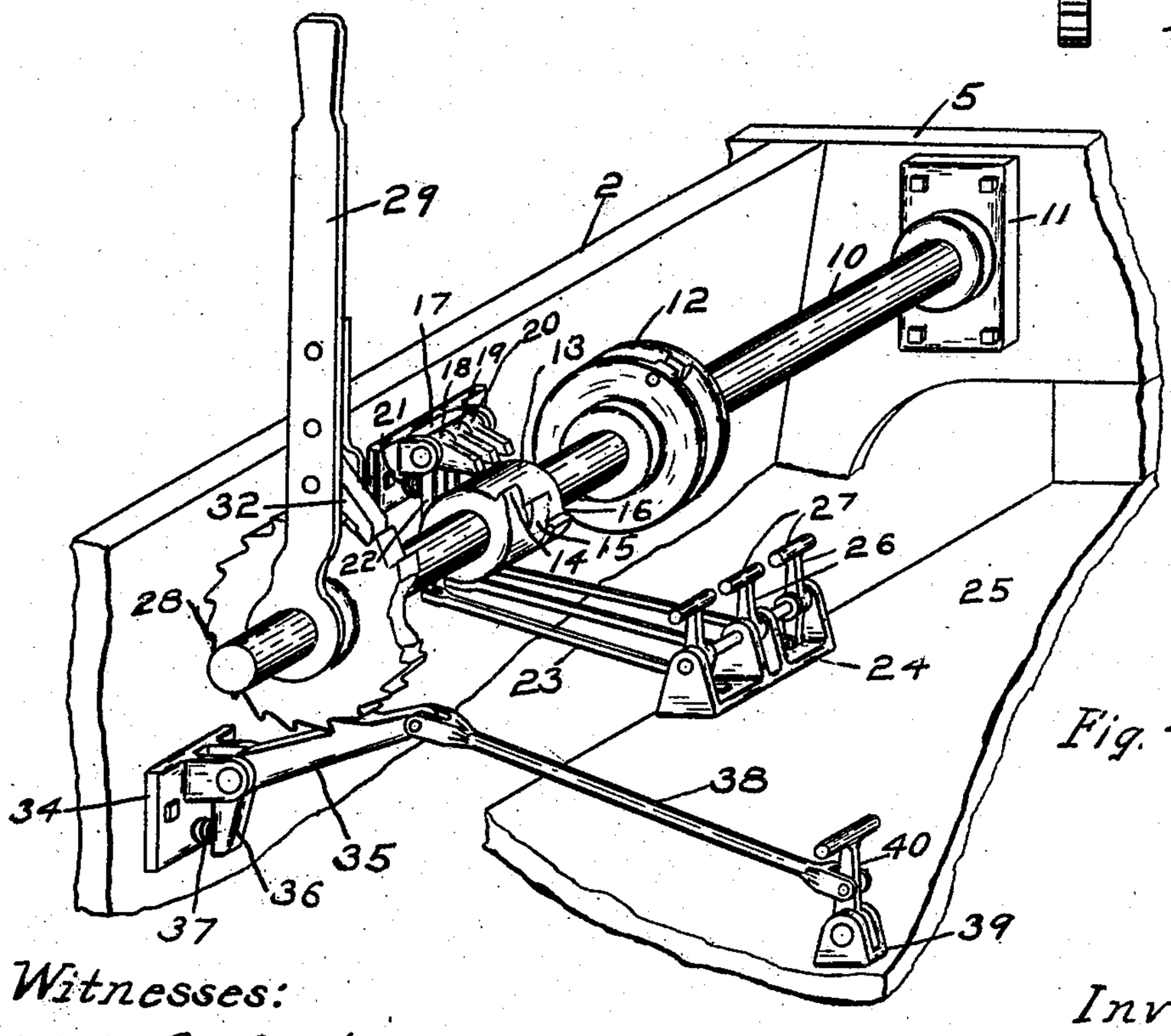

Fig. 4

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UNITED STATES PATENT OFFICE.

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DUMP-WAGON.

No. 919,964. Specification of Letters Patent. Patented April 27, 1909.

Application filed September 14, 1908. Serial No. 452,939.

To all whom it may concern:

Be it known that I, OTTO C. SEELOW, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Dump-Wagons, of which the following is a specification.

My invention relates to improvements in that class of dump-wagons in which the bottom of the wagon is divided into two sections forming drop-doors which open downwardly to permit the dumping of the load. In the work for which wagons of this class are used, it frequently happens that it is desirable to distribute the load over a considerable area instead of depositing it all in one place. If the load is dumped in one place it must be distributed by means of shovels, etc. which is a slow and expensive process.

One object of my invention is to provide improved means whereby the wagon itself may be made to distribute the load, and whereby the area over which the load will be distributed may be varied at will. The drop-doors of wagons of this class are usually operated by means of chains or similar flexible members attached thereto and passing over drums actuated by a crank or lever. In time these flexible members become worn and stretched so that they no longer operate evenly, and one door will be closed before the other, or one end of the door will be closed before the other end.

A further object of my invention is to provide improved means whereby the drop-doors may be kept in perfect adjustment.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification, and in which,

Figure 1 is a side elevation of my improved dump-wagon, Fig. 2 is a plan view thereof the upper section of the box being removed, Fig. 3 is an enlarged rear end view, parts being broken away, Fig. 4 is a perspective view of part of the operating mechanism, Fig. 5 is a cross sectional detail of one of the winding drums taken on the line *x*—*x* of Fig. 1, Fig. 6 is a front elevation of the hand lever and ratchet wheel, and Fig. 7 is a side elevation of the same.

In the views 1 is the wagon-box comprising a front end 2, rear end 3, sides 4 and 5, and bottom doors 6 and 7 hinged to the sides as shown in Figs. 1 and 3. The box is mounted on wheels 8 and 9 in any suitable manner.

10 is the operating shaft rotatably mounted in bearings 11 secured to the sides of the box. 12 is a chain-wheel fixed to the central part of this shaft.

13 is a collar fixed to the shaft having on its periphery a series of stops 14, 15 and 16.

17 is a bracket secured to the front end of the box 1 on which is pivotally mounted a series of pawls 18, 19 and 20 adapted to be moved into engagement with the stops 14, 15 and 16, respectively. Each of these pawls is provided with a compression spring 21 adapted to hold it normally out of the path of movement of the stop. Each pawl has an integral depending arm 22 to which is pivotally secured a link 23.

24 is a bracket fastened to a cross-piece 25 which is secured at its ends to the sides of the box. Pivotally mounted on the bracket 24 is a series of foot-levers 26, each foot-lever being pivotally attached at one end to one of the links 23. The other end of each foot-lever is provided with a T-shaped end 27 adapted to be engaged by the foot of the operator.

28 is a ratchet wheel fixed to the shaft 10.

29 is a hand lever rotatably mounted on the shaft 10. The lower end of this lever comprises two straps 30 and 31 secured together and bent to form a fork adapted to straddle the ratchet wheel 28.

32 is a pawl pivotally mounted on the lever between the straps adapted to engage the ratchet wheel 28.

33 is a stop secured to the side of the box adapted to engage the hand lever.

34 is a bracket secured to the front end of the box on which is pivotally mounted a pawl 35 having an integral depending arm 36.

37 is a compression spring which acts against the arm 36 to hold the pawl 35 in engagement with the ratchet wheel.

38 is a link pivotally secured at one end to the pawl 35.

39 is a bracket secured to the cross-piece 25. Pivotally mounted on this bracket is a foot-lever 40 to which the link 38 is pivotally secured.

41 is a drum fixed to the outer end of the shaft 10.

42 is a bolt having an elongated cone-shaped head 43 over which a link of the chain 44 may be slipped to secure it to the

drum. The axis of the cone is at an angle with the axis of the bolt, as shown in Fig. 5, in order to force the chain to wind on the drum.

45 is a shaft rotatably mounted in bearings 46 secured to the rear ends of the sides of the box. A chain-wheel 47 is secured to the central part of the shaft.

48 is a drum similar to the drum 41 fixed to the outer end of the shaft 45. The chain 44 is secured at its front end to the drum 41 and at its rear end to the drum 48, and is provided at its central portion with a turn-buckle 49. The ends of this chain are wound in opposite directions on the drums. A chain 50 having a ring 51 at its lower end is secured to each of the chain-wheels 12 and 47. A pair of chains 52, each chain provided with a turn-buckle 53 is secured to each of the rings 51, the other ends of these chains being attached to the inner edges of the bottom doors 6 and 7.

The operation of the device is as follows: If the bottom doors are open, as shown in full lines in Fig. 3, and the operator desires to close them, he moves the hand lever 29 back and forth. During the forward movement of the lever the pawl 32 engages the ratchet-wheel 28 and causes it to rotate together with the shaft 10, chain-wheel 12 and drum 41. During the backward movement of the hand lever the ratchet-wheel is held from rotation by the pawl 35. The rotation of the drum 41 causes the drum 48 together with the shaft 45 and chain-wheel 47 to rotate in the opposite direction through the medium of the chain 44. This rotation of the chain-wheels causes the chains 50 to be wound thereon thereby raising the doors 6 and 7 to their closed position through the medium of the chains 52. If the mechanism becomes worn so that the front ends of the doors do not close at the same time as the rear ends, they may be brought into adjustment by means of the turn-buckle 49. If the door on one side does not close at the same time as the other door, the difficulty may be remedied by adjusting the turn-buckle 53. When the wagon is loaded and it is desired to dump the load, the pawl 32 is lifted from engagement with the ratchet wheel and the lever 29 is placed in the position shown in full lines in Fig. 7 the forward end of the lever resting on the stop 33. In this position the pawl 32 is held from engagement with the ratchet wheel by gravity. The foot-lever 40 is then moved forwardly causing the pawl 35 to disengage the ratchet wheel through the medium of the link 38 when the weight of the load will cause the doors to open and the load to be distributed. If it is desired to limit the extent to which the doors are allowed to open in order that the load may be distributed gradually as the wagon moves along, one of the pawls 18, 19 or 20 is brought in the path of movement of one of the stops 14, 15 or 16 by moving one of the foot levers 26 forward. The weight of the load will cause the shaft 10 to rotate until said stop comes in contact with said pawl where it will be held. It will thus be seen that for each stop on the sleeve 13 a different degree of opening of the doors may be secured thereby varying the area over which the load will be distributed.

Having described my invention what I claim as new, and desire to secure by Letters Patent, is:

1. In a dump-wagon, the combination with the body thereof, of drop-doors pivotally secured thereto, a shaft rotatably mounted on the body, connections between said shaft and doors whereby the weight of the load tends to rotate said shaft, retaining and releasing mechanism for said shaft, a member fixed on said shaft provided with a plurality of stops arranged at different longitudinal positions thereon, a like number of members adapted to be placed in the paths of movement of said stops whereby the angle through which the shaft can rotate when released may be varied, and means for actuating said members independently substantially as described.

2. In a dump-wagon, the combination with the body thereof, of drop-doors pivotally secured thereto, a shaft rotatably mounted on said body, connections between said shaft and doors whereby the weight of the load tends to rotate said shaft, retaining and releasing mechanism for said shaft, a member fixed on said shaft provided with a plurality of stops arranged at different longitudinal positions and different circumferential positions thereon, a like number of pawls adapted to be placed in the paths of movement of said stops whereby the angle through which the shaft can rotate when released may be varied, substantially as described.

3. In a dump-wagon, the combination with the body thereof, of drop-doors pivotally secured thereto, a shaft rotatably mounted on said body, connections between said shaft and doors whereby the weight of the load tends to rotate said shaft, retaining and releasing mechanism for said shaft, a member fixed on said shaft provided with a plurality of stops arranged at different longitudinal positions thereon, a like number of pawls adapted to be placed in the paths of movement of said stops whereby the angle through which the shaft can rotate when released may be varied, means for normally holding said pawls out of the paths of movement of the stops, and means whereby the pawls may be placed in the paths of movement of the stops, substantially as described.

4. In a dump-wagon, the combination with the body thereof, of drop-doors pivotally

secured thereto, a shaft rotatably mounted on said body, connections between said shaft and doors whereby the weight of the load tends to rotate said shaft, retaining and releasing mechanism for said shaft, a member fixed on said shaft provided with a plurality of stops, said stops being arranged at different longitudinal and different circumferential positions thereon, a like number of pawls adapted to be placed in the paths of movement of said stops whereby the angle through which the shaft can rotate when released may be varied, springs for normally holding said pawls out of the paths of movement of the stops, and foot-levers whereby the pawls may be placed in the paths of movement of the stops, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

OTTO C. SEELOW.

Witnesses:
JANET E. HOGAN,
HELEN F. LILLIS.