No. 883,268. PATENTED MAR. 31, 1908.

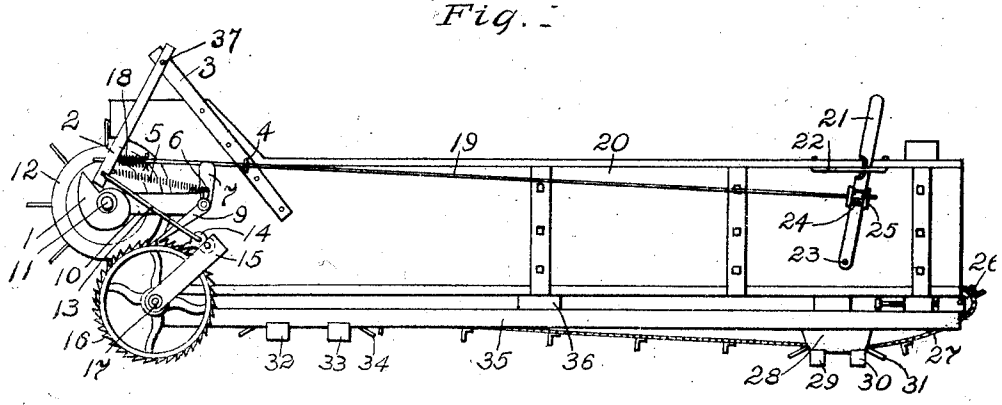
D. K. WILSON.

MANURE SPREADER.

APPLICATION FILED MAY 11, 1907.

2 SHEETS—SHEET 1.

Fig. 1.



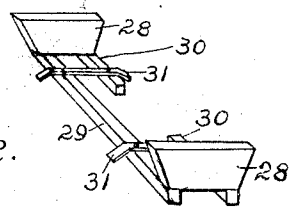


Fig. 2.

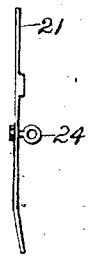


Fig. 4.

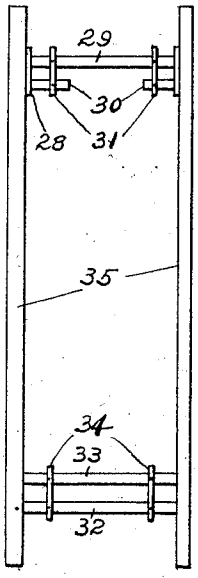


Fig. 3.

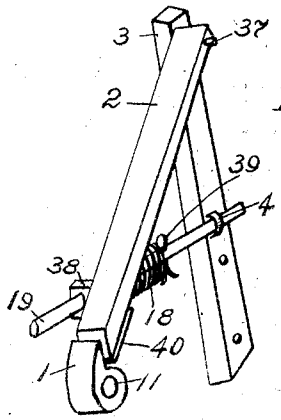


Fig. 5.

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No. 883,268. PATENTED MAR. 31, 1908.

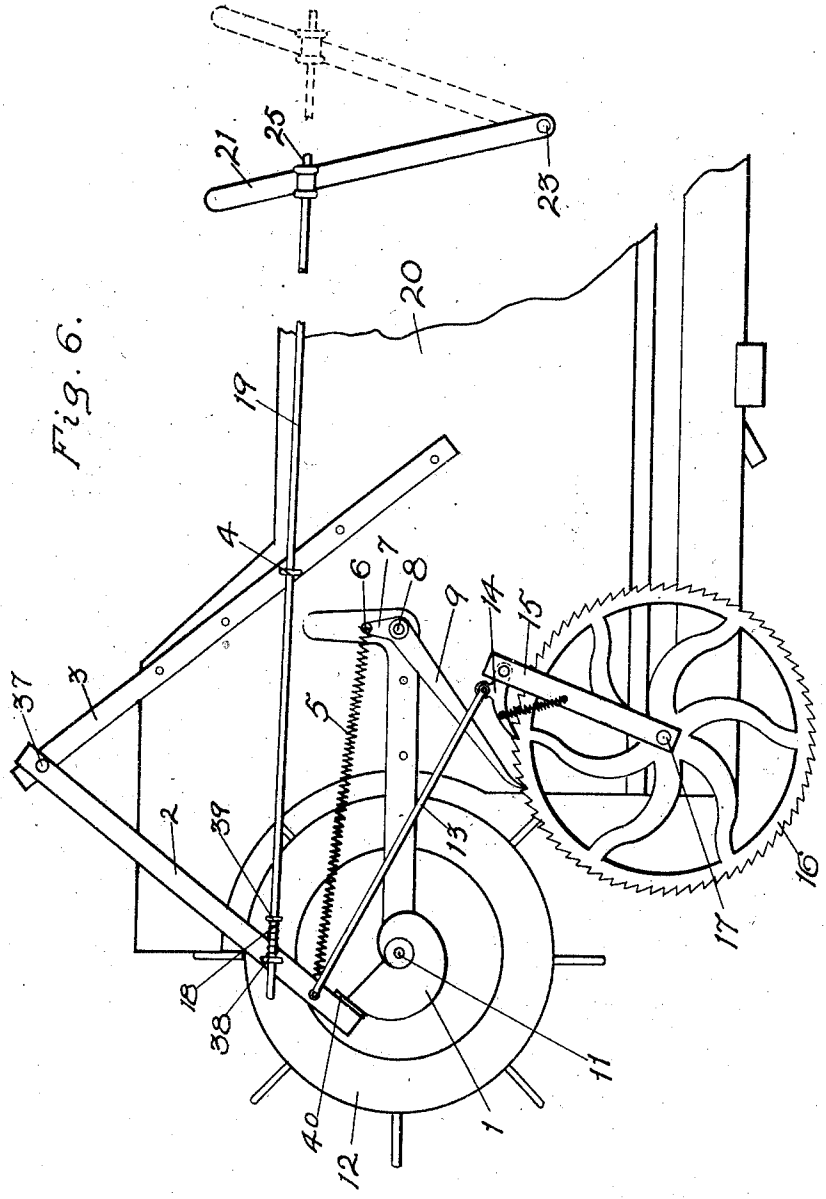
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MANURE SPREADER.

APPLICATION FILED MAY 11, 1907.

2 SHEETS—SHEET 2.

Fig. 6.



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MANURE-SPREADER.

No. 883,268. Specification of Letters Patent. Patented March 31, 1908.

Application filed May 11, 1907. Serial No. 373,179.

To all whom it may concern:

Be it known that I, DALTON K. WILSON, a citizen of the United States of America, and a resident of Waterloo, Blackhawk county, Iowa, have invented certain new and useful Improvements in Manure-Spreaders, of which the following is a specification.

My invention relates to improvements in manure spreaders, and the objects of my improvements are, first, to provide a new and simple ratchet-feed for driving the apron, and second, to furnish improved supports for the wagon-body of the spreader. These objects I have accomplished by the mechanism and means which are hereinafter described and claimed, and which are illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a manure-spreader as separated from its carrying wheels, and illustrating the particular combination of elements used in my said ratchet-feed-mechanism. Fig. 2 is a perspective view of my improved forward support for the wagon-body, and Fig. 3 is a plan view of the rack to which the front and rear wagon supports are attached and by which it is supported. Fig. 4 is a detail view of the hand-lever of the said ratchet-feed-mechanism, showing its socket-bearing for the forward end of the connecting-rod. Fig. 5 is a detail view in perspective of the cam operated lever in the ratchet-feed-mechanism. Fig. 6 is an enlarged detail view of the cam-driven ratchet-feed mechanism.

Similar numbers refer to similar parts throughout the several views.

The box 20 of my improved manure spreader is supported on cross-beams 36 whose ends rest on the parallel longitudinal timbers 35. The latter timbers are supported by the cross-bars 32 and 33 at the rear which rest on the rear bolster of a wagon frame (not shown), and by a cross-bar 29 at the front which rests on the front wagon bolster, but blocks 28 are placed between the bar 29 and the timbers 35 to space the latter away from the front bolster and compensate for the lesser height of said bolster. Short bracket-arms 30—30 extend inwardly from the bases of the blocks 28 to assist in supporting the guides 31 thereon. Similar guides 34 are affixed to the rear cross-timbers 32—33, and all such guides serve to form ways for the apron 27 to move thereover, said apron being driven by sprocket-wheels (not shown) on the transverse shaft 17, and its front end running over idler sprockets 26 at the front of the box 20. By the use of the supporting frame thus composed, the wagon-box 20 can be placed upon any wagon-running gear, by simply placing therebetween such a supporting-frame as will fit properly to space them apart.

The shaft 11 of the beater-drum 12 may be rotated by any suitable means, and this shaft is caused to communicate rotatory movement to the apron-driving-shaft 17 by the ratchet-feed-mechanism now to be described.

A cam-wheel 1 is secured to one end of the shaft 11 as shown in Fig. 1, and is of the form depicted. A lever 2 has its upper end pivoted on a stud 37 to the upper end of a fixed supporting-arm 3 attached to the body 20. The lower end of said lever 2 is adapted to movably rest upon the circumferential edge of said cam to be driven by the latter with a vibrating motion. A link 13 has its rear end pivoted to the lower part of said lever 2, while its forward end is pivotally connected to a pawl 14 which is pivotally connected to a supporting-arm 15 whose lower end is pivoted to the end of the shaft 17. A guard-pawl 9 is pivoted on a stud 8 extending from the bracket 10 the latter supporting the shaft 11, said pawl having a stud 6 and a coiled spring 5 being connected between the lever 2 and said stud, the latter extending from the upper arm 7 of said pawl. Both pawls 9 and 14 are adapted to engage the teeth of the ratchet-wheel 16, the latter being fixedly mounted on the end of the apron-driving-shaft 17. A hand-lever 21 has its lower end pivoted on a stud 23 to the outside of the forward part of the box 20, said lever movable within a rack-bar 22, with whose teeth an outwardly bent projection on the lever is adapted to releasably engage. Said lever is provided with a bearing-ring 24 on an outwardly projecting stud the latter rotatably mounted in an orifice in said lever and secured by a nut. The forward end of the connecting-rod 19 is passed through said ring, and secured thereto by nuts 25, the connection at this point thus permitting the ring to swing as the lever moves forward or back. The connecting-rod 19 has its rear end slidably seated in a bearing-orifice in a lug 38 extending from

the inner face of the lever 2. A short distance ahead of said lug the rod 19 is pierced and a pin 39 inserted to form an abutment for the coiled spring 18 seated about said rod between said pin and said lug. The rod 19 is kept from lateral movement by being contained within a staple 4 secured to the arm 3. The spring 18 forms a resilient compressible connection between the rod 19 and the lever 2, while the spring 5 tends to keep the pawl 9 in engagement with the teeth of the ratchet-wheel 16. When the lever 21 is moved in one direction, the lever 2 is adjusted so that the cam 1 will afford it but a small amount of throw, moving but one tooth of the ratchet-wheel 16 at a time, for slow speed of the apron, by means of the above described intermediate connections. When the lever 21 is thrown forward the lever 2 is brought within the full radius of operation of the cam so as to cause the pawl 14 to drive the wheel the distance of two or more teeth and by the action of the spring 5 aided by the weight of the lever 2, the pawl 14 is caused to click back over more teeth, and by each impulse derived from the cam-wheel cause a more rapid rotation of the shaft 17, with consequent enhancement of the speed of the apron 27. Throwing the lever 21 in the opposite or rearward direction stops the apron by limiting the stroke of the pawl 14 to less than the length of one tooth of said ratchet-wheel.

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

In a manure spreader, the combination with a box containing a movable endless longitudinal apron, a beater-drum supported on a rotatable shaft at the rear of said apron, a cam-wheel on said shaft, a driving-shaft for said apron, a ratchet-wheel on said apron-shaft, a pawl adapted to operatively engage the teeth of said ratchet-wheel, a lever pivotally supported by said box and having one end in operative contact with said cam-wheel, a link between said lever and said pawl, a rack-bar on said box, a hand-lever pivoted to said box and adapted to removably engage any of the teeth of said rack-bar, a connecting-rod having a swivel connection with said hand-lever and a resilient connection with said cam-driven-lever, a guard-pawl pivotally supported above and adapted to engage with the teeth of said ratchet-wheel, and a spring connected between said cam-driven-rod and said guard-pawl adapted to ordinarily maintain the lattter in engagement with the teeth of said ratchet-wheel.

Signed at Waterloo, Iowa, this 23rd day of April 1907.

DALTON K. WILSON.

Witnesses:
D. A. KENNEDY,
O. D. YOUNG.