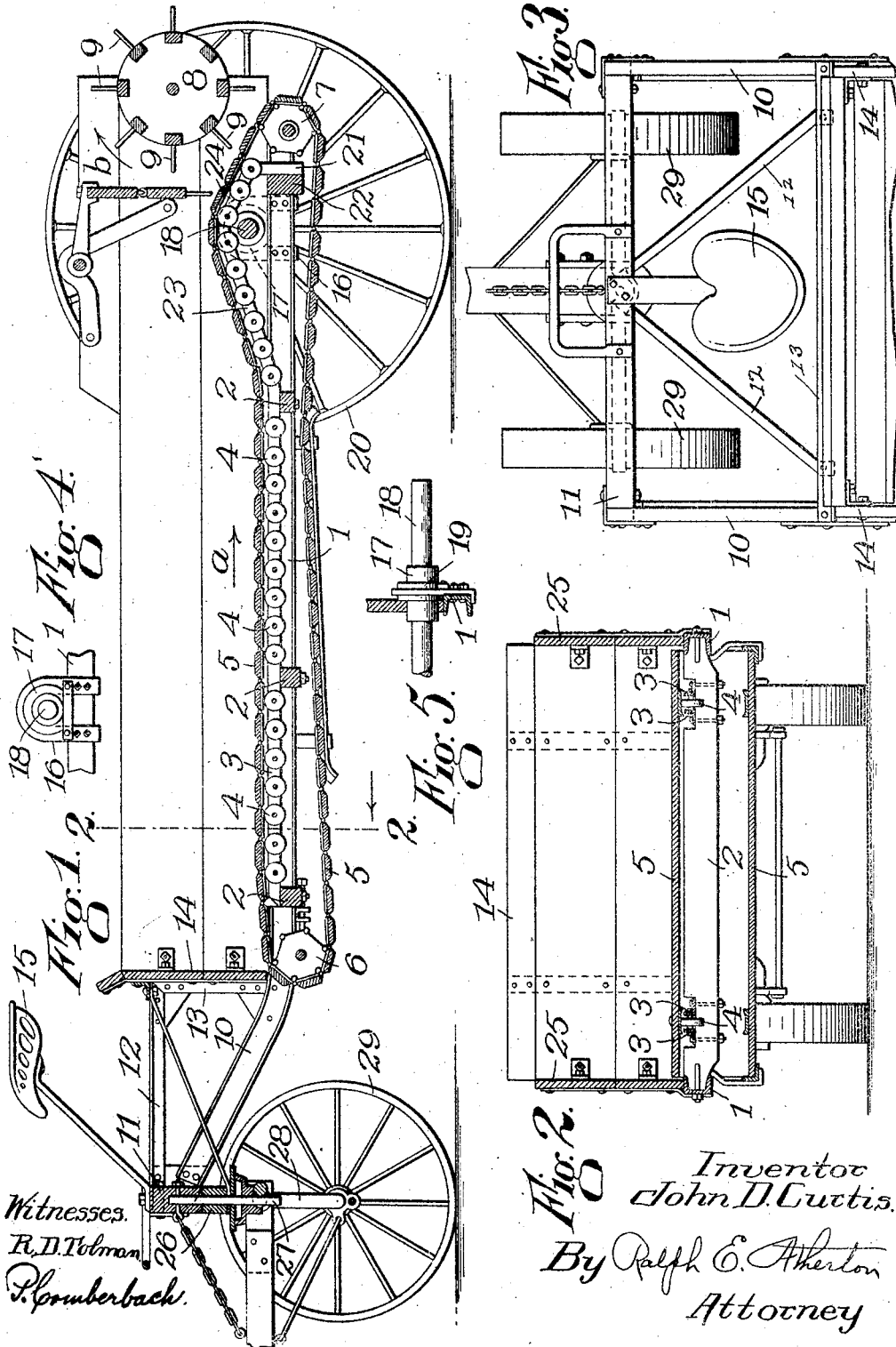


J. D. CURTIS.
 MANURE SPREADER.
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1,099,845.

Patented June 9, 1914.



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MANURE-SPREADER.

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To all whom it may concern:

Be it known that I, JOHN D. CURTIS, a citizen of the United States, residing at Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement in Manure-Spreaders, of which the following is a specification, accompanied by drawings forming a part of the same.

My invention relates to that class of manure spreaders in which a movable bottom is employed to move the load slowly to a revolving beater at the rear end of the spreader by which it is distributed over the ground. In spreaders of this type it is customary to move the load in a solid mass within the path of the beater teeth, by which the load is shredded and thrown rearwardly over the ground. In machines of this type also, the axle is usually journaled below the sills of the body which raises the body too high for convenient loading, as the manure has to be raised above the sides of the body, or in case the rear axle is inclosed in the beater, the construction becomes complicated and a considerable portion of the spreader must be dismantled in order to remove the rear axle or the beater. In spreaders of this type the resistance to the rotation of the beater is considerable owing to the compact mass clogging the movement of the beater, and adding materially to the draft.

It is one of the objects of my invention to overcome these objections by means of a suspension of the body from the rear axle which I journal above the sills but beneath the movable bottom.

My invention has for its further object to provide for a simple, strong and cheap construction of the body portion of the spreader by the employment of steel sills in single continuous channel bars extending from the rear to the front end of the spreader, with the forward ends of the sills bent upwardly and joined at their forward ends by a cross bar, of the same length as the width of the body.

Another object of my invention is to provide a substantial support mounted upon the upturned ends for the head board.

The construction by which these several objects, among others, are secured, is hereinafter described, the novel features being pointed out in the annexed claims.

Referring to the accompanying drawings,

Figure 1 is a longitudinal, central, sectional view of a manure spreader embodying my invention. Fig. 2 is a transverse sectional view on the plane of the broken line 2-2, Fig. 1. Fig. 3 is a plan view of the forward end of the spreader. Fig. 4 is a detached view of one of the hangers by which the body is suspended from the rear axle, and Fig. 5 is an end view of the hanger showing its application to the rear axle.

Similar reference characters refer to similar parts throughout the different figures.

Referring to the drawings, 1, 1, denote the sills upon which the body is supported. Between the sills 1, 1, are cross bars 2, which support the longitudinal angle bars 3, 3, between which the rolls 4 are journaled. Upon the rolls 4 I support the movable bottom, which in the present instance is endless and consists of a series of slats 5 extending across the spreader and hinged at their edges. The movable bottom is carried at each end of the spreader upon sprocket wheels 6 and 7 to one of which a slow rotary motion is imparted by a mechanism, not shown, moving the upper part of the bottom, upon which the load is supported, in the direction of the arrow *a*, Fig. 1. The beater 8 is journaled at the rear end of the spreader, and above the rear sprocket wheel, and a rapid motion is imparted to the beater by a mechanism, not shown, carrying its teeth 9 in the direction of the arrow *b*. At the front end of the spreader the sills 1 are bent upwardly, as shown at 10, Fig. 1, with their forward ends connected by a cross bar 11 of the same width as the body of the spreader. An angular framework 12 is mounted upon the upturned portion of the sills having its vertical member 13 supporting the head board 14. Mounted upon the cross bar 11 is the driver's seat 15.

Attached to the sills 1 near the rear end of the spreader is an inverted U-shaped strap 16 which incloses a sleeve 17 in which the rear axle 18 is journaled. Integral with the sleeve 17 is a collar 19 containing a peripheral groove in which the U-shaped strap 16 is inserted, thereby holding the sleeve 17 from longitudinal movement. Upon the ends of the rear axle 18 the rear wheels of the spreader are journaled, one of which is represented at 20, Fig. 1, having a pawl and ratchet connection with the axle 18, as is usual in manure spreaders, causing the re-

tation of the wheels 20 to rotate the rear axle 18, which is utilized as the driving axle from which rotary motion is imparted to the beater 8 and to the rear sprocket wheel 7, by
 5 connecting mechanism common to manure spreaders, but not herein shown or described, as it forms no part of my present invention.

The longitudinal angle bars 3 between which the rolls 4 are journaled are bent upwardly and extended over the rear axle 18, with the rear ends 21 of the angle bars attached to the cross bar 22 near the rear end of the spreader, forming an upward incline 23 in front of the rear axle, and a downward
 10 incline 24 at the rear of the rear axle 18.

By the above described construction the rear axle is journaled above the sills of the spreader which are suspended from the axle by the inverted U-shaped straps 16. This
 20 brings the sills nearer the ground, reducing the height of the body, enabling it to be easily loaded over the sides 25. The entire body is suspended from the rear axle at the rear and supported by the cross bar 11 at
 25 the front end of the body, the front cross bar 11 being supported upon a bolster 26 and connected with the front axle by a king bolt 27, in the usual manner, the front axle 28, in the present instance, being bent upwardly
 30 to give the desired elevation to the front end of the sills and to allow the forward wheels 29 to swing readily beneath the upturned ends 10 of the sills.

I claim,

35 1. In a manure spreader, a rear axle, a pair of longitudinal sills suspended from said rear axle and lying in a plane below the axis of said axle, a movable bottom, and a track for said movable bottom supported

by said sills, a portion of said track lying in 40 the plane of said sills and a portion passing over said rear axle.

2. In a manure spreader, a rear axle, a body carried thereby, a movable bottom for said body, means for constraining said bot- 45 tom to move in a plane below the axis of said rear axle, and means for constraining said bottom to move from said plane over said rear axle.

3. In a manure spreader, a rear axle, a 50 body suspended therefrom, and a movable bottom for said body, a portion of said bottom supported in a plane below the axis of said rear axle, and a portion supported so as to overlie said rear axle. 55

4. In a manure spreader, a rear axle passing transversely across the spreader, a pair of sills suspended below said axle, a track for a movable bottom supported throughout the main portion of its length in the plane 60 of the sills, said track being bent upwardly and downwardly to carry it over the rear axle, and a movable bottom supported on said track.

5. In a manure spreader, a pair of sills, a 65 rear axle journaled in bearings with their axes above the sills, a movable bottom supported in the plane of the sills at the forward and central portions of the body, and means for supporting the movable bottom 70 above the plane of the axes of said journal bearings at the rear portion of the body.

Dated this fourteenth day of February, 1913.

JOHN D. CURTIS.

Witnesses:

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 NELLIE WHALEN.