

(No Model.)

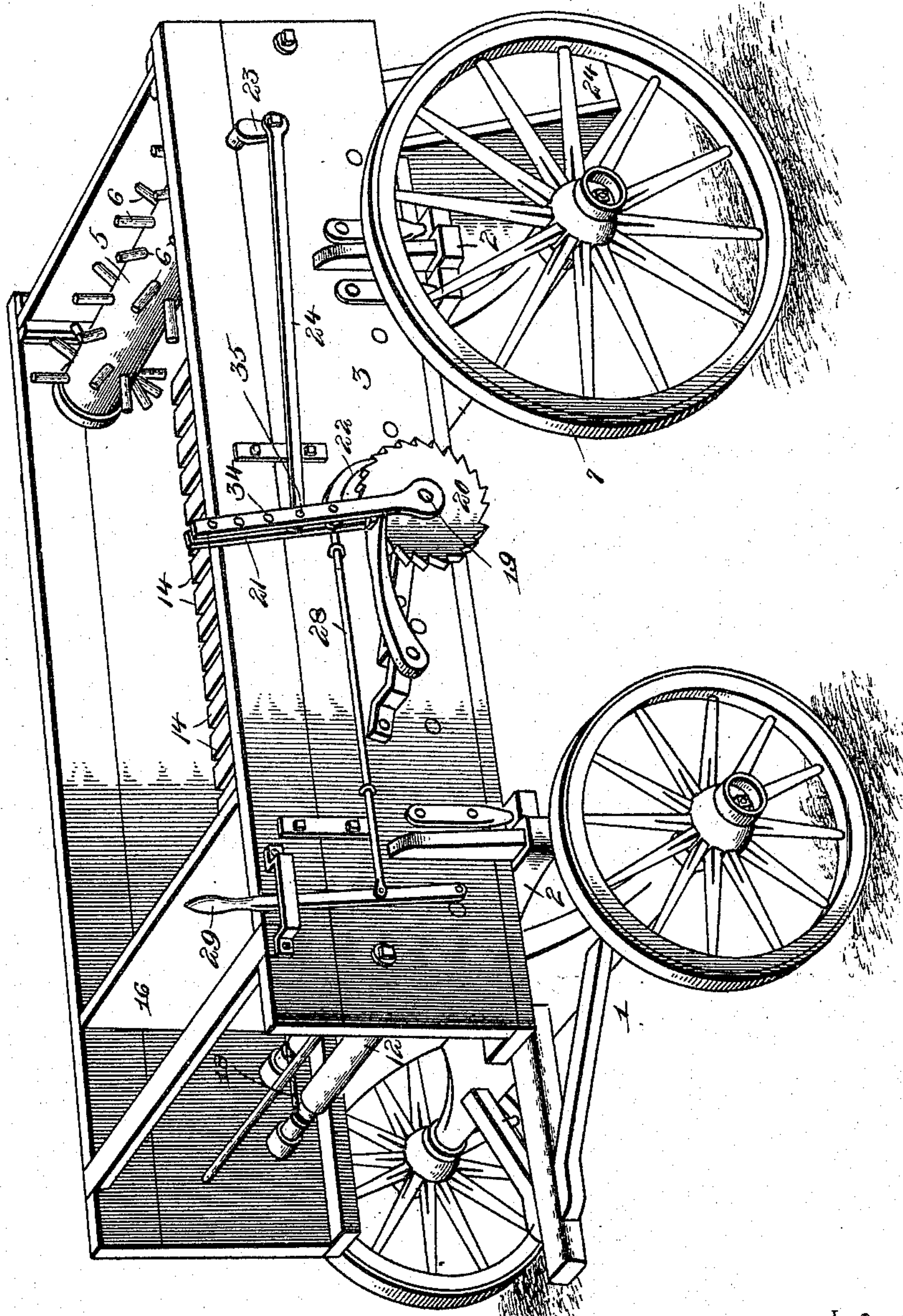
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J. D. H. ALEXANDER.
MANURE DISTRIBUTER.

No. 537,884.

Patented Apr. 23, 1895.

Fig. 1.



Inventor

John D. H. Alexander,

Witnesses

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J. D. H. Alexander

By *his* Attorneys,

C. A. Snow & Co.

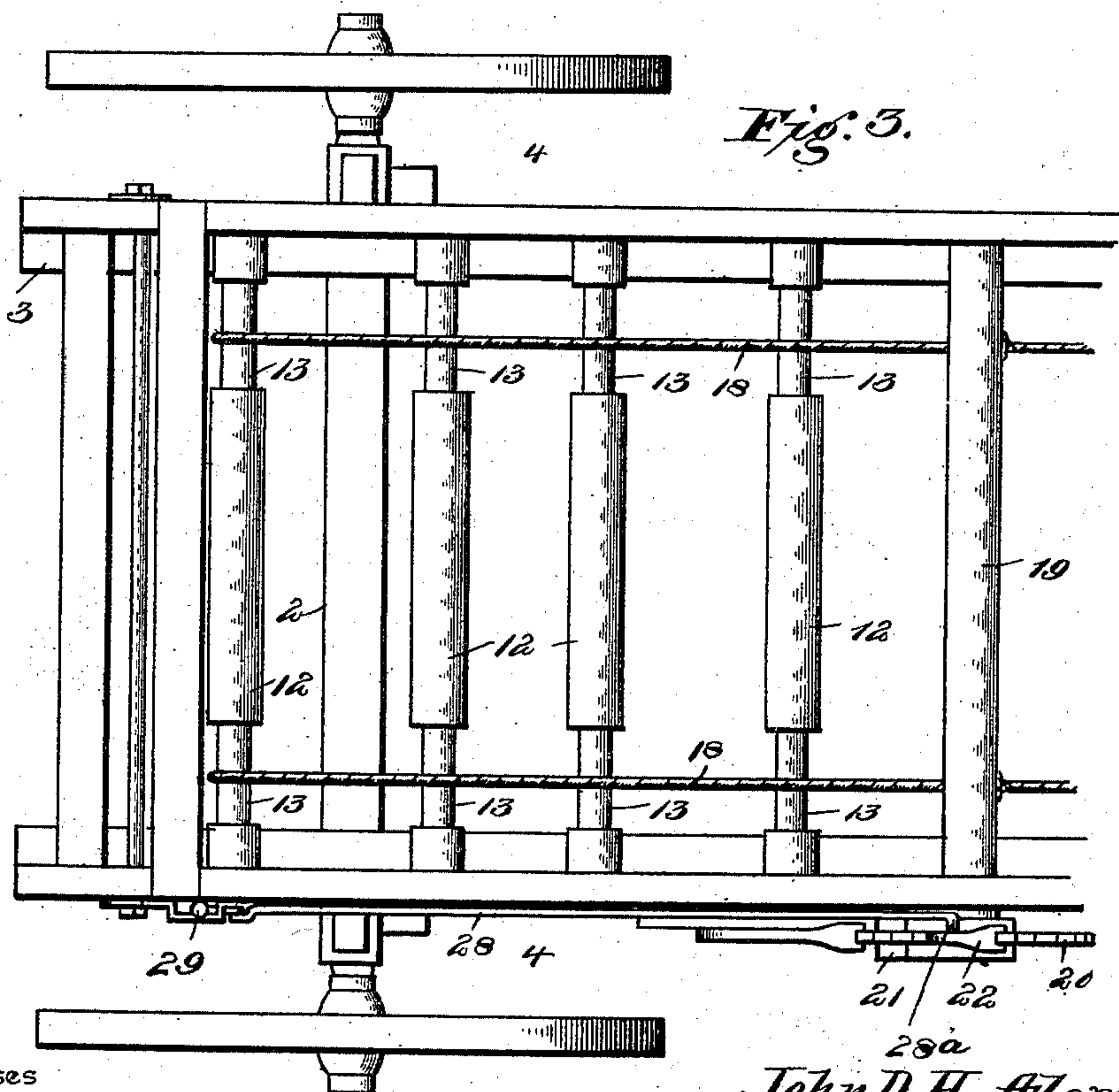
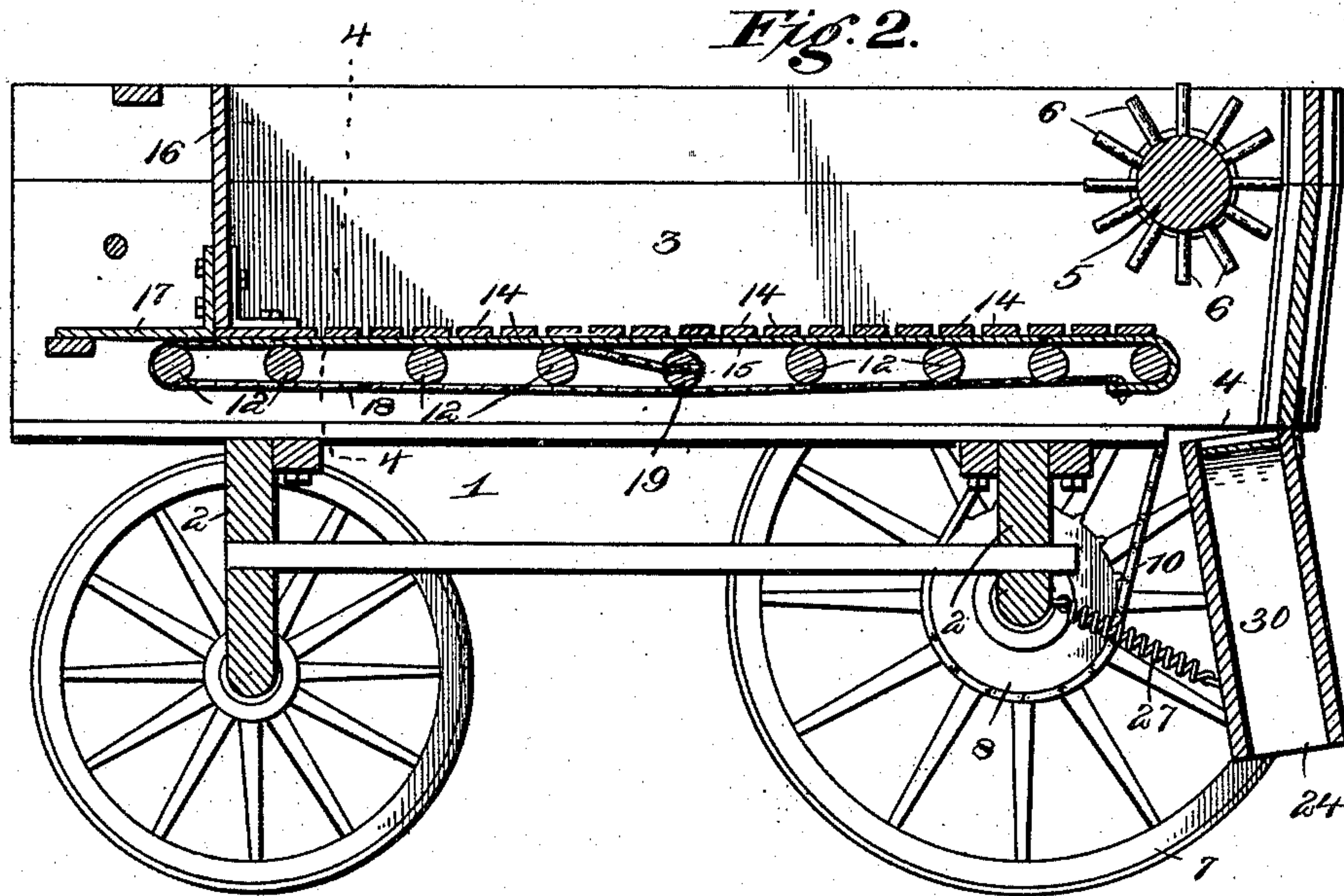
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Fig. 4.

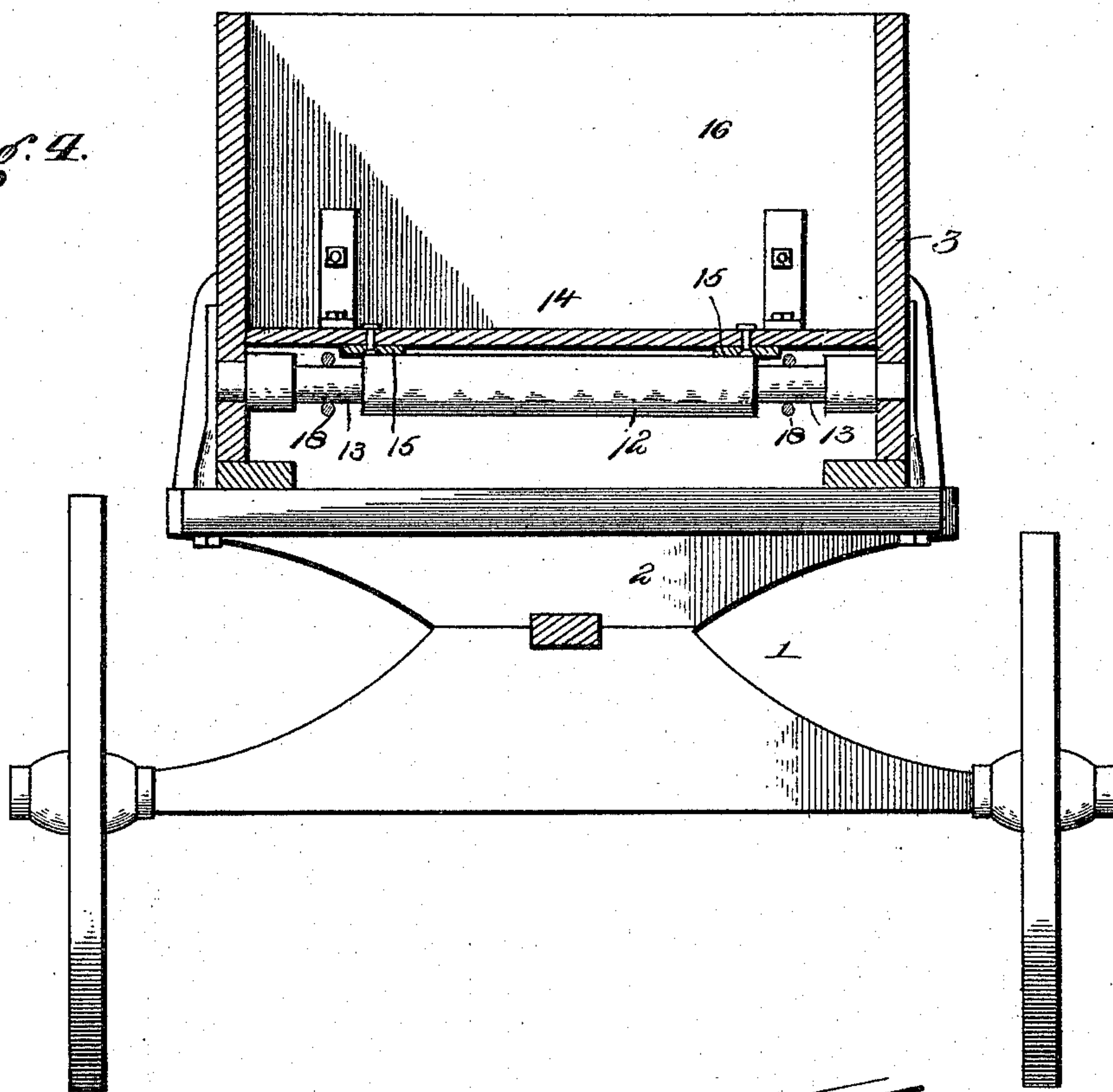


Fig. 5.

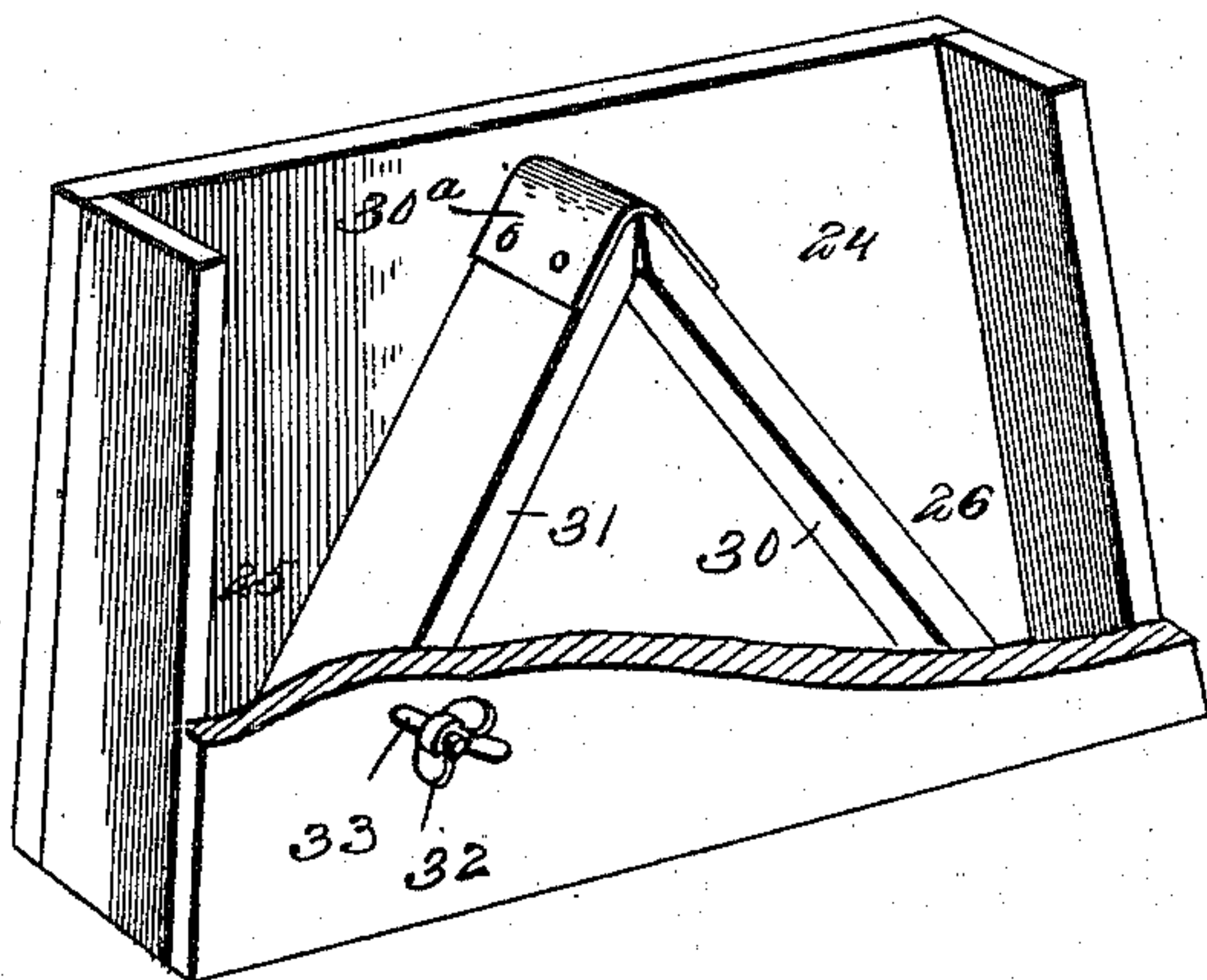
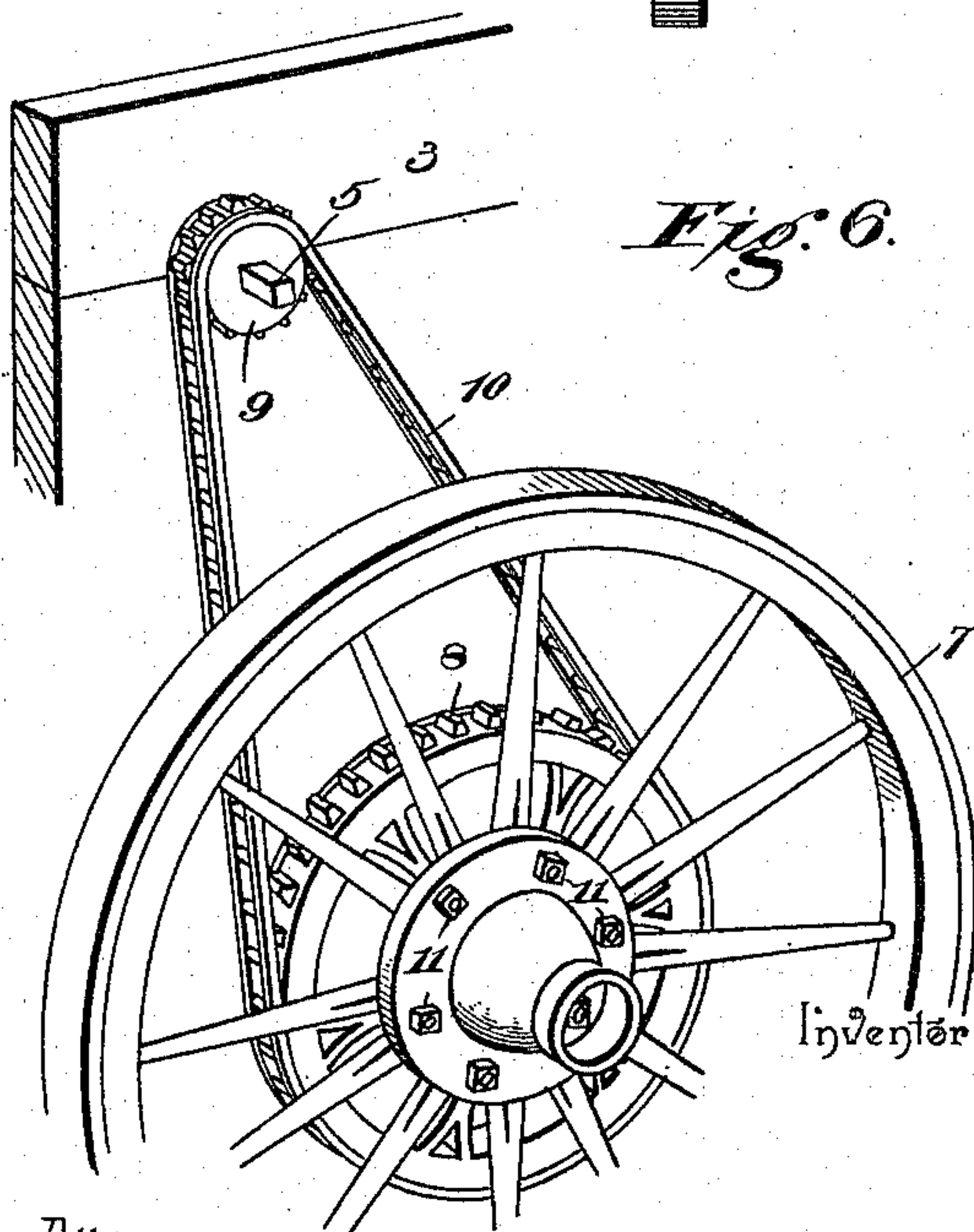


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN D. H. ALEXANDER, OF LOUISVILLE, GEORGIA.

MANURE-DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 537,884, dated April 23, 1895.

Application filed August 16, 1894. Serial No. 520,516. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. H. ALEXANDER, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Georgia, have invented a new and useful Manure-Distributor, of which the following is a specification.

This invention relates to improvements in machines for distributing manure, the objects in view being to provide a simple, inexpensive, light and efficient device, adapted to be used in connection with an ordinary wagon running gear and capable of distributing composite manure either broad-cast or in drills.

Further objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings: Figure 1 is a perspective view of a machine embodying my invention. Fig. 2 is a longitudinal section of the same. Fig. 3 is a partial plan view, to show the supporting and guiding rolls arranged beneath the flexible floor or bottom of the bed. Fig. 4 is a transverse section on the line 4—4 of Fig. 2. Fig. 5 is a detail view of the chute, partly broken away to show the divergent passages. Fig. 6 is a detail view showing the means for communicating motion from a ground wheel to the agitator.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates the running-gear of a wagon of the ordinary construction, having the bolster 2, and 3 represents a bed or body which in general features corresponds in construction with an ordinary farm wagon-bed. Revolvably mounted in suitable bearings in the sides of the bed near its rear end, and above a transverse opening or slot 4 in the bottom or floor thereof, is a feed-drum 5 having a spiral series of teeth or spurs 6, adapted to agitate and separate the manure and feed it through the subjacent opening or slot. This feed-drum receives motion from one of the rear ground-wheels 7 by means of a chain-wheel 8 secured to said ground-wheel, a pinion 9 affixed to an extended trunnion of the drum, and a connecting chain 10. The chain-wheel 8 is secured to the ground-wheel by means of bolts

11, and therefore a special construction of ground-wheel is unnecessary to the proper operation of the improved distributor.

Mounted in suitable bearings in the sides of the bed near its lower edge are the transverse spaced supporting and guide-rollers 12, provided near their extremities with shallow annular grooves or channels 13, and resting upon these rollers is the flexible floor or bottom 14, consisting of parallel juxtaposed transverse strips or slats and the longitudinal connecting bands 15. Attached to the terminal strip or slat at the front end of the bed is the upright board or follower 16, provided at its lower edge with a horizontal arm 17 which rests upon the supporting or guide rollers and maintains the follower in its upright position as it is moved rearward through the bed.

Connected to the rear end of the flexible floor or bottom of the bed and lying in the grooves or channels 13 are the operating cords or cables 18 which are reeled upon the windlass 19 located near the transverse center of the bed, and attached to one end of this windlass outside the bed is a ratchet wheel 20 adapted to be operated to turn the windlass by means of a swinging arm 21 and a pawl 22. Said swinging arm is bifurcated and its parallel arms are arranged upon opposite sides of the ratchet-wheel and journaled upon the projecting terminal of the windlass. As the machine advances and the manure at the rear end thereof is discharged and distributed by means of the feed-drum, this swinging-arm is oscillated, to slowly wind the operating cords upon the windlass and move the floor or bottom of the bed toward the rear, by a crank-arm 23 at one end of said feed-drum connected by means of a pitman 24 to the free end of the swinging arm.

Hinged to the rear end of the bed, in position to be swung under the feed or discharge opening or slot in the floor thereof is a chute 24, having the downwardly divergent passages 25 and 26 which are adapted to direct the manure into different drills. This chute is held in its normal or operative position by means of springs 27, which, however, are adapted to yield when the lower end of the chute comes in contact with an obstruction, to prevent breakage. When the chute is dis-

engaged from the obstruction it is returned at once to its normal position. In order to provide means for adjusting the interval between the outlets of the passages 25 and 26, I employ plates 30 and 31, arranged in inclined positions between the front rear walls of the chute. The plate 30 is stationary, while the plate 31 is hinged at its upper end to the corresponding end of the plate 30 by means of a strap 30^a, a set-screw 32, extending through a slot 33 in the rear side of the chute and adapted to secure the movable plate in its adjusted position. By means of this construction the discharge from the chute may be regulated to suit different distances between rows.

When it is desired to stop the operation of the machine, the trip-rod 28, which is provided at one end under the pawl 22, with an offset 28^a is moved rearwardly by means of a hand-lever 29. (Said offset is shown on Fig. 3.) This disengages the pawl 22 from the ratchet-wheel 20, and hence stops the operation of the machine.

The rapidity of feeding the manure is regulated by the point of attachment of the pitman 24 to the swinging arm 21. This arm is bifurcated whereby the end of the pitman 24 may be inserted between its cheeks, and the arm is provided with a series of perforations 34 for the reception of a pin 35, forming the pivot for connecting the parts. When the pitman is connected to the swinging arm near its outer end the motion of the ratchet wheel 20 is less for each movement of the crank-arm 23 than when said connection is made near the inner end or fulcrum of said swinging arm.

Having thus described my invention, I claim—

1. In a manure distributor, the combination with a bed provided with a discharge opening, a rotary feed-drum disposed adjacent to said opening, means for operating the feed-drum continuously, a flexible floor or bottom having longitudinal flexible bands, a wind-

lass mounted transversely below the plane of said floor or bottom, feeding mechanism for the windlass, a series of supporting rolls arranged to receive the pressure of said flexible bands and thus support the floor or bottom, and flexible connections between the floor and the windlass, of an upright follower attached to the front end of and carried by the floor, and a horizontal arm 17 attached to the follower and extending forwardly therefrom to bear upon the upper surfaces of the supporting rolls as the follower is advanced, substantially as specified.

2. In a manure distributor, the combination with a bed having a discharge opening, ground wheels, a feed-drum, and connections between the drum and the ground wheels, of a flexible floor, supporting and guiding rollers arranged to support said floor in a horizontal plane, a windlass, flexible connections between the windlass and the floor, a ratchet wheel 20 fixed to one end of the windlass, a bifurcated swinging-arm 21 mounted concentric with the ratchet and carrying an operating-pawl 22 to engage the teeth of the ratchet-wheel, a pitman 24 connecting a crank 23 on said feed-drum with the swinging-arm, means for adjusting the connection of the pitman with the swinging-arm to vary the extent of each movement of the ratchet-wheel, a trip-rod 28 extending longitudinally of the bed and having an off-set terminal arranged under said operating pawl, a hand-lever near the front of the bed connected to the trip-rod whereby the latter may be operated to disengage said pawl from the teeth of the ratchet, and a holding pawl to prevent backward movement of the ratchet wheel, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JNO. D. H. ALEXANDER.

Witnesses:

J. R. PHILLIPS,
A. R. WRIGHT.