M. J. HAGER.

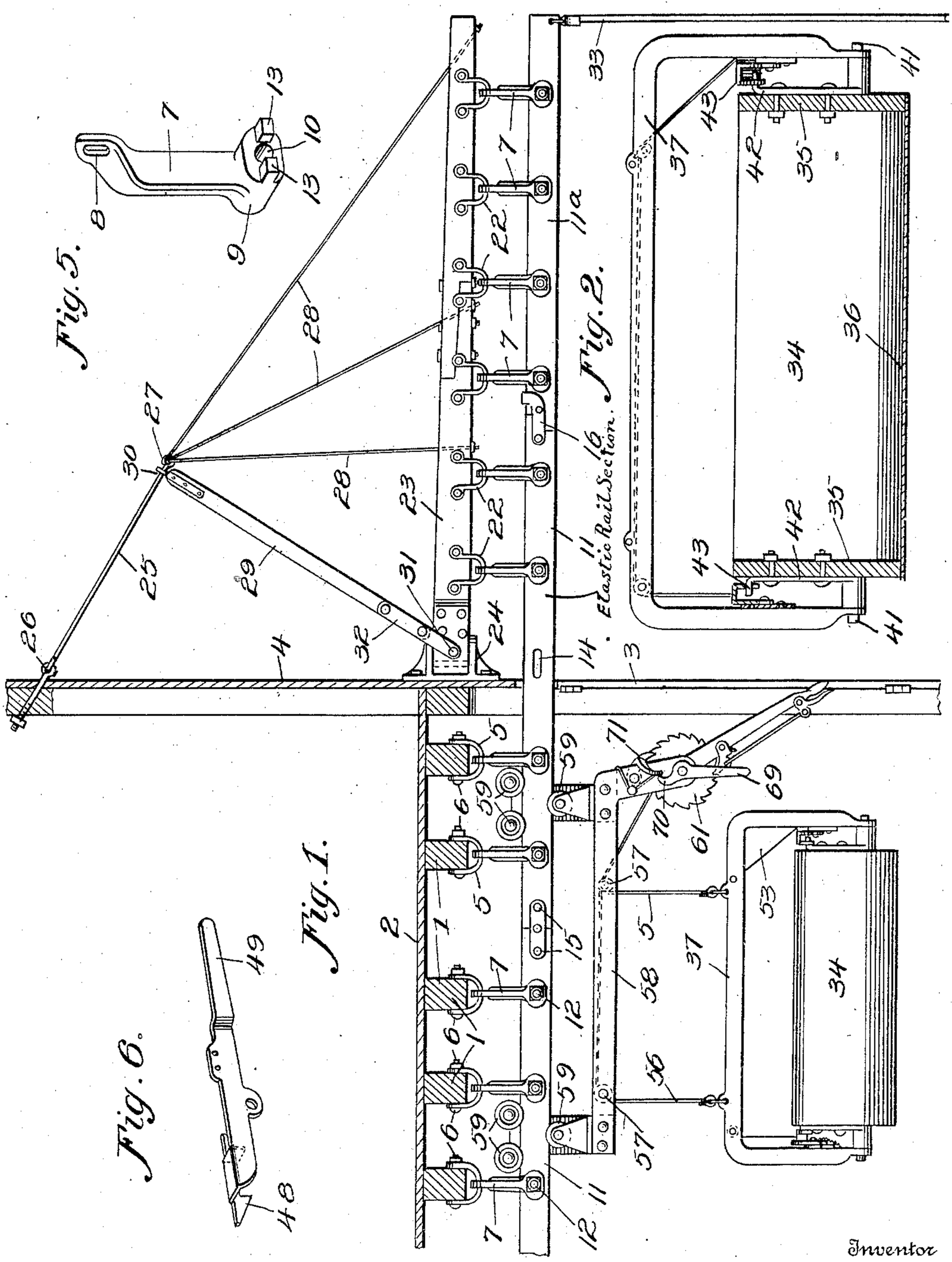
MANURE COLLECTOR AND CONVEYER.

APPLICATION FILED JULY 24, 1908.

928,123.

Patented July 13, 1909.

2 SHEETS—SHEET 1.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

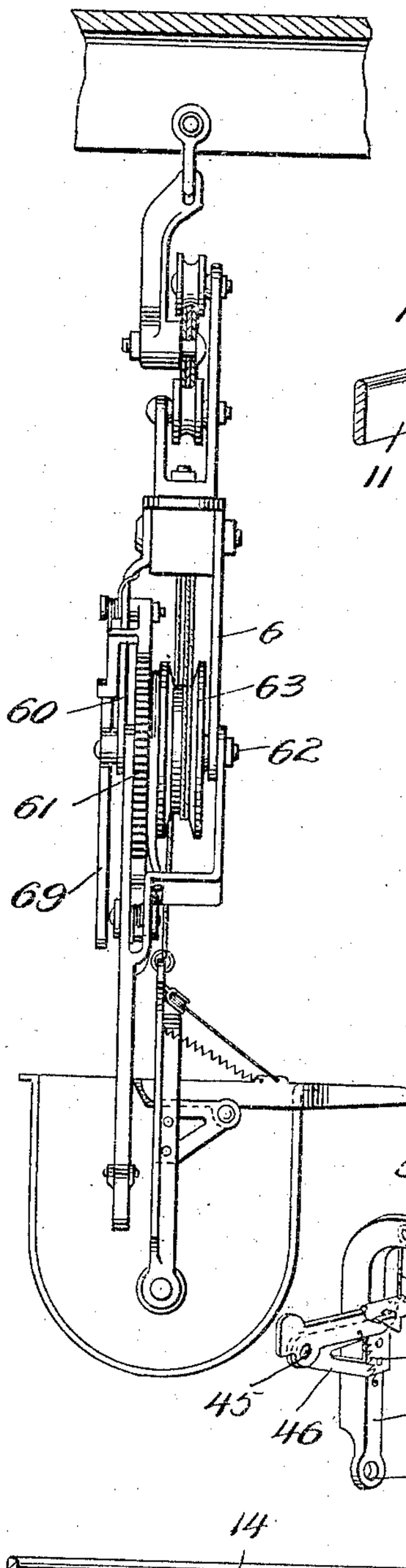


Fig. 7.

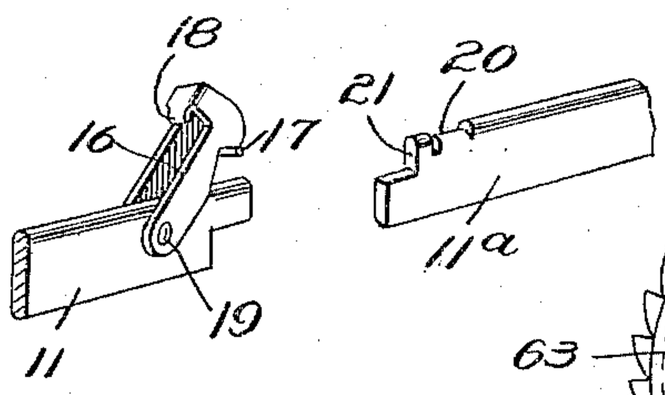


Fig. 4.

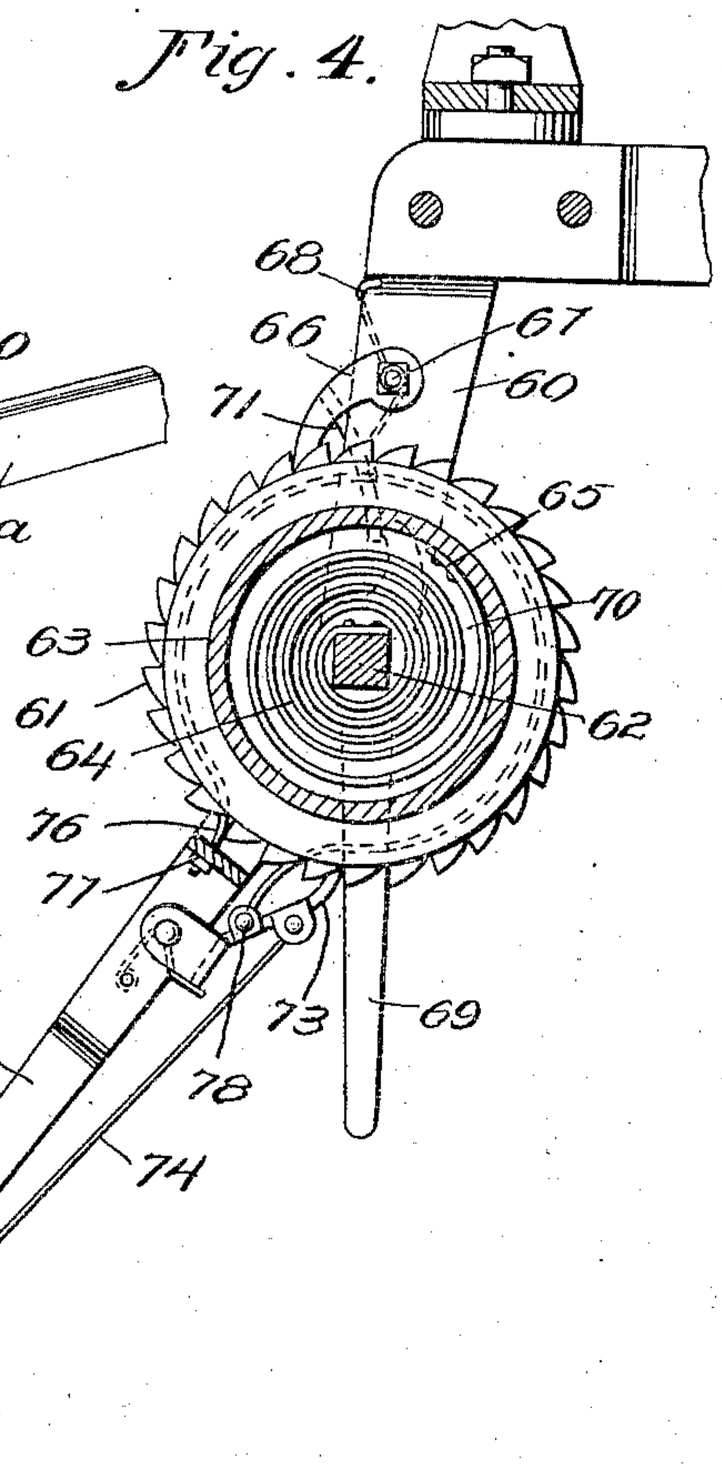


Fig. 8.

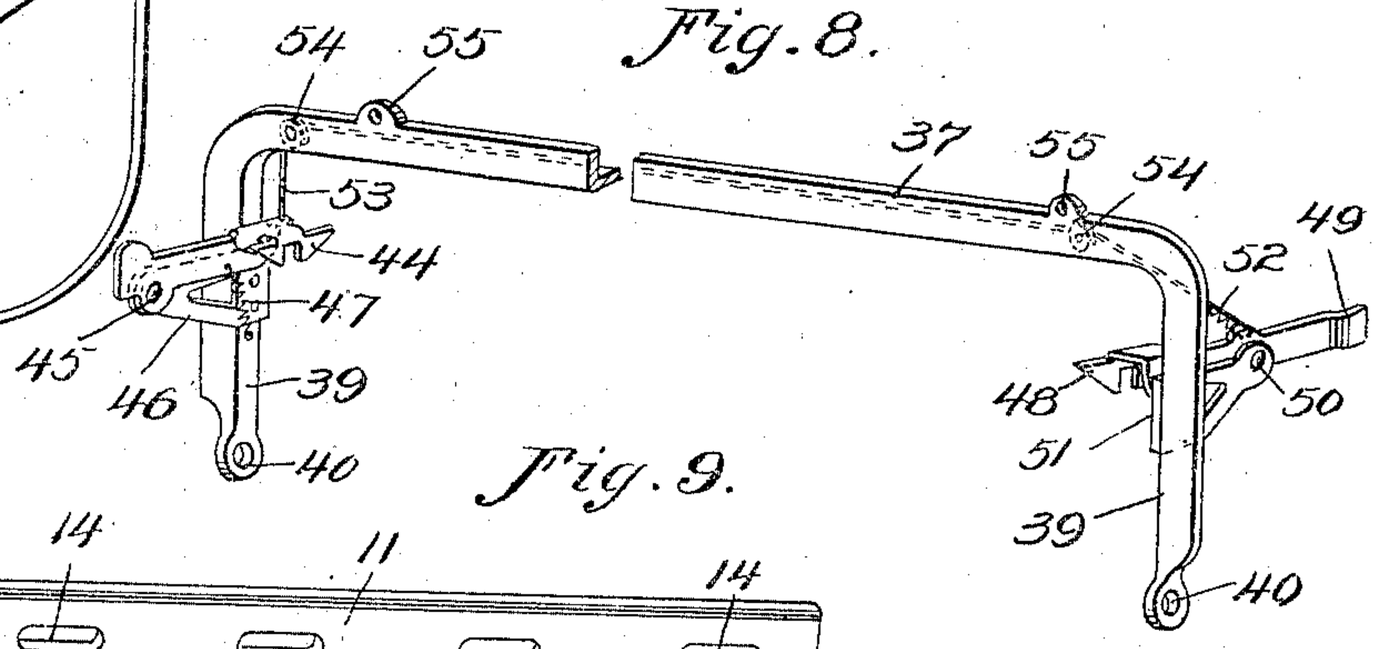
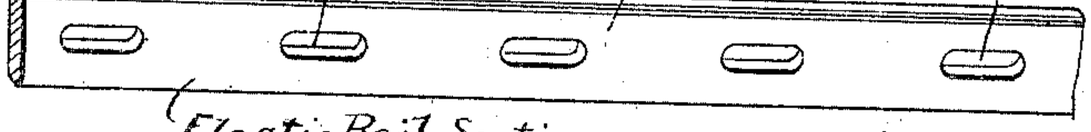


Fig. 9.



Elastic Rail Section.

Witnesses

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UNITED STATES PATENT OFFICE.

MICHAEL J. HAGER, OF DENMARK, WISCONSIN.

MANURE COLLECTOR AND CONVEYER.

No. 928,123. Specification of Letters Patent. Patented July 13, 1909.

Application filed July 24, 1908. Serial No. 445,248.

To all whom it may concern:

Be it known that I, MICHAEL J. HAGER, a citizen of the United States, residing at Denmark, in the county of Brown and State of Wisconsin, have invented new and useful Improvements in Manure Collectors and Conveyers, of which the following is a specification.

This invention relates to manure collectors and conveyers, and one of the principal objects of the same is to provide an elevated track and a traveling conveyer for carrying the manure from a barn out through the door thereof and depositing the same at any point required.

Another object of the invention is to provide a device of the character described with a swinging crane, by means of which the conveyer bucket may be swung to either one side or the other of the track for depositing the contents of said bucket.

These and other objects may be attained by means of the construction illustrated in the accompanying drawings, in which:—

Figure 1 is a side elevation of a manure collector and conveyer made in accordance with my invention and suspended from a floor and wall of a barn, the latter being shown in section. Fig. 2 is a longitudinal section of the conveyer bucket. Fig. 3 is a side elevation of the bucket and the suspending devices. Fig. 4 is a side elevation of the bucket operating lever and showing the spring drum in section. Fig. 5 is a detail perspective view of the track bracket. Fig. 6 is a similar view of the bucket lock. Fig. 7 is a perspective view of the track extension latch. Fig. 8 is a perspective view of the conveyer bucket bail. Fig. 9 is a detail perspective view of a section of the elastic track.

Referring to the drawings, the numeral 1 designates the frame-work of the rafter of a barn or stable; 2 is the upper floor thereof, and 3 is the door opening of the front or wall 4. Supported upon the rafters 1 are the U-shaped yokes 5 connected by bolts 6 to the rafter 1. Suspended from the yokes 5 are the track brackets 7. These track brackets are each provided with a slot 8 through which the yoke 5 passes. A boss 9 is formed on the lower end of the bracket and a bolt hole 10 extends through said boss. The brackets 7 are secured to the elastic track 11 by means of bolts 12 and by means of the studs or projections 13 which project through slots 14 in the track 11. The track 11 may be formed of spring steel in order that it may be bent or swung from side to side to discharge the conveyer bucket at any point at opposite sides of the door opening 3. The track 11 is made in sections and connected together by suitable coupling plates 15, one of the sections 11 extending through the door opening and having connected to its outer end an auxiliary section 11^a by means of a pivoted latch 16, provided with a cross bar 17 and a downwardly extending lip 18. This latch is pivoted at 19 to the track section 11. The track sections 11 and 11^a are rabbeted at their ends to fit together and the section 11^a is provided with a groove 20 for the cross bar 17, and a shoulder 21 which is engaged by the lip 18 of the latch. The section 11^a and a portion of the section 11 are suspended by means of brackets 7 from U-shaped yokes or hangers 22, similar to the yokes 5.

An arm or crane 23 pivoted at its inner end to a bracket 24 is suspended from the wall 4 of the stable by a brace rod 25, connected by an eye bolt 26 to the wall of the stable and provided with an eye 27 to which the guy wires 28 are connected. The lower ends of the guy wires 28 are secured to the arm or crane 23. A sustaining bar 29 provided with an eye 30 through which the rod 25 passes is pivoted at 31 to the bracket 24 by means of a link 32. The yokes or hangers 22 are connected to the crane 23. A prop rod 33 is connected to the outer end of the track section 11^a, and said prop bar is designed to hold up the track section 11^a by bearing upon the ground and sustaining the weight of said track section.

The conveyer bucket 34 consists of the two ends 35 and the sheet metal body portion 36, the latter being bent around the heads 35 and connected thereto in any suitable manner. Upon inspection of Fig. 3, it will be seen that the conveyer bucket is U-shaped in cross section and is suspended in such a manner as to permit the contents of the conveyer to be dumped or discharged from one side of said conveyer. The conveyer is provided with a bail 37, preferably made of angle iron, as shown in Fig. 8, and provided with downwardly extending arms 39 pivotally connected at 40 to pintles 41 projecting outward from brackets 42 secured by bolts to the heads 35 of the conveyer bucket 34, the brackets 42 are each provided with an outwardly extending finger 43. A bucket

lock 44 is pivoted at 45 to a bracket 46 secured to the inner sides of the depending arms 39, a spring 47 being pivoted at one end to the lock 44 and having its opposite end connected to the arm 39, as shown in Fig. 8. On the opposite arm 39 a similar lock is provided, said lock consisting of the latch portion 48 and a handle 49, this lock is pivoted at 50 to a bracket 51 and is also provided with a spring 52, the tension of which is exerted to hold the latch or lock into engagement with one of the fingers 43.

The two locks 44 and 48 are connected together by a cord 53 passing over pulleys 54 journaled in the bail 37. Hence by moving the handle 49 both locks are disengaged from the finger 43, thus permitting the buckets to be swung upon the pintles 41.

The bail 37 has formed upon it the lugs 55, each provided with an opening, and connected to said lugs are the suspending cords or wires 56 which extend over pulleys 57 upon a carriage 58 upon which are mounted rollers 59 which bear upon the top and bottom of the track 11. The carriage 58 is provided with downwardly extending arms 60 and journaled between these arms is a ratchet wheel 61. On the shaft 62 of the ratchet wheel is a spring-drum 63, a convolute spring 64 being secured to the shaft 62 at one end and the opposite end of the spring being connected as at 65 to the inner wall of the drum 63. A pawl 66 is pivoted at 67 to the arms 60 and is provided with a spring 68 which holds the nose of the pawl into engagement with the teeth of the ratchet wheel 61. A lever 69 pivoted upon the outer end of the shaft 62 is provided with a projecting finger 70 which engages a lug 71 on the pawl 66. Thus when the lever 69 is operated the pawl 66 is disengaged from the teeth of the ratchet wheel 61.

A lever 72 pivoted upon the shaft 62 carries a pawl 73 and a connecting rod 74 attached to the pawl 73 is connected to the handle members 75 of the lever 72. A suitable brake 76 connected at one end to a lug 77 on the lever 72 extends around the hub of the drum 65 and the opposite end of said brake is connected at 78 to the pawl 73 so that a proper movement of the levers 72 will apply the brake.

The operation of my invention may be briefly described as follows:—The bucket 34 being lowered and filled within the barn is hoisted and run out on the track 11 until the truck wheels are sustained upon the outer section 11[a] and upon the elastic section 11. If it is desired to lower the bucket at one side or the other of the door of the barn, this may be done by pulling the cord to release the locks 44 and 48 by operating the handle 49 and swinging the crane or arm 23 to a limited extent upon one side or the other, the elasticity of the section 11 permitting this action. It will be understood that as the bucket 34 is lowered, the spring 64 of the drum is wound up.

My invention is strong, durable and efficient, is not liable to get out of order and operates smoothly and quickly.

I claim:—

1. In a device of the character described, a track, rollers mounted upon the track, a bar connected to the roller frames, a container suspended from said bar by a flexible connection, a drum around which said flexible connections are wound, a ratchet wheel, a lever carrying pawls for actuating said ratchet wheel, and a spring within the drum, said spring being arranged to be wound up during the descent of the container.

2. In a device of the character described, a track, a container suspended from said track upon cords, a drum around which said cords pass, said drum containing a spring to be wound during the descent of the container.

3. A track, a container suspended from said track, cords or ropes for suspending said container, a spring drum around which said cords or ropes are passed, a ratchet wheel, pawls carried by a lever for actuating said ratchet wheel to wind up said cord on said drum, and a brake connected to said lever and to one of said pawls to be actuated when the pawls have been disengaged from the ratchet wheel.

In testimony whereof I affix my signature in presence of two witnesses.

MICHAEL J. HAGER.

Witnesses:

JOHN F. ENZ,

JOSEPH G. WOTTAWA.