J. NOLD.

MANURE LOADER.

APPLICATION FILED SEPT. 29, 1909.

957,085. **Patented May 3, 1910.**

2 SHEETS—SHEET 1.

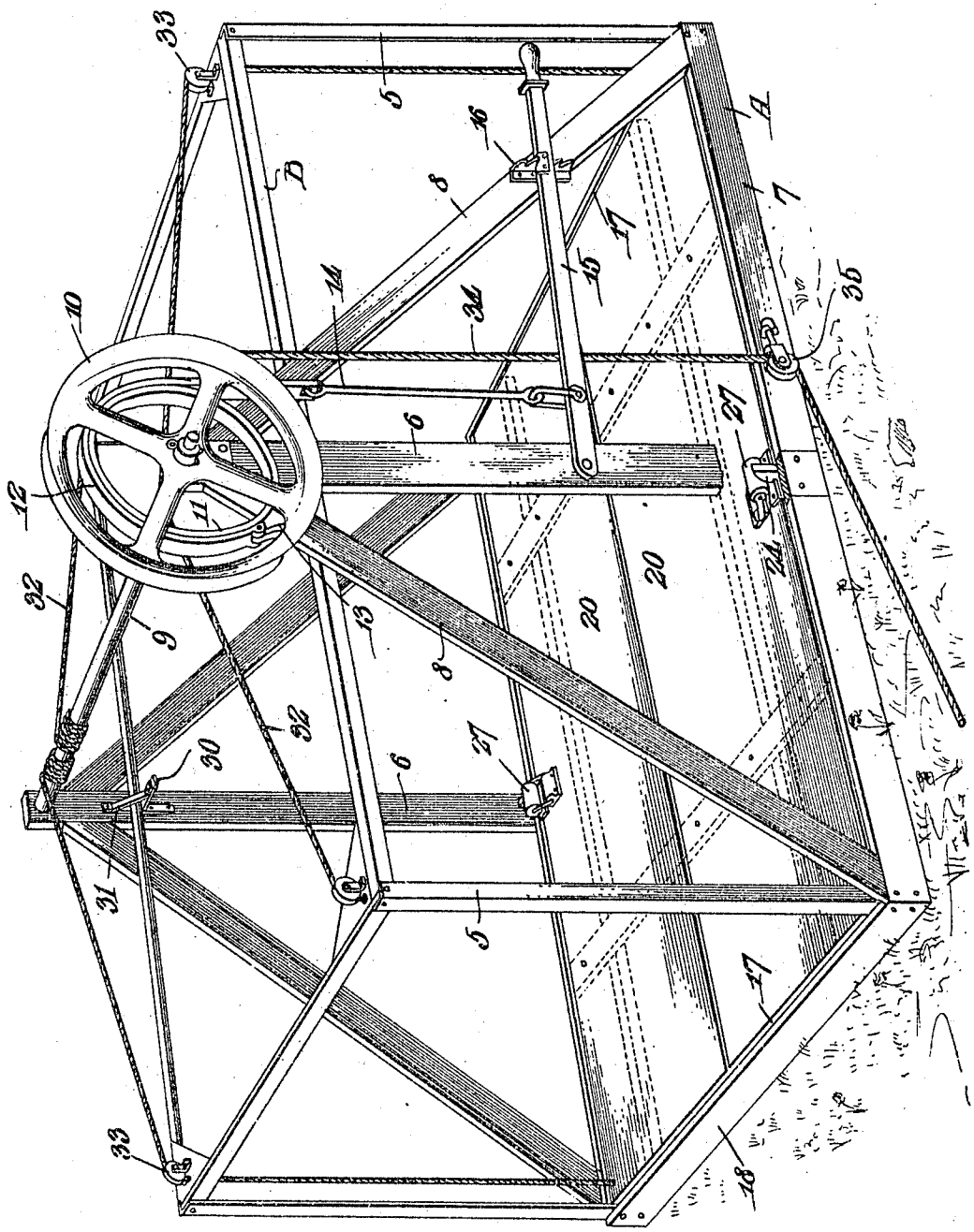

Fig. 1.

Witnesses

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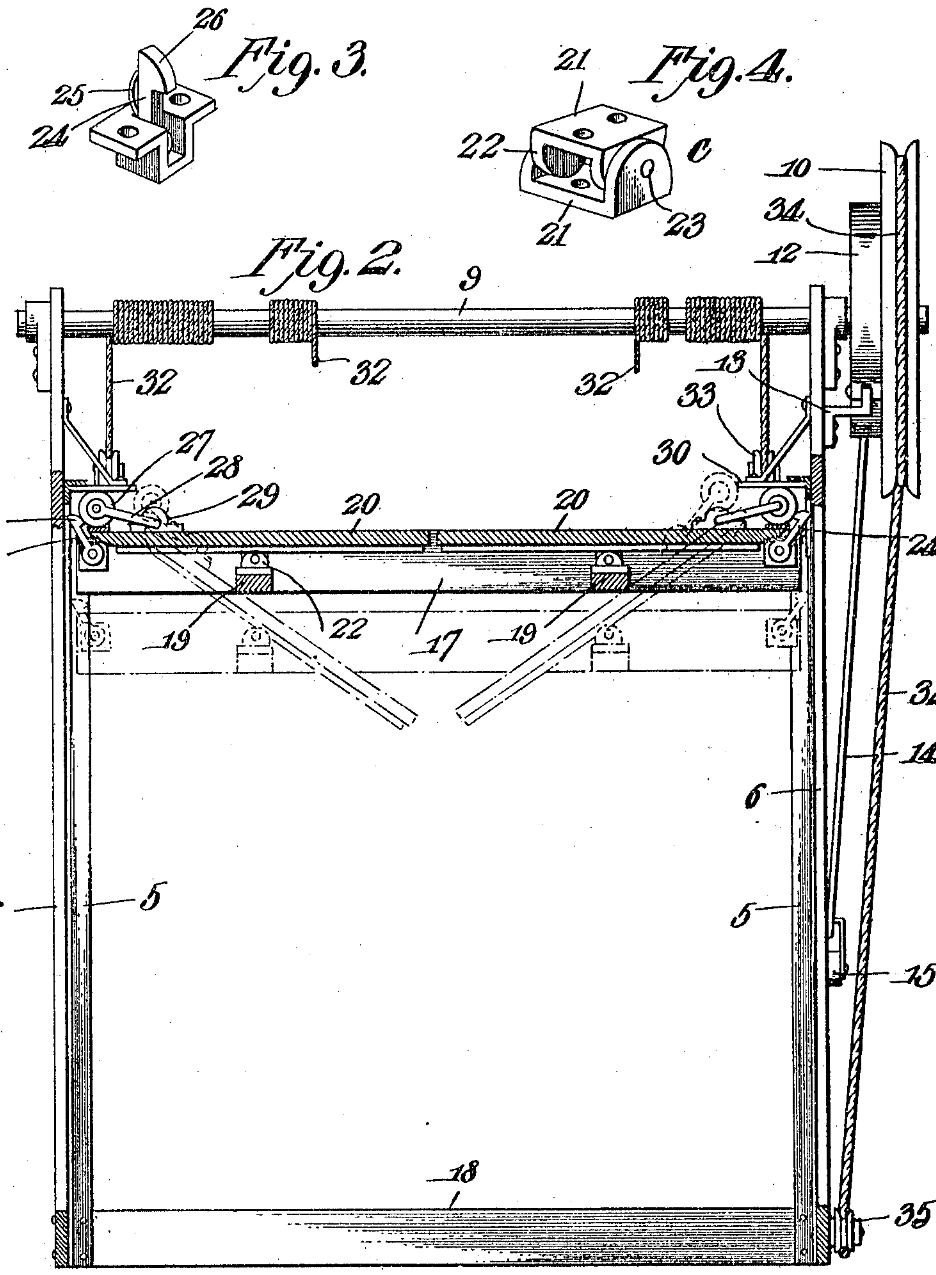

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UNITED STATES PATENT OFFICE.

JOHN NOLD, OF TOLSTOY, SOUTH DAKOTA.

MANURE-LOADER.

957,085. Specification of Letters Patent. Patented May 3, 1910.

Application filed September 29, 1909. Serial No. 520,110.

To all whom it may concern:

Be it known that I, JOHN NOLD, a citizen of the United States, residing at Tolstoy, in the county of Potter and State of South Dakota, have invented new and useful Improvements in Manure-Loaders, of which the following is a specification.

This invention relates to hoisting and loading apparatus of that class which is employed for the purpose of elevating manure, dirt, gravel and other like material for the purpose of dumping or loading the same onto a manure spreader, wagon box or other receptacle, and it has particular reference to that class of loaders which comprise a frame and a dumping platform together with elevating mechanism for such platform; the latter being adapted to be lowered to a position in which the material to be loaded may be deposited thereupon by means of scrapers of ordinary construction after which such platform may be elevated to dumping position.

The present invention has for its object to simplify and improve the construction and operation of this class of devices and with these and other ends in view which will readily appear as the nature of the invention is better understood the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully descsribed and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention; it being however understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the invention, may be resorted to when desired.

In the drawings: Figure 1 is a perspective view of a loading apparatus constructed in accordance with the invention. Fig. 2 is a vertical transverse sectional view of the same. Fig. 3 is a perspective view showing one of the latches for securing the leaves of the dumping platform. Fig. 4 is a perspective view of one of the hinges upon which the leaves of the dumping platform are supported.

Corresponding parts in the several figures are denoted by like characters of reference.

The frame of the improved loading apparatus comprises a bottom frame A and a top frame B, each of rectangular shape; the top frame being supported by corner posts 5 being preferably constructed of angle irons. Side posts or uprights 6 rise from the side sills 7 of the bottom frame to a point above the top frame, said uprights being connected with side sills of the bottom frame by means of inclined braces 8 whereby they are strongly reinforced.

The uprights 6 are provided adjacent to their upper ends with bearings for a shaft 9 constituting a winding drum and which is provided adjacent to one end with a grooved wheel or pulley 10 and with a brake wheel 11 engaged by a flexible brake 12 one end of which is secured to a bracket 13 and the outer end of which is connected by a link 14 with a brake lever 15 pivoted upon one of the uprights 6 and adapted to engage a ratchet bar 16 upon one of the braces 8 whereby said lever may be secured in position to hold the flexible brake strap in engagement with the periphery of the brake wheel under varying degrees of tension.

The dumping platform of the machine is composed of end members 17 adapted, when the patform is lowered, to lie adjacent to the inner faces of the end sills 18 of the bottom frame A; the end bars or end members 17 are connected by longitudinal bars 19 upon which the leaves 20 of the dumping platform are pivotally supported by means of hinged members C each composed of two oppositely disposed plates 21 having ears or lugs 22 connected by means of pivots 23. The plates 21 of the hinge members are bolted or otherwise secured respectively upon the undersides of the leaves 20 and upon the upper sides or faces of the bars 19, one or more hinges being utilized to secure each of the leaves in position. Suitably supported pivoted catches 24 are provided to engage the outer edges of the platform leaves 20 for the purpose of normally sustaining said leaves in approximately horizontal position. Said catches are provided with actuating springs 25 and with beveled end portions 26 which are normally engaged by rollers 27 supported for rotation in yokes 28 which are supported for oscillation in bearings 29 upon the platform leaves, it being understood that the tension of the springs 25 in connection with the friction between the parts will be sufficient to hold the catches in engagement with the platform leaves against the gravity of the rollers, which are normally supported upon the beveled ends of

the catches. Suitably secured upon the uprights 6 adjacent to the top frame B are brackets or arms 30 which are reinforced by suitably arranged braces 31 and which serve, when the dumping platform is elevated, to engage and to depress the rollers 27, thereby actuating the catches 24 against the tension of the springs 25, disengaging the catches from the platform leaves and permitting the latter to dump as indicated by dotted lines in Fig. 2.

Flexible hoisting elements such as cords or cables 32 are connected with the dumping platform adjacent to the four corners of the latter, said hoisting elements being guided over suitably disposed guide members such as pulleys 33 to the shaft 9 upon which they are suitably wound. A hoisting rope 34 is attached to the periphery of the hoisting wheel 10 upon which it is wound after which it is guided over a pulley 35 to the point where the draft is to be applied. The hoisting mechanism is preferably operated by animal power, but it is obvious that a mechanical motor of suitable construction may be used when preferred.

In the operation of this device, suitable approachers consisting of inclined planes, are provided adjacent to the ends of the bottom frame for the purpose of facilitating the admission of scrapers to the dumping platform when the latter is in a lowered position. When a sufficient load has been deposited upon the platform, where the load is naturally backed above the meeting edges of the leaves, power is applied to the hoisting rope thereby unwinding the said rope from the wheel 10, and rotating the shaft so as to wind the flexible elements 32 upon the latter, and thereby elevating the platform with its load. When the platform reaches the desired elevation, the rollers 27 will be engaged by the brackets 30 and will thereby be actuated to disengage the catches 24 from the leaves 20, but as the catches 24 become thus disengaged, the rollers 27 will engage the upper faces of the leaves adjacent to the outer edges of the latter, being held in engagement by the brackets 30 and thus temporarily preventing the tilting of the leaves 20 under the impulse of the load. The motive power is at this point stopped and the brake is set to temporarily retain the parts in position while the load receiving vehicle is driven under the platform. The pressure of the brake may now be released, thus causing the platform leaves to be tilted under the gravity of the load, the latter being discharged into the receiving vehicle. The dumping may be performed quickly if desired, but any unnecessary shock may be avoided by gradually releasing the tension of the brake thus causing the leaves 20 to be tilted gradually while the platform is being lowered sufficiently to disengage the rollers 27 from the brackets 30, such disengagement being effected by the beveled ends of the catch members 24 under the tension of the springs 25. By resetting the brake the descent of the platform is now temporarily stopped until the vehicle has been driven out of position from under the platform after which the latter may be lowered into position for the reception of another load.

Having thus described the invention, what is claimed is—

1. In a device of the character described, a frame, a dumping platform having tilting leaves, spring-actuated latch members engaging the leaves adjacent to their outer edges to support them normally in approximately horizontal position, hoisting means for the platform, means for disengaging the latches when the platform reaches a predetermined elevation, and means for retaining the releasing means in engagement with the tilting leaves until the platform begins to descend, thereby preventing the leaves from tilting until the descent has commenced.

2. In a device of the character described, a dumping platform having tilting leaves, hoisting means for said platform, brake means for checking the descent of the platform, catches engaging the tilting leaves to support the latter normally in approximately horizontal position, catch releasing means consisting of movably supporting rollers adapted to engage the leaves, and roller engaging brackets supported to hold the rollers temporarily in engagement with the leaves.

3. In a device of the character described, a dumping platform having tilting leaves, hoisting means for said platform, brake means to support the platform at various elevations, and to check the descent thereof, spring-actuated catches supported adjacent to the outer edges of the platform leaves to sustain said leaves normally in horizontal position, yokes supported pivotally upon the leaves adjacent to their outer edges, rollers carried by said yokes and adapted to actuate the catches to disengage the latter from the leaves, and suitably supported brackets adapted to engage the rollers to actuate the catches and to temporarily hold said rollers in engagement with the leaves to keep the latter from tilting.

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

JOHN NOLD.

Witnesses:
J. B. GUNDERT,
OTTO ROSTOMILY.