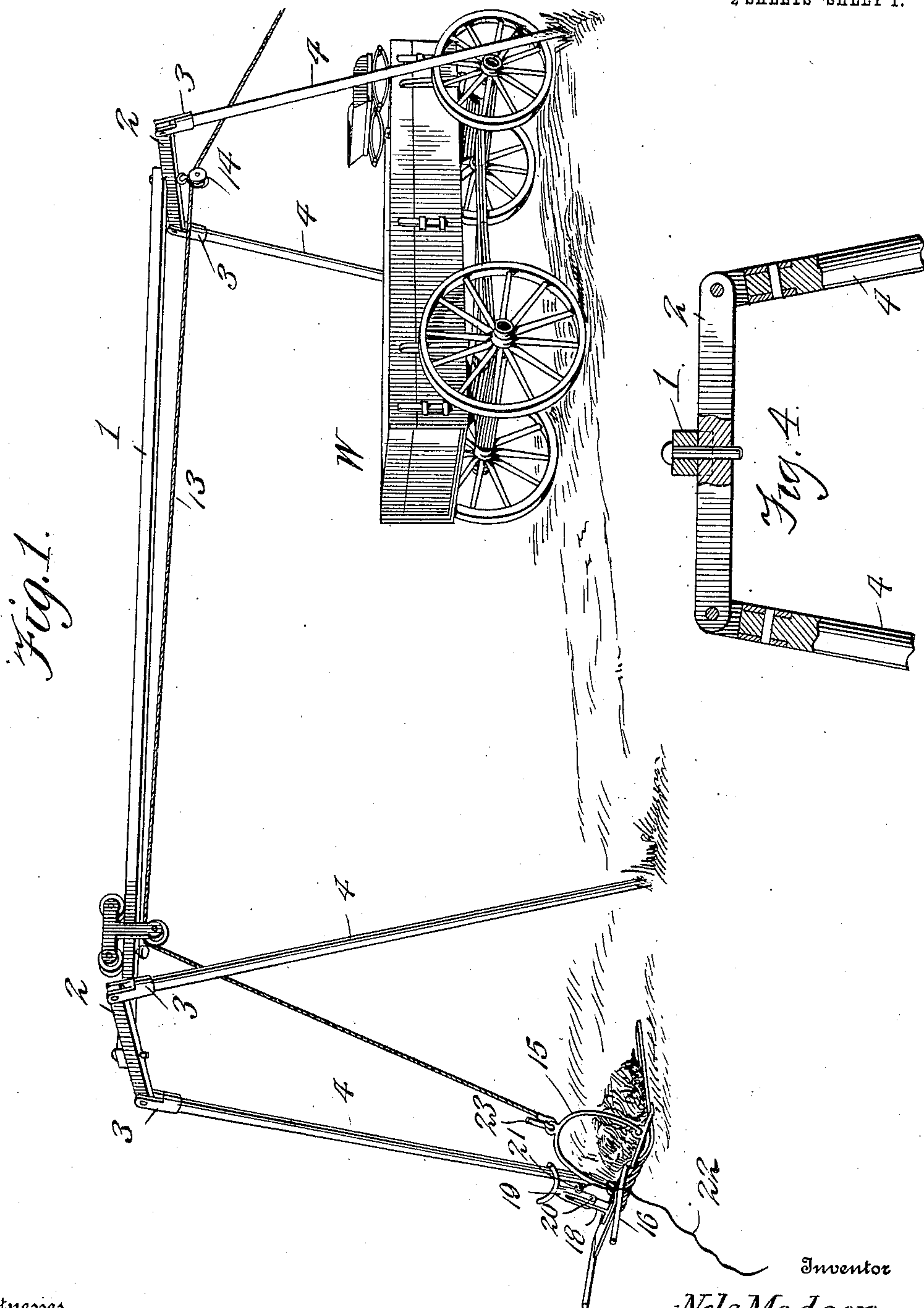


No. 887,000:

PATENTED MAY 5, 1908.

N. MADSON.
LOADING APPARATUS.
APPLICATION FILED SEPT. 13, 1907.

2 SHEETS—SHEET 1.



Witnesses

Ed. Adelman.
Wm. Bagger.

Inventor

Nels Madsen

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Victor J. Evans

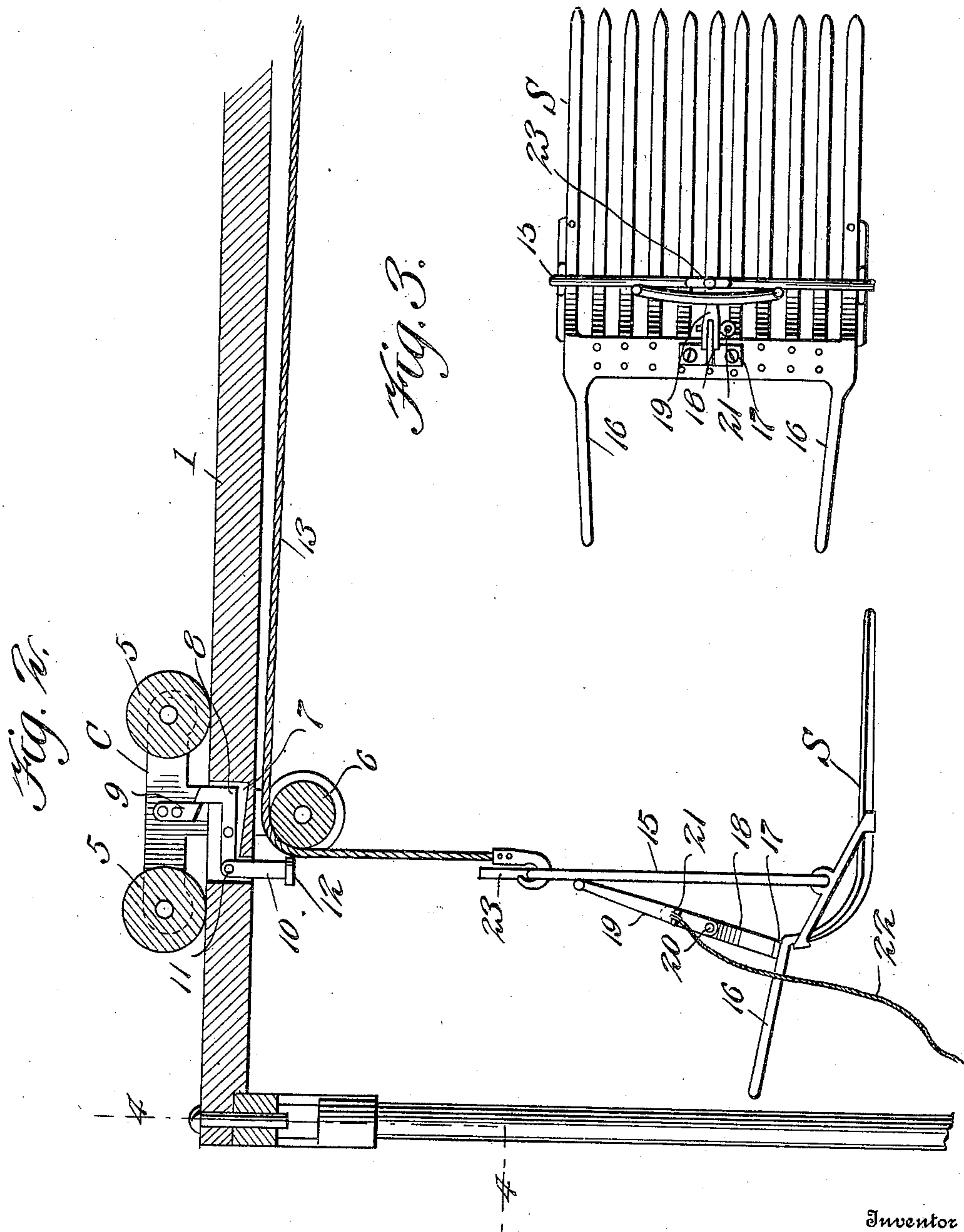
Attorney

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2 SHEETS—SHEET 2.



Witnesses
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UNITED STATES PATENT OFFICE.

NELS MADSON, OF NEAR BELFIELD, NORTH DAKOTA.

LOADING APPARATUS.

No. 887,000.

Specification of Letters Patent.

Patented May 5, 1908.

Application filed September 13, 1907. Serial No. 392,754.

To all whom it may concern:

Be it known that I, NELS MADSON, a citizen of the United States, residing near Belfield, in the county of Stark and State of North Dakota, have invented new and useful Improvements in Loading Apparatus, of which the following is a specification.

This invention relates to loading apparatus, and it has particular reference to an improved loading apparatus for gathering manure and for elevating the same into the box of a wagon wherein it may be transported to the dumping place.

The invention consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawing 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 drawing: Figure 1 is a perspective view of the improved loading apparatus. Fig. 2 is a longitudinal sectional view. Fig. 3 is a plan view of the fork or scraper, used in connection with the invention. Fig. 4 is a sectional detail view taken on the plane indicated by the line 4—4, in Fig. 2.

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

The improved loading apparatus includes an elevated track consisting of a rail 1 which is supported by means of cross pieces 2, 2, which are provided at the ends thereof with hingedly supported socket members 3, 3, that are fitted upon the upper extremities of uprights 4, 4, which latter may be suitably spaced apart and placed in engagement with the ground so as to form a frame structure which should be of suitable dimensions to enable a wagon to be driven beneath the track and between the supporting members or uprights, as will best appear by reference to Fig. 1 of the drawings.

The track rail 1 supports a suitably constructed car C having track engaging supporting wheels 5, 5, and between the side members of which a pulley 6 is suitably supported below the track rail. The latter is provided near its rear end with a slot 7 wherein is pivoted a latch member 8 adapted for

engagement with a beveled catch or stop member 9 upon the car, said pivoted latch member being provided with a depending actuating arm 10 which is pivotally connected therewith by means of a pin 11 and which is provided at its lower extremity with an impact disk or button 12.

The flexible draft element which consists of a rope or cable 13 is guided over the pulley 6 supported by the car C and over a guide pulley 14 which has been shown as being suspended beneath the cross piece or cap piece 2 which supports the forward end of the track rail 1, it being understood however, that additional guiding means may be provided, wherever needed. One end of the flexible draft element is attached to a yoke 15 connected with a suitably connected fork or scraper S which is provided with guiding handles 16 and with a cross bar 17 supporting an upright 18 upon which a supporting bracket 19 is pivoted by means of a pin 20: a suitable latch pin 21 being provided whereby the upright 18 and the supporting bracket 19 may be secured together in extended relation. A trip rope 22 is provided; the same being suitably connected with the latch pin 21 to enable the latter to be withdrawn for the purpose of collapsing the supporting bracket 19 upon the upright 18. The supporting bracket 19 is adapted to engage and to rest against the yoke 15 of the scraper; and said yoke is provided with an upwardly extending finger 23 adapted to engage the impact disk or button 12.

In operation, the frame of the improved apparatus is erected in a convenient position with relation to the manure heap that is to be moved, and while the car C is locked in engagement with the latch member 8, as clearly seen in Fig. 2 of the drawings, the scraper, which is propelled by draft applied to the forward end of the flexible draft element, is manipulated to gather a load of material which, by continued exercise of draft upon the flexible element, is moved to a position beneath the car and is then hoisted or elevated until the projecting finger 23 of the yoke 15 engages the disk or button at the lower extremity of the trip arm 10 of the latch member 8, thus tilting the latter and releasing the car. The car now travels in the direction of the forward end of the rail until the dumping position is reached directly above the box of a wagon W which has been driven into proper position below the front

end of the rail. The load, while it is being hoisted and transported along the track, is supported upon the scraper, and the latter is maintained in an approximately horizontal position by the supporting bracket 19 which rests in engagement with the yoke 15, as best seen in Fig. 2; when the dumping or discharging position is reached, the trip rope 22 is operated to withdraw the latch pin 21, thus breaking the joint between the upright 18 and the supporting bracket 19 and causing the collapse of the latter upon the upright, thus causing the weight of the load to tilt the body of the scraper sufficiently to cause the load to slide off the scraper and into the wagon box or receptacle, after which the draft may be relaxed, and the car and the scraper restored to initial position for a repetition of the operation.

The improved loading apparatus is extremely simple in construction; and it may be readily transferred from place to place and set up for operation in any suitable location. It is obvious that it may be utilized for loading other material than manure, such as sand, gravel, or the like; and that, when thus utilized, the construction of the fork or scraper may be suitably modified.

I claim:

1. In a device of the class described, a supporting frame including a plurality of pairs of uprights, cap pieces, socket members connected hingedly with the ends of the cap pieces, and a track rail supported upon said cap pieces intermediate the ends of the latter.

2. In a device of the class described, a supporting frame including an elevated track rail having a slot near its rear end, a latch member pivoted in the slot and having a depending trip arm provided with a terminal impact disk, a car traveling upon the track rail, and having a beveled catch engaging the

latch member, a supporting pulley connected with the car, a flexible draft element guided over said pulley and a tiltable carrier including a scraper connected with the flexible draft element and having a projecting finger adapted to engage the trip arm of the latch.

3. In a device of the class described, an elevated track rail, a car traveling upon said rail and having a supporting pulley, and latch means for securing the car stationary in loading position, a flexible draft element guided over the pulley upon the car, and a scraper having a pivoted supporting yoke, a stationary upright, a supporting bracket connected pivotally with the stationary upright, and means for maintaining said supporting bracket in extended position upon the upright.

4. In a device of the class described, an elevated track rail, a car traveling upon said rail and having a supporting pulley, and latch means for securing the car stationary in loading position; a flexible draft element guided over the pulley upon the car; a scraper having a pivoted supporting yoke, a stationary upright and a collapsible supporting bracket connected pivotally with the stationary upright and adapted to engage the pivoted supporting yoke; a trip member adapted to secure the supporting bracket in extended position upon the stationary upright; a trip rope connected with the trip member; and a finger extending from the pivoted supporting yoke and adapted to trip the latch whereby the car is secured in loading position.

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

NELS MADSON.

Witnesses:

SAML. S. KOHLER,
H. SPERRY.