

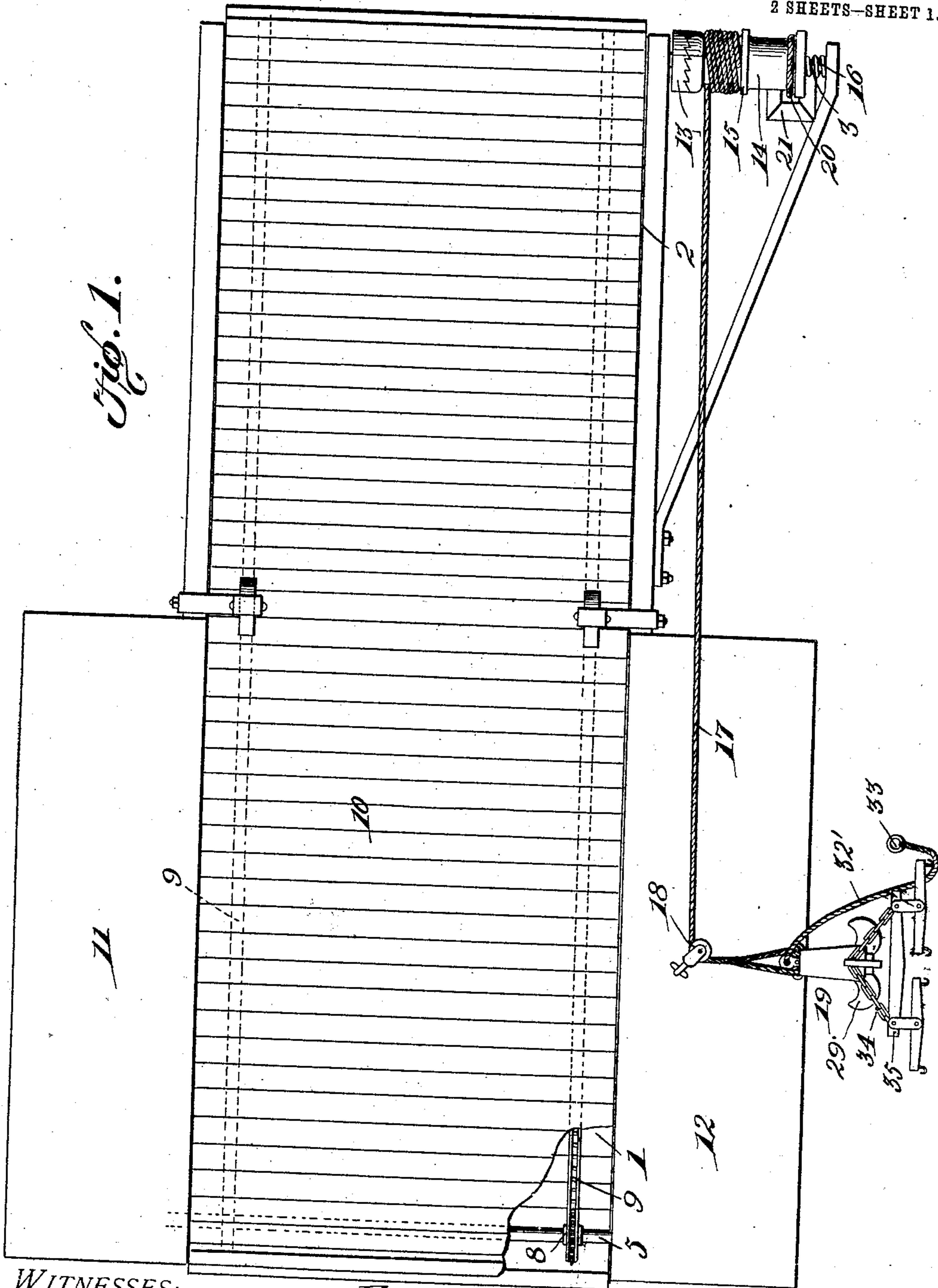
No. 839,961

PATENTED JAN. 1, 1907.

E. E. ROTHACHER.
WAGON LOADER.

APPLICATION FILED MAY 7, 1906.

2 SHEETS—SHEET 1.



WITNESSES:

E. E. Rothacher
R. H. ...

Edward E. Rothacher, INVENTOR,

By

C. A. Snow & Co.

ATTORNEYS

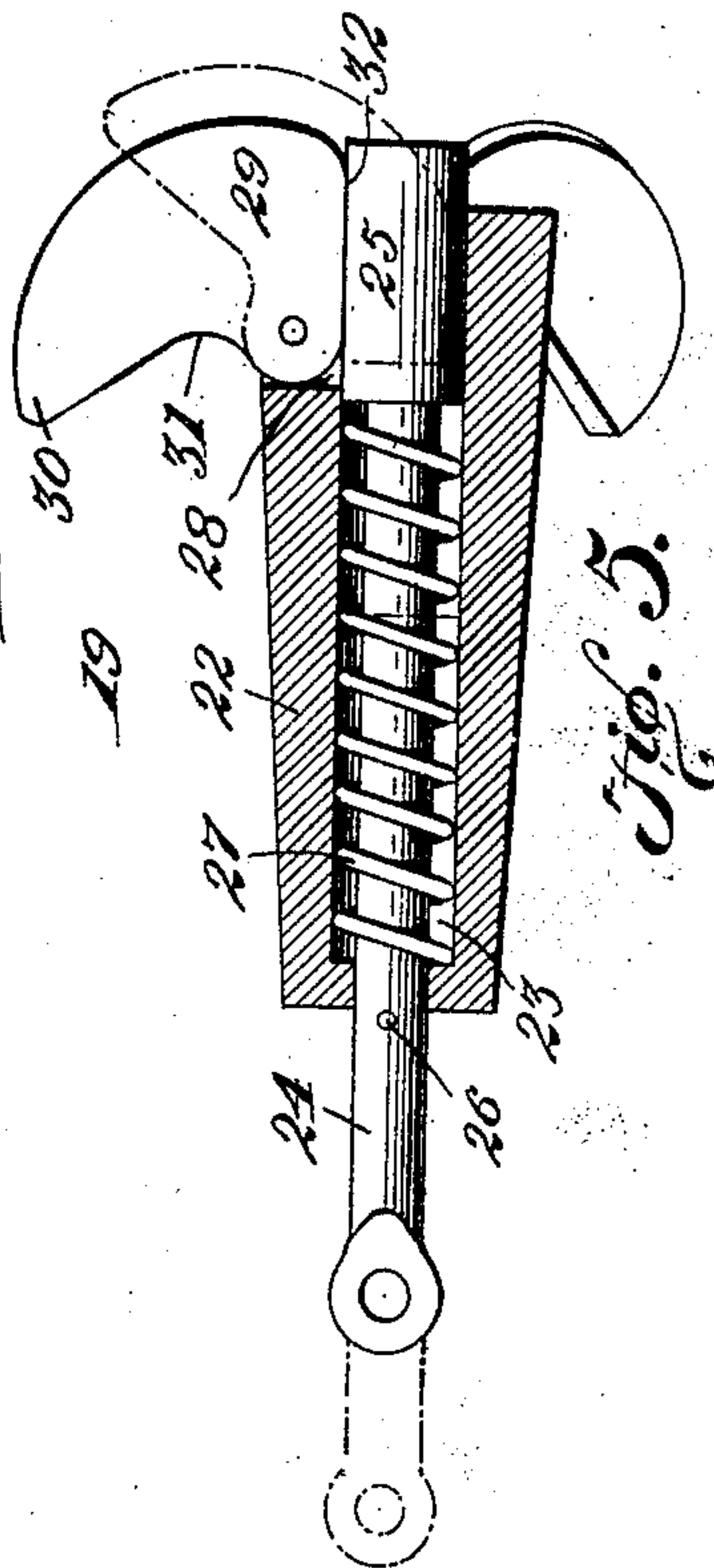
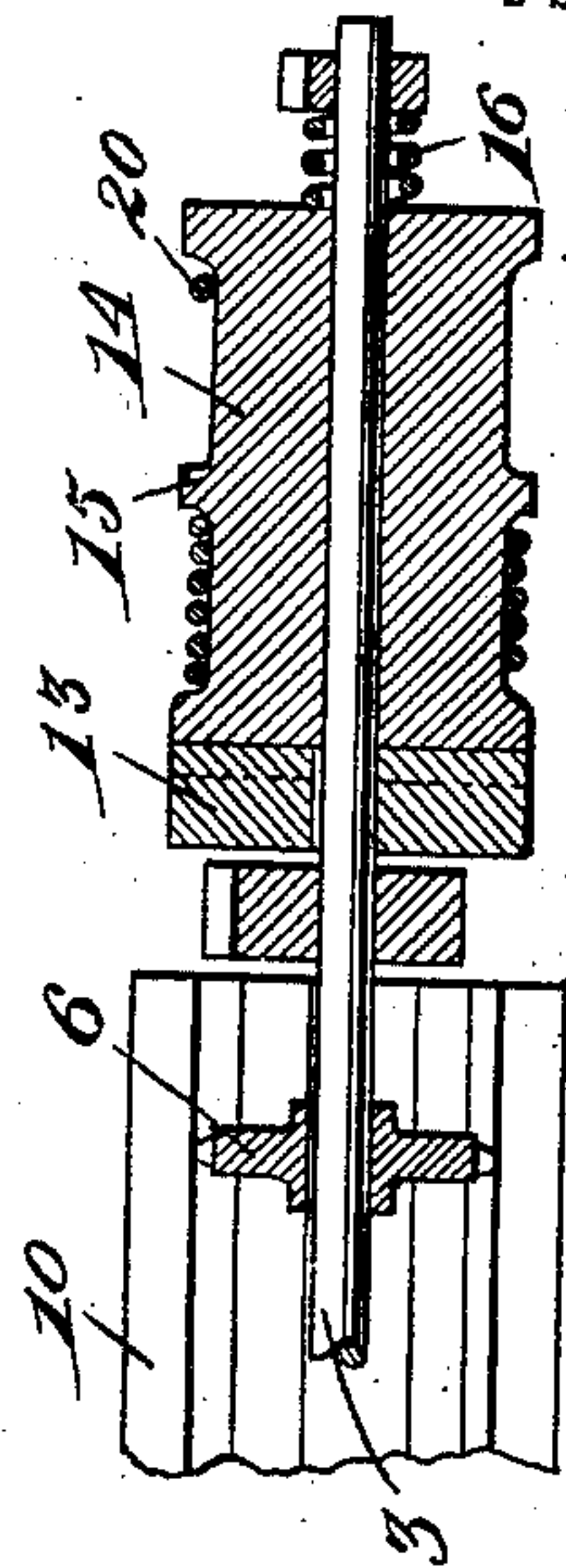
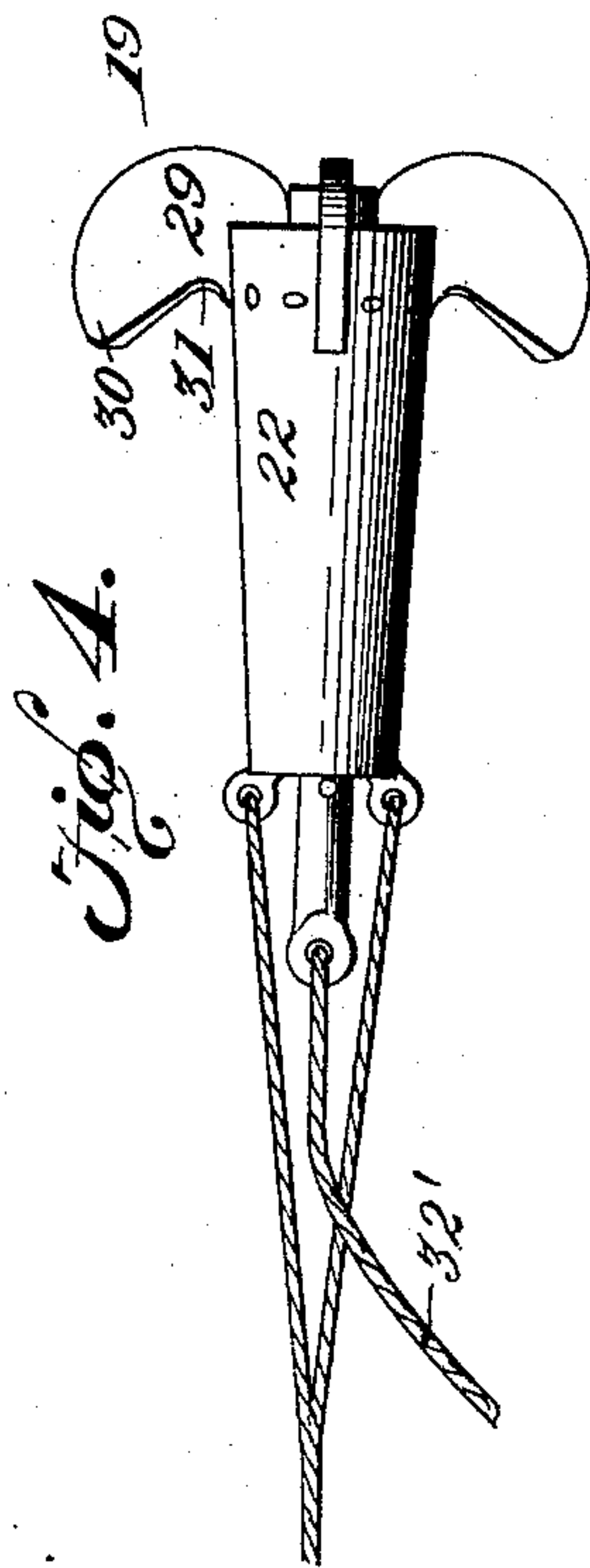
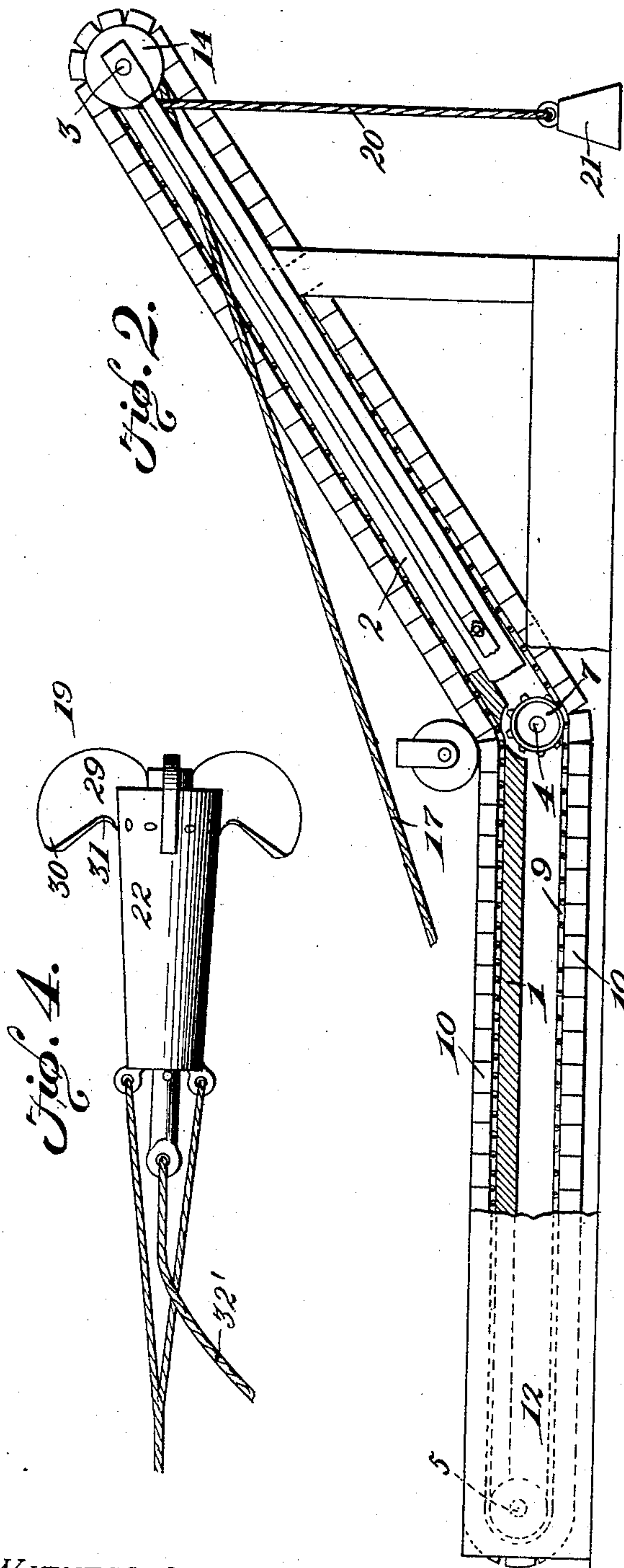
No. 839,961.

PATENTED JAN. 1, 1907.

E. E. ROTHACHER.
WAGON LOADER.

APPLICATION FILED MAY 7, 1906.

2 SHEETS--SHEET 2.



WITNESSES:

E. J. Hewitt
Barnes 1887

Edward E. Rothacher, INVENTOR.

By

Chenoweth
ATTORNEYS

UNITED STATES PATENT OFFICE.

EDWARD E. ROTHACHER, OF WISNER, NEBRASKA.

WAGON-LOADER.

No. 839,961.

Specification of Letters Patent.

Patented Jan. 1, 1907.

Application filed May 7, 1906. Serial No. 315,636.

To all whom it may concern:

Be it known that I, EDWARD E. ROTHACHER, a citizen of the United States, residing at Wisner, in the county of Cuming and State of Nebraska, have invented a new and useful Wagon-Loader, of which the following is a specification.

This invention has relation to wagon-loaders; and it consists in the novel construction and arrangement of its parts, as hereinafter described.

The object of the invention is to provide a device whereby one man who is operating a scoop or other means for bringing the material to the loader may at the same time cause his team to exercise sufficient power after the scoop has been dumped upon the loader to operate the loader and elevate the material and dump the same in a wagon-body.

The loader consists of an endless conveyer which is mounted upon chains, which in turn pass over suitable sprocket-wheels.

A frame is provided which consists of a horizontal portion and an inclined portion. The said conveyer is adapted to travel about the said horizontal and inclined portions. The upper end of the inclined portion is at such an altitude as to be above the edge of a wagon-body. At the upper end of said inclined portion an operating-shaft is provided, which in turn is provided with a fixed clutch and a sliding drum. Around said drum is wound an operating-rope, which passes thence through a pulley attached at or near the horizontal portion of the conveyer, and to the end of said rope is fixed a device of special construction which is adapted to rest upon the ground and is provided with flukes so arranged with relation to each other that one fluke is always in a vertical position.

The swingle or double tree of the scoop is provided with a chain, which when the scoop is passed over the said device the said chain engages the fluke thereof and the operating-rope is thus pulled by the team. This in turn operates the loader, and the material previously dumped from the scoop upon the conveyer thereof is elevated and deposited in the wagon-body, at which time the fluke attached to the device at the end of the operating-rope is caused to tilt, whereby the chain attached to the scoop is disengaged. When this occurs, the drum located upon the operating-shaft is rotated in an opposite direction by means of a cord and weight,

whereby the operating-rope is rewound upon the said drum.

In the accompanying drawings, Figure 1 is a top plan view of the wagon-loader. Fig. 2 is a side elevation of the same. Fig. 3 is a side elevation of the end of the operating-shaft, showing a sprocket-wheel located thereon and the clutch and sliding drum in section. Fig. 4 is a top plan view of the chain-attaching device. Fig. 5 is a longitudinal sectional view of the chain-attaching device, showing the position of the fluke in dotted lines when disengaging the chain.

The loader consists of a framework having a horizontal platform 1 and an inclined portion 2, connected with said horizontal portion at its lower edge. A working shaft 3 is journaled at the upper end of the inclined portion 2. A shaft 4 is journaled in the framework at a point substantially beneath the point where the inclined portion 2 and the platform 1 come together. The shaft 5 is journaled in the framework at the opposite end of the said platform 1.

The sprocket-wheels 6 6 are fixed to the shaft 3, the sprocket-wheels 7 7 are fixed to the shaft 4, and the sprocket-wheels 8 8 are fixed to the shaft 5. The sprocket-chains 9 9 pass around the sprocket-wheels 6 and 8 and under the sprocket-wheels 7. The cross-slats 10 connect the sprocket-chains 9 9 together. Said slats 10 form the conveyer and are adapted to pass over the horizontal platform 1 and up the inclined portion 2, then down said inclined portion 2, and under the platform 1.

The incline 11 is located on one side of the platform 1, and the decline 12 is located on the opposite side of said platform. The clutch 13 is fixed to the working shaft 3, and the sliding drum 14 is located upon the said shaft 3 and is adapted to engage said clutch 13 when rotated in one direction and escape the said clutch when rotated in the opposite direction. Said drum is divided by a flange 15 into two sections, and upon each section a rope is adapted to be wound, said ropes being so arranged as when one is wound the other is unwound, and vice versa.

A spring 16 bears against the end of the drum 14 and has a tendency to maintain the said drum in contact with the clutch 13. The rope 17 is wound around one of the sections of the drum 14. Said ropes then pass around the pulley 18, attached to the decline

12, and to the end of said rope is fixed the chain-attaching device 19. The rope 20 is wound around the other section of the drum 14, the winding thereof being opposite to that of the winding of the rope 17. To the end of the rope 20 is attached a weight 21. The chain-attaching device 19 consists of an outer shell 22, substantially conical in shape and having a perforation 23 extending through its longitudinal axis. The pin 24 passes through said perforation 23 and is provided at one end with the enlarged head 25 and at a point near its other end with a pin or collar 26. The said pin 26 is adapted to bear against the smaller end of the shell 22. The coil-spring 27 is interposed between the head 25 and the shoulder formed in the interior of the shell 22. The tension of said spring is such as to have a tendency to maintain the head 25 away from the said shoulder. The enlarged end of the shell 25 is provided with three slots 28 at equal distances apart and extending in alinement with the longitudinal axis of the said shell. In each of said slots is pivoted a fluke 29. The said flukes are provided with the pointed ends 30, between which and the pivotal points thereof is a concaved edge 31. The edges 32 of the said flukes are adapted to bear against the sides of the enlarged head 25 of the pin 24. A rope 32' is attached to the smaller end of the pin 24, said rope being attached at its other end to a suitable peg or other stationary object 33. The chain 34 is attached to the doubletree 35 of the team, (team not shown.) The said chain 34 is adapted to drag on the ground in front of the scoop. (Not shown.)

The operation of the device is as follows:
 40 The wagon is placed so that the body thereof is below the upper end of the incline 2. A man with a scoop drawn by a team scoops up the earth, compost, or manure and drives the team up the incline 11 onto the slats 10 above the horizontal platform 1. When the scoop is above said platform, it is dumped by overturning, leaving the material upon the said slats, and the team is driven down the incline 12. The chain-catching device 19 is so arranged that there will be one fluke 29 in a vertical position. The scoop is driven over the said chain-catching device 19, and the chain 34 engages the fluke thereof which is in vertical position, and the said chain-catching device 19 is carried along with the scoop. This draws the rope 17 through the pulley 18 and causes the drum 14 to rotate. As the said drum is held in contact with the clutch 13 the shaft 3 is rotated and the conveyer-slats 10 are moved toward the upper end of the incline 2. Thus the load deposited upon said slats is carried up by the said incline and is dumped into the wagon-body. At the time that this is accomplished the rope 32' has become taut and the pin 24 is pulled

back, so that the head 25 thereof moves from between the edges 32 of the flukes 29. Thus the said edges of the said flukes being without support, the fluke 29, which is in engagement with the chain 34, moves into a position substantially as that shown in dotted lines in Fig. 5 when the chain 34 is released. The operator then takes charge of his scoop and prepares to gather another load. At the same time the rope 20 has been wound up upon the drum 14 and the weight 21 has been elevated as soon as the chain-catcher 19 disengages the chain 34 the said weight 21 by gravity descends, the rope 20 is unwound from the drum 14 and at the same time the rope 17 is rewound upon the said drum, and the chain-catcher 19 is drawn back toward the loader.

It will thus be seen that an automatic loader is provided which elevates the load into the wagon without the care or attention of an operator. As many scoops may be used in conjunction with a single loader as desired, for they may follow each other in close proximity and deposit their loads in turn upon the conveyer-slats, when the automatic winding and rewinding of the said ropes will accomplish the operation of the loader in the manner as above described.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A wagon-loader consisting of a horizontal platform and an inclined portion, an endless conveyer adapted to travel about said portions, a working shaft located at the upper end of said inclined portion, a clutch attached to said shaft, a sliding drum located upon said shaft and adapted to engage said clutch, ropes oppositely wound upon said drum, one rope being weighted and the other rope adapted to be drawn for rotating the shaft.

2. A wagon-loader consisting of a horizontal platform and an inclined portion, an endless conveyer adapted to travel about said platform and portion, a working shaft journaled at the upper end of said inclined portion, a clutch fixed to said shaft, a drum slidably mounted upon said shaft and adapted to engage said clutch, ropes wound in opposite directions upon said drum, one said rope being weighted, the other rope being provided with a chain-catching device.

3. A wagon-loader consisting of horizontal and inclined portions, an endless conveyer adapted to travel about said portions, a working shaft located at the upper end of said inclined portion, a clutch fixed to said shaft, a sliding drum located upon said shaft and adapted to engage said clutch, ropes oppositely wound upon said drum, one of said ropes being weighted, the other rope being provided with a chain-catching device consisting of a shell having flukes.

4. A wagon-loader consisting of horizontal and inclined portions, an endless conveyer adapted to pass about said portions, a working shaft journaled at the upper end of said inclined portion, a clutch fixed to said shaft, a sliding drum located upon said shaft, and adapted to engage said clutch, ropes oppositely wound upon said drum, one rope being weighted, a chain-catching device attached to the other rope and consisting of a shell having pivoted flukes, and a means for holding said flukes in stationary position.

5. A wagon-loader consisting of horizontal and inclined portions, an endless conveyer adapted to travel about said portions,

a working shaft journaled at the upper end of said inclined portion, a clutch fixed to said shaft, a drum located upon said shaft and adapted to engage said clutch, ropes oppositely wound upon said drum, one of said ropes being weighted, and a chain-catching device attached to the other rope.

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

EDWARD E. ROTHACHER.

Witnesses:

ALFRED J. WEST,
S. LAUT.