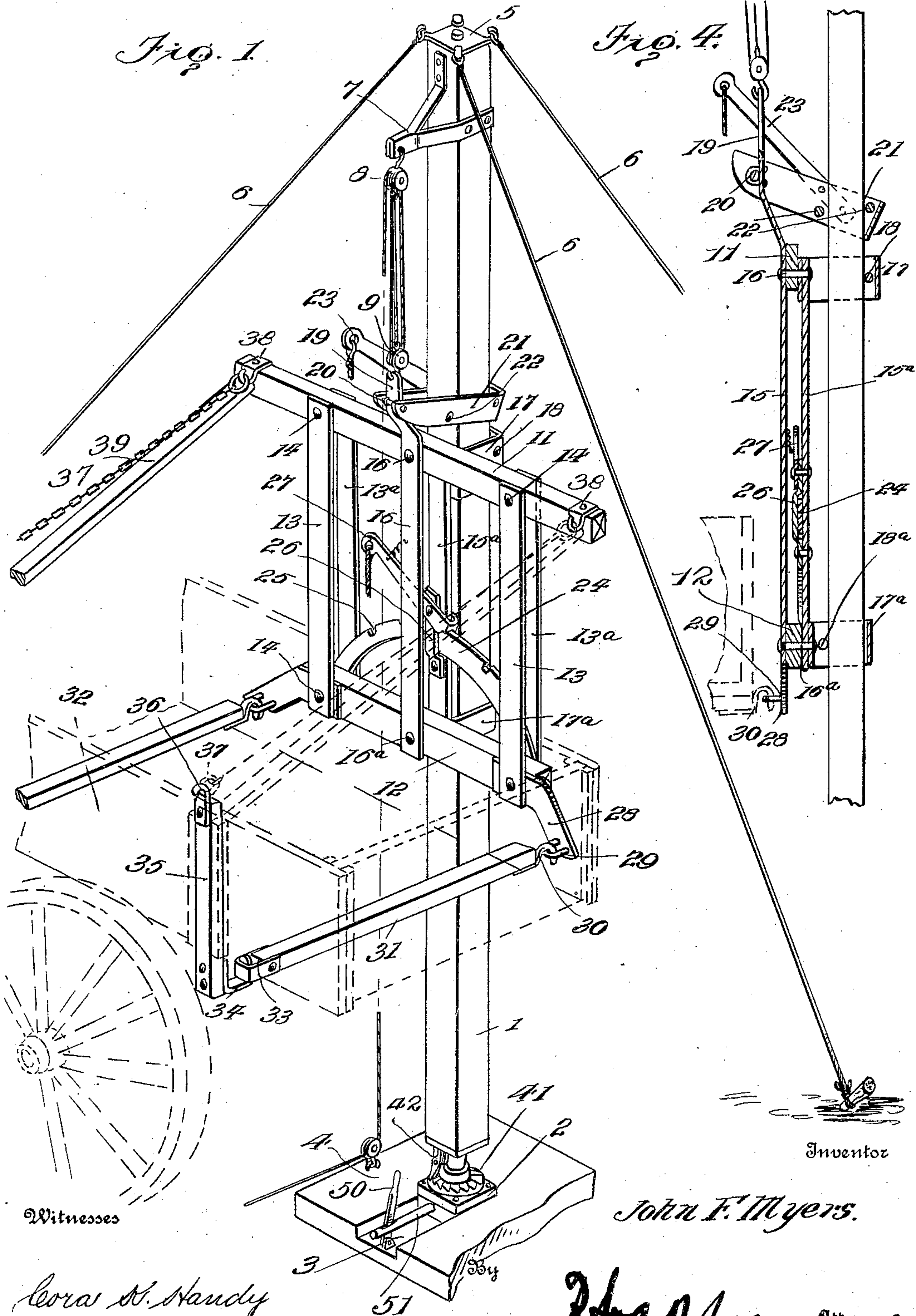


J. F. MYERS.
WAGON BOX LIFTING AND DUMPING DEVICE.
APPLICATION FILED NOV. 13, 1908.

934,334.

Patented Sept. 14, 1909.

2 SHEETS—SHEET 1.



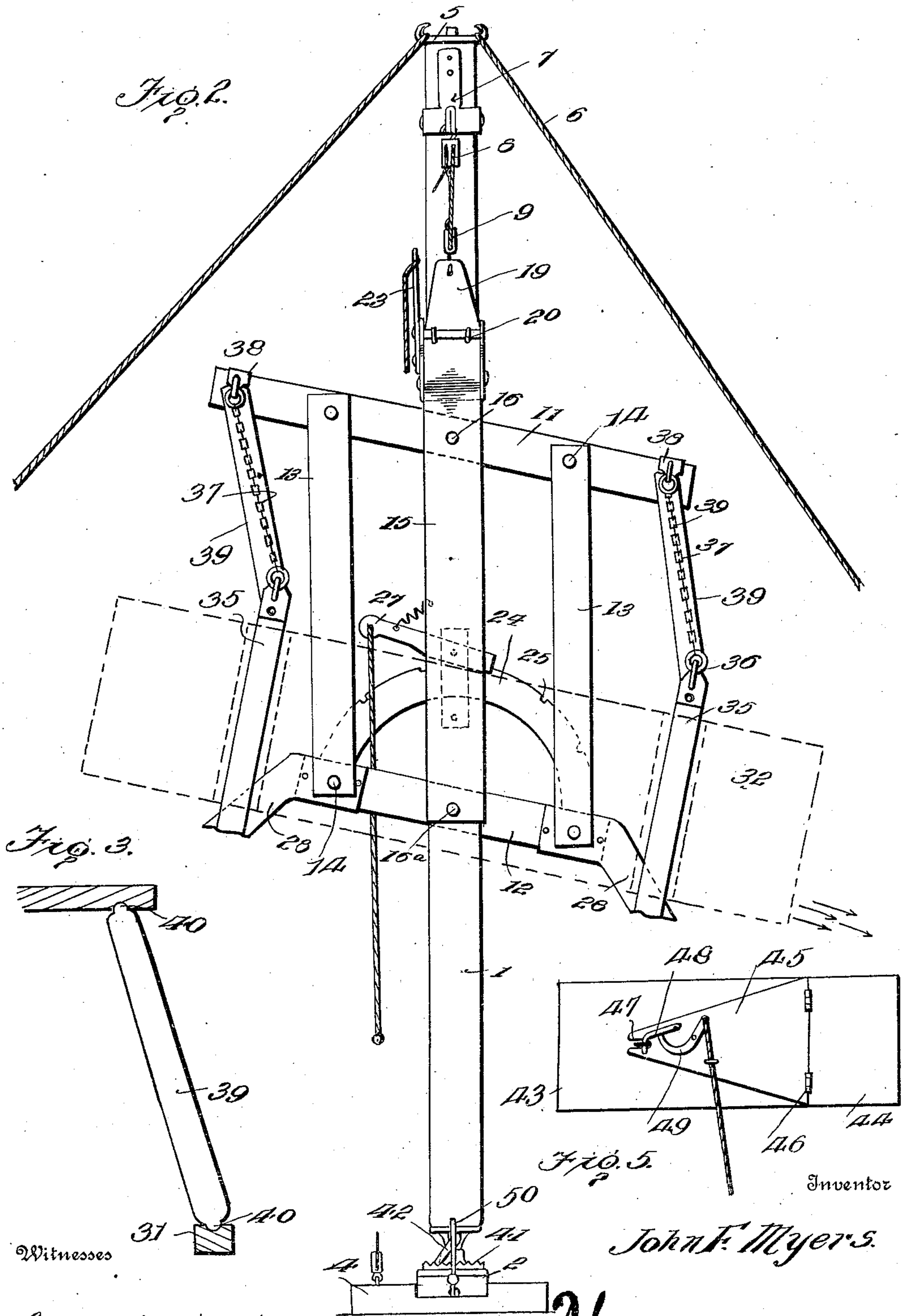
Witnesses
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UNITED STATES PATENT OFFICE.

JOHN F. MYERS, OF HIAWATHA, KANSAS.

WAGON-BOX LIFTING AND DUMPING DEVICE.

934,334.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed November 13, 1908. Serial No. 462,443.

To all whom it may concern:

Be it known that I, JOHN F. MYERS, citizen of the United States, residing at Hiawatha, in the county of Brown and State of Kansas, have invented certain new and useful Improvements in Wagon-Box Lifting and Dumping Devices, of which the following is a specification.

The object of my invention is to provide a portable device for hoisting and dumping wagons by means of which wagon bodies or boxes may be lifted from their running gear and the contents of the wagon deposited in a repository or any desired location while elevated.

The invention consists essentially of means for lifting or hoisting wagon boxes and comprises suitably arranged bars designed to surround the boxes between the standards and detachably secured to a hoisting frame slidably mounted upon a revolving pole or mast. The frame is provided with a brake controlled by a rope in the hands of the operator and by means of which the frame and wagon are retained in an elevated position during the dumping operation, the frame carrying the wagon box having been lifted by any convenient source of power through the medium of a block and tackle rigged to the mast and frame.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of the device; Fig. 2 is a front view illustrating the tilted position of the lifting frame; Fig. 3 is a detail illustration of the wagon box protector bars; Fig. 4 is a longitudinal, sectional view of the lifting frame; and, Fig. 5 is a detail illustration of the end gate of the wagon.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, the numeral 1 designates a pole or mast on which the lifting device or sliding frame is mounted, erected at the desired point of operation and revolvably mounted in a base block 2 which is arranged to slide in a slot 3 formed in the base plate 4 when it is desired to temporarily

relocate the lower end of said mast. A guy iron 5 is loosely secured to the upper end of the mast 1 and guy ropes 6 are secured to said iron to take up lateral stress placed upon the mast and to hold same perpendicular when in an operative position.

The numeral 7 designates an overhanging crane support secured to the upper end of the mast 1 and 8 and 9 designate a block and tackle rigged to said crane and lifting frame respectively by means of which said frame is operated upon the mast. The lifting or sliding frame proper comprises upper and lower parallel tilting bars 11 and 12 respectively, connected near their ends on both sides by side braces or standards 13 and 13^a arranged parallel and secured as by bolts 14, and centrally located braces or standards 15 and 15^a are secured at both sides of the bars 11 and 12 as by pivot bolts 16 and 16^a so as to constitute a support on which the frame bars tilt. The frame is slidably secured to the mast 1 by hoops or bands 17 and 17^a secured to the upper and lower tilting bars by the pivot bolts 16 and 16^a as shown in Fig. 4, said bolts extending through the central braces, tilting bars and bands and permitting proper relative movement of the sections thus connected. Journaled in the bands 17 and 17^a are rollers 18 and 18^a located at the rear and in front of the mast respectively which in operation prevent the edges of the bands from binding upon the mast and also serve to hold the sliding frame in its proper vertical position relative to said mast.

The upper end of the brace or standard 15 projects beyond the edge of the tilting bar 11 and is formed at its extremity with an outwardly and upwardly projecting hanger portion 19 in alinement with the crane support and to which draft connection is made for operating the sliding frame. Pivotaly secured to said hanger portion as shown at 20 is a friction brake comprising a band 21 encircling the mast 1 and provided with pins 22 rigidly secured to the sides within said bands at the rear upper and front lower portions and designed to form a binding connection with the mast and to retain the sliding frame in the desired elevated position when manipulated by the operator as by a rope attached to the end of the operating arm 23.

Tilting movement of the frame when

ascending or descending upon the mast is prevented by locking mechanism comprising a semi-circular bar 24 provided with suitably arranged notches 25 in its outer edge and secured to the frame at both ends between the lower tilting bar 12 and rear side braces 13^a by the bolts 14. The bar works in a guide 26 secured to the rear central brace 15^a and a spring pressed detent 27 pivotally secured to said guide is adapted to engage the bar within said notches and hold the frame rigid during certain stages of the operation. When desired the detent is released from engagement with the bar 24 as by a rope attached to one end and manipulated by the operator.

The numeral 28 designates downwardly projecting arms secured to both ends of the lower tilting bar 12 between the side braces 13 and said bar, and links or eyes 29 secured to the lower portion of said arms are designed to receive hooks 30 carried at one of the ends of the bars 31. The said bars are arranged to extend under the wagon body 32 between suitably arranged braces (not shown) of the wagon body frame and eyes 33 formed at the extremities of said bars are adapted to receive hooks 34 attached to the ends of standards or uprights 35 located at the side of the wagon. The opposite ends of the standards are provided with hooks 36 to which one end of chains 37 are secured and the opposite end of said chains are attached to hooks 38 carried by the upper tilting bar 11.

Protector bars 39 are interposed between the upper tilting bar 11 and the standards 35 to hold said standards vertical and prevent the wagon body from being crushed during the lifting operation. The ball end formation 40 of said bars coöperates with sockets formed in the standards 35 and tilting bar 11 insuring and effecting the proper spaced relation of said standards and tilting bars regardless of the angle at which the frame is tilted. A ratchet plate 41 is secured to the base block 2 and a pawl 42 carried by the mast 1 at its lower end is arranged to follow the ratchet when the mast is revolved and to prevent a return movement of said mast when the wagon is being tilted.

The end gate as illustrated in detail in Fig. 5, is preferably hinged to the wagon body 32 and comprises overlapped sections 42 and 43. The overlapping section 44 is provided with a swinging end 45 hinged to said section 44 as indicated at 46 and the end of said swinging section is recessed to pass over an eye 47 carried by the section 43. A latch 48 secured to the swinging end 45 engages the eye 47 to retain the gate in a closed or locked position and a trip 49 pivotally secured to the swinging section is positioned in such manner that a rope connected to one extremity may be utilized to swing the trip, the

free end of which will engage the latch and lift said latch clear of the eye 47. Continued tension placed upon the rope by the operator after the end gate has been tripped, will cause the frame to be tilted and the wagon body relieved of its contents, consequent upon its tilted position and unlocked position of the end gate.

As before stated, the block 2 slides in the slot 3 formed in the base plate 4 and the movement of said block is governed by a lever 50 secured to the base plate and connected to the block by a rod 51. The movement of the lever in either direction will cause the block 2 to be moved toward or away from said lever, and by such manipulation the block and mast 1 are conveniently relocated when desired.

With the arrangement of the several parts as shown, the wagon body 32 is drawn to a proper location at the base of the mast 1, whereupon the frame carrying the arms 28 is dropped between the wagon body and wheels and the bars 31 connected to said arms and standards 35. The ends of the chains 37 are then connected to the tilting bar 11 and standards 35 and the protector bars placed in position between said bar and standards to hold the latter vertical at all times and in spaced relation to the sliding frame. The wagon body having been surrounded by the several sections comprising the lifting frame, is hoisted to the desired elevation by any convenient source of power through the medium of the block and tackle rigged to the mast and sliding frame, and when so elevated is held by the friction brake 21 manipulated by a rope in the hands of the operator. The mast and frame now carrying the wagon is revolved and held in the desired location by the pawl and ratchet connection at the base of the mast. The detent 27 is released from the locking bar 24 after which the end gate of the wagon is tripped and the frame and wagon body 32 tilted by continued tension upon the end gate rope in the hands of the operator.

It will be noted that provision is made for moving the lower end of the mast and block 2 toward or away from the wagon and in many instances, such an arrangement will prove advantageous in that unnecessary delay in relocating heavily loaded wagons will be eliminated and the frame readily adjusted in the proper position upon the wagon body.

Having thus described the invention, what is claimed as new is:—

1. A device of the character described comprising a mast, a sliding frame mounted upon said mast and having parallel arms projecting from the lower portion of the frame and linked arms connecting the projecting arms with the upper portion of the frame, means for operating said frame upon

the mast, and means for holding said frame in any desired elevated position upon said mast.

2. A device of the character described comprising a mast, a frame support slidably mounted upon said mast and designed to carry a load, a tilting frame carried by said support, means for operating said support and tilting frame upon the mast, and means for holding said frame support in any desired elevated position upon said mast.

3. A device of the character described comprising a mast, a frame support slidably mounted upon said mast and adapted to carry a load, a tilting frame comprising tilting bars pivotally secured to said support and held in spaced relation to each other, means for locking and tilting said tilting bars, and means for operating said frame support upon the mast.

4. A device of the character described, a mast, a frame support slidably mounted upon said mast and adapted to carry a load, a tilting frame comprising tilting bars pivotally secured to said support and held in spaced relation to each other, a locking bar carried by one of said tilting bars and movable therewith, a spring actuated detent carried by the frame support and cooperating with said locking bar to hold said tilting bars and frame support rigid, and means for operating said frame support upon the mast.

5. A device of the character described comprising a mast, a frame support slidably mounted upon said mast and adapted to carry a load, tilting bars pivotally secured to said support and held in spaced relation to each other, a locking bar carried by one of said tilting bars and movable therewith, a guide carried by said support in which said locking bar works, a spring actuated detent pivotally connected to said frame support and cooperating with said locking bar to rigidly hold said tilting bars and frame support, and means for operating said frame upon said mast.

6. A device of the character described, comprising a mast, a frame support slidably mounted upon said mast, upper and lower tilting bars pivotally connected to said

frame support, side braces secured to said bars and designed to hold same in spaced relation to each other, a locking bar carried by said lower tilting bar, a spring actuated detent cooperating with said locking bar for holding the tilting bars rigid with said frame support, cooperating frame sections designed to surround a load and connected to said tilting bars, said sections being held in proper spaced relation to said tilting bars, means for operating said frame support upon the mast, and means for holding said support in any desired elevated position upon said mast.

7. A device of the character described comprising a mast, a frame support slidably mounted upon said mast and designed to carry a load, a tilting frame carried by said support, a crane support carried by the mast and having a draft connection with said frame support, and means for holding said frame support in any desired elevated position upon said mast.

8. A device of the character described, comprising a mast, a frame support slidably mounted upon said mast and designed to carry a load, a tilting frame carried by said support, a crane support carried by the mast and having a draft connection with said frame support, and a friction brake carried by said frame support designed to form a binding connection with the mast by which said support is retained in any desired elevated position.

9. A device of the character described comprising a mast, a frame support slidably mounted upon said mast, and designed to carry a load, a tilting frame carried by said support, means for raising and lowering said support and tilting the frame upon the mast, means for holding said frame supported in any desired elevated position upon the mast, and means for rotating said frame support to various radial positions with relation to said mast.

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

JOHN F. MYERS. [L. s.]

Witnesses:

SAMPLE F. NEWLIN,
J. R. HARDING.