

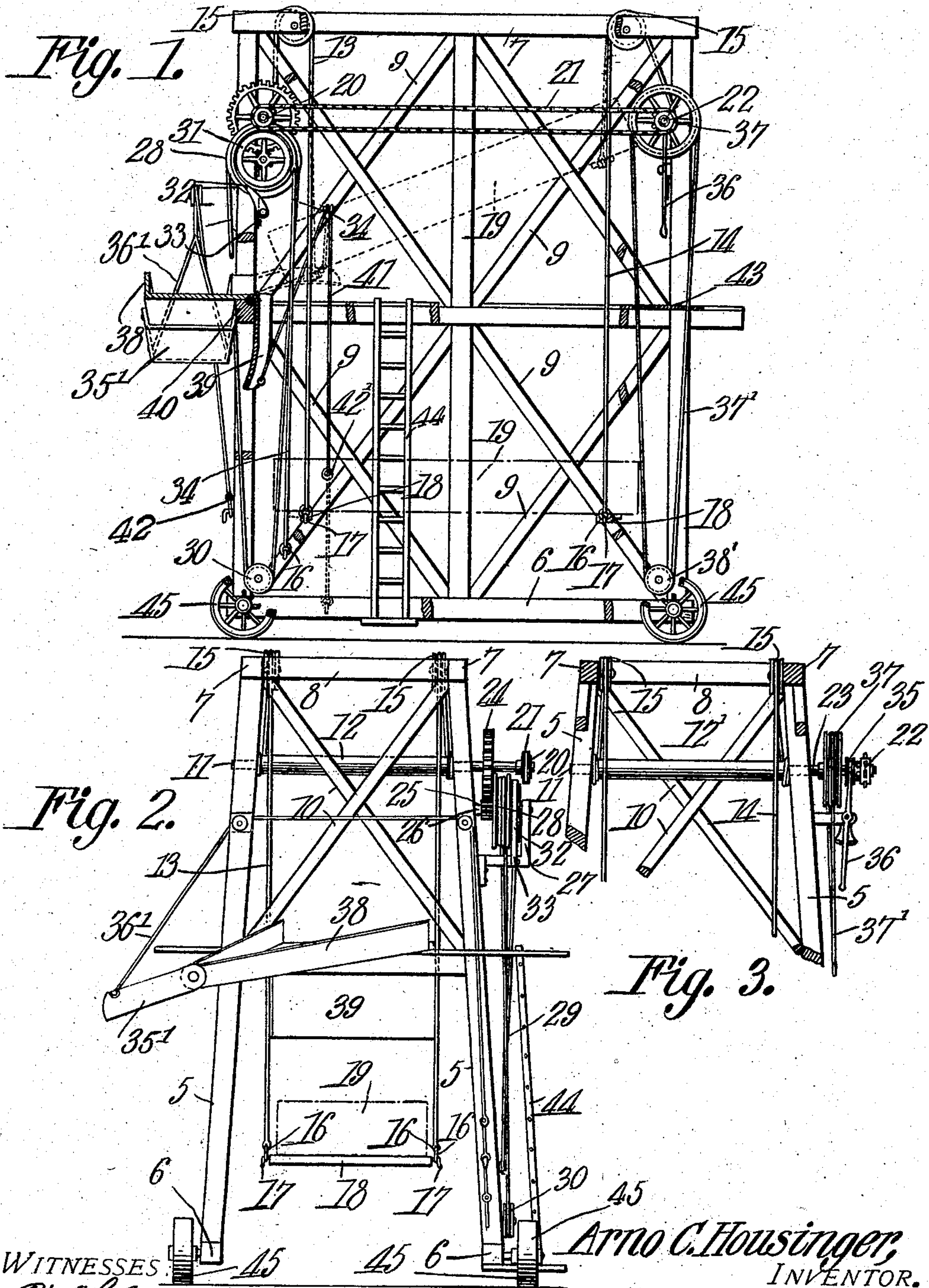
No. 881,240.

A. C. HOUSINGER.
WAGON RAISER.

PATENTED MAR. 10, 1908.

APPLICATION FILED JUNE 1, 1907.

2 SHEETS—SHEET 1.



WITNESSES:

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L. J. McKee

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2 SHEETS—SHEET 2.

Fig. 4.

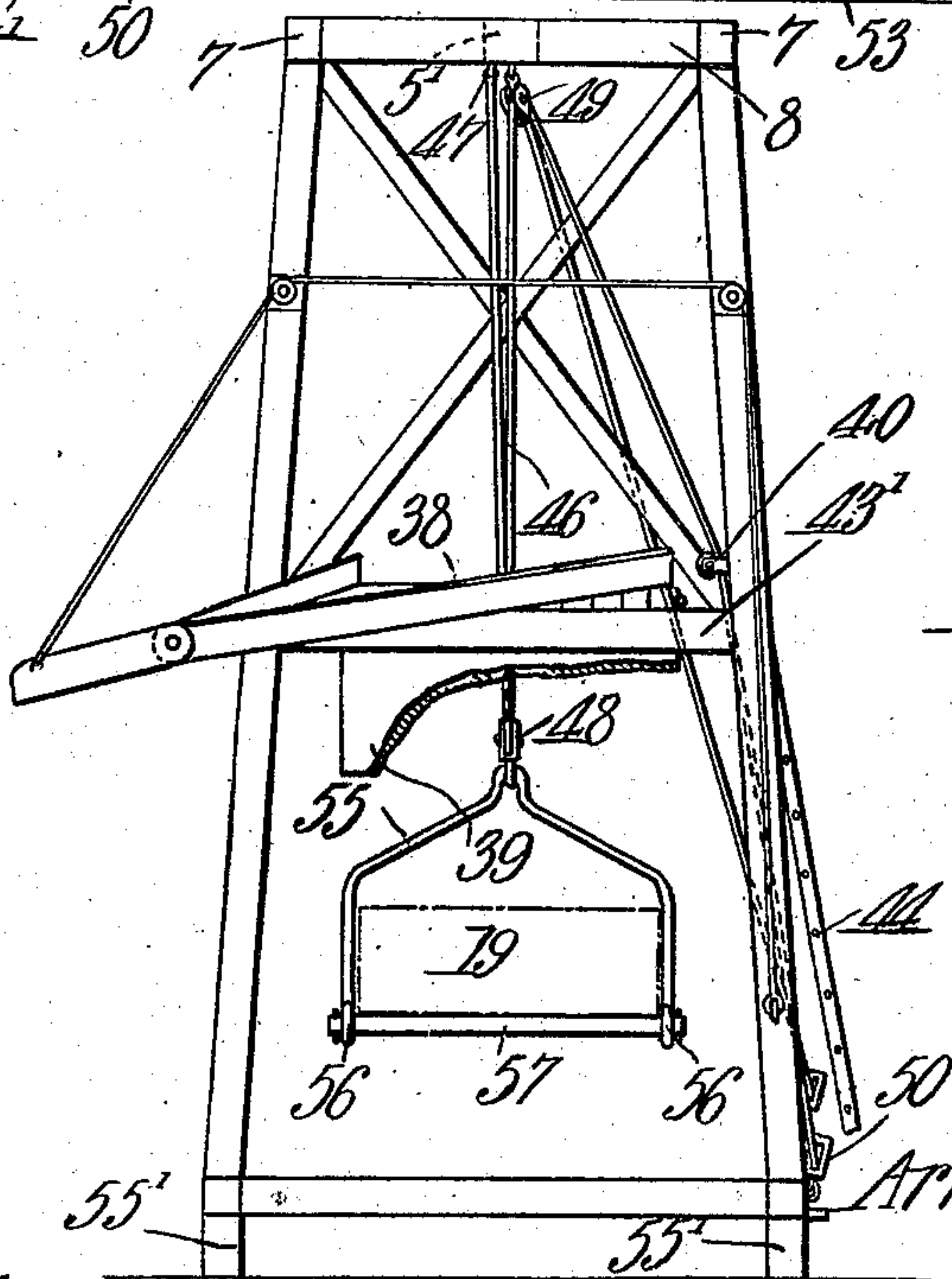
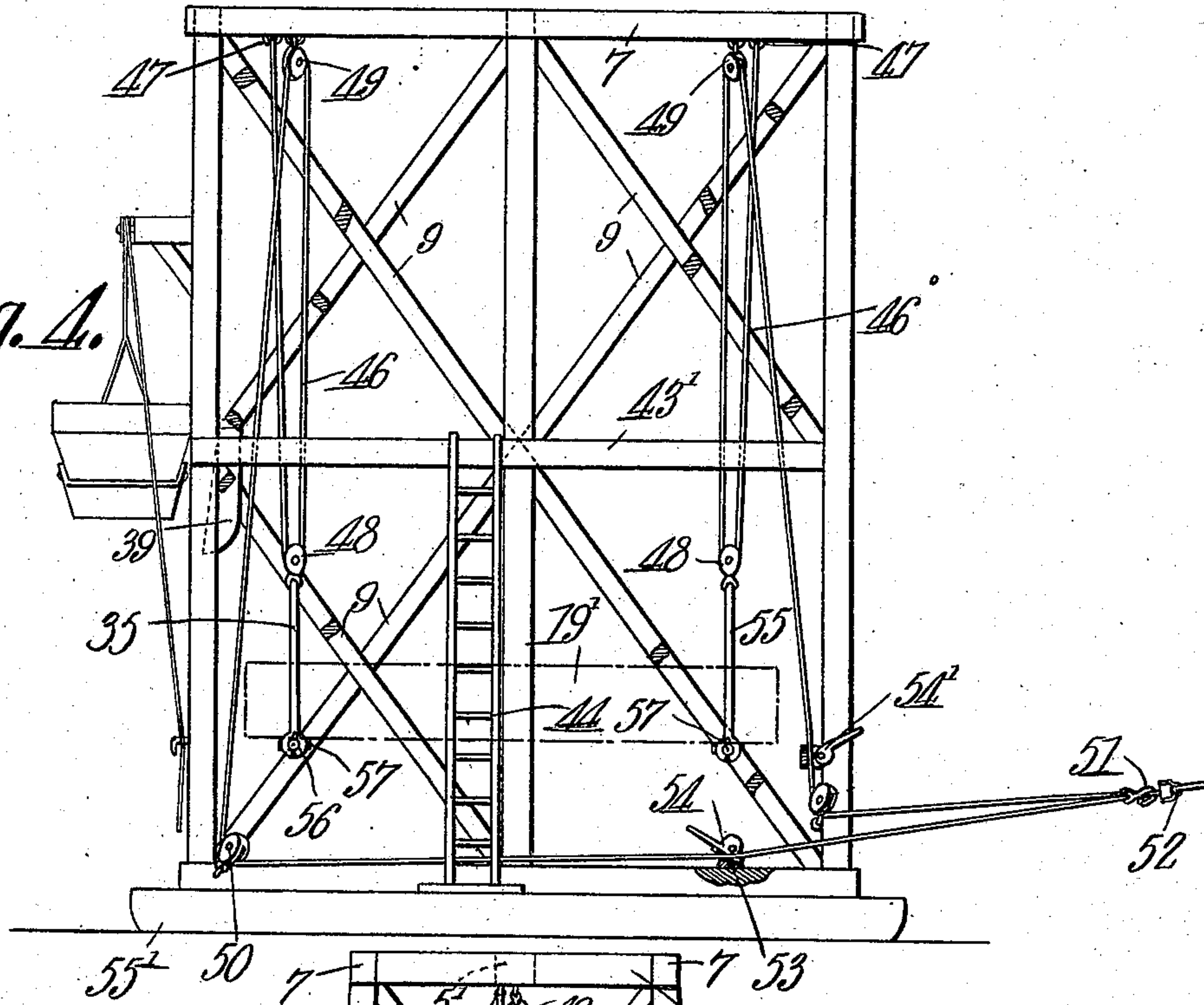


Fig. 5.

WITNESSES.

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ARNO C. HOUSINGER, OF SYLVIA, KANSAS.

WAGON-RAISER.

No. 881,240.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed June 1, 1907. Serial No. 376,777.

To all whom it may concern:

Be it known that I, ARNO C. HOUSINGER, a citizen of the United States, residing at Sylvia, in the county of Reno and State of Kansas, have invented a new and useful Wagon-Raiser, of which the following is a specification.

This invention relates to mechanism for lifting and dumping wagons and other vehicles containing grain and similar material and has for its object to provide improved means for elevating the wagon and dumping the contents thereof into a bin or other storage receptacle.

A further object of the invention is to provide a chute or spout having a movable section pivotally connected therewith and adapted to be positioned beneath the rear end of the wagon body thereby to direct the grain or other contents of the wagon into the storage receptacle.

A further object is to provide a portable elevator having wheels or rollers journaled thereon so that the elevator may be conveniently moved from place to place.

A still further object of the invention is to generally improve this class of devices so as to increase their utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings forming a part of this specification: Figure 1 is a side elevation partly in section of a combined elevator and dumping device constructed in accordance with my invention. Fig. 2 is a rear elevation of the same. Fig. 3 is a front elevation of a portion of the supporting frame showing the construction of the clutch. Fig. 4 is a side elevation illustrating a modified form of the invention. Fig. 5 is a rear elevation of Fig. 4.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The improved device forming the subject matter of the present invention includes a supporting frame comprising converging up-rights or standards 5 connected by upper and

lower longitudinal sills 6 and 7, the latter being spaced apart at the upper end of the frame by transverse connecting bars 8.

The side walls of the supporting frame are preferably reinforced and strengthened by the provision of diagonally disposed braces 9, there being similar braces 10 extending across the front and back of the frame, as shown.

Extending transversely across the supporting frame at the upper end thereof and journaled in suitable bearings 11 are spaced rollers 12 and 12'.

Secured to the rollers in any suitable manner are spaced lifting devices or cables 13 and 14 each having its free end passed over a pulley 15 and thence extended downwardly and provided with a terminal ring 16 for engagement with the adjacent hook 17 of a supporting bar 18, the latter being adapted to receive and support the wagon body, indicated at 19 in Figs. 1 and 2 of the drawings.

One end of the roller 12 is extended laterally beyond the adjacent side of the frame and provided with a sprocket wheel 20 which engages a sprocket chain 21, the latter being extended over a similar sprocket wheel 22 secured to the extension 23 of the roller 12' whereby motion may be imparted from one roller to the other.

Keyed or otherwise rigidly secured to the extension of the roller 12 is a gear wheel 24 which meshes with a pinion 25 mounted on a stub shaft 26, the latter being mounted for rotation in a suitable supporting bracket 27.

Secured to the shaft 26 is a driving wheel 28 having a V shaped groove formed in the periphery thereof for the reception of an endless cable 29 which also engages a wheel or roller 30 mounted for rotation on the supporting frame beneath the wheel 28. It will thus be seen that by exerting a longitudinal pull on the cable 29 motion will be imparted to the wheel 28 and through the medium of the intermediate gearing rotate the rollers 12 and 12' thereby to elevate the wagon body.

The driving wheel 28 is provided with a laterally extending brake drum 31 which engages a brake band 32 pivotally mounted at 33 on the frame beneath the drum, there being a rope or cable 34 secured to the free end of the brake band 32 so that the operator may actuate the brake thereby to regulate the ascent or descent of the wagon body.

Keyed to and slidably mounted on the extension 23 of the roller 12' is a clutch 35 adapted to engage the adjacent sprocket wheel 22 so that the rollers 12 and 12' may rotate in unison, said clutch being disconnected from the sprocket wheel 22 by a suitable operating lever 36 so that the roller 12' may be disconnected from the roller 12 when it is desired to elevate the rear end of the wagon body thereby to permit the contents thereof to be dumped into a bin or storage vessel.

The shaft 23 is also provided with a driving wheel 37 similar in construction to the driving wheel 28 and in which is formed a peripheral groove for the reception of an operating cable 37' the lower end of which engages a pulley or roller 38' journaled on the frame and preferably arranged in horizontal alinement with the roller 20, as shown.

Secured to the front of the supporting frame 5 is a chute or spout 38 for directing the contents of the wagon body in the bin, crib or other receptacle designed to receive the same.

The chute 38 is provided with an inner movable section 39 pivotally connected therewith, as indicated at 40, and adapted to be swung upwardly beneath the bed of the wagon body 19 so as to prevent the grain or other material from being wasted when transferring the same from the wagon to the bin.

The pivoted section 39 of the chute is moved to raised and lowered position by an operating cord 41 having one end thereof connected with the free end of the pivoted section 39 and its opposite or free end provided with a finger piece or ring 42'.

The outer or free end of the chute 38 extends laterally beyond the adjacent side of the supporting frame and pivotally connected to the deflected end of said chute is an outer movable section 35' having a rope or cable 36' secured thereto and by means of which the outer pivoted end of the chute may be raised or lowered to accommodate cribs or bins of different heights.

The intermediate portion of the frame is provided with a marginal platform or support 43 on which the operator stands when manipulating the device preparatory to dumping the grain into the chute 38, there being a ladder 44 secured to one side of the frame by means of which the operator may ascend to the platform 43.

The supporting frame 5 is preferably provided with rollers or traction wheels 45 so that the elevator may be conveniently transported from place to place.

In operation the wagon is positioned between the converging standards 5 of the supporting frame after which the supporting bars 18 are placed beneath the wagon body

19 and connected with the suspension device or cable 13. The operator then exerts a longitudinal pull on the cable 29 which rotates the wheel 28 and through the medium of the intermediate gearing elevates the wagon body above the platform 43 leaving the running gear at the base of the supporting frame. The operator then swings the pivoted section 39 of the chute upwardly beneath the bed of the wagon and disconnects the sprocket wheel 22 from the roller 21 by manipulating the lever 36 after which the cable 37' is operated which elevates the front end of the wagon body 19 and causes the grain or other contents of the wagon to be deposited within the chute 38 from whence it passes through the pivoted outer section 35' into the bin, crib or other receptacle adapted to receive the same. After the grain has been transferred from the wagon to the bin the wagon body is lowered to a horizontal position and the lever 36 moved in the opposite direction so as to connect the sprocket wheel 32 with the operating shaft 12 thus permitting the wagon body to be lowered and placed in position on the running gear of the wagon.

In Figs. 4 and 5 of the drawings there is illustrated a modified form of the invention adapted to be operated by horse power. In this form of the device the rollers 12 and 12' are dispensed with, the wagon body being moved to raised and lowered position by suitable cables 46 one end of each of which is secured to the top of the frame 5', as indicated at 47 while the opposite end thereof passes over spaced block and tackles 48 and 49 and is thence extended over a similar block and tackle 50 secured to the lower portion of the frame, the free ends of the cables 46 being provided with terminal hooks 51 for attachment to a suitable draft device 52. The cables 46 pass through suitable cleats or sockets 53 each provided with a cam lever 54 by means of which the cables 46 may be clamped within the sockets and thus regulate the ascent or descent of the wagon body 19'. The wagon body 19' is supported by spaced loops or frames 55 having their free ends provided with terminal openings 56 for the reception of the supporting bars 57. In operating this form of the device the supporting bars 57 are detached from the frames 55 and the latter placed in position under the wagon body after which the bars 57 are again connected with the frames. The levers 54 and 54' are then moved to released position and the draft animal attached to the clevis 52 and caused to travel in the direction indicated by the arrow in Fig. 4 of the drawings thus elevating the wagon body 19' above the platform 43'. After the wagon body is elevated the lever 54 is pressed laterally into engagement with the adjacent cable

46 and the draft animal again driven in a direction away from the supporting frame which elevates the front end of the wagon body 19' and dumps the contents of the wagon in the chute in the manner before stated. To lower the wagon it is merely necessary to release the levers 54 and 54' when the wagon body may be deposited on the running gear. In this form of the device the supporting frame 5 is preferably provided with skids 55', but if desired suitable rollers or traction wheels may be employed.

From the foregoing description it is thought that the construction and operation of the device will be readily understood by those skilled in the art and further description thereof is deemed unnecessary.

Having thus described the invention what is claimed is:

20 1. A hoisting device including a supporting frame, spaced rollers extending transversely across the frame and mounted for rotation thereon, suspension devices secured to the rollers and adapted to support a wagon body, means for imparting movement from one roller to the other, a chute, and means for disconnecting said rollers thereby to permit one end of the wagon body to be tilted in engagement with the chute.

30 2. A hoisting device including a supporting frame, spaced rollers extending transversely across the frame and mounted for rotation thereon, said rollers being provided with horizontally disposed sprocket wheels, a sprocket chain connecting said wheels, cables secured to the rollers and adapted to support a wagon body, means for actuating the rollers thereby to raise and lower the wagon body, a clutch carried by one of the rollers for moving the adjacent sprocket wheel to inoperative position, and independent means for elevating one end of the wagon body.

45 3. A hoisting device including a supporting frame provided with an intermediate marginal platform extending longitudinally of the frame, a chute secured to the frame at one end of said platform, rollers extending transversely across the frame and mounted for rotation thereon, suspension devices secured to the rollers and adapted to support a wagon body, and means for actuating the rollers thereby to raise and lower the wagon body.

55 4. A hoisting device including a portable supporting frame having an intermediate platform, a chute secured to the supporting frame at said platform and provided with a pivoted section movable vertically to operative position, spaced rollers journaled in the frame, cables secured to the rollers and provided with means for engagement with a wagon body, means for rotating the rollers to elevate the wagon body above the platform, and means for tilting one end of the wagon

body thereby to dump the contents of the latter into the chute. 65

5. A hoisting device including a supporting frame having an intermediate platform, a chute secured to the frame at said platform and provided with a pivoted section, suspension devices adapted to support a wagon body, means for operating the suspension devices thereby to elevate the wagon body above the platform, means for tilting one end of the wagon body to permit the discharge of the contents of the latter into the chute, and means for moving the pivoted section of said chute in engagement with the wagon body. 75

6. A hoisting device including a portable supporting frame, rollers journaled in the frame and provided with reduced extensions, suspension devices secured to the rollers and adapted to support a wagon body, sprocket wheels secured to said extensions and connected by a sprocket chain, a gear wheel secured to one of the extensions, a stub shaft disposed beneath the extension, a pinion mounted on the stub shaft and engaging the gear wheel, and a cable operatively connected with the stub shaft for imparting motion to the sprocket chain thereby to raise and lower the wagon body. 85

7. A hoisting device including a portable supporting frame, spaced rollers journaled in the frame and provided with lateral extensions, a suspension device secured to the rollers and adapted to support a wagon body, sprocket wheels secured to said extensions, a sprocket chain connecting the sprocket wheels, a master gear secured to one of the extensions, a driving wheel secured to the opposite extension, a pinion meshing with the master gear, means for rotating the pinion thereby to raise and lower the wagon body, a chute, means for disconnecting the sprocket wheels from the adjacent roller, and means for rotating the driving wheel thereby to tilt one end of the wagon body in engagement with the chute. 105

8. A hoisting device including a portable supporting frame, spaced rollers journaled in the frame and each provided with an extension, sprocket wheels secured to said extensions, a sprocket chain connecting the sprocket wheels, cables secured to the rollers and provided with terminal members adapted to support a wagon body, a gear wheel secured to one of the extensions, a driving wheel secured to the opposite extension, a supporting bracket disposed beneath the gear wheel, a stub shaft journaled in the bracket, a pinion carried by the stub shaft and engaging the gear wheel, a hand wheel secured to the stub shaft and provided with a brake drum, an endless belt engaging the hand wheel for rotating the rollers thereby to 125

raise and lower the wagon body, a brake band
engaging the drum, a chute secured to the
frame, a clutch for throwing one of the
sprocket wheels out of engagement with the
5 adjacent roller, and a cable for rotating the
driving wheel when the clutch is operated
thereby to tilt one end of the wagon body in
engagement with the chute.

In testimony that I claim the foregoing as
my own, I have hereto affixed my signature 10
in the presence of two witnesses.

ARNO C. HOUSINGER.

Witnesses:

LORENA HINSHAW,
W. H. HINSHAW.