(No Model.)

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N. S. WHITNEY.

ADJUSTABLE BED VEHICLE.

No. 549,865. Patented Nov. 12, 1895.

Fig. 9.

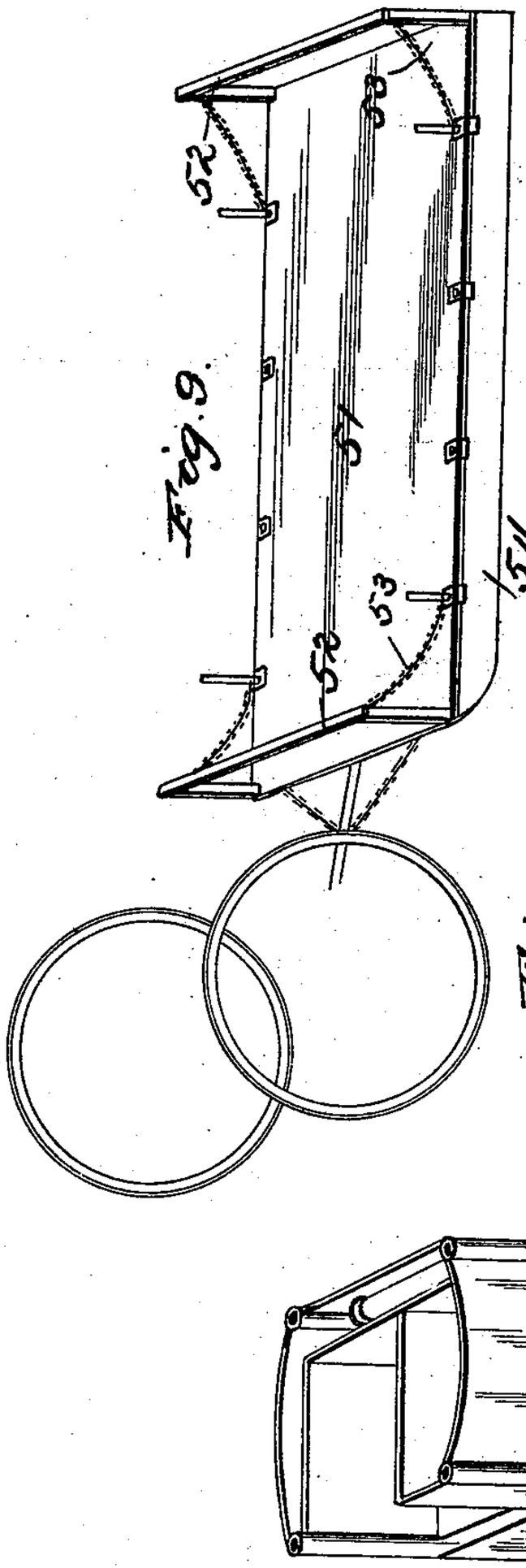


Fig. 1.

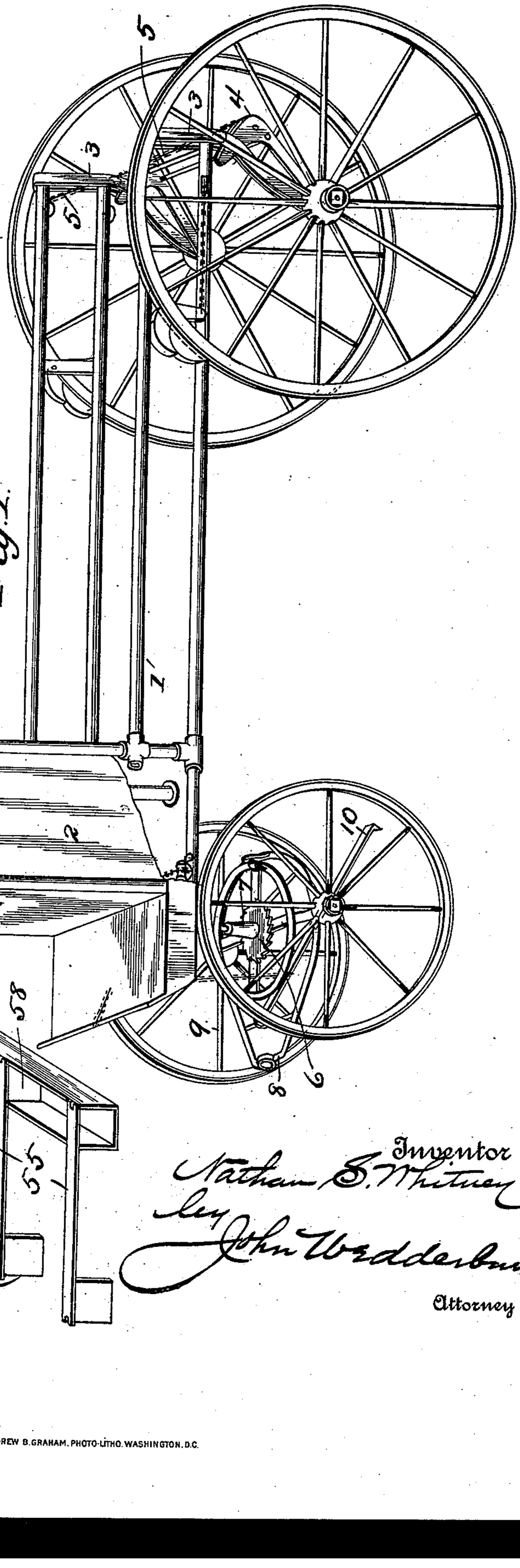
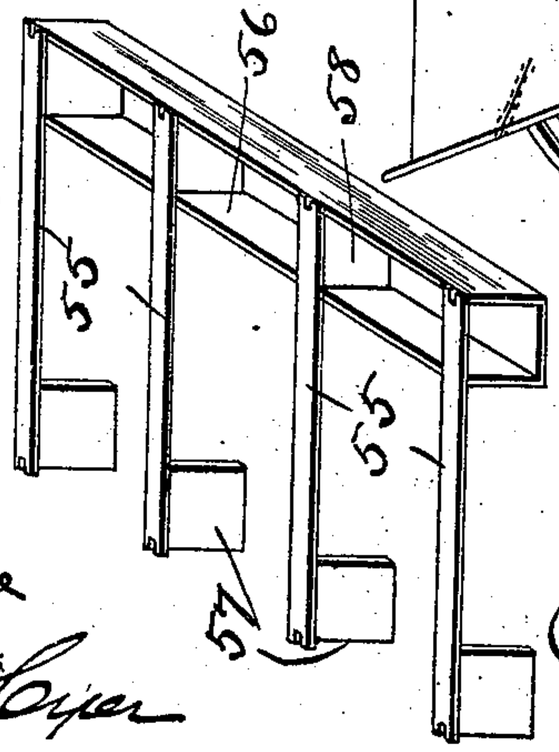


Fig. 10.



Witnesses

John Dennie

Chas. S. Hoyer

Inventor

Nathan S. Whitney

by John Wedderburn

Attorney

(No Model.)

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N. S. WHITNEY.

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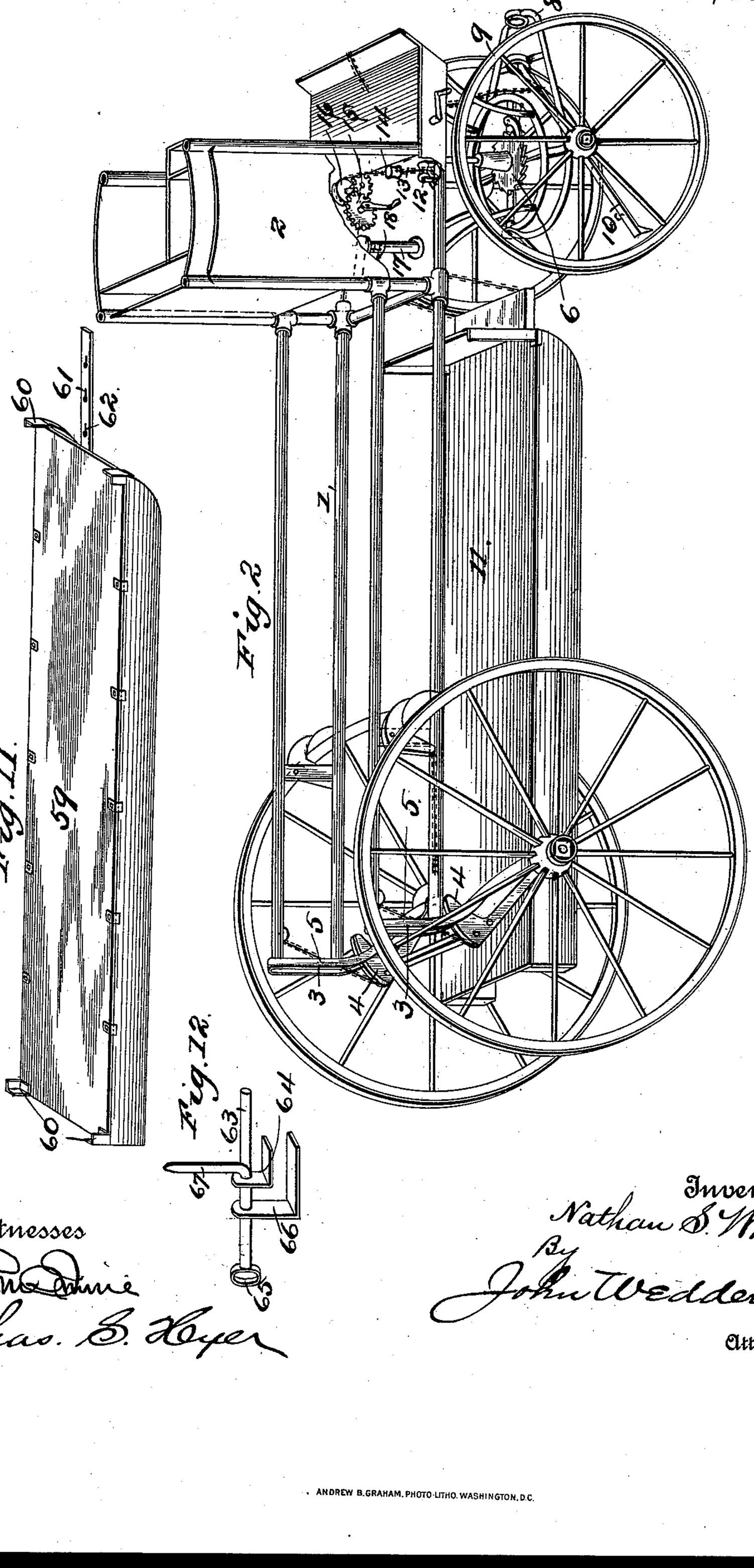

Fig. 2

Fig. 11.

Fig. 12.

Witnesses

Chas. S. Hoyer

Inventor

Nathan S. Whitney

By

John Wedderburn

Attorney

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N. S. WHITNEY.

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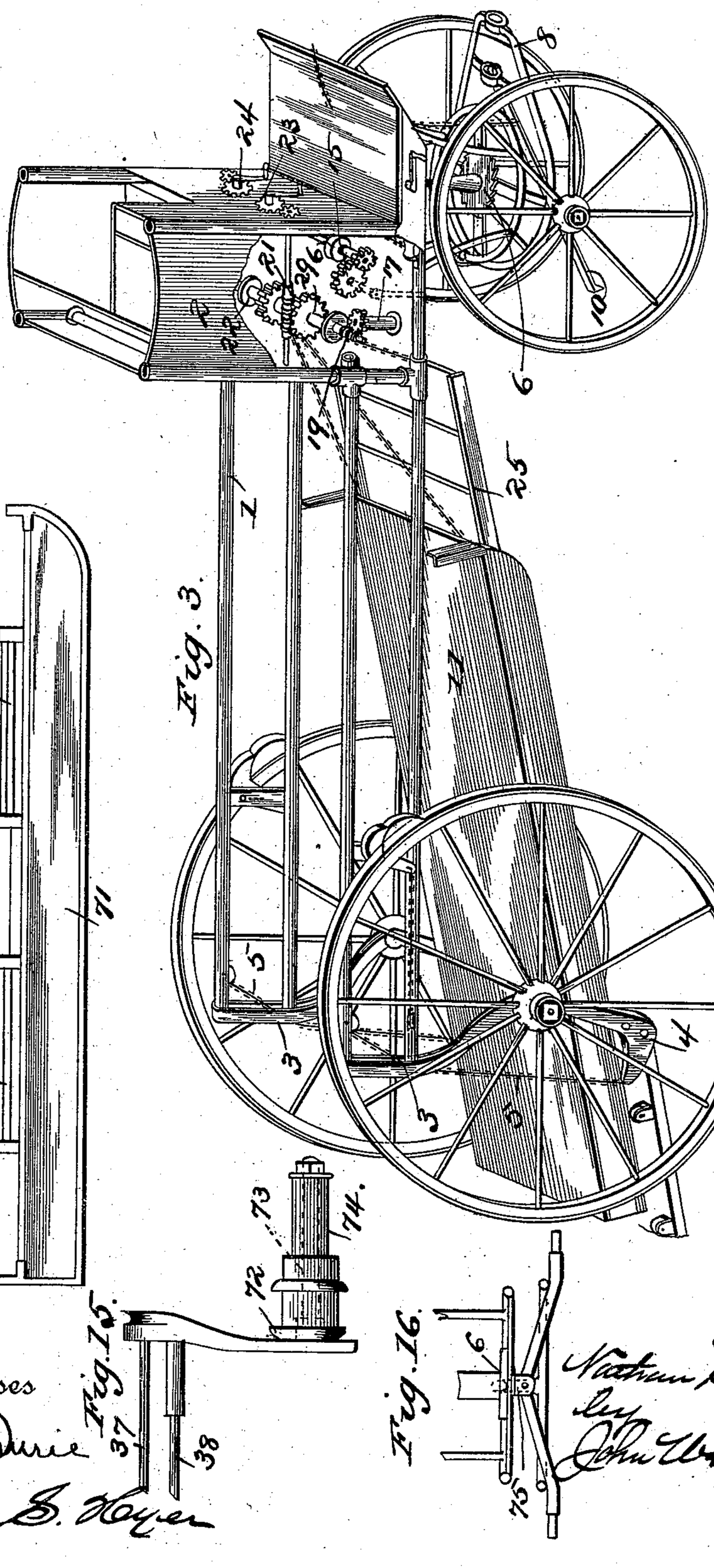

Fig. 3.

Fig. 14.

Fig. 15.

Fig. 16.

Witnesses

Chas. S. Hoyer

Inventor

Nathan S. Whitney

by John Wedderburn

Attorney

(No Model.)

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N. S. WHITNEY.

ADJUSTABLE BED VEHICLE.

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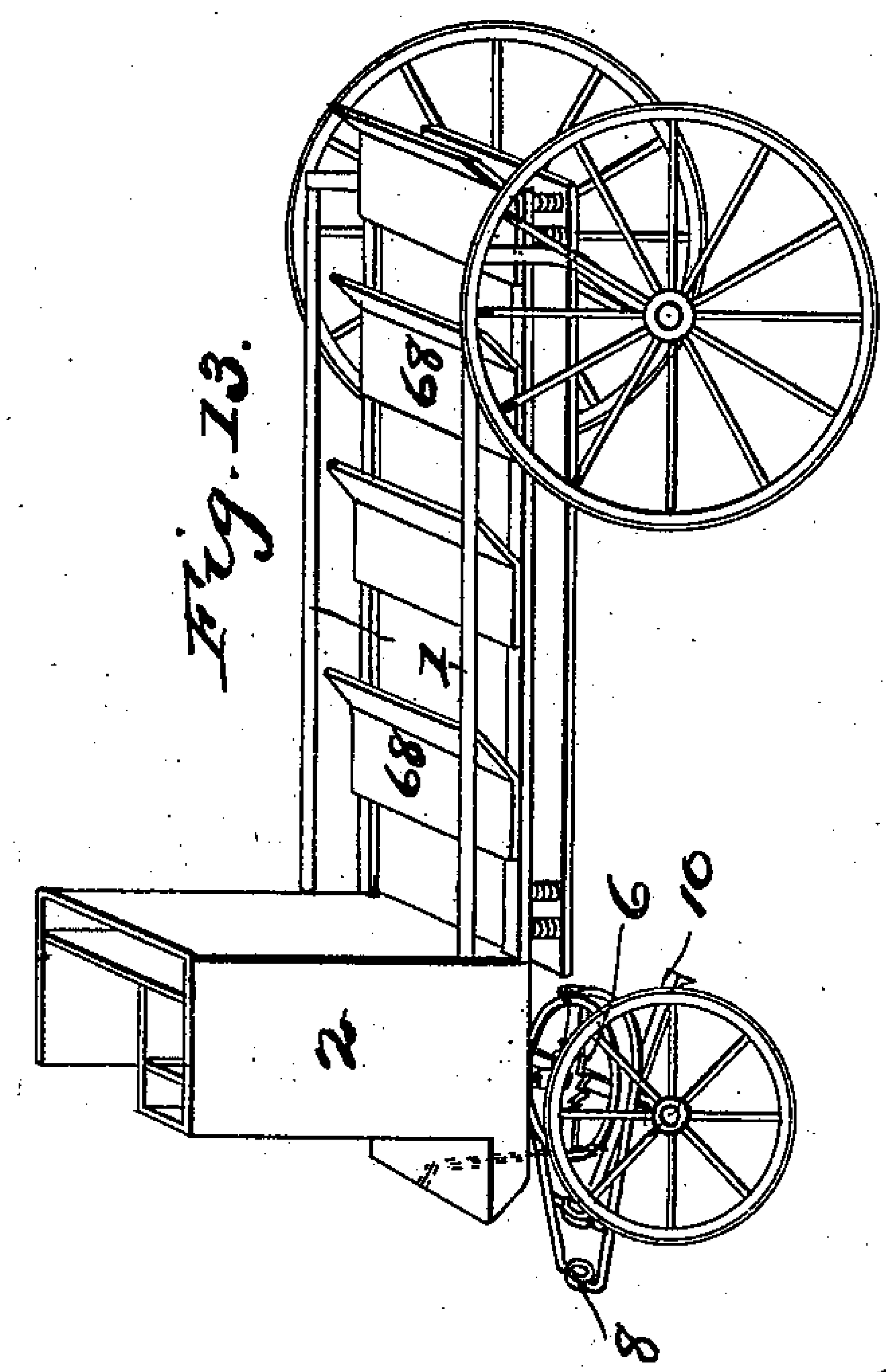

Fig. 13.

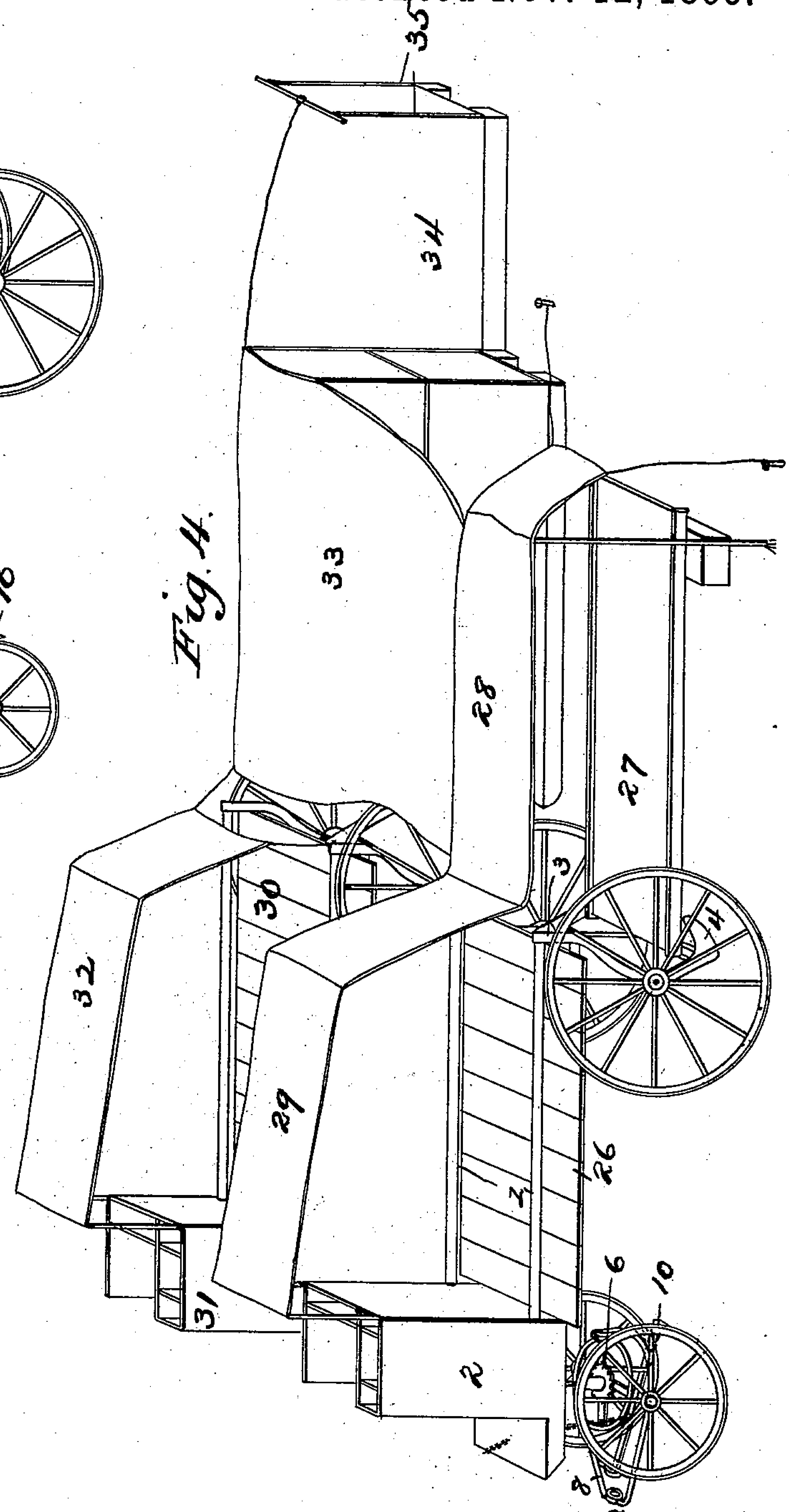

Fig. 4.

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[illegible]

Chas. S. Hoyer

Inventor

Nathan S. Whitney

by John Wedderburn

Attorney

ANDREW B. GRAHAM PHOTO-LITHO. WASHINGTON, D.C.

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N. S. WHITNEY.

ADJUSTABLE BED VEHICLE.

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Fig. 5.

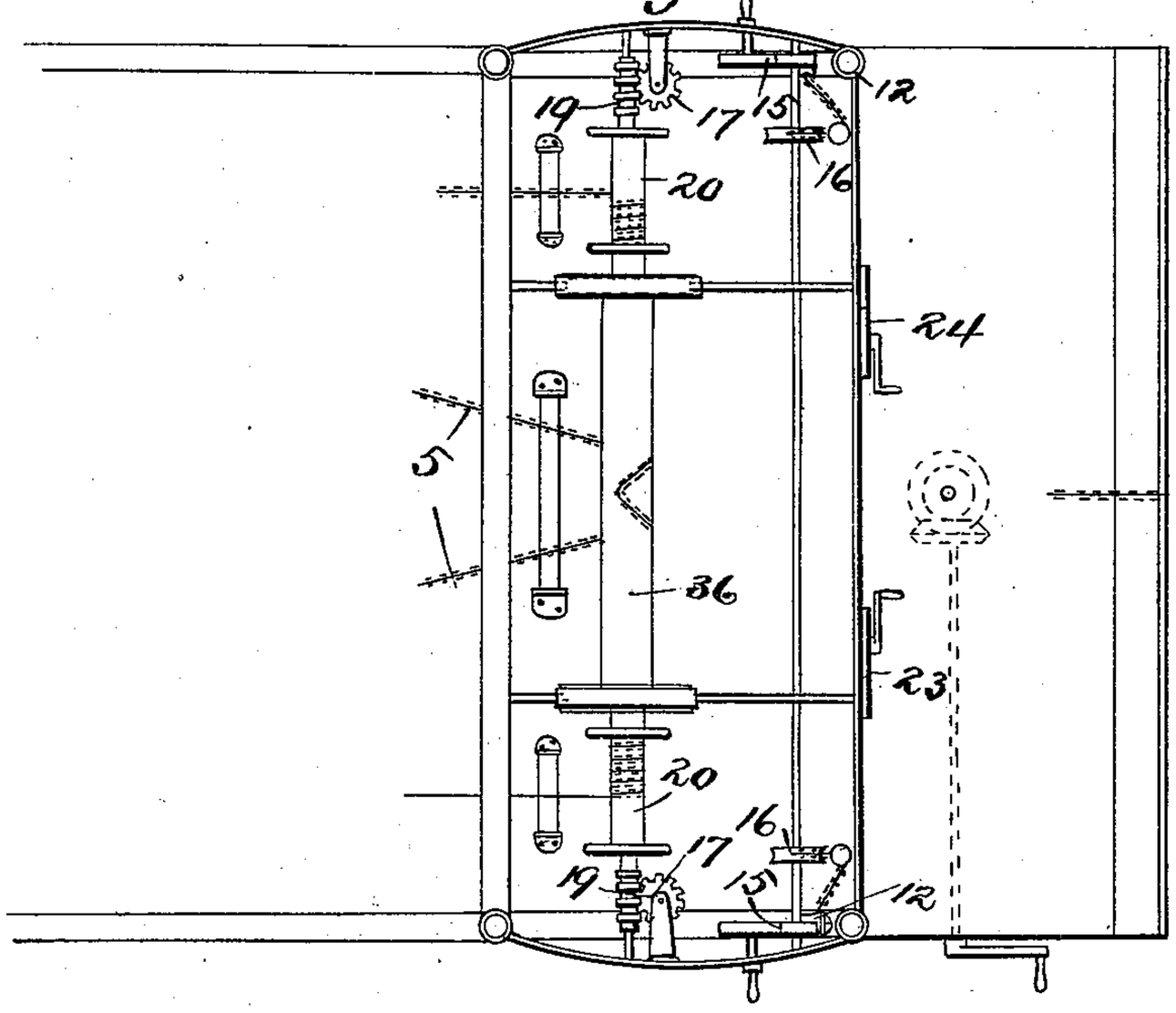

Fig. 6.

Witnesses
John Munn
Chas. B. Hoyer

Inventor
Nathan S. Whitney
by John Wedderburn
Attorney

(No Model.)

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N. S. WHITNEY.

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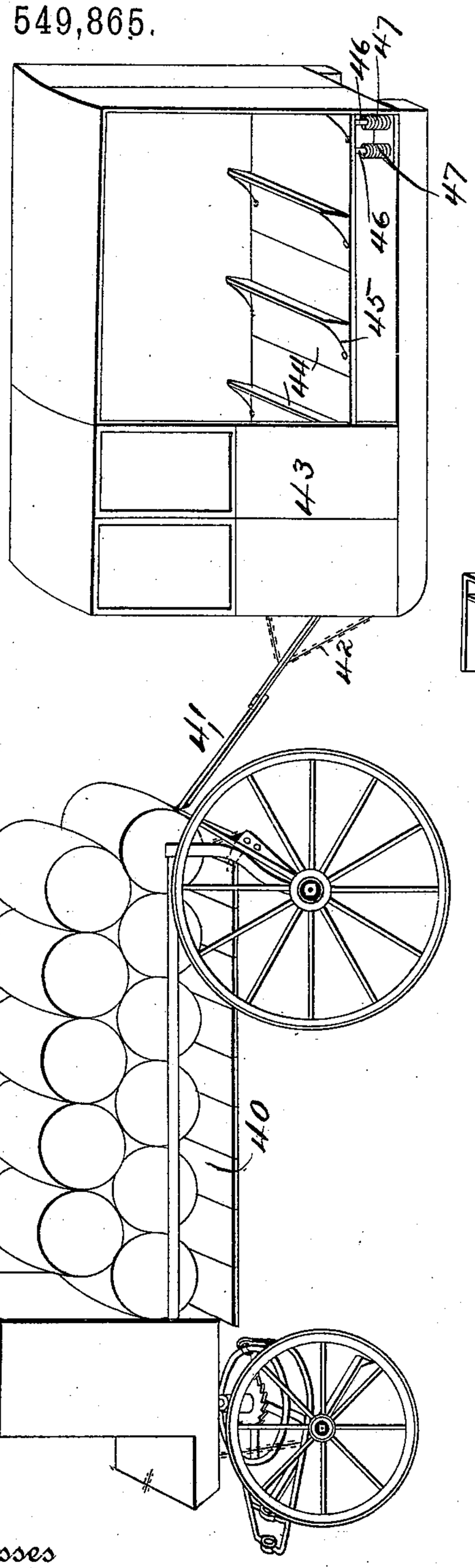

Fig. 7.

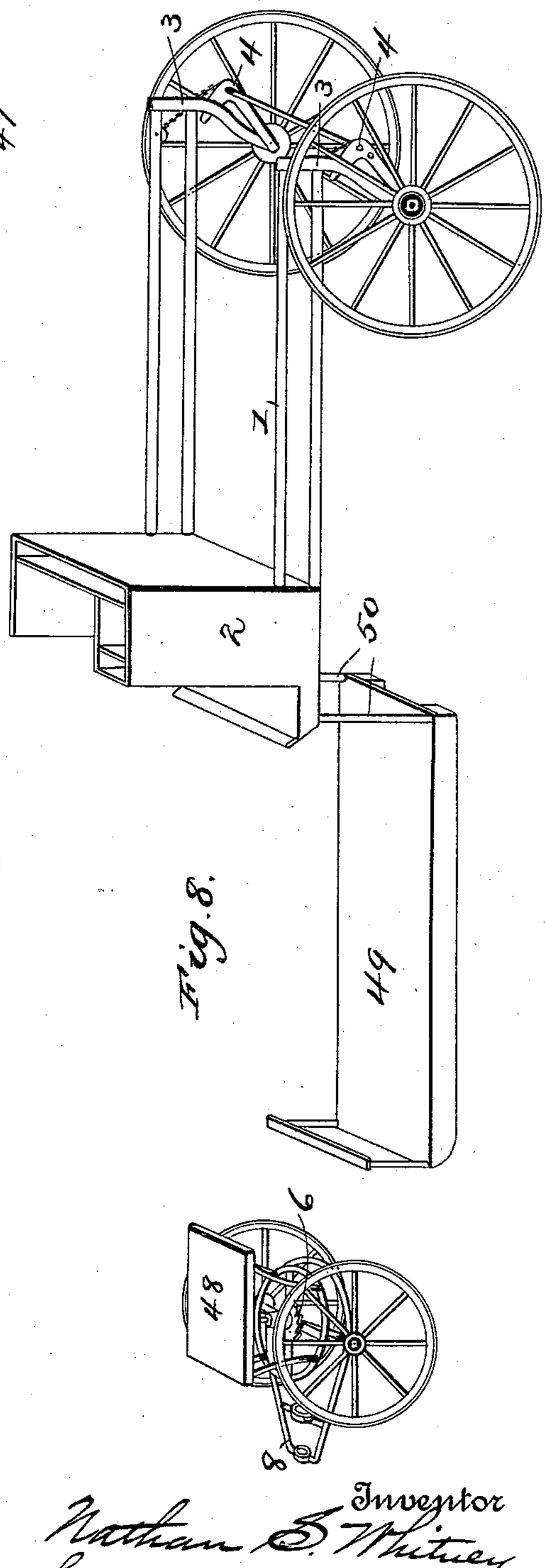

Fig. 8.

Fig. 9.

Witnesses

John Dennie

Chas. E. Hoyer

Inventor

Nathan S. Whitney

by

John Wedderburn

Attorney

ANDREW B. GRAHAM, PHOTO-LITHO. WASHINGTON, D.C.

UNITED STATES PATENT OFFICE.

NATHAN S. WHITNEY, OF EDWARDSVILLE, ILLINOIS.

ADJUSTABLE-BED VEHICLE.

SPECIFICATION forming part of Letters Patent No. 549,865, dated November 12, 1895.

Application filed June 12, 1894. Serial No. 514,360. (No model.)

To all whom it may concern:

Be it known that I, NATHAN S. WHITNEY, a citizen of the United States, residing at Edwardsville, county of Madison, State of Illinois, have invented a new and useful Adjustable-Bed Wagon, of which the following is a specification.

The principal objects of my wagon are to facilitate loading and unloading heavy weights. It is also a means of improving the roads by means of broad-tread rear-axle wheels and narrow-tread front-axle wheels, which straddle the beaten track to fill up the ruts, and also to attain other advantages, hereinafter described, by the arrangement and combination of the parts claimed in the accompanying drawings, which form a part of this specification.

Figure 1 is a perspective view of the frame of said vehicle. Fig. 2 is a side elevation showing the adjustable bed secured under the rear axle as a dump-bed; also, illustrating the front running-gear. Fig. 3 is a side elevation showing the adjustable bed drawn up over the rear axle. Fig. 4 shows the vehicle system used as an army camping-tent. Fig. 5 is a plan view of the windlass-gearing secured under the seat of the fore part of the frame. Fig. 6 is an end view of the rear axle and wheels. Fig. 7 is a side elevation of an upper-story wagon and an ambulance-bed. Fig. 8 shows the parts of the vehicle disconnected and joined together to be drawn over a bridge. Fig. 9 is a view of a foraging-bed, which may be joined to the front-wheel gear. Fig. 10 is the frame of the ponton sleigh-bed. Fig. 11 is a plain bed, showing a coupling-bar to secure the bed in place on the said coupler. Fig. 12 is the coupler. Fig. 13 is the vehicle converted into a band or parade wagon. Fig. 14 is the adjustable bed converted into a ponton-bridge. Fig. 15 is the rear-wheel crank-axle. Fig. 16 is a front view of the narrow-gage front axle.

Fig. 1 shows the manner of constructing my improved vehicle, principally of galvanized-iron piping, said pipe-bars 1 1 1 1 being secured at the outer end to standard-posts 3 3, which are journaled at the bottom to support the crank-axle and rear wheels. The lower pipe-bar extends from this standard 3 under the forward frame 2 to support the dashboard and across to the opposite side to the opposite standard 3, thus forming sills for the frame 2, which are also used to protect chains 5, (shown in Fig. 2,) connecting with the wheel-brake, and through said pipe to an opening at its inner end over pulley 12 and under pulley 13 (secured to the floor-sill 14) and up to a pulley secured to a shaft 16, which extends across to the opposite sides of the frame 2, and to an opposite pulley on shaft 16 is secured a chain, which passes in the same manner under pulley 13 and over pulley 12 through the sill-pipes to the opposite wheel-brake, as shown. On one end of said shaft 16 is secured a pinion operated by a gear-wheel 15, with a lever or crank 18. By the said operation both chains 5 5, attached to the wheel-brake blocks, are drawn up taut.

The forward frame 2 is partitioned off at one end over the windlass-shaft for a tool-box, and a partition back of the seat gives ample room to store rolls of tent-awning hereinafter described, and shown in Fig. 4. Fig. 2 is a view of the vehicle, showing a perspective view of the front-axle gear, composed of an axle carrying the wheels, over which a tongue-hound is secured, which is bent up at its inner side, and a claw is made to play freely over the edge of a fifth-wheel 6, which is also secured to the axle by a king-post passing through said fifth-wheel, having a hinge-joint connected to the center of said axle and secured to the fifth-wheel by collar-plates on the upper and lower sides to allow free turning. Said fifth-wheel plate is connected to the vehicle-frame by bracing-posts, shown at 48, in connection with Fig. 8, as a detachable front gear, which may be bolted to the floor of the frame 2. In the arrangement of the fifth-wheel frame and king-post joint is formed a compound swivel-joint, which allows free turning of the axle, with a free tilt to avoid any cramping of frame 2 when a load is carried, and also the pulling strain is borne equally between the king-bolt and the fifth-wheel frame through the tongue-hound before mentioned.

In Fig. 2 is also a view of an adjustable wagon-bed, made like a sleigh, as shown in Fig. 11, (59) having a hinged-strap 62, with

slots 61, made to fit over a flat-headed coupling-bolt 65, Fig. 12, which is secured to the inner side of the frame 2. In this view, Fig. 2, the adjustable bed 11 is shown as a swing-bed or dump-wagon, the rear axle being drawn up and the rear end of the bed secured to the axle with chains or hooks to swing freely, and it may be lowered to the ground by operating the chains 5, which pass through the upper pipe-bar 1 to the windlass 17, hereinafter mentioned.

In Fig. 3 is shown the adjustable bed 11, being drawn up in place over the rear axle, with the loading-plank resting on the lower axle-bar 38 (shown in Fig. 15) and on the ground. Chains are secured to windlass 36, (shown in Fig. 5,) by which means a heavy load may be drawn up over rollers on the plank and incline-ladder 25, as shown, and when locked in place with the coupler before mentioned the rear axle is drawn up to a horizontal position with chains secured to the crank-axle 4, said chains passing over rollers in the end of the upper pipe 1 to a perpendicular windlass (shown in Fig. 2) which is operated by a worm 19 on the ends of the main shaft. (Shown in Fig. 5.)

At Fig. 4 is shown a system of camping-tent used in connection with army purposes.

A portion of the frame 2 (shown in Fig. 1) is partitioned off back of the seat, where rolls of tent-awning 28 29 are stored, and rods 31, having a ring at their upper ends, are made to slide in the end of the corner-posts of said frame 2, which may be supported at a desired height with a pin through said posts for the rods to rest upon. A roll of the awning is secured to the ring end of the rods and elevated high over the floor 30 of the upper-story bed. (Shown in Fig. 13.)

The floor 26 30 may be used as a bed-camp above ground, and the loading-plank 27 may be used as a table, one end to rest on the axle, the other on a feed box, and the awning 28 is drawn over a post for a covering. Other awnings may connect two or more vehicles together, as shown in Fig. 4, drawn out over detached loads and the ambulance-bed 35. (Shown also in connection with Fig. 7.)

Fig. 5 is a plan view of the frame 2, showing the gearing-reels secured under the seat of the frame 2, which is also shown in Fig. 3, described as follows: A shaft passes through said frame, supported on journals, having a crank on its outer end, and has a worm 19 near each end, which engages a pinion on the upper end of perpendicular rollers 17, which carries chains through the upper bars over a pulley at the outer end to connect with the crank of the rear axle. Over this main shaft is a pipe-roller shaft fitting close against the two worms, having a windlass 20 firmly secured to said pipe-shaft and a gear-wheel driven by a screw-shaft 24. (Shown in Figs. 3 and 5.) Upon said rollers 20 are secured chains which pass over pulleys secured in upper portion of the frame 2 or through the floor to connect with the forward end of a loaded bed, to be drawn up in place to be secured to the coupler. (Shown in Fig. 12.) Over this pipe-shaft is secured a larger pipe-shaft 36, fitting close between windlass 20, having a gear-wheel at one end which is driven by a worm-shaft 23, also shown in Figs. 3 and 5. To this windlass is secured a double chain, which is secured to the forward end of a loaded bed, to be drawn up over rollers on the loading-plank, as before described, and shown in Fig. 3.

In Fig. 6 is shown an end view of the broad-tread rear-axle gear, the standard-posts 3 3 supporting the hub-boxing, which carries the wheels, and the crank-axle 4, which is drawn up in place in the standard-post and made to fit directly under the pulleys 39 of the pipe-bars 1 1 1 1, as shown in Fig. 6.

Fig. 7 shows an upper-story wagon. Floor-boards 40 are laid across the lower pipe-bars to support a load to be drawn across streams or bridges, and the ambulance-bed is hitched behind at 41. This ambulance-bed is composed of a frame secured to the bed 59. (Shown in Fig. 11.) In the corner-boxing is secured corner-frame posts, which frame supports a set of doors at the rear end, and also at one side at the forward end 43. A rail 45 is laid on each side and supported with a set of spiral springs 46 47 at each end of each rail, upon which are secured seat-boards 44, having an adjustable back-board which may be turned down to form a floor to support bedding for an ambulance-bed at the rear part of said bed 59, there being ample space in the forward end in connection with doors 43. An adjustable tongue or pole 41 is secured to the coupling-strap 62, Fig. 11, which is made secure with stay-chains 42, as shown in Fig. 7, which arrangement is a convenient spring-bed ambulance vehicle for army purposes, as shown in connection with the army wagon.

In Fig. 8 is shown the front running-gear detached from the frame 2, to which may be secured the bed 49, and on a cross-piece, secured to corner-posts 50, may be supported the forward end of the wagon-frame to be hauled across a ponton-bridge, with or without loads, as the case may require.

Fig. 9 shows a detail of the sleigh-bed 59 (shown in Fig. 11) converted into a forager's rig 51. The corner-posts 52 are braced with chains 58 to side posts 54 to support heavy loads, as required, which may also be employed as a fodder-sleigh. Fig. 10 shows the manner of constructing a hollow-runner sleigh-bed for a ponton-boat bed. To cross-sills 55 are secured runner-boards 56 and 58, nailed to blocks 57 and sealed up on the bottom for hollow runners, and floor-boards may be nailed to the upper and lower sides of these sills 55 to increase air-spaces for buoyancy required in a ponton-boat. (Shown in Fig. 14.)

Fig. 11 shows a plain bed, before mentioned, with the couple hinged strap 62, with slots 61, arranged to lock at required heights over the flat head 65 of the coupling-bolt 63. (Shown

in Fig. 12.) At Fig. 12 is shown the manner of securing the coupler to a cross-sill with straps 64 and 66, which support the flat-headed bolt 63, to which is secured a lever-handle 67. It is intended when the bar 62 is secured over the flat head 65 of bolt 63, when turned down, is of sufficient weight to prevent jumping up to let the slotted bar pull off. The strain therefore will securely lock the bed to the frame 2, as shown in Figs. 12 and 2.

In Fig. 13 is shown the vehicle converted into a band or parade wagon. Upon the lower pipe-bars are laid floor-boards 40, as shown in Fig. 7, at each corner being secured the spirals springs, (shown at 47 in the ambulance-bed,) upon which are secured the side rails 45, which support the seats 68, as shown, there being sufficient elasticity to the springs to afford a convenient spring-seat wagon, as shown in Fig. 13.

In Fig. 14 is shown a side view of the sleigh-bed converted into a ponton-boat 71, also showing an end view of the boat 69 and the manner of constructing the bridge. The beds are floated out at distances the length of the load-plank and ladders 70, before mentioned, the planks being secured to the center of each bed, while the ladders, being about three feet wide, are secured against each side of the plank, upon the rounds of the ladder being laid planks of sufficient thickness for a bridge-floor, as shown. The front-wheel gear and sleigh-bed, not exceeding four and one-half feet in width, will travel the inner edge of the ladder-floors, while the rear broad-gage wheels will travel the outer edge of the ladder-floor, as shown in Figs. 8 and 14.

In Fig. 15 is shown a plan of the rear-gear crank-axle, composed of malleable or cast iron bearing 72, secured to the lower end of the standard-posts 3 3, as shown in Fig. 6. At the inner end of the crank-axle 4 is secured a steel or malleable iron pin 73, which passes through the bearing of the posts 3, and over the outer end of said pin is secured a bushing 74, made secure into said post-bearing, which is to carry the wagon-wheel, and also protects said pin from wear by friction of the wheel-hub, and when it is worn down it may be removed and replaced with a new one. The wheels are secured on the pin-bushing the usual way with a nut and collar. At the outer end of this axle-crank 4, Figs. 3 and 15, are secured cross-bars 37 and 38. When lowered, as shown in Fig. 3, the cross-bar 38 is made to support the rear end of the adjustable wagon-bed 11, as shown in Fig. 3, while the cross-bar 37 is made to support one end of the loading-plank, also shown in Fig 3. Thus it will be seen that the double-bar crank 4 and pin 73 may be made of sufficient weight to sustain the weight of any other vehicle-axle.

Fig. 16 shows a front elevation of the front axle, which is made to support a fifth-wheel 6, as shown in Figs. 1 and 2, by means of a king-post passing through it, with a hinge-joint 7 at its lower end connected to the axle with a bolt, which is made to act in unison with the bearing of the hound against the inner edge of said fifth-wheel, as before mentioned, in connection with Fig. 2.

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

1. A wagon having a frame composed, principally, of galvanized iron, or steel, pipe, side-sills to support a frame, supporting windlasses for operating chains, or ropes, to which frame is secured a front running-gear, under the floor, with narrow-tread front wheels, to facilitate short turning.

2. A wagon having connecting side pipe-bars, on each side, attached to standard-posts, journaled at its lower end to support the rear-axle running-gear.

3. A wagon having the rear axle connected by two eccentric cross-bars, for supporting the wagon-bed, means for raising and lowering said bars, and independent means for raising and lowering the front end of said wagon-bed.

4. A wagon having the rear portion of its bed supported by crank-arms fixed to the rear-axle, and means for raising said crank-arms, a rope or chain, connected to and supporting the front end of said bed, and means for winding said ropes, substantially as shown.

5. A wagon having crank-arms, fixed to the rear-axle, the journals thereof being fixed to stand-posts, the upper ends of which are fixed to tubes which form part of the wagon-frame; ropes or chains, connected to said crank-arms, and extending through said tubes, to a windlass for said ropes in the front portion of the wagon, substantially as described.

6. A wagon having the rear-axle bearings fixed to the frame, a stout pin for each wheel having a removable bushing, thereon, adapted to fit the axle-bearings, and the hub of the wheels, and crank-arms fixed to the inner end of said pins, the two crank-arms being connected by two cross-bars which support the wagon-bed, and a loading-plank, substantially as described.

7. A wagon with a removable-bed, having its rear portion supported by crank-arms, fixed to the rear axle; ropes, connected to said crank-arms, extending through tubes to windlass-ropes fixed to the front end of said bed, and connected to a windlass which is supported on a shaft in the front portion of the wagon-frame, and means for operating said windlass, as shown.

8. A wagon having a front running-gear fixed to a board detachably connected to the front portion of the wagon-frame; a fifth-wheel fixed to said board with bracing-posts which are bolted to the bottom of the frame, which forms part of the wagon-frame, substantially as described.

9. A wagon having a tongue-hound fixed to the front axle, and made to slide over the inner edge of said fifth-wheel, and having a

king-post fixed to the axle by means of a hinge-joint on said king-post passing through said fifth-wheel, and made secure with collar-plates on its upper and lower sides to allow of free turning to bear the strain equal with the fifth-wheel-bearing, which forms a compound-swivel-joint-axle-bearing, substantially as shown.

10. A wagon having an adjustable-bed, its rear end secured under the rear axle, means for raising its front end and lowering its rear end for a dump-wagon bed.

11. A wagon having an adjustable-bed supported on a crank-axle at its rear end, means for raising said crank-axle to a high position, and means to raise the front end of said bed to a level position to facilitate loading from high platfoms, or cars, as shown.

12. A wagon having an adjustable-bed adapted to draw a heavy load over loading-planks forming an incline-plane, means for drawing said loaded bed in place, substantially as described.

13. A wagon having adjustable awnings, supported in a part of the front frame, to be joined together over several vehicles and converted into a tent for army purposes, substantially as shown.

14. A wagon converted into a two-story vehicle by means of a floor laid across the pipe-sills in connection with the adjustable-bed lowered down on the crank and bar.

15. A wagon having an adjustable-bed detached and converted into a foraging rig for army purposes, as shown.

16. A wagon having the adjustable-bed made with hollow runners and converted into a ponton-boat, substantially as shown.

17. A wagon having a couple-joint to support the front end of the wagon-bed by means of a couple-bar, substantially as shown.

18. A wagon having an upper story and converted into a parade-wagon, as described.

19. A wagon having the adjustable-bed for army purposes, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

NATHAN S. WHITNEY.

Witnesses:
G. B. CRANE,
H. O. ISENSEE.