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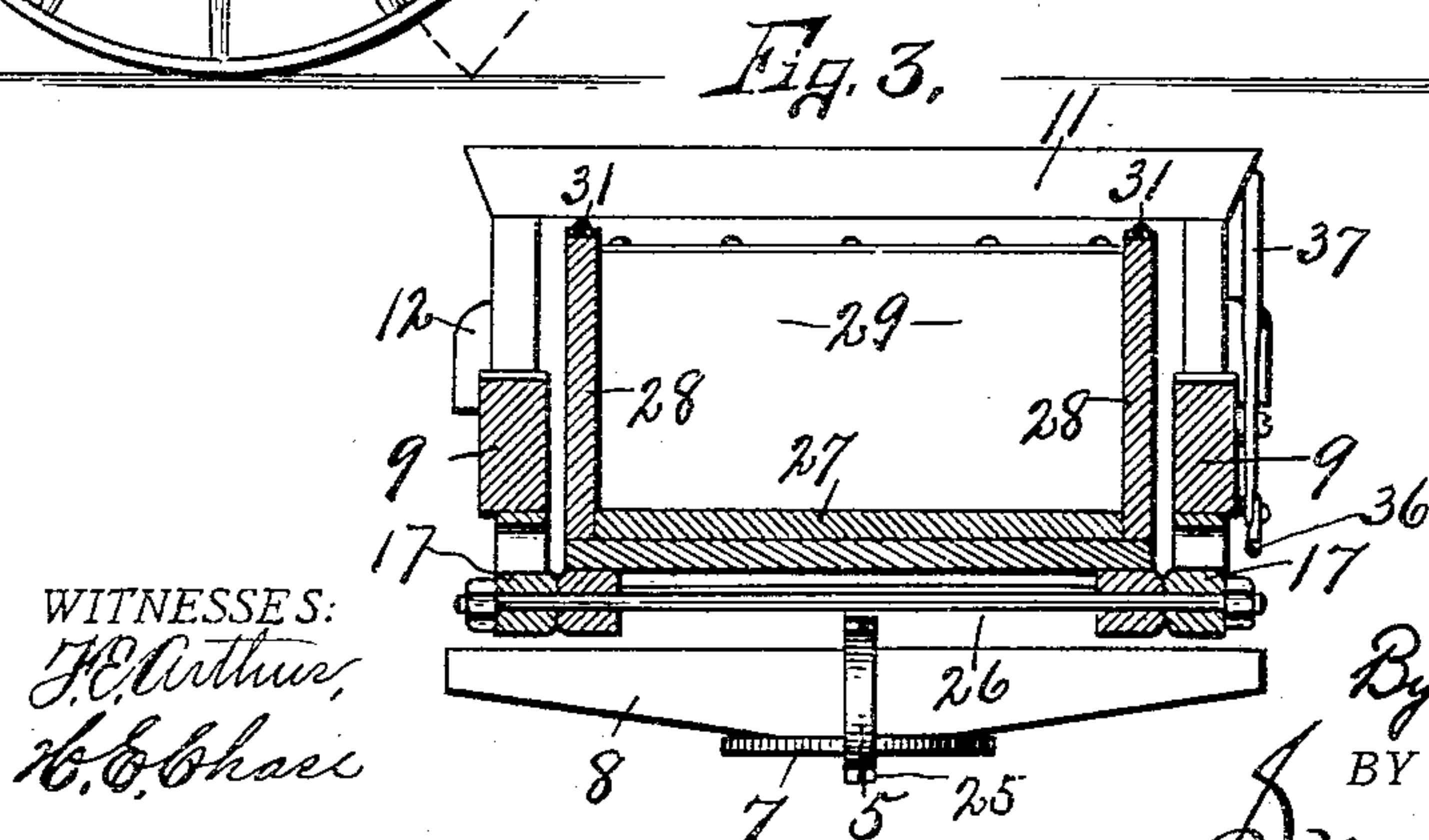
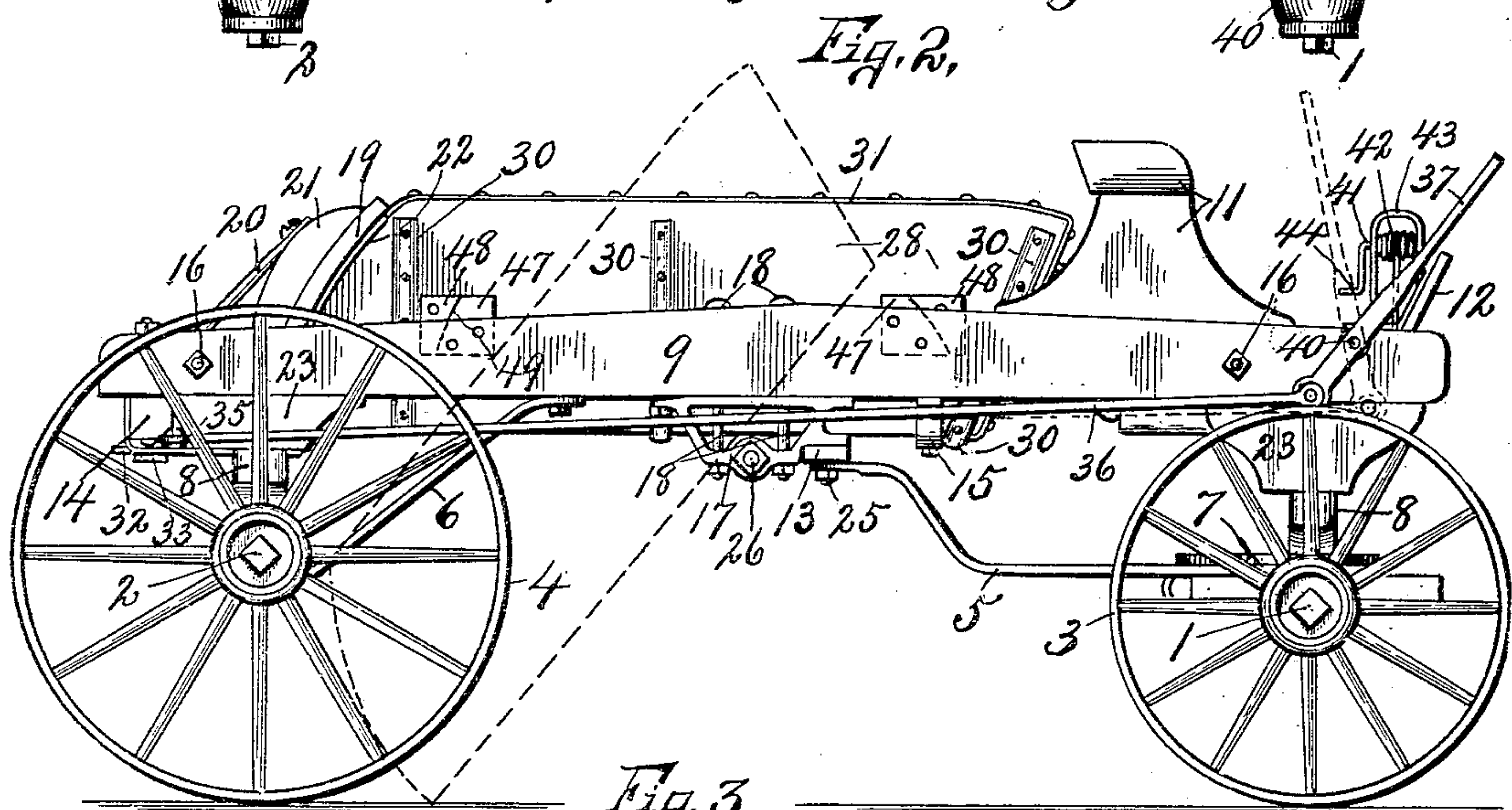
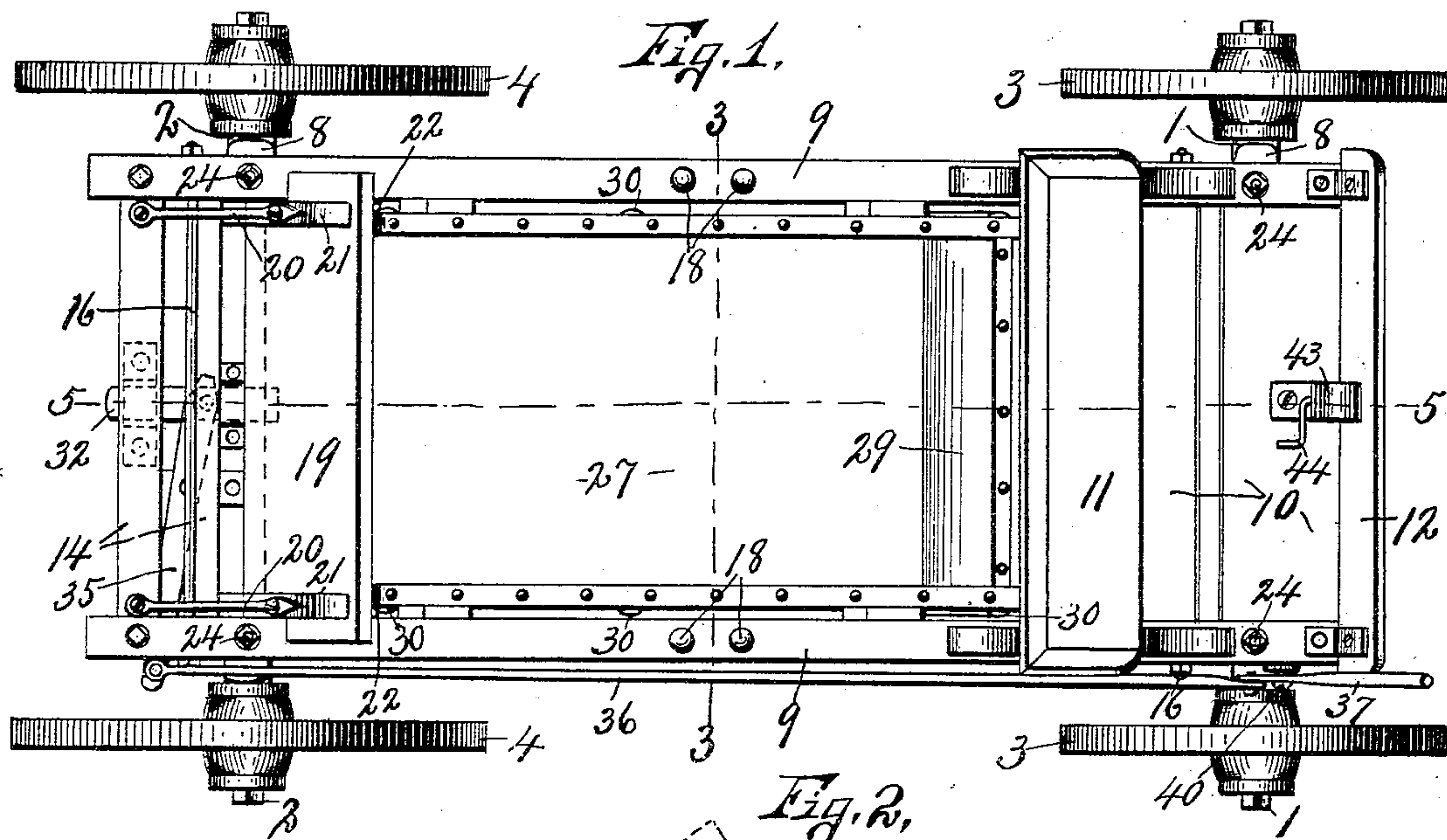
Patented July 8, 1902.

B. H. GLEASON.
DUMP WAGON.

(Application filed Nov. 25, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

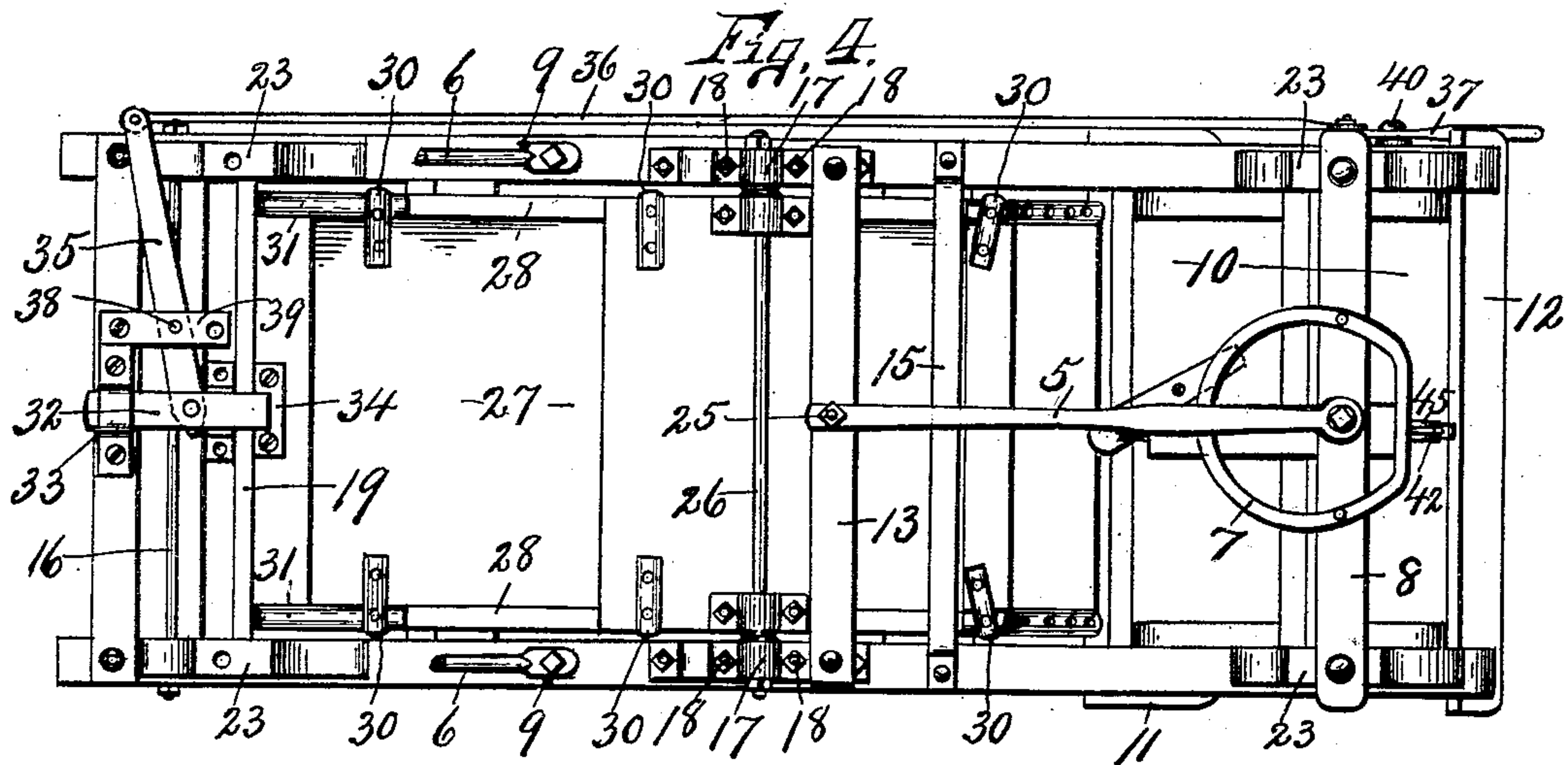


Fig. 5.

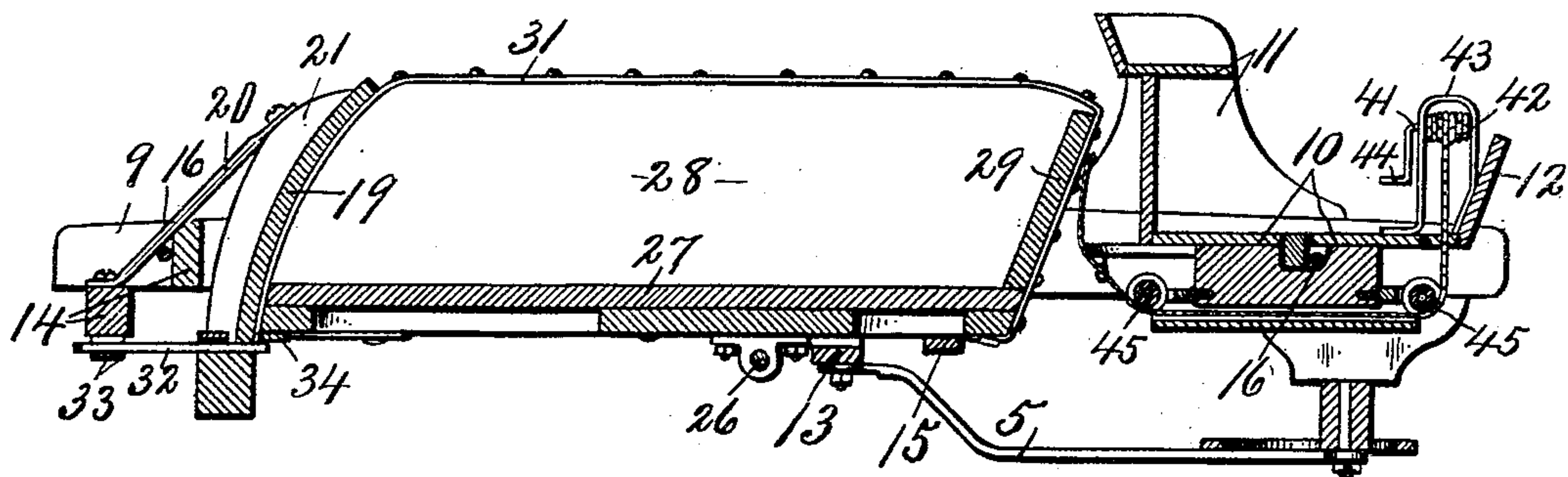
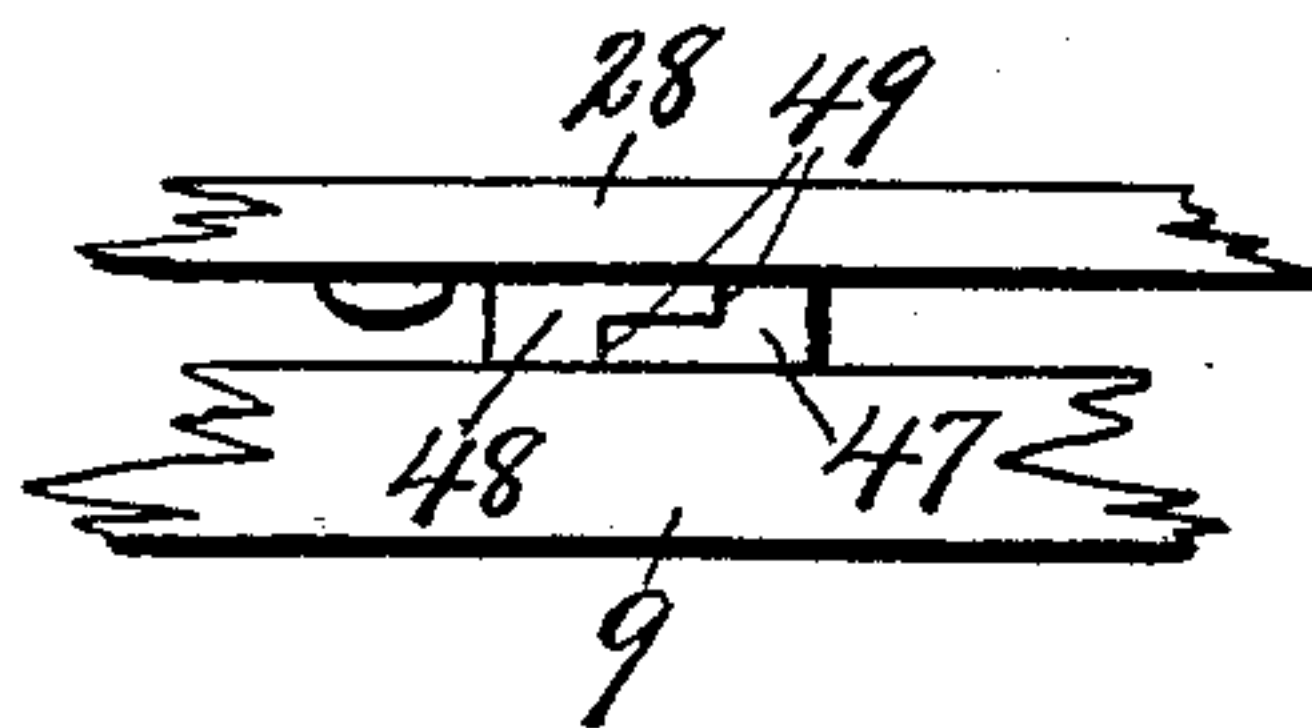


Fig. 6.



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UNITED STATES PATENT OFFICE.

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DUMP-WAGON.

SPECIFICATION forming part of Letters Patent No. 704,318, dated July 8, 1902.

Application filed November 25, 1901. Serial No. 83,627. (No model.)

To all whom it may concern:

Be it known that I, BYRON H. GLEASON, of Canastota, in the county of Madison, in the State of New York, have invented new and
5 useful Improvements in Dump-Wagons, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to improvements in
10 dump-wagons, having reference to the general structure of the frame and tilting box and the means for controlling the movement of said box.

The salient objects of these improvements
15 are, first, to simplify the construction and operation of the wagon; second, to render the same more durable and efficient in use, and, third, to reduce the cost of manufacture.

The more specific objects are to provide a
20 rearwardly-tilting box which is substantially balanced in the frame, is open at its rear end, and is normally closed by a fixed tail-board, which is curved in substantially the arc of movement of the adjacent rear end of the
25 box.

Another object is to provide a movable catch for holding the box in its normal position and a suitable operating member connected to move the catch to release the box; and a fur-
30 ther object is to provide the frame and box with interlocking rub-plates, which serve to prevent lateral or endwise movement of the box when in its normal position.

To this end the invention consists in the
35 combination, construction, and arrangement of the parts of a dump-wagon, as hereinafter fully described, and pointed out in the claims.

Referring to the drawings, Figures 1 and 2 are respectively top plan and side elevation
40 of a dump-wagon embodying the various features of my invention. Fig. 3 is a transverse sectional view taken on line 3 3, Fig. 1. Fig. 4 is an inverted plan of the detached frame and the tilting box mounted thereon. Fig.
45 5 is a longitudinal section taken on line 5 5, Fig. 1. Fig. 6 is a top plan of a pair of the rub-plates and a portion of one of the side bars of the frame and adjacent side wall of the tilting box.

50 Similar reference characters indicate corresponding parts in all the views.

In the drawings, Figs. 1 and 2, I have shown a dump-wagon consisting, essentially, of a running-gear, a box-supporting frame mount-
ed on the running-gear, and a tilting box 55 mounted on the frame, a catch to hold the box in its normal position, means to withdraw the catch from its holding position to release the box, additional means to return the box to its normal position, and suitable 60 interlocking members to prevent the lateral and endwise movement of the box when in its normal position.

The running-gear may be of any desired construction adapted to support the parts of 65 my invention, and is here shown as comprising front and rear axles 1 and 2, wheels 3 and 4, journaled on the axles, and reach or brace bars 5 and 6, connecting the front and rear
70 axles to the superimposed frame, the front axle being connected to the frame by a suitable fifth-wheel 7, adapted to the general arrangement of the running-gear and frame.

The frame for supporting the tilting box may be mounted in any desired manner upon 75 the running-gear and preferably upon bolsters 8, which are mounted upon the front and rear axles of the running-gear and secured thereto by any desired means not necessary to herein illustrate or describe, as the 80 running-gear and bolsters form no part of my present invention. This frame preferably consists of oppositely substantially parallel side bars 9, having a front platform 10, a seat 11, and a footboard 12, said side bars 9 being 85 tied together by suitable transverse bars 13, 14, and 15 and tie-bolts 16 and are provided with depending brackets or bearings 17, which are secured to the lower faces of the bars 9 by any desired form of fastening means, as 90 bolts 18.

Interposed between the rear ends of the lengthwise bars 9 is a fixed tail-board 19, which is secured to the frame and firmly held in po-
95 sition by braces 20, said braces having their lower rear ends secured to the transverse bar 14 and their upper ends fastened to ribs or reinforcing-pieces 21 in order to firmly hold the tail-board in a fixed position. This tail-board forms a part of the frame which sup- 100 ports the tilting-box section and also forms the rear end wall of the tilting box when in

its normal position and is preferably curved or inclined upwardly and forwardly from its lower edge in substantially the arc of movement of the adjacent end of the tilting box, being provided with inwardly-projecting ribs 22 at its outer ends, which serve as suitable guides for engaging the adjacent outer faces of the tilting box and holding the same from lateral movement when the box is in its operative position.

In order to elevate the frame a sufficient distance above the axles to permit the forward wheels to turn under the frame, I provide the side bars with suitable dead-blocks 23, depending from its forward and rear ends and secured to the upper faces of the bolsters 8 by clamping-bolts 24.

The brace-bar 5 is secured at its forward end to the front axle 1, and its rear end is fastened to the transverse bar 13 by suitable fastening means, as a bolt 25, and the braces 6 are secured at their rear ends to the rear axles 2, and their forward ends are secured to the lower faces of the lengthwise side bars 9. It is thus apparent that the front and rear axles are rigidly braced to the frame, and although the parts are simple in construction yet they form a strong and durable connection between the frame and axles, although other means may be employed for this purpose, if desired.

The platform 10 is preferably interposed between the side bars 9 in front of the tilting box and preferably between the lower edges of the side bars, and the seat 11 is mounted upon the upper faces of the side bars in advance of the tilting box in order to permit said box to be readily tilted without interfering in any way with the seat.

The footboard 12 extends transversely between the side bars and projects slightly above the same and forms a convenient rest for the feet of the operator when mounted on the seat, and owing to the fact that the platform is disposed in a plane below the upper edges of the side bars and that the rear end of the platform is provided with an upwardly-extending partition or transverse wall the interposed space forms a convenient pocket or receptacle for tools or other appurtenances which it may be desired to carry upon the wagon.

The rear portion of the frame is open for receiving the tilting box and permitting its free operation between the side bars and is provided at substantially its intermediate portion with a transverse rod or bearing 26, the opposite ends of which are threaded and are arranged in apertures in the brackets 17 and are held in position by suitable nuts engaging the outer threaded ends of the rod 26 and also the outer side faces of the brackets 17. This rod 26 serves to additionally stiffen the intermediate position of the frame from lateral movement and also forms a convenient pivotal bearing for the tilting box.

The tilting box is pivotally mounted above and upon the rod 26, between the side bars 9, in such manner as to be substantially bal-

anced, but is so arranged as to automatically tilt rearwardly and downwardly between its pivotal support and the rear axle when it is desired to discharge the contents therefrom, the object being to discharge within the limits of the wagon and at a point nearly beneath the rear axle and between the rear wheels, so as to avoid drawing the wagon over the dump. As seen in the drawings, this box is preferably open at its rear end and is provided with bottom, side, and front end walls 27, 28, and 29, which are secured together in any desired manner, being provided with iron straps or bands 30, having their opposite ends secured to the side walls and extending downwardly under the bottom wall. The side walls are provided with metal wearing-straps 31, having their opposite ends secured to the lower edges of the front and rear ends of the side walls and extending upwardly over the opposite ends and top edge of the side walls, thereby strengthening the side walls to prevent splitting and also serving as wearing-plates for the edges of said side walls. The object in extending these straps downwardly and under the side walls is to provide suitable drag-plates or wearing-irons for the tilting box when in its tilted position, and therefore adapted to drag upon the ground without injury to any part of the box. The rear ends of these side walls of the box are preferably curved in substantially the arc of movement of said rear ends and travel in close proximity to the similarly-curved tail-board 19, which is preferably of greater width than the opening in the rear end of the box for entirely closing said opening and forming an end-board for the box when in its normal position.

The catch for holding the tilting box in its normal position consists of a sliding bolt or plate 32, which is mounted in guides 33, substantially midway and in a plane beneath the lower edges of the side bars 9, the forward end of said bolt being movable beneath the rear end of the bottom wall of the tilting box and adapted to engage a suitable wearing-plate 34, secured to the lower face of the box. The means for moving this sliding bolt into and out of operative position consist of a rocking lever 35, a link 36, and a hand-lever 37, the lever 35 being pivoted at its intermediate portion at 38 to a suitable plate 39, mounted upon the rear end of the box-supporting frame, and the inner end of the lever 35 is pivotally connected to the sliding bolt in such manner as to reciprocate said bolt when the lever 35 is oscillated. The outer end of this lever 35 preferably extends beyond one of the side bars 9 of the box-supporting frame and is connected to one end of the link 36, which extends lengthwise of the frame in proximity to the outer face of one of the side bars, and the other end of said link is connected to the lower end of the hand-lever 37, which is pivoted at 40 to the outer face of the adjacent side bar 9, the hand-engag-

ing portion of said lever being extended upwardly in proximity to the seat, whereby the operator may conveniently control the movement of the locking-bolt 32.

5 The transverse bars 13 and 15 are arranged in front of the pivotal bar 26 and extend transversely under the front end of the tilting box and serve as stop-bars for limiting the upward movement of the rear end of the box and, together with the locking-bolt 32, hold the tilting box firmly in its loading position.

The means for returning the tilting box to its normal position after being dumped consist, preferably, of a windlass or rotary drum 41 and a cable 42, the drum being journaled in a suitable bracket 43, projecting upwardly from the bottom wall 10 and footboard 12, and is provided with a crank 44, and the cable 42 is connected at one end to the drum, and its other end is extended downwardly through the platform 10 and over suitable idlers 45 and is connected to the front wall 29 of the tilting box. It is thus evident that the drum is free to rotate or unwind when the locking-bolt 32 is withdrawn for permitting the box to tilt rearwardly and downwardly and that by rotating the drum in the reverse direction the tilting box may be drawn back to its normal position and the lever 37 operated to force the locking-bolt 32 beneath the wearing-plate 34 for holding the tilting box in its normal position. It is also apparent from the construction described that owing to the fact that the tilting box is substantially balanced upon the bar 26 the sliding bolt is subjected to very little, if any, strain when the box is loaded; that this sliding bolt is the only means for holding the box in its normal position, there being no necessity for the usual pawl-and-ratchet connection upon the drum for this purpose.

In order to prevent any lateral or endwise movement of the tilted box when in its normal position and loaded, I provide the side bars 9 and side walls 28 with suitable rub-irons 47 and 48, having interlocking shoulders 49, arranged concentric with the pivotal rod 26 and adapted to engage each other when said box is in its loading position. These rub-irons or plates, Fig. 6, are provided with recesses in their adjacent faces, and their adjacent edges are adapted to overlap each other in said recesses, the shoulders 49 of these plates serving to prevent endwise movement of the box relative to the frame and the lengthwise faces serving to prevent lateral movement of the box, it being understood that these plates substantially fill the spaces between said bars and adjacent side walls of the box.

It will be noted in Figs. 2 and 5 that the front and rear end walls of the tilting box incline upwardly and forwardly in substantially the same direction, this arrangement of the rear wall serving to prevent any overflow of the material carried by the box, and the upward and forward inclination of the

front wall serves to facilitate the automatic discharge of the material from said box when the same is tilted to its dumping position. 70

The operation of my invention will now be readily understood upon reference to the foregoing description and the accompanying drawings, and it will be noted that some change may be made in the detail construction and arrangement of the parts without departing from the spirit thereof. Therefore I do not limit myself to the precise construction and arrangement shown and described. 75

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is— 80

1. In a dump-wagon, the combination with front and rear axles, of a frame having parallel side bars mounted on the axles, a transverse tie-rod connecting the intermediate portions of the side bars, a stop-bar secured to the side bars in front of said rod, a second bar connecting the rear ends of the side bars, and a box pivotally mounted resting on the stop-bar and its rear end open and tilting between the other bar and the rod in front of the rear axle. 85

2. In a dump-wagon, the combination with front and rear axles, of a frame having parallel side bars mounted on the axles, a transverse tie-rod connecting the intermediate portions of the side bars, a seat mounted on the side bars in front of the tie-rod, a tail-board connecting the rear ends of the side bars at the rear of the tie-rod, and a box pivotally mounted on the rod and swinging between the seat and tail-board in front of the rear axle. 90

3. A dump-wagon comprising front and rear axles, lengthwise side bars connected to the axles, a tie-rod connecting the central portions of the side bars, a transverse bar connecting the rear ends of the side bars, a tail-board rising from the side bars in front of the transverse bar, a seat mounted on the front ends of the side bars in front of the tie-rod, a tilting box mounted on the rod and swinging between the seat and tail-board in front of said transverse bar and rear axle, and a catch for holding the box in normal position. 105

4. A dump-wagon comprising a frame and a rearwardly-tilting box pivotally mounted on the frame each having inclined stop-faces at the front and at the rear of the pivot for the purpose set forth. 110

5. A dump-wagon comprising a frame having separated lengthwise side bars, a tilting box pivotally mounted on the frame, and movable between the bars, said bars and box having rub-plates at opposite sides of the pivot and provided with upwardly-converging faces to hold the box from lateral and endwise movement when in its normal position. 115

6. A dump-wagon comprising a frame having intermediate bearings and transverse bars in front and at the rear of the bearings, a rearwardly-tilting box mounted in said bearings in front of the rear transverse bar and 120

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normally resting on the front transverse bar and swinging downwardly in front of the rear transverse bar, and a movable catch mounted on the rear transverse bar and holding the box in its normal position.

7. A dump-wagon comprising a frame having separated lengthwise side bars, a seat fixed to one end of the frame, a tail-board fixed to the opposite end of the frame, journal-bearings secured to the bars and depending therefrom between the seat and tail-board, a rearwardly-tilting box pivotally mounted in said bearings and tilting between the bars and between the seat and tail-board, a stop-bar in front of the bearings to hold the box from tilting, a sliding catch beneath the tail-board to engage the rear end of the box and means at the front of the frame and connected to move the catch to release the box.

8. In a dump-wagon the combination with a frame having a fixed tail-board, a rearwardly-tilting box mounted on a fixed pivot and having an open rear end, rub-plates on the frame located at the front and at the rear of the pivot and a box having engaging shoulders concentric with the pivot to prevent endwise or lateral movement of said box when in its normal position, a catch to hold the box from tilting, and means for moving the catch to release the box.

9. In a dump-wagon, an open frame, a rearwardly-tilting box having its rear end open, a curved tail-board fixed to the frame and normally closing the open end of the box, rub-plates on the sides of the box and frame for the purpose described, a catch to hold the box from tilting, a lever connected to move the catch from the box, a second lever con-

nected to operate the former lever, and a drum and cable to return the box to its normal position.

10. In a dump-wagon, the combination with separated lengthwise side bars having depending journal-bearings, a tilting box mounted in the bearings between the bars and having its rear end open, a sliding catch movable beneath the rear end of the bottom of the box, a lever having one end connected to the catch and its other end extended laterally beyond the side of the box, a second lever at the front end of the box and connected to the outer end of the former lever to move the catch and release the box, rub-plates on the sides of the frame and box for the purpose set forth, and a drum and cable connected to the box to return the same to its normal position.

11. In a dump-wagon, the combination of parallel side bars, a transverse rod connecting the intermediate portion of the side bars, a rearwardly-tilting dump-box pivotally balanced on the rod, a platform and seat in front of the box mounted upon the side bars, a tail-board at the rear of the box also mounted upon the side bars, a windlass on the platform, a cable having one end connected with the windlass and the other end connected to the front end of the box for returning the box to normal position.

In witness whereof I have hereunto set my hand this 6th day of November, 1901.

BYRON H. GLEASON.

Witnesses:

MILDRED M. NOTT,
HOWARD P. DENISON.