

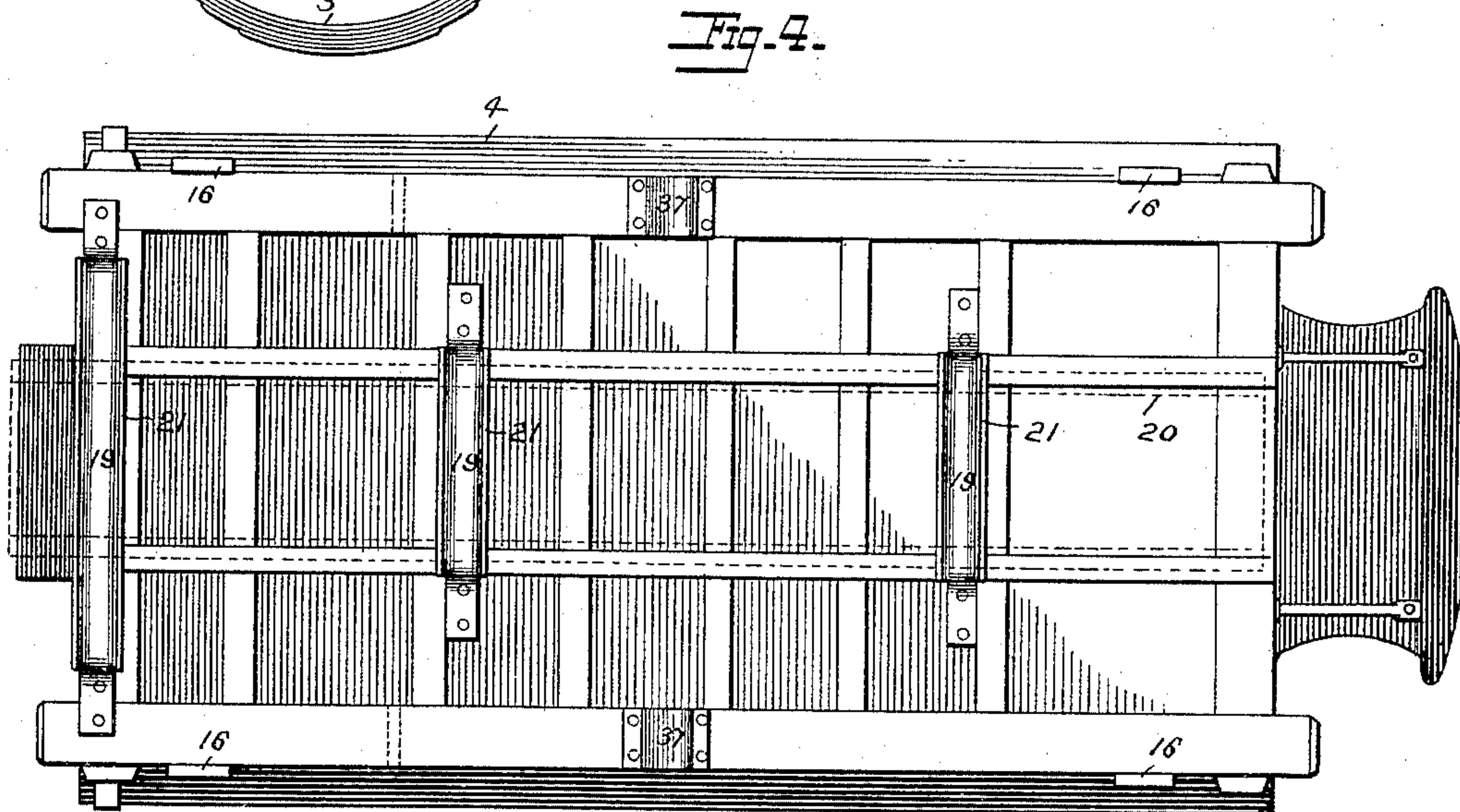
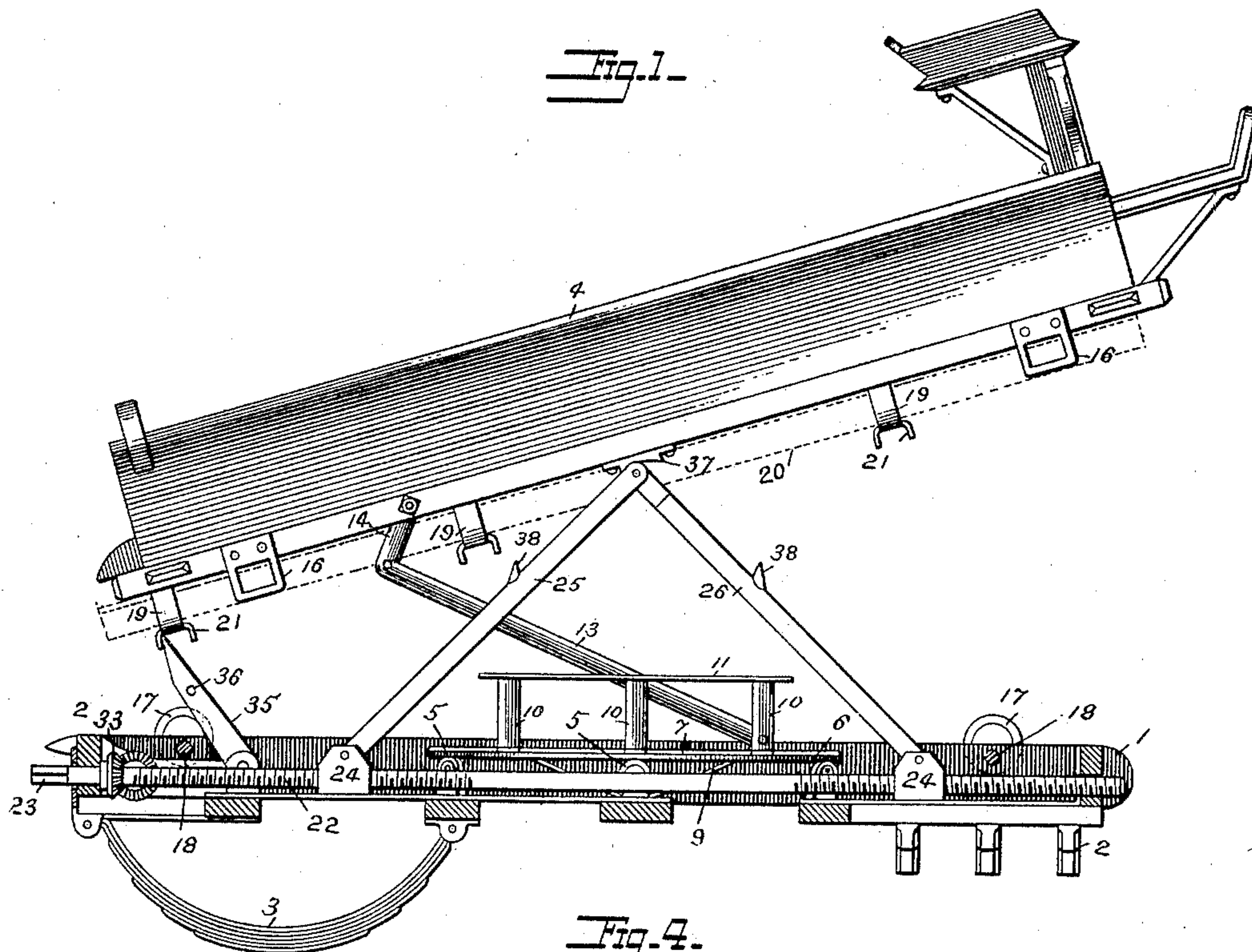
(No Model.)

2 Sheets—Sheet 1.

E. L. LAYTON.  
DUMPING WAGON.

No. 431,064.

Patented July 1, 1890.



WITNESSES  
*Jno. G. Hinkel*  
*Ch. S. McArthur*

INVENTOR  
*Edward L. Layton*  
By *Foster Freeman*  
Attorneys.

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Fig. 2.

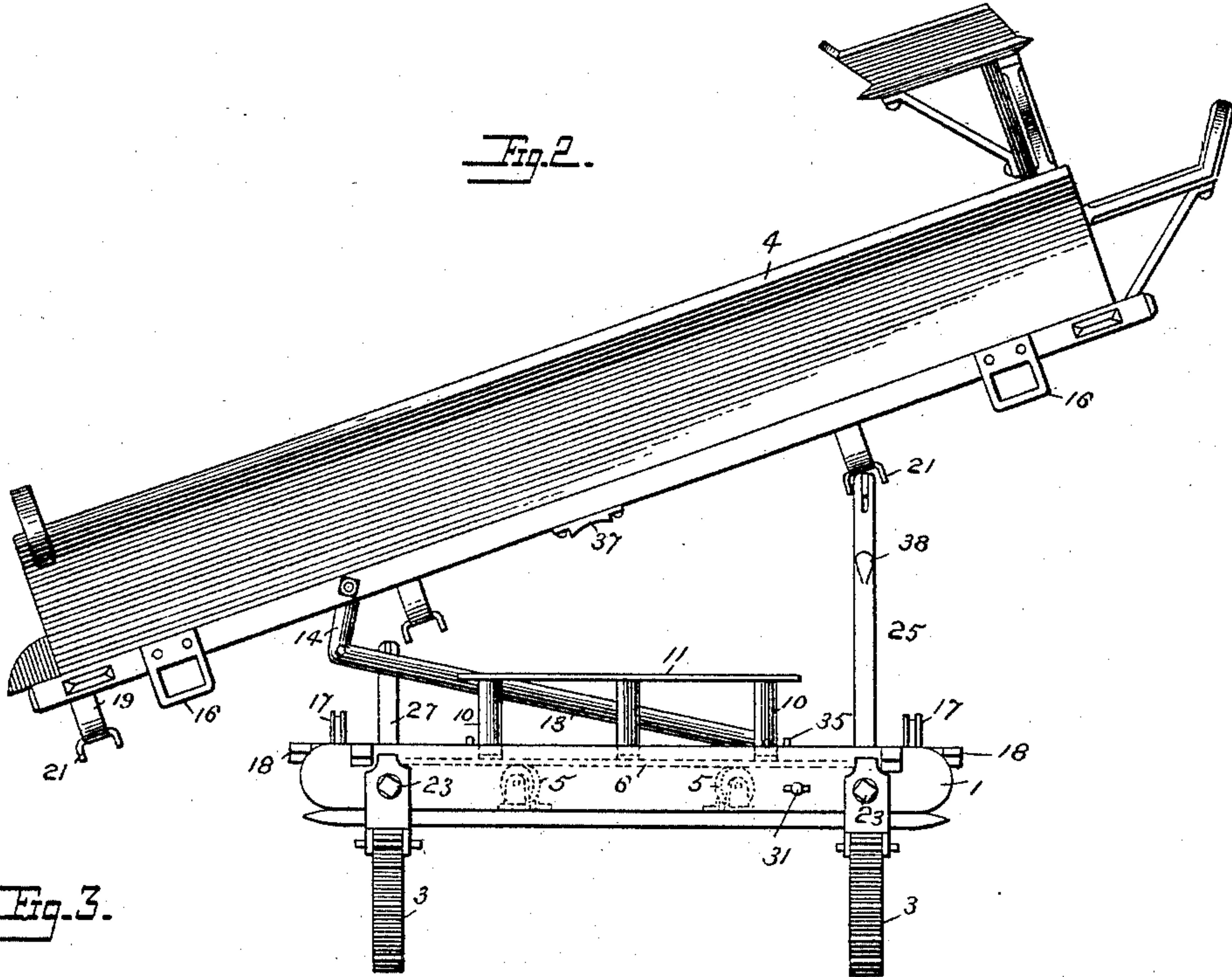


Fig. 3.

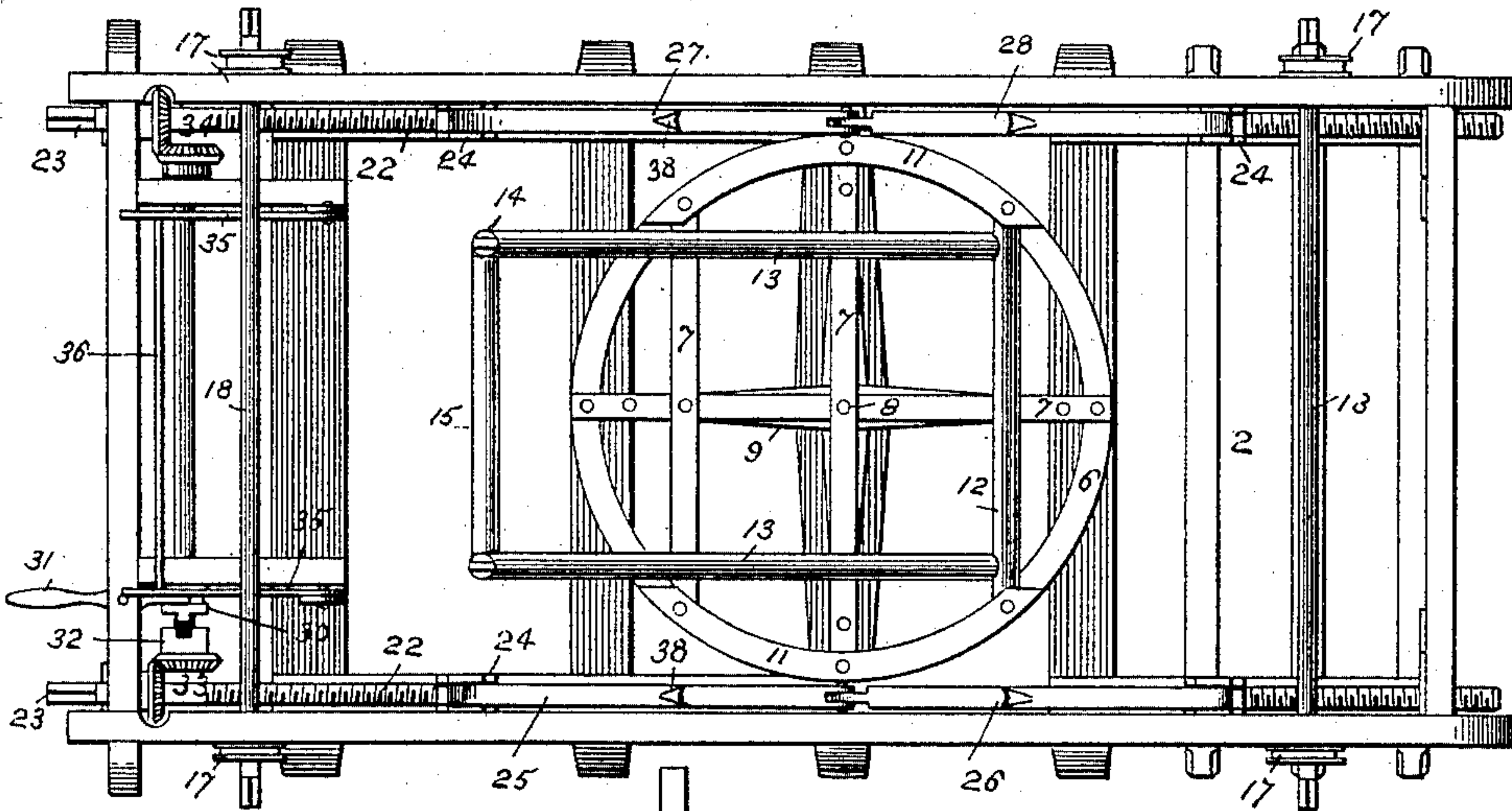
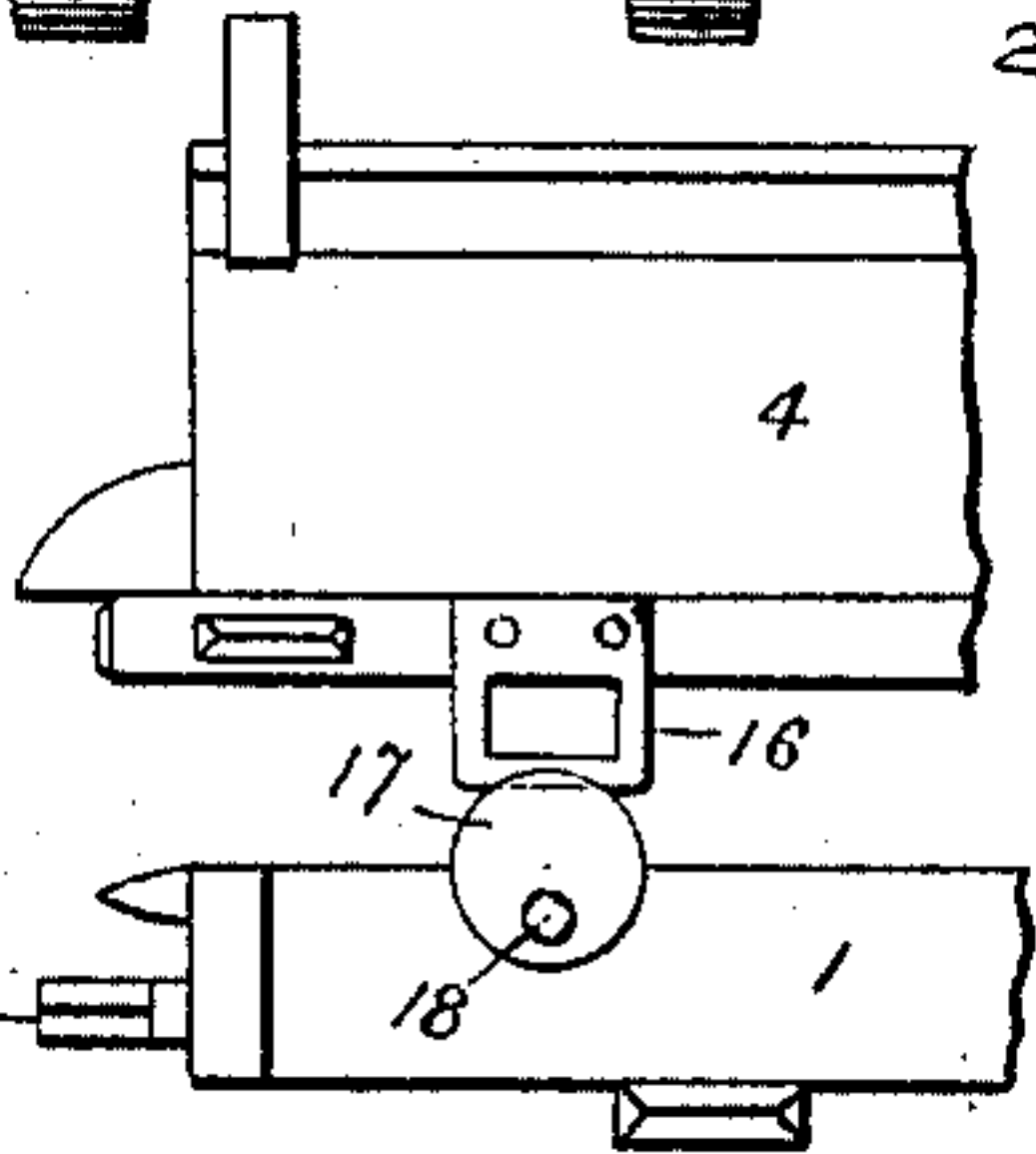


Fig. 5.

WITNESSES

*John G. Hinkel*  
*Chas. S. McArthur*



INVENTOR

*Edward L. Layton*  
By *Foster Freeman*  
Attorneys.



# UNITED STATES PATENT OFFICE.

EDWARD L. LAYTON, OF TRENTON, NEW JERSEY.

## DUMPING-WAGON.

SPECIFICATION forming part of Letters Patent No. 431,064, dated July 1, 1890.

Application filed April 17, 1890. Serial No. 348,291. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD L. LAYTON, a citizen of the United States, residing at Trenton, Mercer county, State of New Jersey, have invented certain new and useful Improvements in Dumping-Wagons, of which the following is a specification.

My invention relates to dumping-wagons, and more especially to that class of dumping-wagons which are usually employed in the delivery of coal and other heavy and bulky objects, and one of the objects of the invention is to so construct such a wagon that the load may be dumped either at the rear or at either side at pleasure, so that the wagon-body may be elevated to any desired height and inclined at any desired angle to dump the load; and, further, the object of my invention is to provide such a construction that the wagon-body shall be firmly supported on the frame of the wagon and at the same time capable of adjustment to deliver the load in any desired position.

To these ends my invention consists in the various arrangements, constructions, and combinations of the parts hereinafter set forth.

In the accompanying drawings, I have illustrated an approved embodiment of my invention, and in said drawings, Figure 1 is a side view of the frame, wagon-body, and connections, showing the wagon-body elevated to deliver a load at the rear. Fig. 2 is a rear view showing the body elevated to deliver the load at the side. Fig. 3 is a plan view of the frame and connecting devices, the wagon-body being removed. Fig. 4 is a bottom plan view on the wagon-body, and Fig. 5 is a detail.

The bed-plate 1 of the wagon may be supported in any desired way (not shown) upon the axles and wheels, although I have indicated a head-block 2, supporting the fifth-wheel and U-shaped springs 3, connected to the rear portion of the frame and adapted to be connected to the rear axle. This bed-plate 1 is made in any desired manner, preferably, of a frame-work, the portions of which are properly mortised or otherwise joined together to form a solid and substantial structure to support the wagon-body 4 and the operating mechanism therefor.

Supported on the frame are a number of rollers or casters 5, and bearing upon these is

the plate 6 of the turn-table. This plate is preferably annular in form and is connected by proper cross-pieces 7, secured thereto, and is mounted on a pivot-pin 8, connected to the frame-work, and braces 9 extend from the bottom of the pivot-pin to the cross-pieces 7 to render the turn-table sufficiently rigid and strong and at the same time exceedingly light. The turn-table thus constructed will readily rotate on its axis, the plate 6 bearing upon the top of the rollers 5, and in this way the accumulations of dust and dirt on the frame do not interfere with the rotation of the turn-table.

Mounted on pedestals 10, secured to the top of the plate 6, are segmental pieces 11, and these furnish an elevated platform for the body 4 to rest upon when it is being turned from one side to the other or prepared to deliver a load.

Securely pivoted to the turn-table, as by a cross-piece 12, are the links 13, and these are bent at right angles at their free ends to form extensions 14, which are connected to the under side of the body 4. A cross-bar 15 unites the links near their bent ends and forms a comparatively rigid frame or connection between the body and the turn-table, being pivotally connected to both at its opposite ends.

In order to relieve the turn-table from the whole weight of the load, I provide the body 4 with downwardly-projecting plates or bearings 16 at the corners thereof, which are adapted to rest upon the grooved cam-wheels 17, suitably mounted on the frame. I have shown these cam-wheels mounted on shafts 18, provided with squared heads, by means of which the case may be adjusted so as to bear upwardly against the plates 16 and practically relieve the turn-table of the weight of the body and its load, it being supported at its four corners; but when it is desired to dump the load the cams are rotated by the shafts so as to move out of bearing with the plates 16, and the whole weight of the body and its load is supported on the turn-table, and may be freely rotated or otherwise adjusted, as desired. I have shown these plates 16 as bearing in the grooved wheels 17, this being the preferred form, as by this means any lateral movement of the body is pre-



vented; but it is evident that other forms of cams or eccentrics may be used to accomplish this same result.

Connected to the under side of the body are loops or brackets 19, which constitute a receptacle for the chute 20, which can be pushed in under the bottom of the wagon-body and be supported upon the loops when not in use, and when it is desired for it to be used it can be readily drawn out from under the body and connected to the rear to direct the deposit of the load, as desired. These loops 19 are formed on their under side with projections or flanges 21, forming a channel extending transversely to a greater or less extent across the bottom of the body, and these channels form bearing-pieces for the elevating devices hereinafter described.

Mounted in the frame-work are the shafts 22, having right and left hand screw-threads at their ends, and one of their extremities being squared, as at 23, for the reception of a suitable instrument for rotating them. Mounted on these shafts are the blocks 24, to which are pivoted the outer extremities of the toggle-arms 25, 26, 27, and 28. These toggle-arms normally rest parallel with the shafts; but by properly rotating either or both of the shafts the blocks may be caused to approach or recede from each other to adjust the toggle-arms. Various means may be used for adjusting these, and I have shown a shaft 29, arranged transversely of the frame and provided with a clutch 31 to engage with the loose portion of the clutch 32, and connected by bevel-wheels 33 to one of the shafts, the shaft 29 being connected by bevel-wheels 34 to the other toggle-shaft. In this way either one of the toggles can be separately elevated or depressed, or both can be elevated or depressed together. Also, mounted on the frame are the pivoted toes 35, preferably connected by a bar 36 and normally resting on the frame. Mounted on the under portion of the body are the bearing-plates 37, against which the toggle-arms impinge under certain circumstances, and these toggle-arms are also provided with projections or lugs 38, against which the bars 13 of the link impinge, in a manner hereinafter described.

Such being the preferred construction of my device, its operation will be understood. Normally, when loading and transporting the load the wagon-body is supported parallel with the frame, resting practically upon the cams 36 and on the upper platform or elevated portion of the turn-table. Suitable locking devices may be used to prevent accidental displacement under these circumstances when found necessary. When it is desired to dump the load at the rear, the cams are turned, so as relieve them of the pressure of the load, and the body is supported upon the elevated portion of the turn-table solely. The screw-threaded shafts are then operated simultaneously to cause the blocks 24 to approach each other, and the toggles, bearing

against the plates 37, raise the body upward. As it moves upward, the toes 35 catch onto the channel 21 at the rear, and the link 13, connecting the body to the turn-table, causes the body to rise at an incline, the angle and extent thereof being regulated to suit the wishes of the operator. The chute is then withdrawn from its resting-place under the body and the load dumped, when the body is returned to its normal position and the cams adjusted to support it. If, however, it is desired to dump the load at the side, the body is rotated while resting on the turn-table, and suitable stops may be provided to regulate the distance the body and turn-table are moved, although I have not shown them herein. The body being placed at right angles—as, for instance, such as shown in Fig. 2—the screw-threaded shafts are operated either singly or together until the rear portion of the wagon-body is elevated the desired distance, the ends of the toggles in this instance bearing under the channels 21. The screw-threaded shaft at the front of the body is then further operated alone and the body elevated until it reaches the desired inclination, and in doing this the channel 21, bearing on the toggles 27 and 28, recedes therefrom, and the rear portion of the wagon-body is supported on the links 13, they bearing upon the toggle-arms 27 28 and being supported upon the lugs 38, and thereby preventing the tilting laterally of the body. The load having been dumped, the toggle-arms are restored to their normal positions and the body rotated, together with the turn-table, and secured as usual, ready for another load. It will be seen that by this construction I am enabled to have the body elevated a certain distance above the frame-work at all times, so that it will not have to be lifted so high as it otherwise would be in order to deliver the load in an elevated position, as over a fence or the like. The links connecting the body to the turn-table are comparatively rigid and prevent any swaying of the body, and the projections on the toggles assist in maintaining any canting or lateral inclination of the body due to an unevenly-distributed load when it is raised to be dumped to the side.

Some of the general features of construction illustrated herein are illustrated and claimed in my prior application, No. 338,923, filed February 1, 1890, on which this is an improvement, and I therefore do not waive any rights to any features shown herein and not claimed that are shown and claimed in said application.

What I claim is—

1. In a dumping-wagon, the combination, with the bed-plate and turn-table mounted thereon, the said turn-table having an elevated platform, of a wagon-body resting on said platform and links connecting the body to the turn-table, substantially as described.
2. In a dumping-wagon, the combination, with the bed-plate and turn-table mounted



thereon, the said turn-table having an elevated platform, of a wagon-body resting on said platform and links having bent portions and pivotally connecting the platform and turn-table, substantially as described.

3. In a dumping-wagon, the combination, with the bed-plate and turn-table having an elevated portion mounted thereon, of a wagon-body resting on the platform and cams connected to the frame and arranged to support the ends of the wagon-body, substantially as described.

4. In a dumping-wagon, the combination, with the bed-plate and elevated turn-table mounted thereon, of a wagon-body supported on said turn-table, cams connected to the bed-plate, and projections connected to the wagon-body and bearing on said cams, whereby the body may be supported on the cams, substantially as described.

5. In a dumping-wagon, the combination, with the bed-plate and elevated turn-table mounted thereon, of links connecting the wagon-body to the turn-table, cams arranged on the bed-plate for supporting the ends of the wagon-body, and elevating devices interposed between the body and bed-plate, substantially as described.

6. In a dumping-wagon, the body thereof

provided with downwardly-extending transverse loops, the under faces of which are channeled for the reception of the elevating device, substantially as described.

7. In a dumping-wagon, the combination, with the body provided with the downwardly-extending looped channels, of a bed-plate and turn-table mounted thereon, a link connecting the turn-table and wagon-body, elevating devices for the body, and toes mounted on the bed-plate and adapted to engage the rear channel, substantially as described.

8. In a dumping-wagon, the combination of the bed-plate, the turn-table mounted thereon, a wagon-body normally resting on the turn-table and connected thereto by links, and toggle-levers arranged on the bed-plate, the said toggle-levers being provided with projections engaging the link when the wagon-body is elevated for a side dump, substantially as described.

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

EDWARD L. LAYTON.

Witnesses:

S. G. NAAR,

JOHN G. HOWELL.