

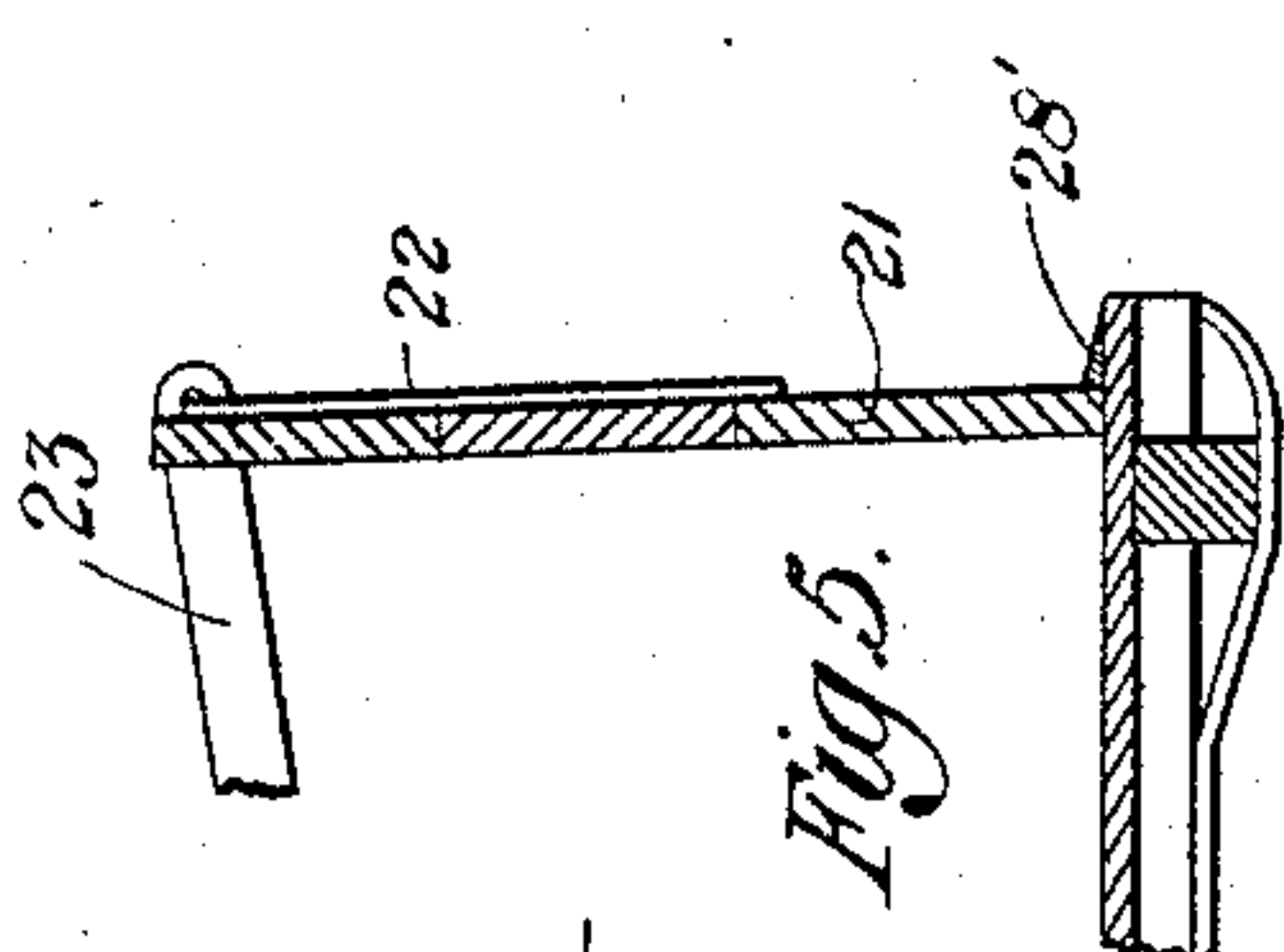
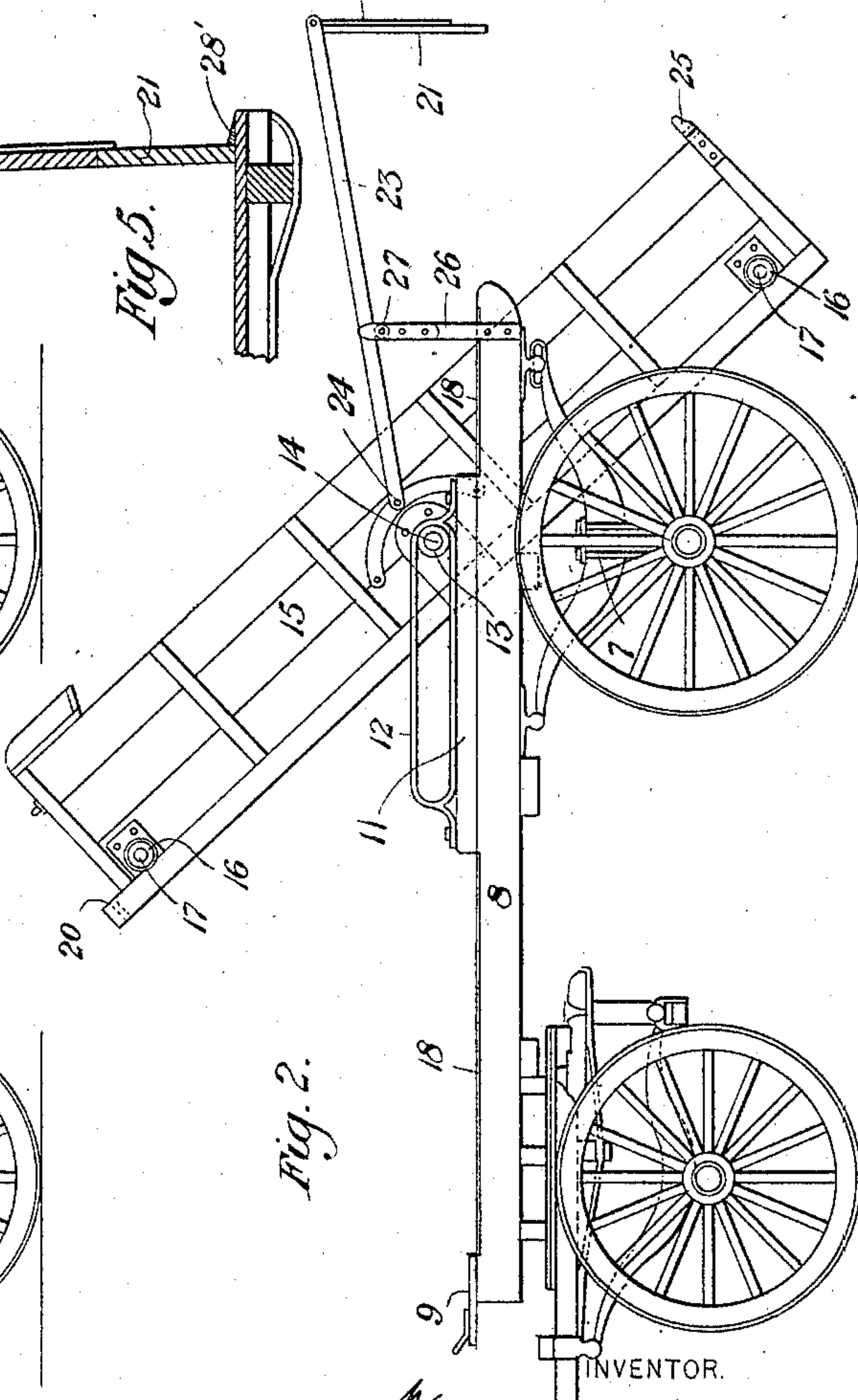
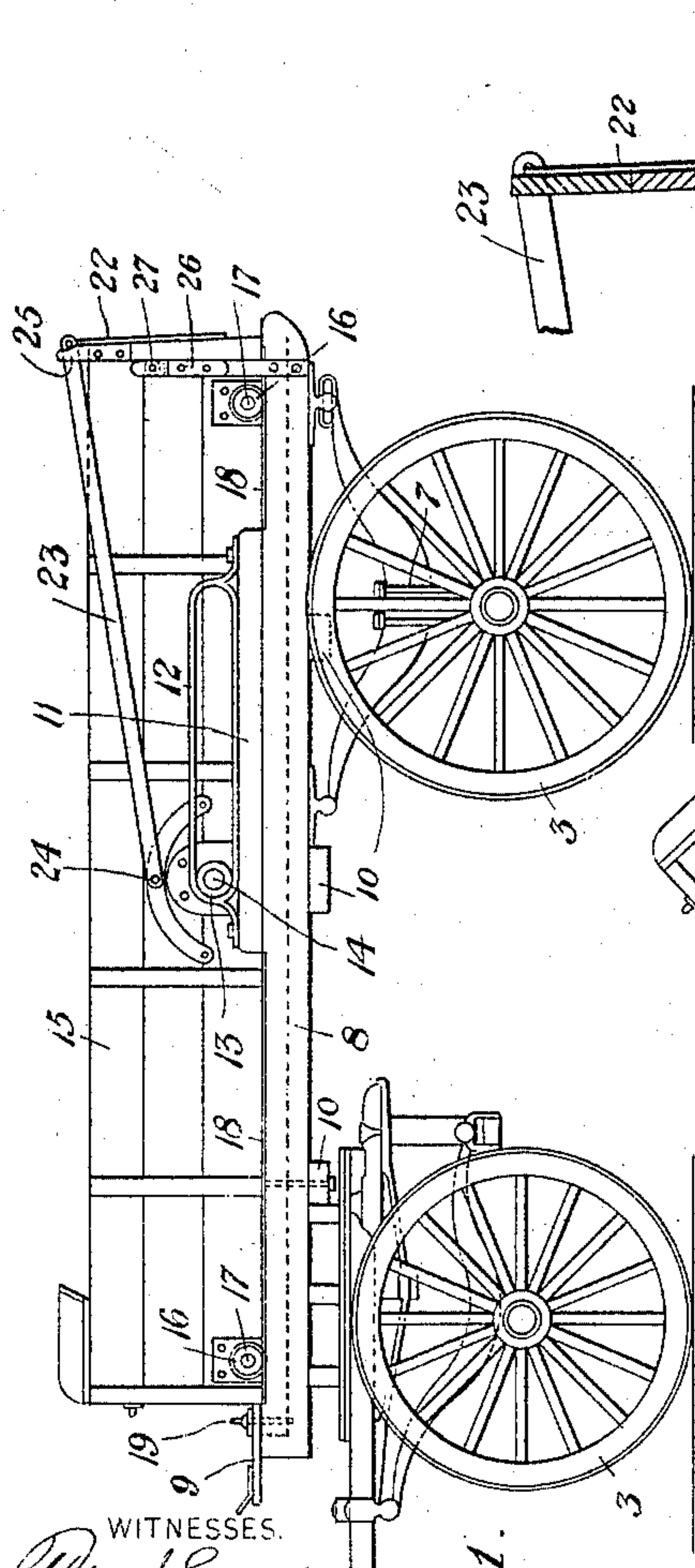
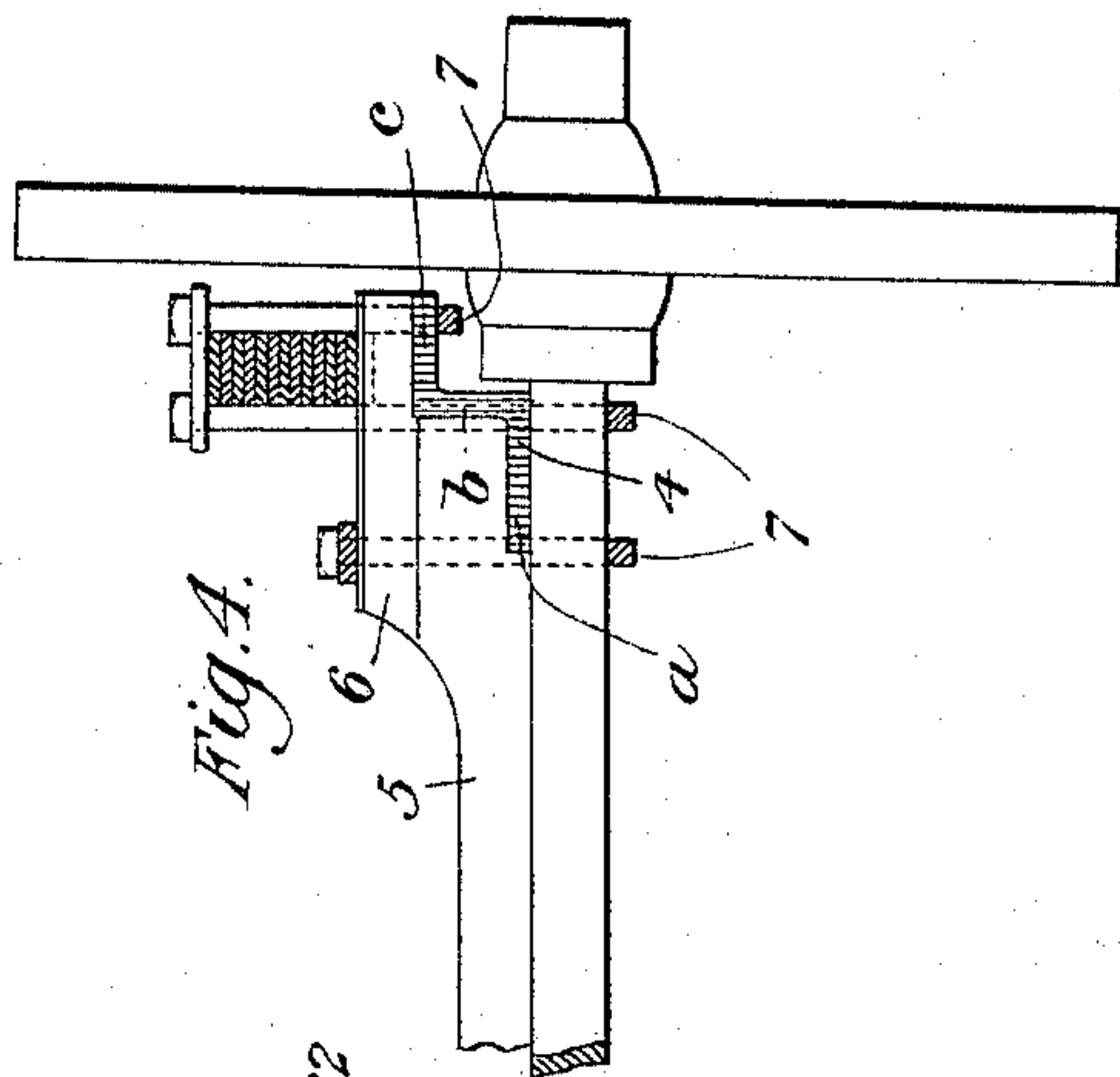
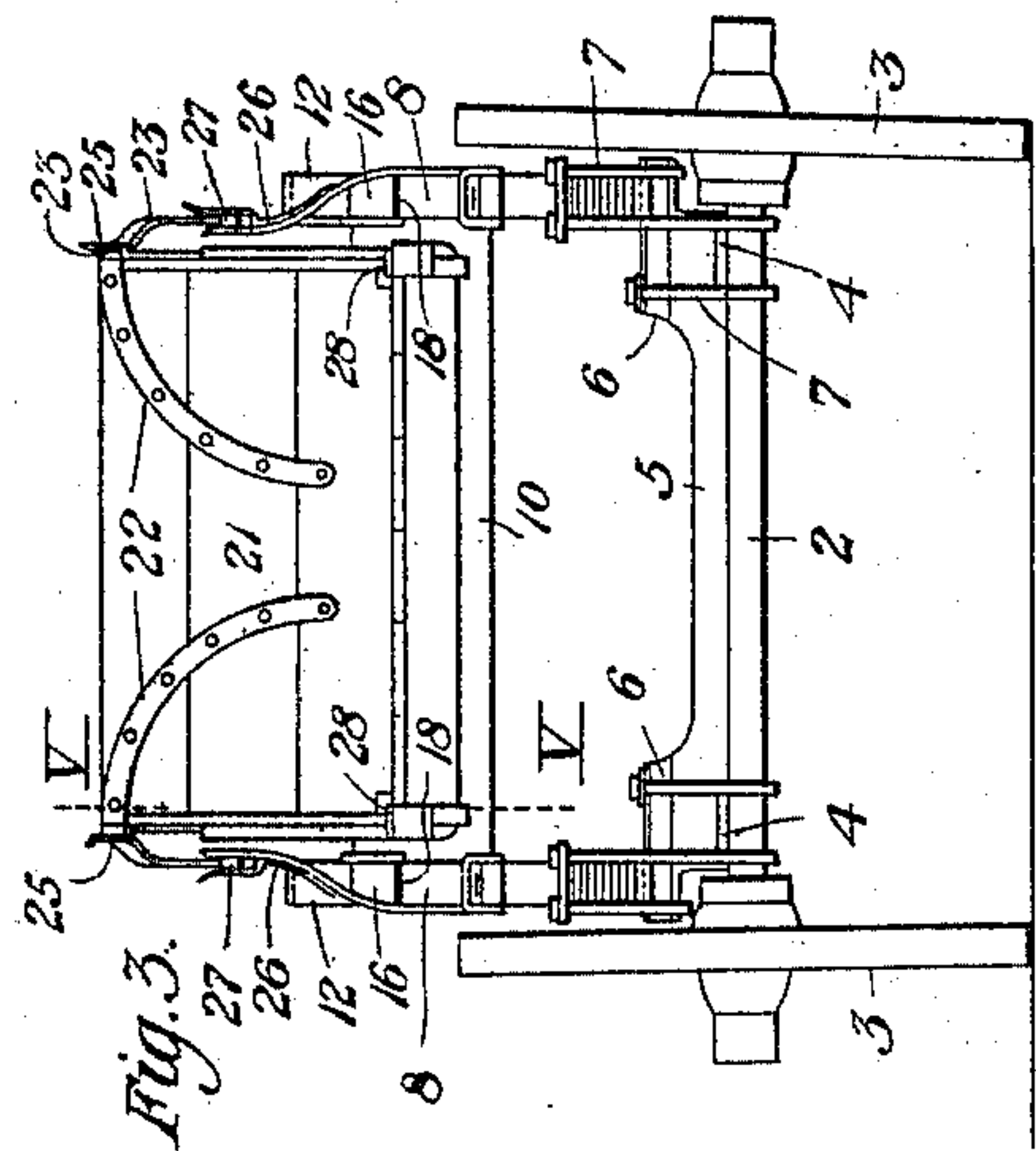
(No Model.)

2 Sheets—Sheet 1.

W. BECKERT.
DUMPING WAGON.

No. 585,948.

Patented July 6, 1897.



WITNESSES.
Edwards
Geo. M. Harton

Fig. 1.

Fig. 2.

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William Beckert
By C. M. Clark
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(No Model.)

2 Sheets—Sheet 2.

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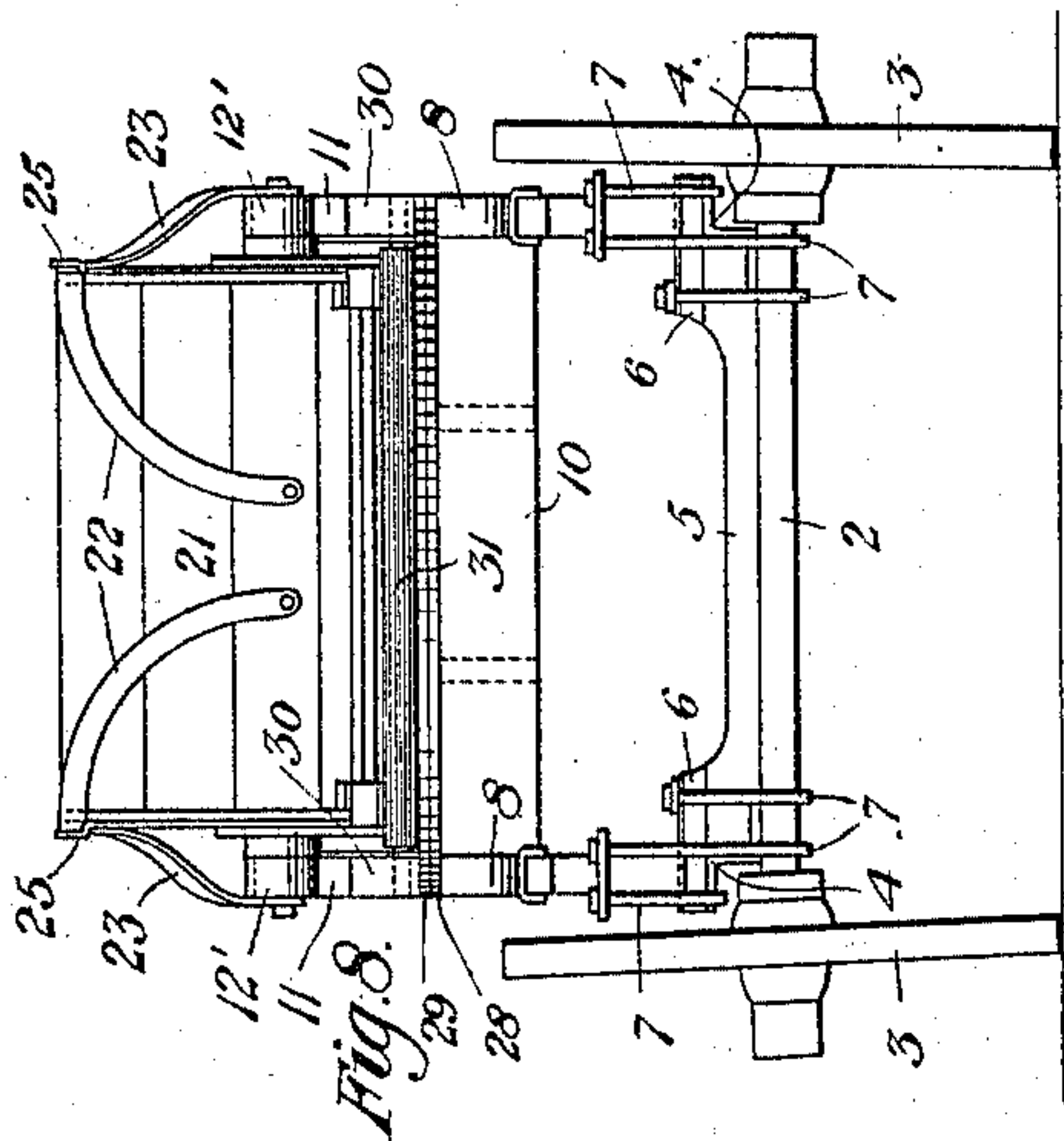


Fig. 8.

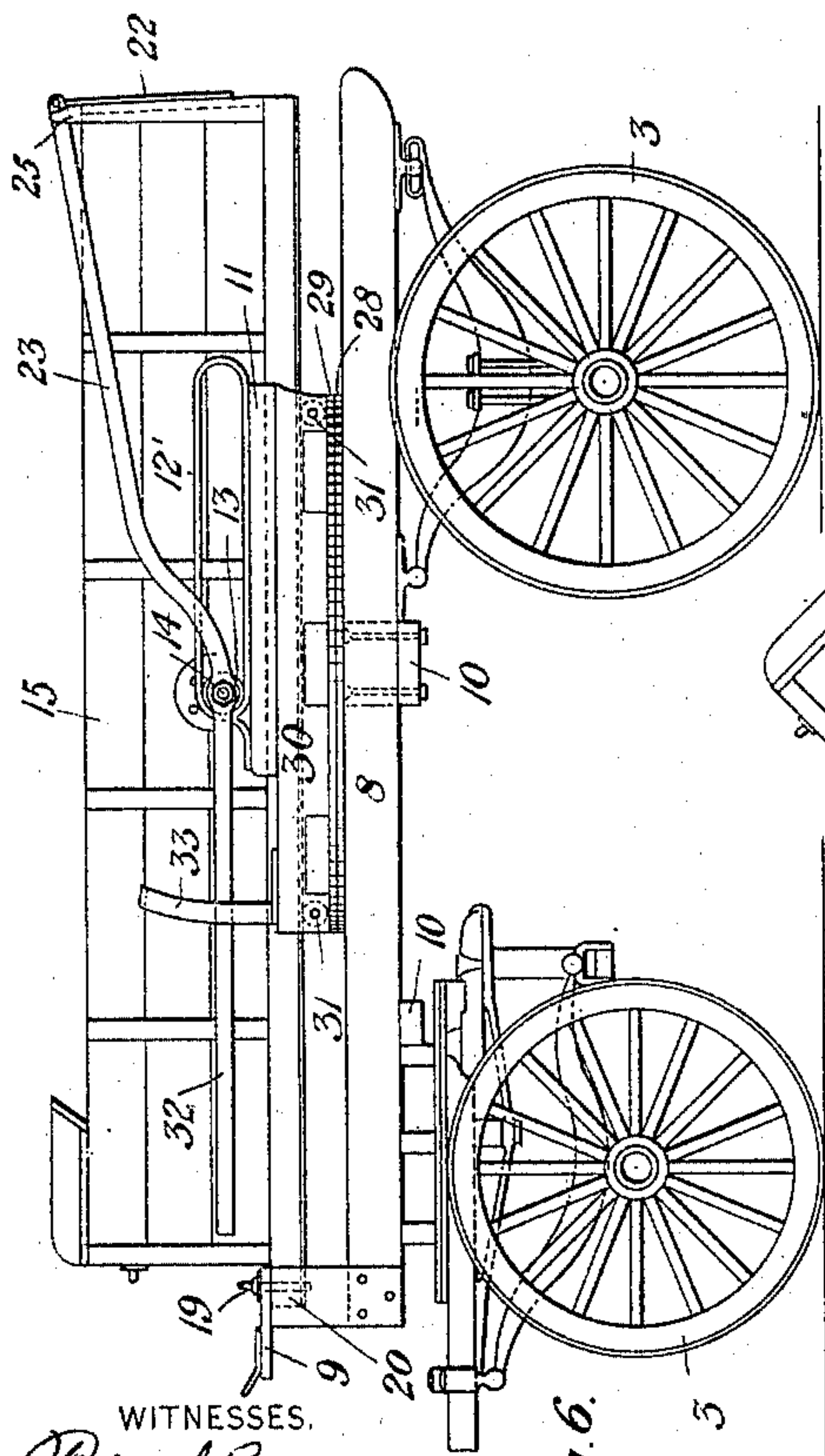


Fig. 6.

WITNESSES.

Peter J. Edwards
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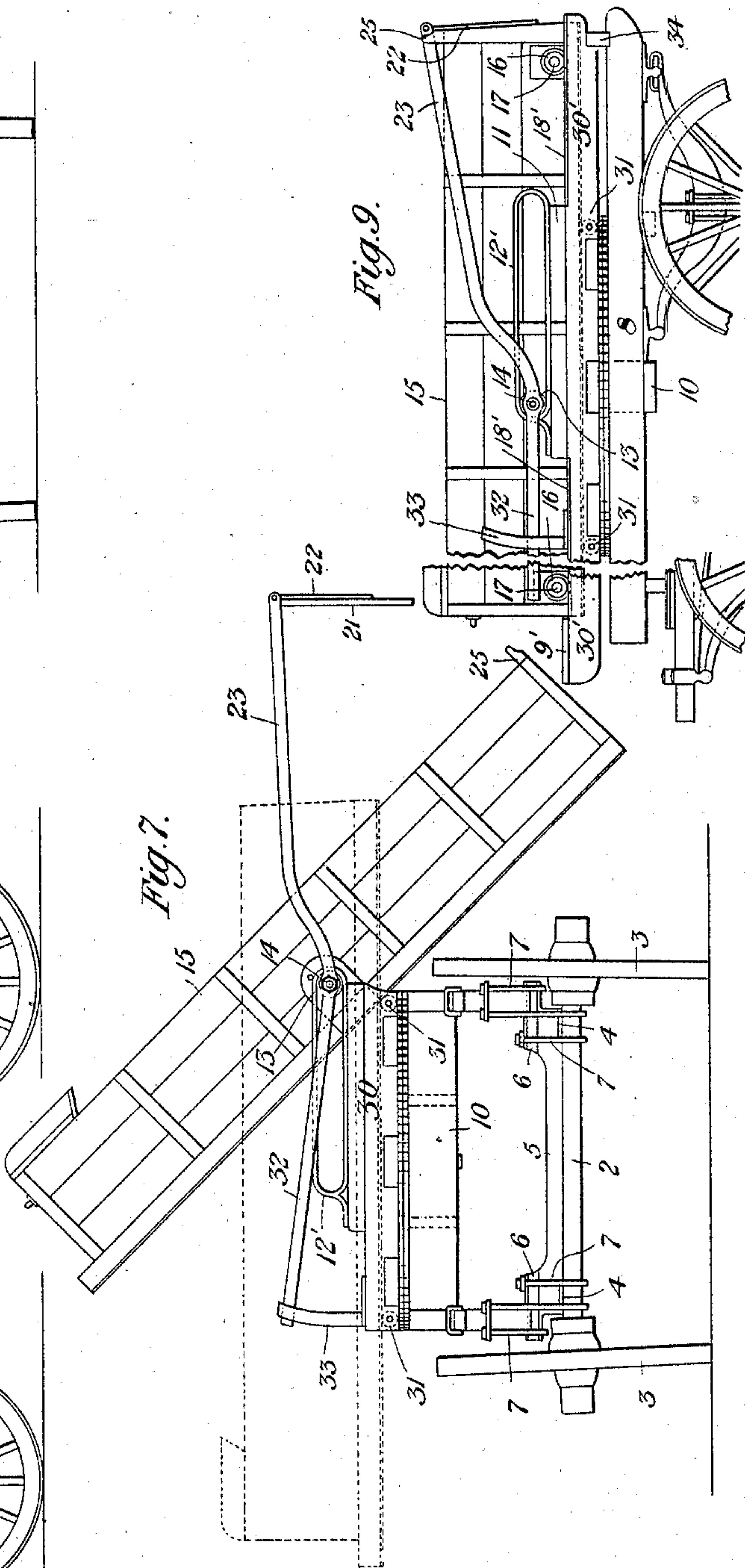


Fig. 7.

Fig. 9.

INVENTOR

William Beckert
by O. M. Clarke
his attorney.

UNITED STATES PATENT OFFICE.

WILLIAM BECKERT, OF RESERVE, PENNSYLVANIA.

DUMPING-WAGON.

SPECIFICATION forming part of Letters Patent No. 585,948, dated July 6, 1897.

Application filed August 3, 1896. Serial No. 601,416. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM BECKERT, a citizen of the United States, residing at Reserve township, in the county of Allegheny and State of Pennsylvania, have invented or discovered a new and useful Improvement in Dumping-Wagons, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this application, in which—

Figure 1 is a view in side elevation of a wagon constructed in accordance with my invention. Fig. 2 is a similar view showing the body of the wagon in a dumping position. Fig. 3 is an end view of Fig. 1. Fig. 4 is an enlarged detail view showing the manner of mounting the wagon on the axles to secure the greatest possible width of body for a given wheel-gage. Fig. 5 is a cross-sectional detail view, on an enlarged scale, taken on the line V V of Fig. 3. Fig. 6 is a view similar to Fig. 1, but showing the wagon constructed in a manner to permit of side dumping. Fig. 7 is an end elevation showing the body swung around into the side-dumping position. Fig. 8 is an end view of Fig. 6. Fig. 9 is a view similar to Fig. 6, partly broken away, showing extended side-bars for supporting the ends of the wagon-body.

Similar numerals of reference refer to like parts wherever used throughout this specification.

My invention relates to the class of dumping-wagons, having for its objects the balancing of the wagon-body and its contained load while being dumped, ease of operation, greatest possible width of body for given track-gage, an automatic end-gate, and a wagon which may be dumped at the end or on either side; and it consists in the various means employed for securing these results, as shall be more fully hereinafter set forth.

Referring to the drawings, 2 are the axles, mounted in the usual wheels 3, and resting on the top of the back axles, at their ends and adjacent to the hubs, is a supplementary bracket 4, (see Fig. 4,) Z-shaped, having a lower horizontal leg *a*, an upwardly-extending vertical body portion *b*, and an outwardly-extending arm *c*, projecting out over the hub and serving to support the superimposed

weight of the upper structure as close to the wheel as possible without interference.

In the construction shown springs are employed and rest directly above the arm *c*, the various parts being reinforced by proper backing 5 6 and securely held in position by spring and axle clips 7, so as to prevent displacement of the bracket 4. When so constructed, it will be seen that the inner hub may be made of any desired length without sacrificing the width of the wagon-bed, so that the wheels may be set to standard gage of street-track without any reduction in the width of the wagon. Owing to the peculiar construction of wagons of this character, which are made to dump by tipping between a framework supported on the axles, the advantages of having such framework as wide as possible will readily be appreciated. Supported upon the springs are the side pieces 8, properly framed together at the end, provided with a foot-board 9 and cross-braces 10 at intervals, the back being open to permit the body to be tipped.

Upon the upper edge of each side is a block 11, upon which is mounted a roller-guide 12, in which are mounted and free to travel the rollers 13, journaled on gudgeons 14, secured to each side of the wagon-body 15 at about its middle. At each end of the wagon-body and on each side are similar flanged rollers 16, mounted on gudgeons 17, the rollers resting on flat plates 18, secured to the top of the side pieces 8, serving to support the wagon-body when in a horizontal position.

Pins 19, passing through the foot-board and into extensions 20 of the wagon-body, serve to retain it in position until, when it is desired to dump the wagon, the pins are withdrawn, and the wagon-body may be pushed rearwardly, riding on the rollers 13 and 16, until the back roller 16 rides over the end of the side piece 8. The entire weight will then be supported by the central rollers 13, and as it is the approximate middle pivotal bearing of the wagon-body and contents the wagon may be pushed rearwardly, the rollers 13 traveling in the roller-guides 12 until arriving at their ends, when, the wagon then being in the desired position, it may be easily tipped in the manner of a "seesaw," and the contents dis-

charged, after which, by reversing the operation, it may as easily be replaced in a horizontal position and moved forward. It will be seen that in this way the weight of the wagon-body and its contents is not supported over the back wheels only, but at a point part way between the back and front wheels, thereby insuring a better distribution of the load over the running-gear.

The end-gate 21 is pivotally hung by reduced ends of straps 22 in the ends of levers 23, pivoted to the sides of the body at 24. Side guards 25 receive the outer ends of the levers and assist in retaining the end-gate in position, while brackets 26, having forked upper ends in which are mounted rollers 27, are secured to the side pieces 8 in such a position that when in the act of dumping the end of the wagon-body falls the levers will be engaged by the brackets 26 and rollers 27, arresting the downward travel of the levers and withdrawing the end-gate, holding it suspended, as in Fig. 2, away from contact with the load being discharged, and automatically replacing it when the wagon-body is returned to the horizontal.

A slightly-beveled shoulder 28' assists the operator in securing the end-gate in position.

In Figs. 6 to 9, inclusive, I have shown means whereby the body portion of the wagon and its immediate supporting mechanism and gearing are rotatably mounted on the permanent frame of the truck by means of a fifth-wheel mounted on such truck structure about midway of its length. This fifth-wheel consists of the usual lower and upper plates 28 29, the lower plate being mounted on the framework of the truck, consisting of side pieces 8 and proper cross-timbers, while the upper plate 29 forms the base of the upper revolving supporting-carriage 30, on which are mounted the roller-guides 12'.

Transverse rollers 31, mounted in each end of the carriage 30, serve to support the wagon-body 15 horizontally and to facilitate its backward travel, the rear roller also acting as a limit to its downward motion when dumped.

Suitable means, as a pin 19, may be employed to secure the wagon-body in position, as already described.

For the purpose of arresting the motion of the lever 23, in this case pivoted to the end of the trunnion 14, it is provided with a forward extension 32, passing through stops 33 on each side, secured to the forward part of the carriage 30 and of a proper height to engage the end of the lever and withdraw the end-gate, as clearly shown in Fig. 7.

It will be understood that the plates 28 29 of the supporting fifth-wheel are suitably connected by a king-bolt and male and female bearings in the well-known customary manner.

For the purpose of insuring greater stability and security against movement when the wagon is in motion I have shown in Fig. 9 supplemental sills 30', extended front and rear

and carrying a foot-board 9' and provided with plates 18', on which travel the rollers 16, as heretofore described, the rest of the construction conforming to Figs. 6, 7, and 8.

When swung round to either side or if dumped from the rear, the foot-board 9' travels with the carriage and greatly facilitates the operator.

If desired, adjustable brackets may be provided on the sills 30', which may be set up against the wagon-bed to support it, and in Fig. 9 I have shown a bar 34, which may be used to support the rear end and be quickly and easily removed when it is desired to dump. Ease of operation may be increased by the use of ball-bearings in the rollers 13 and 16, and various other changes and modifications may be made within the scope of my invention by the skilled mechanic, as I do not desire to be limited to the exact construction and form shown, but to include any equivalents therefor.

The advantages of my invention will be appreciated by those accustomed to the use of the commonly-employed form of dumping-wagon in which the wagon-body rides over stationary rollers mounted in the truck-frame, resulting in unequal division of the load and causing much friction and strain, requiring considerable physical power not only to dump the wagon, but to return it to position when empty.

My wagon, by pivotally balancing the weight at all positions, dispenses with such disadvantages, and the operation and manipulation become comparatively easy.

Having described my invention, what I claim is—

1. In a dumping-vehicle, the combination of a bed provided with supporting side-bars having closed roller-ways permanently mounted thereon, said ways being adapted to prevent dislodgment of the rollers rolling therein, and a dumping-body having affixed to its sides about midway thereof and approximating its center of gravity trunnions provided with suitable rollers adapted to roll in said closed ways; substantially as described.

2. In a dumping-vehicle, the combination of a bed provided with supporting side-bars having closed roller-ways permanently mounted thereon, said ways being adapted to prevent dislodgment of the rollers rolling therein, a dumping-body having affixed to its sides about midway thereof and approximating its center of gravity trunnions provided with suitable rollers adapted to roll in said closed ways, and supporting-rollers secured to the sides of the body at the ends thereof resting on the side-bars and adapted to roll thereon; substantially as described.

3. In a dumping-vehicle, the combination with the wagon-bed of the vehicle, of a plate immovably affixed thereto, a carriage revolvably secured to said plate and adapted to turn thereon, and a dumping-body having affixed to its sides about midway thereof and

approximating its center of gravity, trunnions provided with suitable rollers adapted to roll in closed ways permanently mounted on said revoluble carriage; substantially as described.

4. In a dumping-vehicle, the combination with the wagon-bed of the vehicle, of a plate immovably affixed thereto, a carriage revolvably secured to said plate and adapted to turn thereon and being provided with transverse rollers upon which the wagon-body is adapted to roll, and a dumping-body having affixed to its sides, about midway thereof and approximating its center of gravity, trunnions provided with suitable rollers adapted to roll in ways secured to said carriage; substantially as described.

5. In a wagon, brackets secured to the opposite ends of the rear axle and extending upwardly and outwardly over the rear wheel-hubs, suitable reinforcing-backing upon the axle and brackets and extending between the brackets, and securing-clips whereby the brackets, backing and axle are attached firmly together; substantially as described.

6. In a dumping-vehicle, the combination of a wagon-body, end-gate-supporting bars pivoted to the wagon-body, brackets affixed to the rear portion of the wagon-body adapted to support said bars and their attached end-gate when the body is in its normal horizontal position, and brackets affixed to the wagon-bed for supporting said bars when the wagon-body is tilted to a dumping position; substantially as described.

7. In a wagon, brackets secured to the opposite ends of the rear axle and extending upwardly and outwardly over the rear wheel-hubs, suitable reinforcing-backing upon the axle and brackets and extending between the brackets, a spring or springs mounted on said backing, and clips for securing the axle, brackets, backing and spring firmly together; substantially as described.

In testimony whereof I have hereunto set my hand this 7th day of July, 1896.

WILLIAM BECKERT.

Witnesses:

PETER J. EDWARDS,
C. M. CLARKE.