

No. 770,335.

PATENTED SEPT. 20, 1904.

C. G. STREICH.
DUMPING WAGON.
APPLICATION FILED JAN. 14, 1904.

NO MODEL.

Fig. 1.

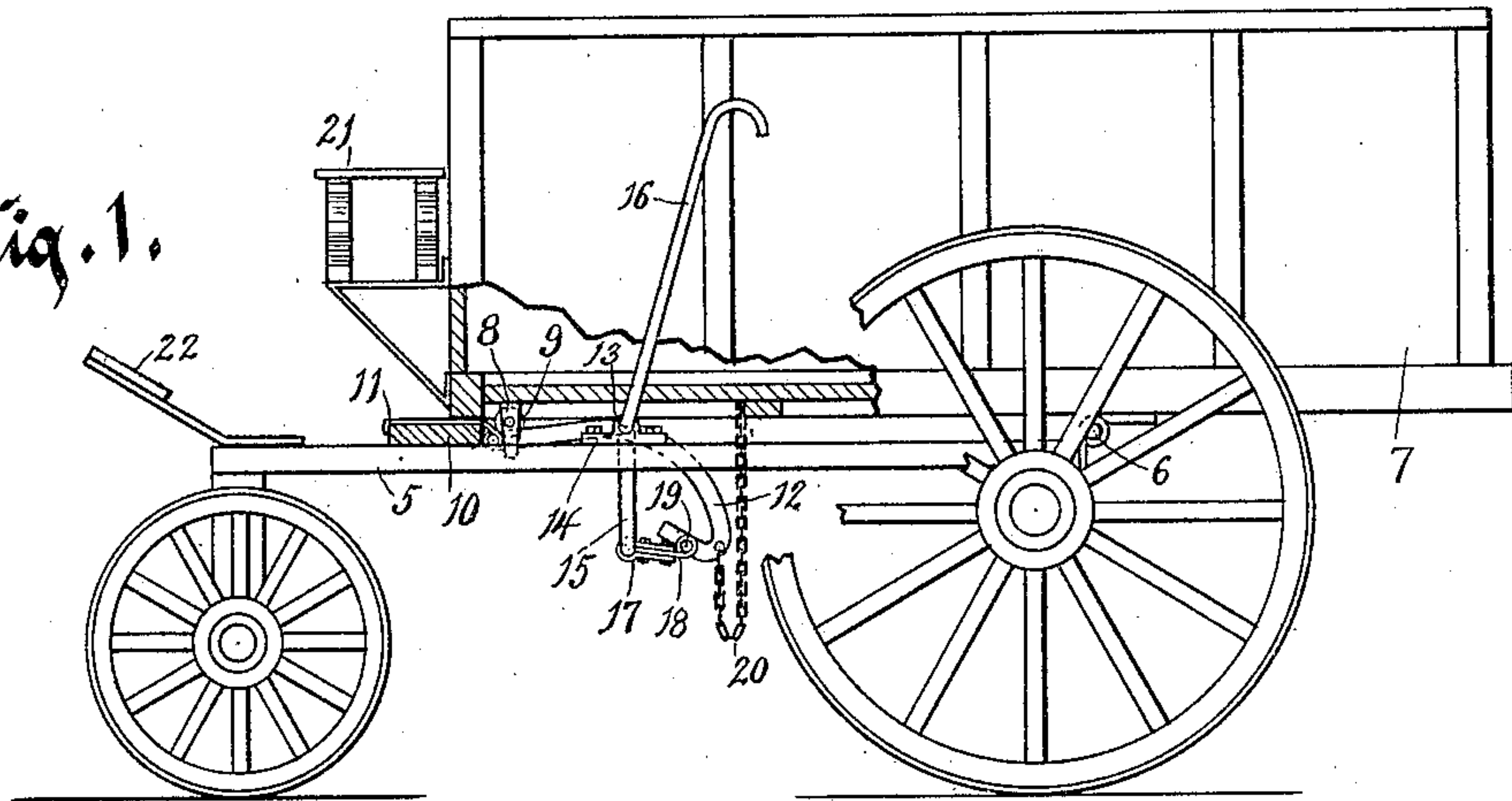


Fig. 2.

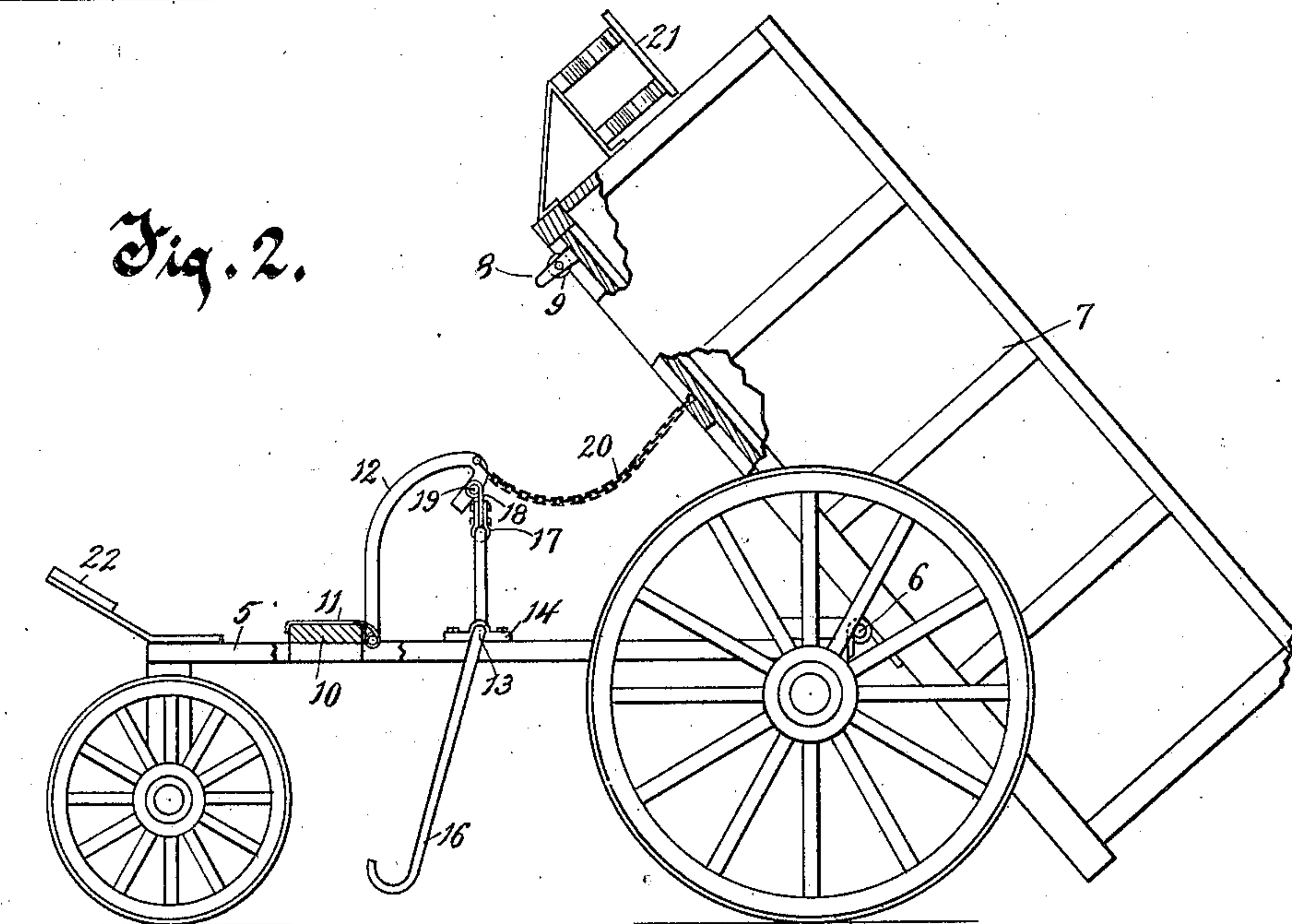
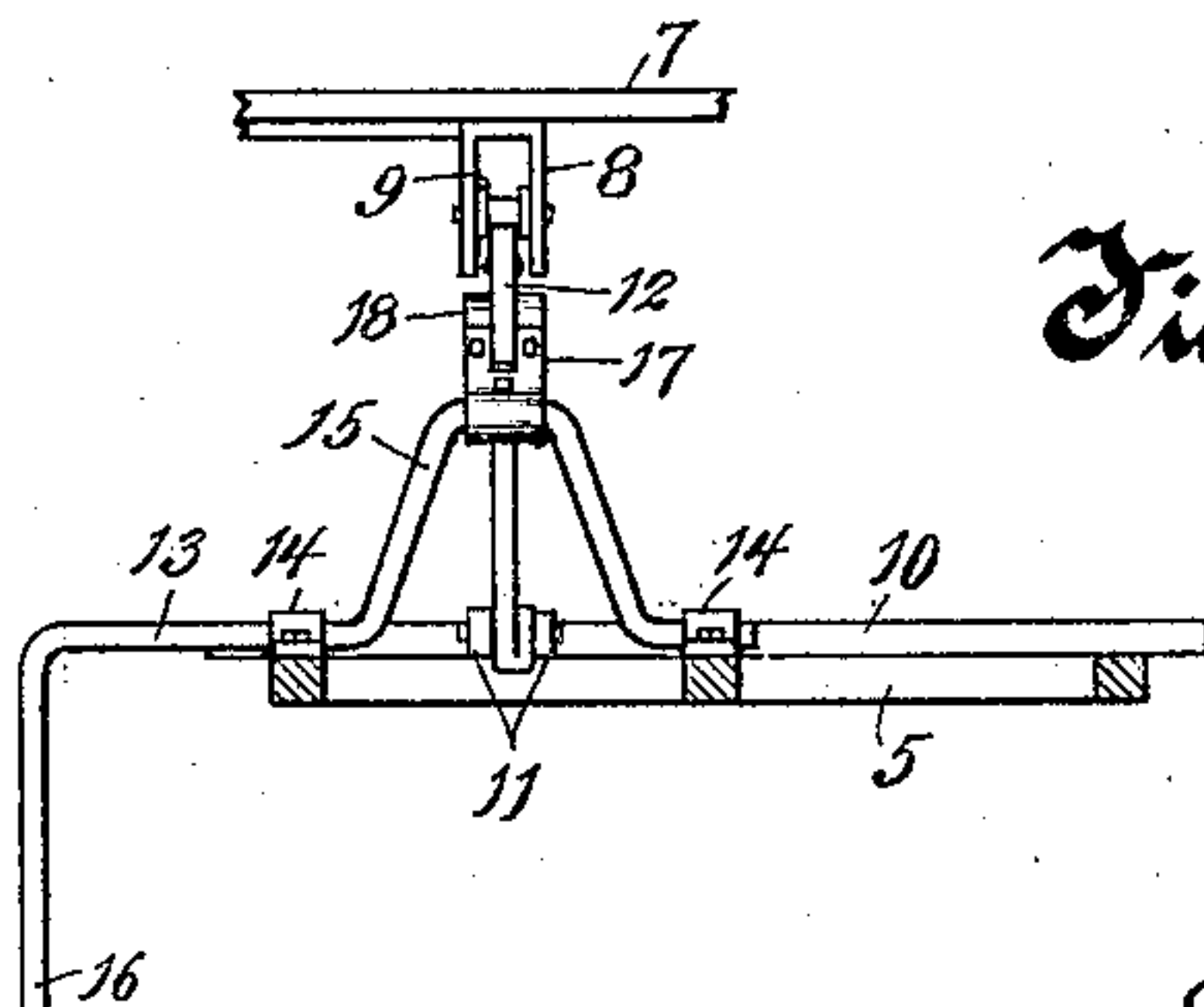


Fig. 3.



Witnesses.

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DUMPING-WAGON.

SPECIFICATION forming part of Letters Patent No. 770,335, dated September 20, 1904.

Application filed January 14, 1904. Serial No. 188,938. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. STREICH, residing in Oshkosh, in the county of Winnebago and State of Wisconsin, have invented a new and useful Improvement in Dumping-Wagons, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention relates to certain new and useful improvements in dumping-wagons.

In dumping-wagons it is customary to mount the wagon-body on pivotal connections somewhat in the rear of the center thereof, so as to be capable of tilting with the least power consistent with security against accidental tilting, especially in traveling uphill with a heavy load. The latter precaution necessitates the placing of the pivotal connections so far to the rear of the wagon-body that, notwithstanding the partial counterbalancing effect of the load at the rear of the pivotal connections, considerable force is required to tilt the body when it contains a heavy load. It is found desirable to provide mechanical means for effecting this tilting operation and also for restoring the wagon-body to its normal position from its almost vertical position assumed when dumping, and such mechanical means forms a subject-matter of the present invention.

With the above and other objects in view the invention consists in the devices and parts or their equivalents, as hereinafter fully set forth.

Referring to the accompanying drawings, in which like characters of reference indicate the same parts in the several views, Figure 1 is a side elevation of a dumping-wagon embodying the invention with its body in the normal position, parts being broken away for clearness of illustration. Fig. 2 is a similar view thereof, showing the body in its tilted or dumping position; and Fig. 3 is a rear elevation of the mechanical means with the chain removed, the parts being shown in the positions taken when the body is being tilted.

In the drawings, 5 represents a wagon-frame or running-gear, which has pivoted at

its rear end by means of suitable hinges 6 the wagon box or body 7, said hinges 6 being attached to the body 7 at the rear of the middle portion thereof for the purpose previously mentioned. Secured to the body 7 beneath the front end thereof is a U-shaped bracket 8, having a flanged roller 9 journaled between its arms, said arms extending beyond the roller to form depending guide projections on both sides of the roller. A cross-bar 10 extends across the front part of the wagon-frame 5 and has firmly secured thereto a metal strap 11, in the bifurcated looped rear end of which is pivotally mounted a curved cam-lever 12 with its free end bent back toward its pivotal connection. A crank-shaft 13 is journaled across the wagon-frame 5 in suitable bearings 14 and carries between the bearings a bent crank 15 and at its projecting end a hook-handled operating-lever 16, by which the crank-shaft may be turned in its bearings. The crank-shaft 15 is connected with the cam-lever 12 by means of a link comprising a metal strap 17, bent to form a U-socket fitting around the crank 15 with its two ends receiving between them and bolted thereto the end of a metal strap 18 whose other end is bifurcated and coiled around the oppositely-projecting ends of a pin or bolt 19, which passes through the bent-back end portion of the cam-lever 12. The bent end of cam-lever 12 is also connected with the front portion of the wagon-body by means of a chain 20.

With the above construction the tilting operation is accomplished by swinging the operating-lever 16 forwardly and downwardly, which will cause the crank 15 to swing upwardly and by means of the link connection with the cam-lever 12 push said cam-lever 12 upwardly. The roller 9 is so located as to ride on the cam-lever 12, and said cam-lever is of such shape that it remains in engagement with the roller 9 during a portion of the tilting operation. When it is desired to restore the body to its normal position, the operating-lever 16 is raised, so as to lower the cam-lever 12, which by means of its chain connection 20 with the body 7 causes said body to be drawn to a position in which its center of gravity is in ad-

vance of the pivotal connection, when it will fall back into its original position by its own weight. This mechanical means for tilting and lowering the wagon-body besides being very simple in construction is most efficient in operation, which is particularly due to the fact that at the beginning of the raising operation, when the resistance to be overcome is the greatest, the tilting mechanism has the greatest leverage, since the roller 9 is close to the pivotal connection of cam-lever 12. Then as the resistance diminishes by the tilting of the body bringing its center of gravity nearer to the vertical plane of the pivotal hinges 6 the leverage of the tilting mechanism becomes less and the action quicker, owing to the roller 9 riding on the cam-lever 12 away from its pivotal connection. The momentum of the swing of the body carries its center of gravity over the vertical plane of the pivotal hinges 6 after the roller 9 leaves the cam-lever 12, so as to complete the tilting operation. When the load has been dumped, the body is restored to its original position by a reverse operation of the lever 16, which causes lever 12 to draw down on the chain 20 and swing the body sufficiently to bring its center of gravity in advance of the vertical plane through the pivotal hinges 6 when the body drops into place on the frame. It is obvious that as the hinges 6 are located so far to the rear of the center of gravity of the body when in its normal position there is no liability of the body accidentally tilting, though the tilting operation may be performed by one man with ease.

The frame 5 is continued in advance of the front end of the body 7 to permit of a spring-seat 21 being secured to the front end of the body below the top thereof, and a foot-rest 22 is mounted on the front end of the frame. By setting the box forward it also distributes the weight of the load on both axles, while if the box is adjusted so as to be dumped by hand the weight of the load is vertically on the rear axle.

The device can be used on almost any description of vehicle—as, for instance, a cart, sled, &c.

What I claim as my invention is—

1. In a dumping-wagon, a frame, a body pivoted thereto, a cam-lever pivoted to the frame and adapted to engage the body, a crank-and-link connection mounted on the frame and connected with the cam-lever, and means for operating the crank.

2. In a dumping-wagon, a frame, a body pivoted thereto, a roller carried by the front end of the body, a cam-lever pivoted to the frame and adapted to engage the roller, a crank-shaft journaled in the frame, a link con-

necting the crank thereof to the cam-lever, and an operating-lever on the crank-shaft.

3. In a dumping-wagon, a frame, a body pivoted thereto, a bracket secured beneath the front end of the body, a roller journaled in said bracket, guide-arms formed by the extension of the bracket beyond the roller, a cam-lever pivoted to the frame and engaged by the roller, and means for swinging the cam-lever.

4. In a dumping-wagon, a frame, a body pivoted thereto, a roller mounted on the body, a cam-lever pivoted to the frame and engaging the roller, said cam-lever being curved to remain in engagement with the roller during a portion of the tilting movement of the body and having its free end bent back toward its pivot, a crank-shaft journaled in the frame, a link connecting the crank thereof with the bent-back end of the cam-lever, and an operating-lever on said crank-shaft.

5. In a dumping-wagon, a frame, a body pivoted thereto, a cam-lever pivoted to the frame and having a cam engagement with the body, a crank connection mounted on the frame and connected with the cam-lever, a connection between the body and cam-lever, and means for operating the crank.

6. In a dumping-wagon, a frame, a body pivoted thereto, a cam-lever pivoted to the frame and engaging the body, a crank connection mounted on the frame and connected with the cam-lever, a chain connecting the body and the cam-lever and means for operating the crank connection.

7. In a dumping-wagon, a frame, a body pivoted thereto, a bracket secured beneath the lower front end of the body, a roller journaled in the bracket at a distance from the ends thereof, projecting guide-arms at the sides of the roller, a cam-lever pivoted on the frame and being curved to remain in engagement with the roller during a portion of the swinging of the body, said cam-lever having its free end bent back toward its pivot, a pin through said bent end of the cam-lever, a crank-shaft journaled on the frame, a link connecting the crank thereof to the pin, said link comprising a U-shaped member containing the crank and a bifurcated member connected thereto and coiled around the ends of the pin, an operating-lever on the crank-shaft, and a chain connecting a body to the bent end of the cam-lever.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES G. STREICH.

Witnesses:

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