

(No Model.)

4 Sheets—Sheet 1.

M. VAN WORMER.

DUMPING CAR.

No. 311,274.

Patented Jan. 27, 1885.

Fig. 1.

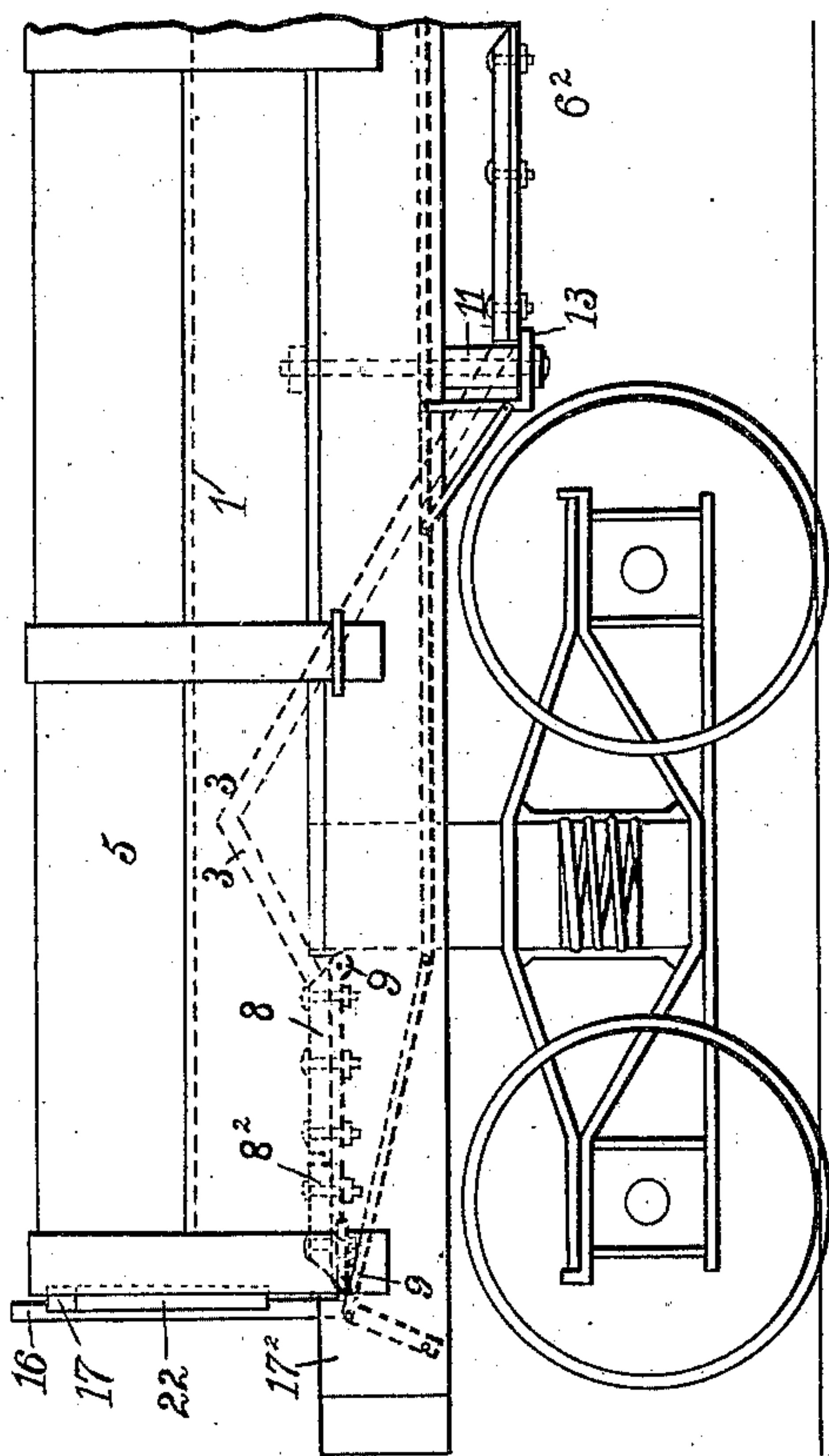
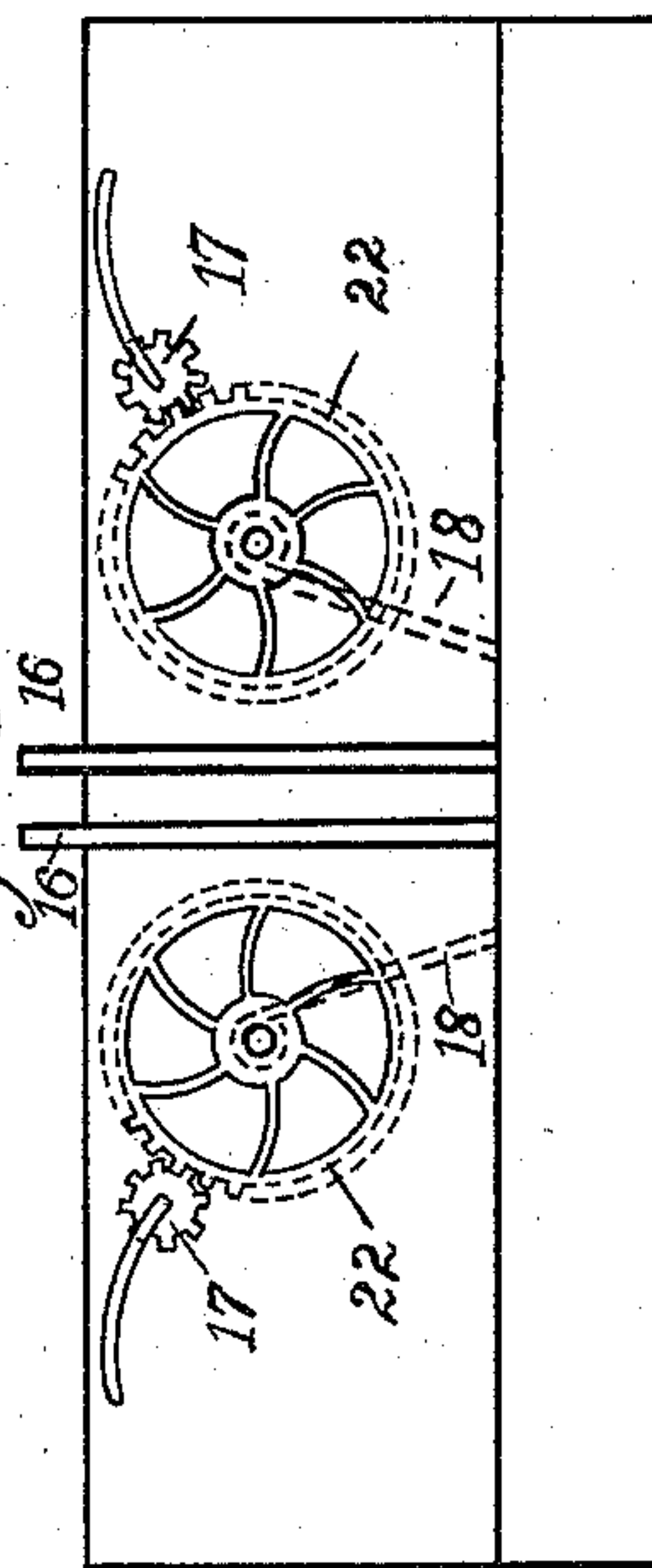


Fig. 8.



Witnesses:

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Inventor:

Matthew Van Wormer.

By
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his attys

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Fig. 2.

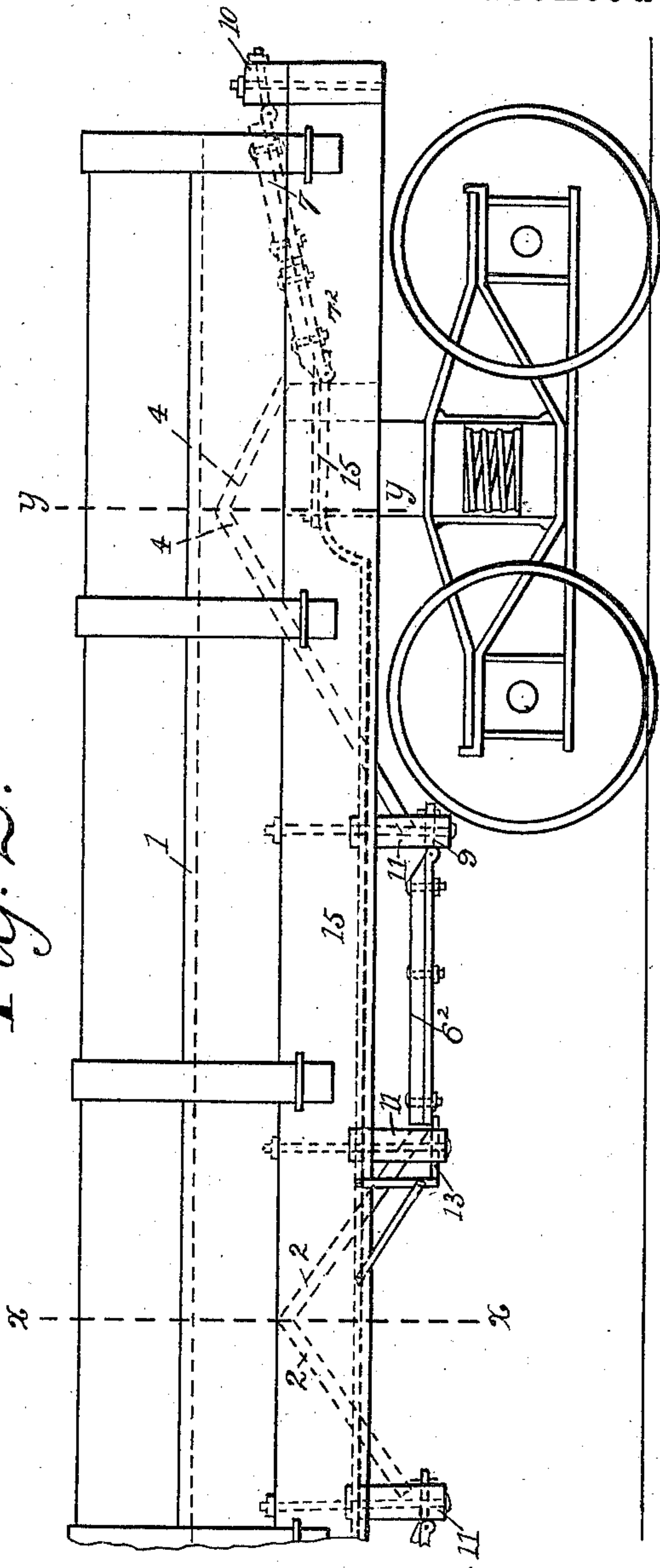


Fig. 6.

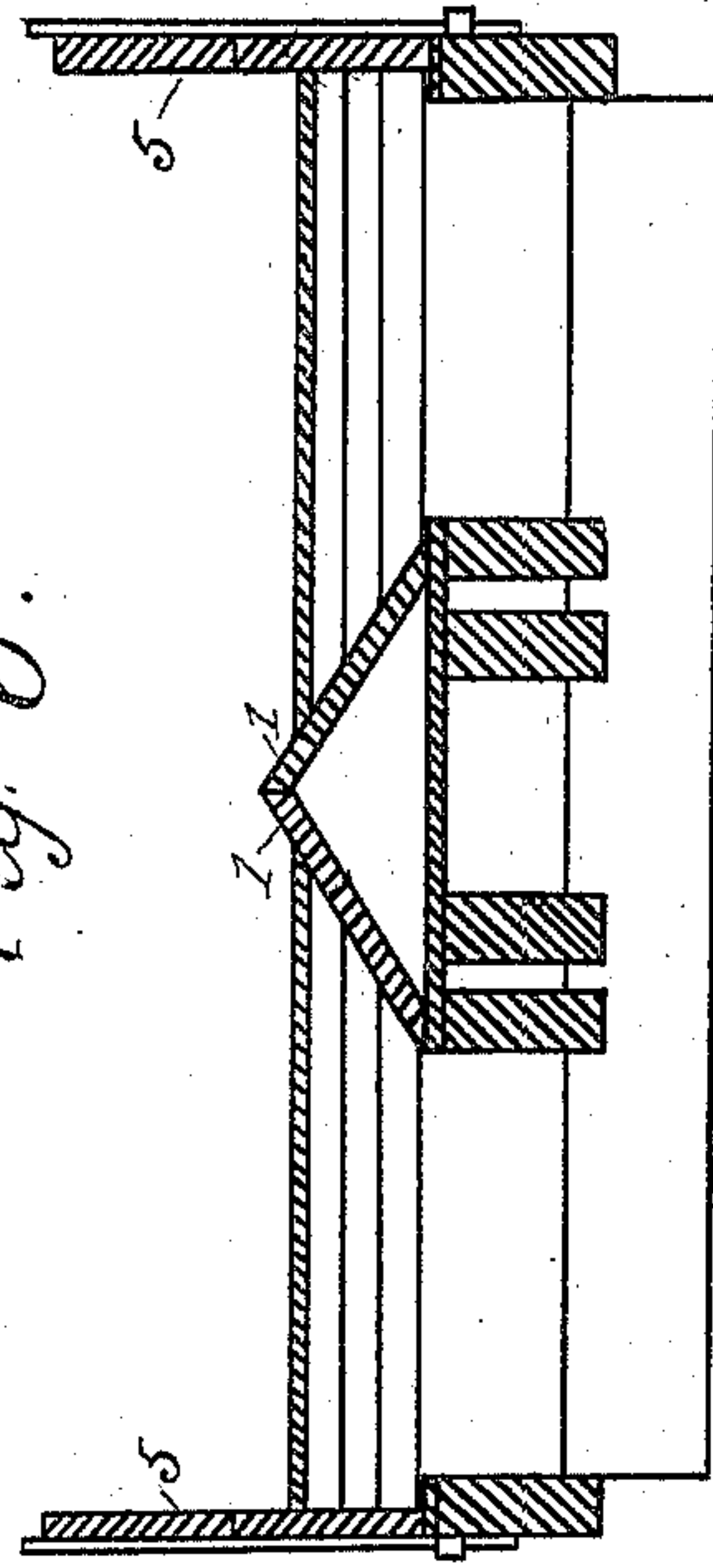
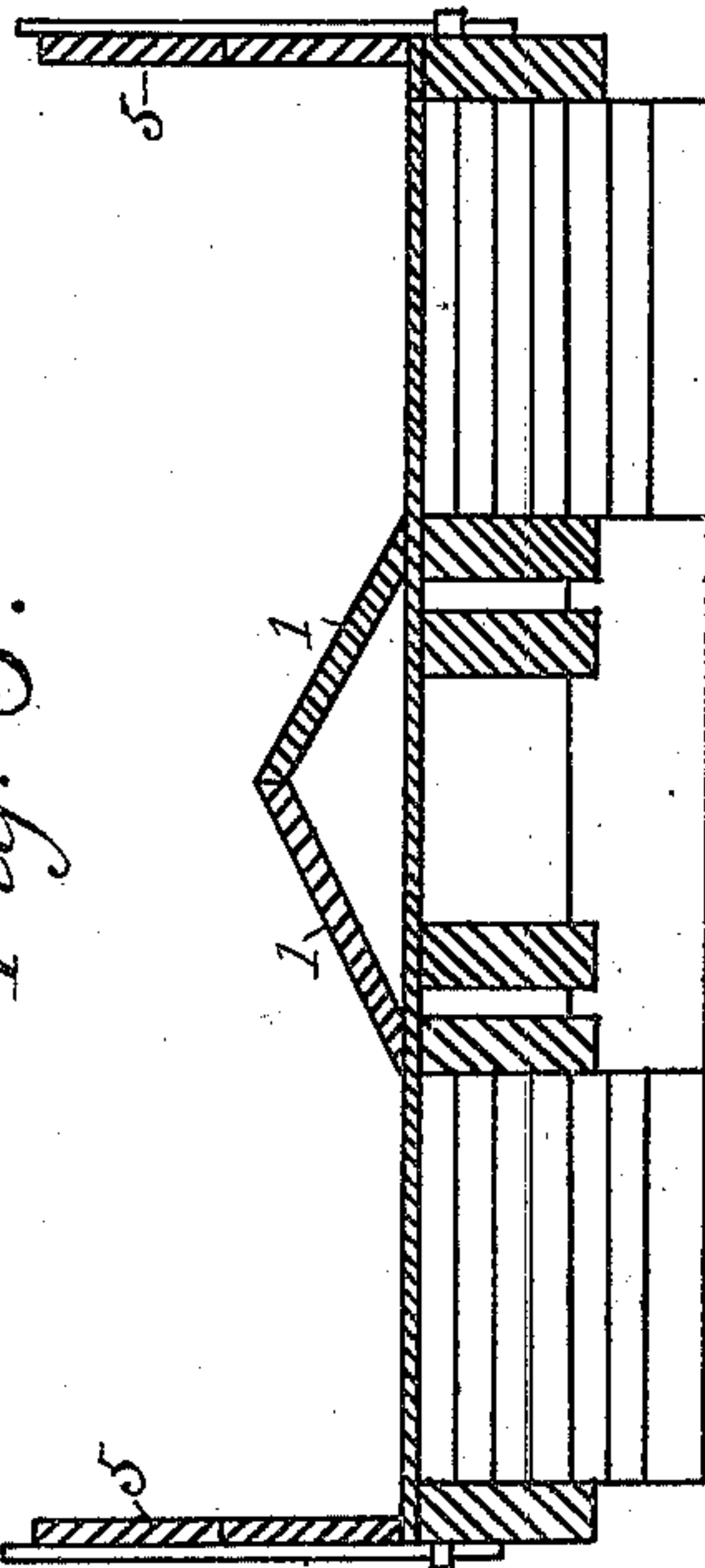


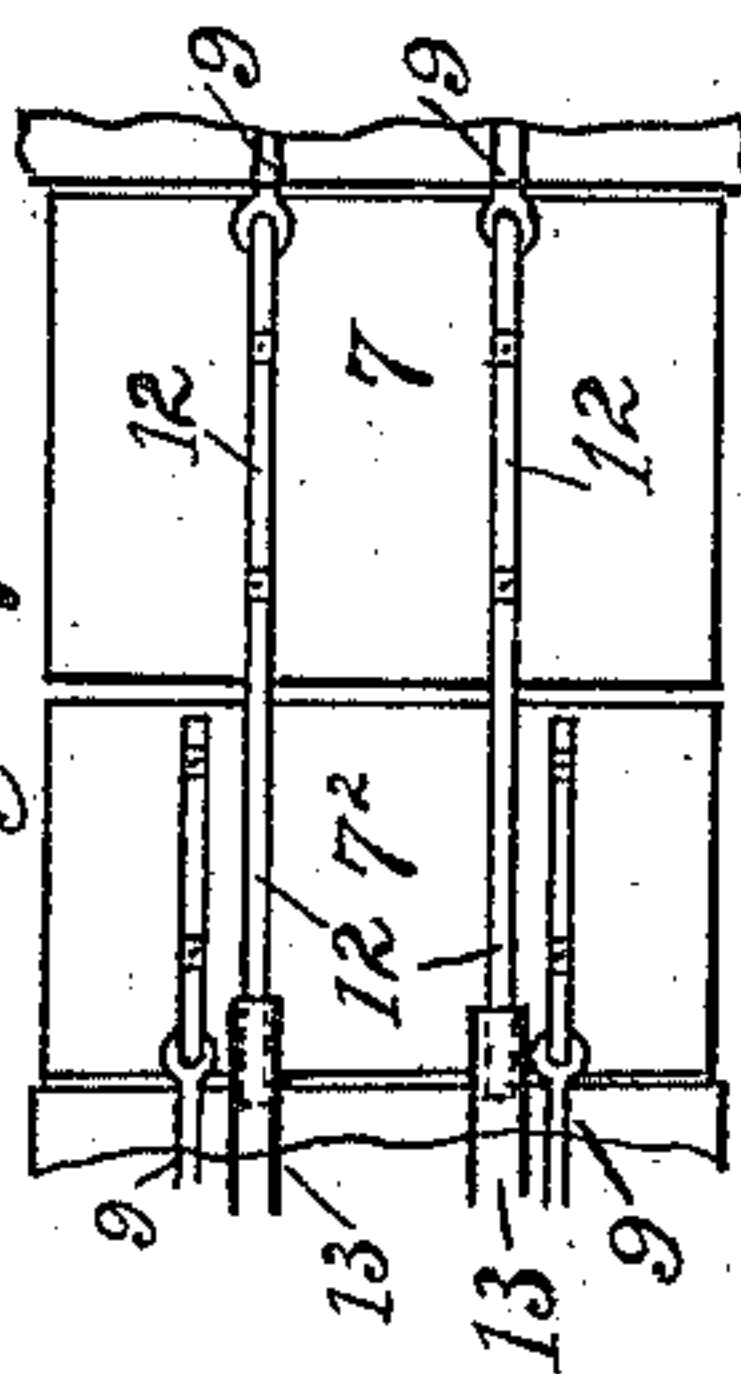
Fig. 5.



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Fig. 7.



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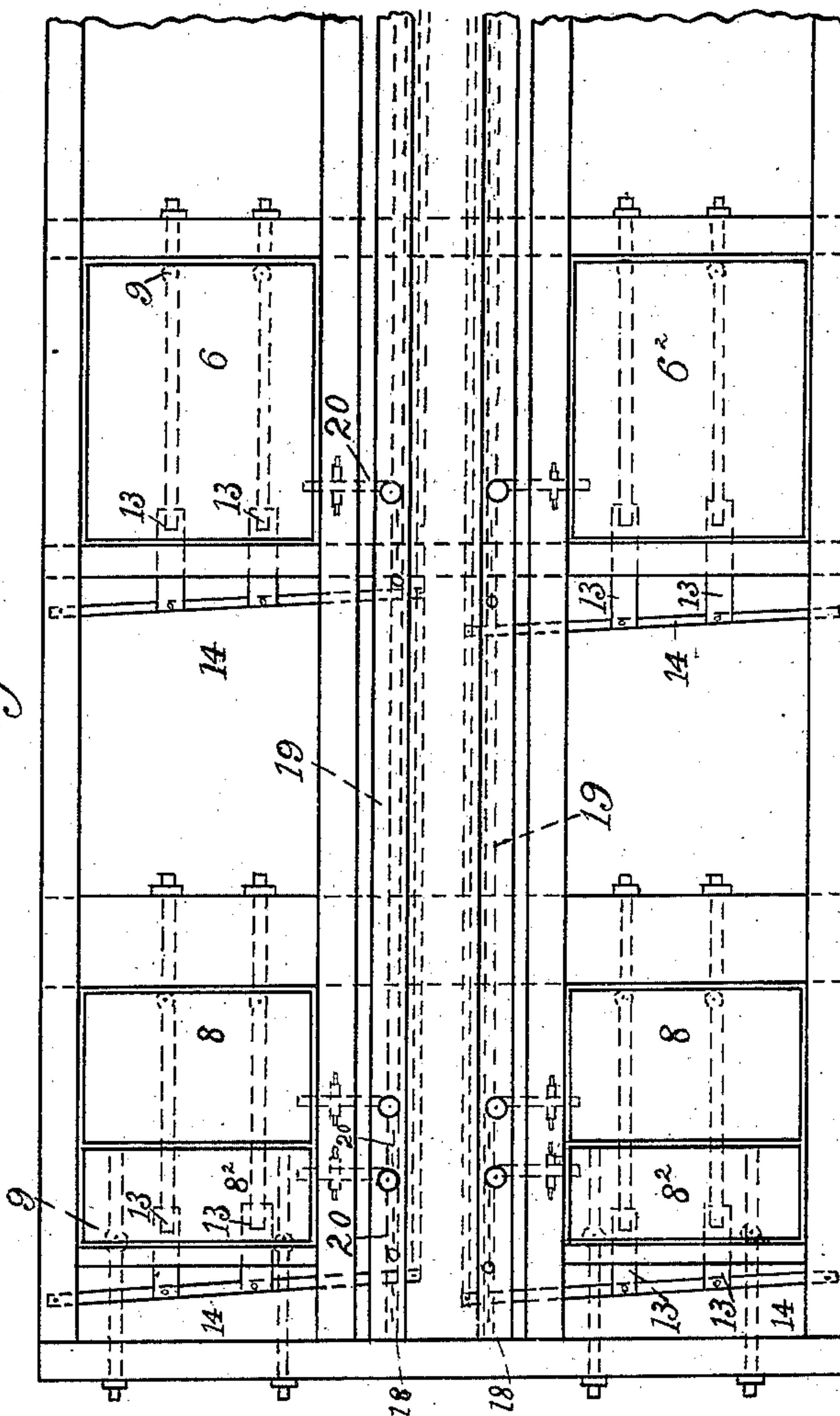
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Patented Jan. 27, 1885.

Fig. 3.



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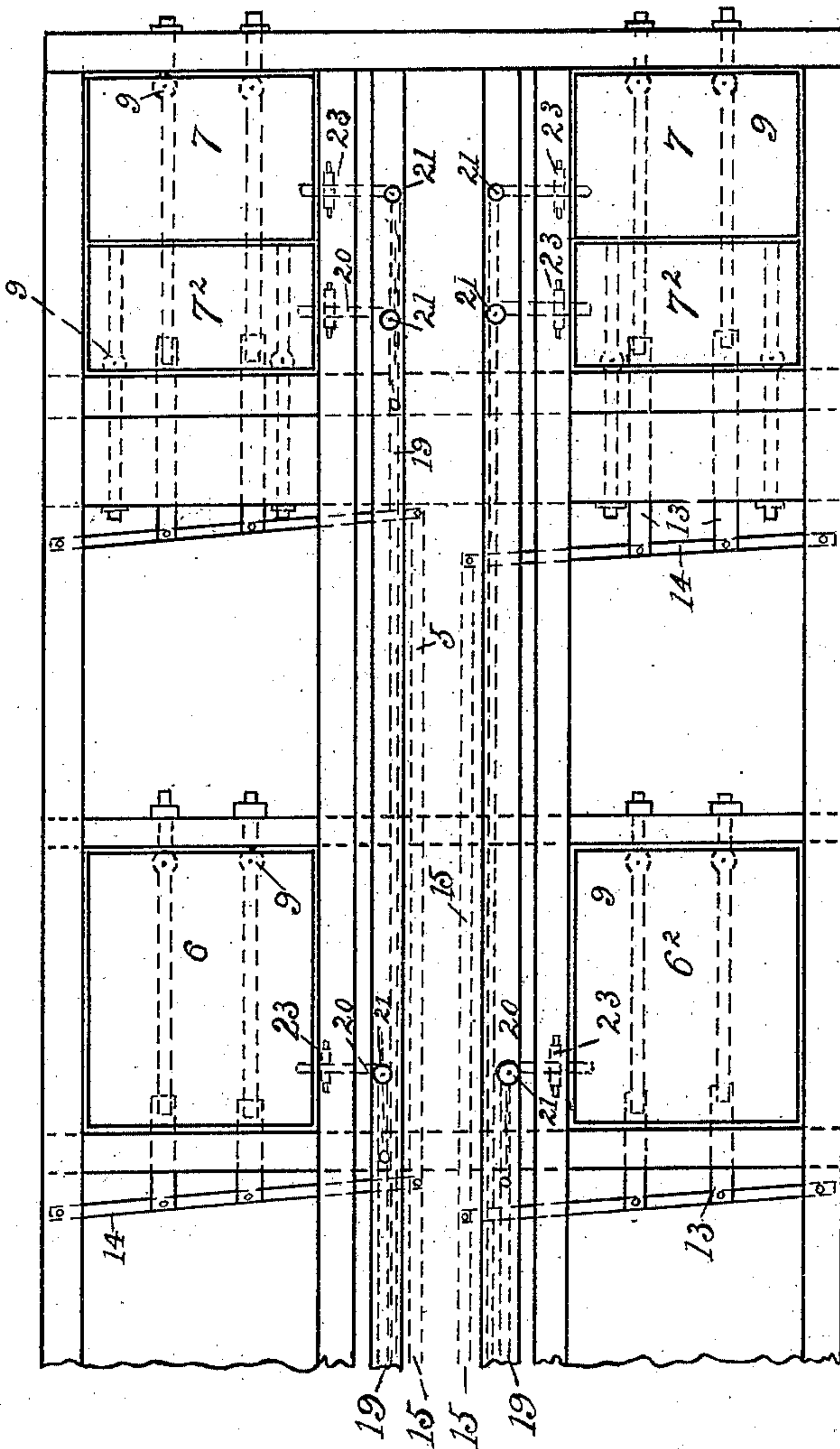
M. VAN WORMER.

DUMPING CAR.

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Patented Jan. 27, 1885.

Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

MATTHEW VAN WORMER, OF MALDEN, MASSACHUSETTS.

DUMPING-CAR.

SPECIFICATION forming part of Letters Patent No. 311,274, dated January 27, 1885.

Application filed June 5, 1884. (No model.)

To all whom it may concern:

Be it known that I, MATTHEW VAN WORMER, of Malden, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Dumping-Cars; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My present invention relates to a special construction of dumping-car, whereby the load may be discharged without tilting or partially turning over the car, the entire load being discharged through the car-bottom, which is made in a novel manner for this purpose.

The leading features consist of a novel construction of the floor or bottom of the car, the same constituting a system of inclined planes, in conjunction with a set of gates or trap-doors to let out the load as discharged by its own gravity down these inclined planes, devices for unlatching these gates or doors, and devices for raising the doors after discharging the load. Other features incident to these also form part of the invention, as will clearly appear from the following description.

Figures 1 and 2 represent a side view of an eight-wheeled car embodying my improvements, each of these figures showing a part only of the length of the car; Figs. 3 and 4, plan views of car-frame and its gates or doors; &c., the floor being removed to display the parts beneath it, each of these figures showing only a part of such frame and gates; Fig. 5, a cross-section of the car-body in the line $x x$ of Fig. 2, and Fig. 6 a cross-section in the line $y y$; Fig. 7, a detail showing the under side of one of the double doors or gates in the car-bottom, and Fig. 8 an end view of the car-body.

The central portion of the car-floor from end to end of the body or freight-holding portion is made of a double incline, as shown at 1, these inclines meeting at the car-center and inclining downward, and jointly occupying about one-third the breadth of the car. Other

double inclines constitute the remaining portions of the floor, excepting those parts which are composed of the gates or floor-doors, and these other inclines extend crosswise, instead of lengthwise, of the car, as shown at 2, 3, and 4, extending laterally from the central portion of the floor to the sides of the car, which sides are permanent and not provided with any customary swinging doors, all the doors or gates being in the bottom of the car. Those inclined transverse parts, 3 4, of the floor which are over the truck-wheels reach to a higher point than the other transverse ones, 2, which are between the front and rear truck, so that when the doors are dropped down for dumping they may clear the wheels and other parts of the trucks, which otherwise would be in their way. The highest point or angle of the central part of the floor is somewhat higher than that of the parts 3 and 4. Every inclination of the floor is adapted for discharging its part of the load into the bottom outlets when the gates or doors are opened, and which are shown at 6 6², 6² 6², 7 7², and 8 8². The central doors, 6 6², are single, and those near the ends of the car are double ones, all being hinged, by any sufficiently-strong hinges or eyebolts 9, to cross-beams of the car-frame, though the doors 7, at that end of the car which has no platform for the workman to operate the doors, may be hinged to blocks 10 at the end of the car-frame. The doors 6² are hung on cross beams or blocks 11 at points considerably below the sills and stringers, as shown in Figs. 1, 2, there being ample room for this, and thus adding materially to the capaciousness of the car. The doors 7 and 8 have their hinges 12 extend far enough beyond the edge of the door to serve as supports for the doors 7² and 8², respectively, and both these doors are then held up to place by means of latches 13 13, attached to latch-levers 14, which are connected to a rod, 15, operated by a hand-lever, 16. There may be a separate hand-lever for operating all the gates at one side of the car, and another similar one, as shown, for those on the opposite side of the car, as shown, though it is evident that a single hand-lever might be connected to both the rods 15, and thus open the gates or doors at both sides by the same action; but it would require more exertion and is not

deemed so desirable. The pulling of the lever 16 will release all the latches with which it is connected from their respective doors, and permit them to swing down and let out the load, and after the gates or doors shall be again lifted to place the pushing back of such lever will again bring the latches into position to hold them until again set free.

The devices for raising the doors to place are as follows: The crank-wheels 17 at the end of the car being either of them turned by the workman standing on the platform 17*, winds a chain, 18, connected to a rod, 19, extending lengthwise of the car and underneath it, and this rod is connected at appropriate points with other short chains, 20, which, passing over suitable guide rollers or pulleys, 21 23, connect severally to the gates or doors. The turning of one of the cranks 17 will operate its gear 17*, which thus rotates the larger gear 22, with which its teeth engage, and the shaft of this larger gear, and to which shaft the chain 18 is secured, thus winds up this chain a short distance, and thereby pulls the rod 19, and with it simultaneously all the short chains 20, which are attached to the doors or gates, thus lifting equally and all together all the doors on that side of the car-bottom. Precisely the same action takes place and by similar devices when lifting the corresponding doors on the other side of the car-bottom by the agency of the other crank 17. When the doors are thus raised again to place, they are latched to keep them in place until again released by one action—namely, by simply pushing the hand-lever 16 to a vertical posi-

tion, as shown in Fig. 1. To unlatch, this lever is pulled outward.

I claim—

1. In an eight-wheeled car, in combination with a series of gates or doors in its bottom, ranged in lines both sides of its center, the car-bottom composed of a system of double inclines, of which one extends centrally lengthwise of the car and inclines downward and outward both ways from the car-center, and the others extend laterally therefrom to the sides of the car and incline downward and outward in opposite directions, and all arranged to discharge the load through the bottom doors or gates.

2. The car-bottom gates 8 8², each arranged to swing downward when unlatched, one of these gates, 8, being provided with long bars extending under the other, 8², to support it, in combination with sliding latches arranged to be pushed under such bars to fasten the gates, all substantially as shown and described.

3. The combination of devices for latching and unlatching the series of gates, consisting of the hand-lever 16, rod 19, levers 14, and their attached latches, 13, substantially as shown and described.

4. The combination of devices for lifting the series of gates, consisting of the crank-wheels 17, wheel and axle 22, chain 18, rod 19, short chains 20, and pulleys or rollers 21 23, substantially as shown and described.

MATTHEW VAN WORMER.

Witnesses:

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