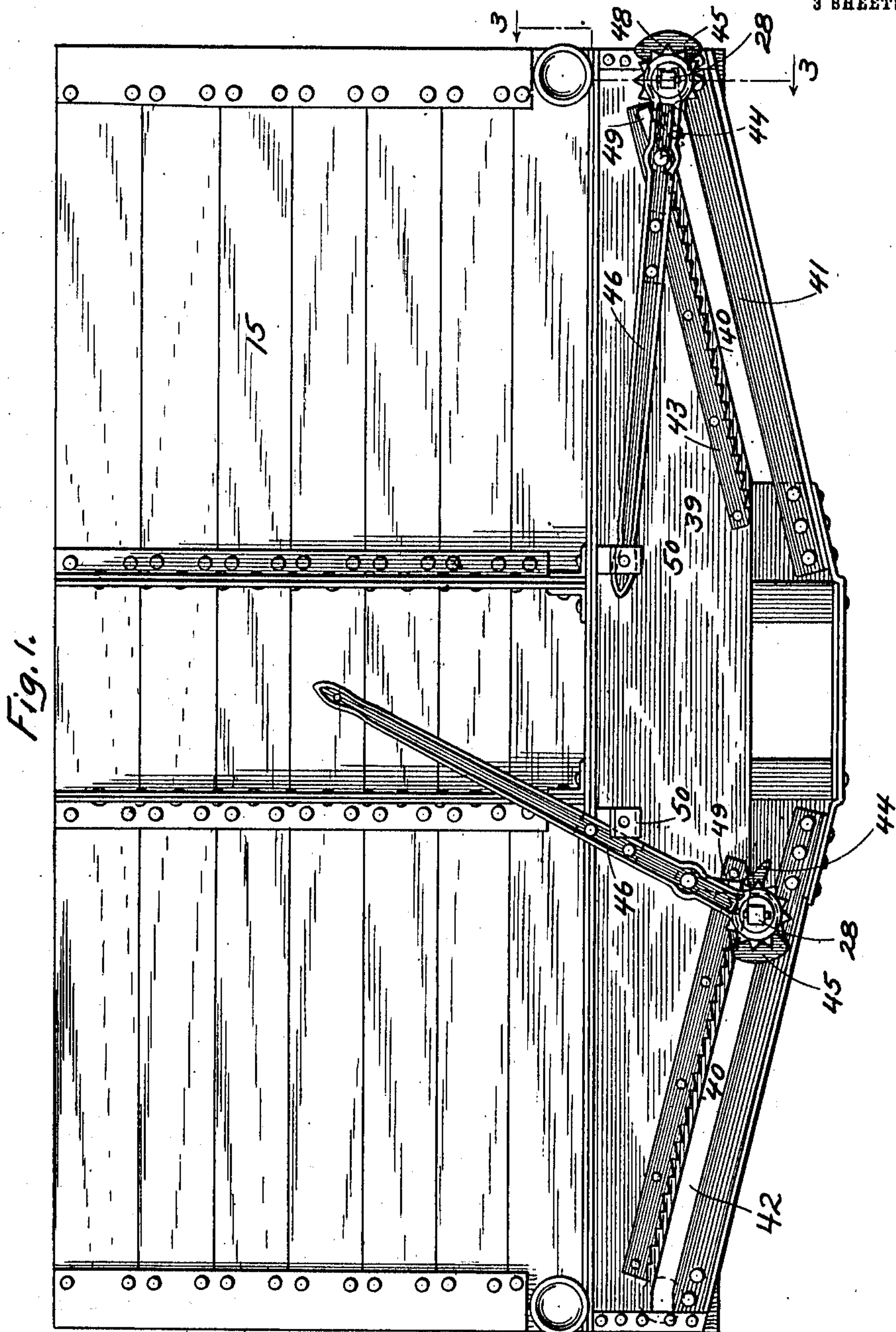


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DUMP CAR.
APPLICATION FILED JUNE 30, 1908.

988,310.

Patented Apr. 4, 1911.

3 SHEETS-SHEET 1.



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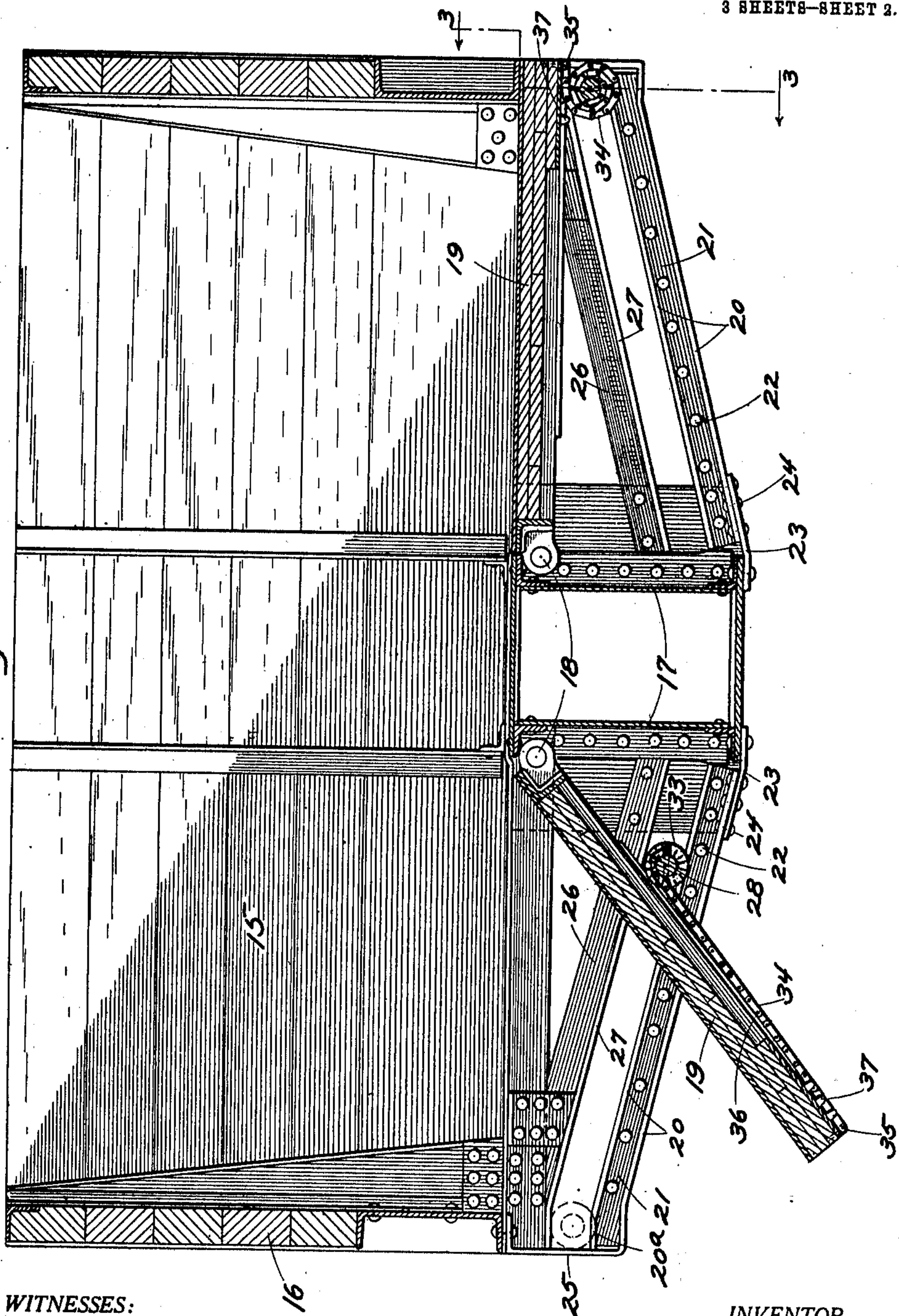
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3 SHEETS-SHEET 2.

Fig. 2.



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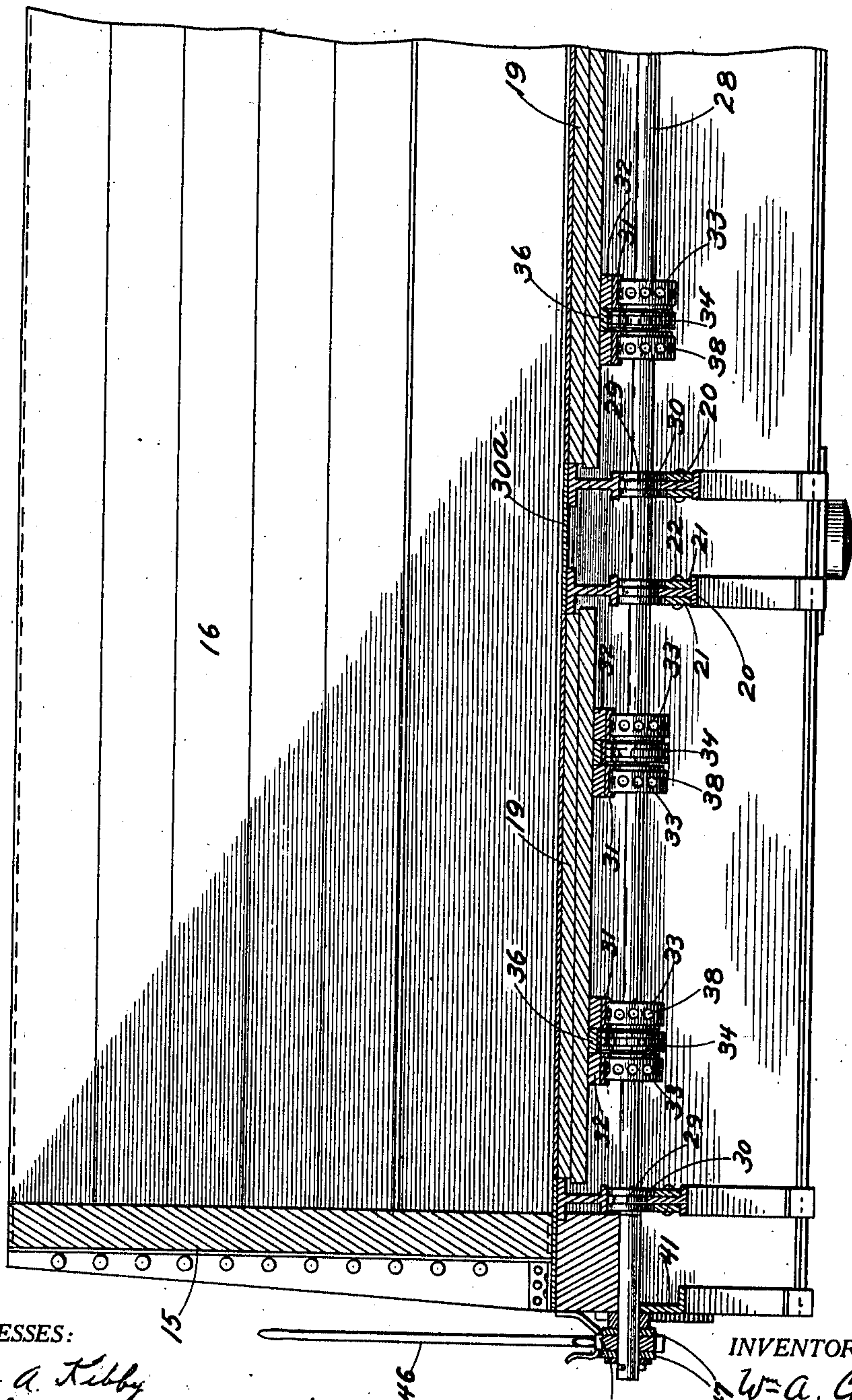
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3 SHEETS—SHEET 3.

Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM A. CASWELL, OF CHICAGO, ILLINOIS, ASSIGNOR TO NATIONAL DUMP CAR COMPANY, A CORPORATION OF MAINE.

DUMP-CAR.

988,310.

Specification of Letters Patent.

Patented Apr. 4, 1911.

Application filed June 30, 1908. Serial No. 441,159.

To all whom it may concern:

Be it known that I, WILLIAM A. CASWELL, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dump-Cars, of which the following is a specification.

The object of my invention is to provide a new and improved mechanism for supporting and operating dump car doors.

My invention relates to means for operating a reciprocatory door supporting shaft and also to means for holding such a shaft in any desired position.

The objects of my invention will be further pointed out in the following specification and claims, reference being had to the accompanying drawings, in which—

Figure 1 is an end elevation of a car body embodying my invention. Fig. 2 is a cross section; and Fig. 3 is a longitudinal cross section on the line 3, 3 of the Figs. 1 and 2.

In the particular embodiment of my invention which I have chosen to illustrate in the accompanying drawings, I have shown my invention applied to a car body of gondola type having end walls 15 and side walls 16 with a floor composed wholly or in part of dump floor sections 19. These dump floor sections 19 are hinged longitudinally at 18 in proximity to the center sills 17. Inclined tracks 20 each having an inverted T-section extend transversely from the center sill to the sides of the car. Each one of these inclined tracks 20 has reinforcing plates 21 attached to its sides by means of the rivets 22. At its lower end it is secured to its center sill by the brace 23 and rivets 24. At its upper end it is secured to the extremity of the cross members by means of the attaching piece 25. The upper and outer end of the track 20 is made level, as indicated by the reference numeral 20^a. Above each inclined track 20, and spaced therefrom, is an overhanging member 26 having a transverse web 27 on its lower edge. The longitudinal shaft 28 carries the loose rollers 29 which rest upon the inclined tracks 20 with flanges 30 engaging the same. These tracks and rollers that have just been described are underneath the fixed floor sections 30^a.

The hinged floor sections 19 have channel irons tracks 31 arranged transversely in pairs on the under surface of the doors 19. The channels 31 are supported on wooden

strips 32. Opposite the channel strips 31 on the doors are rollers 33 on the shaft 28. Between each pair of rollers 33 a chain 34 has one end attached to the shaft 28, its other end extending therefrom to the point 35 of attachment to the outer edge of the door 19. A channel 36 is left between the pairs of tracks 31, and in this channel the chain 34 is adapted to lie. A few teeth 37 project downwardly from the tracks 31 near the outer ends thereof, and recesses 38 in the peripheral faces of the rollers 33 are adapted to coact with the teeth 37.

The end sill 39 (see Fig. 1) has inclined lower edges 40 on each side. Below these and parallel therewith are the braces 41 which form tracks on which the shaft 28 may reciprocate in the intermediate slot 42. Along the upper edge of the slot 42 is a rack 43 having teeth of the character shown in Fig. 1. On the shaft 28 is pivotally mounted a dog 44, adapted to engage said rack 43. This dog carries a counter-weight 45. The lever 46 has a forked end 47, the members of the fork loosely engaging the shaft 28 on either side of the ratchet wheel 48 thereon. The lever 46 carries a reversible pawl 49 adapted to coact with said ratchet wheel 48. Hooks 50 are attached to the end sill 39 to support the extremities of the levers 46.

The doors being open as indicated on the left of Fig. 2, they may be closed by means of the lever 46, the pawl 49 being adjusted so as to cause the shaft 28 to wind on the chain 34. Between the strokes of the lever 46 the dog 44 coacting with the rack 43 will prevent the shaft 28 from slipping back. When the shaft 28 gets near the upper and outer end of the track 20 the depressions 38 in the rollers 33 will engage the teeth 37. When it is desired to open the door, the pawl 49 being properly adjusted, the dog 44 should be disengaged from the rack 43, and then by means of the lever 46 the shaft 28 may be started off from the level portion 20^a and down the inclined track 20. This movement will be positive because of the engagement between the depressions 38 and the teeth 37. As soon as the shaft 28 is displaced a little distance from its extreme outer position, the weight of the doors will push it along until the doors are wide open. The teeth 37 and the holes 38 in the rollers 33 are in engagement only while the shaft 28

is on the upper and outer part of track 20. The purpose of this is to afford a positive means for pulling the shaft 28 off from the level part 20^a of the track 20 by rotating the shaft 28 and at the same time unwinding the flat chain 34 therefrom.

I claim:

1. In a dump car, a hinged dumping floor section, a reciprocatory shaft for supporting and operating the same, supporting tracks for the said shaft, a rack lying adjacent to and above the path of movement of the shaft, a dog pivoted on the shaft and means to cause said dog to engage the rack.

2. In a dump car, a hinged dumping floor section, a reciprocatory shaft for supporting and operating the same, supporting tracks for the said shaft, a rack lying adjacent to and above the path of movement of the shaft, and a counterweighted dog pivoted on said shaft.

3. In a dump car, a hinged dumping floor section, a reciprocatory shaft for supporting and operating the same, supporting tracks for the said shaft, a rack lying above the path of movement of the shaft, and a dog pivoted on the shaft and adapted to engage the rack.

4. In a dump car, a hinged dumping floor section, a reciprocatory shaft for supporting and operating the same, supporting tracks for the said shaft, a rack lying adjacent to the path of movement of the shaft, and a counter-weighted dog pivoted on the shaft and adapted to engage the rack.

5. In a dump car, a hinged dumping floor section, a reciprocatory shaft for supporting and operating the same, supporting tracks for the said shaft, rollers fixed on the shaft and adapted to roll across the under surface of the doors, teeth projecting down from the under surface of the doors, and recesses in said rollers adapted to coact with said teeth.

6. In a dump car, a hinged dumping floor section, a reciprocatory shaft for supporting and operating the same, supporting tracks for the said shaft, a pair of rollers fixed on

said shaft and a chain having one end attached to the shaft between the rollers and the other end attached to the door near its free edge.

7. In a dump car, a hinged dumping floor section, a reciprocatory shaft for supporting and operating the same, supporting tracks for the said shaft, a pair of shallow channels attached transversely on the under surface of each door, rollers fixed on the said shaft and engaging the said channels, and a chain having one end attached to the shaft between the rollers and the other end attached to the door.

8. In a dump car, a hinged dumping floor section, a reciprocatory shaft for supporting and operating the same, supporting tracks for the said shaft, loose rollers on the shaft engaging said tracks, fixed rollers on the shaft, transverse tracks on the under surface of each door to coact with said fixed rollers, and means whereby rotation of the shaft will cause reciprocation thereof.

9. In a dump car, a hinged dumping floor section, a reciprocatory shaft for supporting and operating the same, a chain having one end secured to said shaft and the other end to a part of the car, means for rotating said shaft, gearing upon said shaft and upon said dumping floor section, said gearing being adapted to engage when said shaft is in its outer position.

10. In a dump car, a hinged dumping floor section, a reciprocatory shaft for supporting and operating the same, supporting tracks for the said shaft, a chain having one end attached to the shaft and the other end attached to said dumping floor section adjacent its free edge, gearing upon said shaft and upon said floor section adjacent its free edge, and means for rotating said shaft.

In testimony whereof, I, have subscribed my name.

WILLIAM A. CASWELL.

Witnesses:

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