

No. 754,351.

PATENTED MAR. 8, 1904.

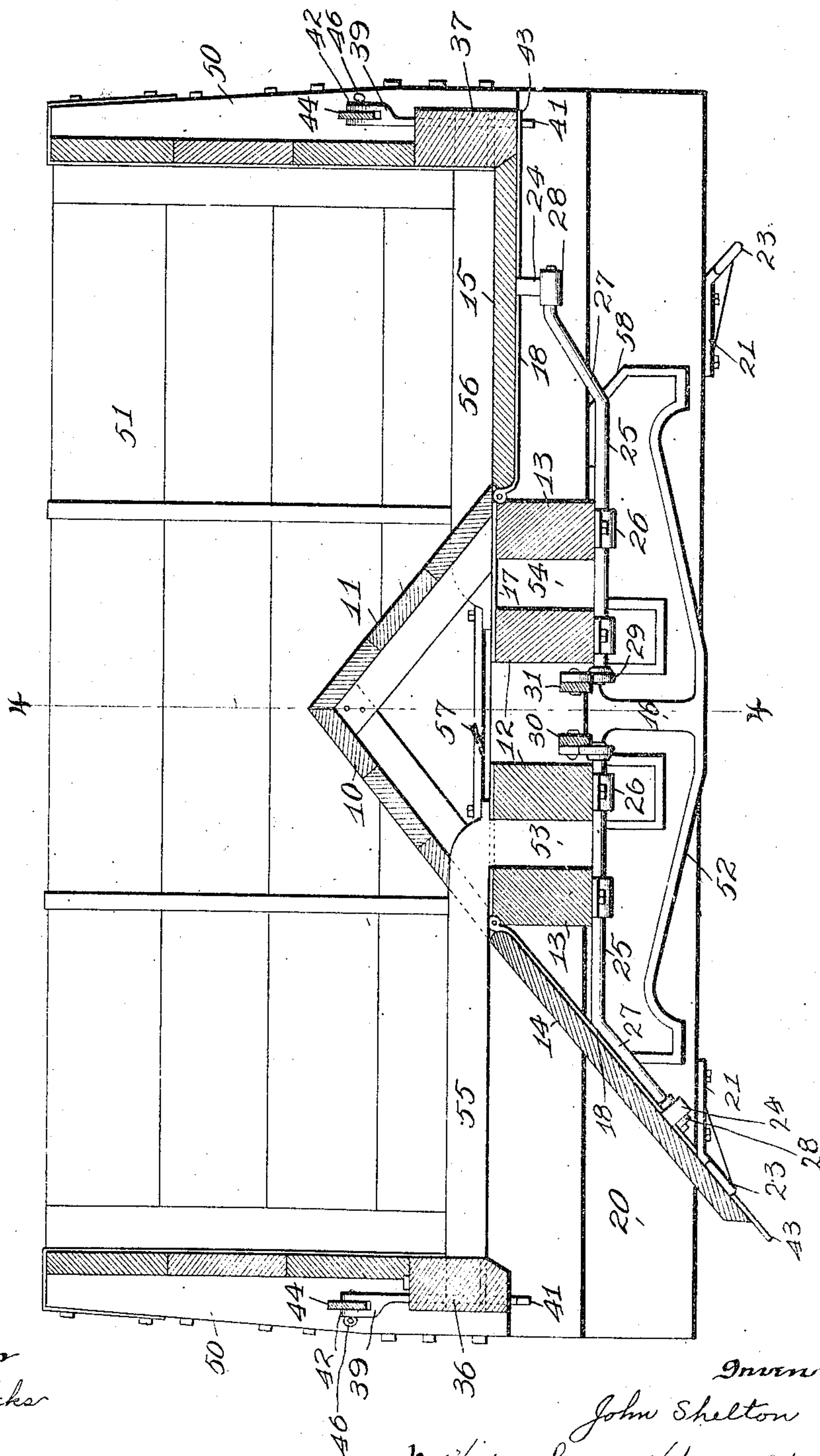
J. SHELTON.
DUMP CAR.

APPLICATION FILED JAN. 2, 1904.

NO MODEL.

4 SHEETS—SHEET 2.

Fig. 3



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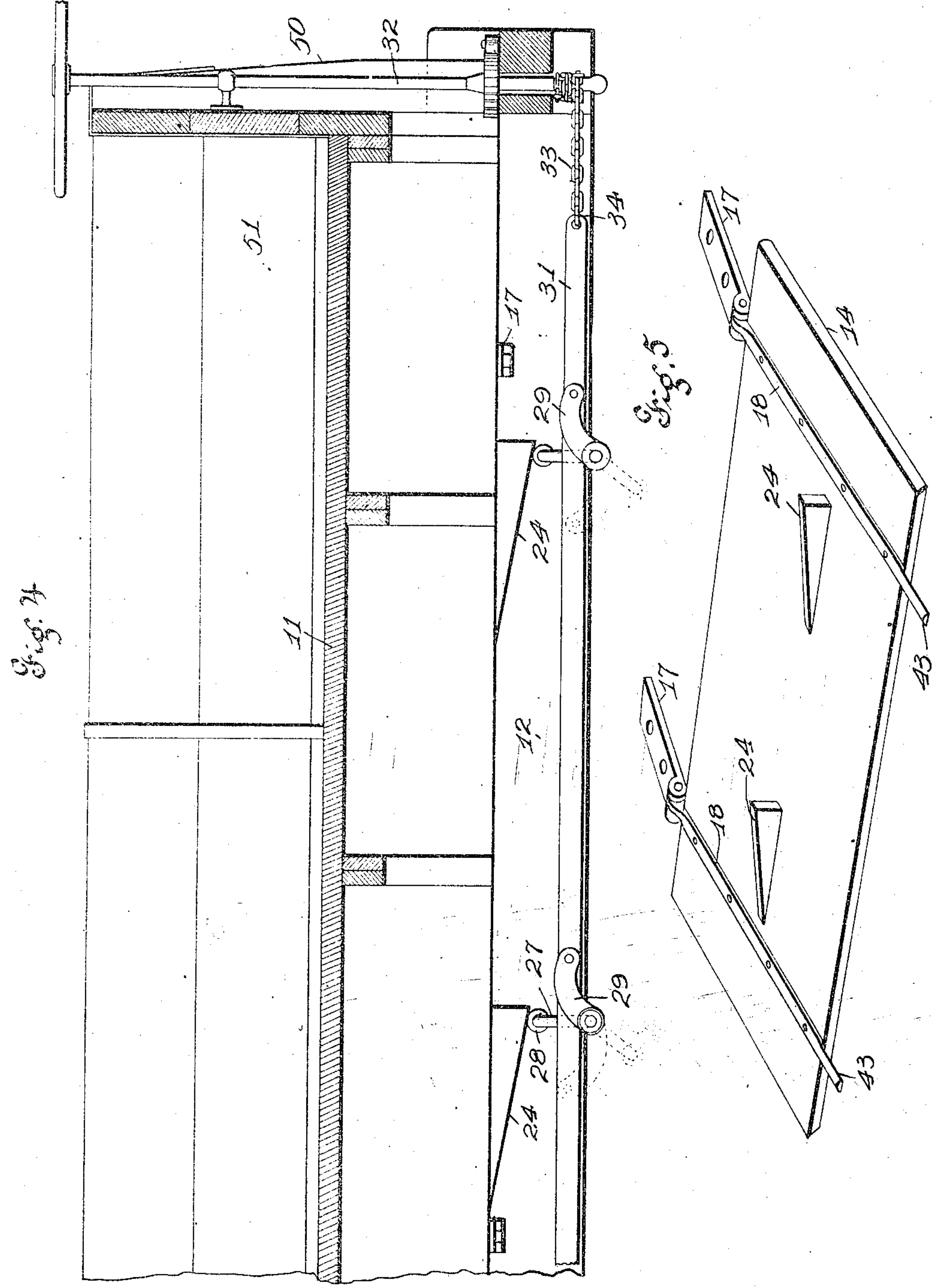
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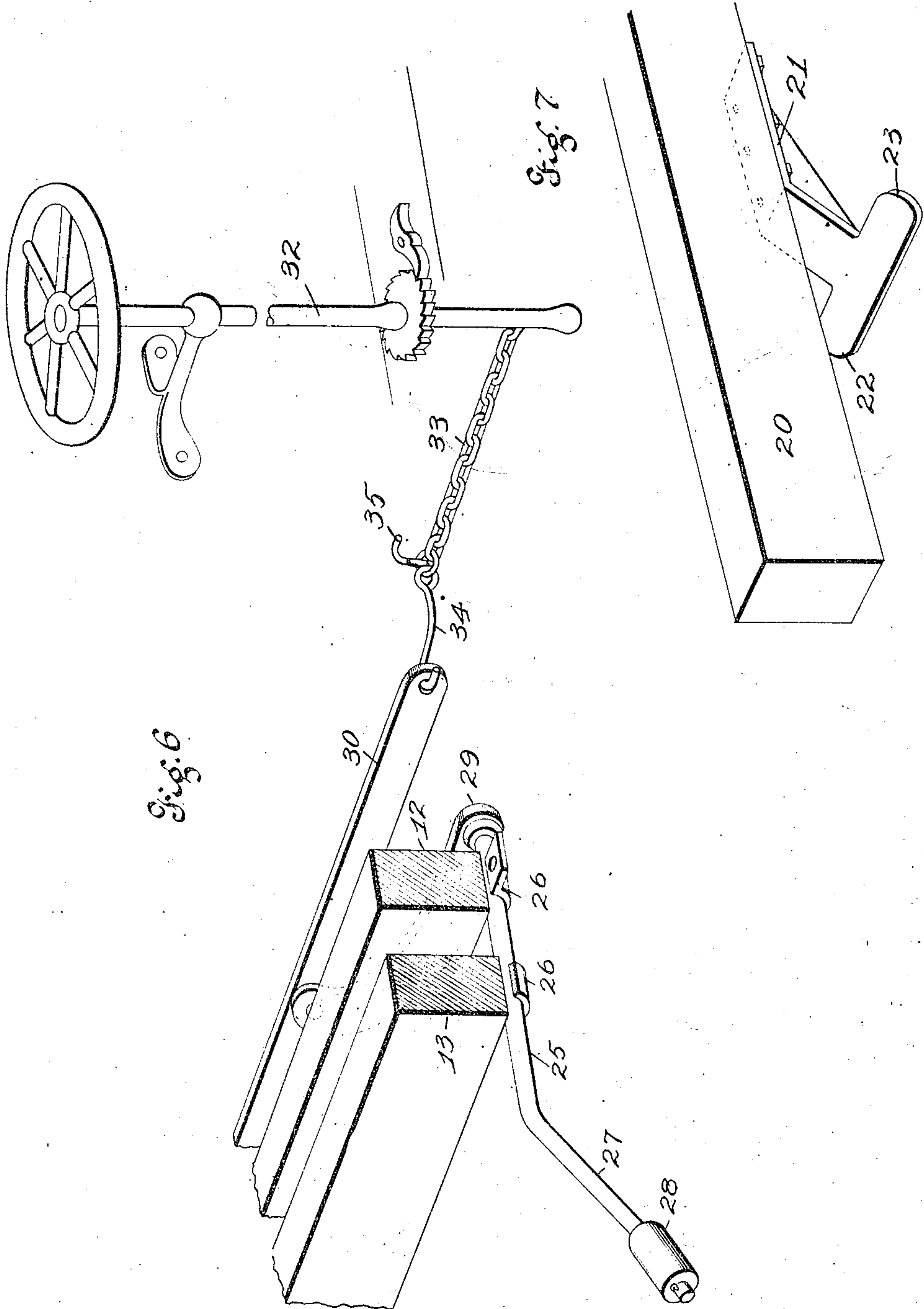
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4 SHEETS—SHEET 4.



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UNITED STATES PATENT OFFICE.

JOHN SHELTON, OF DENVER, COLORADO.

DUMP-CAR.

SPECIFICATION forming part of Letters Patent No. 754,351, dated March 8, 1904.

Application filed January 2, 1904. Serial No. 187,477. (No model.)

To all whom it may concern:

Be it known that I, JOHN SHELTON, a citizen of the United States, residing at Denver, Arapahoe county, State of Colorado, have invented certain new and useful Improvements in Dump-Cars, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to dump-cars, my object being to produce improved means of dumping the contents of the car or any desired part thereof and of closing the dump-doors.

My invention comprises the combination, with a car having a hopper-shaped bottom and a plurality of dump-doors leading from the bottom, of cams attached to said doors, shafts rotatably mounted, arms extending from the shafts and engaging the cams to close the doors, operating-arms attached to the shafts, a rod connecting said operating-arms together, a winding-staff connected to said rod, snaps for holding the doors closed, and means whereby said snaps may be connected for simultaneously releasing the doors, or disconnected, as desired.

In the drawings, Figure 1 is a side elevation of a car-body embodying the principles of my invention. Fig. 2 is an enlarged detail of one end of the car. Fig. 3 is a cross-section on the line 3-3 of Fig. 2. Fig. 4 is a central section on the line 4-4 of Fig. 3. Fig. 5 is a perspective of one of the dump-doors. Fig. 6 is a perspective showing the connection between the winding-staff and the door-closing arms. Fig. 7 is a perspective showing stops to limit the fall of the doors.

Referring to the drawings in detail, the bottom of the car-body is divided transversely into three substantially equal parts, the central part consisting of the inclined walls 10 and 11, rigidly mounted upon the center and intermediate sills 12 and 13, so as to divide the car-bottom longitudinally into two hoppers. The dump-doors 14 and 15 are hinged to the lower edges of walls 10 and 11 and constitute the two outside portions of the car-bottom, said doors leading from the hopper-shaped bottom. The sills 12 and 13 consti-

tute the central and intermediate sills of the car-body, there being two sills 12, one on each side of the center, and two sills 13, one on each side of the sills 12, as shown in Fig. 3, and said sills are supported by the bolsters 16. The hinge members 17 are secured to the upper sides of the sills, and the hinge members 18 are secured to the bottom of the doors and extend entirely across the doors, as shown in Fig. 5. The truss cross-sills 19 and 20 are mounted below the sills 12 and 13 and crosswise thereof, as shown in Fig. 1, there being a door between said cross-sills 19 and 20 on each side of the car and there being doors both in front of the cross-sill 20 and behind the cross-sill 19. The stop-plates 21 are secured to the lower faces of the cross-sills 19 and 20, and arms 22 and 23 extend laterally from said plates to form stops to limit the fall of the doors. The wedge-shaped cams 24 are attached to the bottoms of the doors near their transverse centers, the inclines of said cams being all in the same direction.

The shafts 25 are secured to the lower faces of the sills 12 and 13 by bearings 26, and arms 27 extend from the outer ends of said shafts at an angle of approximately thirty degrees and carry rollers 28 upon their outer ends to engage the cams 24. The operating-arms 29 are secured to the inner ends of the shafts 25, and a rod 30 connects the outer ends of the arms 29 upon one side of the car, and a similar rod 31 connects the arms upon the other side of the car.

The winding-staff 32 is mounted upon the end of the car in the usual way, and a chain 33 extends backwardly from the staff, there being a hook 34 to connect the rear end of the chain to the rod 30 and a similar hook 35 to connect the rear end of the chain to the rod 31, so that by operating the winding-staff all the doors of the car may be simultaneously closed, or, if desired, either of the hooks 34 or 35 may be disconnected and the doors upon one side of the car operated independently of the doors upon the other side of the car.

The side sills 36 and 37 have vertical holes 38, as shown in Fig. 2, and the latches 39 are extended through said holes 38 and mounted upon the pins 40, there being hooks 41 at the

lower ends of said latches and bifurcated ears 42 at their upper ends.

The ends of the hinge members 18 extend beyond the edges of the doors and form latch-
5 ing-dogs 43 to be engaged by the hooks 41 to hold the doors closed. The upper ends of the latches 39 are connected by the rods 44, said rods being connected to the levers 45, there
10 being a series of latches upon each side of the car. The pins 46 are removably inserted through the ears 42 and the rods 44, so that by removing the pins any desired number of the latches may be thrown out of operation
15 as required to open one door without opening the remaining doors. A perforated rack 47 is mounted upon the end of the car-body beside each lever 45, and pins may be inserted through the openings 48 in said rack to hold the levers 45 in any desired position. The
20 rods 44 extend through horizontal openings 49 in the posts 50, said posts being framed to the side sills and the side boards 51 being attached to said posts. If desired, the levers 45 may be spring-actuated, so that when the
25 doors are closed the latches will automatically engage the dogs 43.

I wish to call especial attention to the construction of my body-bolster, which comprises the lower part 52, supporting the center and
30 intermediate sills 12 and 13, the pedestals 53 and 54, extending upwardly from the lower part 52 between the sills 12 and 13, and the arms 55 and 56, extending laterally from the upper ends of the pedestals 53 and 54 and
35 mortised through the sills 36 and 37 to support said sills, the arms 55 and 56 being triangular in cross-section, as shown in Fig. 2. The brace 57 connects the upper ends of the pedestals 53 and 54, as shown in Fig. 3.

40 By the use of my improved body-bolster I am enabled to use the long dump-doors extending from the cross-sills 19 and 20 to the ends of the car, said dump-doors covering the car-truck, passing under and swinging up
45 against the arms of the body-bolster, thus protecting the truck from the contents of the car. When these long doors swing downwardly, they rest upon the shoulders 58 upon the ends of the lower part of the body-bol-
50 ster, said shoulders forming stops to limit the fall of the doors.

Supposing that the dump-doors are open, the winding-staff is operated in the ordinary way to wind the chain 33 upon the staff, there-
55 by pulling the rods 30 and 31, rotating the shafts 25 and 26, swinging the arms 27 to cause the rollers 28 to engage the cams 24, and raising the doors to their closed positions. Then the levers 45 are operated to swing the
60 latches so that the hooks 41 will engage under the dogs 43 and hold the doors closed. If the doors are too heavy to be all operated at once, either of the hooks 34 or 35 may be put out of use and the doors upon one side
65 closed independently of the other side. When

it is desired to dump one door only, the pins 46 of the doors not to be dumped are removed. Then the lever 45 is operated to dump the other door. I also wish to call es-
70 special attention to the construction whereby the latches 39 are concealed in the side sills 36 and 37, thereby being protected from in-
jury.

The upper surfaces of the truss cross-sills and the upper surfaces of the body-bolsters 75 are A-shaped, so that they will catch none of the contents of the car.

By means of the cams and leverage I am enabled to close the doors perfectly tight, so that the contents of the car will not leak out 80 as in ordinary dump-cars.

In a companion application entitled "Body-bolsters," filed the 19th day of February, 1904, Serial No. 194,374, I have shown and claimed the body-bolster by itself, and I do not wish 85 to make such claims in this application.

I claim—

1. In a dump-car, a body-bolster adapted to rest upon the truck-bolster and extending up-
wardly through the center of the car-body 90 and then laterally to the side sills of the car-body, and dump-doors hinged in position to swing upwardly against the outer portions of the body-bolster, substantially as specified.

2. In a dump-car, a body-bolster, central 95 sills supported by the body-bolster, said body-bolster extending upwardly to a point above the central sills and then laterally and supporting side sills, and dump-doors hinged in position to swing upwardly against the lateral 100 portions of said body-bolster, substantially as specified.

3. A dump-car, comprising the combination with a car-body having a hopper-shaped bot-
tom and a plurality of dump-doors leading 105 from the bottom, of body-bolsters supporting the car-body and extending upwardly and laterally so that the doors swing upwardly against the body-bolster, and means of oper-
110 ating the doors, substantially as specified.

4. In a dump-car, the combination with a body-bolster having its arms located above the
dump-doors; the dump-doors hinged in posi-
115 tion to swing upwardly against said arms, and means of operating the doors, substantially as specified.

5. A dump-car, comprising the combination with a car-body having a hopper-shaped bot-
tom, a plurality of dump-doors leading from 120 the bottom, a body-bolster supporting said car-body, the arms of said bolster passing above the dump-doors, substantially as specified.

6. A dump-car, comprising the combination with a car having a hopper-shaped bottom, a
plurality of dump-doors leading from the bot- 125 tom, cams attached to said doors, shafts rotatably mounted, arms extending from the shafts and engaging the cams to close the doors, op-
erating-arms attached to the shafts, rods con-
130 necting the operating-arms together, a wind-

ing-staff connected to said rod, so that by winding the staff the doors are closed, and means of holding the doors closed, substantially as specified.

5 7. A dump-car, comprising the combination with a car having a hopper-shaped bottom, a plurality of dump-doors leading from the bottom, a body-bolster supporting the car-body, the arms of the bolster extending above the
10 doors, cams attached to said doors, shafts rotatably mounted, arms extending from the shafts and engaging the cams to close the doors, operating-arms attached to the shafts, a rod connecting said operating-arms, means
15 of operating said rod, and means of holding the doors closed, substantially as specified.

8. A dump-car, comprising the combination with a car having a hopper-shaped bottom, a plurality of dump-doors leading from the bottom, cams attached to said doors, shafts rotatably mounted, arms extending from the shafts and engaging the cams to close the doors, means of operating said shafts, snaps for holding the doors closed, said snaps being embed-

ded in the side sills of the car and protected from injury, and means of operating the snaps, substantially as specified.

9. A dump-car, comprising the combination with a car having a hopper-shaped bottom, a plurality of dump-doors leading from the bottom, cams attached to said doors, shafts rotatably mounted, arms extending from the shaft and engaging the cams to close the doors, means of operating said shafts, snaps for holding the doors closed, said snaps being embedded in the side sills of the car and protected from injury, and means whereby said snaps may be connected for simultaneously releasing the doors or disconnected as required to operate one door independent of the others, substantially as specified.

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

JOHN SHELTON.

Witnesses:

ALFRED A. EICKS,
M. G. IRION.