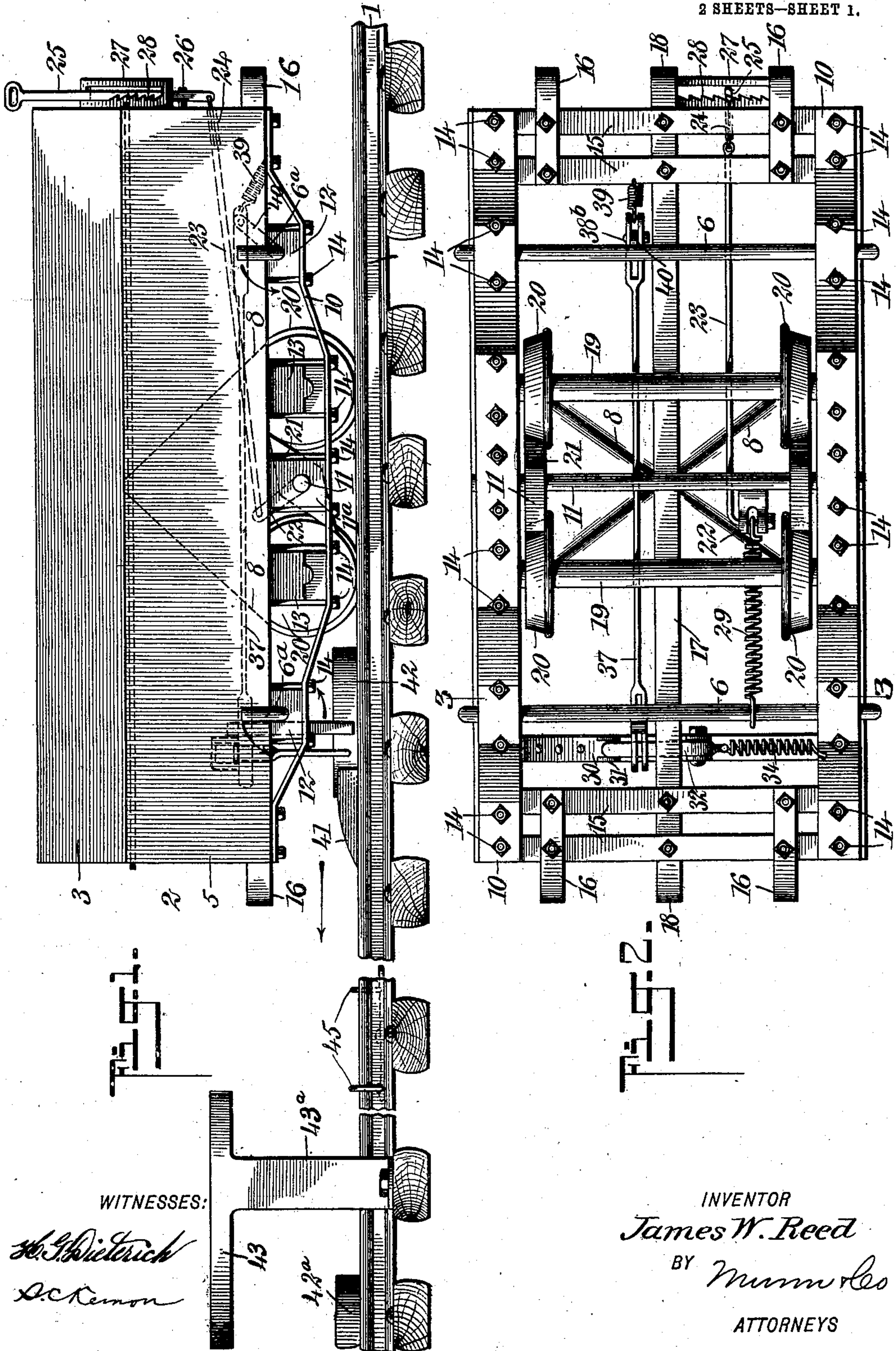


No. 889,718.

PATENTED JUNE 2, 1908.

J. W. REED.
AUTOMATIC DUMPING CAR.
APPLICATION FILED MAR. 28, 1906.

2 SHEETS—SHEET 1.

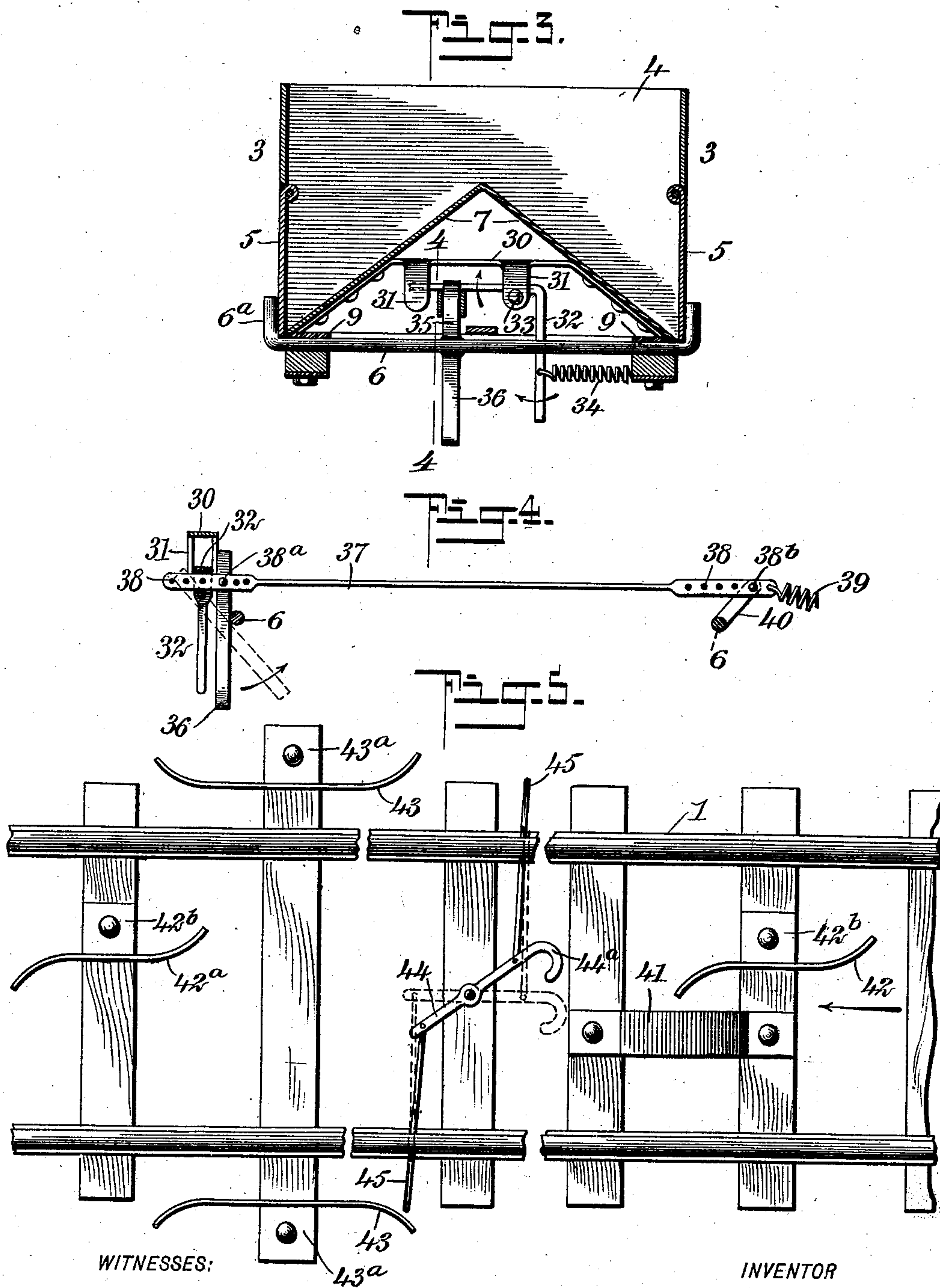


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2 SHEETS—SHEET 2



WITNESSES:

H. G. Winterich
S. C. Kinnon

INVENTOR

James W. Reed

BY

Mum & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

JAMES WILLIAM REED, OF BERWIND, COLORADO.

AUTOMATIC DUMPING-CAR.

No. 889,718.

Specification of Letters Patent.

Patented June 2, 1908.

Application filed March 28, 1906. Serial No. 308,462.

To all whom it may concern:

Be it known that I, JAMES WILLIAM REED, a citizen of the United States, and a resident of Berwind, in the county of Las Animas and State of Colorado, have invented a new and Improved Automatic Dumping-Car, of which the following is a full, clear, and exact description.

This invention is an improvement in automatic dumping cars more especially designed for hauling coal, but can be used with advantage for hauling ore, dirt or other desired material.

One of the objects of the invention is to provide a car which can be dumped and closed up automatically, thereby dispensing with the labor, time and expense usually entailed when these operations are performed by hand.

It has for a further object, to provide means fixed near the track at a point where the car is to be constantly dumped, to perform the dumping and closing of the car while the car is in continued motion on the track.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the car and track; Fig. 2 is a plan view of the car in inverted position; Fig. 3 is a transverse section on the line 3—3 of Fig. 2; Fig. 4 is a detail of the locking and unlocking means for the car sides; and Fig. 5 is a plan view of the rail and showing the position of the cams for opening and closing the car sides.

The numeral 1 indicates a railway track carrying a car 2 having sides 3, and fixed end portions 4. Hingedly attached to the sides 3 are side portions 5, adapted to be swung outwardly when released from upturned fingers 6^a on a locking bar 6 held to rock on a bottom frame of the car body. The bottom 7 of the car 2 is inclined from its longitudinal center downwardly to the lower edges of the pivotally mounted side portions 5, and has attached at its transverse center at each side of the longitudinal center, inclined portions 8, shown in Figs. 1 and 2. This construction provides a car bottom which will empty its load with certainty when the hinged side portions 5 are opened. The side edges of the car bottom 7 are riveted or otherwise secured to side plates 9 running the entire length of the car. To both sides

and at each end of the car is secured an angular bar 10 spaced from the plates 9 and forming supporting side frames for the car journals and supporting bearings for the locking bars 6 and brake shaft 11. Each angular bar 10, as shown best in Fig. 1, consists of a series of horizontal and inclined portions, the horizontal portions for the purpose of seating bearings 12 and journal boxes 13, and securely clamping them against the plates 9 by means of bolts 14 fitting closely at each side of each bearing and journal box. Secured between the plates 9 and bar 10, at each end thereof, is a pair of parallel transverse bars 15 carrying bumpers 16 and an intermediate coupling bar 17, having couplers 18 at each end.

In the journal boxes 13 rotate the journals carried at the ends of axles 19, upon which wheels 20 are fixed. Between the wheels 20 bearings 11^a are secured on the bars 10, carrying the brake shaft 11 that is provided with brake shoes 21 secured to each end for contacting with the tread of the wheels. Fixed to the brake shaft is a bifurcated arm 22 connected to a link 23, which at one end is connected to a chain 24 attached to the lower end of a lever 25 pivotally mounted on a pin 26. The lever 25 passes through a slotted and curved bracket 27 fixed at one end of the car, having teeth 28 with which a projection on the lever is adapted to engage when desired to lock the shoes 21 against the wheels. The link 23 passes through the bifurcated arm 22 and is pivotally attached thereto by having its end bent at right angles and inserted therethrough, said link is engaged in the bifurcation of the arm by one end of a spring 29 held at its opposite end on one of the locking bars 6. By this construction the brake shoes can be easily applied to the wheels by turning the lever 25 on its pivot 26 and held in this position by the rack teeth 28 engaging the lever and released by the spring 29 when the bar and teeth are disengaged.

Secured to the bottom of the car, as best shown in Fig. 3, is a sheet metal support 30 with downwardly-bent wings 31 at each side. One pair of said wings are for pivotally supporting an L-shaped lever 32 at 33 and the other pair for forming guides for the horizontal end of said lever. Attached to one side of the car and to a downwardly-extending arm of the lever 32, is a spring 34 for holding the horizontal portion of the lever 32 in the path of an arm 35 on the adjacent lock-

ing bar 6, said arm 35 having a portion 36 extending below the locking bar for a purpose hereinafter described. Adjustably secured to the arm 35 by means of a pin 38^a is a link 5 37 having bifurcations at each end provided with a series of alining holes 38. The other end of the link is attached by a spring 39 to a fixed portion of the car and through a pivot pin 38^b passing through a pair of the alining 10 holes 38 to an arm 40 rigidly attached to one of the locking bars 6. It is thus apparent that by moving the horizontal arm of the lever 32 out of the path of the arm 35, the projecting arm 36 may be operated to turn 15 the locking bars 6 in their bearings, thereby disengaging the locking fingers 6^a thereon from the hinged portion 5 of the sides and allowing the load to slide from the bottom of the car body.

20 On the track 1 at some fixed point for unloading the car, I provide a block 41 and thin spring cams 42, 42^a and 43, the cams 42 and 42^a being fixed near the center of the track and the cams 43 intermediate and at each 25 side thereof. The cams 42 and 42^a are slightly S-shaped, as shown in Fig. 5, and are supported by standards 42^b, and the cams 43 are convex on their opposed faces and are supported on standards 43^a, to about the height 30 of the center of the hinged side portions 5. The form of the block 41 is best shown in Fig. 1 and has a vertical front face and a slightly rounded and tapering back positioned near the cam 42. By making the cams all of 35 spring metal, they are enabled to yield and take up considerable shock when brought into engagement with the car.

44 is a lever pivoted to one of the ties of the track between the cams 42 and 42^a, having a handle 44^a and carrying hooks 45 at 40 each end, adapted to be projected over the rails, when the lever is turned on its pivot to give the car a jolt as the wheels pass over them in order to positively shake the load 45 from the car bed.

The operation of the unloading mechanism is as follows: Upon moving the loaded car in the direction of the arrow shown in Fig. 1, the vertical portion of the lever 32 engages the cam 42, whereby its upper end is 50 carried out of the path of the arm 35, after which the arm 36 strikes the vertical face of the block 41 turning the locking bars 6 in their bearings and the locking fingers 6^a from 55 engagement with the side portions 5, permitting the load to slide from the bottom of the car. On the continued movement of the car in the same direction, the hinged side portions 5 are engaged by the spring cams 43 60 pushing them into closed position and at about the same time the arm 36 passes off the block 41 sufficiently to allow the spring 39 through link 37, locking bars 38 and locking fingers 6^a, to lock the hinged sides 5 in 65 place. The arm 35 is, however, not permit-

ted to return to the proper side of the lever 32 since this lever is released soon after the arm 36 engages the block 41. In order to place the lever on the proper side of the arm 35, the spring cam 42^a is provided. As this 70 cam is struck by the vertical arm of the lever 32, its horizontal arm is raised and the arm 35 springs to a locked position. It is thus seen by the continued movement of the car in one direction its sides are unlocked, the 75 load discharged and the sides relocked without any manipulation other than the movement of the car on the track.

It is not my intention to limit the invention to the exact details of construction hereinbefore described, but consider that I am 80 entitled to such modifications as fall within a fair interpretation of the claims.

Having thus described my invention I claim as new and desire to secure by Letters 85 Patent:

1. In a dumping car, hinged side portions, locking bars for locking the side portions in place, locking fingers carried by the bars, and automatic means for revolving said bars 90 axially to disengage the fingers from the side portions.

2. In a dumping car, movable side portions, locking bars having locking fingers transversely journaled on the car for locking 95 the side portions in place, means for automatically operating the bars to unlock the side portions, and cams for returning them to a locked position.

3. In a dumping car, movable sides, means 100 for locking the sides in place, and cams fixed at a predetermined dumping point for releasing the sides and cams acting directly on the sides to return them to a locked position by the movement of the car on the track. 105

4. In a dumping car, hinged sides, locking bars carrying locking fingers for locking the sides in place, an arm projecting upwardly from one of the locking bars, and a second arm projecting downwardly from the same 110 bar for disengaging the fingers from the sides.

5. In a dumping car, hinged sides, locking bars carrying locking fingers for locking the sides in place, an arm projecting upwardly from one of the locking bars, means for locking 115 the arm in place, and a second arm projecting downwardly from the same bar for disengaging the fingers from the sides.

6. In a dumping car, hinged sides, a locking bar having a locking finger at each end for 120 engaging the sides, means connecting the bar for turning the fingers to disengage the sides, and independent means to return the fingers to a locked position.

7. In a dumping car, hinged sides, locking 125 bars having fingers for engaging the sides, a support secured to the car, a lever pivotally mounted on the support, an arm carried by one of the bars normally projecting into the path of the lever, adjustable means connect- 130

ing the bars, and means fixed to the road-bed for moving the lever from the path of the arm and rocking the arm to disengage the fingers from the sides.

5 8. In a dumping car, hinged sides, locking bars having locking fingers for locking the sides, arms carried by both locking bars, a link connecting the arms, and means for axially rotating the bars for disengaging the
10 fingers from the sides of the car.

9. In a dumping car, movable side portions, means fixed to the road bed operating to unlock the side portions, means fixed to the road bed for locking the same and means
15 for giving the car a jolt between said unlocking and locking means, for the purpose specified.

10. A dumping car, movable side portions, means for unlocking the same, means
20 for locking the same, and adjustable means adapted to be projected over the track to give the car a jolt for the purpose specified.

11. In a dumping car, movable sides hinged to the car, angular bars at each side of
25 the car, journal boxes and bearings mounted in the angular bars, and means in the bearings for locking the car sides in closed relation.

12. In a dumping car, hinged side portions, bars secured at each side of the car made up of inclined and horizontal portions,
30 bearings mounted on the horizontal portions

at each end of the car, journal boxes mounted on the horizontal portion intermediate of car, and locking bars in the bearings for lock- 35 ing the car sides in position.

13. In a dumping car, sides hinged to the car, locking bars having a locking finger at each end mounted in bearings at each end of the car, a link adjustably connecting the
40 bars, an arm for turning the bars in their bearings to disengage the sides, and a spring for returning them to a locked position.

14. In an apparatus of the class described, a dumping platform arranged for the travel
45 of dumping wagons, and yielding means carried by each side of said platform and interposed in the path of travel of the wagon for engaging and restoring the latter to closed position after a dumping operation. 50

15. In an apparatus of the class described, a dumping platform arranged for the travel of dumping wagons, and a plurality of yield-
55 able arms supported by said platform and arranged in the path of travel of the wagon for engaging and restoring the latter to closed position.

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

JAMES WILLIAM REED.

Witnesses:

JAS. P. MCGARVEY,
JOHN JENNINGS.