No. 684,127. Patented Oct. 8, 1901.

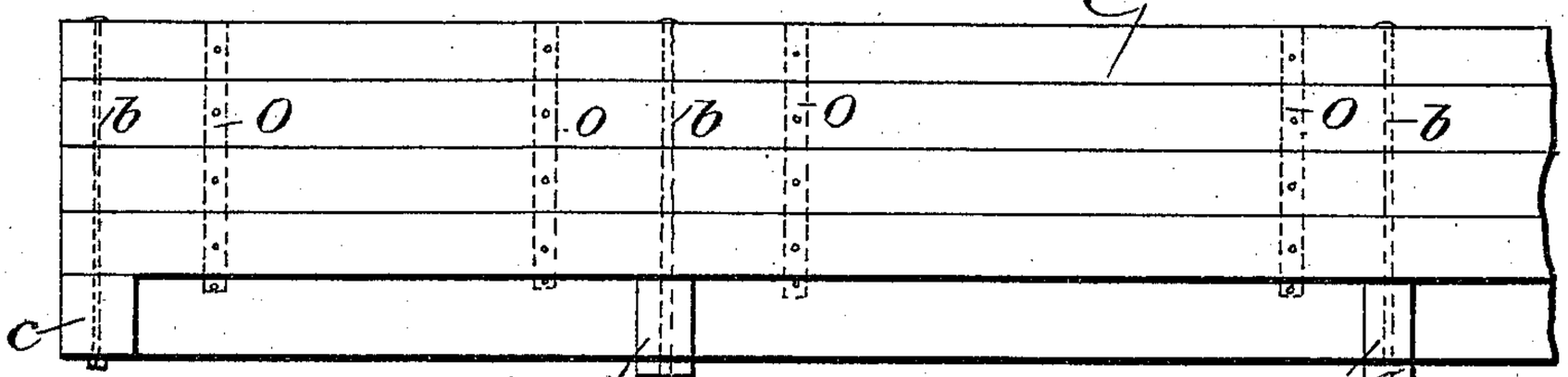
S. M. SWINDALL.

GRAVITY DUMP CAR.

(Application filed Sept. 6, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.



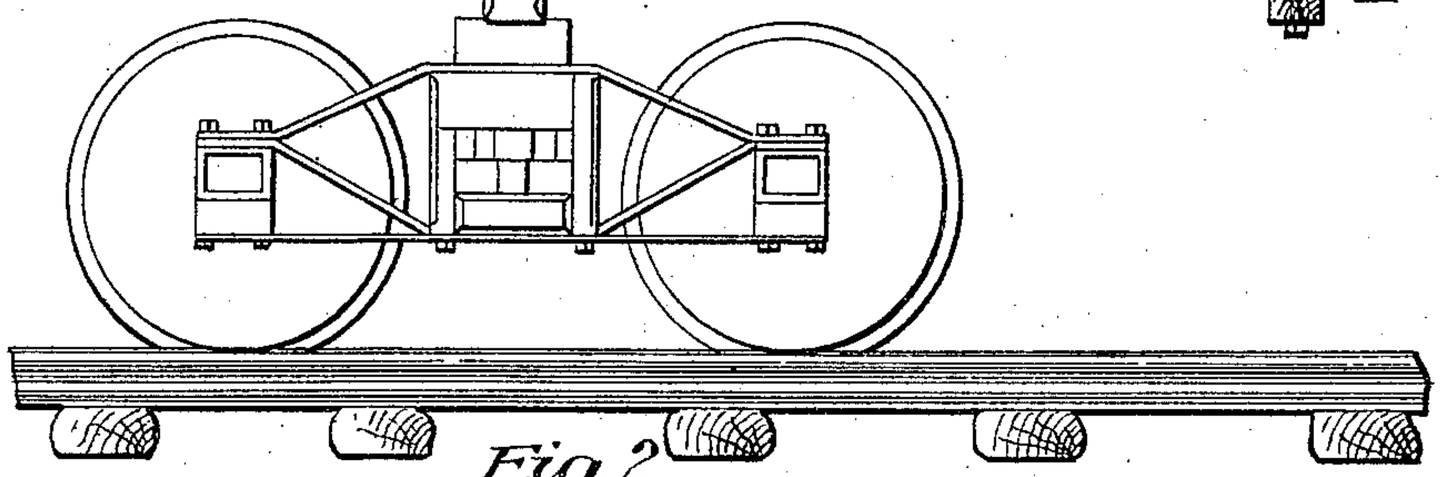
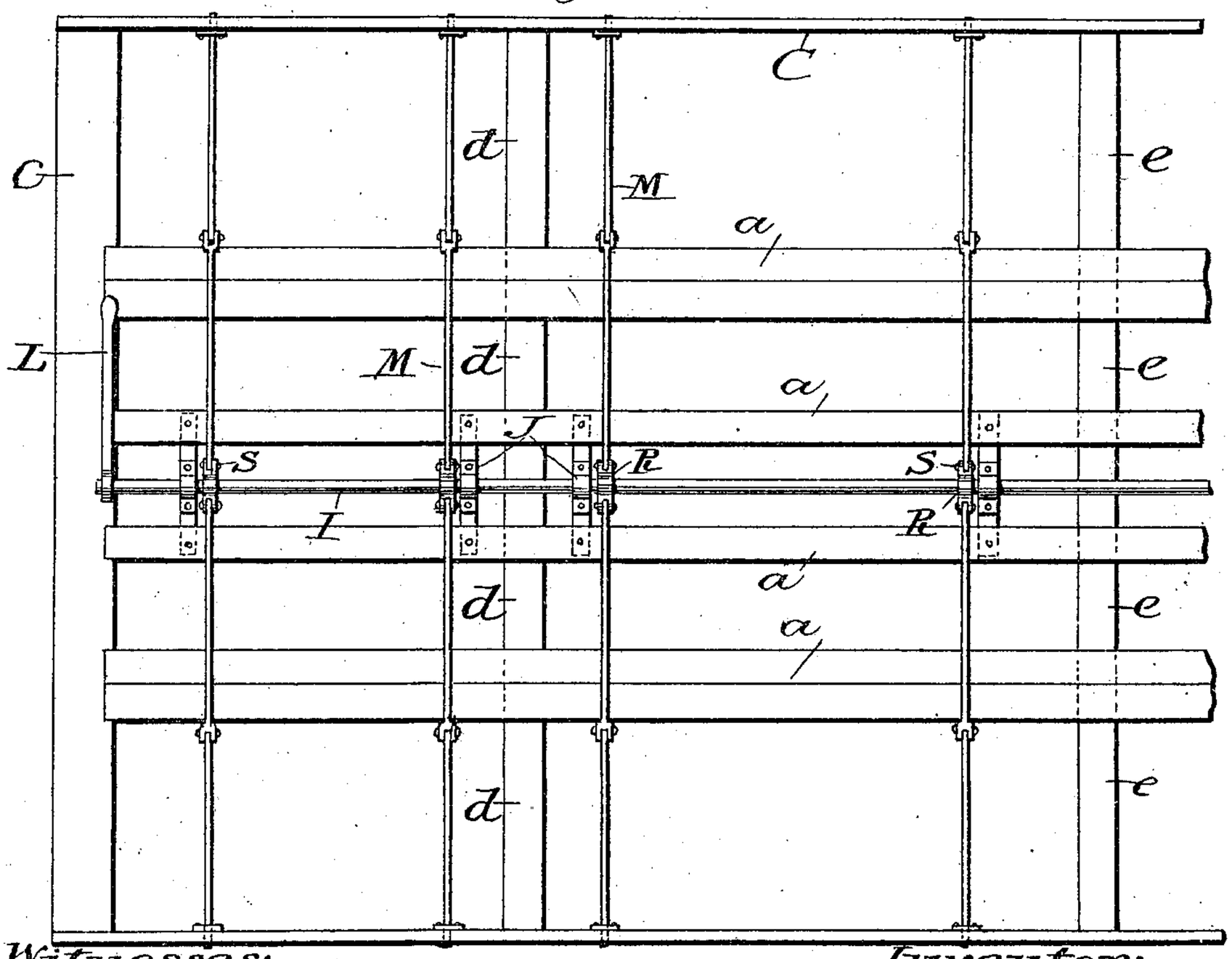


Fig. 2.



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Inventor:
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Fig. 3.

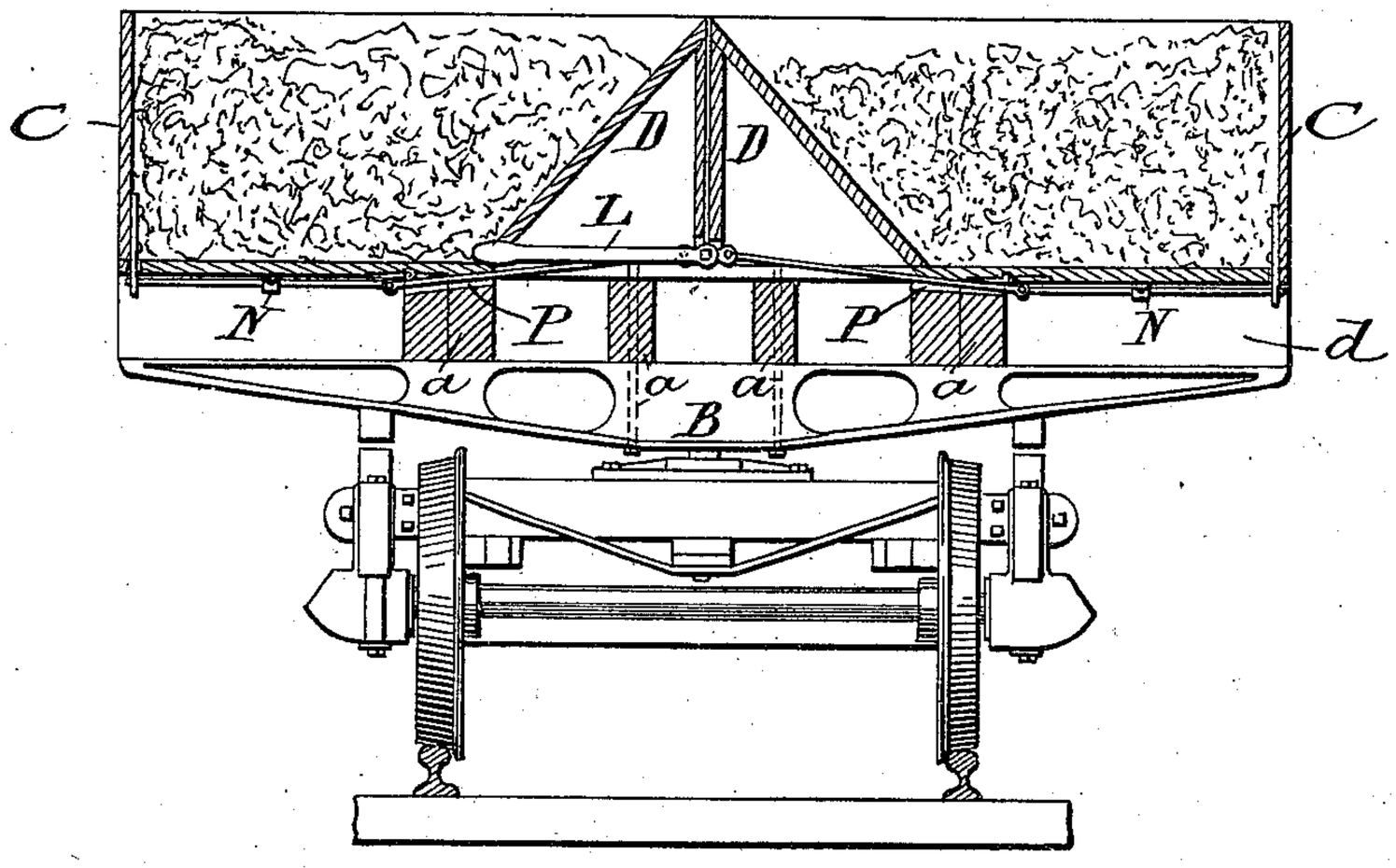
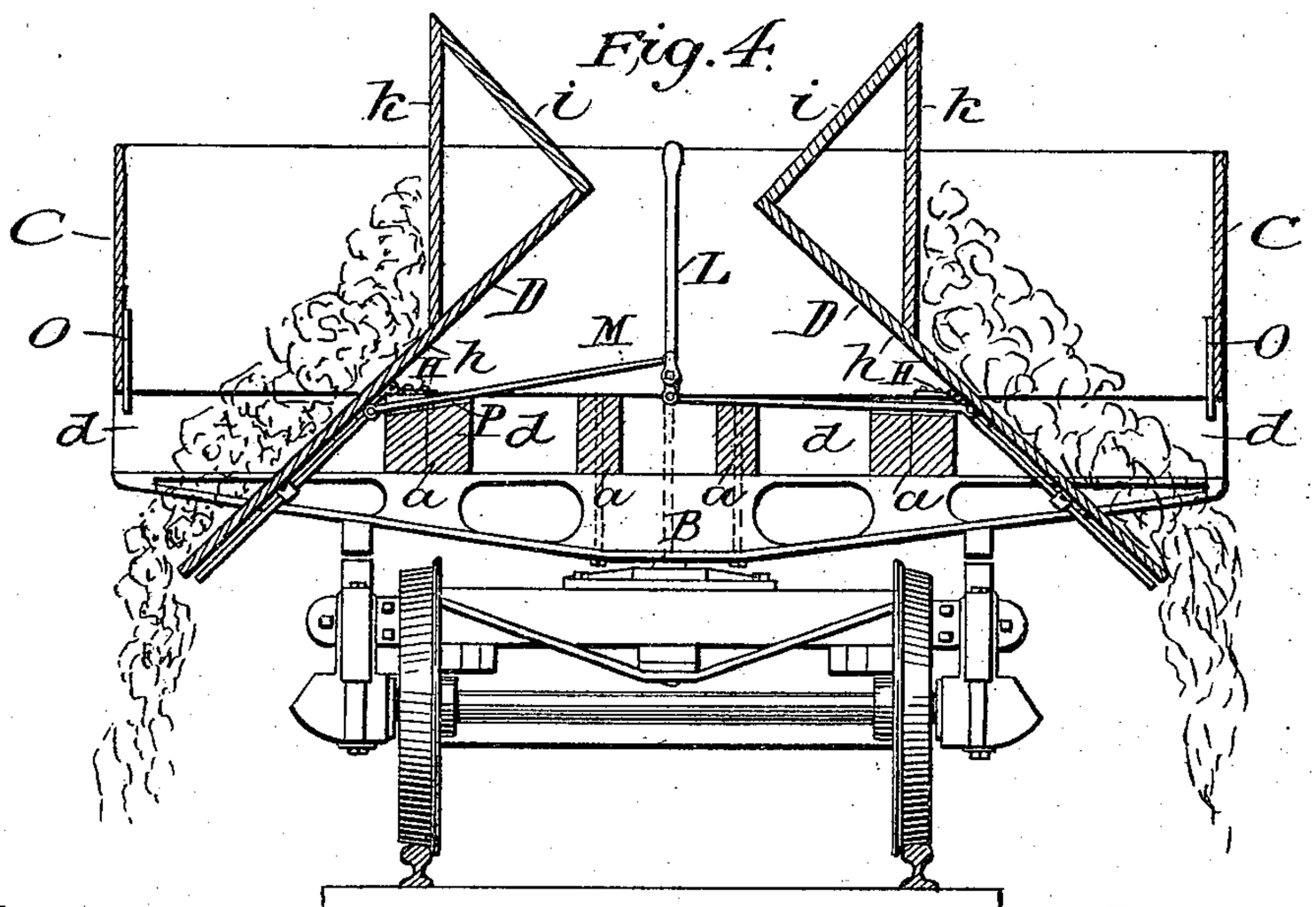


Fig. 4.



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UNITED STATES PATENT OFFICE.

STANLEY M. SWINDALL, OF TYLER, TEXAS.

GRAVITY DUMP-CAR.

SPECIFICATION forming part of Letters Patent No. 684,127, dated October 8, 1901.

Application filed September 6, 1900. Serial No. 29,173. (No model.)

To all whom it may concern:

Be it known that I, STANLEY M. SWINDALL, a citizen of the United States, residing at Tyler, in the county of Smith and State of Texas, have invented a new and useful Improved Gravity Dump-Car, of which the following is a specification.

My invention relates to dump-cars, and has for its object the production of a car which shall be comparatively cheap in first cost, easily constructed, easily operated, not liable to become deranged, which shall be provided with dumping-sections which can be simultoneously operated, when so desired, which shall have the load supported mainly by the stringers adjacent the axial line of the car, and which shall possess certain novel and characteristic features of construction, constituting it a superior instrumentality for performing the requisite functions.

My invention consists in certain novelties of construction and combinations of parts hereinafter set forth and claimed.

Figure 1 is a side elevation view of approximately one-half of a car embodying my improvements. Fig. 2 is a plan view of Fig. 1 with the dumping-sections removed. Fig. 3 is a section of Fig. 1, taken on a line adjacent the body-bolster. Fig. 4 is a view similar to that shown by Fig. 3 and illustrating the positions taken by the sections when discharging the load.

Referring to the several figures, the letter *a* designates the stringers, which are located above the trucks.

c is an end sill; B, a body-bolster.

d represents filling-pieces on top of the body-bolster.

F is a needle-beam.

e represents filling-pieces on top of the needle-beam.

C C are the sides, constructed substantially as shown; *b*, bolts passing through the sides and body-bolster and needle-beam and also through the ends of the end sill.

D represents the dumping-sections, each comprising a floor-piece *h*, a perpendicular piece *i*, and an oblique piece *k*, the said floor-piece *h* being slotted between an outside stringer and the side C of the car and in line with the body-bolster and needle-beam.

H represents the hinges.

I is a longitudinal rod.

J represents bearings for the rod, secured to the stringers.

L is a lever suitably located.

M represents jointed locking-bolts; N, guides on the bottoms of the sections; O, straps on the sides with holes at the ends to receive the ends of the jointed locking-bolts.

P represents notches made in the tops of the stringers to receive the locking-bolts.

R represents projecting castings secured in fixed positions on the longitudinal rod and extending at right angles thereto, and S represents pins by which the jointed locking-bolts are pivoted to the castings upon the longitudinal rod.

It will be observed that each section is so constructed and hinged that when the section is empty the side or floor portion adjacent the outer edge of the car is of lighter weight than the part located adjacent the axial line of the car, that by reason of this construction each section when empty will assume a horizontal position, that the car has no outside sills, that the sections when in horizontal positions have the floor-pieces substantially on a level with the top surfaces of the filling-pieces, that all of the jointed locking-bolts are pivoted to the longitudinal rod, whereby both the sections can be operated simultaneously, and that the free portions of the sections adjacent the car sides are located between an end sill and a body-bolster, between a body-bolster and a needle-beam, and between needle-beams.

It is of course understood that the half of the car not shown is identical in construction with the part illustrated by the several figures and that the entire car has two end sills, two body-bolsters, and two needle-beams, though when the car is made longer additional needle-beams may be used.

While I have illustrated and described only one example of the physical embodiment of my invention, I do not thereby intend to exclude from the scope of my claims other examples which are substantially identical, being constructed for the same purpose and having a substantially identical mode of operation.

What I claim is—

1. The combination in a dumping-car, of the longitudinal stringers; the body-bolsters; filling-pieces on the ends of the bolsters; needle-beams; filling-pieces on the ends of the needle-beams; longitudinal sides supported by the body-bolsters and needle-beams; and a dumping-section located each side of the axial line of the car and hinged to an outside stringer.

2. The combination in a dumping-car, of longitudinal stringers extending the entire length of the car; body-bolsters; needle-beams; sides supported by the ends of the body-bolsters and needle-beams; two slotted dumping-sections, one on each side the central line of the car and extending practically its entire length; and means for locking and releasing the sections.

3. The combination with a dumping-car, constructed and operating substantially as set forth, of two dumping-sections, D; a longitudinal rod; jointed locking-bolts supported in bearings on the under sides of the sections and operated by the revolution of the rod; and perforated straps located on the car sides and adapted to receive the ends of the locking-bolts.

4. The combination with a dumping-car, constructed and operating substantially as set forth, of two dumping-sections, D, each section consisting of a slotted floor-piece, *h*, a perpendicular piece, *i*, and an oblique piece, *k;* and means for locking and releasing the sections.

5. The combination with a dumping-car, constructed and operating substantially as set forth, of dumping-sections; a longitudinal rod supported in bearings; a lever; castings, R; jointed locking-bolts each made in two parts and pivoted to the castings; and guides for the bolts on the bottoms of the sections.

6. The combination with a dumping-car, constructed and operating substantially as set forth, of dumping-sections; hinges, H, by which the sections are secured to the stringers; and means for locking and releasing the sections, embracing a longitudinal rod I and jointed rods, M, said rods being located within slots or notches formed in the stringers.

7. The combination with a dumping-car, constructed and operating substantially as set forth, of dumping-sections hinged to the car; sides, C C; perforated straps on the sides; the longitudinal rod; a series of castings on the rod; a series of jointed locking-bolts pivoted to the castings; and a lever; said castings and locking-bolts being in line when the sides are locked, whereby accidental unlocking is prevented.

8. The combination with a dumping-car, constructed and operating substantially as set forth, of two dumpting-sections located on opposite sides of the axial line of the car and having slotted floors; hinges securing the sections to the car-body, each section being so hinged that the part of the section adjacent the axial line of the car will overbalance the part adjacent the car side when the section is empty; and means for locking and releasing each section.

9. The combination with a dumping-car, constructed and operating substantially as set forth, of stringers extending the length of the car; dumping-sections located on opposite sides of the axial line of the car; hinges securing the sections to the car; body-bolsters and needle-beams; filling-pieces on the ends of the bolsters and needle-beams; the floor-pieces of the dumping-sections, when the sections are locked, being substantially in line with the top surfaces of the filling-pieces so as to constitute or form a continuous floor on the same level; and mechanism for locking and releasing the sections which when unloaded and under the action of gravity occupy horizontal positions on top of the stringers.

10. The combination with a dumping-car, constructed and operating substantially as set forth, of hinged dumping-sections each having a slotted floor; sides, C C; and means for locking and releasing the sections; the outer portions of the floors *h*, *h*, of the sections being located between the end sill and a body-bolster, between a body-bolster and a needle-beam, and between needle-beams.

11. The combination with a dumping-car, constructed and operating substantially as set forth, of permanent sides, C C; body-bolsters; needle-beams; filling-pieces; stringers; and hinged dumping-sections; the floor-piece of each dumping-section being slotted and closing the open space between a side, C, and an outside stringer, and normally under the action of gravity occupying a horizontal position on top of the stringers, but, when loaded, supporting the major part of the load adjacent the side, C.

12. A dumping-car having stringers located centrally of the car only; body-bolsters; needle-beams; sides, C C, supported by the body-bolsters and needle-beams; hinged dumping-sections on opposite sides of the axial line of the car each having a slotted floor; and locking and releasing means for the sections; each dumping-section adapted, when empty, and under the action of gravity, to automatically assume a horizontal position on top of the stringers.

13. A dumping-car having stringers; sides, C C; body-bolsters; needle-beams; hinged dumping-sections each having a slotted floor; and means consisting of a longitudinal rod, jointed bolts, perforated straps, and a lever for locking and releasing the sections simultaneously.

14. A dumping-car having longitudinal stringers located centrally of the car; end sills; body-bolsters; needle-beams; sides supported on the ends of the body-bolsters and

needle-beams; dumping-sections, each section being pivoted to a longitudinal stringer, and so constructed that when empty and acting under gravity it will assume a horizontal position on top of the stringers but when loaded will when released turn to an oblique position; and means for locking and releasing the sections; the floor-piece of each section being slotted for the purpose specified.

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Witnesses:
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