

(No Model.)

4 Sheets—Sheet 1.

F. PETELER.
DUMPING CAR.

No. 531,746.

Patented Jan. 1, 1895.

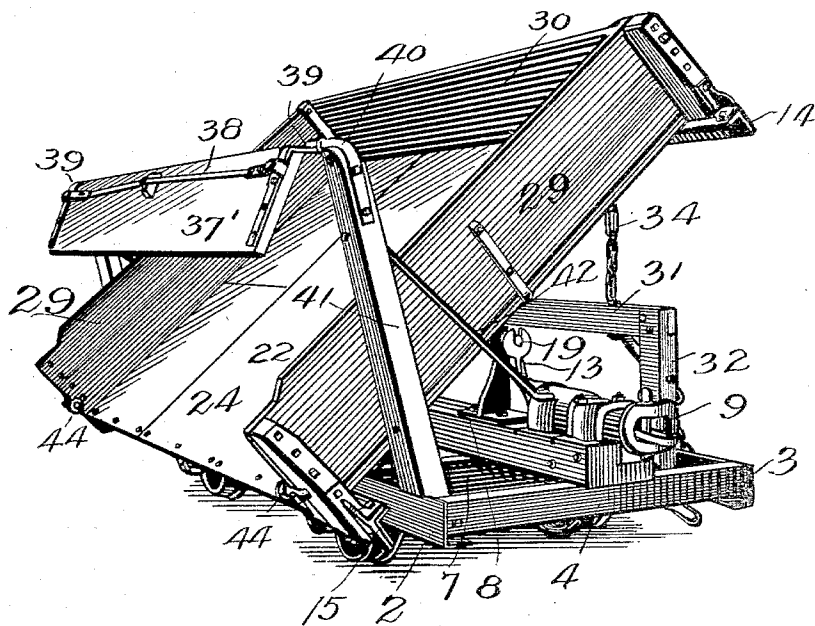
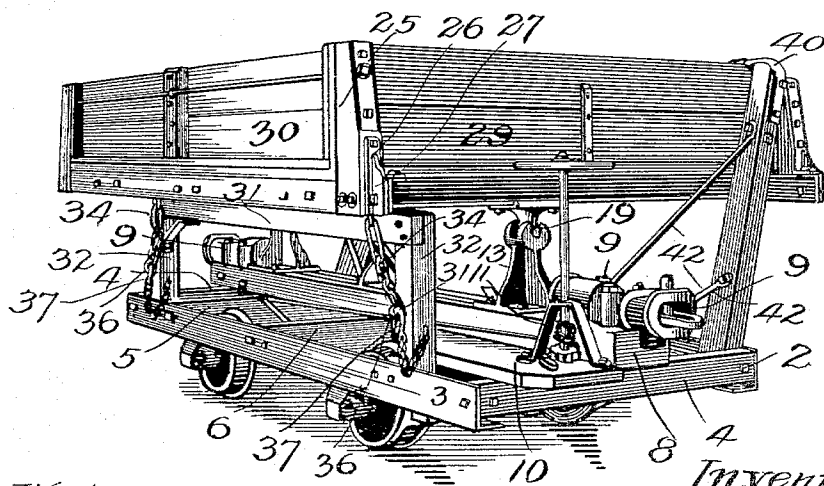


Fig. 2.



Witnesses:
Chas. E. Van Dorn,
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Fig. 1.

Inventor:
Francis Peteler.
By Paul Hawley,
his Attorneys.

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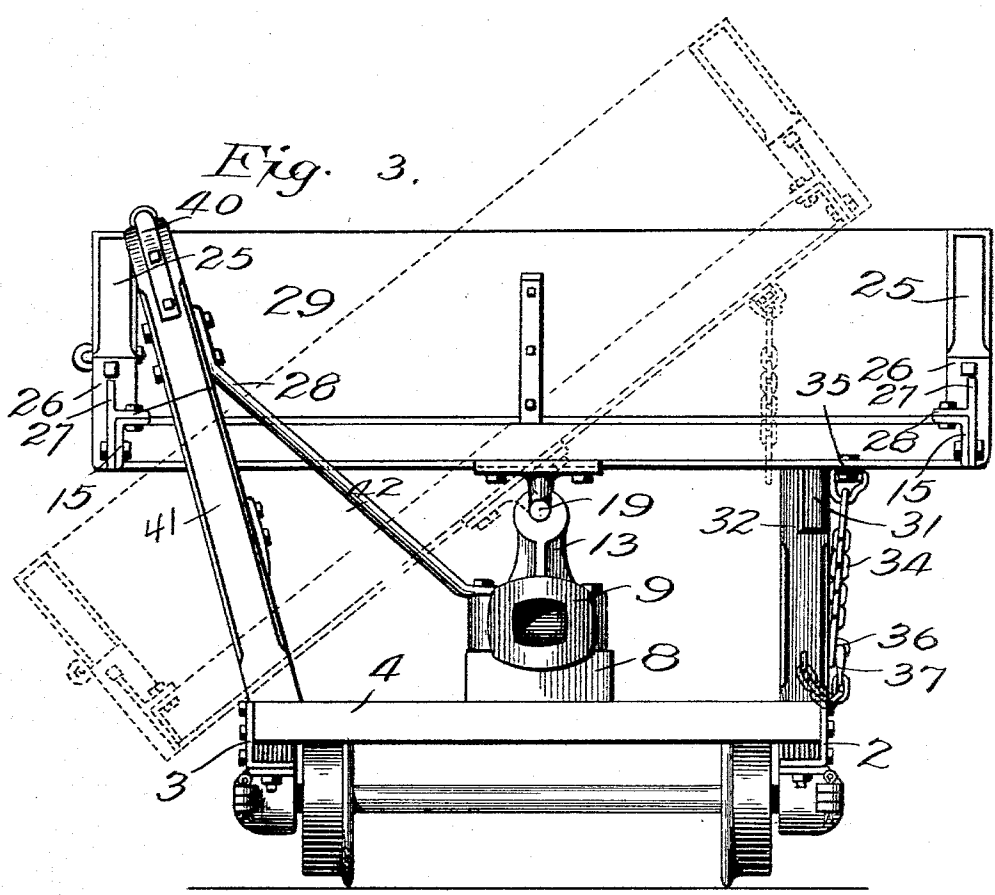


Fig. 13.



Fig. 12.

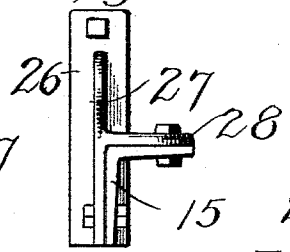
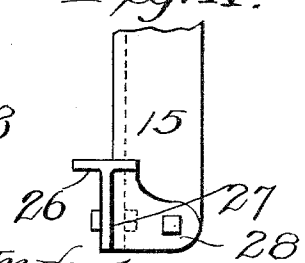


Fig. 11.



Witnesses:
Chas. E. Van Doren,
[Signature]

Inventor:
Francis Peteler.
By *Paul Hawley*
his Attorney.

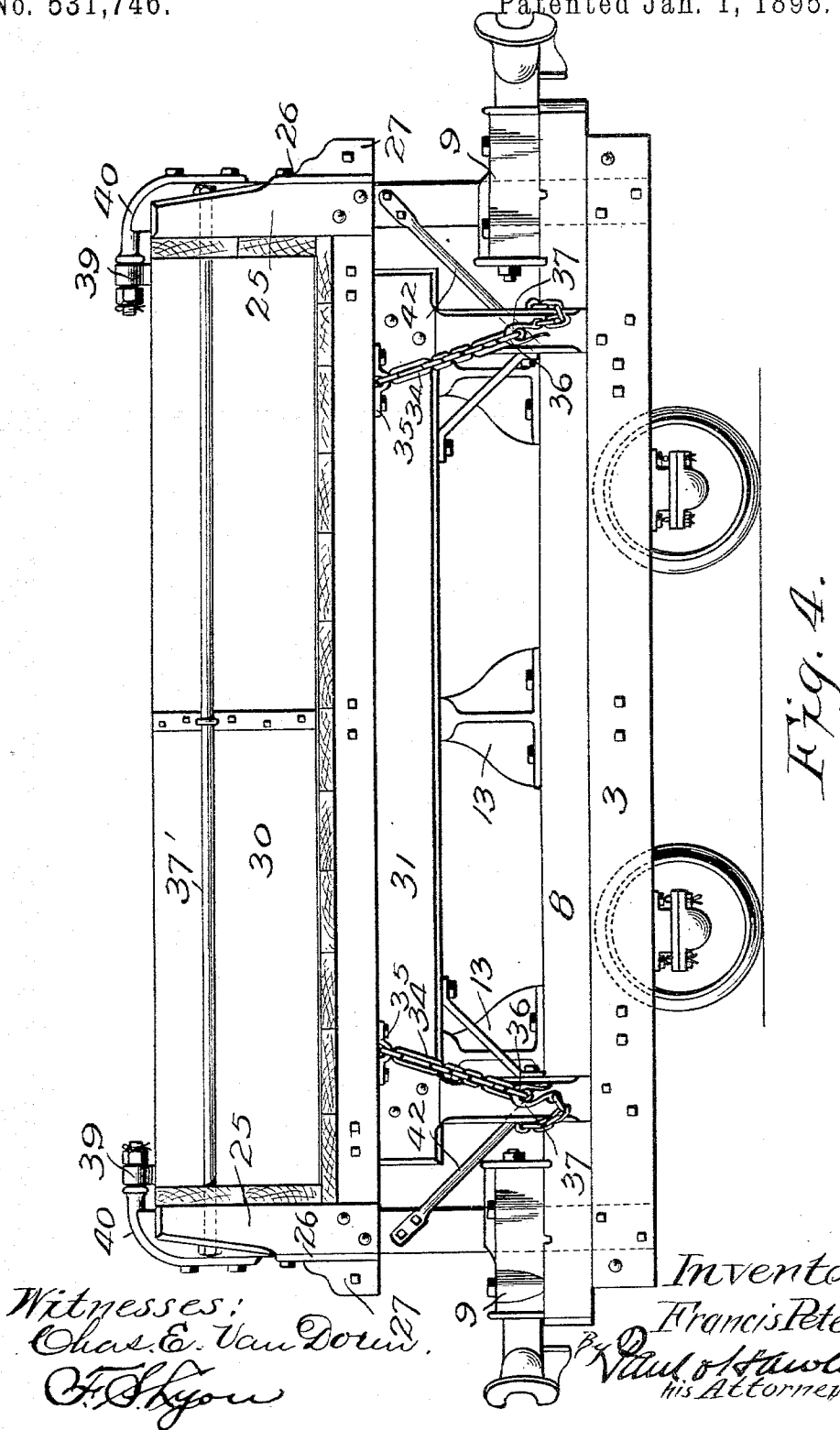
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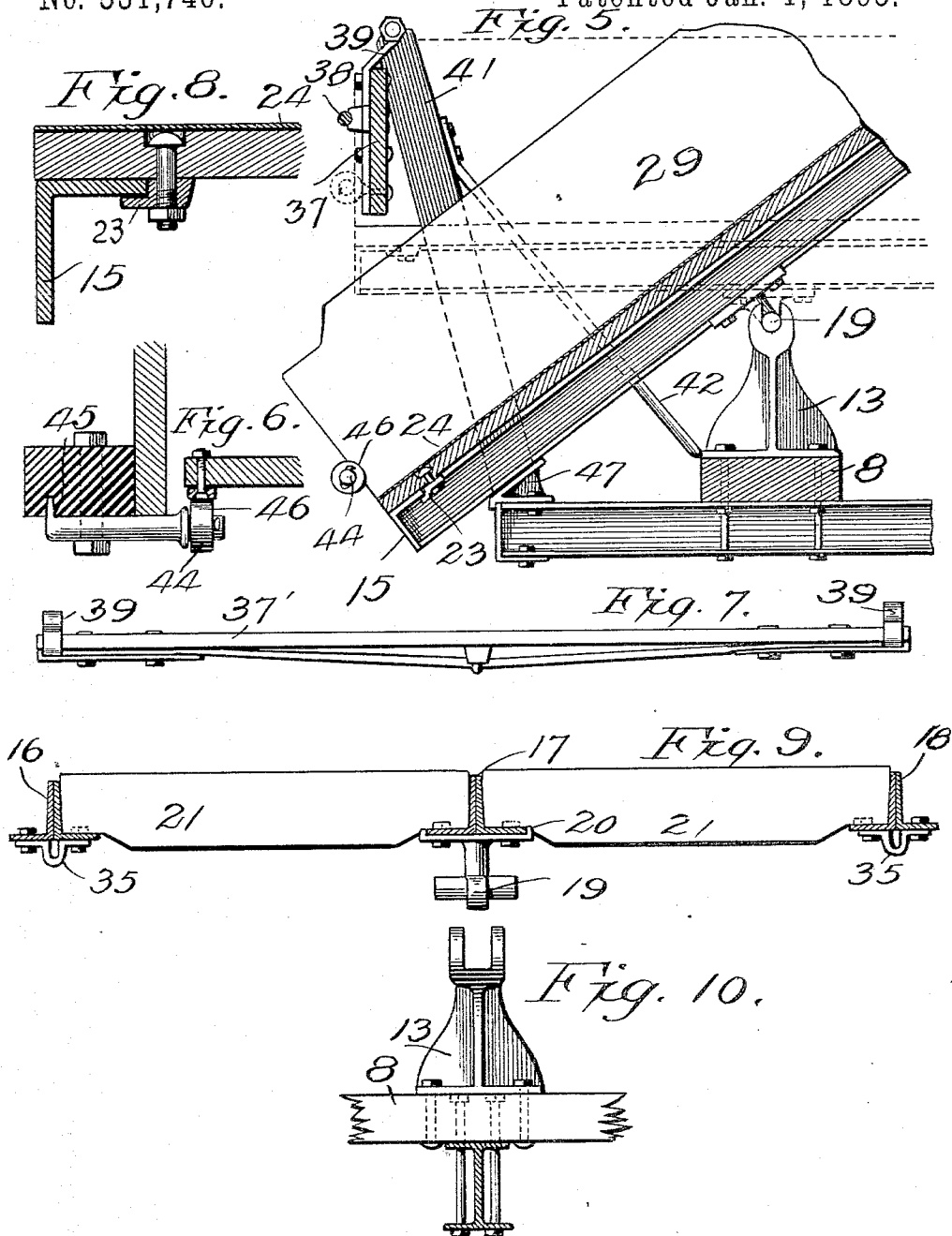
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4 Sheets—Sheet 4.

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Witnesses:
Chas. E. Van Dorn, By
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Inventor:
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UNITED STATES PATENT OFFICE.

FRANCIS PETELER, OF MINNEAPOLIS, MINNESOTA.

DUMPING-CAR.

SPECIFICATION forming part of Letters Patent No. 531,746, dated January 1, 1895.

Application filed April 2, 1894. Serial No. 505,986. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS PETELER, of the city of Minneapolis, county of Hennepin, State of Minnesota, have invented a certain new and Improved Dumping-Car, of which the following is a specification.

My invention relates to dumping cars, particularly such as are adapted for use with steam-shovels; being especially constructed to stand the heavy strains and the quick actions required in such work.

The particular objects which I have in view are to provide a dumping car for steam-shovel work; a car which shall be as nearly as possible of a metal construction throughout; a car which shall have a swinging door, which, in combination with the particular dumping position of the body of the car will permit the discharge or dumping of the largest of masses which can be handled with a steam-shovel.

A further object is to generally improve the construction of dumping cars with a view of not only decreasing the cost of the same in large sizes, but also of greatly increasing the strength and durability of the car and also render it as light as possible.

To this end my invention consists in a dumping car of the construction and combinations of parts all as hereinafter described and particularly pointed out in the claims.

The invention will be more readily understood by reference to the accompanying drawings, in which—

35 Figure 1 is a perspective view showing a dumping car embodying my invention. Fig. 2 is a similar view taken from the opposite side and showing the body tilted. Fig. 3 is an end view of a car embodying my invention. Fig. 4 is a side view thereof. Fig. 5 is a cross section of the car to more clearly show the relations of the car body when tilted and the stationary swinging door. Fig. 6 is an enlarged sectional detail showing one of the door stops. Fig. 7 is a top view of the swinging door. Fig. 8 is an enlarged cross section showing the manner of securing the bottom or floor of the car body to the angle-iron frame. Fig. 9 is a longitudinal vertical section of the body frame. Fig. 10 is an enlarged detail view showing one of the rocker or tilting castings, the same being shown in its vertical re-

lation to the other part of the casting included in Fig. 9. Fig. 11 is a plan view of one of the corner braces. Fig. 12 is an end elevation thereof. Fig. 13 is a side elevation of the same casting.

The bed or main frame of the car is supported upon the truck wheels and is made up of the side or sill angle-bars 2 and 3, which are connected by inverted angle-bars 4 at the ends, and by pairs of I-beams 5, 6 and 7. Upon the tops of these and midway between the side-beams I provide the central wooden beam or bed-timber 8, the ends thereof extending somewhat beyond the ends of the iron or steel frame and bearing upon its ends the car-couplers 9.

A board 10 placed upon the angle-iron frame serves to support the brake standard 11, the brake which is connected therewith being of any desirable form.

The bed-timber 8 is firmly bolted upon the end and cross-bars 4, 5, 6 and 7, and at points upon the bed-timber above the cross-beams 5, 6 and 7 the socket castings are secured. These castings are novel only in that the socket pieces are formed upon the high standards 13, (dispensing with the inclined rafter pieces which I have hitherto employed) which standards serve to raise the body of the car to the proper height above the frame to permit the former being tilted to an angle of about forty-five degrees before engagement with the frame.

The body frame, like the truck frame, is made up of side angle bars 14 and 15 which have their horizontal flanges uppermost, these beams being connected by the pairs of angle bars 16, 17 and 18 which are directly above the I-beams 5, 6 and 7 of the truck frame. The upper pivot parts 19 of the tilting or rocker castings are secured upon the middles of the cross-bars 16, 17 and 18, having upwardly extending lugs or flanges 20 which embrace the edges of said angle bars, as shown in Figs. 5 and 9. There are several longitudinal beams 21 extending between the pairs of angle-bars 16—17 and 17—18, respectively, the tops of the beams extending above the edges of said bars and the beams being firmly bolted thereon. The tops of the longitudinal frame pieces or beams 21 are upon a level with the tops of the side bars 14 and 15, and

the wide bottom 22 of the car body is secured upon these.

The ends of the bottom boards are fastened to the flanges of the angle bars by means of the small clips 23, which engage the flanges and are bolted to the under side of the bottom 22. The bolt heads are countersunk into the bottom 22. The bottom is preferably sheathed with metal 24 to give it a smooth durable surface.

At the corners of the frame I securely fasten the corner pieces 25 bolted upon the side bars and reinforced by the corner castings, each of which castings consists in a face portion 26 bolted to the post or standard 25, a strengthening flange or truss 27 extending from said face, and a horizontal flange or ear 28, this ear being bolted to the top flange of the angle bar, while the truss or wing 27 is bolted to the side of the angle bar. The employment of these cast-iron corner pieces renders the entire frame particularly strong and rigid. The end boards 29 and the side board 30 may be permanently secured between the opposite corner posts.

To support the body when in its horizontal position the raised bolster 31 is secured upon the end posts 32 fastened to the side bar or beam 3. One side of the body rests squarely on the top of the bolster 31 (see Fig. 1), and the car may be locked in that position by means of the chains 34 which extend from eyes 35 provided upon the cross-bars 16 and 18 to eyes 36 on the end posts 32.

I preferably provide the removable fastening hooks 37 to lock the chains on the eyes 36, the hooks themselves being attached to the posts by short chains to prevent their being lost.

The open side of the car body or box is closed when the body is in its horizontal position by the swinging side door 37', suitably braced by a trussed bar or rod 38 and hung by means of the angle straps 39 to the ends of the goose-necks 40 and independent of the car body. These goose-necks are rigidly supported by the high standards 41 inclined outwardly from the truck frame. The goose-necks are preferably sunk into the upper ends of the standards 41 to prevent the necks from turning when the load is first thrown against the door. The ends of the car-body operate close to these standards and the standards are braced by suitable rods 42, so arranged as to entirely avoid contact with the car body when the latter is tilted.

To prevent the door from swinging out when the material is thrown into the body or box, I provide the stops 44 upon the corners of the car-body. These door stops are simple rods which are bolted upon the sides of the corner posts and have nibs 45 driven into the posts to strengthen the fastening. Small anti-friction rolls or pulleys 46 are placed upon the ends of the stops and these roll readily against the lower ends of the door straps,

the screw or bolt heads which secure said straps being countersunk therein.

Upon the side of the truck-frame which is beneath the tilting side of the body, I arrange the inclined bumper blocks 47, which are castings bolted upon the end of the cross-bars of the body frame when the body is tilted. It is obvious that the door will be left hanging in its original position when the car-body is tilted, the stop wheels then passing out of engagement with the lower edge of the door. The space between the bottom of the car and the lower edge of the door is considerable, but in case a large mass of rock or frozen earth is delivered in a car it will be allowed to pass out, as the door will swing outward and upward to avoid the same. It is therefore possible to dump from this car anything which is of less height than the full distance between the bottom of the body when tilted and the under side of the door when it is raised into a nearly horizontal position. Furthermore, owing to the arrangement of the door stops close to the bottom of the car-body, these will pass out of engagement with the door during the first part of the movement of the car-body so that the door may immediately yield outwardly, thereby removing all danger of the door being torn from its fastenings by the shifting load.

A further advantage of my particular construction is that there are no projections above the general level of the car against which the steam-shovel could strike when swung over the car.

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

1. The combination, in a dumping car, of a truck frame, the middle timber 8 provided on said truck frame, the standard 13 erected upon said timber, the car body pivoted upon said standard 13 and having an open side, means for supporting said car body in a horizontal position, the standard 41 erected on the side of said truck frame, a door pivotally supported by said standard 41 and adapted to close the open side of said car, and said door and its supports being so arranged that no portion thereof projects above the top of the car when it is in a horizontal position, substantially as described and for the purpose specified.

2. The combination, in a dumping car, of a truck frame, the middle timber 8 provided on said truck frame, the casting 13 erected upon said timber, the car body pivoted upon said casting and having an open side, means for supporting said car body in a horizontal position, the standards 41 erected on the side of said truck frame, a door pivotally supported by said standards 41 and adapted to close the open side of said car, said door and its supports being so arranged that no portion thereof projects above the top of the car when it is in a horizontal position, and a stop or stops upon

the sides of said body to engage said door and to be disengaged therefrom during the first part of the movement of said body, substantially as described and for the purpose set forth.

3. The combination, with the metal truck frame, of the truck wheels whereon the same is supported, the middle timber 8 provided on said truck frame, the high metal standard 13 erected on said timber, the car body having the angle-iron frame, and provided with the tilting castings pivoted on said standards, the raised bolster 31 provided on said truck frame, the high standards 41 erected on the ends of the truck frame, braces therefor, the door 37 swung from the upper ends of said standards, and the stops upon the car body to engage said door when the body is in a horizontal position, substantially as described.

4. The combination, with the body frame, of the corner posts 26 erected thereon, and a corner brace for each post, each consisting in the face portion 26, a truss 27 and the ear 28, said parts being secured to said post and to the said frame, substantially as described.

5. The combination, with the truck, of the car body arranged to tilt thereon, the bolster for one side of said body to rest upon when in a horizontal position, the standards 41 extending from said truck, the goose-necks extending over the upper ends of said standards and embedded therein, the door, the angle straps thereof having ends pivoted upon said goose-necks, and stops upon the car-body to engage the door and to be disengaged therefrom when the car body is tilted, substantially as described.

6. The combination, with the truck, of the body arranged to tilt thereon, said body having transverse frame beams or braces, and the bumper castings 47 secured upon the truck frame and whereon said transverse beams of the car-body are adapted to strike when said body is tilted, substantially as described.

In testimony whereof I have hereunto set my hand this 27th day of March, A. D. 1894.

FRANCIS PETELER.

In presence of—

C. G. HAWLEY,
F. S. LYON.