

J. A. HUGHES.
DUMPING CAR.

No. 587,207.

Patented July 27, 1897.

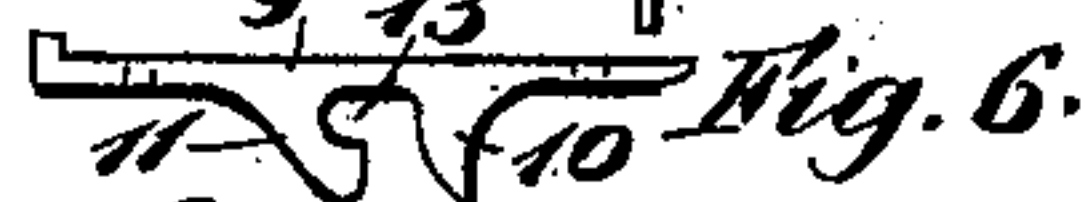
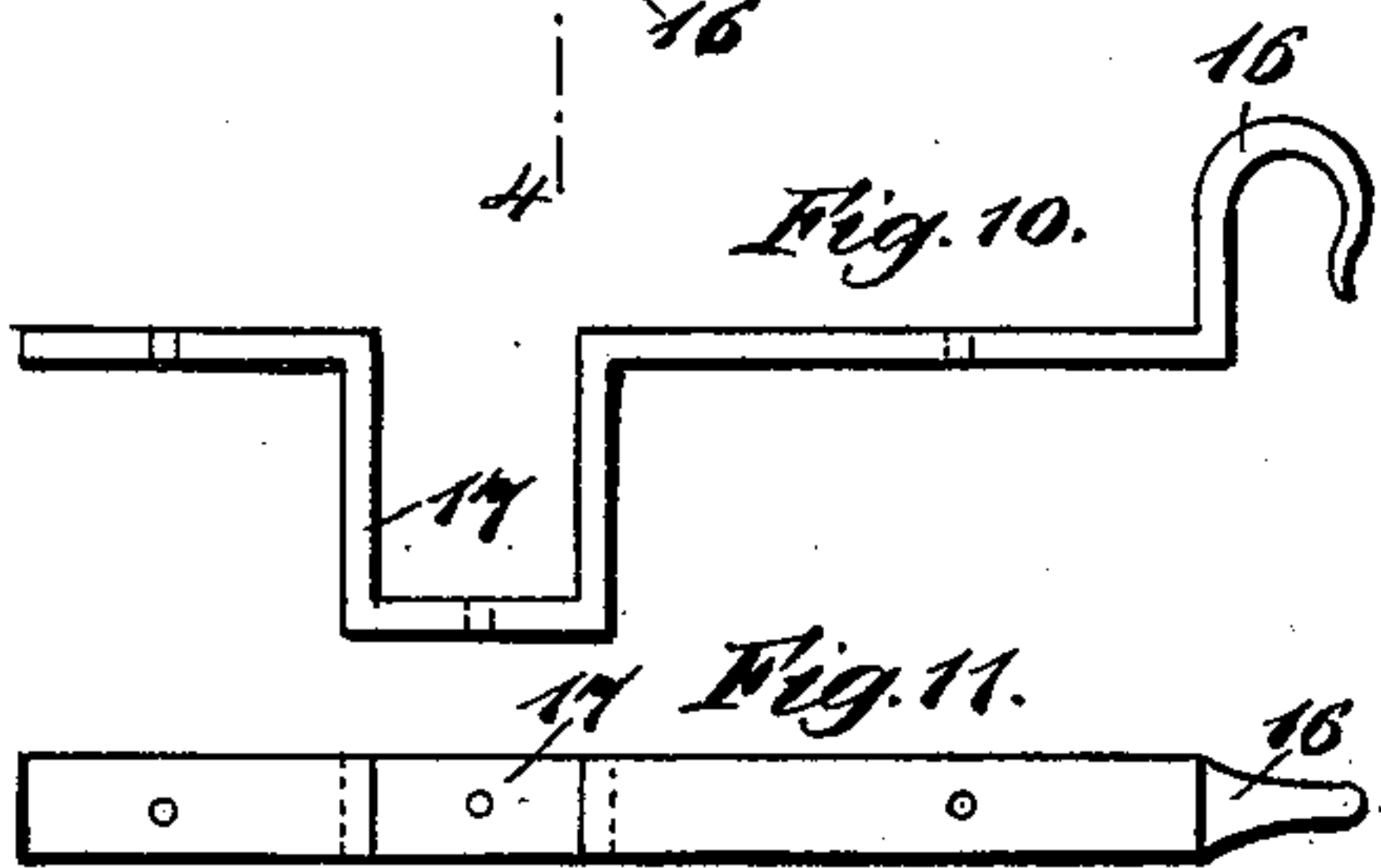
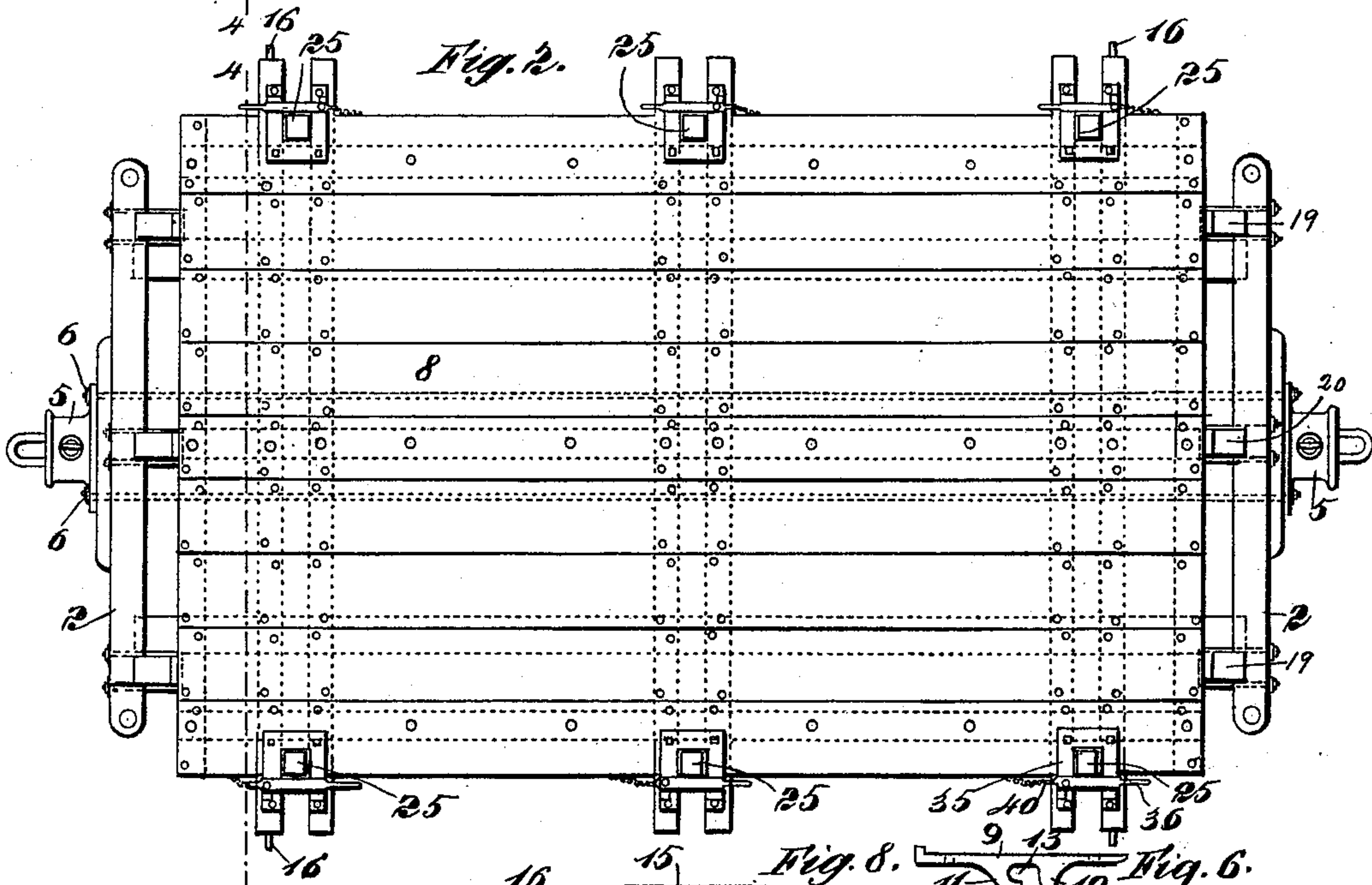
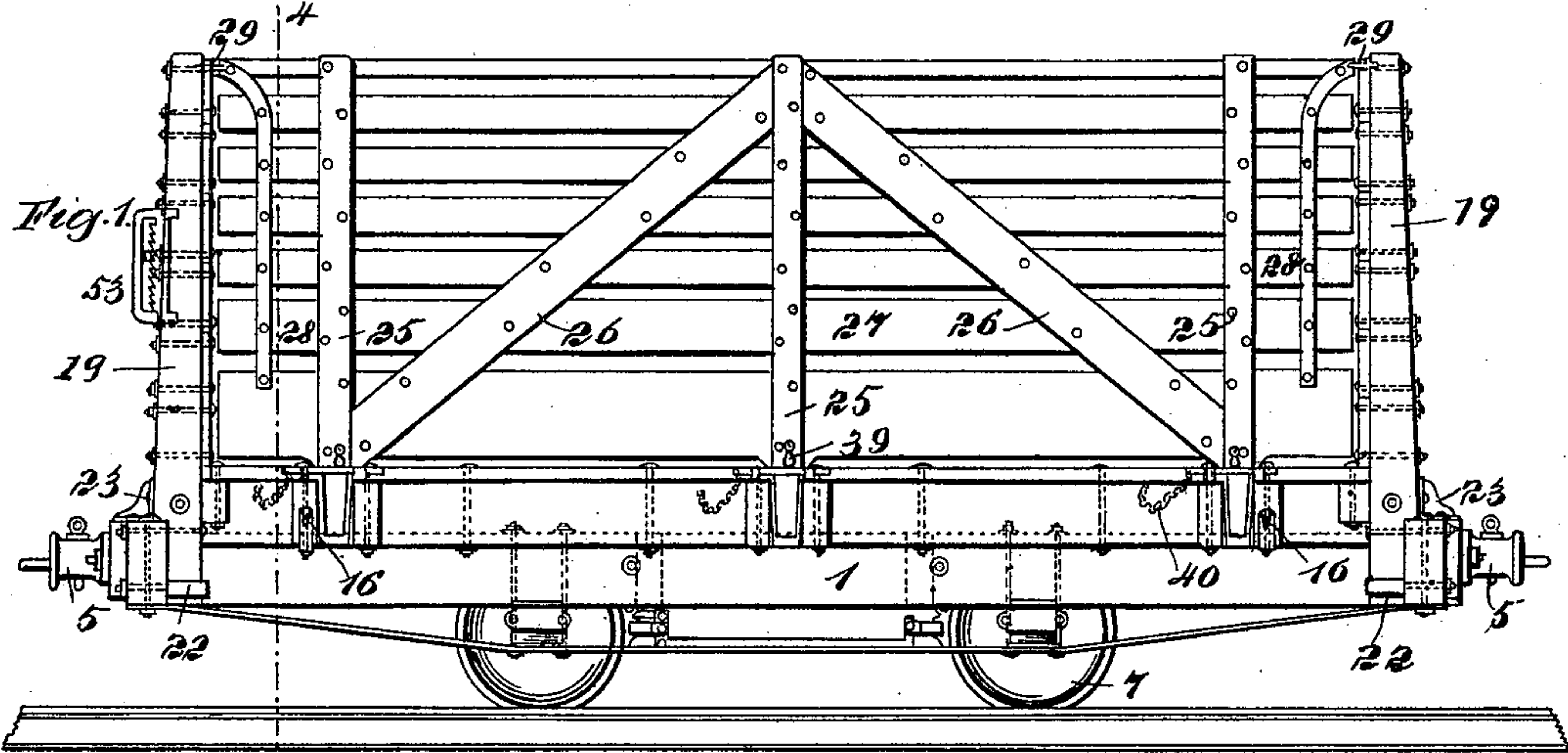


Fig. 9.

Fig. 12.

Fig. 13.

Fig. 14.

Fig. 15.

Fig. 16.

Fig. 17.

Fig. 18.

Fig. 19.

Fig. 20.

Fig. 21.

Fig. 22.

Fig. 23.

Fig. 24.

Fig. 25.

Fig. 26.

Fig. 27.

Fig. 28.

Fig. 29.

Witnesses

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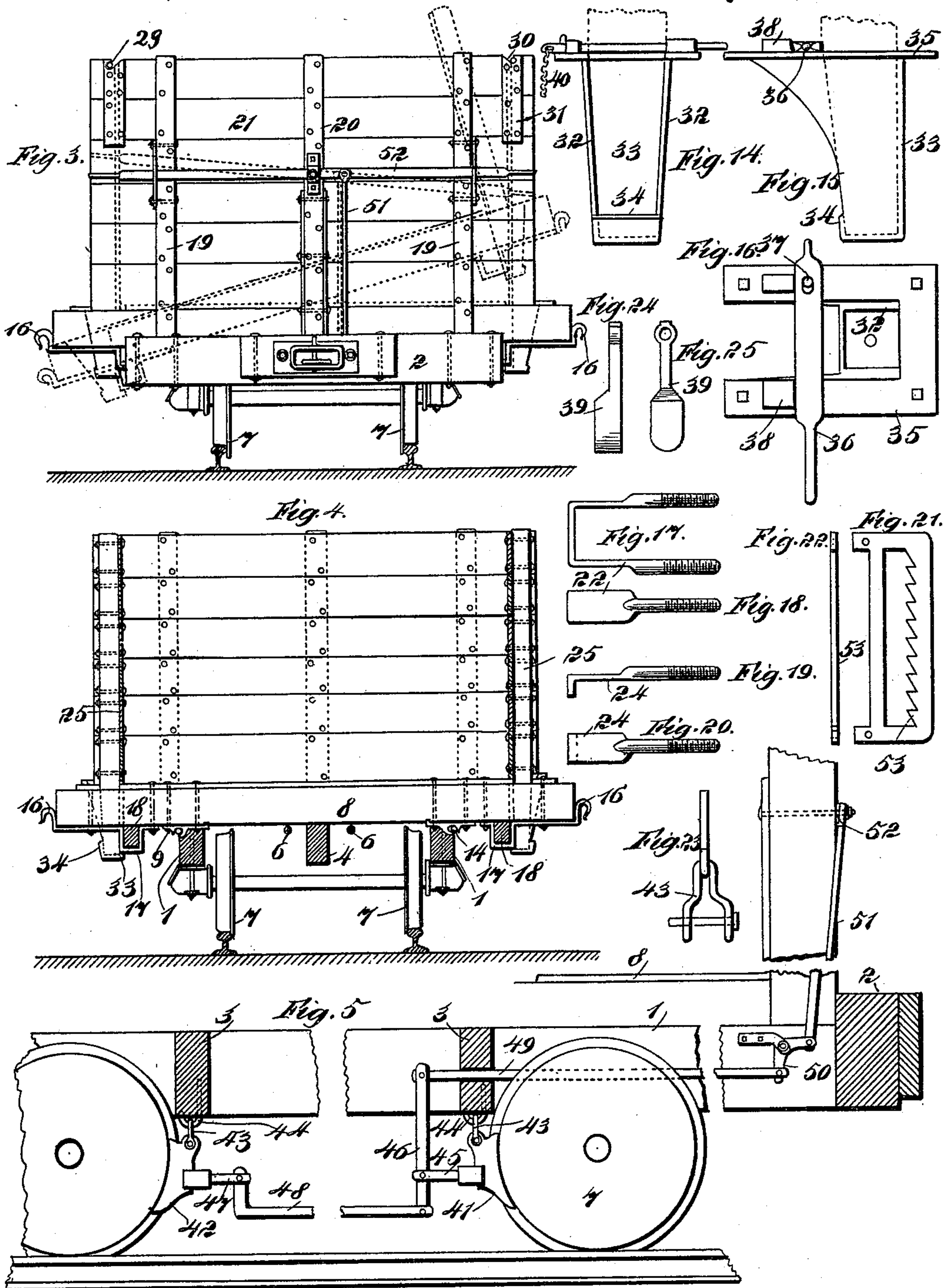
(No Model.)

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DUMPING CAR.

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UNITED STATES PATENT OFFICE.

JOHN A. HUGHES, OF HONOLULU, HAWAII.

DUMPING-CAR.

SPECIFICATION forming part of Letters Patent No. 587,207, dated July 27, 1897.

Application filed February 15, 1897. Serial No. 623,511. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. HUGHES, of Honolulu, Hawaii, have invented a new and Improved Dumping-Car, of which the following is a full, clear, and exact description.

My invention consists of a car intended mainly for use on sugar plantations for the purpose of transporting cane to the mill from the field or for other plantation-work. The principal object accomplished is that of discharging the car by power, thereby saving the labor of a number of men now required to unload cars at the mill. It is understood, however, that the car may be employed in any railway-work.

I will describe a dumping-car embodying my invention and then point out the novel features in the appended claims.

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 views.

Figure 1 is a side elevation of a car embodying my invention. Fig. 2 is a plan view of the movable or rocking floor. Fig. 3 is an end elevation. Fig. 4 is a section on the line 4 4 in Figs. 1 and 2. Fig. 5 is a longitudinal section of the truck-framing designed to show the brake mechanism. Fig. 6 is a side elevation of a hinge-section designed to be secured to the under side of the rocking floor. Fig. 7 is a top plan view thereof. Fig. 8 is a side elevation of the hinge-section-supporting piece designed to be engaged by the section shown in Fig. 6. Fig. 9 is a top plan view of the parts shown in Fig. 8. Fig. 10 is a side elevation of a dump-hook designed to be secured to the sides of the floor. Fig. 11 is a plan view of the dump-hook. Fig. 12 is a side elevation of a cast-iron bracket employed. Fig. 13 is a plan view thereof. Fig. 14 is a front elevation of a stake-pocket employed and showing a portion of a stake therein. Fig. 15 is a side elevation of the stake-pocket. Fig. 16 is a plan view of the stake-pocket. Fig. 17 is a top plan view of a wrought-iron strap employed for securing portions of the frame together. Fig. 18 is a side elevation thereof. Fig. 19 is an elevation of a hook-bolt employed. Fig. 20 is a plan view thereof. Fig. 21 is a side elevation

of a rack employed for holding the brake-operating lever. Fig. 22 is an edge elevation thereof. Fig. 23 is an elevation of a brake-hanger used for securing the brake-beam and brake-shoe to the truck-frame. Fig. 24 is a side elevation of a gravity-latch employed, and Fig. 25 is a front elevation thereof.

The car comprises a truck-frame having longitudinal side sills 1, end sills 2, and intermediate cross-sills 3, and it also has an intermediate longitudinal sill 4. To the end sills 2 coupling-heads 5 are attached. As here shown, these coupling-heads are attached by means of bolts 6, extending through holes in the flanged portions of the coupling-heads and throughout the length of the truck-frame. The truck-frame is mounted on the usual wheels 7, with which brake-shoes are adapted to engage, as will be hereinafter described.

Mounted to rock laterally in either direction on the truck-frame is a platform 8, consisting of longitudinally-extended side sills and a series of transverse sills to which the flooring is bolted. At each side, somewhat inward from the edge, the platform is provided with two hinge-sections 9. These hinge-sections consist of plates bolted to the transverse sills of the platform and have downwardly-extended fingers 10 and 11, the space between which communicates with a horizontally-disposed slot 13, which forms a fulcrum-seat for engaging with a bolt 14, supported between plates 15, bolted to the outside longitudinal sills of the truck-frame.

Attached to each side of the rocking platform are two hooks 16, adapted to be engaged with a lifting power, as will be hereinafter described. These hooks 16 have inwardly-extended plate portions which are bolted to the transverse sills of the platform, and each plate portion of a hook has a downwardly-extended yoke 17, engaging around longitudinal sills 18 of the platform.

The end pieces of the car-body are rigidly supported on the end sills of the truck. As here shown, outside posts 19 extend upward from the end sills 2, and also extending upward from the end sills is a central post 20. To these several posts end boards 21 are bolted. It will be seen that the end sills of the truck-frame extend slightly above the top

plane of the side sills, thereby forming a more solid backing for the end posts. The outer posts are shouldered back on the end sills, and wrought-iron straps 22 engage around the lower ends of the outer posts, and their shank portions pass through the end sills and are provided with nuts on the outer sides thereof.

The central post 20 is braced with relation to the end sills 2 by means of brackets 23, the lower portions of which are bolted to the upper side of the end sills, and the vertical portions of said brackets are bolted to the central post 20. It will be seen by this construction that the end of the body portion will be much stronger than is possible with the ordinary method of framing. The truck-frame may be considerably strengthened by employing hook-bolts 24 for connecting the end sills and side sills.

Adapted to swing relatively to the end pieces of the truck-body and at each side thereof is a side piece of the body. Each side piece consists of a number of vertical posts 25, here shown as three in number, brace-bars 26, and longitudinal strips 27, which, as shown in the drawings, will be spaced apart, making the sides substantially in skeleton form, although this is not essential to the invention. To each swinging side piece and at the ends thereof are secured metal straps 28, the upper ends of which have horizontally-extended trunnions 29, which are in line with the top bar of the sides. These trunnions 29 extend into notches 30, formed in the top of plates 31, bolted to the inner sides of the end portions of the body. The walls of these notches 30 are substantially hook shape, so that the sides may be easily removed therefrom by lifting the same upward; but the hook portions will allow the lower portions of the sides to swing outward when the platform is tilted or rocked.

Seated in the side sills of the rocking platform 8 are pockets for receiving the lower ends of the posts 25. These pockets consist of side pieces 32 and a back plate 33. The pockets are open at the front, excepting at the extreme lower portion, where there is an upwardly-extended flange or lip 34, designed to serve as a lock against the lower end of the posts 25. It will be seen that these pockets are somewhat tapered downward, and the upper ends are provided with flanges 35, which engage upon the upper sides of the sills and are bolted thereto.

Mounted to swing on the flange of each pocket and to engage against the outer side of a post 25 when in said socket is a locking-lever 36. This locking-lever is mounted to swing and to move vertically on a pivot 37 at one side of the flange portion of the pocket, and the opposite end of the lever is designed to engage against a lug 38 on the opposite portion of the flange. It will be seen that the pin 37 from the flange extends through

an elongated opening in the lever, so that the free end of said lever may have a slight upward movement to free it from the lug 38.

Coacting with each lever 36 is a gravity-latch 39. The latch 39 has a pivotal connection at its upper end with the post 25, and its lower weighted end is designed to swing into engagement with the upper side of the lever 36 when said lever is in its locking position against a post. The lever 36 may be lifted entirely off the pin 37, if desired, and to prevent its becoming lost I attach it to the rocking platform 8 by means of a chain 40.

I will now describe the brake mechanism shown particularly in Fig. 5. This brake mechanism comprises brake-shoes 41 and 42. The brake-shoes 41 and 42 are respectively suspended from the transverse sills 3 of the truck-frame by means of yokes 43, having swinging connection with staples 44, engaging in the transverse sills. From the shoe 41 a shank 45 extends to a pivotal connection with a bar 46, and a similar stem portion 47 extends from the brake-shoe 42 and engages with an arm 48, pivotally connected at its opposite end to the bar 46, at a point below the connection of the stem 45 therewith. Pivotally connected to the upper end of the bar 46 is a draw-bar 49, the opposite end of said draw-bar being pivotally connected to one arm of an angle-lever 50, mounted on the truck-frame, and from the other arm of this angle-lever 50 an operating-rod 51 extends upward to a pivotal connection with an operating-bar 52, fulcrumed at its center upon the central post 20. The ends of the operating-bar 52 extend to convenient points at opposite sides of the car, so that the brake-shoes may be operated from either side of the car.

It will be seen that the connection between the rod 51 and the bar 52 is at one side of the pivotal point of said bar 52. Therefore when one end of said bar 52 is forced upward the brake-shoes will be forced into engagement with the wheels, but from the opposite side of the car when it is desired to set the brake-shoes the said operating-bar 52 must be swung downward at that end.

To hold the bar 52 as adjusted, I employ rack-plates 53, which are secured to the posts 19. These rack-plates, it will be seen, are made in the form of loops, and the straight side of the teeth of one rack-plate will be downward and the straight sides of the rack-teeth of the other plate will be upward.

An important feature of this improvement is the plan of unloading the car by elevating one side of the platform. Power can be applied most conveniently by means of a hoisting-drum located at a point above the cane-carrier at the place of discharge. The manner in which the car is discharged is as follows: The car is taken to a point directly beneath the hoisting-drum. The wire rope attached to the hoisting-drum has a hook on its

lower end, which hook will be made fast to a second wire rope having rings on each end, said rings being attached to the dump-hooks 16 at one side of the car. By operating the hand-lever of the hoisting-drum said drum is allowed to rotate to elevate one side of the platform. Of course before this elevating operation the locking-levers 36 must be released. The lower side of the platform will disengage itself from the posts 25 at that side of the car, so that the swinging side of the body portion may be swung outward by the pressure of the material being discharged. The opposite side swinging upward will, however, move upward with the platform, as the lower ends of its posts 25 will be engaged in the pockets, and of course the trunnions 29 will be raised out of their sockets 30.

The stake-pockets are an especial feature and one which can be used to advantage on all cars having stakes. With ordinary stake-pockets, when a car is loaded, the stakes flare or incline outward from the car and are removed with great difficulty. With my device the stakes can be removed with perfect ease by simply turning upward the gravity-latches and releasing the levers 36.

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

1. A dumping-car, comprising a truck-frame, a platform mounted to swing or rock laterally in either direction on said frame, end body portions fixedly mounted on the truck-frame, side body portions having swinging connection with the end portions, and means for connecting one side body portion to move with the platform while the same is being tilted and while the opposite side body portion swings on the end portions, substantially as specified.

2. A dumping-car, comprising a truck, a platform mounted to rock in either lateral direction on said truck, end body portions fixedly mounted on the truck-frame, side body portions having a removable hinge connection with the end body portions at the top, posts on the said side body portions, pockets attached to the platform and in which the downwardly-extended lower ends of said posts are designed to engage, and means for locking said posts in the pockets, substantially as specified.

3. A dumping-car, comprising a truck, a platform mounted to rock thereon, fixed end pieces for the body portion, swinging side pieces for the body portion, posts on said side pieces having their ends extended below the side pieces, pockets attached to the sides of the platform and having an open front, bars designed for engagement with the upper ends of the pockets, and gravity-latches mounted to swing on the body portion and adapted to hold said locking-bars in their downward position, substantially as specified.

4. In a dumping-car, the combination, with

a rocking platform and swinging body portion, of pockets for receiving the lower ends of posts secured to the swinging body pieces, the said pockets being secured to the platform and having side walls and a rear wall, an opening at the front, an upwardly-extended portion at the bottom and extended across the front, flanges on the upper ends of the walls forming the pockets, lugs on said flanges, bars adapted to abut against said lugs and engage against the posts in the pockets, and gravity-latches for holding said bars in their locking position, substantially as specified.

5. A dumping-car, comprising a truck, a platform mounted to swing to dump laterally in either direction, means on each side of the platform for engagement with a hoisting device, end body portions rigidly mounted on the truck-frame, plates at the upper portions of said end portions and provided with outwardly-opening notches, side body portions, straps on said side body portions having horizontally-extended trunnions which engage in said notches, and outwardly-opening pockets into which the lower ends of posts on the side portions of the body are designed to engage, substantially as specified.

6. In a dumping-car, the combination with a truck-frame and a rocking platform, of a hinge-section connected to the platform and having downwardly-extended portions providing a bearing-wall, and hinge-plates secured to the truck-frame and having bolts with which the hinge-sections on the platform engage, substantially as specified.

7. The combination with a dumping-car, of stake or post pockets attached to the dumping-platform and having side walls and a rear wall, and open at the front, a flange extended around three sides of each pocket and engaging upon the upper side of the platform, a bar or lever mounted to swing laterally and vertically on said flange, a lug on said flange with which one edge of the bar or lever is designed to engage, and a gravity locking-latch for holding said bar or lever in its locking position, substantially as specified.

8. A dumping-car, comprising a truck-frame having side sills and end sills, the said end sills being extended above the plane of the side sills, end posts bolted to the end sills, intermediate end posts, brackets for securing the intermediate end posts to the end sills, end boards or strips secured to said end posts and forming the ends of the body portions, and side body portions having connection with the fixed end body portion, substantially as specified.

9. A car comprising a truck, brake-shoes having swinging connection with the truck-frame, a stem extended from the shoes of one pair of wheels, a vertical bar to which said stem is pivoted, a stem extended from the shoes of the other pair of wheels, an arm having pivotal connection with the last-named stem and with the vertical bar below its con-

nection with the first-named stem, a draw-bar
connected with the upper end of the vertical
bar and also connected to one arm of a piv-
oted angle-lever, a rod extended upward from
5 the other arm of the angle-lever, a bar ful-
crumed to the car and having pivotal con-
nection with the rod, and a rack for holding

said bar as adjusted, substantially as de-
scribed.

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Witnesses:

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