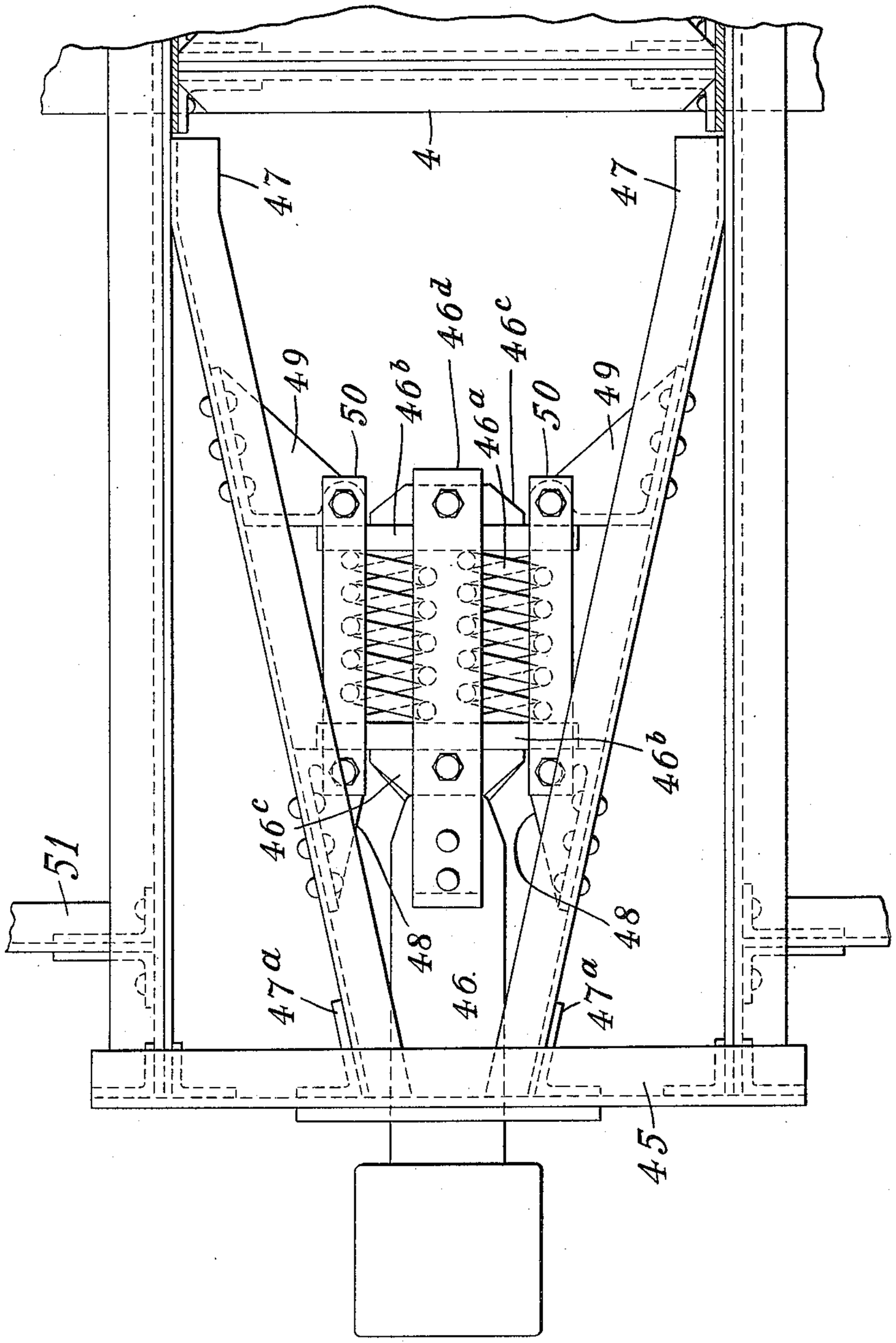
J. M. GOODWIN.

DUMPING CAR

APPLICATION FILED MAY 13, 1910.

1,154,761. Patented Sept. 28, 1915.



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JOHN M. GOODWIN, OF SPOKANE, WASHINGTON.

DUMPING-CAR.

1,154,761. Specification of Letters Patent. Patented Sept. 28, 1915.

Original application filed February 5, 1907, Serial No. 355,815. Divided and this application filed May 13, 1910. Serial No. 561,064.

To all whom it may concern:

Be it known that I, JOHN M. GOODWIN, a citizen of the United States, residing in Spokane, in the county of Spokane and State of Washington, have invented certain new and useful Improvements in Dumping-Cars, of which the following, taken in conjunction with the accompanying drawings, is a full, true, and concise specification.

My present application forms a division of my application No. 355,815, filed February 5, 1907, wherein it is stated that my invention relates to dumping vehicles or railway cars with the object of producing a center dumping sheet-metal car which will combine maximum carrying capacity and strength of construction with minimum weight and complication in construction; the invention comprising certain important constructions, combination of parts and subcombinations thereof whereby a car or vehicle is formed, provided with longitudinal center-sills spaced apart or separated to provide a large central discharge opening in the bottom of the car.

The particular feature of my invention forming the subject matter of my present application has for its object the providing of means whereby standard draft-rigging may be readily applied to such separated center-sills.

By the use of my invention a simple and compact construction is provided wherein strains on the draft-mechanism are taken up and transmitted longitudinally of the center-sills, there being a resulting gain in strength and stability.

In the drawing herewith, wherein like characters of reference denoting like parts are applied as in corresponding figures of the drawings of application No. 355,815, above referred to, the figure is a horizontal fragmentary section through the lower part of the car.

The means for supporting the load of the car upon trucks comprises two central sills, 1, 1, located somewhat inboard of the truck wheels and separated or spaced apart. They have attached at their ends the usual buffer-plates and the coupler-heads and the draft-rigging presently described, so applied that the hauling and buffing strains to which the vehicle is subjected are therefore taken up directly and primarily upon these two longitudinal members and transmitted through them in the direction of their length. Somewhat inward of their extremities the center-sills are provided with a body bolster construction, at which points they rest upon the trucks. The sills may be conveniently made of metal plates cut to the shape described in application No. 355,815 above referred to and reinforced by means of angle-bars 2, riveted to their outside margin. They are spaced apart from each other by means of inter-sill cross members, which include the end cross sill construction later described. The sills as thus separated provide a wide space between them as compared with the usual distance between the center-sills of dumping railway cars, and the portion of this space which extends fore and aft between the inner truck sills accommodates a part of the cargo receptacle and is provided with one or more discharge valves not shown at its lower part so that it likewise constitutes the central discharge opening. The draft-rigging is applied to these widely separated sills by means of a construction whereby the hauling and buffing strains, which are exerted at a point midway between the sills, are transmitted to the same as endwise strains. This arrangement obviates the use of special sills at or inward of the trucks, and permits the employment of the continuous central, load-supporting center-sill construction above explained, notwithstanding the abnormal width of the inter-sill discharge passage. The said construction comprises a short channel bar or cross sill 45 secured to the extreme ends of the center-sills and perforated at its center to receive the draw-bar 46. Radiating from the draw-bar opening are two diagonal channel bars 47 extending divergently to a point adjacent to the body-bolster construction, where they are both firmly secured to the sides of the respective center-sills. The forward ends of said bars are secured by the angles 47[a] to the short cross-sill 45, and said divergent bars constitute two inwardly projecting horizontal thrust-receiving brackets whereby the coupling or buffing shocks on the car are caused to be exerted longitudinally from buffer to buffer through the sills. At or near the point of attachment of the divergent bars 47 to the sills, the latter are tied together by the interior spacers or distance plates 4, so that all tendency for the sills to spread or move laterally out of

alinement is adequately counteracted. The dead block is of sufficient length to span the ends of the bars 47. The draw-bar 46 extends into the triangular space between the divergent channel bars 47 and is provided with the usual arrangement of springs 46[a], follower blocks 46[b], follower coastings 46[c] and tail-strap 46[d]. The front and rear followers have their bearings against the rear faces of the short bearing blocks 48 and the forward faces of the relatively wider bearing blocks 49, respectively. These blocks are formed with inclined bases which are secured by rivets or bolts to the webs of the divergent thrust-bars 47 and the blocks on each bar are united or tied together by means of upper and lower longitudinal straps 50. The extremities of the draw-bar followers play in the space between the straps at each side and by this means the inner end of the draw-bar is supported in position.

In operation hauling strains are exerted through the springs and forward follower to the forward bearing-blocks 48, and by them to the divergent bars 47, which in turn transmit said strains with longitudinal or endwise direction to the two continuous center-sills. By reason of the divergent relation of the bars 47 the thrust on the forward bearing-blocks has but slight tendency to shear the bolts by which the same are held in place, the action being somewhat analogous to that of a wedge, and the tendency to shearing is further averted by reason of their connection with the rearward blocks, through straps 50, and the strains on the latter blocks are tensile rather than shearing. In the case of pushing or coupling strains, the rearward draw-bar follower abuts against the relatively wider bearing-blocks 49, and the tendency of the latter to become displaced or loosened is offset by the connection of their extended apices with the forward bearing-blocks, through the straps 50, which, as above stated, tie the two pairs of blocks together. By this arrangement all of the usual strains on the draw-bar mechanism are immediately converted into endwise strains in the center-sills.

The center-sills as thus equipped constitute the lowermost supporting members of the load-carrying structure of the car, no other sill members being necessarily required, and the body of the cargo receptacle is preferably combined with and united to the center-sills, so that it coöperates with the sills in the performance of this function, the preferred form of such construction being shown in the drawings and fully described in said application No. 355,815.

While I have herein fully shown and described and have pointed out in the appended claims certain novel features of construction, arrangement and operation which characterize my invention, it will be understood by those skilled in the art that various omissions, substitutions and changes in the forms, proportions, sizes and details of the device and of its operation may be made without departing from the spirit of my invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In a railway car, two central sills spaced apart and continuous from end to end of the car; a cross member connecting the ends thereof; a draw-bar centrally positioned between the ends of the sills; and means for securing the draw-bar in position adapted to transmit strains on the draw-bar to said center-sills lengthwise thereof, said means comprising two oppositely diverging bars, each extending from said cross member, centrally thereof, to one of the sills.

2. In a railway car, two spaced-apart center-sills, a draw-bar having followers, and two bars diverging from said draw-bar toward the sills and adapted to transmit the draft and coupling strains thereto, in combination with bearing blocks having inclined bases secured to said diverging bars and adapted to provide fore and aft bearings for said followers.

3. In a railway car, two longitudinal sills and a draw-bar centrally located between the same, two bars diverging from said draw-bar toward the sills and respectively secured thereto, in combination with fore and aft followers on said draw-bar, separate fore and aft bearing blocks having inclined bases secured respectively on the diverging bars and adapted to form abutments for said followers and tie-straps uniting the apices of the rearward blocks with the forward blocks.

4. In a dumping car having two spaced apart center-sills and a cross member joining the ends thereof, the combination of two bars secured to and diverging from the central region of said cross member between the sills and secured at their divergent ends respectively to said sills, bearing blocks with inclined bases secured to each of said diverging bars and draw-bar followers adapted to engage said blocks.

5. In a railway car two longitudinally extending sills, a cross sill secured to adjacent ends of the longitudinal sills, a draw bar extending through the cross sill, two diagonally extending bars each of which is secured at one end to the cross sill on one side of the draw-bar and at the other end to one of the longitudinally extending sills and front and rear bearing blocks for the followers of the draw-bar secured to the diagonal bars.

6. In a railway car two center sills spaced apart and extending continuously from end

to end of the car, a cross sill connected to adjacent ends of the center sills, a draw-bar extending through the cross sill and disposed centrally with relation to the sills and combined tension and compression members for securing the draw-bar in place, said members being disposed diagonally and symmetrically with reference to the draw-bar and secured to and in stress-transmitting relation with the cross sill and center sills.

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

JOHN M. GOODWIN.

Witnesses:

EUGINIE R. GOODWIN,

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