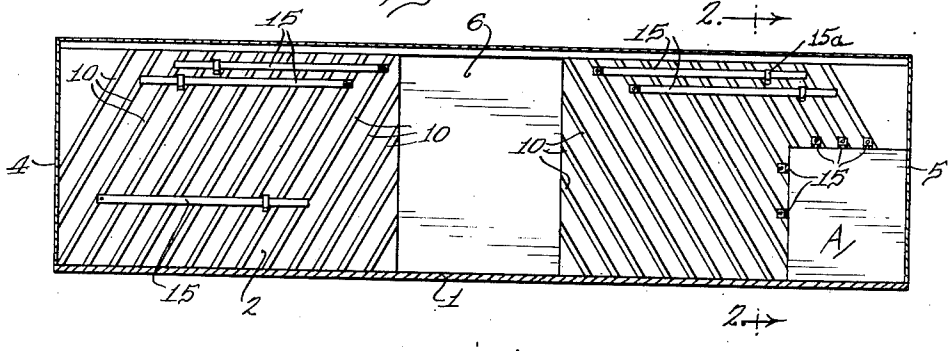
June 12, 1962 P. H. WALLER 3,038,417

RAILROAD BOXCAR LOADING MECHANISM

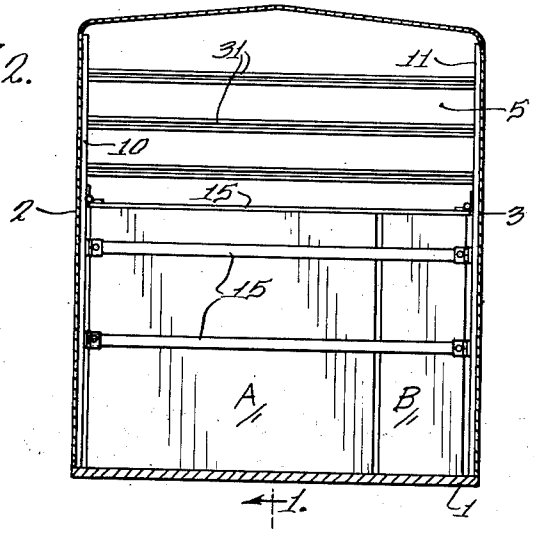
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Fig. 1.



1.

Fig. 2.



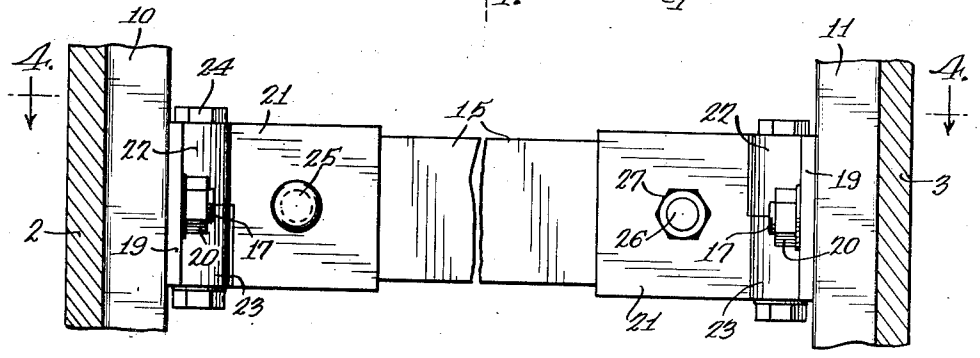


Fig. 3.

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Fig. 4.

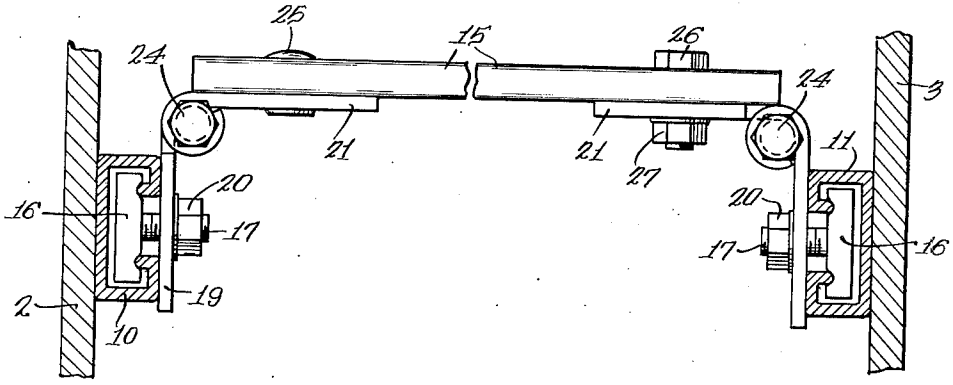
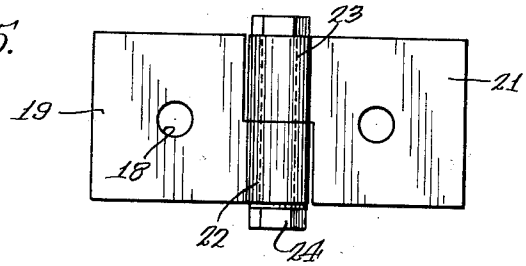


Fig. 5.



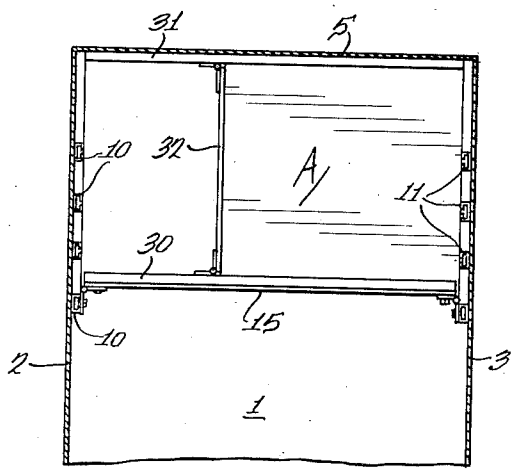


Fig. 6.

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RAILROAD BOXCAR LOADING MECHANISM

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Filed Nov. 26, 1957, Ser. No. 699,109
6 Claims. (Cl. 105—369)

This invention relates to a loading system for a storage unit and more particularly to a railroad boxcar loading mechanism.

An object of this invention is to provide a new and improved loading system for a storage unit such as a boxcar, a truck trailer body or the like.

Another object of the invention is to provide a loading system for a boxcar or the like in which the members for partitioning the boxcar are of simple, sturdy construction and not easily damaged, are infinitely adjustable to provide the exact adjustment required and cannot be removed from the boxcar to thus avoid any chance for lost parts.

Another object of the invention is to provide a loading system comprising, a plurality of cross members extendable between the sides of a boxcar or the like, means mounting each cross member for up and down movement in an inclined path to provide for infinite height positions for the cross member each at a different distance from an end of the car, means for fastening each cross member in a selected height position, and means mounting said cross members for swinging movement to an out-of-the-way position while still attached to the car.

Further objects and advantages will become apparent from the following detailed description taken in connection with the accompanying drawings in which:

FIG. 1 is a vertical section through the body of a boxcar or the like having a load at one end and taken generally along the line 1—1 in FIG. 2;

FIG. 2 is a vertical section looking toward the end of the boxcar and taken generally along the line 2—2 in FIG. 1;

FIG. 3 is a fragmentary end view generally similar to the view of FIG. 2 and on an enlarged scale;

FIG. 4 is a fragmentary plan section taken generally along the line 4—4 in FIG. 3;

FIG. 5 is a detailed view of a fitting for each end of the cross member and with the parts laid out flat; and

FIG. 6 is a plan section through the boxcar at one end thereof showing both transverse and longitudinal bracing for the boxcar.

While this invention is susceptible of embodiments in many different forms, there is shown in the drawings and will herein be described in detail a preferred embodiment of the invention and a modification thereof with the understanding that the present disclosure is to be considered as an exemplification of the principles of the invention and is not intended to limit the invention to the embodiment illustrated. The scope of the invention will be pointed out in the appended claims.

As shown in the drawings a railroad boxcar has a floor 1, side walls 2 and 3 and end walls 4 and 5 which may be conventional boxcar construction. Each of the sides 2 and 3 is formed intermediate its ends with a movably mounted door to provide access to the interior of the boxcar and the door for the side wall 2 is shown at 6.

My loading system comprises a series of inclined spaced apart guides in the form of channels mounted on each of the side walls 2 and 3. These guides for the side wall 2 are identified at 10 and a similar series of guides 11 is secured to the side wall 3. The guides 10 and 11 are fastened to the wood framing forming the side walls 2 and 3 to become a rigid part thereof and opposed guides

10 and 11 on opposite side walls form a pair of guides inclined in the same direction from an end of the car.

Means are provided for bracing loads within the car and for partitioning the car including a plurality of cross members 15 with one cross member associated with each pair of opposed guides 10 and 11.

As shown in FIGS. 1 and 2, a pair of the cross members 15 extending between two pairs of opposed guides 10 and 11 are shown in close association with a load such as boxes A and B at one end of the boxcar and another cross member 15 is shown in stored position along the side wall 2 and may be held there by a clip 15a. Although all the cross members 15 are not shown in FIG. 1, there are as many cross members as there are pairs of opposed guides 10 and 11 so that each pair of guides will have a cross member 15.

Each cross member 15 has a fitting at each end thereof providing means for adjustably slidably mounting the cross member on the guides and providing for fastening the cross member in a desired position. This means includes a runner 16 confined within the channel shaped guide, each runner having a bolt 17 extending inwardly therefrom and passing through an opening 18 in a plate 19 and having a nut 20 threaded thereon. With the nuts 20 backed off, the cross member 15 may be adjusted along the inclined path defined by the guides to a desired height adjustment and distance from the end of the boxcar. The nuts 20 may then be tightened to hold the cross member 15 in the desired position. The fittings also include means pivotally mounting the cross member relative to the guides 10 and 11 and each includes a member 21 engageable with the cross member. The plate 19 and member 21 are each formed with an apertured ear 22 and 23 through which a fastener pin 24 may extend to mount the parts for pivotal movement. The member 21 at one end of the cross member 15 is permanently secured thereto by a rivet 25 while the member 21 at the other end of the cross member 15 is secured thereto by a bolt 26 having a removable nut 27.

A cross member 15 is shown in detail in FIGS. 3 and 4 and in position to form a brace for a load positioned within a car. When the cross member 15 is to be taken out of bracing relation with a load, the nut 27 may be removed from the bolt 26 to free the fitting member 21 from the cross member 15 and pivoting of the member 21 about the fastener pin 24 will then free the cross member 15 for pivoting movement about the fastener pin 24 associated with the fitting at the other end of the cross member. The cross member is then positioned at one side of the car and the load may be readily removed. When there is free space for doing so, the cross member 15 may be pivoted in either direction about the fastener pin 24 to place the cross member in alignment with the side wall 2 of the car. The nut 27 is the only part that has been removed and this nut may be again placed on the bolt 26 for storage when the cross member 15 is moved to a side of the car. This avoids any possibility of loss of parts so that the car always has a complete set of loading equipment. The channels for guides 10 and 11 are spaced apart and so arranged in inclined paths to at least have one pair of guides overlap the end of the adjacent pair of guides to provide a range of height and distance positions for the cross member 15 to handle any size or shape of load and the adjustment is infinite in that the position of a cross mmeber 15 is not limited by any predetermined spacing of holes for supporting cross members. The parts including the fitting parts are of all simple, sturdy construction and long life of the mechanism is assured. The mechanism does not require the use of springs and movable parts which could easily become inoperative.

The foregoing structure provides for transverse bracing of the car and as shown in FIG. 6 similar mechanism may

be provided for longitudinal bracing adjacent the ends of the car. Several of the cross members 15 adjacent the ends of the car may each have a guide in the form of a channel member 30 fastened to the back side thereof and a series of vertically spaced horizontally extending guides 31 are secured to the end walls of the car as shown on end wall 5. A secondary cross member 32 may extend between each of the cross members 15 having a guide 30 mounted thereon and the guides 31 on the end wall and each of the secondary cross members 32 has a fitting at each end thereof similar to those at the ends of the cross members 15 previously described and at one end is removably attached to its fitting to permit swinging of the secondary cross member to an out-of-the-way position. The secondary cross member 32 may be made to have adjustable length and the fittings include universal joints to permit exact fitting of the secondary cross members in all positions of the cross members 15.

I claim:

1. A loading system for a boxcar or the like comprising, in combination, a series of spaced apart channels inclined relative to the boxcar floor and fixed to each side of the boxcar with opposed channels on opposite sides forming a pair, a plurality of cross members extendable one between each pair of channels, means at each end of the cross member for slidably mounting the cross member on the channels of a pair and providing for fastening the cross member in any desired position along the channels including, a runner slidably confined in said channel, a plate outside the channel and means to draw the plate against the channel, means pivotally mounting one end of each cross member to the adjacent plate including, a member secured to the cross member and pivotally connected to said plate, and means releasably connecting the other end of each cross member to the adjacent plate including a second member removably fastened to the cross member and pivotally connected to the adjacent plate.

2. A loading system for a boxcar or the like comprising, in combination, a series of spaced apart guides inclined relative to the boxcar floor and fixed to each side of the boxcar with opposed guides on opposite sides of the car forming a pair, a plurality of cross members extendable one between each pair of guides; means at each end of the cross member for slidably mounting the cross member on the guides and providing for fastening the cross member in any position along the length of the guides including, a runner slidably confined in said guide, a plate, and a bolt connected to the runner and extending through the plate with an exposed removable nut to draw the plate against the channel, means pivotally mounting one end of each cross member to the adjacent plate including, a member permanently secured to the cross member and pivotally connected to the plate, and means releasably connecting the other end of each cross member to the adjacent plate including a second member connected to the adjacent plate, and nut and bolt means removably fastening the second member to the cross member.

3. A freight car loading system comprising, a plurality of guides fixed in spaced apart relation on each of two sides of a freight car with opposed guides on the two sides

arranged in pairs and inclined in the same direction relative to the floor of the car, a fitting for each guide slidably mounted therein, means for securing each fitting in an adjusted position in its guide, a cross member extending between a pair of fittings of a pair of guides, means pivotally mounting the cross member at one end to one fitting of a pair, and means removably connecting the other end of the cross member to the other fitting of a pair, whereby the cross member is permanently associated with one channel and fitting and may be placed out of the way along a side of the car or may be pivoted to extend across the car and fasten to the fitting of the other channel of said pair to form a load brace at any desired height position.

4. A loading mechanism for a boxcar or the like comprising, in combination, a series of spaced apart channels inclined relative to the boxcar floor and fixed on each of the boxcar sides with opposed guides on opposite sides forming a pair, said channels extending substantially from the floor to the top of the boxcar, a cross member extendable between each pair of channels for partitioning a space longitudinally of the unit, and means mounting each cross member for sliding adjustment along the length of a pair of channels and for holding the cross member in adjusted position on said channels.

5. A loading system for a storage unit having sides and ends comprising, a series of spaced apart guides fixed on each of said sides inclined relative to the storage unit floor and opposed guides on opposite sides forming a pair, said guides extending for substantially the entire height of the storage unit, a cross member extendable between each pair of guides for partitioning a space longitudinally of the unit, means mounting each cross member for adjustment along the length of a pair of guides and for holding the cross member in adjusted position on said guides, means pivotally mounting one end of the cross member to one guide of a pair, and means releasably connecting the other end of the cross member to the other guide of a pair.

6. A loading system as defined in claim 5 having a series of vertically spaced horizontal guides on an end of the unit, a plurality of guides formed one on each of the cross members adjacent an end of the unit facing said end, and a set of secondary cross members extending between and connected to the first mentioned cross members adjacent the end and said vertically spaced guides for partitioning the space transversely of the unit.

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