Sept. 3, 1946. J. McMULLEN 2,407,091

ADJUSTABLE LADING BRACE FOR RAILWAY CARS

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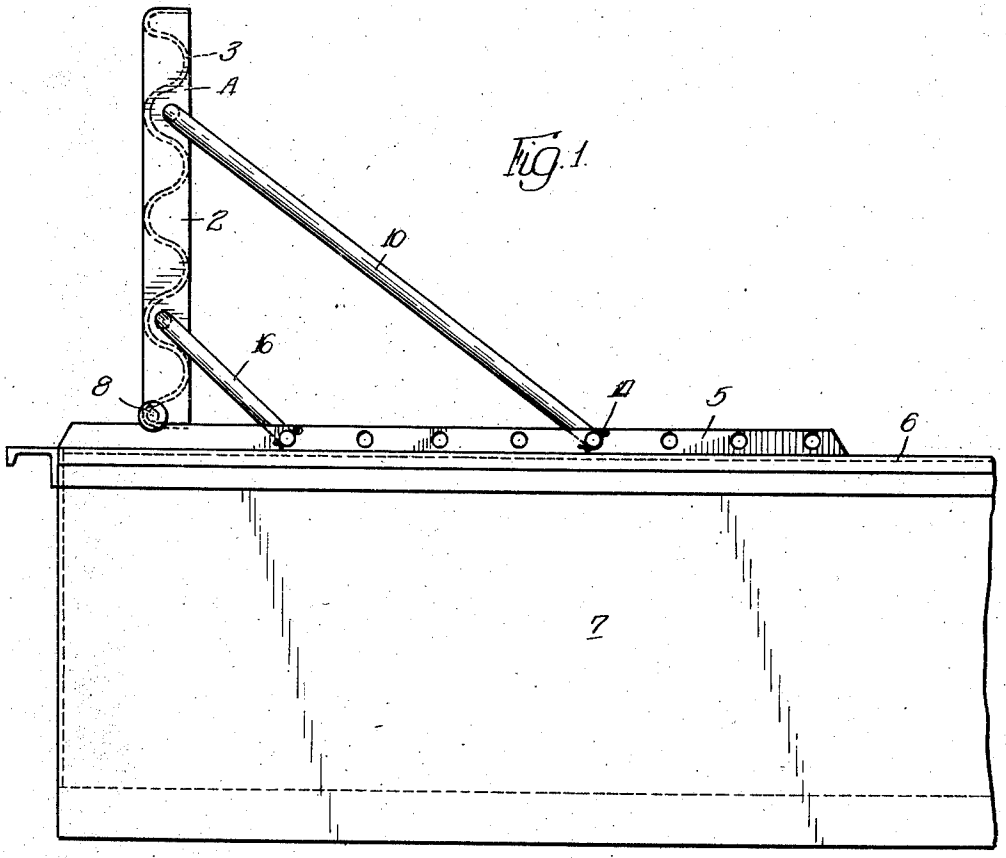


Fig. 1.

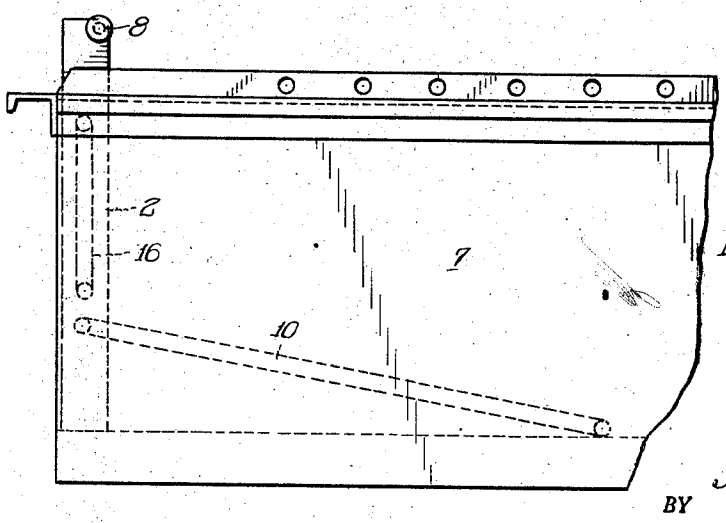


Fig. 2.

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Fig. 3.

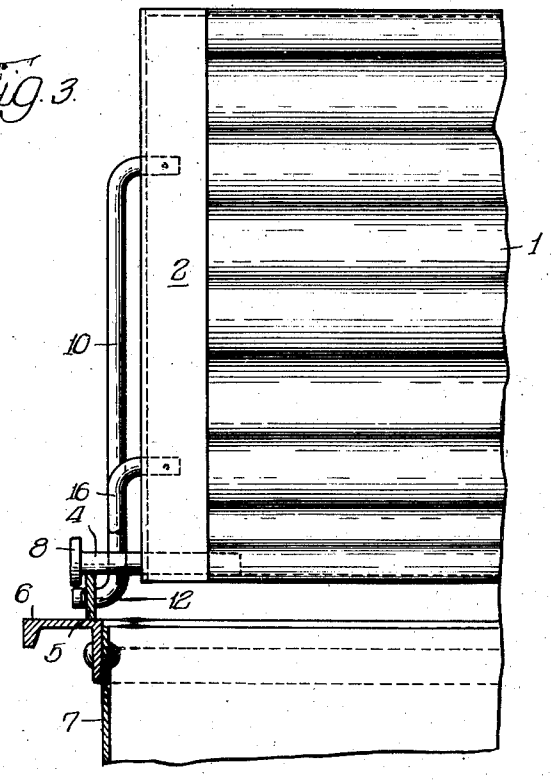
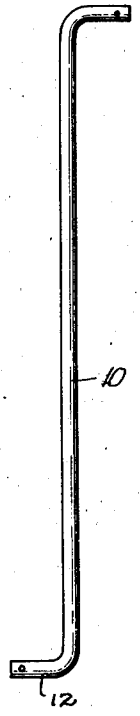


Fig. 8.



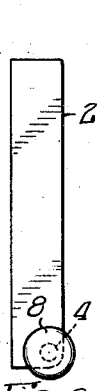


Fig. 6.

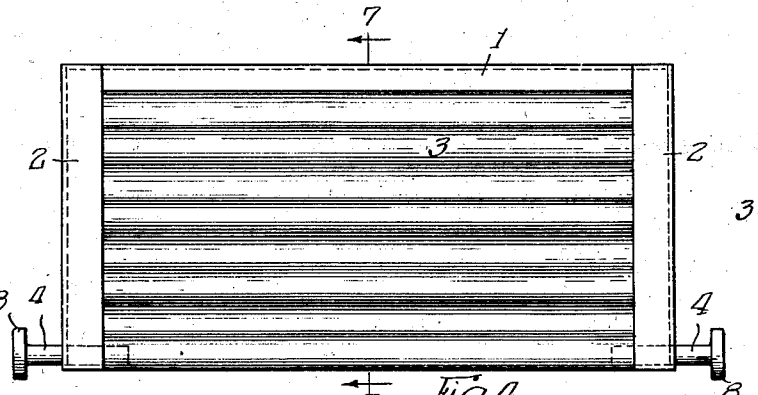


Fig. 4.

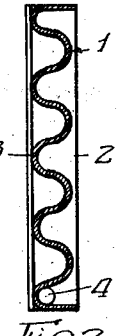


Fig. 7.

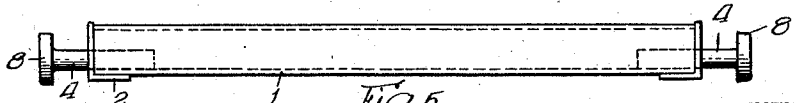


Fig. 5.

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UNITED STATES PATENT OFFICE

2,407,091

ADJUSTABLE LADING BRACE FOR RAILWAY CARS

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Application May 31, 1945, Serial No. 596,818

8 Claims. (Cl. 105—369)

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The invention relates to improvements in railway cars and more particularly to open top gondola cars, such as are used for the transportation of long pipes and poles which, when a car is fully loaded, frequently project above the side walls of the car. The invention has for its object to provide means adjustable to one of many positions to resist the tendency of such pipes or poles or other high lading to move lengthwise of the car, due to service movements of the car, particularly coupling shocks and brake applications.

The portion of the lading above and the side wall of the car is generally held against movement lengthwise and crosswise of the car by wires or metallic bands stretched over the lading and secured to both side walls of the car, or to the stakes which extend above the side walls. A shifting of the upper part of such high lading frequently breaks these wires or bands and allows part of the lading to fall upon an adjacent track, thus endangering another train. Such high, long loads have a tendency to shift lengthwise of the car and damage the next car in the train. If a pole or pipe shifted and engaged the next car in the train it might prevent the train rounding a curve and derail the train.

A further object of the invention is to prevent that part of the lading (i. e., pipes or poles), above the side walls from shifting crosswise of the car.

Means preventing that part of the lading above the side walls from shifting will also prevent the part of the lading between the side walls from shifting.

In the drawings:

Figure 1 is a side elevation of a part of a railway gondola car showing one form of the invention installed thereon in operative position.

Figure 2 is similar to Figure 1 and shows the invention in non-operative position.

Figure 3 is an enlarged section through the top of a side wall of a gondola car, a portion of the panel and its associated parts in relation to said side wall.

Figure 4 is an elevation of the panel forming part of the invention.

Figure 5 is a side elevation of the panel.

Figure 6 is an end elevation of the panel.

Figure 7 is a section on line 7—7 of Figure 4.

Figure 8 is a detail of a brace used in the invention.

My improved lading brace comprises a vertically disposed panel (preferably one adjacent each end of the car) positioned above the side walls and provided with means extending over

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and slidably supported by such side walls for adjustment lengthwise of the car against (or adjacent) that portion of the lading higher than the side walls of the car. Means are provided to brace such panel when moved to adjacent such portion of the lading to enable it to resist the shifting of the lading or to resist the thrusts of the lading when the panel is positioned against the lading. The braces also prevent the lading from shifting laterally of the car. Means are also preferably provided to prevent the panel from moving crosswise of the car.

One or both of the panels may be moved adjacent to or preferably in contact with the opposite ends of the poles or pipes after the lading is in the car, thereby preventing the lading from moving and building up momentum which would cause the pipes or poles to act as battering rams if there was much space between the ends of the lading and the panels.

The panel is associated with the side walls of the car so that when not in use it may be swung to a vertical position in between the side walls and positioned preferably against the respective end walls of the car where it will not materially interfere with the use of the car for other lading and will be available for use when wanted. The braces are so attached to the panel that when the panel is swung between the side walls it is not necessary to detach them from the panel so that the braces will also be available when wanted. This is important because railway cars are moved all over the country and, therefore, it is not practical to store the panels elsewhere than in the car itself, because the panels otherwise would not be where wanted when wanted.

In the form of modification shown in the drawings, the panel A comprises a corrugated metallic plate 1 extending between and secured to vertical marginal angles 2 so that the tendency of the lading to shift is carried by the corrugations 3 to the vertical marginal angles 2. A member or pintle 4 is secured to each lower corner of the panel A which extends over and rests upon perforated bars 5 which are secured to the top chords 6 of the side walls 7, respectively of the car. These members or pintles 4 are preferably provided with shoulders 8 engageable with the adjacent bar 5 to restrict movement of the panel A crosswise of the car.

The brace 10 is pivotally attached to the panel adjacent each upper corner thereof and extends diagonally downwardly and is adapted to have its lower end secured to the side wall of the car. In the modification shown the means of attachment

comprises a lateral extension 12 of the brace 10 which penetrates through one of the perforations in the perforated bar 5 and is held in by a cotter 14 or other means. Another similar brace 16 is pivotally attached adjacent each lower corner of the panel and is likewise removably secured to the perforated bar 5.

When it is desired to move the panel lengthwise of the car to adjacent lading, the braces 10—16 are detached from the bar 5 and as the panel A is moved, the members or pintles 4 slide upon the perforated bars 5. When the panel has reached the desired position, the braces 10—16 are attached to the perforated bars 5, as described above, and the side is then in operative position. In this position any load imposed upon the panel A by the shifting lading is transferred from the panel A to the braces 10—16 and thence to the side wall 7 of the car through the medium of the perforated bars 5.

When the panel has served its purpose I preferably store it within the car so that it will be available when needed again. For this purpose I preferably make the length of the panel (that is, crosswise of the car) less than the distance between the side walls of the car so that the members or pintles 4 may act as pivots and allow the panel to be swung downwardly to a position between the side walls of the car. From this position it is preferably slid along the bars 5 to a position adjacent the end wall of the car where it will be out of the way and not interfere with other lading placed in the car. If the height of the panel is greater than the inside height of the lading compartment of the car, the end of the panel would simply project above the side wall of the car, as shown in Figure 2, but as the bottom of the panel is moved lengthwise of the car, the pintles 4 would be lowered until they engage the bars 5 for sliding relation therewith.

The accompanying drawings illustrate the preferred form of the invention, though it is to be understood that the invention is not limited to the exact details of construction shown and described, as it is obvious that various modifications thereof, within the scope of the claims, will occur to persons skilled in the art.

I claim:

1. Means to retard shifting of lading in an open top railway car which lading projects above the side walls thereof, said means comprising a panel adapted to slidably engage the side walls of the car for movement lengthwise of the car for adjustment against the lading above the side walls of the car, a pair of braces attached to each end of the panel in spaced relation to each other and engageable with the respective side walls of the car to brace said panel against the thrust of lading due to service movements of the car, and means to engage said braces to the side walls of the car respectively in any one of several positions lengthwise of the car.

2. A structure as defined in claim 1 wherein the panel is pivotally supported upon the side walls of the car so as to be swingable between said side walls when not in use.

3. A structure as defined in claim 1 wherein the panel is pivotally supported upon the side walls of the car so as to be swingable between said side walls and moved to adjacent the end wall of the car when not in use.

4. A structure as defined in claim 1 wherein the panel is pivotally supported upon the side walls of the car so as to be swingable between said side walls when not in use and the braces are pivotally attached to said panel so that the panel may be swung between the side walls without detaching the braces therefrom.

5. A structure as defined in claim 1 wherein means are provided independently of said braces to restrict movement of the panel crosswise of the car.

6. In an open top railway gondola car having spaced side walls; a perforated bar adapted to be secured to the top of each side wall, a panel positioned above and extending substantially between said bars, a member secured to each lower corner of the panel which extends over and rests upon the adjacent bar, whereby said panel is slidably supported by said bars for movement lengthwise of the car for adjustment against lading above the side walls of the car, and braces pivotally attached to said panel adjacent each upper and lower corner thereof respectively, said braces being engageable with perforations in said bars to brace the panel in any one of several positions against a thrust of lading due to service movements of the car.

7. In an open top railway gondola car having spaced side walls; a perforated bar adapted to be secured to the top of each side wall, a panel positioned above and extending substantially between said bars, a pintle secured to each lower corner of the panel which extends over and rests upon the adjacent bar, whereby said panel is slidably and pivotally supported by said bars for movement lengthwise of the car for adjustment against lading above the side walls of the car and is pivotally supported by said bars so as to be swingable between said side walls when not in use, a brace pivotally attached to said panel adjacent each upper corner thereof, and another brace pivotally attached to said panel adjacent each lower corner thereof, said braces being engageable with perforations in said bars to brace the panel in any one of several positions against a thrust of lading due to service movements of the car.

8. A structure as defined in claim 6 wherein said members are each provided with a shoulder engageable with the adjacent bar to restrict the movement of said panel crosswise of the car.

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