

H. W. KIRCHNER.
FREIGHT CAR.
APPLICATION FILED JAN. 11, 1908.

922,293.

Patented May 18, 1909.
2 SHEETS—SHEET 1.

Fig. 1.

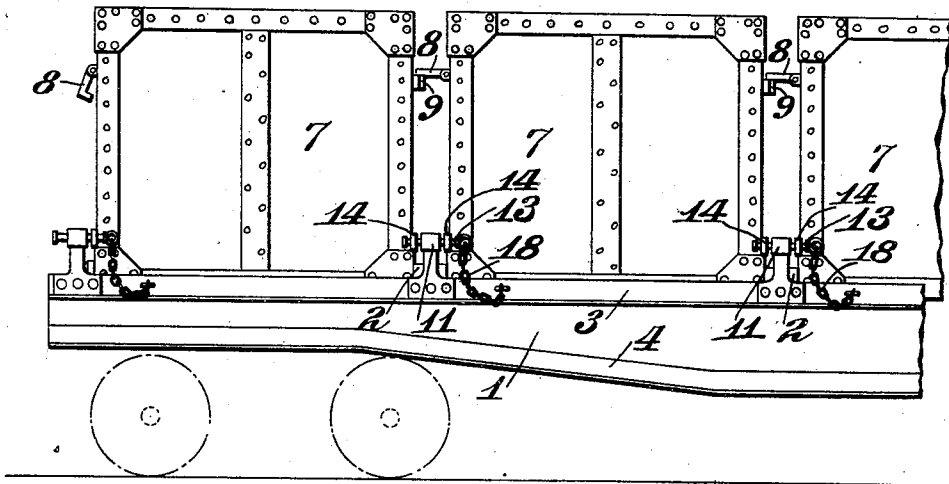
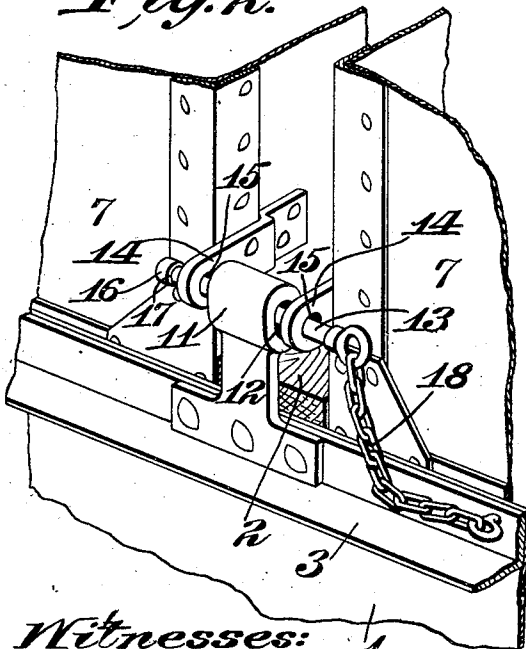
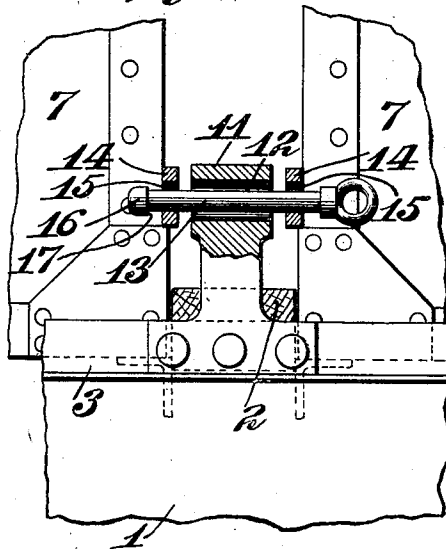


Fig. 2.



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Fig. 3.



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922,293.

2 SHEETS--SHEET 2.

Fig. 4.

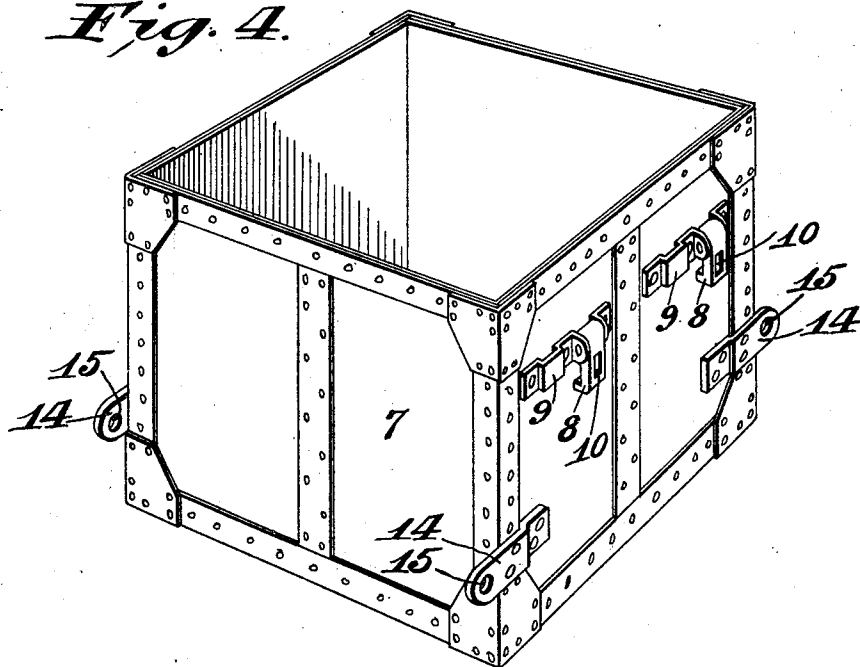
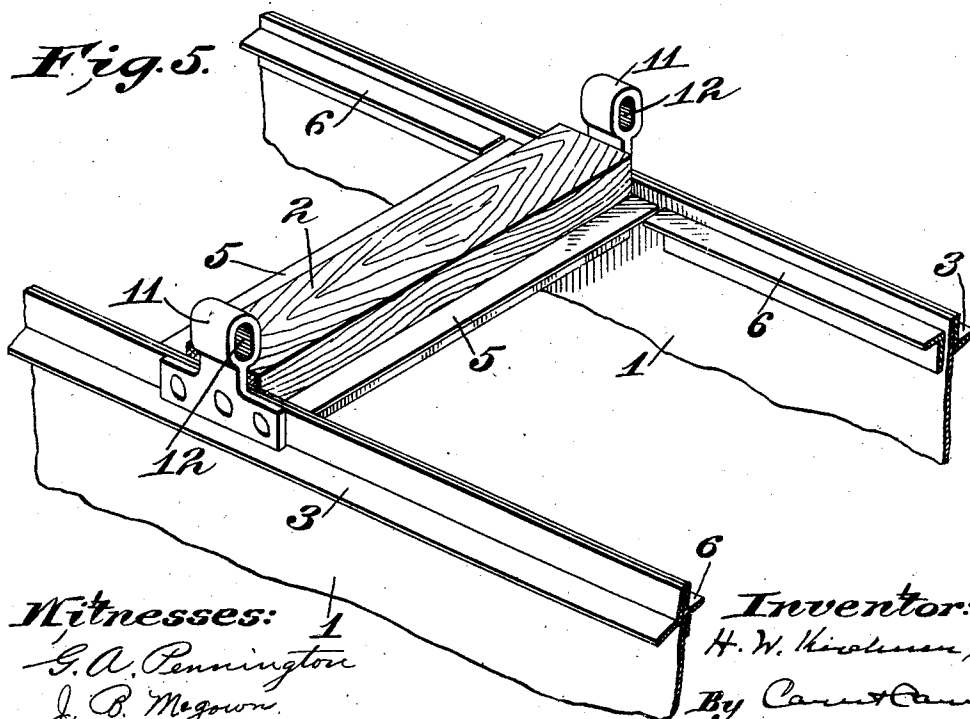


Fig. 5.



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UNITED STATES PATENT OFFICE.

HENRY WILLIAM KIRCHNER, OF ST. LOUIS, MISSOURI, ASSIGNOR TO RIVER & RAIL TRANSPORTATION COMPANY, OF GUTHRIE, OKLAHOMA, A CORPORATION OF OKLAHOMA.

FREIGHT-CAR.

No. 922,293.

Specification of Letters Patent.

Patented May 18, 1909.

Application filed January 11, 1908. Serial No. 410,409.

To all whom it may concern:

Be it known that I, HENRY WILLIAM KIRCHNER, a citizen of the United States, and a resident of the city of St. Louis and State of Missouri, have invented a new and useful Improvement in Freight-Cars, of which the following is a specification.

My invention relates to freight cars and more particularly to cars having removable and interchangeable compartments or unit boxes.

It has for its principal objects to provide simple and efficient devices to hold the units in position on the car and to prevent them from tilting or toppling over.

The invention consists in the parts and in the arrangements and combinations of parts hereinafter described and claimed.

In the accompanying drawings, which form part of this specification, and wherein like symbols refer to like parts wherever they occur, Figure 1 is a side elevation of a car embodying my invention; Fig. 2 is an enlarged fragmentary detail perspective view of a securing device and associated parts; Fig. 3 is an elevation thereof partly in section; Fig. 4 is a detail perspective view of an interchangeable unit box or compartment; and, Fig. 5 is a fragmentary detail perspective view of a car frame showing seats for unit boxes and relative positions of the keepers or securing devices.

The car comprises a body or underframe which may be mounted upon any suitable trucks. This underframe may be of any desirable construction, but it is preferably a structural steel skeleton frame. As shown in the drawings it comprises metallic longitudinal girders or side sills 1 and wooden transverse members or cross sills 2. The girders or side sills are reinforced with angle members 3 and 4.

Mounted on the cross sills 2 and on the inner faces of the side sills are angle members 5 and 6, respectively. These angle members 5 and 6 are placed flush with each other at a short distance below the upper edges of the side sills so as to form rectangular pockets or seats for interchangeable unit boxes or compartments 7. The several boxes or compartments are of the same size and shape, so as to cooperate with any pocket or seat as desired. Each of the boxes constitutes a separable unit and is provided on its ends with interlocking members adapted to co-

operate with like members on the next adjacent unit. For this purpose, the locking members are preferably arranged in two sets on each of two opposite sides of the unit (that is, four sets in all); one member of each set being a latch or hook 8 and the other member a keeper 9. For the sake of interchangeability, the latch and the keeper of each box are uniform, and the latch of each set is uniformly to the right (or to the left, as the case may be) of the keeper of its set, looking toward them. Otherwise, stated, the latches and keepers are similarly arranged vertically of the box, so that, if the box is turned end for end, the latch on either side of the box will cooperate equally well with the keeper on the adjacent box. The length of the latches is likewise uniform and such as to engage with the keeper of the box or unit in the next adjacent pocket or seat of the car. The latches thus constitute spacing members or distance pieces as well as fastening devices. The latches are preferably formed with holes 10 through them so as to receive grab hooks or hangers of a derrick or the like, whereby the boxes or units may be readily lifted from the car.

Secured on the sides of the car body or underframe 1, adjacent to the ends of the cross sills 2, are keepers 11. These keepers are preferably malleable castings or forgings and are perforated lengthwise as at 12 for the reception of coupling pins or bolts 13. Each of the unit boxes or compartments is provided with perforated ears or projections which project laterally therefrom at each corner thereof, so that the perforations are in alinement or register with the perforation 12 of the keeper 11. For the sake of interchangeability the several ears 14 and keepers are arranged at uniform cooperative positions. As shown in the drawings each of the bolts 13 is provided with an enlargement or head 16 at one end to form a retaining shoulder 17. Obviously, the perforations in the ears 14 are of a sufficient diameter to permit the passage of the enlarged portion of the bolts therethrough. If desired, the perforation 12 in the keeper 11 may be circular and of the same diameter as the perforations 15, but it is preferable to elongate the perforation 12 in the keeper vertically, as shown, to provide for any irregularity that may occur in the positions of the ears 14, especially such as may be due to rough usage and excess-

ive stresses upon the car or unit boxes. The range of elongation of said perforation 12 is governed by the depth of the pockets or seats for the unit boxes on the car body.

5 The enlargement or head 16 prevents the coupling pin 13 from being removed without placing said pin concentrically of the perforations in the ears and keeper. If desired, the enlargement may be omitted and a cotter 10 pin or other detachable securing device may be employed in lieu thereof. Preferably, the coupling pins 13 are attached to the car body by short chains 18 or other suitable flexible connecting means.

15 By providing the interlocking latches and keepers at the adjacent ends of the units near the upper portion thereof, the several units are braced lengthwise of the car. The arrangement of devices on the lower adjacent 20 end portions of the units adapted to cooperate with the keepers on the car body frame and the removable locking pins, prevents the units from accidentally toppling over, but permits of the ready release of any unit when 25 it is desired to remove the same from the car. So, too, by this arrangement, should a unit box or a number of unit boxes be withdrawn from the car body, and the continuous endwise bracing of the several unit boxes at the 30 upper portion thereof be thereby broken, the lower holding devices will be sufficient to hold the remaining unit boxes in place in their respective seats or pockets.

Obviously, the construction and arrangements herein described, admits of considerable modification without departing from the nature and spirit of my invention. Therefore, I do not wish to be limited to the construction and arrangement shown.

40 What I claim as my invention and desire to secure by Letters Patent is:

1. A freight car comprising a body having a plurality of seats for unit boxes and a plurality of unit boxes removably mounted on 45 said seats, said unit boxes having horizontally movable devices on the lower portion thereof adapted to engage keepers mounted adjacent thereto on the car body to prevent the tilting of said unit boxes on said car body

50 2. A freight car comprising a body having a plurality of seats for unit boxes and a plurality of interchangeable unit boxes removably mounted on said seats, keepers mounted on said car body adjacent to the respective 55 seats thereon, and horizontally movable pins on the lower portion of said unit boxes adapted to cooperate with the respective keepers to hold said unit boxes on said car body against upward movement thereof.

60 3. A freight car comprising a body having a seat adapted to receive interchangeable unit boxes, and separable locking devices comprising a horizontally movable member adjacent to said seat for preventing the tilt- 65 ing of a unit box on said seat.

4. A freight car comprising a body having a seat adapted to receive unit boxes and keepers adjacent to said seat, an interchangeable unit box removably mounted on said seat, and coupling devices on said unit box 70 insertible horizontally in the respective keepers to prevent the tilting of said unit box on said car body.

5. A freight car comprising a body having a plurality of seats for unit boxes and a 75 plurality of keepers uniformly arranged on said car body adjacent to said seats, and a plurality of interchangeable unit boxes removably mounted on said seats and having horizontally movable pins thereon common 80 to and adapted to interchangeably cooperate with any of said keepers to hold said unit boxes on said car body.

6. A freight car comprising a body having 85 a plurality of seats for unit boxes and a series of keepers uniformly arranged on each side of said car body intermediate said seats, a plurality of interchangeable unit boxes removably mounted on said seats and hav- 90 ing keepers common to and adapted to cooperate with any of said first mentioned keepers, and coupling devices adapted to engage the respective cooperating keepers to hold said unit boxes on said car body.

7. A freight car comprising a body having 95 a plurality of seats for unit boxes and means adjacent to said seats for detachably holding unit boxes thereon, and a plurality of interchangeable unit boxes removably mounted on said seats, each of said unit boxes having 100 fastening devices on opposite sides at the upper portion thereof arranged to interchangeably cooperate with similarly arranged fastening devices upon adjacent unit 105 boxes.

8. A freight car comprising a body having a plurality of seats for unit boxes and keepers adjacent to said seats, a plurality of interchangeable unit boxes removably mounted on said seats, keepers on said unit boxes 110 common to and adapted to interchangeably cooperate with any of said first mentioned keepers, coupling devices adapted to engage the respective cooperating keepers to hold said unit boxes on their respective seats, and 115 said unit boxes having uniformly arranged coupling devices on two opposite sides at the upper portion thereof and adapted to interchangeably engage similarly arranged devices on the adjacent unit boxes. 120

9. A freight car comprising a body having a plurality of seats for unit boxes and a series of uniformly arranged keepers on each side of said body intermediate said seats, a plurality of interchangeable unit boxes re- 125 movably mounted on said seats, said unit boxes being provided with perforated lateral extensions on two opposite sides and arranged to interchangeably cooperate with any of the keepers on said car body, and 130

coupling pins removably fitted in the respective cooperating keepers and perforated lateral extensions.

10. A freight car comprising a body having a plurality of seats for unit boxes and uniformly arranged keepers on each side of said body intermediate said seats, said keepers having vertically elongated openings therethrough, a plurality of interchangeable unit boxes removably mounted on said seats, said unit boxes having perforated lateral extensions on two opposite sides and

arranged to interchangeably cooperate with any of the keepers on said car body, and coupling pins removably fitted in the respective cooperating keepers and perforated lateral extensions. 15

Signed at St. Louis, Missouri, this 6th day of December, 1907.

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