J. M. COLEMAN.

FREIGHT CAR.

APPLICATION FILED JUNE 3, 1915.

1,304,023.

Patented May 20, 1919.

2 SHEETS—SHEET 1.

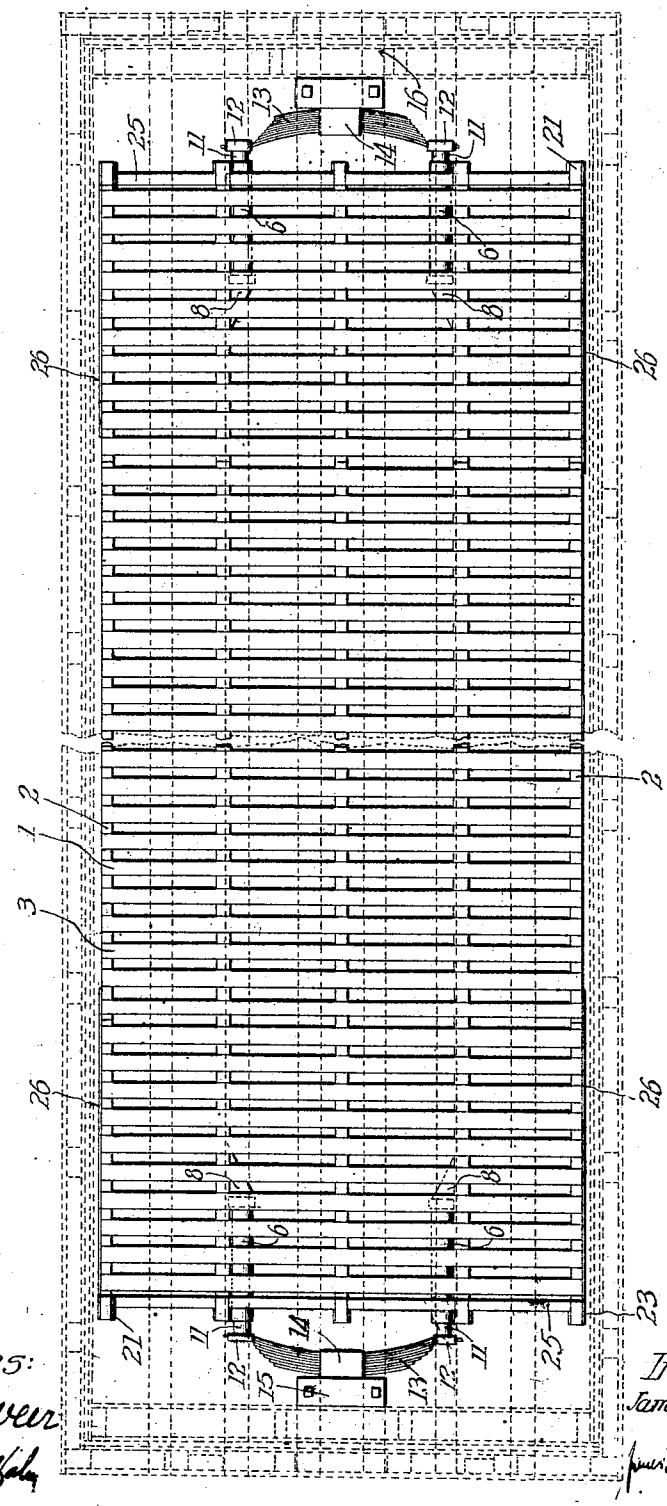


Fig. 1

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2 SHEETS—SHEET 2.

Fig. 2.

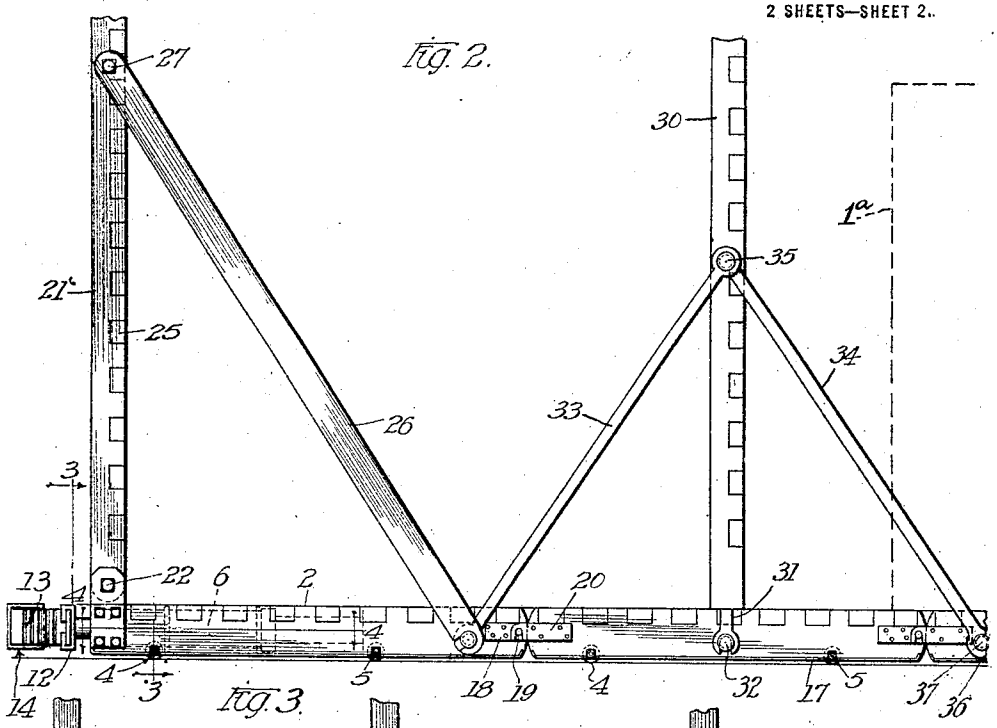


Fig. 3.

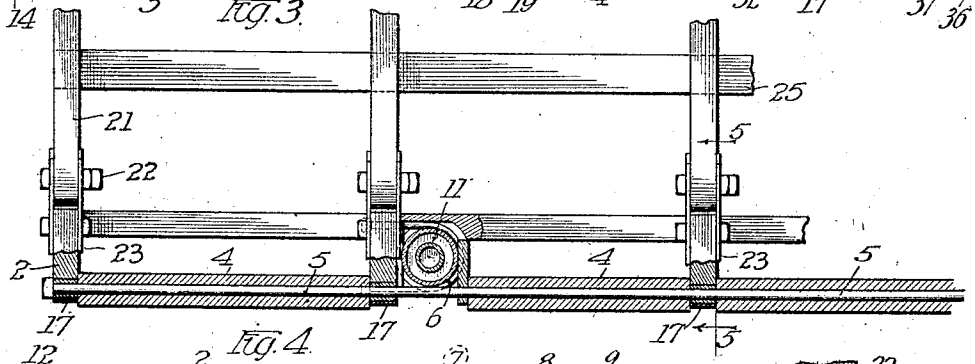


Fig. 4.

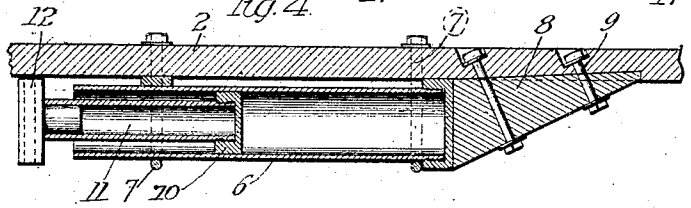


Fig. 5.

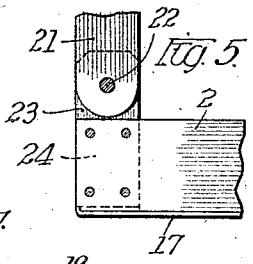


Fig. 6.

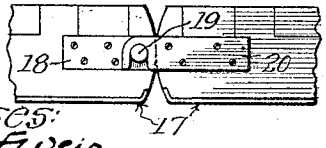
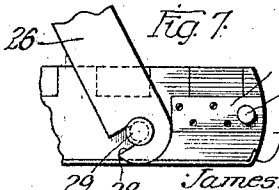


Fig. 7.



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UNITED STATES PATENT OFFICE.

JAMES M. COLEMAN, OF MONTREAL, QUEBEC, CANADA.

FREIGHT-CAR.

1,304,023. Specification of Letters Patent. Patented May 20, 1919.

Application filed June 3, 1915. Serial No. 32,023.

To all whom it may concern:

Be it known that I, JAMES M. COLEMAN, a citizen of the United States, residing at Montreal, in the Province of Quebec and Dominion of Canada, have invented new and useful Improvements in Freight-Cars, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

My invention relates to improvements in cradles for use in freight cars for carrying fragile material and is particularly designed for taking up the end shock of freight cars due to switching, stopping, etc., so that this shock will not cause damage to the contents of the car. This cradle is particularly designed for use in connection with freight cars in which eggs are shipped.

One of the objects of my invention is to provide a movable frame or cradle which may be mounted in any freight car without re-modeling the car and in which the boxes containing fragile contents may be supported.

Another object of my invention is to provide such a cradle with means for taking up the longitudinal shocks given the freight car without danger of breaking in the ends of the cars, and particularly without danger of breaking in the ends of the ice-boxes at the ends of the cars.

For the purpose of disclosing my invention I have illustrated,—

In Figure 1 a horizontal sectional view of a freight car showing the cradle in plan mounted in position;

In Fig. 2 I have shown a side elevation of a portion of the cradle;

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2;

Fig. 4 is a sectional view taken on the line 4—4 of Fig. 2;

Fig. 5 is a sectional view taken on the line 5—5 of Fig. 3; and

Figs. 6 and 7 are detail elevations showing the manner of securing the bottom sections together and for securing the brace for the vertical sections to the bottom section.

In the embodiment of the invention illustrated, the cradle consists of a bottom framework 1 formed of a plurality of sections, the length of each section being no greater than the height of a freight car door indicated in dotted lines in Fig. 2 at 1^a, so that the various sections may be placed in the car through the door and without cutting the car or otherwise disturbing the parts of the freight car. Each of these sections comprises four longitudinally extending struts or sills 2, which have secured at regular intervals, transversely of the same, transverse slats 3. These slats may be secured in any suitable manner, either by nailing directly on top of the struts or they may be countersunk in the struts, as illustrated in the drawings. The struts and slats thus form a framework section which is adapted to rest on the car floor. Each frame section is provided with suitable rollers, as at 4, so that the sections will move back and forth longitudinally of the car. These rollers are preferably mounted upon rods 5 which extend through the longitudinal struts 2 and provide means for carrying the rollers.

The two end sections of the cradle bottom are provided with a pair of shock-absorbing cylinders 6, which, as shown, are secured by U-bolts 7 to a pair of the longitudinally extending struts. One end of each of the cylinders abuts against a stop block 8 suitably bolted by means of bolts 9 to the side of the struts, so that any thrust on the cylinder will be taken up by this thrust or stop block. The cylinders have operating therein suitable pistons 10 provided with piston rods 11, the outer ends of which are provided with open shackles 12 adapted to receive the ends of a ten-leaf spring 13. This spring is secured by a suitable shackle member 14 to the front of a block 15, which block is bolted through the floor to the bottom or center sills 16 of the freight car, so that all of the jar and strain caused by the longitudinal movement of the cradle is taken on the center sills of the car, and not upon any of the end portions of the car, such, for instance, as the sides of the ice-boxes. Each of the struts of the bottom sections is provided with a reinforcing iron strip or shoe 17, and for the purpose of connecting the sections together to make a unitary bottom member I provide on one of the opposing ends of the section on each of the outer longitudinal struts a strap 18 having transversely extending therefrom a pin 19 and on the corresponding opposing end of the next succeeding section I provide a strap 20 provided with a hook adapted to engage over the pin 19, so that the sections will all be locked together and moved together.

Mounted upon each of the end bottom sec-

tions at the extremities of the bottom are vertically extending ends 21. These ends comprise a plurality of vertically extending posts, one for each of the longitudinal struts in the floor section, which posts are pivotally mounted upon the longitudinal struts of the floor section, these posts being secured by means of a pivot 22 between a pair of straps or irons 23 bolted at their lower ends 24 to the longitudinally extending struts 2. Cross slats 25, similar in construction to the cross slats 3 of the bottom section, are placed across the vertically extending posts to form a suitable framework. By pivotally mounting the vertical posts, as described, the entire vertical end section may be folded down upon the bottom end section and the two passed through a freight car door. For bracing the vertical end sections and preventing them from giving way under the movement of the merchandise against the same, I provide diagonal braces 26, pivoted at 27 to the outside vertical posts and having slots 28 in their lower ends adapted to hook over pins 29 extending from the side struts of the bottom section.

It sometimes occurs that there is not sufficient merchandise to fill the entire car, and in order that what merchandise there is may be held rigidly in position and be prevented from sliding back and forth in the car I provide an adjustable vertical end section 30. This adjustable end section is similar in construction to the vertical end section 21, except that at its lower end it is provided on each of its outside vertical standards with U-shaped iron extensions 31 adapted to fit over pins 32 on the outside longitudinal struts. These pins may be placed at suitable intervals on each of the separable sections, so that this adjustable member may be placed at any desired position. To hold this adjustable vertical end section in position I provide diagonal braces 33 and 34, which are pivoted at 35 to the side vertical posts and at their lower ends are provided with eyes 36 adapted to be secured over pins 37 on the bottom sections, whereby the vertical section is held rigidly in its vertical or upright position.

In practice, the boxes of merchandise, which may consist of eggs or other fragile materials, are stacked in the cradle to any desired height, extending, if necessary, clear to the top of the car. Any longitudinal shocks given to the car due to switching, etc., are taken up by the leaf spring secured to the center sills of the car and also by the shock-absorbing cylinders on the end bottom sections.

It is therefore seen that the cradle above described provides a member which has a certain amount of longitudinal play back and forth in the car and that before the movable cradle in this play is brought to a stop the shock is taken up by the leaf springs and cylinders attached thereto.

While I have shown and described one embodiment of my invention, it will be understood that the invention may be embodied in various constructions without departing from the spirit of the invention as set forth in the accompanying claims.

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

1. The combination with a freight car having longitudinally extending bottom sills, of a cradle mounted in said car and movable longitudinally therein, shock absorbers for said cradle comprising shock-absorbing cylinders mounted at each end of the cradles, pistons operating in said cylinders and springs stationarily secured to the sills of the car and connected to the piston rods of said pistons.

2. The combination with a freight car having longitudinally extending bottom sills therefor, of a merchandise-carrying cradle mounted within said car comprising a plurality of bottom sections, each section being less than the height of a car door, said sections being provided with rollers on their bottoms to permit the same to roll back and forth on the floor of the car, and shock absorbers secured directly to the sills of the car and connected to the end sections of said cradle.

3. The combination with a freight car having longitudinally extending bottom sills, of a merchandise-carrying cradle comprising a plurality of bottom sections, each section being less than the height of a freight car door, and vertical end sections pivotally mounted on the bottom end sections and foldable on the sections for the purpose of insertion in the freight car, each of the bottom end sections being connected to shock absorbers secured directly to the bottom sills of the freight car.

4. The combination with a freight car, of a merchandise-carrying cradle mounted therein and having a longitudinal movement, said cradle comprising a plurality of bottom sections, each section being provided with rollers to permit the same to roll back and forth on the floor of the freight car, vertically extending end members secured to the end bottom sections, a movable vertically extending end member adjustable to various positions with relation to the stationary vertically extending end members, and shock absorbers at either end of the cradle connected thereto and secured to the bottom sills of the car.

5. The combination with a freight car, of a merchandise carrying cradle mounted therein and having a longitudinal movement, comprising a bottom having rollers permitting it to roll back and forth on the

floor of the car, vertical end members secured to the ends of the bottom, diagonal braces extending from the sides of the bottom to the sides of the vertical end members, a movable intermediate vertical member, diagonal braces extending from the sides of the bottom to the sides of the intermediate vertical member, and shock absorbers at each end of the car for absorbing the shock of movement of the cradle.

6. The combination with a freight car, of a merchandise carrying cradle mounted therein and having a longitudinal movement and comprising a bottom having rollers for permitting it to roll back and forth on the floor of the car, vertically extending end members secured to the bottom and a removable vertical intermediate member mounted upon the bottom, and shock absorbers at each end of the car for absorbing the shock of movement of the cradle.

7. The combination with a freight car, of a merchandise carrying cradle mounted therein and having a longitudinal movement and comprising a bottom having rollers for permitting it to roll back and forth on the floor of the car, vertical end members secured at the ends of the bottom, and a vertical intermediate member adjustable along the bottom relative to the end members.

In witness whereof, I have hereunto subscribed my name.

JAMES M. COLEMAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."