No. 606,698. Patented July 5, 1898.

M. F. WHITE.

CONVERTIBLE FREIGHT CAR.

(Application filed Jan. 6, 1898.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 1.

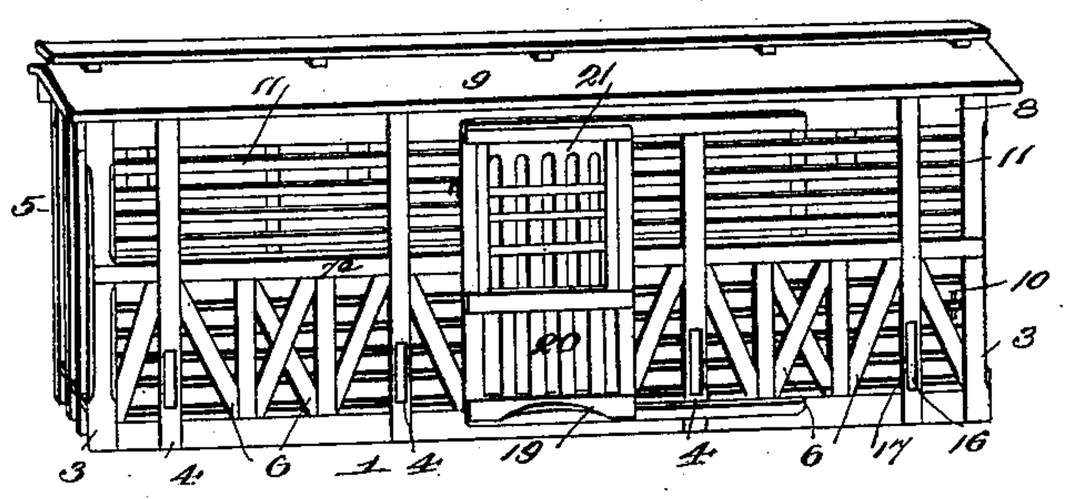


Fig. 3.

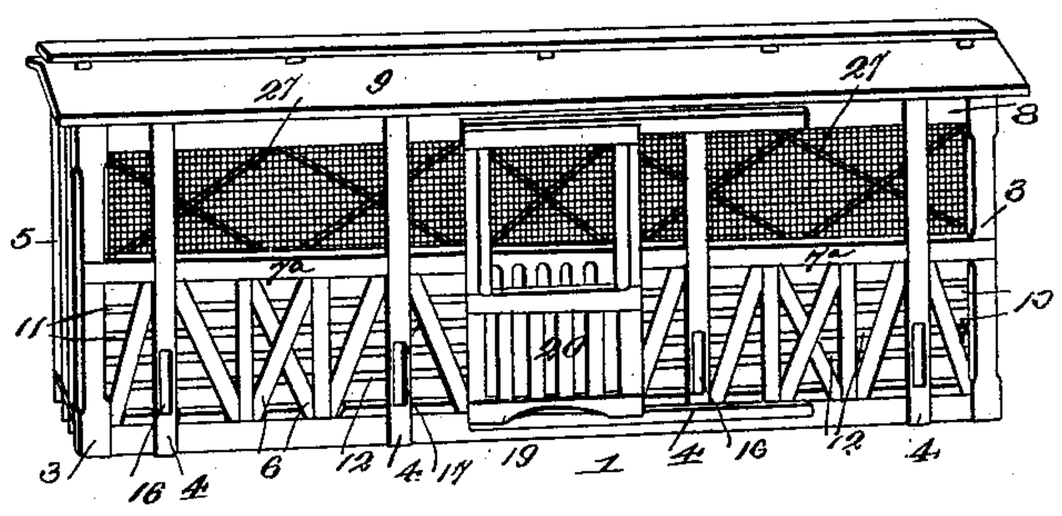
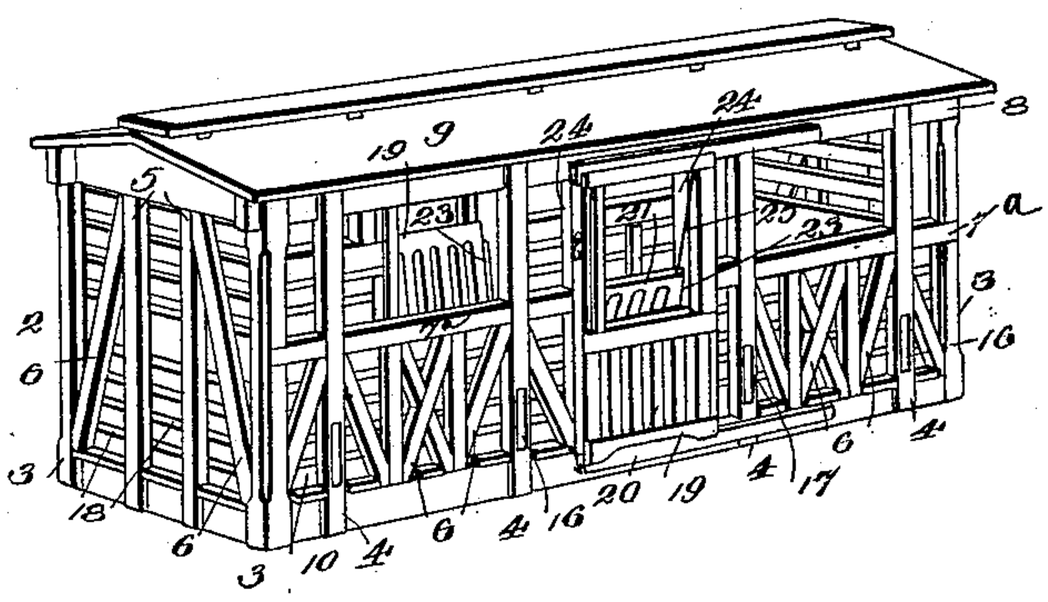


Fig. 2.



Witnesses
Jos. L. Stack.
David V. Chadwick.

Inventor
Mason F. White
by F. S. Appleman
Attorney

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Fig. 4.

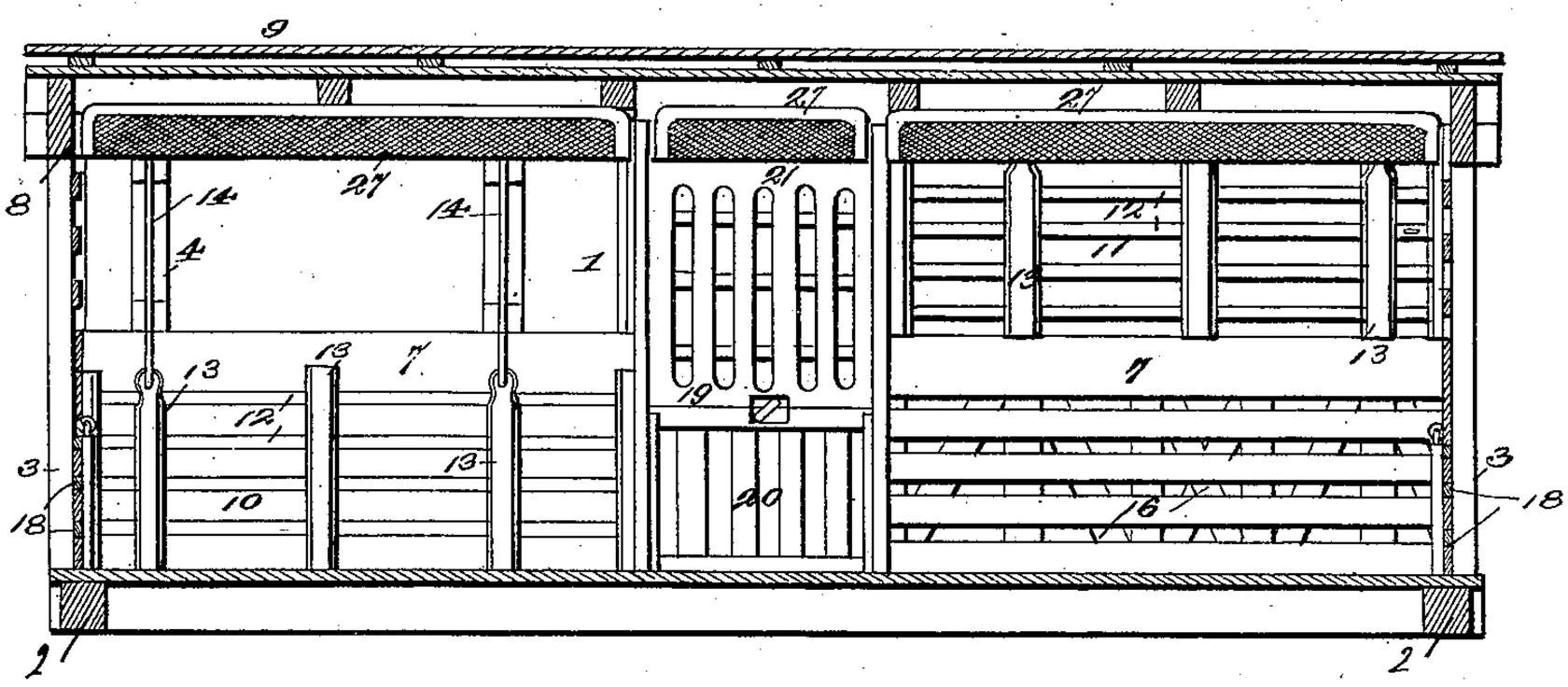


Fig. 6.

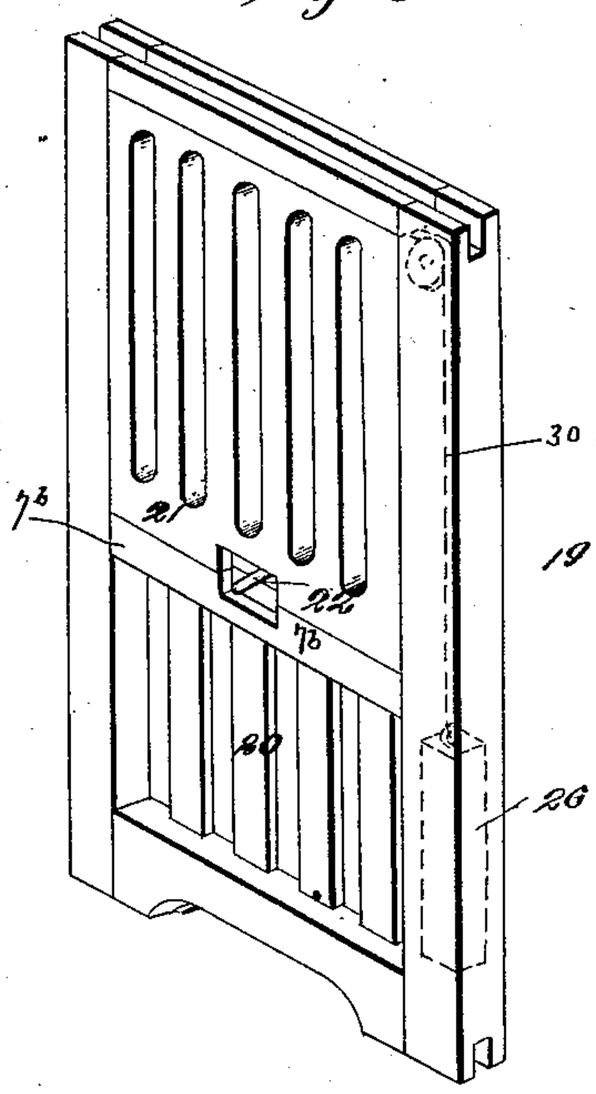
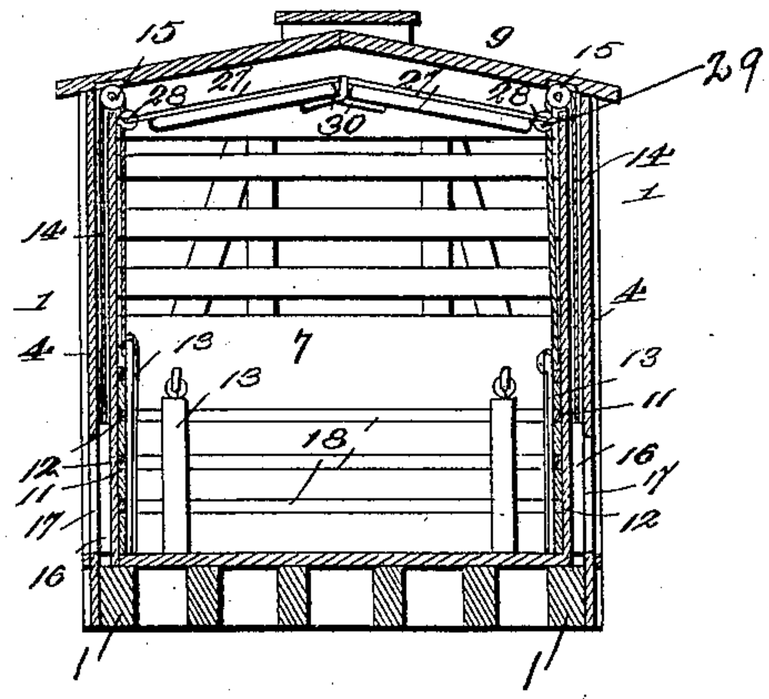


Fig. 5.



Witnesses
Jos L. Stack.
David T. Chadwick

Inventor
Mason F. White
by F. S. Appleman
Attorney

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Fig. 8.

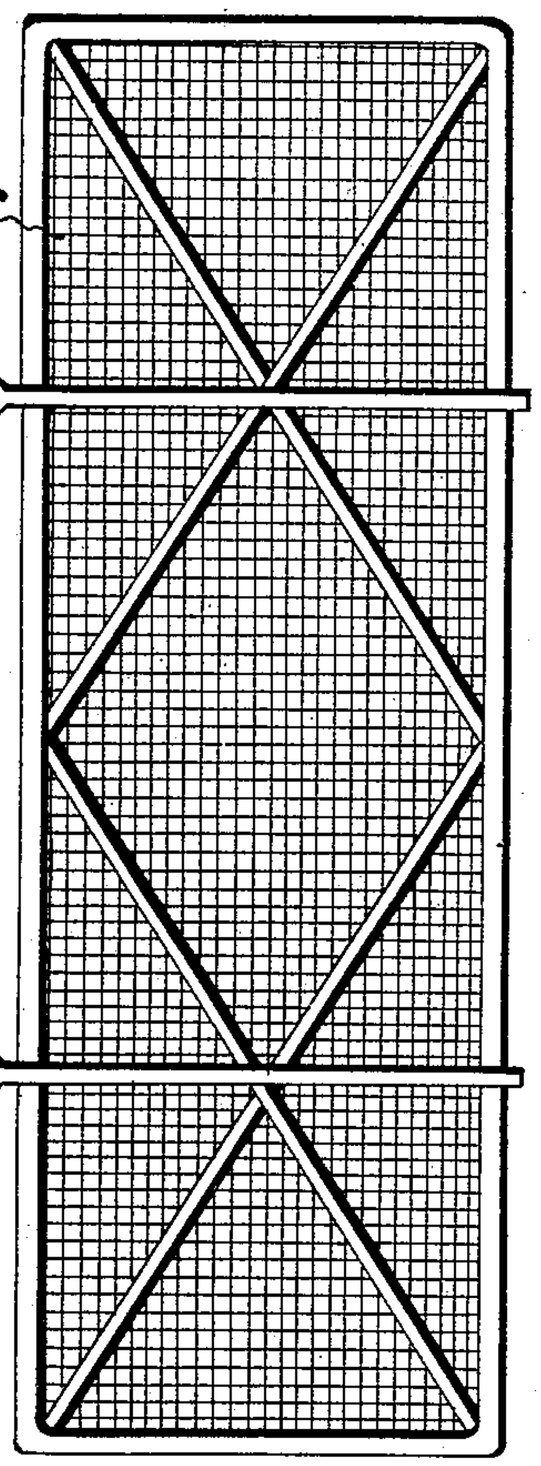
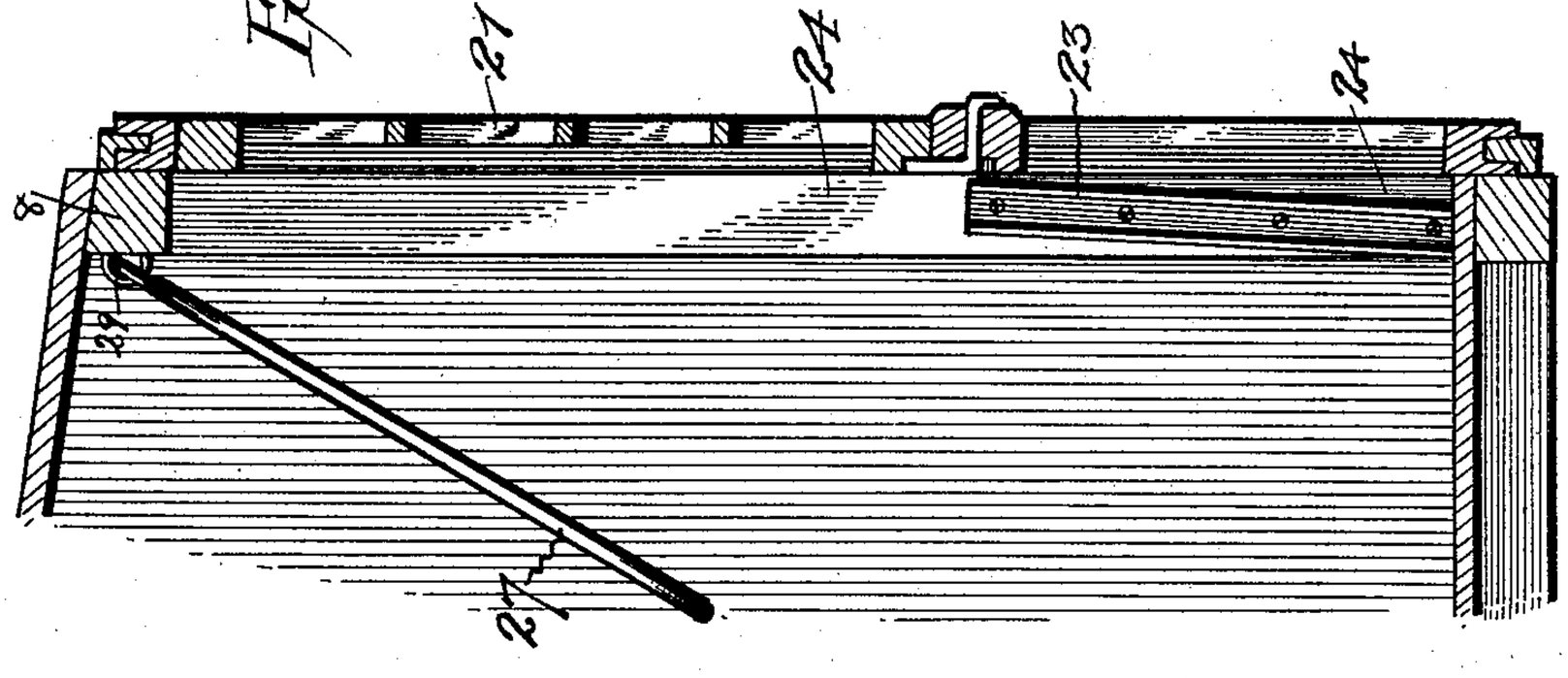


Fig. 7.



Witnesses

A. Roy Appleman Jr.

W. M. Belt

Inventor

Mason F. White

by F. J. Appleman

Attorney

UNITED STATES PATENT OFFICE.

MASON F. WHITE, OF BLOOMINGTON, ILLINOIS.

CONVERTIBLE FREIGHT-CAR.

SPECIFICATION forming part of Letters Patent No. 606,698, dated July 5, 1898.

Application filed January 6, 1898. Serial No. 665,794. (No model.)

To all whom it may concern:

Be it known that I, MASON F. WHITE, a citizen of the United States of America, residing at Bloomington, in the county of McLean and State of Illinois, have invented certain new and useful Improvements in a Combination-Car, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in railway rolling-stock, and particularly to that class known as "convertible cars," the object of the invention being to produce novel means whereby a single body may be employed either closed as a coal-car or opened for the carrying of stock or by further change transferred into a fruit or vegetable carrier.

A further object of the invention is to produce a car in which changes for various uses may be accomplished in a ready manner, thus enabling any one to fit the parts in place to produce the desired result.

Furthermore, the object of the invention is to so construct and arrange the parts that strength, durability, and efficiency are assured, while at the same time making them comparatively inexpensive to construct and sustain, since the parts are so arranged as to be readily removable should it be necessary to renew worn or broken parts.

With the above and other objects in view the invention consists in the details of construction, as well as in the arrangement and combination of parts to be hereinafter more fully set forth and specifically claimed.

In describing the invention in detail reference will be had to the accompanying drawings, forming part of this specification, wherein like characters of reference denote corresponding parts in the several views, in which—

Figure 1 is a view in perspective, showing the arrangement of parts as adapted for carrying stock. Fig. 2 is a similar view when used for carrying coal and the like. Fig. 3 represents the car arranged for fruit and vegetables. Fig. 4 is a central longitudinal sectional view of the car, showing the suspension of the side and end screens. Fig. 5 is a transverse sectional view taken on a line with one of the counterbalancing-weights. Fig. 6 is a detail view in perspective of one of the doors, looking from the interior. Fig. 7 is a transverse sectional view through one of the doorways, showing the inclined guideways. Fig. 8 is a detail view of one of the screen-frames 27.

In carrying out my invention I provide a car-frame consisting of the longitudinal sills 1, end sills 2, corner uprights 3, end uprights 5, top beam 8, and roof 9, similar in all respects to and arranged in substantially the same manner as those parts corresponding thereto in an ordinary stock-car. At suitable intervals on the sides I arrange the vertical uprights 4, which are made hollow for the purpose hereinafter set forth. These uprights are braced by means of the diagonal beams 6, as well as by the horizontal beam 7^a. Arranged on the inside of the car and secured to said vertical uprights at about midway their height is a rail 7, extending entirely around said car, dividing the sides and ends thereof centrally. The lower portion of the car is slatted, as indicated at 10, the slats being secured parallel with each other to the inside of the uprights 4 and braces 6. The upper portion of the car on the sides when used for stock is closed by means of movable frames 11, which are formed of the vertical strips 13 and the horizontal slats 12 on the outer faces thereof, said slats being so disposed that when it is desired to change the form from a stock to a coal car they will fit in the spaces formed between the slats 10, thereby producing a solid wall. Connected to the tops of the frames 11 are cords or cables 14, which extend up and over pulleys journaled in the top rail 8, through passages therein into the hollow uprights 4, where they are connected to counterbalancing-weights 16, slidably fitted within said uprights. In order that access may be had to the weights for the purpose of renewing the cable when worn or broken, I provide openings 17 near the bases of the uprights.

The ends of the car have their upper portions permanently closed by means of horizontal slats, the same as the lower portions, and this change in structure necessarily causes the frames 18, corresponding to frames 11 and similar in form and application thereto, to be hinged along their upper edges to the rail 7, whereby it will be seen that these frames may be swung up or down, according to the use required of the car, and held in either position by any suitable means.

A number of rectangular frames 27, covered with a screen of any desired material, are employed to close the upper portion of the sides when the frames 11 are secured in their lowered position and the car is to be used for carrying perishable goods where ventilation is required. Each of these frames has formed or secured to the upper bar thereof a number of eyes 28, which are engaged by hooks or staples 29, secured in the beam 8, thus hinging said frames, so that they may be swung vertically into the position shown in Fig. 3 of the drawings and there held in any convenient manner, or they may be swung to a horizontal position, as shown in Figs. 4 and 5, and retained by the hooks 30, depending from the roof of the car.

The car is provided with guides along the side sill 1 and top beam 8, having flanges, which fit into the grooves formed in the top and bottom rails of the sliding doors 19. Each of these doors, like the sides, is divided centrally by the horizontal rail 7^b, the lower portion of the door being closed by a series of vertically-extending slats 20 and the upper portion by a removable frame 21, which fits snugly into a recess formed by the side, top, and horizontal rails of the door-frame and is retained therein by an ordinary turn-latch 22, as shown in Fig. 7. The frames are arranged similarly to the frames 11 in that they have cords or cables attached thereto, which are run over pulleys at the top of the doors and connected to sliding weights 26 in the hollow side rails for the purpose of counterbalancing the weight of the frame.

Thus it will be seen that when the car is to be used for carrying coal, vegetables, and the like the frame 21 is removed from the recess and is slid downward in suitable guideways 23, which are secured on the posts 24, forming the sides of the doorway of the car, the upper portion being then closed by one of the screen-frames 27, before described.

Assuming that the car is arranged as shown in Fig. 1, wherein it is illustrated as adapted for use as a stock-car, and it is desired to convert it into a fruit or vegetable car, the frames 11 are first dropped downward and the slats thereof fitted in the spaces formed between the slats 10, and are there secured by means of a suitable bolt-and-staple fastener. The frames 18 are then swung downward and fastened. Next the removable frames of the door are moved in place, as before described, and, lastly, the screen-frames 27 are swung down into vertical position, when the car will have the form shown in Fig. 3, where it is adapted especially as a vegetable-carrier, it having the advantages of being perfectly tight against leakage, while at the same time it is open for the purpose of ventilation.

From the foregoing description it is thought that the operation and advantages of such a car as described will be apparent, together with the fact that such minor details as the fastenings, manner of hinging the screens, and the exact shape and proportions of the various parts are mere mechanical matters, which may be varied to a certain degree to suit the ideas of the manufacturer, and yet the general spirit of the invention will not be departed from.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In combination with a car slatted horizontally, a series of vertically-movable slatted frames, the slats of which are adapted to fit between the slats of the car, weights in hollow posts of the car, and cables attached to the weights and to the frames, as and for the purpose described.

2. A car having an intermediate horizontal rail between its top and bottom and having the lower portion of the car slatted horizontally, in combination with a series of vertically-movable slatted frames, the slats of which are adapted to fit between the fixed slats at the lower portion of the car, the said frames being suspended upon cables passing over pulleys and having weights attached thereto, the said weights traveling up and down in hollow uprights forming a portion of the frame of the car-body, substantially as described.

3. In a combination-car, a car-body provided with a horizontal rail intermediate the top and bottom thereof and having the lower portion of the car beneath said intermediate rail slatted horizontally and the upper portion thereof above the intermediate rail open, in combination with a series of vertically-movable slatted frames, the slats of which are adapted to fit between the stationary slats of the car-body, means for elevating and suspending said slatted frames, and screen-frames forming auxiliary closing means for the upper portions of the car sides, substantially as described.

4. The combination with a car-body provided with horizontal rails intermediate its top and bottom and having the space above said rails left open, of a series of screen-frames pivotally hung from a point above said opening, the said frames being adapted to cover the openings and be swung upward against the roof or top of the car, and means for holding said frames in their folded positions, substantially as described.

5. In a car, the combination with the car-door having a recessed upper portion, of a vertically-slatted frame removably fitted in said upper portion of the door, and fixed inclined ways secured to the inner adjacent surfaces of the door-posts for the purpose of receiving said slatted frame, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

MASON F. WHITE.

Witnesses:
GARDNER W. POWELL,
W. P. GAPEN.