

(No Model.)

H. A. SMITH.
FRUIT CAR.

No. 513,208.

Patented Jan. 23, 1894.

Fig 1

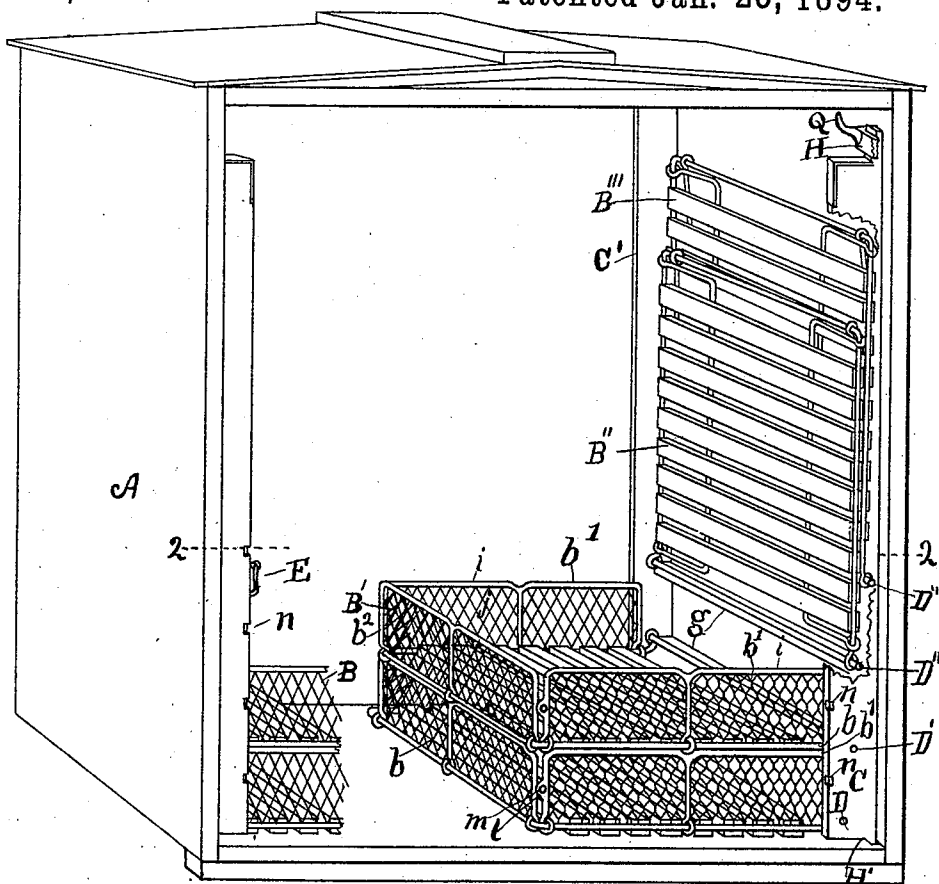


Fig 3

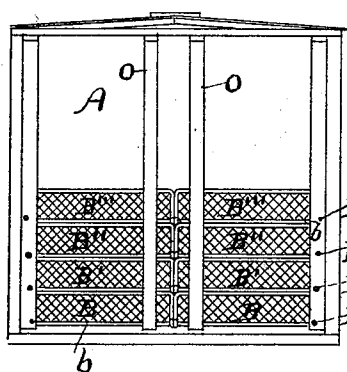


Fig 2

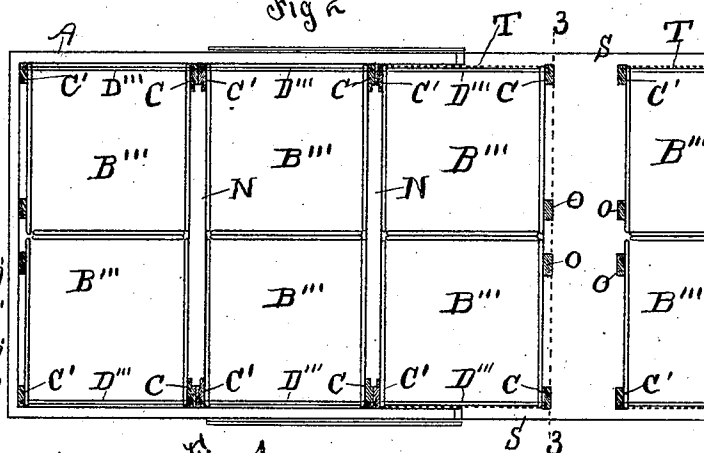
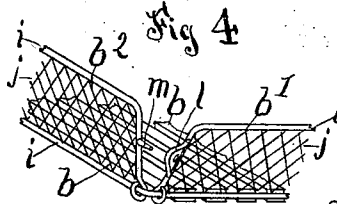


Fig 4



Witnesses.

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UNITED STATES PATENT OFFICE.

HENRY A. SMITH, OF LOS ANGELES, CALIFORNIA.

FRUIT-CAR.

SPECIFICATION forming part of Letters Patent No. 513,208, dated January 23, 1894.

Application filed August 18, 1893. Serial No. 483,454. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. SMITH, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Fruit-Cars, of which the following is a specification.

The object of my invention is to provide an improved fruit car adapted for carrying perishable fruit such as oranges, lemons, &c., in bulk, thus saving to shippers the expense of packing-boxes.

More specifically my invention relates to providing for ordinary box-cars detachable vertical side bars provided with foldable crates or trays and by means of which any ordinary box-car can, at slight expense, be adapted for the transportation of fruit.

Figure 1 is a perspective view of a section of the interior of a car provided with my invention showing on one side two of the trays folded up. The trays on the left side of the car are broken to expose the two other trays. Fig. 2 is a plan view of a little more than half the car in section above the trays showing the trays in the position they occupy when the car is loaded with fruit. Line 2—2, Fig. 1 indicates the line of section. Fig. 3 is a section on line 3—3, Fig. 2. Fig. 4 is a detail of the raised ends of one front wall and one side wall of the tray.

A is the body of the car and B B' B'' B''' are superimposed foldable trays pivotally attached to the side walls of the car and adapted to hold fruit.

C C' are vertical bars fixed to the body of the car and the sides thereof and by means of which the trays are attached to the car walls. The trays are pivoted to these vertical side bars by suitable pivots or rods D, D' D'' and D'''. Each tray is formed of the bottom rack b, and the side walls b' and the front or inner end wall b² pivoted to the bottom rack and arranged and adapted to fold down thereupon. The trays are thus adapted and arranged to fold together and the pivot rods are arranged as shown with the upper one D''' close to the wall of the car, the next below sufficiently far from the wall to allow the tray which is pivoted thereto to stand in a vertical position when folded against the upright folded top tray; and the succeeding lower trays are arranged at greater and greater distances from the wall for the same purpose so

that when the several trays are folded and set upright they will fold against each other and occupy very little space and will be chambered between the upright posts or bars C C' so that they will be out of the way and will not be liable to be broken or injured by freight which may be loaded into the car.

E indicates suitable fastenings for holding the trays in their upright folded positions. As shown, the fastener is a hook pivoted to the side bar and adapted to hook upon the frame of the bottom rack. The side bars C, C', are adapted at their upper and lower ends to seat in suitable sockets H, H', arranged respectively at the top and bottom of the car along the side wall of the car to receive and hold the bars erect.

g indicates braces arranged to form with the side bars a frame for the trays B, B', B'', B'''. These frames have a width of about four feet between the side bars and the trays are made to fit between the side bars and extend about or fully half across the car. Each car is provided along each side with a series of these frames and when in use with the trays lowered, the inner ends of the opposite trays abut against each other at the mid-line of the car.

Preferably the car is provided with the staples or other sockets H, H', arranged at proper intervals along the sides of the car and when the car is to be used for ordinary freight the frames and their trays may be wholly omitted from the car and stored outside the car; and when it is desired to ship the fruit in the car, the frames with the racks attached are placed in the car, with the ends of the side bars set in the sockets arranged therefor.

To load the car, two opposite bottom trays are first lowered into horizontal position and the front and side walls thereof are raised so as to form two boxes in which to pack the fruit. The boxes thus formed are then filled with the fruit, and the two trays next above are lowered until their bottoms rest upon the tops of the walls of the trays below. The side walls of these trays are then raised to form two boxes and they are then filled, after which the next two trays above are lowered and so on until all the trays in the car are filled.

The front and side walls of the trays are formed of steel or other suitable metal rod frames i to which is secured wire netting j so

that there is allowed a free circulation of air to the fruit. The bottom of the tray is made of slats *k* as shown, or is otherwise constructed to provide for ventilation at the bottom of the tray.

The upright bars *c c'* may be permanently attached to the side walls of the car if desired and when the car is to be used for ordinary freight the trays may be folded in their upright position as illustrated by the two right upper trays in Fig. 1. The space thus occupied by the trays is but slight and will not interfere with the practical use of the car for ordinary freight.

In order to hold the front and side walls of the boxes in their upright positions, the trays are set between the side bars and the side walls are arranged so that the ends thereof which are at the side of the car will be between the side bars and will rest against the side bars when the walls are raised into their upright position, and each side wall is provided with an eye *l* projecting from the front end thereof to receive a pin *m* which projects from the end of the front wall and is arranged to enter the eye so as to lock the front and end walls together. These eyes and pins may be reversed in their positions: that is to say, the eye placed on the front wall and the pin on the side wall; or hooks or other suitable means may be used to secure the ends of the front and side walls together in their upright position. *n* indicates notches in the edges of the side bars to seat the ends of cross bars *N* which are provided to be placed in position between the tiers of trays to sustain the side walls against the outward pressure of the fruit. In practice the upright side bars of contiguous sections of trays abut against each other as indicated in Fig. 2 and the contiguous bars are correspondingly notched at the side so that when put together the notches *n* of the two bars will unitedly form the seat to receive the cross-bar. When the lower trays of a section have been placed in position with their sides raised to form a box to receive the fruit, the lower cross-bar *N* is placed in position to hold the side walls from being forced outward by the fruit and when the set trays next above is lowered and adjusted in position to form a box to hold the fruit, another cross-bar is placed in position the same as the cross-bar below and this is done with all the sets of trays. Thus when the eight trays of one section which extends across the car have been filled and secured in place by the cross-bars, the bottom trays of the section next thereto are lowered and filled in the same way and cross-bars placed to hold them in position. In order to hold the trays in position and leave room to load and unload the car, the trays are secured by bulkheads *O*, arranged at the mid-length of the car between the doors. These bulkheads are arranged with a space of about eighteen inches or two feet between them to permit the operatives to load and unload the car. They are secured to the car by means

of sockets *H''*, *H'''*, in the floor and roof of the car. The bulkheads are arranged to engage the side walls of the trays at the middle of the car and prevent the walls from being pressed out and also assist to hold the trays from shifting.

The car is provided with racks *Q* which are adapted to hold the cross-bars and the bulkheads when the car is being shipped with the trays folded.

In order to retain the fruit in the trays at the middle of the car which project beyond the door opening *S* the frame of the middle tiers or sections of trays is provided with a wire netting wall *T* secured to the side bars of such frame to retain the fruit in the trays of such frame.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A car provided at its sides with the upright bars; the series of superimposed foldable trays adapted to hold fruit and arranged pivoted between the upright bars one above the other and adapted and arranged to fold together and to fold upon each other within the space between the upright bars.

2. The car provided at its sides with a series of superimposed foldable trays arranged pivotally attached to the wall of the car and each formed of the bottom rack and the two side walls and the front wall pivoted to the bottom rack.

3. The combination with the car of the superimposed foldable trays arranged pivotally attached to the wall of the car and having the uppermost pivots arranged near to the wall of the car and the lower pivots successively arranged at greater and greater distances from the wall of the car.

4. The detachable foldable fruit holding and transferring device for cars comprising a frame, a series of foldable trays pivoted thereto at different points along such frame and means for securing the frame to the car.

5. The combination of the car, the upright side bars, the fruit trays pivoted to such side bars at intervals there-along and suitable means for detachably attaching the side bars to the wall of the car.

6. The combination of the car, the side bars, the fruit trays pivoted to such side bars at intervals there-along, the cross-bars arranged between the side-walls of the contiguous trays, the bulkheads arranged at the mid-length of the car to engage the trays and suitable means for detachably attaching the bulkheads to the car.

7. A car provided with superimposed foldable fruit trays pivotally attached to the side walls of the car and bulkheads arranged at the mid-length of the car to engage the trays when in their lowered position.

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Witnesses:

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