June 25, 1946. C. M. ELLIS 2,402,808

SPACER FOR CAR-LOADED BOXES

Filed April 21, 1943

Fig. 1

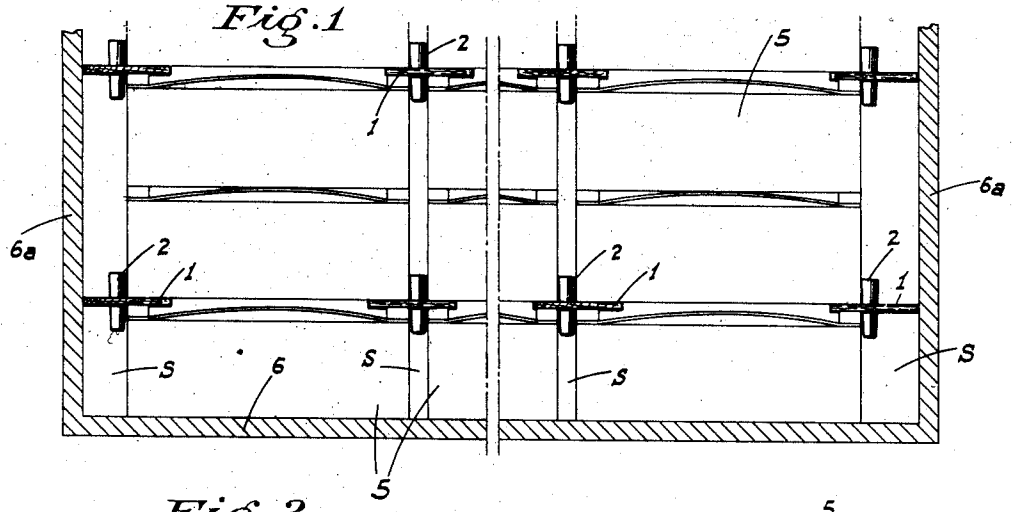


Fig. 2

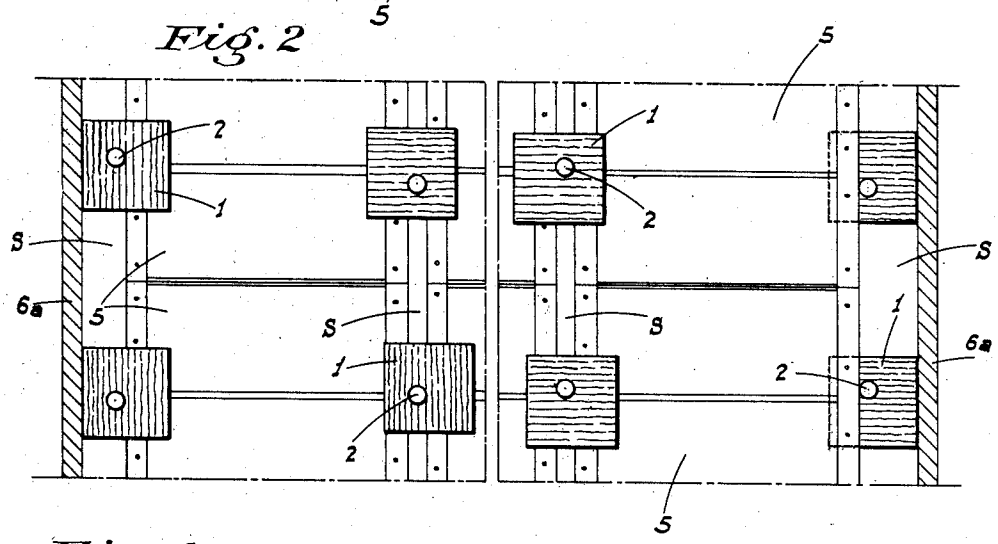


Fig. 4

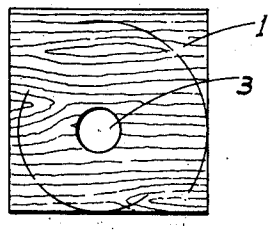


Fig. 3

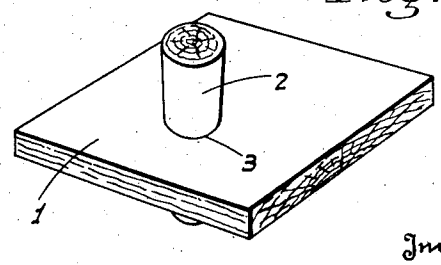
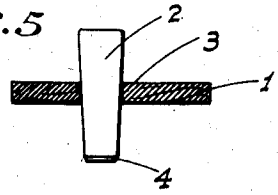


Fig. 5



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2,402,808

SPACER FOR CAR-LOADED BOXES

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Application April 21, 1943, Serial No. 483,887

3 Claims. (Cl. 105—367)

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This invention relates to devices to be used in connection with car-loaded fruit boxes, to maintain the desired spaces between the boxes and the car substantially constant irrespective of jolting or swaying of the car when under way, and thus prevent the pounding of the boxes and damage thereto, besides allowing for the necessary air circulation therebetween.

The present invention is particularly an improvement over the structure shown in my co-pending application, Serial No. 420,165, filed November 24, 1941, now Patent No. 2,341,088, February 8, 1944, as well as over other devices now used for the purpose; and the objects of this invention are to provide a spacer unit which has the following distinct advantages as compared with such other structures:

1. Less material is needed.

2. No nailing or similar operations are necessary either before or during installation.

3. Better ventilation is afforded.

4. A better and wider range of adjustment is had to compensate for variations in correct width and any difference in box length which would affect the over-all length of a tier of boxes.

5. It is easier to apply or install, and is suitable for either transverse or longitudinal positioning of the boxes in a car.

6. No long pieces, mill stock, or similar high grade lumber is necessary, and which is hard if not impossible to obtain at present.

7. The units can be made of scrap, such as waste from box factory operations, and which are readily obtainable; and the dimensions of the units, except as to one element, are not critical.

As a result, therefore, I am still able to properly load cars, since I do not depend on any non-available or hard-to-get materials, while at the same time the efficiency, rather than being impaired, has been improved.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawing similar characters of reference indicate corresponding parts in the several views:

Figure 1 is a fragmentary transverse outline of a car loaded with transverse tiers of boxes shown as held in spaced relation by my improved spacer units.

Figure 2 is a fragmentary plan view of the box and spacer arrangement.

Figure 3 is a perspective view of a unit detached.

Figure 4 is a plan view of the supporting plate

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of the unit with the peg removed, showing the offset positioning of the peg holes.

Figure 5 is a sectional elevation of the complete unit.

Referring now more particularly to the characters of reference on the drawing, my improved spacer unit comprises a wooden plate 1 and a wooden peg 2. The plate, which is preferably square, is provided with a round straight-sided hole 3 disposed in differently offset relation to all four sides of the plate, as shown in Fig. 4. The peg 3 is also round and of taper form, being preferably chamfered as at 4 on its lower small end. The diameter of the peg substantially centrally of its length is the same as that of the hole 3, so that when seated in the hole the peg will project substantially equal distances above and below the plate. The taper of the peg is relatively fine so that the diameter of the peg at its opposite ends is not materially different; the taper being merely for the purpose of enabling the peg to be firmly mounted in connection with the plate without the use of nails or the like, the chamfer 4 making for easy initial locating of the peg in the hole. Since a plate 6x6x½'' is of ample size, while the peg may be of 1¼ stock x 3½'' in length, it will be seen that the units may be readily made out of scrap material; the ease and cheapness of manufacture being enhanced by the fact that the above dimensions are not critical and need not be rigidly adhered to. Variations in the size of the plate and the length of the peg make no difference in the application or effectiveness of the units as long as the different pegs are interchangeable in the different plates.

In use a single unit serves as a spacer between adjacent boxes 5 of two adjacent tiers, as shown in Fig. 1, being placed substantially centrally of the sides of the boxes, which abut against each other lengthwise of the car 6 in the particular loading arrangement shown in Fig. 2. A single unit also serves as a spacer between the endmost boxes of adjacent tiers and the adjacent sidewall 6a of the car.

Loading operations are started from one side of the car, each spacer unit (assembled on the job) being placed in position in conjunction with the placing of the boxes so as to maintain the boxes substantially snug with the pegs. The diameter of the pegs determines the width of the spaces S between adjacent boxes, while the distance from the side of the plate engaged with the car sidewall to the opposite side of the peg determines the width of the space between said wall and the adjacent box. When the last box in a tier is placed

the width of a space between said box and the adjacent sidewall of the car may differ from the width of the space left between the opposite side of the car and the corresponding box, due to possible variation in car width and other factors. With my improved spacer unit, which due to the offset peg hole provides a plurality of different space determining distances, it is an easy matter by turning the plate so that one side or the other engages the car wall, to obtain a setting of the peg which properly bridges this space.

When placing the spacer units across the spaces between intermediate boxes in the tier no particular positioning of the spacer plates is necessary, since the extent of projection of the plates over the boxes one way or the other is immaterial. Also, due to the straight bore hole the plates may be inverted without affecting the setting of the pegs relative to the plates. Since the pegs do not materially differ in size on opposite sides of the plate, due to the fine taper used, the spaces S between the boxes of adjacent tiers are maintained substantially the same.

It will thus be seen that loader, having a supply of plates and pegs in different containers in the car, may quickly and easily assemble the units and place them without attention as to their relative positions, except when operating on the last loaded endmost boxes in the tiers.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device,

still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

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

1. A spacer unit for car-loaded boxes disposed in a transverse horizontal tier and in spaced relation to each other and to the sides of the car, said unit comprising, for each of the endmost boxes in the tier, a flat sided plate adapted to rest on a box and to bridge the adjacent space and a peg supported by and depending from the plate into said space; the peg being mounted in offset relation to the sides of the plate whereby to selectively alter the distance from the side edge of the plate engaged with the car side, to the side of the peg opposite said plate side according to the width of the space between the endmost box and the car side.

2. A spacer unit as in claim 1, in which the plate is rectangular and the peg is circular.

3. A spacer for boxes which are arranged in adjacent end to end relation, such spacer consisting of a relatively small body plate adapted to overlie the tops of the end portions only of two adjacent boxes, and bridge the space between said boxes, the body being provided with an orifice, and a tapered peg removably wedged in said orifice and projecting beyond the faces of the plate and adapted to extend between the adjacent ends of the boxes to hold them in predetermined spaced relation.

CLARENCE M. ELLIS.