H. B. KOPF.

SHIPPING CRATE.

APPLICATION FILED NOV. 23, 1912.

Patented July 7, 1914.

1,102,930.

Fig. 1.

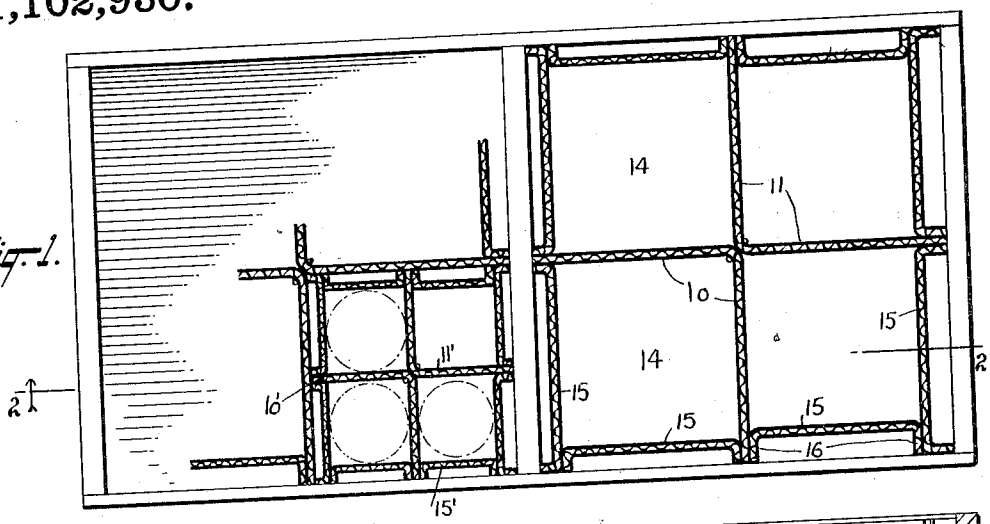


Fig. 2.

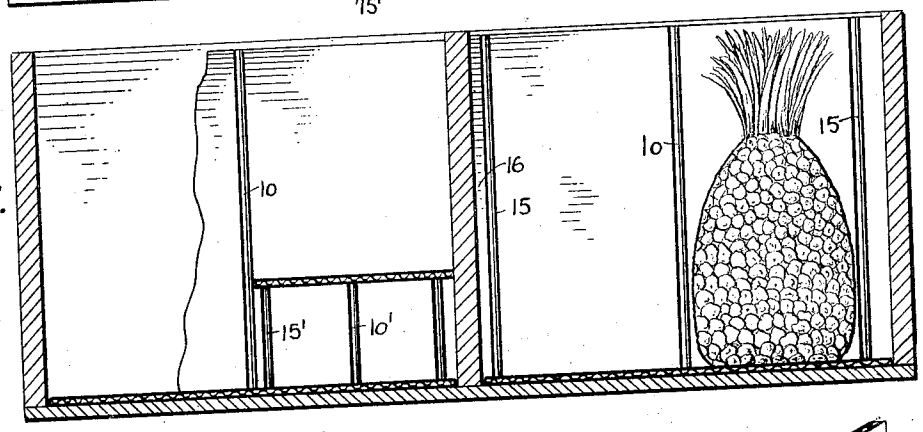


Fig. 3.

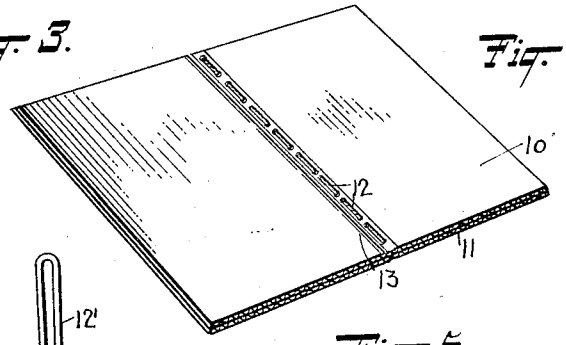


Fig. 4.

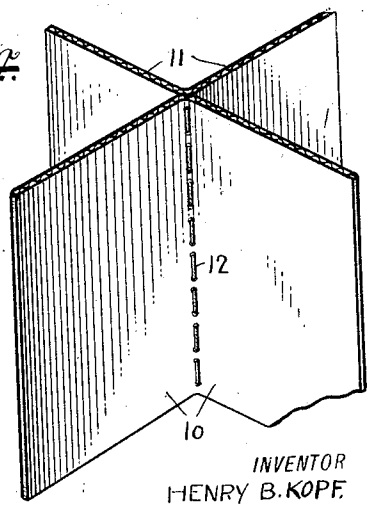
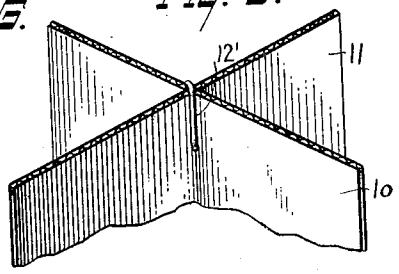


Fig. 6.



Fig. 5.



WITNESSES

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SHIPPING-CRATE.

1,102,930. Specification of Letters Patent. Patented July 7, 1914.

Application filed November 23, 1912. Serial No. 733,111.

To all whom it may concern:

Be it known that I, HENRY B. KOPF, a citizen of the United States, and a resident of New Haven, in the county of New Haven and State of Connecticut, have invented a new and Improved Shipping-Crate, of which the following is a full, clear, and exact description.

This invention relates to means for packing and shipping various articles of a perishable or breakable nature so as to provide a separate chamber or compartment for each article, whereby it may be properly protected from contact with a rigid wall or with an adjacent article.

More particularly the invention has reference to means or method of packing fresh pineapples which may have become substantially ripe before being gathered, whereby they may be shipped with safety and whereby the highest market prices are attainable. The ordinary practice in the packing and shipping of pineapples is to pull them green and to pack them more or less promiscuously in crates, each pineapple being subjected to the damaging contact between it and other pineapples or the walls of the crate. It is well-known that fruit gathered green is not so wholesome and by no means of so delicious flavor as the same fruit would be if allowed to remain on the plant undisturbed until substantially ripe.

The primary object of this invention, therefore, is to provide a means whereby substantially ripe fruit may be supplied to small dealers so that they may supply any particular demand for different sized fruit and yet dispose of a small consignment before the pineapples become overly ripe. To this end the invention comprehends a simple, cheap and convenient means whereby the grower or packer may satisfactorily pack different sizes of pineapples in the same crate so as to supply the class of dealers above referred to.

The invention includes or comprises a certain novel form of filler whose function is to provide individual compartments or cells for containing the separate articles. As is now the common practice, the filler for shipping crates consists of strips or pieces of suitable material interlocked and arranged at right angles to each other, such interlocking being accomplished by the provision of a slot or slots entering from one edge of the strips or partitions, but in practice it is found that in many cases, especially where the contained article has considerable weight, each compartment is unable to support its article with the result that the wall of the partition sags on that side which has the slot, and consequently the articles directly opposite this part of the partition receive and are compelled to sustain the weight of the superposed articles, generally causing loss and damage from breakage or bruising in case the contents should consist of fruit.

Among the objects of the invention, therefore, is to overcome the foregoing objections by so constructing the filler that sagging of any of the walls will be prevented and each compartment will be enabled to sustain its own article or goods with the result that the articles or goods in the adjoining compartments will be relieved of excessive or damaging pressure.

The foregoing and other objects of the invention will be hereinafter more fully described and claimed and illustrated in the drawings forming a part of this specification in which like characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a plan view of a crate indicating the nature of my improvement; Fig. 2 is a vertical longitudinal section of the same on the line 2—2 of Fig. 1; Fig. 3 is a detail perspective of a main partition adapted to subdivide a larger compartment into a plurality of smaller compartments or cells; Fig. 4 is a similar view of the same, the wings or walls being arranged as in operative position; Fig. 5 is a view corresponding to Fig. 4, but showing a slightly modified form; and Fig. 6 is a detached view of the clamp shown in Fig. 5.

Referring particularly to the drawings it will appear that the main partition comprises a pair of substantially flat packing strips 10 and 11 of suitable size to conform to the main crate structure. As indicated in Figs. 3 and 4, said strips are adapted to be put together in pairs and so secured by stitching or staples 12 extending along a median line. The operation of so securing the strips together naturally results in scoring the strips as at 13, whereby they are rendered sufficiently flexible along such line for them to assume the form or position shown in Fig. 4, and as shown in Fig. 1 they will therefore subdivide the main compart-

ment into four substantially equal rectangular cells 14. In the form shown in Fig. 3 a large quantity of such partition strips may be stored or shipped with facility. Instead of the fastening means shown in Figs. 3 and 4, the strips may be cut and handled singly and the two coöperating strips held together at their abutting lines by means of clamps 12′ of the character indicated in Figs. 5 and 6, one of such clamps being preferably applied to each end of the line.

In addition to the partitions 10 and 11, I employ any suitable number of side strips or braces 15, each of said braces being formed from a single flat strip of packing material and having oppositely arranged parallel outwardly turned flanges 16, the extreme edges of which are adapted to bear against the outer or rigid wall of the main compartment and thereby the main portion of said brace 15 will be spaced from said rigid wall, forming a cushion for the article being packed in the cell. The primary object of the braces 15, therefore, is to support or protect the fruit from damage due to impact with the outer wall or from damage which might result from some outside influence. Another object of the braces is to constitute a means to lock the free vertical edges of the main partitions 10 and 11 from lateral displacement, it being understood, of course, that such braces will be formed and kept by the packer on hand in sufficient quantities and in different sizes to enable him to properly pack a crate for any special order. A still further object of the braces, therefore, is to use them in such sizes or widths of edge flanges as to not only hold the partition edges in proper place, but also to form the cell of such size as to correspond to the particular piece of fruit to be placed therein. I preferably provide braces 15 of varying widths whereby the braces for each compartment are so related to each other and to the packing strips that a narrower brace acts to hold or lock a wider brace in position. By way of explanation, it may be noted that pineapples, for instance, of the same weight and quality, may vary considerably in diameter, and hence it is necessary to provide means for varying the cross sectional area of the several cells.

The nature of the filler above described provides for its adaptation to the subdivision of cells or compartments as indicated in Fig. 1 especially; that is to say, each or any of the main cells 14 may be subdivided by means of smaller partition strips 10′ and 11′, and in connection therewith will be used any suitable number or arrangement of lateral bracing members 15′ as may be required to accommodate smaller fruit or other articles which may be desired to be shipped in the crate either alone or in connection with larger articles.

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

1. The herein described shipping crate comprising a filler including a pair of vertically arranged partition strips, means connecting said strips together along a median line with their wings directed outwardly therefrom at right angles to one another, dividing the main compartment into four equal rectangular cells, and means locking the free vertical edges of the wings in proper position with respect to the rigid walls of the crate and serving as lateral cushioning members, said locking means comprising a plurality of flat brace members having right angularly disposed flanges serving to space the flat members from said rigid walls, and the flanges of the several members being of varying widths, substantially as and for the purposes set forth.

2. In a crate of the character set forth, the combination with a main container having vertical walls, of a filler therefor comprising a pair of vertically arranged packing strips, means connecting said strips to each other along a vertical median line, the free edges of said strips being directed outwardly from said line and each dividing the adjacent rigid wall into two equal parts and said pair of strips forming four substantially equal compartments, a plurality of packing braces in each compartment, each spanning the corresponding wall part and spaced therefrom, the braces of each compartment being of various widths and serving to lock the free edges of the vertical partition strips adjacent thereto in fixed position and also serving to provide a cushioning space adjacent the inner surfaces of said walls, and other packing strips and packing braces associated therewith in the manner above described serving to subdivide one or more of the aforesaid compartments, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY B. KOPF.

Witnesses:
H. E. Sweezey,
W. W. Kelsey.

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