

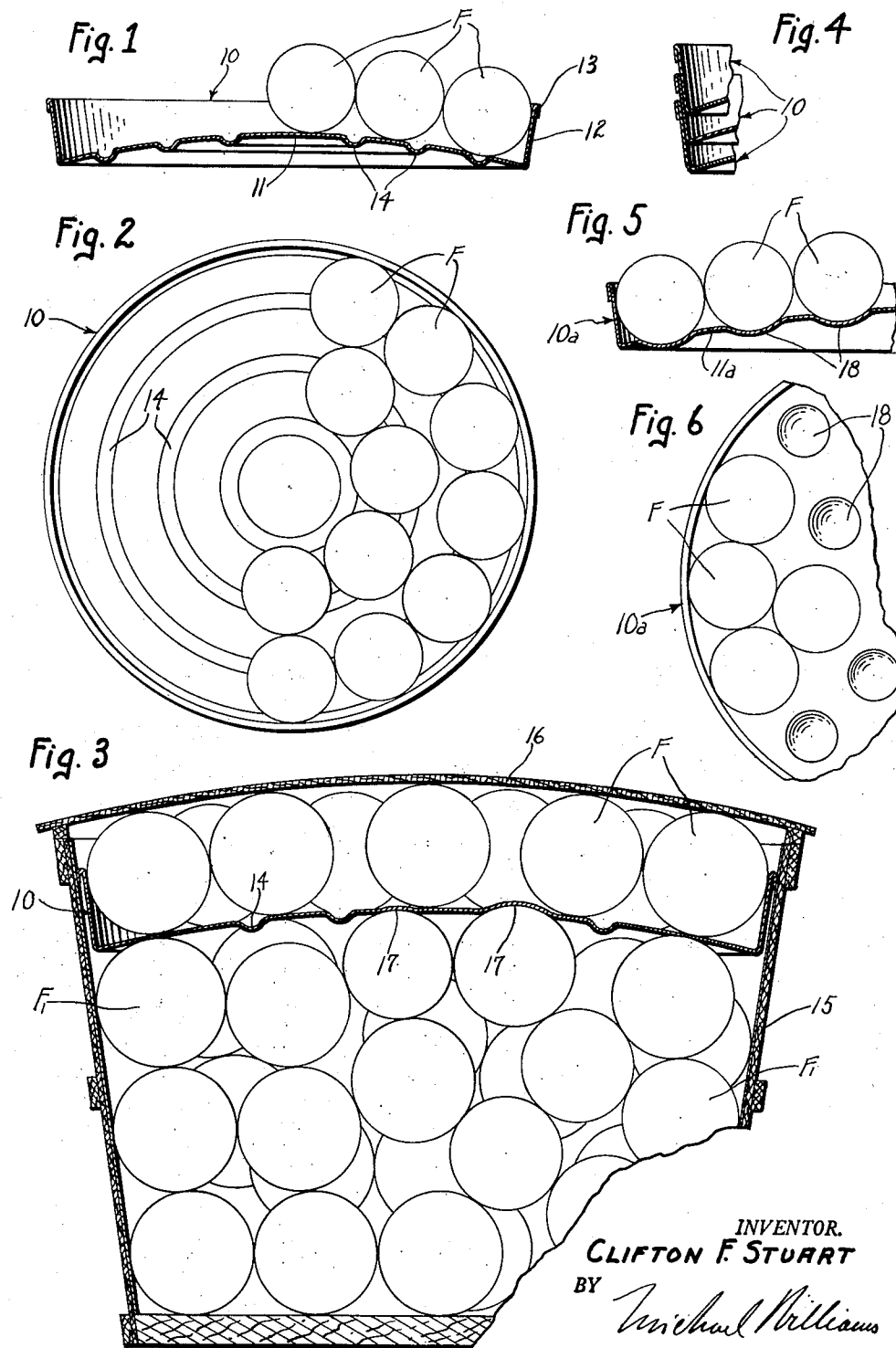
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METHOD OF AND MEANS FOR PACKING FRUIT

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METHOD OF AND MEANS FOR
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1

My invention relates to methods of and means for packing fruit, particularly fruit having the shape of apples, oranges and the like, and the principal object of my invention is to provide new and improved methods of and means for packing fruit.

Packing has long been the bottleneck in the fruit industry since fruit may be readily picked and sorted in large quantities through use of present methods but cannot be packed at an according rate. Further, to pack fruit for attractive display and efficient shipping has heretofore acquired the exercise of considerable skill and the expenditure of considerable time, and thus has materially increased the overall cost of the product.

In the usual circular type shipping container the top layer of fruit is ringed, that is, arranged in substantially concentric annular rows starting from the periphery defined by the inner outline of the upper portion of the shipping container and extending inwardly.

Heretofore, it has been necessary to arrange the fruit by starting the packing in an up-side-down manner. For example, a rigid cylindrical member, open at both ends, is disposed in upright relation on a supporting board and the usual cylindrical paper liner is inserted within, and closely fits, the cylindrical member.

Then, a worker disposes a certain amount of fruit within the cylindrical member through its upper open end and arranges it in ringed or other display manner on the supporting board which forms the bottom of the cylindrical member. The remainder of the fruit is then disposed within the cylindrical member, not necessarily in any predetermined manner, and the cylindrical member is then removed, leaving the paper liner for supporting the fruit. At this point the fruit is not too thoroughly confined, and careless packing or careless workman may easily upset or disarrange the fruit thus far supported.

After the cylindrical member has been removed, the usual shipping basket is disposed, bottom side up, over the paper liner and the assembly thus far is placed between what the trade calls "flopper boards." Such construction comprises a pair of supports, one engaging the bottom of the basket and the other engaging the supporting board which now closes the mouth of the basket. The "flopper boards" are arranged with mechanism whereby the basket may be turned end-for-end to upright relation. After the shipping basket has been righted, the supporting board is removed and the shipping cover is attached to the basket. Frequently, during the packing operation, and particularly the "flopping" operation the fruit which has been arranged in display formation becomes disarranged, necessitating further correctional operations.

2

My invention eliminates the necessity of the above outlined procedure and apparatus and not only greatly increases packing efficiency but also materially reduces costs.

In the drawing accompanying this specification and forming a part of this application, there is shown, for purposes of illustration, various embodiments which my invention may assume, and in this drawing:

Figure 1 is central sectional view through a container illustrating an embodiment of the invention,

Figure 2 is a top plan view of the construction shown in Figure 1,

Figure 3 is a fragmentary, enlarged transverse sectional view taken through a shipping container, showing the embodiment of my invention in use,

Figure 4 is a fragmentary sectional view showing a nesting arrangement possible through use of the embodiment disclosed,

Figure 5 is a fragmentary sectional view of another embodiment of the invention, and

Figure 6 is a fragmentary top plan view of the embodiment shown in Figure 5.

Referring particularly to Figures 1 through 4 of the drawings, the embodiment of the invention therein disclosed comprises a support 10 which is herein shown in the form of a pan-like container or tray having a bottom wall 11 and an annular rim 12. Preferably, the rim 12 has its upper terminal margin rolled over upon itself to form a bead 13. The bottom wall is preferably arched in an upward direction as shown, and is formed with means of any suitable character for strengthening purposes. In the embodiment disclosed, the bottom wall is formed with a plurality of concentric ribs 14 but it will be appreciated that ribs of any other formation, or means of other characteristic may be used.

The support or tray container 10 may be formed of any suitable material and its cross-sectional thickness will largely depend on the material used. Preferably, the material should be of a flexible, deformable nature, yet should possess sufficient rigidity, either inherently or through use of adequate strengthening ribs or other means, that it may be reasonably handled without undue deformation. As an example, but by no means in way of limitation, the support may be formed of aluminum sheet having a wall thickness of .0035 inch.

In use, the usual packing and shipping receptacle 15 and top 16 may be used. A worker may arrange fruit F on the support 10 in ring-like manner, or in any other desired display manner. This operation may be easily performed since the support is right side up and no stooping or bending is required to insert the fruit. As a result, the arrangement of fruit may be carried out on benches or assembly line belts.

3

While one worker is arranging fruit on the support 10, another worker may be filling the basket 15 with fruit F₁ to a generally predetermined level short of full capacity of the basket. Since the fruit F₁ will not be visible, it may be disposed in the basket 15 indiscriminately and with no attention to arrangement, so long as the upper layer of fruit F₁ provides a general upper level, as shown.

The support 10 containing the fruit may then be disposed within the upper end of the basket 15, and if necessary, the support 10 and the fruit F₁ carried thereby may be forced downwardly against the upper layer of fruit F₁ to accommodate the top 16, or the top may force the fruit F₁ and support 10 inwardly of the basket 15 so that the fruit F₁ automatically assumes the contour of the top. Since the support 10 is preferably made of deformable material, any inward thrust of the fruit F₁ will not cause injury to such fruit. Rather, the support 10 will yield, as shown at 17 in Figure 3, so that any unevenness in the upper layer of the fruit F₁ will not materially affect proper packing of the basket 15.

The top 16 may be secured to the basket 15 in usual manner so that the fruit may be shipped in accordance with desired instructions. When the fruit reaches its destination, the cover 16 may be removed for display purposes. In some instances, cautious buyers have removed at least a portion of the display layer of fruit in order to inspect the size and quality of fruit at a lower level in the basket. Heretofore, this has usually resulted in a complete disarrangement of the display layer of fruit, and this practice of the cautious buyer has been greatly discouraged by the seller because of the difficulty in properly replacing the display layer of fruit. Through use of my invention, the tray support 10 may be removed together with the entire display layer of fruit F₁ so that the buyer may fully inspect the inner contents of the basket 15, and when such inspection has been completed, the support 10 and its display layer of fruit may be easily replaced.

The annular wall 12 of the support 10 is preferably downwardly inclined so that a plurality of supports may be compactly nested, as shown in Figure 4, to facilitate shipment of a large quantity of supports to a fruit packer.

In the embodiment disclosed in Figures 5 and 6, the support 10a is substantially similar to the support hereinbefore described. In this embodiment, however, the bottom wall 11a is formed with concentrically arranged annular rows of pockets or depressions 18, each adapted to receive one piece of fruit. The pockets 18 thus provide a guide to the worker who is arranging the display layer of fruit F₁. In use of this embodiment, it is possible to make the pockets deep enough, or the bottom wall may be apertured, so that the fruit is self supporting, thus eliminating the need for the annular wall 12.

It will be appreciated that the ribs 14, or other strengthening means, may be arranged in attractive design, or arranged to display advertising or other legend. If desired, the bottom wall 11, 11a may be apertured for ventilation purposes.

In view of the foregoing it will be apparent to those skilled in the art that I have accomplished at least the principal object of my invention and it will also be apparent to those skilled in the art that the embodiments herein described may be variously changed and modified, without de-

4

parting from the spirit of the invention, and that the invention is capable of uses and has advantages not herein specifically described; hence it will be appreciated that the herein disclosed embodiments are illustrative only, and that my invention is not limited thereto.

I claim:

1. The method of packing fruit comprising indiscriminately filling a receptacle short of capacity with fruit, placing a layer of said fruit in display arrangement within a tray container formed of sheet aluminum having sufficient strength to permit handling while retaining its shape, said tray container being deformable under relatively light pressure and having the tendency to retain such deformity, placing said tray container with the display layer of fruit therein within the top of said receptacle, and pressing said tray container inwardly of said receptacle so that any unevenness of the top layer of indiscriminately filled subjacent fruit in said receptacle will result in indenting said tray container to accommodate and compensate for such unevenness, the inherent strength of said aluminum tray material when filled with fruit permitting its removal and replacement relative to said receptacle for visual inspection of the subjacent fruit in the receptacle.

2. An aluminum tray for ornamentally displaying fruit in the top of a receptacle which is filled with fruit short of its capacity, said tray being formed of light weight deformable sheet aluminum having a thickness not less than .0035 gauge in which the fruit is placed and maintained in display manner, said tray having sufficient strength to permit its handling without fracture when filled with fruit arranged in a display pattern therein for insertion into the open end of said partially filled receptacle over the uppermost indiscriminately filled fruit therein, the deformable sheet material of said tray being yieldable within the upper portion of said receptacle to conform the lower tray portion to the configuration of the upper surface portions of the fruit in said receptacle under applied pressure without bruising the fruit in the receptacle, said tray thereby being brought into general alignment with the upper defining margin of said receptacle with the uppermost fruit in the receptacle indenting and deforming the tray lower portion, the sheet aluminum structure of the tray having the characteristic of retaining deformity resulting from such indentation by fruit therebeneath to relieve the fruit of applied pressure strains, said tray material having inherent strength so as to be capable of removal while filled with fruit to permit inspection of fruit thereunder without displacement of the displayed fruit in said tray.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,603,693	Hiatt	Oct. 19, 1926
1,608,422	Plass	Nov. 23, 1926
1,863,001	Barok et al.	June 14, 1932
2,006,212	Grabler	June 25, 1935

FOREIGN PATENTS

Number	Country	Date
103,316	Australia	June 20, 1936