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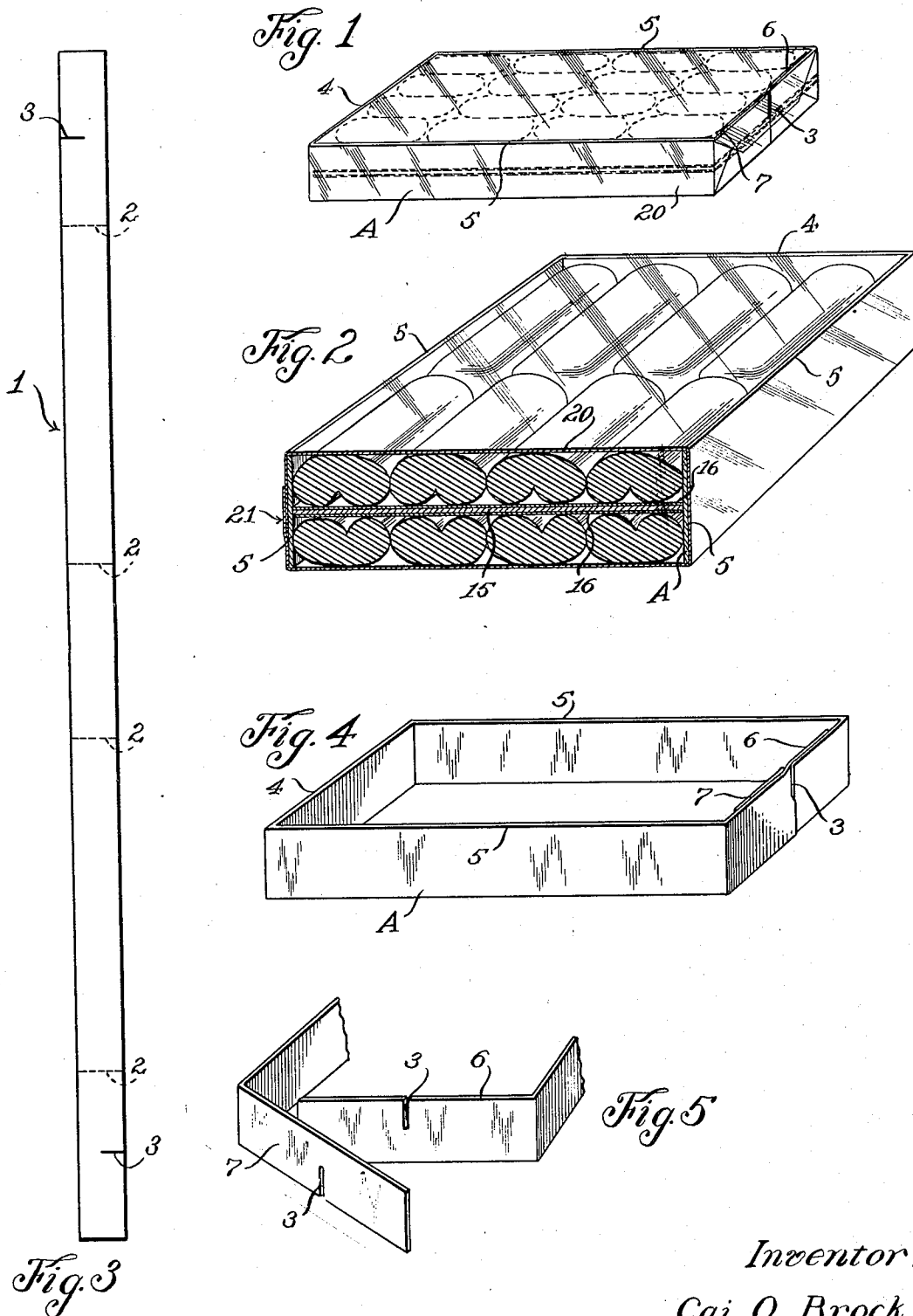
C. O. BROCK

1,996,453

PACKING METHOD AND APPARATUS

Filed May 8, 1934

2 Sheets-Sheet 1



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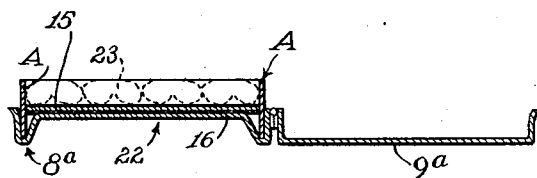
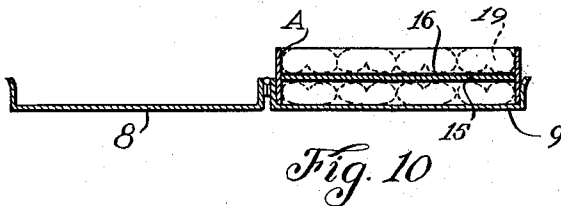
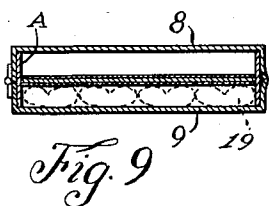
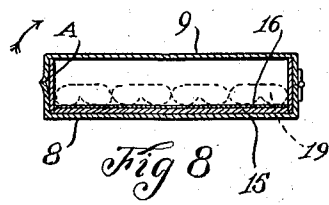
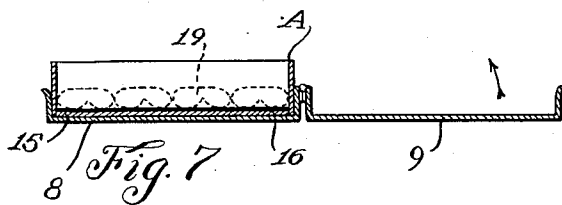
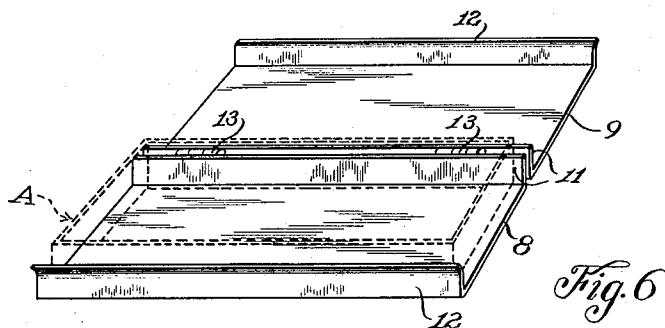
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UNITED STATES PATENT OFFICE

1,996,453

PACKING METHOD AND APPARATUS

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8 Claims. (Cl. 206—44)

This invention relates to a method and apparatus for packing articles and more particularly to the packing of articles such as dates or other fruit to provide a particular type of package in which the dates or other articles are visible without opening the package. The method and apparatus are simple and efficient and the articles are so positioned in the package as to prominently and attractively display the quality of the merchandise to the best advantage.

The method and apparatus herein disclosed enables the production of packages of fruit or other articles whereby the purchaser may inspect every article in the package and which will at the same time provide a strong and rigid package which will withstand considerable compressional force and rough handling.

It is an object to provide a package suitable for commercial purposes in which the packing process will be extremely simple and easy to perform and the completed packages may be produced at an extremely small labor and material cost.

It is a further object to provide a simple and easily operated packing apparatus to assist in forming the packages which will be of few parts and by which the packing operation may be accomplished by comparatively unskilled operators by a very few simple operations.

It is also an object to provide a simple and inexpensive moisture proof, pasteurized package in which the dates or other articles will be sealed and preserved indefinitely, and from which a desired number of dates may be removed without disturbing other dates or layers of dates therein.

While it will be understood that the method and apparatus disclosed herein may be used for packing dried fruit or various other articles, the embodiment herein illustrated will be described in connection with the packing of dates.

Further objects and advantages will be apparent from the specification and the appended claims.

In the drawings:

Figure 1 illustrates a finished package of dates packed in accordance with the method and apparatus disclosed herein.

Fig. 2 is a transverse sectional perspective view through a finished package and taken on a line corresponding to line 2—2 of Fig. 1.

Fig. 3 illustrates a blank of cardboard or other suitable material which may be formed into a rectangular frame open at the top and bottom, and in which the articles may be packed in the process of forming a package.

Fig. 4 is a perspective view of the package frame after it has been formed from the blank illustrated in Fig. 3 and the ends secured together.

Fig. 5 is a perspective view of the sheared ends of the blank from which the rectangular frame shown in Fig. 3 is formed and illustrates the ends in position to be fastened together.

Fig. 6 is a perspective view of one form of apparatus used in connection with the frame shown in Fig. 4 for packing dates or other articles therein.

Fig. 7 is a transverse section through the apparatus illustrated in Fig. 6 after the package frame has been inserted therein in position for packing.

Fig. 8 is a transverse section similar to that shown in Fig. 7 after the cover of the packing apparatus has been closed.

Fig. 9 is a similar transverse section after the closed structure illustrated in Fig. 8 has been inverted.

Fig. 10 is a transverse section similar to that illustrated in Fig. 9 with the packing apparatus open and ready to receive a second row of dates in the frame whereby the packing operation is completed.

Fig. 11 is a similar transverse section illustrating an alternative method of packing and apparatus therefor.

Referring to the drawings in detail, the embodiment illustrated comprises a comparatively narrow strip 1 of thin material, preferably cardboard, which may be first provided in a blank of suitable size and length as shown in Fig. 3. This blank is of sufficient length to form the sides and ends of a rectangular frame A such as illustrated in Fig. 4, in which the dates are to be packed. The strip 1 is creased as indicated at 2 whereby it may be easily bent to form the corners of the rectangular frame, although frames of other shapes may be used if desired. The strip may be also sheared or slotted adjacent its ends as indicated at 3 to provide a suitable locking means for securing the ends together to retain the rectangular shape of the frame.

The frame A may be formed by bending the strip 1 along the creased lines 2, and comprises an integral end portion 4, side portions 5, and overlapping end portions 6 and 7. These overlapping end portions 6 and 7 are brought together, somewhat as illustrated in Fig. 5, with the sheared slots 3 in alignment, and they are then pressed together with the slots interlocking as in Fig. 4. This forms the blank or strip 1 into a rectangular frame having overlapping ends as illustrated. Other types of frames may be employed as long as they are largely open at top

and bottom so the articles to be packed may be inserted as hereinafter described.

One embodiment of the apparatus by which the packing is accomplished is illustrated in Figs. 6 to 10 inclusive and comprises comparatively shallow U-shaped members comprising flat plates 8 and 9 which are preferably of sheet metal, and each plate is provided with upstanding side walls 11 and 12. The upstanding walls 11 of the U-shaped members are hinged together at 13 whereby the members may be folded together to form an open-end box which may enclose the rectangular cardboard frame 5. The inside dimensions of the box may be substantially the same, or only slightly greater than the outside dimensions of the frame 5 and of the completed package. The upper edge of the upstanding side walls 12 are preferably turned outward slightly as indicated by the reference character 14 so that when the frame 5 is inserted therein either one of the U-shaped members 9 or 8 may be closed over the top of the frame without catching on the upper edge thereof.

In practicing this invention in accordance with the disclosure herein, the packing apparatus is opened and laid on a flat surface as illustrated in Figs. 6 and 7, and one of the frames A is inserted therein in the position illustrated by dotted lines in Fig. 6 and by full lines in Fig. 7. A separator 15 is then inserted in the frame A and resting on the bottom of the U-shaped portion 8 and a sheet of wax paper 16 is placed on this separator.

The separator is preferably of cardboard although other suitable material may be used, and fits loosely inside the frame A. The sheet 16 is preferably wax paper. However, it will be understood that any suitable thin material such as "Cellophane", which will prevent the dates from adhering thereto, may be used. After the frame and separator and the wax paper 16 have been positioned in the packing apparatus, a single layer of dates 17 is packed therein on the wax paper sheet, and the cover 9 is then closed over the top of the frame A as shown in Fig. 8, thereby completely enclosing the frame and single row of dates packed therein. The entire device is then inverted as shown in Fig. 9 and the dates therein, including the separator, will drop or be moved to the bottom of the packing device, and the separator 15 will then be positioned substantially in the middle of the frame and on top of the layer of dates as illustrated.

A second sheet of wax paper 18 is then inserted in the frame and rests on the cardboard separator. The operator then packs a second layer of dates on this wax paper as indicated at 19, thereby completely filling the frame A. This completely filled frame, including the separator, the wax paper and the dates, is then removed from the packing apparatus and the entire assembly is wrapped in a sheet 20 which is preferably of thin transparent material such as "Cellophane". The "Cellophane" is wrapped around the packed frame and overlaps as indicated at 21 (Fig. 2). This overlapped portion is then rubbed quickly over a hot surface whereby the side of the package is securely sealed. The "Cellophane" is also folded over the ends of the package and sealed by passing over the hot surface in a similar manner.

In Fig. 11 is illustrated a slightly modified form of packing apparatus in which the two hinged members 8^a and 9^a are similar to the hinged members 8 and 9 previously described, with the excep-

tion that the member 8^a is provided with a raised central portion or floor 22 which is only slightly below the central horizontal plane of the frame A, whereby the separator 15, and, if desired, the sheets of wax paper may be supported substantially on the central plane as illustrated. In this construction the separator may be centrally positioned in the frame A and a layer of dates or other articles 23 packed thereon. This layer will then be substantially flush with the upper edge of the frame A. The cover 9 may then be closed over the dates and frame, and the device inverted in the same manner as previously described. The member 22 will then be the cover and may be opened and a second layer of articles packed on the exposed surface of the separator, thereby completely filling the frame. The packed frame may then be removed and wrapped with "Cellophane" in the same manner as previously described. This method of packing is the same as previously described with the exception that the separator 15 always remains in a central position and is not moved during the process of packing.

In some cases the sheets of waxed paper may be dispensed with, particularly when the surface of the separator 15 is suitable for contact with the articles to be packed thereon.

By the method and apparatus herein disclosed, the completed package of dates is formed as illustrated in Figs. 1 and 2 in which substantially all of the dates or other articles therein are clearly visible through the "Cellophane" wrapping.

By means of this invention many advantages are obtained over all previous methods of packing. A comparatively cheap and simple package is obtained which is easy to assemble without the use of glue or other adhesive, and practically every article in the package is clearly visible to the operator during and after packing, whereby they may be displayed to the best advantage. They are also largely visible to the purchaser whereby the package may be easily inspected and he may therefore assure himself of the quality of merchandise.

The separator 15 is preferably comparatively rigid particularly after the package is completed and the entire package is therefore strengthened to such an extent that it may be quite roughly handled and will withstand considerable compression. As previously stated, the invention herein disclosed is adaptable for packing various articles, although it is particularly adapted for use in packing dates which, as is well known, are extremely difficult to handle due to the fact that they are very sticky. Dates are received by the packer in bulk and are stuck together in quite a solid mass. Before packing, the bulk dates are separated by hand and may be slightly warmed in an oven in order that they may be more easily separated. They are then washed and later heated in order to evaporate the moisture accumulated by the washing process, and are then in a condition to be packed. By means of the method and apparatus disclosed herein the dates may be easily packed by comparatively unskilled operators, as all of the dates are visible and may be easily arranged for display purposes.

A package of the type disclosed herein has many advantages as the dates in the package may be inspected after the package is complete and it is therefore impossible to cover poor or

defective dates with a top layer of good ones for display purposes. Also, the user may easily remove one or more dates, or even a complete layer, from one side of the package and the remaining layer will be completely enclosed until ready for use. It has also been found that after the package is opened the user may pick up an entire layer of dates by lifting one of the wax paper sheets from the separator and the dates may be easily shaken from the sheet due to the fact that they do not adhere strongly thereto. The dates are preferably pasteurized after they are packed and wrapped.

The drawings illustrate a packing apparatus comprising frame supporting members hinged together for convenience and efficiency in operation. However, the hinges may be omitted and separate covers suitably formed to hold the frames may be used. The ends may also be closed if desired, although the open end structure is particularly desirable in that after the frame is packed, the operator may easily slide the packed frame out of the end of the apparatus onto a flat surface for wrapping.

After the frame is packed, the exposed surface of the dates may be slightly above the top edge of the frame. The cover may then be closed and the dates will be pressed into alignment with the edges of the frame.

Modifications may be made by those skilled in the art and it is desired, therefore, that the invention be limited only by the prior art and the scope of the appended claims.

Having thus described this invention, what is claimed and desired to be secured by Letters Patent is:

1. A comparatively rigid package of the character described comprising a frame having open opposite sides, a partition of substantially the same size and shape as the inner dimensions of said frame positioned within said frame substantially in contact therewith at approximately the median plane thereof, a single layer of plastic fruit on each side of said partition substantially filling the spaces within said frame and being substantially flush with the peripheral edges of said frame, and a transparent covering over the open sides of said frame arranged to maintain said frame adjacent said partition, said frame, partition and transparent covering acting together to produce a comparatively rigid difficultly compressible package with the two opposed sides transparent.

2. A comparatively rigid package comprising a frame having open opposite sides, a partition of substantially the same size and shape as the inner dimensions of said frame positioned within said frame substantially in contact therewith at approximately the median plane thereof, a single layer of dates on each side of said partition substantially filling the spaces within said frame and extending from each side of said partition substantially as far as said frame, said partition having means thereon to prevent the dates from adhering thereto, and a transparent covering over the open sides of said frame arranged to maintain said frame adjacent said partition, said frame, partition and transparent covering acting together to produce a comparatively rigid difficultly compressible package with the two opposed sides open to view.

3. A comparatively rigid package comprising a frame of cardboard like material having open opposite sides, a partition of cardboard like material

of substantially the same size and shape as the inner dimensions of said frame positioned within said frame substantially in contact therewith at approximately the median plane thereof, a single layer of dates on each side of said partition substantially filling the spaces within said frame and being substantially flush with the peripheral edges of said frame, a thin sheet of material on each side of said partition to prevent the dates from adhering thereto, and a transparent covering over the open sides of said frame arranged to maintain said frame adjacent said partition, said frame, partition and transparent covering acting together to produce a comparatively rigid difficultly compressible package with the two opposed sides transparent.

4. A comparatively rigid package of the character described comprising a flexible stiffish frame having open opposite sides, a flexible stiffish partition of substantially the same size and shape as the inner dimensions of said frame positioned within said frame substantially in contact therewith at approximately the median plane thereof, a single layer of dates on each side of said partition substantially filling the spaces within said frame and being substantially flush with the peripheral edges of said frame, a transparent covering over the open sides of said frame arranged to maintain said frame adjacent said partition, said frame, partition and transparent covering acting together to produce a substantially rigid difficultly compressible package with the two opposed sides transparent.

5. A comparatively rigid package comprising a flexible stiffish comparatively shallow casing open at top and bottom, a flexible stiffish partition at approximately the median plane of said casing, said partition being of a size and shape to fit within said casing substantially in contact with the sides thereof, plastic articles on each side of said partition substantially filling said casing, and a transparent covering over the open sides of said casing arranged to maintain said casing adjacent said partition, said casing, partition and transparent covering acting together to produce a comparatively rigid difficultly compressible package.

6. A substantially rigid package comprising a comparatively shallow casing of cardboard-like material open at top and bottom, a flexible stiffish partition at substantially the median plane of said casing, said partition being of a size and shape to fit within said casing substantially in contact with the sides thereof, a single layer of dates on each side of said partition substantially filling said casing, and a transparent covering enclosing said casing arranged to maintain said casing adjacent said partition, said casing, partition and transparent covering acting together to produce a substantially rigid difficultly compressible package.

7. A comparatively rigid package comprising two single layers of dates, a flexible stiffish partition between said layers, fabric of cardboard-like material closely fitting about said layers and about the periphery of said partition, leaving the top and bottom largely open so that substantially all of the dates are visible, said partition being at substantially the median plane of said fabric, and a transparent covering over the top and bottom of said package arranged to maintain said fabric closely adjacent said partition, said fabric, partition and transparent covering acting together to produce a substantially rigid difficultly compressible package.

8. A comparatively rigid package comprising a flexible stiffish comparatively shallow casing completely open at top and bottom, a flexible stiffish partition at approximately the median plane of said casing, said partition being of a size and shape to fit within said casing substantially in contact with the sides thereof, a single layer of dates on each side of said partition substantially filling said casing and a transparent covering enclosing said casing arranged to maintain said casing adjacent said partition, said casing, partition and transparent covering acting together to produce a comparatively rigid difficultly compressible package.

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