July 7, 1959 E. R. SANDMEYER 2,893,550

PACKAGE FOR GLOBULAR ARTICLES AND METHOD OF FORMING SAME

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FIG. 1

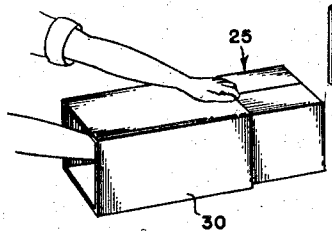


FIG. 2

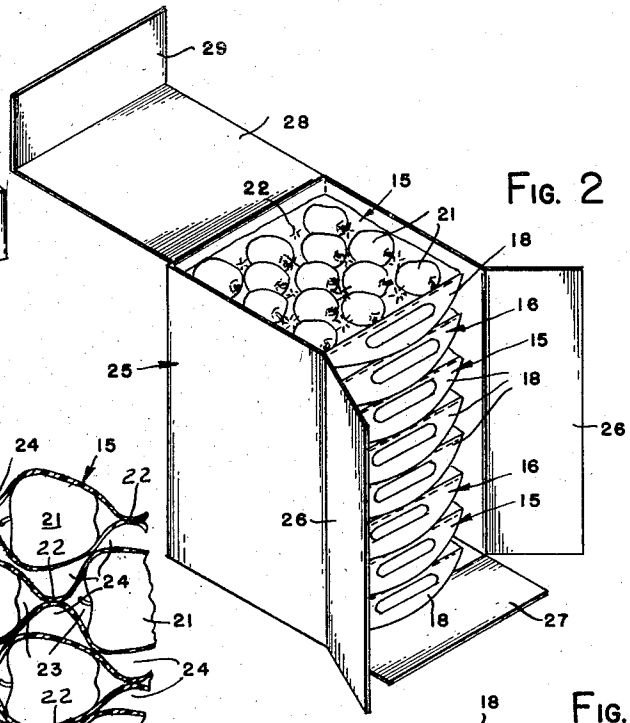


FIG. 3

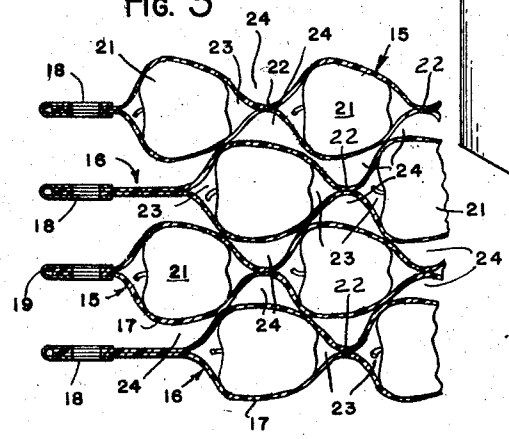


FIG. 4

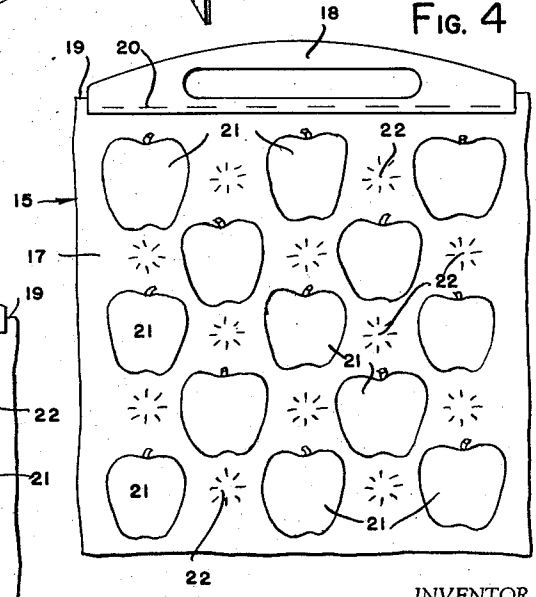
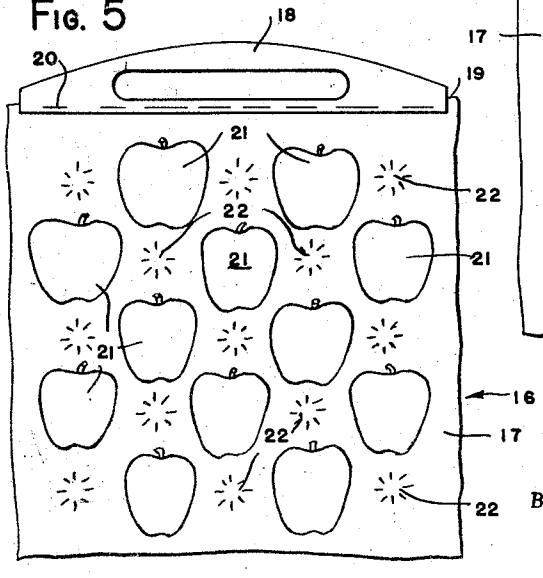


FIG. 5



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FIG. 6

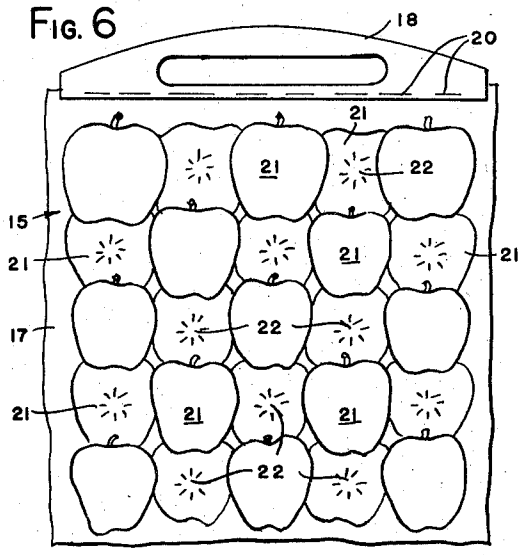


FIG. 8

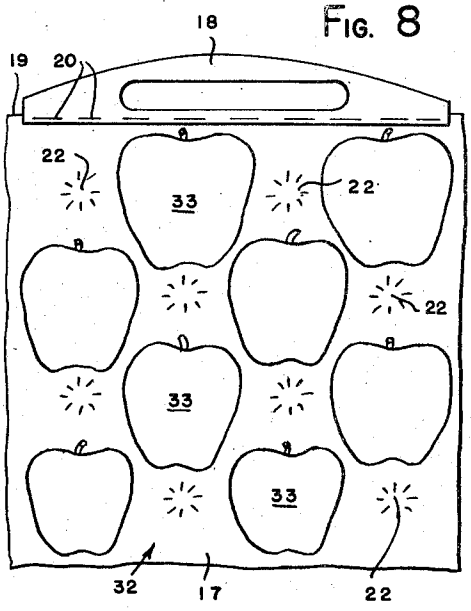


FIG. 7

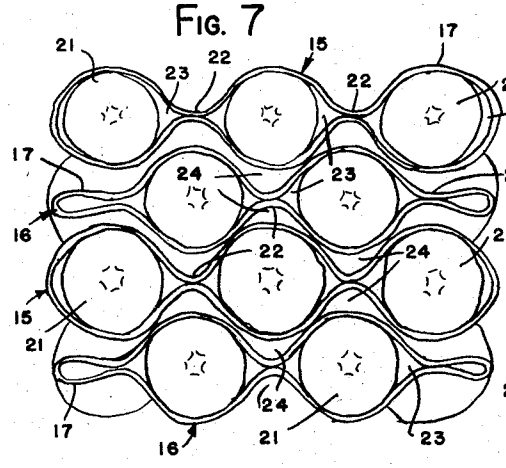
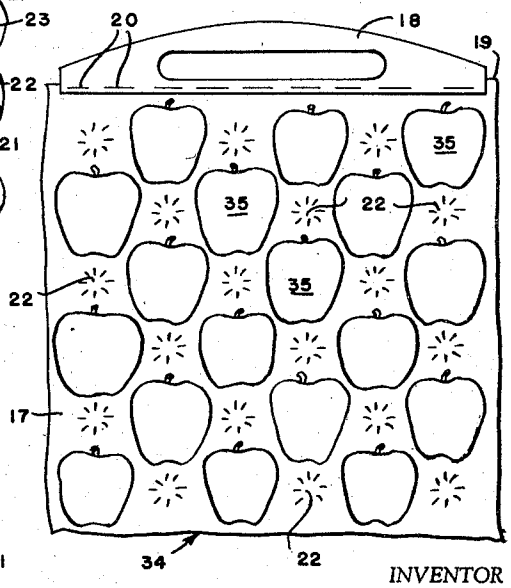


FIG. 9



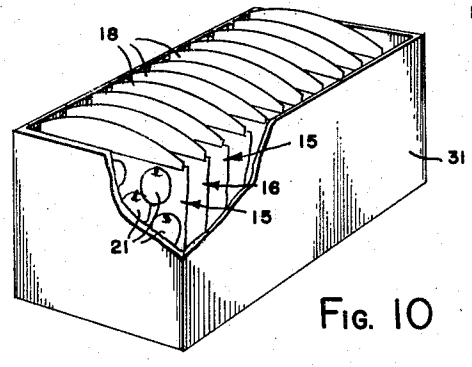


FIG. 10

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PACKAGE FOR GLOBULAR ARTICLES AND METHOD OF FORMING SAME

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3 Claims. (Cl. 206—65)

The present invention relates to packages, and to a method of forming a package or packages.

An object of the invention is to provide a novel and improved retail consumer package for apples or like globular produce, as well as a novel and simplified method of forming such a package.

Another object of the invention is to provide a master container for a plurality of interfitting or nesting consumer packages in accordance with the invention, which will facilitate handling and displaying of the consumer packages.

A further object is to provide a consumer package for a desired or convenient number of globular articles of like size, the package preferably being transparent, although not necessarily so, and constructed and arranged so that the consumer or purchaser can see each article substantially in its entirety within the package.

A further object is to provide a consumer package for globular articles, such as fresh produce, the use of which will enable the purchaser to recognize the articles by size, count and weight, rather than by weight alone, as is usual with conventional consumer packages and methods.

An additional object is to provide a package for apples or similar articles, which lends itself to nesting or interfitting in a novel manner with companion packages in a master container, the system resulting in overall ease of handling and transporting the articles without damage caused by bruising, and also facilitating the packing of a maximum number of the articles in a minimum space.

Another object is to provide a package for globular articles which, when removed from the master container, may be readily stacked with companion packages for display purposes, the individual packages preferably being equipped with handles, although not necessarily so, to enable the purchaser to more conveniently pick up or carry one or more individual packages.

Still another object of the invention is to provide a package of the above-mentioned character, which may be conveniently formed of thin sheet plastics material, of a type adapted to be heat sealed, so as to form pockets or receptacles within the package for confining the individual globular articles, the pockets maintaining the articles oriented in a desired manner in each individual package.

Other objects and advantages of the invention will become apparent during the course of the following description.

In the accompanying drawings forming a part of this application and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a perspective view of a master container for the consumer packages in accordance with the invention,

Figure 2 is a further perspective view on a somewhat enlarged scale of the master container in an open position after removal of the outer sheet,

Figure 3 is an enlarged fragmentary central vertical section through a plurality of stacked or nested individual consumer packages as shown in Figure 2,

Figure 4 is a plan view of an individual package removed from the stack and drawn on an enlarged scale,

Figure 5 is a similar view of a companion package adapted to nest or interfit with the package of Figure 4,

Figure 6 is a further plan view showing the package of Figure 4 superimposed or stacked upon the package of Figure 5, and illustrating the nesting or interfitting of the articles contained in the individual packages,

Figure 7 is an end elevation of stacked and nested packages in accordance with Figure 6,

Figure 8 is a further plan view of an individual package containing a different number and size of produce article,

Figure 9 is a further plan view of an individual package containing a still further variation of size and number of apples, or like globular articles, and further illustrating the desired orientation of articles within the package, in accordance with the method.

Figure 10 is a perspective view of a modified form of master container, showing the arrangement of a plurality of individual consumer packages therein.

In the drawings, wherein for the purpose of illustration are shown preferred embodiments of the invention, attention is directed first to Figures 1 to 7 inclusive, wherein the numerals **15** and **16** designate companion individual or retail consumer packages for globular articles of various types, such as, for example, apples. It may be mentioned here that while the packages in accordance with the present invention are ideally suited for apples and like globular fresh produce, still it is not intended to limit the invention or its use to any particular type of packageable article, and it should be understood that substantially any three-dimensional, generally globular article may be readily packaged in accordance with the method, within the individual packages of the present invention. The packages **15** and **16** are substantially identical, and differ only in the respect that the package **15** contains one more article than the package **16**, in order to facilitate stacking or nesting the packages in a desired manner.

The packages **15** and **16** may each comprise a generally rectangular and relatively flat bag or envelope body portion **17**, which may be conveniently formed from thin, flexible transparent sheet plastics material, or the like. As shown in the drawings, the packages **15** and **16** are relatively thin or narrow edgewise.

The generally rectangular package body portions **17** are closed in any conventional manner around the globular articles or produce, by binding or securing together the opposite side walls of each body portion **17** at a multiplicity of points, to provide confining pockets for the articles. At one side or edge of the package body portion **17**, the same is preferably provided with a carrying handle **18**, formed of relatively stiff paper or the like, and preferably generally U-shaped in cross section, Figure 3, so as to enable the handle to receive the adjacent edge **19** of the package body portion between its sides, as shown. The handle **18** may be secured to the edge portion of the package by stapling or by similar suitable means, as indicated generally at **20**. The handle **18** preferably extends for substantially the entire width of the package, and may serve a dual purpose of closing one side of the package and enabling the customer to pick up and carry the package more readily. It may be mentioned here that the package body portion **17** may have an open side or mouth through which the desired articles are introduced into it, in which case, the assembled handle **18** serves as a closure for such open side or mouth. However, it is well within the concept of this invention to form

the package body portion 17 about the enclosed articles in various ways, as, for example, by placing the articles upon one preformed side wall of the bag or package and then placing the other preformed wall over the articles, and then binding the preformed side walls together about their marginal edges.

The particular package body portion 17 having one edge or end 19 open, for coaction with the particular handle 18 shown and described, is merely one preferred example of how the individual packages may be constructed. Although the handle 18 has been described as formed of paper or the like, and secured to the body portion 17 by stapling, it should be understood that it is not intended to limit the invention to any particular handle construction, or even to the use of a handle at all. When the handle is used, it may be formed of any desired material of sufficient stiffness and secured to one edge of the package body portion in any preferred manner.

As best shown in Figure 4, each individual package 15 contains a plurality of globular articles 21, such as apples, or the like. The articles 21, Figure 4, are arranged in uniformly spaced relation, in diagonal rows, and also in horizontal and vertical rows. The alternate horizontal and vertical rows of articles 21, Figure 4, contain three and two articles respectively, there being a total of thirteen articles 21 within the package 15, in the particular embodiment shown. The outermost horizontal and vertical rows, Figure 4, each contain three articles, and one article 21 is arranged at each corner of the group of articles within the package body portion 17. The diagonal rows of articles, Figure 4, contain an increasing number of articles from the corners of the package toward the center row, which contains five articles in the embodiment shown. The next outermost diagonal rows contain three articles, and outwardly of these rows are the single corner articles 21 of the package 15.

In the spaces between adjacent pairs of the articles 21 in the several rows, Figure 4, the opposite side walls of the package body portion 17 are locally secured together as indicated at 22. This securing or binding together of the package side walls may be done by heat sealing, where the body portion 17 is formed of plastics material, of a type adapted to be heat sealed. Here again, it is desired not to limit the invention to any particular means for locally securing the package side walls together at 22, and this may be done by various means, such as stitching, stapling, riveting, chemical adhesion, or by various other conventional means. The secured localities or points 22 are uniformly spaced and arranged in rows complementary to the rows of articles 21, Figure 4. The arrangement of the secured points 22 forms upon each package 15 a separate substantially closed compartment or pocket 23 for each article 21. The several articles 21 within the package 15 are confined by the bound together or secured regions 22 and the side walls of the body portion 17, in the desired orientation, above described. At each of the localities 22, and between each adjacent pair of pockets 23, the package 15 will have formed within its opposite sides a pair of outwardly opening recesses or wells 24, which facilitate nesting or stacking of the companion packages 15 and 16 as shown in Figures 3 and 7.

The companion package 16 differs from the package 15 in that it contains 12 articles 21, instead of thirteen articles, like the package 15. In the package 16, the articles 21 and secured together side wall parts 22 are arranged in complementary diagonal, horizontal and vertical rows. However, the number and spacing or orientation of the articles 21 in the package 16 corresponds exactly to the number and spacing or orientation of the points 22 in the package 15. Likewise, the number and arrangement of the localities 22 in the package 16 corresponds exactly to the number and arrangement or orientation of the articles 21 in the package 15. It is thus seen that there are twelve articles 21 in each package 16, corresponding to the twelve localities 22 of each package 15; and there are thirteen localities 22 in each package 16, corresponding to the thirteen articles 21 in each package 15.

By virtue of this precise arrangement, in connection with the individual packages 15 and 16, it is possible to stack or nest a plurality of the companion packages 15 and 16 in the manner shown by Figures 2, 3 and 7. As shown therein, the stack of individual packages is formed by alternately arranging the packages 15 and 16 upon one another, preferably with the handles 18 facing in the same direction. In the stack thus formed, if the lowermost individual package is a package 16, the next uppermost package will be a package 15, and the next uppermost package a package 16, and so on, until the stack is completed to the desired height. The stack of packages thus formed is highly stable, and will not readily fall over, and the stacking of the packages 15 and 16 in this manner is a highly convenient way to display them.

It is to be noted that each package 15 or 16 contains a single layer only of the articles 21, and when the package is formed of transparent material, as preferred, each article 21 contained therein is fully visible over substantially its entire surface for inspection as to quality by the customer who picks up one of the individual consumer packages. Also, the novel package facilitates easy handling of the articles by the consumer, and enables the consumer to choose fruit, or other fresh produce, or the like, with regard to number and size, in addition to weight, which is usually the only readily determinable factor with conventional packages.

It is to be noted further that when the packages 15 and 16 are stacked, the individual articles 21 remain confined and relatively fixed within their individual pockets 23. Additionally, the recesses 24 of the packages 15 and 16 are positioned in the stack, to receive the next uppermost and lowermost article 21 of the adjacent package 15 or 16, Figures 3 and 7. In this manner, the individual packages 15 and 16 nest or interfit when stacked, and it becomes possible therefore to arrange a maximum number of the articles 21 in a given space or within a given size of master container. As indicated by Figure 6, wherein a package 15 is shown superimposed upon a companion package 16, the individual articles 21 of each package interfit or nest within the formed recesses 24, which occur at each secured locality 22. It is additionally shown in Figure 6 that the bound together or secured localities 22 of the upper package 15 are in registry with the articles 21 of the next lowermost package 16.

By the use of the companion packages 15 and 16, a master container or box 25 of the type shown in Figures 1 and 2 may readily contain one hundred of the articles 21, which may be apples. This is a standard number for packaging apples, and the arrangement may be achieved by employing eight of the individual packages 15 and 16 alternately in stacked relation as shown in Figure 2. The stack thus formed is received within the box 25, formed of corrugated pasteboard, or the like. The bottom of the box 25 is closed, and its forward side and top may be opened in the manner shown, and closed by means of the flaps 26, 27, 28 and 29. When opened as in Figure 2, the box 25 forms a convenient display case for the individual packages 15 and 16. The master container or box 25 is readily closed by folding the flap 27 upwardly, and the flap or cover 28 over the top of the box, and the flap 29 downwardly over the forward side of the box. The side flaps 26 are then folded inwardly over the flaps 27 and 29, and the master container is secured closed by placing a rectangular cardboard sleeve 30 over it endwise, as shown in Figure 1. When the several flaps 26, 27 and 29 are folded against the handles 18, Figure 2, the latter will be folded down or inwardly, and will serve somewhat to cushion the individual packages 15 and 16 under the closed flaps of the container, as should be obvious.

Obviously, the individual packages 15 and 16 may be

arranged in other types of containers than the master container 25 shown in Figures 1 and 2, and if preferred, the packages 15 and 16 may be used independently of or without any master container.

One variation or modification of master container is shown in Figure 10, wherein the numeral 31 designates a standard rectangular apple box, adapted to receive and hold a desired number of the individual packages, as shown. In Figure 10, the individual packages 15 and 16 are arranged upright or on edge in the box 31, but the same interfitting or nested relation of the packages described in connection with Figures 1 through 7 is preserved. In Figure 10, a suitable lid, not shown, is nailed to the top of the box 31 to cover it, and the handles 18 are forced downwardly under the lid and serve somewhat to cushion the individual packages beneath the lid.

In Figure 8, there is shown an individual package 32, identical with the packages 15 and 16, except that it contains a lesser number of larger size articles 33. Specifically, the package 32 contains eight articles 33 arranged in diagonal, horizontal and vertical rows, with eight pocket forming bound together side wall localities 22, arranged in spaced rows complementary to the rows of articles, generally as above described in connection with Figures 4 and 5. In connection with the package 32, it is unnecessary to employ a companion package with one less or one more article therein, because each package 32 contains exactly eight articles and eight bound localities 22, which form in the opposite sides of the package the described recesses or wells 24, for receiving the articles 33 of the next uppermost or next lowermost package 32 in a stack of such packages. The arrangement in regard to the package 32 should be obvious, in view of the foregoing description concerning the packages 15 and 16.

In Figure 9, there is shown a further variation of the package and method, in the form of an individual package 34, identical with the previously described packages 15, 16 and 32, except that it contains a larger number of smaller size articles 35. Specifically, the package 34 contains eighteen articles 35, arranged in diagonal, horizontal and vertical rows. Also, between the articles 35 there are provided eighteen of the secured regions 22, as indicated. The orientation of the articles 35 and regions 22 in Figure 9 is generally the same as above-described in connection with the other individual packages, and a further description of the construction and use of the package 34 should be unnecessary.

It is to be understood that the forms of the invention herewith shown and described are to be taken as preferred examples of the same, and that various changes in the shape, size and arrangement of parts in the packages, as well as variations in the method steps may be resorted to, without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. The method of packaging generally globular articles, comprising taking a plurality of generally flat bag-like containers having substantially the same vertical and horizontal dimensions and each container being formed of highly flexible transparent material and each container being provided with spaced pockets filled with the articles and having two layers of relatively large recesses between the pockets, the pockets of each container being arranged in a single layer and in vertical and horizontal and diagonal rows, the sides of each container being secured together at attaching points, the attaching points being arranged in vertical and horizontal and diagonal rows, the attaching points in the vertical and horizontal rows being arranged between the corresponding pockets in the vertical and horizontal rows of each container, the attaching points being arranged in a single layer and forming the two layers of opposed relatively large recesses, the recesses being arranged in vertical and horizontal and diagonal rows, arranging one pocket-like container in overlapping contacting relation with the other companion pocket-like container and causing the vertical and horizontal edges of the two containers to substantially register and causing the filled pockets of one container to partly enter the recesses of the other container and causing the filled pockets of both containers to contact, the arrangement being such that space is saved when the filled containers are arranged in overlapping assembled contacting relation and the maximum number of articles are held in the flexible containers with respect to the overall vertical and horizontal dimensions of the overlapping containers having their vertical and horizontal edges substantially registering, and one container will not tend to slip with respect to the other container.

2. The method of packaging generally globular articles, comprising taking a plurality of generally flat bag-like containers having substantially the same vertical and horizontal dimensions and each container being formed of a highly flexible transparent material, arranging a single layer of the globular articles within each container and in spaced relation, arranging the articles in vertical and horizontal and diagonal rows, securing together the sides of each container at points between the articles and arranging the attaching points in spaced vertical and horizontal and diagonal rows, arranging the attaching points in said vertical and horizontal and diagonal rows between said articles and thereby forming a single layer of pockets for receiving the articles without stretching the pockets and forming a single layer of attaching points and two opposed layers of recesses, arranging one pocket-like container in overlapping contacting relation with the other companion pocket-like container and causing the vertical and horizontal edges of the two containers to substantially register and causing the filled pockets of one container to partly enter the recesses of the other container and causing the filled pockets of both containers to contact, the arrangement being such that space is saved when the filled containers are arranged in overlapping contacting relation and the maximum number of articles are held in the flexible container with respect to the overall vertical and horizontal dimensions of the overlapping containers having their vertical and horizontal edges substantially registering, and one container will not tend to slip with respect to the other container.

3. A package for holding generally globular articles, comprising a plurality of generally flat bag-like containers having substantially the same vertical and horizontal dimensions and each container being formed of highly flexible transparent material, each container being provided with spaced pockets filled with the articles and being unstretched and having relatively large recesses between the pockets, the pockets of each container being arranged in a single layer and in vertical and horizontal and diagonal rows, the sides of each container being secured together at attaching points, the attaching points being arranged in vertical and horizontal and diagonal rows, the attaching points in the vertical and horizontal rows being arranged between the corresponding pockets in the vertical and horizontal rows of each container, the attaching points being arranged in a single layer and forming two opposed layers of recesses, one container being arranged in overlapping contacting relation with the other container and having the vertical and horizontal edges of the overlapping containers register, the filled pockets of one container partly entering the recesses of the other container and the filled pockets of both containers contacting, the arrangement being such that space is saved when the filled containers are arranged in overlapping assembled contacting relation and the maximum number of articles are held in the flexible containers with respect to the overall vertical and horizontal dimensions of the containers when their ver-

tical and horizontal edges substantially register, and a box receiving the overlapping containers and holding the containers so that their vertical and horizontal edges substantially register.

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