

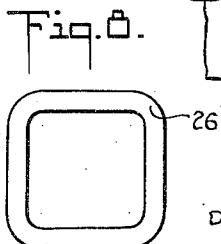
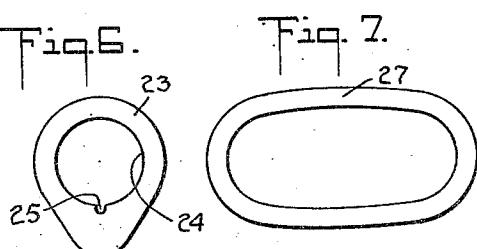
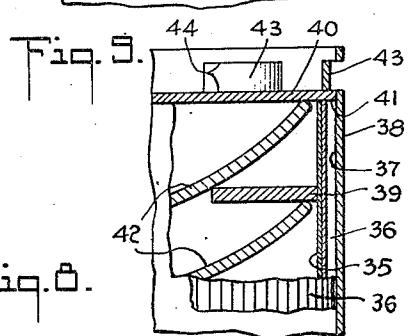
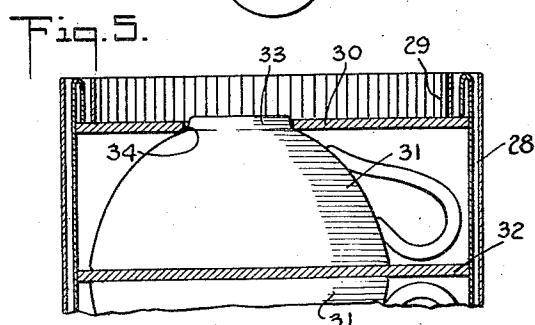
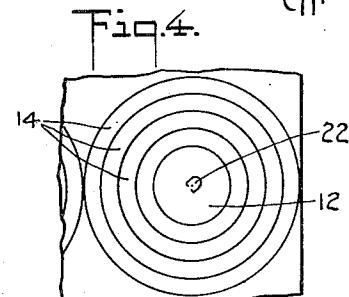
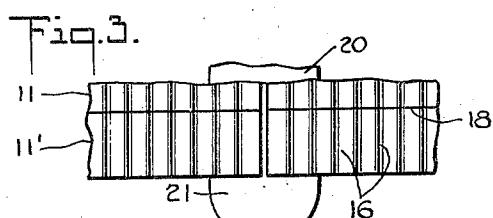
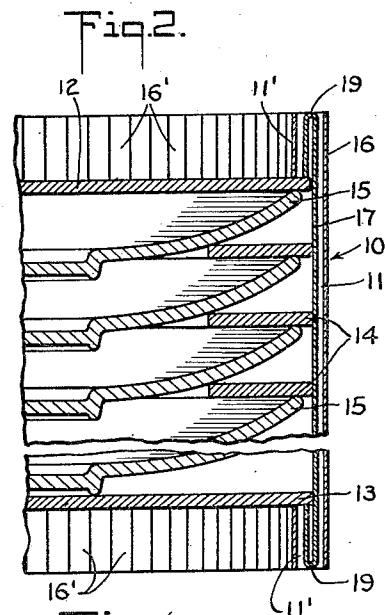
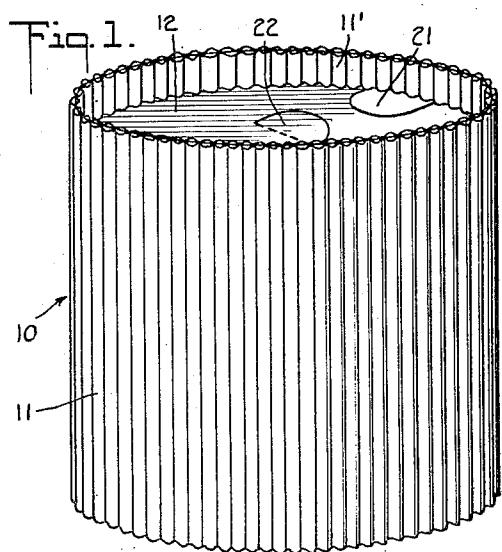
Nov. 12, 1957

D. LANTINBERG

2,812,856

PACKAGING OF DISHED ARTICLES

Filed June 7, 1954



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## PACKAGING OF DISHED ARTICLES

David Lantinberg, New York, N. Y.

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3 Claims. (Cl. 206—65)

This invention relates to a new container device and packaging method for the protective packaging of dished articles and in particular articles of chinaware and the like. More particularly the invention relates to the packaging of dished articles in stacked relationship utilizing a plurality of container components which cooperate with each other and with the packaged articles to define the shape and contour of a filled package while supporting the packaged articles in positions individually isolated from each other and from peripheral portions of said container.

The packaging of dished articles of a fragile nature such as articles of chinaware particularly for shipment to the retail purchaser presents a serious and costly problem to retail dealers in such articles and particularly to department stores and the like which may be called upon to send out several sets of china a day. Such articles are frequently received by the retailer in large bulk containers which may even be of walk-in size. These are then sorted and stacked to be accessible for making up sets of china as ordered by customers. The assembling and packing of sets of china for shipment to customers is time consuming, subject to troublesome errors and breakage and generally involves the use of large quantities of excelsior, shredded newspaper, or the like which is messy to handle both for the retailer and the customer and it presents a serious fire hazard if not properly handled. Furthermore these disadvantages are multiplied during rush seasons when inexperienced help must be called in to assist in the packing operations.

An object of my invention is to materially reduce the amount of handling which chinaware and similar articles must receive before reaching the customer by providing unit packages containing 2, 4, 6, or other convenient numbers of the same article which can be assembled by the manufacturer or by the retailer when unpacking bulk shipments so that the various items can be stocked as suitably identified unit packages rather than individual articles.

Another object of the invention is to provide convenient unit packages wherein the package components cooperate with the packaged articles in providing a finished package which thoroughly protects the articles without the need for mingling with the articles any excelsior, shredded newspaper, or other wadding of material.

A still further object of the invention is to provide a container device for forming unit packages of the class described which is made up of resilient and flexible components of little bulk prior to assemblage and which at the same time can quickly and easily be assembled with the desired articles to form a completed package.

These and other objects of the invention will readily be apparent from the following description taken together with the accompanying drawing in which preferred adaptations of my invention are disclosed, in which the various parts of the device are identified by suitable reference characters in each of the views and in which:

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Fig. 1 is a perspective view of an assembled package in accordance with my invention;

Fig. 2 is a partial sectional view of the package as shown in Fig. 1 indicating articles arranged therein;

Fig. 3 is a fragmentary view of an edge portion of the outer wall as shown in Figs. 1 and 2 indicating details of construction;

Fig. 4 is a diagrammatic view indicating how a plurality of structural components as shown in Fig. 2 can be fashioned with a minimum of waste;

Fig. 5 is a partial sectional view generally similar to Fig. 2 but indicating a modified form of article positioning means;

Figs. 6, 7 and 8 are plan view of container components indicating typical variations which can be employed for differently shaped articles; and

Fig. 9 is a partial sectional view of the container alone generally similar to Fig. 5 and indicating modifications in the side wall construction.

In Figs. 1 to 3 of the drawing I have shown a filled container or package 10 as comprising a peripheral side wall 11, a top wall 12, a bottom wall 13, and a plurality of spacer elements 14 intermediate a plurality of articles 15 which for purpose of illustration have been shown as dishes of saucer-like contour. It is to be understood, however, that the structural features disclosed herein are generally applicable for the packaging of any articles of what might be termed "dished" or essentially concave contour.

The side wall 11 is fashioned of material which is relatively rigid in the vertical direction but which is quite flexible in the horizontal direction and is in the form of a sleeve which when separate from the articles 15 and the other container components can be flattened or collapsed upon itself. The side wall or sleeve 11 is preferably fashioned from single faced corrugated material with the corrugations 16 running vertically and externally thereof and with the inner surface 17 being smooth or devoid of corrugations. The corrugations 16 provide a shock absorbing outer surface to the container and it will be evident that a wide variety of materials can be employed in fashioning the corrugated wall or sleeve 11. For many purposes ordinary corrugated paper will be satisfactory, but suitable variations can be made in the weight of paper, size of corrugations, and the like. It is also within the scope of my invention to employ construction materials and particularly corrugations of sturdier construction, including for example, plastics or light weight metals.

The top wall 12, bottom wall 13 and spacers 14 can be suitably fashioned from double faced corrugated board which although relatively rigid has a limited resilience which is distinctly advantageous in the assembled package. Here again it will be apparent that other materials having a similar type of resilience can be employed in place of double faced corrugated board in fashioning these container components.

The resilience above described is utilized in providing a firm but yieldable support for the articles 15 and as assembled slight pressure between the top wall 12 and bottom wall 13 is maintained by deformable stop means on the wall 11. For purpose of illustration this deformable means has been indicated in Figs. 1 to 3 of the drawing as comprising end bands 11' formed by circumferential cuts 18 as seen in Fig. 3 of the drawing extending through the corrugations 16 and permitting the inner surface or sheet 17 to be folded inwardly upon itself as seen at 19 in Fig. 2 of the drawing. When thus folded inwardly the severed portions 16' of the corrugations form a substantial bearing surface extending around the periphery of the top wall 12 and bottom wall 13. It should be noted in this connection that the reversal of the corrugations from the

outer position as seen at 16 to the inner position as shown at 16' apparently creates a degree of compression in the corrugations serving to maintain the inwardly turned flanges 11' in close alignment with the wall 11. In fact as the flange 11' is being turned inwardly this compression action causes the final portion of the flange to more or less snap into the inturned position.

The wall or sleeve 11 including the flanges 11' are unitary strips or sheets of material of suitable length with the free ends brought together and secured by suitable retaining means as indicated by the gummed tape 20 shown in Fig. 3. The tape 20 protrudes beyond at least one of the flanges 11' to form a tab 21 which is utilized when opening the container or package to start the unfolding or extension of the flange 11'.

It was previously mentioned that in the assembled device the flanges 11' support the top wall 12 and bottom wall 13 and the articles and spacer therebetween under slight compression. This compressibility which may vary to as much as  $\frac{1}{2}$  inch or even more depending upon the size and number of supported articles is one of the factors contributing to the adaptability of the device for the packaging of different articles. Another contributing factor is the width of the circumferential supports or spacers 14 between the internal diameter and external diameter thereof. In Fig. 2 for example, if the internal diameter of the spacers 14 were increased, the articles 15 would settle to a more closely spaced alignment, whereas if this internal diameter were decreased, the stack of articles 15 would be extended to a more widely spaced relationship. The external diameter of the spacers 14 should snugly engage in all instances the inner surface 17 of the wall 11 and this diameter should be somewhat larger than the diameter of the supported article 15. The spacing between the article 15 and the inner surface 17 of the wall 11 can, however, vary considerably, thus further adapting a particular container device for the packaging of different articles.

It will be apparent, however, that in packaging sets of chinaware a number of basic unit packages must be provided to accommodate the distinctly different sized items, such as dinner plates, salad plates, saucers, soup plates, and the like. In fashioning spacer elements 14 it is therefore possible to obtain from a single blank of material as shown in Fig. 4 a plurality of such elements with no waste whatever between the several elements. The center portion of the blank can then form an end wall such as a top wall 12 and the die cutting operation can at the same time cut out a tab 22 to facilitate grasping of the top wall in removing it from the container. It will thus be apparent that there is a minimum of waste of material in fashioning the spacer elements 14 and the top and bottom walls of the device when taking into consideration the several different stock sizes of devices which would normally be required.

While thus far described primarily in terms of a round or cylindrical device, it will be apparent that the external contour can conform generally to the contour of the particular article to be packaged. In Fig. 6 for example there is indicated a pear-shaped or drop-shaped spacer element 23, such as might be used for the nested packaging of cups wherein the central opening 24 is to one side and may be provided with an off-set cutout 25 for positioning a cup handle. Fig. 8 indicates a spacer element 26 of the type which might be used with plates and dishes of a generally square contour and Fig. 7 indicates a spacer element 27 which might be used for articles such as platters, serving dishes, and the like. With each of these modifications it will be apparent that top and bottom walls would have the same external contour as the spacer elements disclosed and the outer wall or sleeve 11 would be of a dimension to closely engage the spacer elements and end walls throughout their peripheral contour.

In the various spacer elements which have been described the inner radius acts as a means for aligning the

supported articles with respect to the outer radius and the container walls. This is generally effected merely by engagement with a curved or tapered surface of the supported article as seen in Fig. 2. It is sometimes advisable, however, to provide a more positive alignment of the supported article by close engagement with a more angular surface or shoulder on the article.

Fig. 5 of the drawing is illustrative of this more positive type of article support. As seen in Fig. 5 the container comprises a flexible side wall 28 having a deformable means along the upper edge thereof as indicated by the inturned flange 29 circumferentially engaging an end wall 30 which applies resilient pressure to stacked articles 31 and spacing means 32 within the container. For purpose of illustration the articles have been shown as cups having the conventional type of off-set base 33, and the wall 30 is provided with an off-set cutout or aperture 34 which closely conforms to the contour of the cup base 33 thereby aligning the same with respect to the container. The peripheral contour of the top wall 30 and spacing means 32 can be circular or more or less pear-shaped as shown in Fig. 6, the latter shape or contour providing for more compact packing of several such unit packages in a whipping container.

While the close fitting aperture 34 for receiving a protruding part 33 on a supported article has been shown in Fig. 5 as formed in the top wall 30 of a container, it will be evident that this type of positive engagement with supported articles can be provided in spacer elements 32 or 14, as well as in the specially contoured spacer elements shown in Figs. 6 to 8. Such type of positive support is particularly desirable with articles having a height approaching or exceeding the width thereof and with articles such as cups which have protruding parts requiring special protection.

If added protection is desired in the side wall of the container particularly in handling heavier type articles, an inner sleeve of flexible material can be employed as shown in Fig. 9. The inner sleeve can suitably comprise a separate element of single faced corrugated material with the smooth surface 35 being disposed inwardly and the corrugations 36 closely bearing against the inner surface 37 of the outer sleeve or side wall 38. With this construction the spacer elements 39 will closely engage the inner surface 35 of the inner sleeve, whereas the top or bottom wall 40 will be in slightly larger dimension for engaging the inner surface 37 of the outer sleeve or side wall 38. The periphery of the top or bottom wall 40 will then bear against the upper end 41 of the inner sleeve thus limiting the downward compression which can be applied by the wall 40 to a stack of articles 42 and spacer elements 39. The wall 40 is supported in close bearing engagement with the sleeve end 41 by deformable means 43 on the outer sleeve or wall 38. While this deformable means can comprise an edge portion reversible on itself shown in Figs. 1 to 3, there is shown in Fig. 9 a modified type of construction wherein pairs of parallel slits 44 at intervals circumferentially of the device permit the wall 40 portions therebetween to be flexed inwardly as clearly indicated in the drawing to provide circumferentially spaced bearing surfaces at intervals about the periphery of the wall 40. When such a container is to be opened the arcuate deformable means 43 are merely flexed outwardly to resume alignment with the curvature of the wall 38 thus permitting the end wall 40 and other container components and articles to be readily withdrawn from the container. While it is thus within the scope of my invention to provide various types of deformable means at end portions of the container side wall for supporting assembled container elements and articles as a unit package the type of construction shown in Figs. 1 to 3 is considered preferable both because it provides complete circumferential bearing engagement with the end walls of the assembled device and because the inturned flange is so readily

moved from the locked position to the open position as previously described.

Various changes and modifications in the container construction as herein disclosed will occur to those skilled in the art and to the extent that such changes and modifications are embraced by the appended claims, it is to be understood that they constitute part of my invention.

I claim:

1. A container device for shock resistant packing of fragile dished articles comprising an outer peripheral wall of flexible material, a plurality of resilient members for engagement with upper and lower surface portions of articles to be stacked in the container, said resilient members being independent of said peripheral wall but having peripheral bearing and slidable engagement with the inner surfaces thereof, the uppermost and lowermost of said members forming end walls of the container, deformable means adjacent upper and lower edges of said side wall forming peripheral bearing surfaces engaging the said end walls to support the end walls, the intermediate resilient members, and dished articles arranged therebetween under compression at positions spaced inwardly from the ends of said side wall, said deformable means comprising a weakened structure in the said wall permitting a circumferential band at each end thereof to be folded inwardly on itself for peripheral bearing engagement with end walls of the container, and tab means protruding from the peripheral edge of said inwardly turned band facilitating release thereof from the inwardly turned lock position, said protruding tab means comprising an extension of bonding means employed in securing together free edges of sheet material in forming a circumferentially continuous side wall.

2. A package of dished articles comprising a stack of dished articles separated one from the other by resilient spacer members having an outer peripheral contour generally conforming to and protruding slightly beyond the periphery of said articles, and having inner cut-out portions providing an inner peripheral shoulder receiving an upper dished article in a position extending into but out of contact with its adjacent lower article, end walls at the upper and lower extremities of said stack having

the same peripheral contour as said spacer members, an outer side wall of flexible material having peripheral bearing and sliding engagement with said spacer members and end walls, and upper and lower edge portions of said side wall being deformable inwardly providing peripheral bearing surfaces engaging said end walls to support said stack of articles under compression at positions spaced inwardly from the ends of said side wall.

3. A package of dished articles comprising a stack of 10 dished articles separated one from the other by resilient spacer members having an outer peripheral contour generally conforming to and protruding slightly beyond the periphery of said articles, and having inner cut-out portions providing an inner peripheral shoulder receiving an 15 upper dished article in a position extending into but out of contact with its adjacent lower article, end walls at the upper and lower extremities of said stack having the same peripheral contour as said spacer members, an outer side wall of flexible material having peripheral bearing and sliding engagement with said spacer members and end walls, upper and lower edge portions of said side wall being of weakened structure forming inwardly foldable circumferential bands, said bands providing peripheral bearing engagement with said end walls to support 20 said stack of articles under compression, and at least 25 one of said bands having tab means protruding from the bearing edge thereof facilitating quick, double-action, unfolding of said band in the opening of said package.

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