June 4, 1929. H. B. TIGHE 1,715,685

PACKING TRAY OR DEVICE

Filed Feb. 11, 1928

Fig. 1.

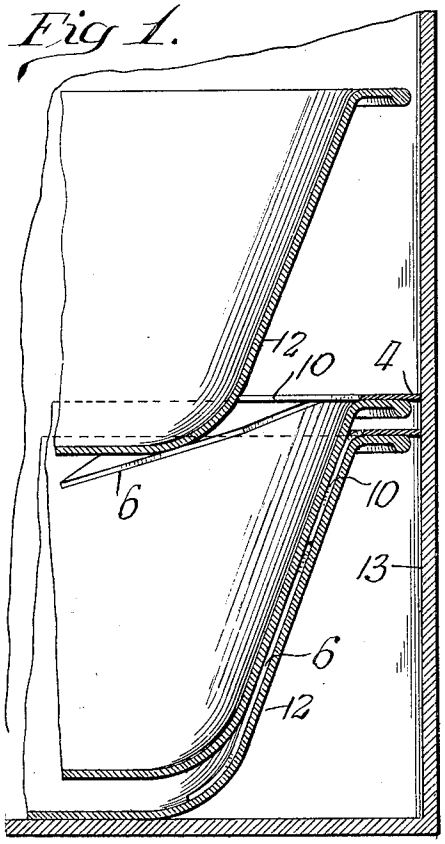


Fig. 2.

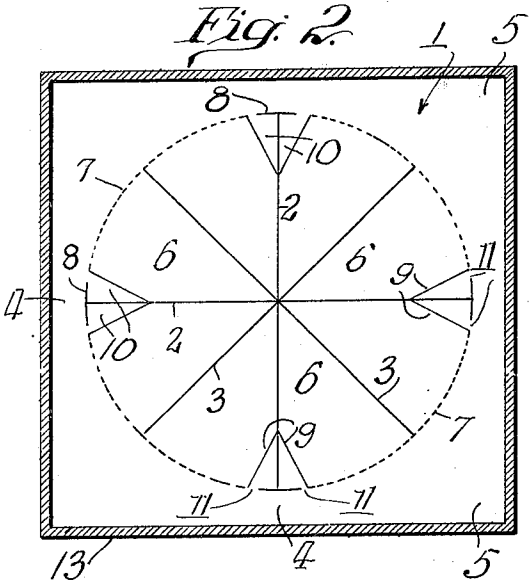


Fig. 3.

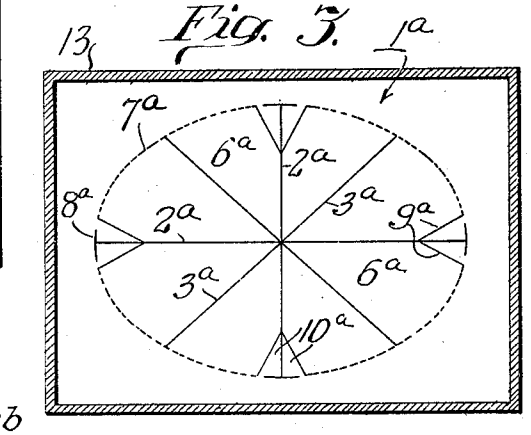
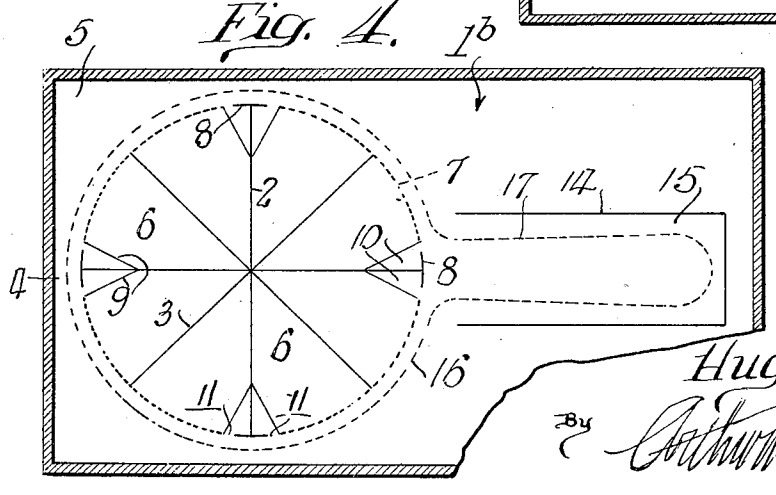


Fig. 4.



Inventor
Hugh B. Tighe
By Arthur M. Shelton
Attorney

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UNITED STATES PATENT OFFICE.

HUGH B. TIGHE, OF CHICAGO, ILLINOIS, ASSIGNOR TO F. C. TRAVER PAPER COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

PACKING TRAY OR DEVICE.

Application filed February 11, 1928. Serial No. 253,578.

This invention relates to improvements in packing trays or devices and it consists of the matters hereinafter described and more particularly pointed out in the appended claims.

In packing enameled, porcelain or glass kitchen ware such as pots and pans and relatively deep dishes, they are generally nested one within the other with some material or member disposed between them to prevent direct contact and to space them from the container in which they are packed for shipment. Sometimes straw is employed but the stalks thereof break or cut through with the result that direct contact is had between the articles and they chip off and thereafter they cannot be disposed of as first class goods. Sometimes corrugated board is employed but this is too expensive to make it practical and sometimes spacing collars are disposed between the articles to prevent contact but these collars while efficient for this purpose, are inefficient in that they cut down the number of articles that can be packed for shipment in a container of a given size.

The primary object of the invention is to provide a tray or device for interposition between nested articles of this kind, which device is of simple construction and is cheap to make, which eliminates all contact between the articles packed and permits the packing of the maximum amount of articles in a container of a given size.

Another object of the invention is to provide a device of this kind which may be made of a fairly stiff paper, without waste and which device may be shipped flat to the user thereof.

These objects of the invention as well as others, together with the many advantages thereof will more fully appear as I proceed with my specification.

In the drawings:—

Fig. 1 is a vertical sectional view through a portion of a shipping container with several articles therein, in nested relation and with my improved packing trays or devices interposed between the nested articles.

Fig. 2 is a top plan view of one form of the device in its flat condition.

Fig. 3 is a top plan view of a modified form of the device in its flat condition.

Fig. 4 is a top plan view of a further modified form of the device.

Referring now in detail to that embodiment of the invention illustrated in Figs. 1 and 2 inclusive of the accompanying drawings and especially to Fig. 2, the device comprises a flat rectangular sheet of relatively stiff paper 1, having a plurality of radially disposed slits 2 and 3 respectively which meet or intersect at the proximate center of the sheet and extend toward the side margins 4 and corners 5 respectively of said sheet. Said slits which are all of the same radial length define segmentally shaped tongues 6—6 adapted to be folded or bent out of the plane of the sheet along arcuate scored lines 7—7 that define the outer or base ends thereof and these scored lines are well within the outline of the sheet and are preferably made concentric with the intersection of said slits. At the outer ends of some of said slits and preferably at the outer ends of those slits 2—2 that extend toward the margins 4 of the sheet, I provide relatively short arcuate slits 8 preferably arranged in the circle of the lines of scoring 7 before mentioned. Associated with each arcuate slit 8 is a pair of oppositely disposed slits 9—9 which meet at a suitable point on the slit 2. The slits 9—9 together with the outer end of the associated radial slit 2 provide a pair of shorter and more pointed tongues 10—10 which are connected to the main body of the sheet by unscored bonding parts 11—11 at the ends of the arcuate slits.

In Fig. 1 I have shown a device as employed in the packing of a plurality of nested kitchen utensils for shipment in a box or container. 12 indicates the respective utensils which are in the form of relatively deep rim flanged, tapering bowls or pans having no handles and 13 indicates the carton or container in which they are packed for shipment, which carton or container is of an area approximating that of the body of the packing tray or device intended to be used therewith.

In packing such articles I place the bottommost bowl centrally upon the bottom of the carton or container and then I place one of the trays upon the top thereof so as to rest upon the rim flange of said bowl. The second bowl is now placed centrally on the device resting in its flat condition on the rim flange of the first bowl after which the second bowl is pushed downwardly into nest-

ing relation with the first one. In the initial part of the downward movement of the second bowl, the tongues 6—6 open up by folding along the scored lines 7 and this without disturbing the shorter tongues 10—10. However in the final part of the downward movement of the second bowl, the shorter tongues bend over along the bonding portions 11—11 to follow the tongues 6—6 which spread out to prevent any direct contact between the two bowls when they are nested together. It is here pointed out that the connection between the tongues 10—10 and the body of the sheet is weaker than the connection between the tongues 6—6 and body of the sheet as afforded by the scored lines 7 so that in this nesting of the second bowl the narrower margins 4—4 of the sheet do not tip or bend upwardly to catch under the rim flange of the second bowl, but remain flat and in engagement with the side of the carton or container. These margins 4—4 thus act to hold the bowls in spaced relation with the sides of the carton or container.

A second device 1 is then placed upon the rim flange of the second bowl after which a third bowl is placed thereon and is pushed downwardly. In Fig. 1 this third bowl is shown as only part way nested to disclose how the tongues 6—6 open up and how the shorter tongues are just engaged by the tapered wall of the bowl and ready to fold over upon the complete nesting of the third bowl within the second. It is here pointed out in making up these devices, they will be so made that the fold line circle will approximate the inner diameter of the bowl at the top end and of course the width of the sheet body will be somewhat greater than the outside diameter of the rim flange. This nesting arrangement is carried on until the capacity of the carton is reached after which the usual cover thereof will be closed. In this manner there will be no direct contact between any part of the bowls and there will be no direct contact between the rims of said bowls and the sides of the carton or container.

In Fig. 3 is illustrated a slightly modified form of tray 1^a which is especially adapted for packing oval or elliptical shaped articles such as dish pans and baking pans. In said device which is embodied in an elongated rectangular sheet of paper, the score line 7^a is elliptical and one of the slits 2^a extends in the plane of the major axis of the ellipse and the other extends in the plane of minor axis of the ellipse, while the slits 3^a are each disposed at an angle to both of said planes. Said slits, of course, intersect one another and provide pointed tongues 6^a—6^a which are not truly symmetrical as in the case of the tongues of the device of Fig. 2. At the ends of the slits 2^a—2^a are slits 8^a and 9^a respectively which provide the smaller pointed tongues 10^a—10^a for the same purpose as the tongues 10—10 of Fig. 2.

In Fig. 4 is illustrated a further modified form of the device which is especially adapted for use in packing handled pans. In said device the sheet 1^b is a rectangular, elongated one and in one end thereof is provided the same arrangement of slits and score lines as shown in Fig. 2 so that like parts in Fig. 4 will bear the same reference numerals as in said Fig. 2. In the other end of the sheet is provided a U shaped slit 14 defining a tongue 15 secured at its inner end only to the mid portion of the sheet.

In packing a handled pan such as indicated in dotted lines in said figure the slitted portion defining the tongues 6—6 is disposed over the pan body 16 while the tongue 15 is disposed over the handle 17 of the pan. When another of such pans is brought into nesting relation with respect to the first, the tongues 6—6 will open up as before described and the tongue 15 will be depressed to receive the handle which tongue prevents the engagement or contact between the handles of such pans.

The device as a whole may be readily produced without waste of paper stock and its use prevents damage to the packed goods by nicking or chipping as occurs wherein the nested goods directly engage or contact with each other.

While in describing my invention I have referred to a specific arrangement of the slits and tongues, the same is to be considered as by way of illustration only so that I do not wish to be limited thereto except as may be pointed out in the appended claims.

I claim as my invention:

1. A packing tray of the kind described embodying therein a sheet of fibrous material having a plurality of intersecting slits providing pointed tongues, there being other slits associated with the outer end of one of said first mentioned slits to form a pair of secondary and shorter tongues connected to the sheet by a bonding portion of a width less than that of the wider end of said secondary tongues.

2. A packing tray of the kind described embodying therein a rectangular sheet of fibrous material having a plurality of intersecting slits, providing pointed tongues, there being an arcuate slit at the outer end of one of the first mentioned slits and also a pair of oppositely directed slits which meet at their inner ends at a point on said first mentioned slit and terminate in the arc of said arcuate slit but spaced from the ends thereof, to form a pair of shorter pointed tongues connected to the sheet by bonding portions at the ends of said arcuate slits.

3. A packing tray of the kind described

embodying therein a rectangular sheet of fibrous material having a plurality of substantially radially disposed slits therein, which intersect each other at the center of the sheet, some of said slits being parallel with the edges of the sheet and others being parallel with the planes passing through diagonally opposite corners thereof, there being an arcuate slit at the outer end of each of said slits parallel with the edges of the sheet and also a pair of oppositely inclined shorter slits that meet at a point on said slits parallel with the edges of the sheet, said oppositely inclined slits terminating at the arc of said arcuate slit but spaced from the ends thereof.

4. A packing tray of the kind described embodying therein a sheet of fibrous material having a plurality of intersecting slits providing pointed tongues, there being an arcuate slit at the outer ends of several of said intersecting slits and also a pair of oppositely directed slits which meet at their inner ends at a point on said first mentioned slits and terminate in the arc of said arcuate slits but spaced from the ends thereof, to form a pair of shorter pointed tongues connected to the sheet by bonding portions at the ends of the arcuate slits, there also being a line of fold in the sheet connecting the outer ends of all of said slits and about which the first mentioned tongues may be bent from the plane of the sheet.

In testimony whereof, I have hereunto set my hand, this 7th day of February, 1928.

HUGH B. TIGHE.