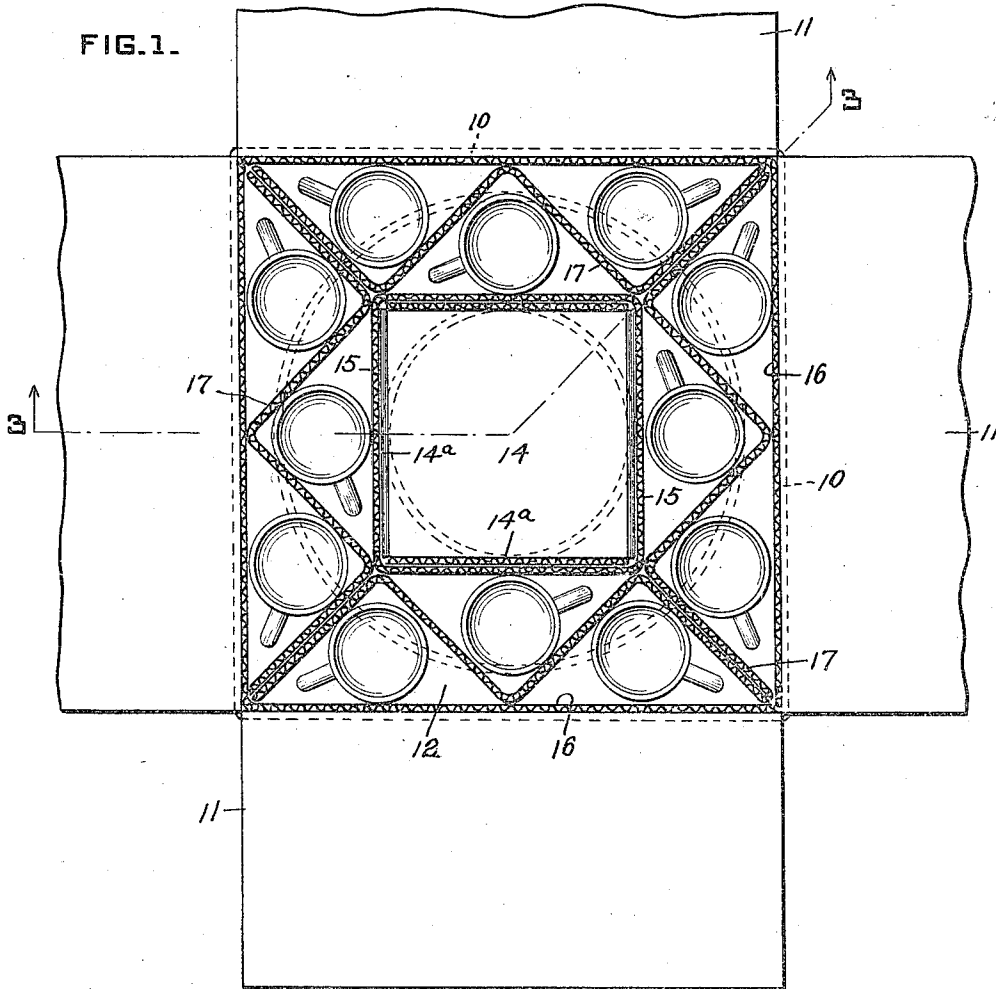


R. MILLER, Jr.
PACKING OR SHIPPING CASE,
APPLICATION FILED AUG. 14, 1915.

1,256,031.

Patented Feb. 12, 1918.
2 SHEETS—SHEET 1.



WITNESSES

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Horace G. Seitz

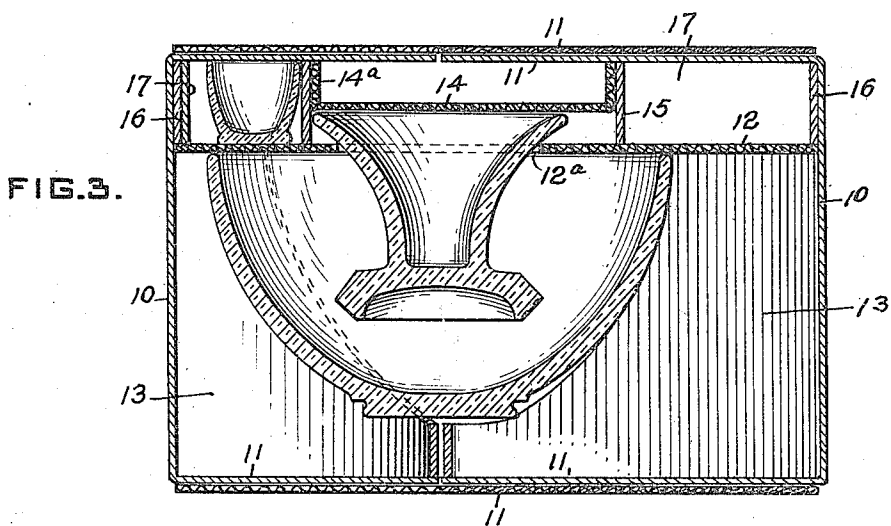
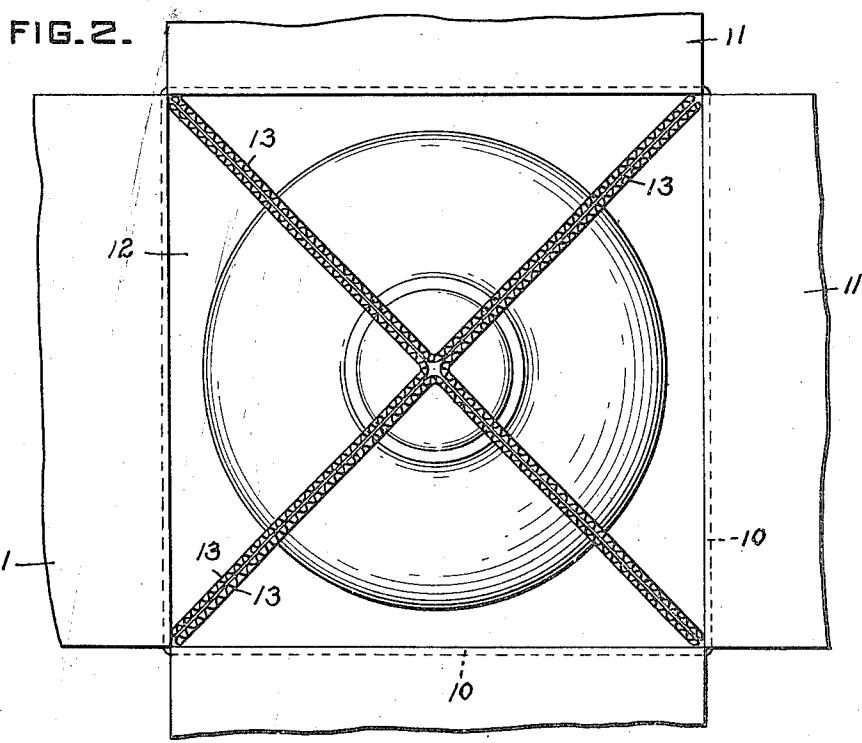
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UNITED STATES PATENT OFFICE.

REUBEN MILLER, JR., OF PITTSBURGH, PENNSYLVANIA.

PACKING OR SHIPPING CASE.

1,256,031.

Specification of Letters Patent. Patented Feb. 12, 1918.

Application filed August 14, 1915. Serial No. 45,476.

To all whom it may concern:

Be it known that I, REUBEN MILLER, JR., a citizen of the United States, and resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Packing or Shipping Cases, of which the following is a specification.

My invention relates to improvements in packing or shipping cases, pertaining more particularly to structures of this character employed in shipping fragile articles, such as glassware, etc.

The present invention is particularly designed to provide for the packing of a plurality of articles differing in size and contour, the packing being in such manner as to retain the individual articles permanently out of contact and yet provide a shipping case which is compact and which carries a minimum amount of filling or segregating material.

One of the intended uses of the present invention is the formation of a packing and shipping case adapted for sets of articles for instance, a punch bowl, its stand, and the glasses, these making up a punch bowl set, the punch bowl and its stand differing from each other in size and contour, and also differing similarly from the glasses. Obviously, sets of articles of this type cannot be packed in the way in which articles of uniform size and character are packed. Consequently, the problem of arranging articles of this non-uniform type within the packing case in such manner as to insure safe transportation and at the same time provide a case which is compact and of a minimum weight is not solved by the prior structures, so far as the same are known to me. One of the difficulties in this connection is the weight of the articles themselves, as for instance, the punch bowl, this article generally being large and weighty, a factor which must be taken care of in arranging the structure, since it is essential that the necessary supporting strength be provided while employing a minimum weight of material in such supports.

To these and other ends, the nature of which will be readily understood as the invention is hereinafter described, my invention consists in the improved construction and combination of parts hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims.

In the accompanying drawing, in which similar reference characters indicate similar parts in each of the views,

Figure 1 is a top plan view of a packing case constructed in accordance with my invention with the cover flaps open.

Fig. 2 is a bottom plan view of the case with the cover flaps open.

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 1.

The packing case and the flaps employed are preferably formed of pulp board—such as double-faced corrugated paper—a material which, owing to its lightness in weight and the ability to manipulate it without loss of strength, is especially useful for the purposes of the invention.

The case is of comparatively large dimensions, especially where used for the purpose above indicated and is formed square or rectangular in contour depending upon the character of the articles being shipped, the vertical walls of the structure in the drawing being shown in the form of a square, these walls being indicated at 10. The top and bottom are each preferably formed with double flaps, a usual construction, the flaps from opposite sides being folded inwardly, after which the flaps from the remaining sides are folded on top. These flaps are indicated at 11 and are similar at the top and bottom, the case of the present invention being adapted to permit removal of the articles through either or both top and bottom. As in all structures of this type made from this material, strengthening and connecting straps or strips of suitable materials such as muslin may be employed at the proper points, especially on the folding lines, thus tending to form a hinge type of structure. Similarly, after the case has been filled, such straps may be employed to connect opposing edges to retain the flaps closed.

This general arrangement of the case is along the lines generally employed and I make no claim for the specific manner in which the case itself thus described is formed. The invention resides more particularly in the arrangement of the filler structure by means of which the articles are supported, and which additionally act as braces for the case itself.

The case is divided into upper and lower compartments by a removable partition 12 which is preferably located closer to the top than to the bottom of the case, this par-

titition being provided with an opening 12^a
 substantially at its center for a purpose to
 be described. This partition is supported
 on the top edges of a plurality of filling
 5 members 13, the latter being preferably ar-
 ranged as shown in Fig. 2. These members
 13 combinedly form bracing and supporting
 elements extending diagonally across the
 lower compartment, reaching from one corner
 10 to the diagonally opposite corner of the
 case, thus bisecting the angle formed be-
 tween adjacent case walls. Each element
 is made up of parts of four sheets of the
 filling material, each sheet forming a part
 15 of two different elements. For instance,
 one sheet extends from the lower lefthand
 corner of Fig. 2 approximately to the center
 of the compartment and then returns to
 the lower righthand corner of said figure.
 20 Another sheet extends from the lower righ-
 t-hand corner to the center and then to the
 upper righthand corner, the parts of these
 two sheets which extend from the center to
 the lower righthand corner being in contact
 25 and forming approximately half of the ele-
 ment which extends from the lower righ-
 t-hand corner to the upper lefthand corner,
 thus providing a double or duplex thickness
 of material for each element and at the same
 30 time bracing the element and case by reason
 of the V-shaped formation of each sheet. The
 oppositely inclined portions of each sheet,
 together with the walls of the casing which
 connects the opposite ends of the sheets,
 35 form a triangle having a similar triangle on
 each of its outer faces within the case, there-
 by providing an arrangement possessing
 maximum strength and minimum weight.

As shown more particularly in Fig. 3,
 40 these sheets or members 13 are cut away
 from their tops to accommodate the exterior
 of the punch bowl, the members having a
 height sufficiently greater than the height
 of the punch bowl to provide a material
 45 space between the bowl and the bottom flaps;
 since the intersection of the elements formed
 from the members 13 is below the center of
 the punch bowl, it will be readily under-
 stood that although the punch bowl is seat-
 50 ed on the edges of the skeletonized filling,
 it will be securely held in position out of
 contact with the sides and the bottom of the
 case, and therefore free from liability of
 being damaged in transportation, this be-
 55 ing due to the triangular arrangement of
 its supports which, as heretofore pointed
 out, not only mutually support each other,
 but also support the case itself.

The partition 12 rests upon the upper
 60 edges of members 13; it may also rest upon
 the portions of the bowl which may extend
 to the top plane of these members, although
 this is not absolutely essential.

As heretofore pointed out, the partition
 65 12 is provided with an opening 12^a, and this

opening is adapted to receive the stand for
 the punch bowl, the opening having a di-
 ameter to permit of the passage of the
 smaller end of the stand but being insuffi- 70
 cient to permit of the discharge of the op-
 posite end of the stand. Consequently, the
 stand will be suspended through the parti-
 tion, the lower portion extending within but
 out of contact with the punch bowl. As will
 be obvious, this arrangement is such as to 75
 firmly position the stand so as to prevent
 its contact with the bowl itself, swinging
 action being prevented by the presence of
 a filler 14 which is mounted within a square
 spacing and division wall 15 extending be- 80
 tween the partition 12 and the top flaps out-
 side of the stand. The filler 14 is formed by
 four upwardly extending flanges 14^a at the
 periphery of a flat sheet, this filler fitting
 within the spacing member 15, with the 85
 flanges 14^a of a length sufficient to bridge
 the distance between the stand and the up-
 per flaps. Consequently, the stand is held
 from rocking when the upper flaps are in
 position, thereby preventing any swinging 90
 movements which would cause the stand to
 damage the bowl or be damaged thereby.

An annular spacing member 16 extends
 around the interior of the case and prefer-
 ably adjacent the case walls above the parti- 95
 tion 12, this member having a depth equal
 to the distance between the partition and
 the top flaps, and forming a reinforce for
 the case walls at this point. The members
 15 and 16 are spaced from each other, and be- 100
 tween these members I place division strips
 17, these strips having such length that when
 creased and bent on the creases, they will
 form triangular cells; two of which have
 their bases on the member 16 and one on the 105
 member 15. For instance, one wall 17 ex-
 tends from the lower left hand corner of
 Fig. 1 to the similar corner of member 15,
 then downward into contact with member
 16 midway of the length of the lower wall 110
 of the case, then to the lower righthand
 corner of member 15, and then to the lower
 righthand corner of member 16, thus com-
 pleting the three lower cells of Fig. 1. An- 115
 other wall extends from the lower righ-
 t-hand corner of this figure to the upper
 righthand corner in a similar manner, each
 side of the case having such an arrange-
 ment. Consequently, I provide a bracing
 element extending diagonally as in the 120
 lower compartment, the element of the up-
 per compartment, however, simply connect-
 ing similar corners of members 15 and 16,
 this arrangement, however, providing for
 bracing the corners of the case itself. 125

As will be understood, the several di-
 vision walls form cells sufficient to accom-
 modate a dozen tumblers with each tumbler
 out of contact with another tumbler or with
 any other part of the set of articles. 130

Since the spacing members and division walls of the upper compartment, with the exception of member 14, all have a width equal to the distance between the partition 5 12 and the top flaps, and said member 14 has its flanges of a width which, together with that portion of the stand above the partition, equals the depth of these members, said partition 12 will be held against 10 vertical movement within the case after the flaps have been closed, thereby preventing any material movement of the punch bowl and stand even though the case be inverted with the entire weight of the punch bowl 15 on this partition.

From the above disclosure in connection with the drawings, it will be clear that I have provided a construction employing a minimum amount of filling material arranged to provide maximum supporting strength not only with respect to the support of the articles which are being packed, but also with respect to the case itself, the latter being braced at points where the 20 folding of the case material might tend to weaken the structure.

Obviously, the structure herein disclosed may be employed in connection with the shipment of other articles, but, as heretofore pointed out, it is especially adapted for 30 packing and shipment of the articles which form a complete set, thereby enabling the manufacturer to ship individual sets with a surety not only of safe transportation, but 35 that the set comprises the proper articles for completing the set.

It will also be understood that, while the construction is intended and available for use in the shipment of a complete set, the 40 arrangement of filler structures is such that any one or more of the articles may be omitted without in any way affecting the shipment of those articles which may be packed. For instance, the punch bowl alone may be 45 shipped, or the stand, or the glasses, or one or more of the glasses, or any combination, the filler structures providing the desired operation irrespective of whether the articles are present. For instance, the case may 50 be shipped empty with the fillers in their proper positions ready to receive the articles of the set. When the destination is reached and packing is to take place, the fillers of the upper compartment and the 55 partition may be removed and the bowl seated on the members 13, the partition restored, the stand placed in position, and the fillers of the upper compartment placed in position, thereby producing the cells for 60 the glasses. Or the bottom of the case may be opened, the members 13 removed, the bowl placed in position on the partition, the members 13 replaced, the case inverted, and the stand and tumblers be placed in po- 65 sition.

Obviously, the general arrangement interior of the case may vary to meet the particular conditions pertaining to the shipment of a particular character of article, and such variations are contemplated by the 70 present invention, the essential being that this individuality and independence of support together with the bracing action be present, thus eliminating the necessity for the presence of any one or more of the arti- 75 cles in order to provide this result, the filling structures being so arranged as to provide the individual supporting action and mutual cooperation in producing this action.

What I claim is:—

1. In packing cases, an outer case, a horizontally extending partition dividing the case into an upper and a lower compartment, said partition being apertured to form a retaining seat for an article, means within the 80 upper compartment dividing said compartment into a plurality of individual article containing cells, supporting means in the lower compartment, said latter means cooperating with the cell forming means for 85 maintaining the position of the partition and reinforcing the case.

2. In packing cases, an outer case, a horizontally extending partition dividing the case into an upper and a lower compartment, 90 said partition being apertured to form a retaining seat for an article, means within the upper compartment dividing said compartment into a plurality of individual article containing cells, supporting means in the 100 lower compartment combining with the case walls to produce a triangular formation, said latter means cooperating with the cell forming means for maintaining the position of the partition and reinforcing the case. 105

3. In packing cases, an outer case, a horizontally extending apertured partition dividing the case into an upper and a lower compartment, means, including an angular member surrounding the aperture, within the upper 110 compartment dividing said compartment into a plurality of individual article containing cells, supporting means in the lower compartment combining with the case walls to produce a triangular formation, said latter 115 means cooperating with the cell forming means for maintaining the position of the partition and reinforcing the case.

4. In packing cases having an openable top, removable means for supporting individual articles therein, said means including a partition extending substantially parallel with the top and adapted to form compartments, and supporting elements within said 120 compartments and between said partition and the top and bottom of the case for fixedly positioning the partition, the elements of the lower compartment each combining with the case wall to produce a triangular formation, said triangles having con- 130

tact walls with the apices of the triangles substantially at the vertical center of the case.

5 In packing cases having an openable top, removable means for supporting individual articles therein, said means including a partition extending substantially parallel with the top and adapted to form compartments, and supporting elements within said 10 compartments and between said partition and the top and bottom of the case for fixedly positioning the partition, the elements of the lower compartment each combining with the case wall to produce a triangular formation, said triangles being in 15 facial contact but free from interengagement.

6. In packing cases having an openable top, removable means for supporting articles therein individually, said means including a partition extending substantially parallel with the top and adapted to form compartments, said partition having an opening the walls of which are adapted to suspend an article projecting through the opening, and elements within the compartments for positioning the partition within the case, said elements including an angular member above said partition and spaced 20 from the case walls, said member surrounding the partition opening, and members between said angular member and the case walls.

7. In packing cases having an openable top, removable means for supporting articles therein individually, said means including a partition extending substantially parallel with the top and adapted to form compartments, said partition having an opening the walls of which are adapted to suspend an article projecting through the opening, elements within the compartments for positioning the partition within the case, said 30 elements including an angular member above said partition and spaced from and extending parallel with the case walls, said member surrounding the partition opening, and means for maintaining the position of said member.

8. In packing cases having an openable top, removable means for supporting articles therein individually, said means including a partition extending substantially parallel with the top and adapted to form compartments, said partition having an opening the walls of which are adapted to suspend an article projecting through the opening, and elements within the compartments for positioning the partition within the case, said 35 elements including an angular member above said partition and spaced from and extending parallel with the case walls, said member surrounding the partition opening, and

members between said angular member and case wall reinforcements. 65

9. In packing cases having an openable top, removable means for supporting articles therein individually, said means including a partition extending substantially parallel with the top and adapted to form compartments, said partition having an opening the walls of which are adapted to suspend an article projecting through the opening, and elements within the compartments for positioning the partition within the case, said 70 elements including an angular member above said partition and spaced from the case walls, said member surrounding the partition opening, and a member insertible within the angular member and having a depth substantially equal to the distance between the suspended article and the case top.

10. In packing cases having an openable top, removable means for supporting articles therein individually, said means including 75 a partition extending substantially parallel with the top and adapted to form compartments, said partition having an opening the walls of which are adapted to suspend an article projecting through the opening, and elements within the compartments for positioning the partition within the case, said elements including an angular member above 80 said partition and spaced from the case walls, said member surrounding the partition opening, and a member insertible within the angular member and having a depth substantially equal to the distance between the suspended article and the case top, said insertible member having an open top. 85 90 95 100

11. In packing cases having an openable top, removable means for supporting articles therein individually, said means including a partition extending substantially parallel with the top and adapted to form compartments, said partition having an opening the walls of which are adapted to suspend an article projecting through the opening, and elements within the compartments for positioning the partition within the case, 105 said elements including an angular member above said partition and spaced from and extending parallel with the case walls, said member surrounding the partition opening, and members between said angular member and case wall reinforcements, said latter members combining with the said angular member and case wall reinforcements to form triangular shaped cells annular of the angular member. 110 115 120

In testimony whereof I affix my signature in presence of two witnesses.

REUBEN MILLER, JR.

Witnesses:

M. W. YUNDT,
HAROLD H. FIELD.