June 24, 1941. G. B. ANDERSON 2,247,341

CONTAINER

Filed Nov. 12, 1938 2 Sheets-Sheet 1

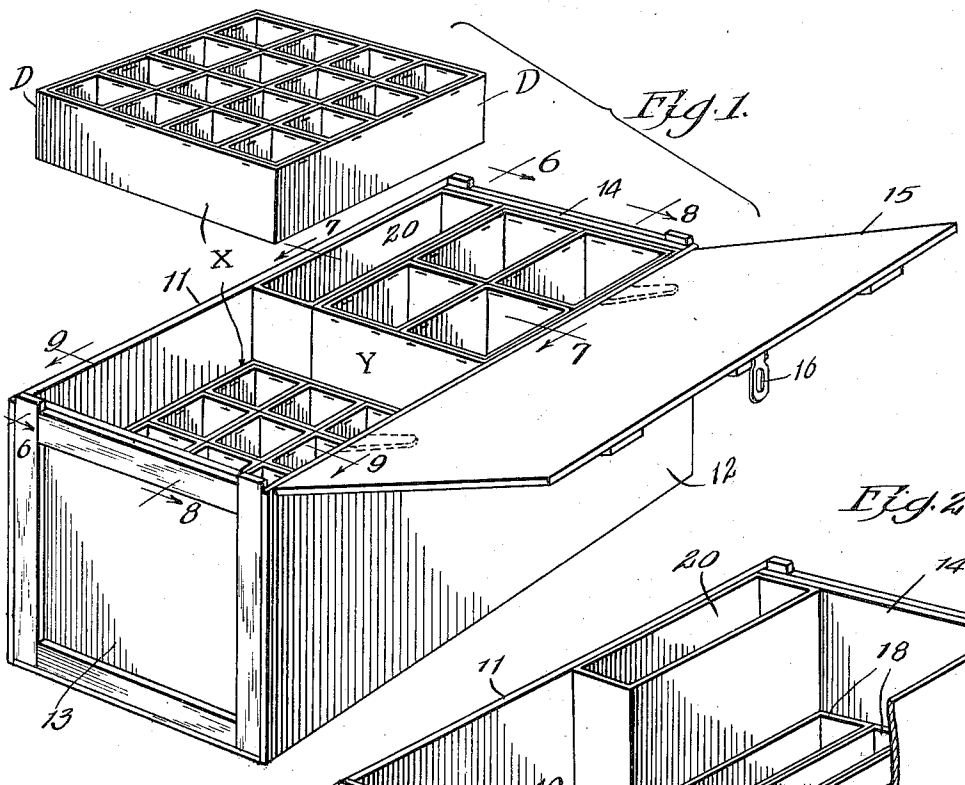


Fig. 1.

Fig. 2.

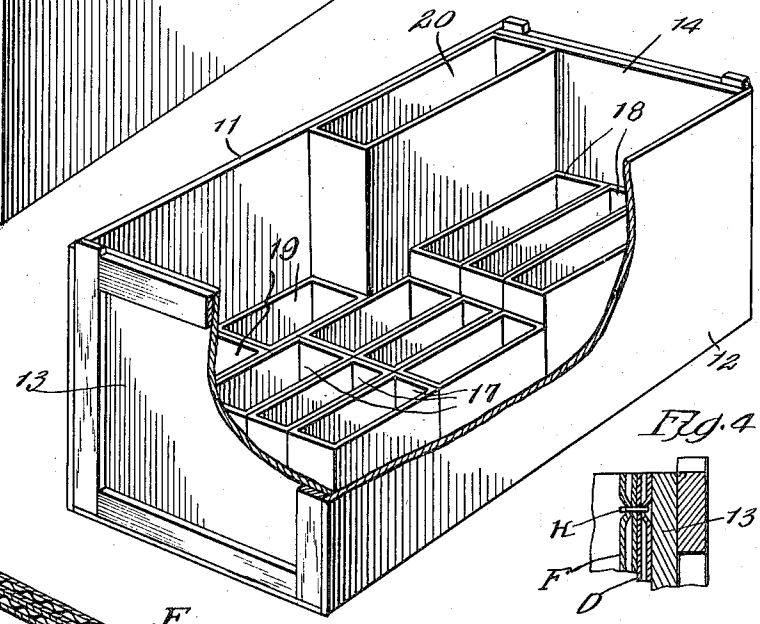


Fig. 3.

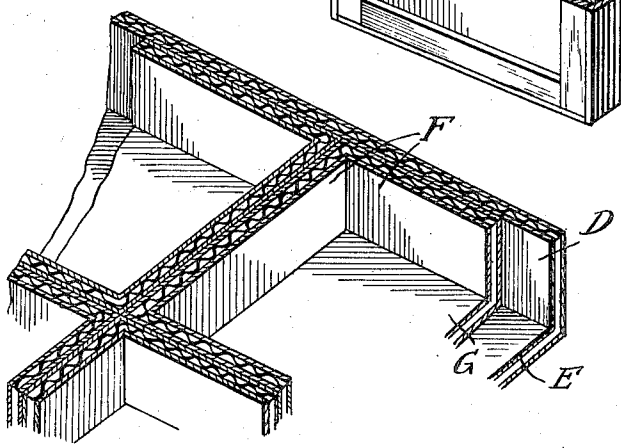
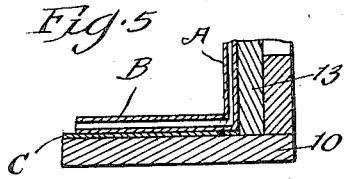


Fig. 4

Fig. 5



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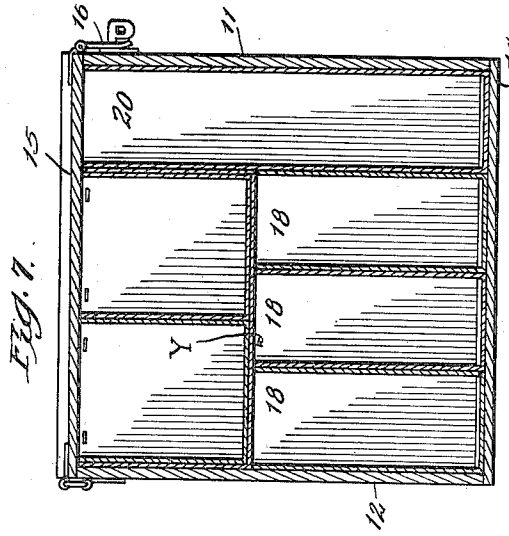

Fig. 7.

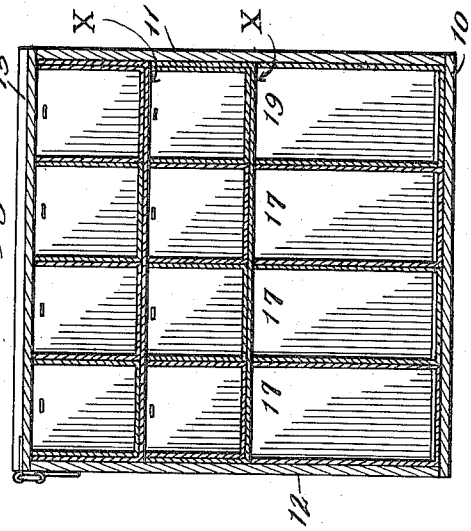

Fig. 9.

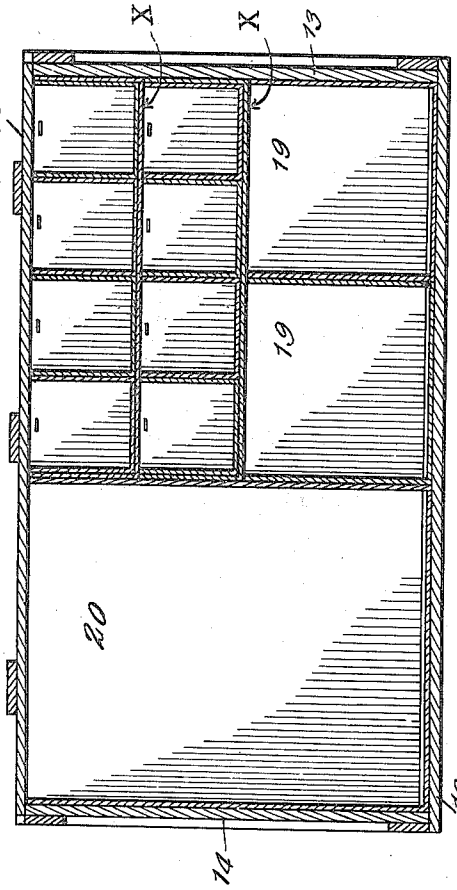

Fig. 6.

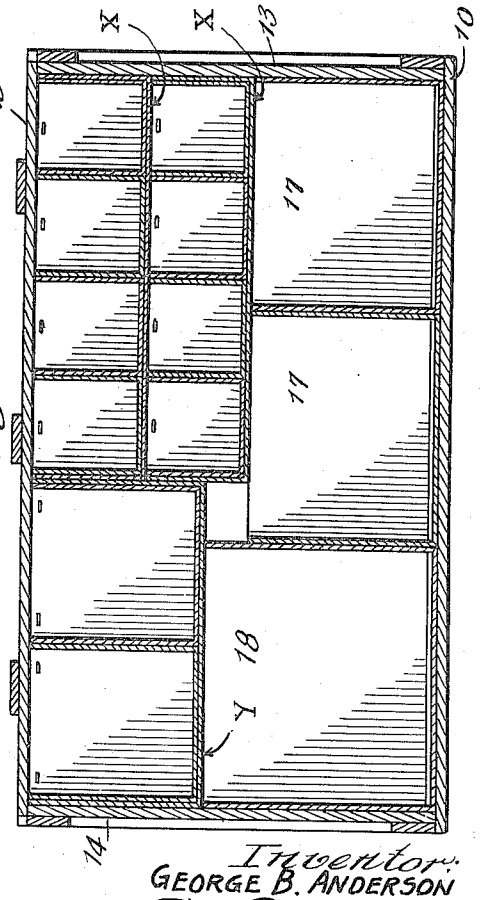

Fig. 8.

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2,247,341

CONTAINER

George B. Anderson, Evanston, Ill.

Application November 12, 1938, Serial No. 240,038

9 Claims. (Cl. 229—15)

My invention appertains to containers, crates, and the like. It has more particular relation to structures of this character that are adapted for the dependable and rapid packing of fragile articles, such as glassware, chinaware, bric-a-brac and similar household furnishings, in order that the packed articles may be safety handled and shipped in moving vans and other means of transportation.

Heretofore, it has been the general practice to separately wrap fragile articles and then pack a number of these wrapped articles in side-by-side relation and superposed on each other in a barrel or other container. At best this is a laborious proceeding and requires considerable time and labor which incurs an additional item of expense above the actual transportation cost. This is due to the fact that upon reaching destination, the articles must again be laboriously handled while they are separately unwrapped after each article is removed from a container.

With my present structure I successfully avoid the necessity for wrapping each article and, when they are placed in my novel container each article is effectively protected against damage due to the special construction and arrangement of the interior of the container. This, I have found, provides a material saving in the expense of moving household furnishings from one location to another, and it is especially true in moving jobs where there is a proportionately large quantity of fragile goods. Furthermore, the containers, being of uniform outside dimensions, they are capable of being compactly and readily stowed in the vehicle where they occupy less space than barrels and the like because the latter are incapable of compact stowing within the limited interior of a moving van, and they are clumsy to handle.

One of the objects of my invention is to provide a storage container that is simple and novel in construction, and which is dependable in performing its functions. Another object is to provide a novel shipping container that is easy to safely pack with fragile articles, and at the same time it is capable of being handled with the ordinary care given to the containers now available. Also it may be packed with much greater speed than is now required to pack fragile articles in ordinary containers such as barrels and the like. Furthermore, my improved container is economical to manufacture as it may be fabricated from commercial material and may be sold for a reasonable retail price.

All of the various objects and advantages of my invention I prefer to accomplish through the medium of the structure which is hereinafter fully described and is more particularly pointed out in the appended claims. In this connection I refer to the accompanying drawings which form a part of this specification. The drawings are more or less schematic and they are for the purpose of disclosing a typical or preferred form in which my invention may be made. In these drawings like reference characters are used to identify the same parts wherever the said parts appear in the different views.

In the drawings:

Figure 1 is a perspective view of my novel container for fragile articles and the like, showing the box opened and one of the top tray members raised.

Figure 2 is another perspective view with two walls of the box broken away to disclose construction and arrangement of the lower portion of the interior, the removable tray members being omitted.

Figure 3 is a perspective view, drawn to a larger scale than Figures 1 and 2, and illustrating the preferred manner of constructing a tray and its cellular units.

Figure 4 is a vertical transverse section near the top of a tray showing a mode of anchoring a cell to a tray wall.

Figure 5 is a vertical transverse section at the bottom of the box showing a mode of anchoring a lower cellular member to the box.

Figure 6 is a vertical section taken longitudinally through the front portion of the box on line 6—6 of Figure 1.

Figure 7 is a vertical section taken transversely across a central portion of the box on line 7—7 of Figure 1.

Figure 8 is a vertical section taken longitudinally through the rear portion of the box on line 8—8 of Figure 1.

Figure 9 is a vertical section taken transversely across an end portion of the box on line 9—9 of Figure 1.

Owing to the small dimensions of the structures shown in the drawings, (excepting Figures 3, 4 and 5) the details of the walls of the trays and cellular members are omitted and only the thickness of these walls are illustrated diagrammatically for clearness.

The body portion of the container consists of a rectangular bottom wall 10, longitudinal front and rear vertical walls 11 and 12, and transverse end vertical walls 13 and 14. These walls are assembled to form a hollow box-shaped recep-

tacle that is open at its top and which may be suitably reinforced and braced in any manner desired. A lid or cover 15 is hinged or otherwise movably connected to the upper portion of rear wall 12 is order to provide a suitable closure for the receptacle, and a hasp or other latching device is employed to maintain the cover in a closed position.

The interior of the box or receptacle above described is adapted to receive a plurality of cellular members, a certain proportion of said members being disposed in the bottom of the box and anchored in position, while others of these cellular members are removably disposed upon and supported by the anchored members. As shown in Figures 1 and 2, the cellular members are arranged in groups and these groups are of several different heights with the upper or removable groups supported or in superposed relation upon the lower groups that are anchored in the box. In Figure 2 the anchored cellular members are shown and it will be seen they comprise several groups, and one of these groups contains six rectangular cells 17 that are relatively narrow in width and are open at their tops to permit ready access to their interiors. Alongside and abutting the end walls of this group 17 is another group composed of three cells 18 that are narrow in width, or substantially of the same width as the cells 17 but it will be seen these cells 18 are taller and longer than the cells 17 so as to extend between the first group and the opposite end wall 14 of the box. In front of the group 11 there is a third group 19 consisting of only two cell members that are interposed between the sides of the group 17 and are of such dimensions that they fill the space between said group and the front wall 11 of the box. A single tall cell member 20 is disposed between or at the juncture of the three groups just described and fills the remaining space in the bottom of the box between the adjacent cell members and the front and end walls 11 and 14 respectively. This latter single cell 20 extends the full depth of the box so that its upper edge is flush with and in the horizontal plane of the top of the box.

The walls of the cells above described, which are anchored in the bottom of the box, are of novel construction and are of cushioning or shock-absorbing material to prevent damage to the fragile articles placed therein. A typical cell member consists of rectangular side walls A and a rectangular bottom wall B, the latter resting upon the bottom wall 10 of the box, as shown in detail in Figure 5. In order to securely anchor the cell members in position a coating of glue, cement or suitable adhesive C is interposed between adjacent surfaces of the bottom 10 of the box and the bottom B of the cell members. Other means may be employed for anchoring these cell members in the bottom of the box to prevent their accidental dislodgement. The cell members, arranged in the groups and in the manner both described are of different heights and the cells of one group have longitudinal and transverse dimensions different than the corresponding dimensions of the cells in the other groups. These anchored cells, therefor embody small unit receptacles into which flat articles, such as saucers, plates, platters and the like may be placed and stored. If several articles are placed in a single cell suitable cushioning pads are adapted to be interposed between the adjacent articles.

The upper or remaining portion of the box is filled with cellular members also arranged in groups and the groups are maintained in assembly in removable trays. One of these trays, containing sixteen cellular members, is shown in perspective in a raised position above the box in Figure 1, and details of the construction of a tray and several of its cellular units are illustrated in Figures 3 and 4. The removable tray sections just mentioned are adapted to be disposed upon and be supported by the upper edges of the vertical walls A of the anchored cells 17, 18 and 19 and the height of the removable superposed tray sections, combined with the height of the anchored groups below these tray sections is equal to the total depth of the box so that when the tray sections and cellular groups have been stowed in the box the top edges of the upper groups will be flush with the top of the box and the cover 15 when closed will engage these edges and maintain the inside structure of the container against dislodgement.

A sectional unit, such as illustrated in raised position in Figure 1, consists of a tray body having shallow vertical walls D formed from a strip of material that is folded transversely to provide the corners and there is a rectangular bottom wall E that may be either integral with the other walls or may be a separate piece of material. The cross-sectional area of a tray is equal to the cross-sectional area of the space into which it is adapted to be placed between certain walls of the box or between a cellular member and a wall or walls of the box. The cell members of the group within a tray consist of vertical walls F formed from a strip of material that has been folded to provide the corners and there is a bottom wall G either integral with or separate from the vertical walls. The novel construction of the trays and cells above described provides a very effective means for preventing breakage or damage to the fragile articles that are packed in the container because of the fact that the tray is completely fabricated from shock-absorbing or cushioning material and the cellular members grouped in and secured to the trays also are made from the same or similar material. This construction permits the articles being packed in the container without the usual laborious and comparatively expensive operation of placing an individual wrapping or padding about each article and thereafter carefully depositing them in the barrel or other receptacle.

A plurality of these cell members are assembled in a tray with their walls contacting other cell walls and certain of the cell walls abutting the tray walls, and the contiguous upper margins of the walls are securely fastened together by staples H or the like, as in the manner shown in Figure 4.

In the container structure shown herein, two trays provided with sixteen cells each, (identified in Figures 6, 8 and 9 as trays X), are disposed in superposed relation the one upon the other, with the bottom of the lower tray supported upon the upper edges of the cell groups 17 and 19 that are anchored in the bottom of the box. These two trays when placed upon top of each other are substantially the height of the groups 17 and 19 and they fill the space between the tops of said anchored cells and the top of the box. Another tray, (designated in Figures 7 and 8 as tray Y), which is taller than the trays X and is superposed and rests upon the upper edges of the anchored group 18 so that it fills the space above group 18 between

the adjacent inner faces of trays X and the end wall 14 of the box. It will be seen that when the cover 15 is closed it will engage the top edges of trays X and Y and their cells and maintain all of the interior structure against slipping movement or accidental dislodgement. The trays X are adapted to have cups and similar small fragile articles placed therein, and the tray Y is adapted to have saucers and similar sized articles placed therein.

The trays and all of the cellular members, (which includes those anchored in the bottom of the box), are formed of shock-absorbing material or other material that is adapted to cushion the articles contained in the cells and prevent breakage thereof or damage thereto. I have ascertained, after considerable experimentation, that double-faced corrugated board affords an excellent shock-absorbing material with which to construct the trays and cellular members and in Figures 3, 4 and 5, I have shown the trays and their cellular members formed from this material. It will be understood however that I do not limit myself to this particular material in the construction of the trays and cellular members for it is obvious other materials may be well adapted for the purpose. However, the corrugated board is inexpensive as compared to a specially made cushion or shock-absorbing material and it is sufficiently stiff to maintain its shape for a relatively long period of time, and I therefore, prefer to make use of this material in the manner I have mentioned.

What I claim is:

1. A container and the like comprising a rectangular box; a plurality of cellular members anchored in the bottom of said box, said members arranged in groups and certain of the groups having different heights and less than the depth of said box; and a plurality of removable cellular members assembled in groups and supported upon the upper edges of certain of the first-named cellular members, and the said removable groups being of different heights with respect to each other and with respect to said anchored groups; whereby the combined height of the anchored members and the removable members which are superposed thereon is equal to the depth of said box.

2. A container and the like comprising a rectangular box; a plurality of cellular members anchored in the bottom of said box, said members having different heights and less than the depth of said box, each member in itself embodying a complete independent unit; means securing each said member to its adjacent members; a plurality of removable trays supported upon the upper edges of the anchored members, said removable trays having different heights and less than the depth of said box, the relation of the removable trays with respect to the anchored members being such that their combined heights equal the depth of said box; cellular members in said removable trays, each member in itself embodying a complete independent unit; and means securing each said unit to its respective tray and to its adjacent units.

3. A container and the like comprising a rectangular box; a plurality of cellular members anchored in the bottom of said box and having shock-absorbing walls, said members assembled in groups and each assembled group having a height different than an adjacent group; and a plurality of removable cellular members supported upon the upper edges of the first-named cellular members and having shock-absorbing walls, said removable members also assembled in groups and each assembled group having a height different than an adjacent group, whereby the combined heights of the anchored members and the superposed removable members is equal to the depth of said box.

4. A container and the like comprising a rectangular box; a plurality of cellular members anchored in the bottom of said box and having shock-absorbing walls of different heights and less than the depth of said box; each said member in itself embodying a complete independent unit each of which is secured to the shock-absorbing walls of adjacent units; a plurality of removable trays supported upon the upper edges of said anchored members and provided with shock-absorbing walls, said removable trays having different heights and less than the depth of said box, the relation of said removable trays with respect to said anchored members being such that their combined heights equals the depth of said box; cellular members in said removable trays and having shock-absorbing walls, each said member in itself embodying a complete independent unit each of which is secured to the shock-absorbing walls of its respective tray and to its adjacent units, whereby a tray and its cellular members provide a readily movable unitary structure.

5. A container and the like comprising a hollow rectangular box open at its top; a plurality of cellular members anchored in the bottom of said box and having open tops, said members arranged in groups of different heights; a plurality of removable cellular members having open tops and supported upon the upper edges of the first-named cellular members, said removable members also disposed in groups of different heights; the height of an anchored group and the superposed members supported thereby being equal to the depth of said box; and a movable cover closing the open top of said box adapted to maintain said cellular members against displacement.

6. A container and the like comprising a hollow rectangular box open at its top; a plurality of cellular members anchored in the bottom of said box and having open tops, said members arranged in groups of different heights and less than the depth of said box, and each cellular member in itself embodying a complete independent unit; means securing each cellular member to its adjacent members; a plurality of removable trays of different heights supported upon the upper edges of the anchored cellular members, the relation of the removable trays with relation to the anchored members being such that their combined heights equal the depth of said box; groups of cellular members in said removable trays, each said member embodying a complete independent unit; means securing each said member to its respective tray and to its adjacent units; and a movable cover closing the top of said box adapted to maintain said cellular members and trays against dislodgement.

7. A container comprising a hollowing rectangular box; in combination with a plurality of article holders disposed therein; one of said holders embodying a relatively shallow rectangular tray having side and bottom walls formed of cushioning material; a plurality of separate cellular members disposed in longitudinal and transverse rows in said tray, each said member embodying a unit having plurality of walls formed of cushioning material, the side-walls

of the unit having substantially the same height as the side-walls of the tray; and means anchoring the side-walls of said units to the side-walls of adjacent longitudinal and transverse units and also to adjacent side-walls of said tray.

8. A member for receiving fragile articles and the like to be packed in a container, said member embodying a rectangular tray open at its top and having a bottom-wall and side-walls; a plurality of separate article-holding cells arranged in longitudinal and transverse rows within and filling said tray, each said cell constituting an individual unit that is open at its top and is formed with shock-absorbing walls, the side-walls of the unit having substantially the same height as the side-walls of the tray; anchoring means adapted to secure portions of each cell to portions of the adjacent longitudinal and transverse cells; and other anchoring means securing portions of the tray sides to the proximate walls of the adjacent cells, whereby the cells and the tray constitute an integral member inherently adapted for ready insertion into and removal from a container.

9. A container and the like for fragile articles embodying a hollow receptacle; cellular members in the bottom of said receptacle arranged in groups of different heights; and other cellular members forming an upper tier superposed upon the first-mentioned members, said second-mentioned members arranged in groups of different heights, the combined height of the upper and lower superposed groups being equal to the depth of said receptacle, one of the groups forming the upper tier comprising a tray of cushioning material provided with upstanding side-walls, and a plurality of units of cushioning material disposed in said tray with their side-walls anchored to each other and also anchored to the upstanding side-walls of said tray.

GEORGE B. ANDERSON.