Jan. 18, 1927. 1,614,997

A. W. SCOTCHER

CONTAINER

Filed May 17, 1924 2 Sheets-Sheet 1

Fig. 1.

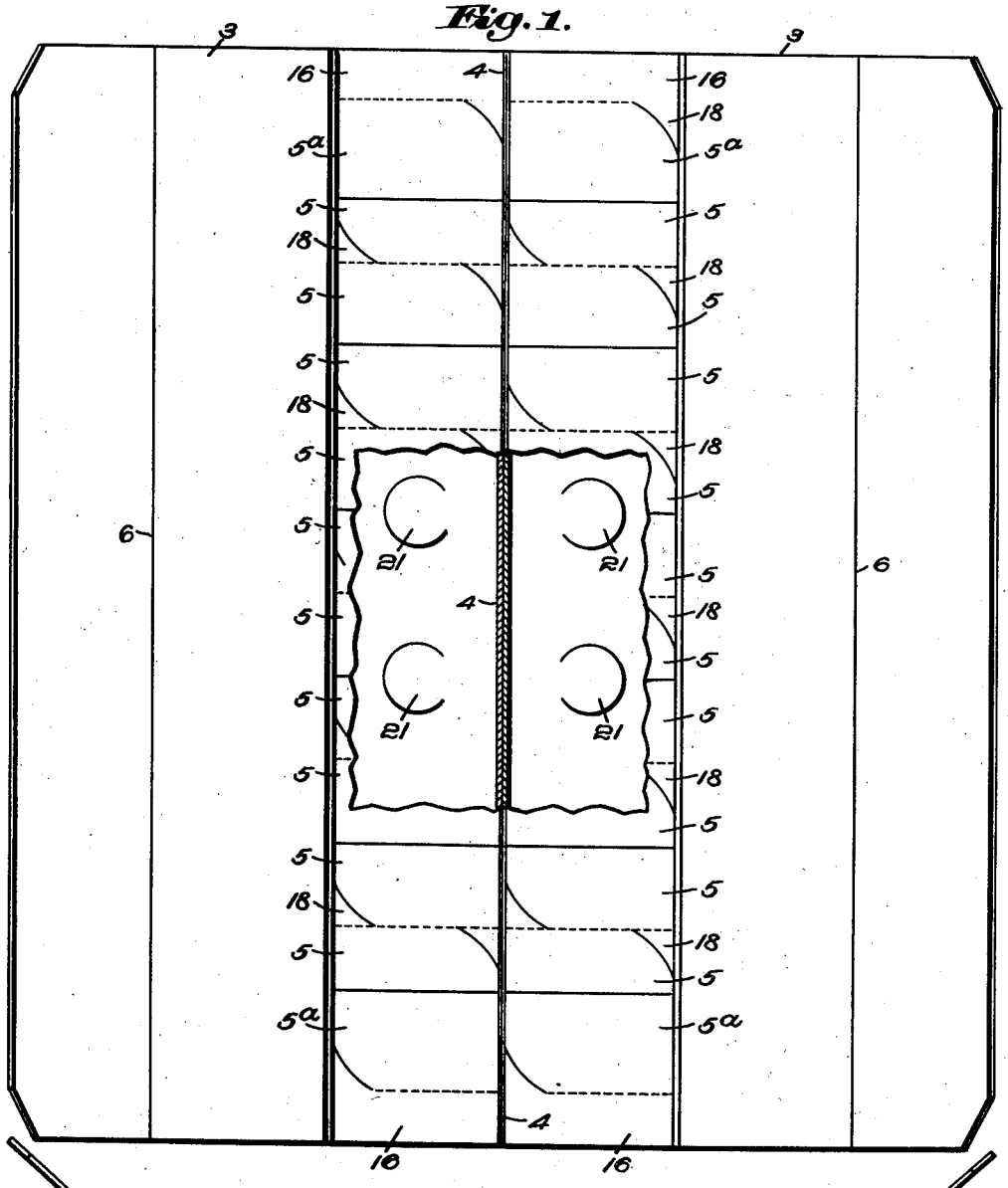
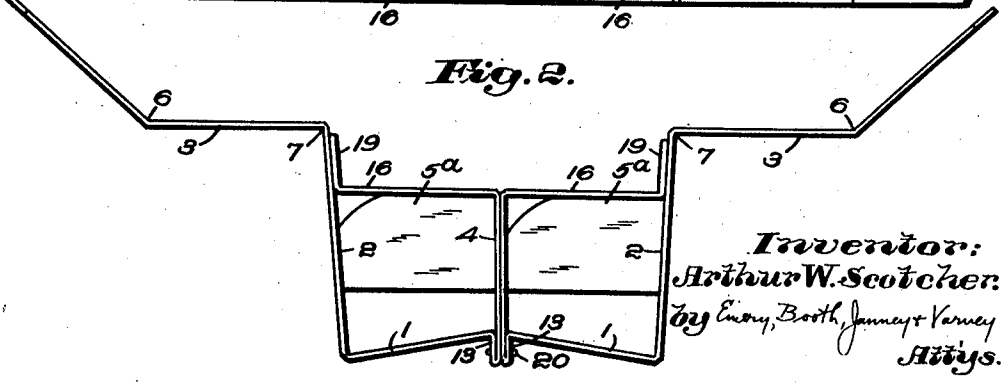


Fig. 2.



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Fig. 3

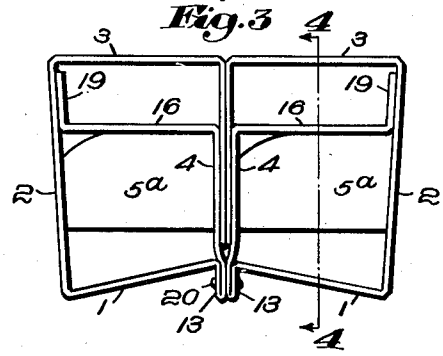


Fig. 4.

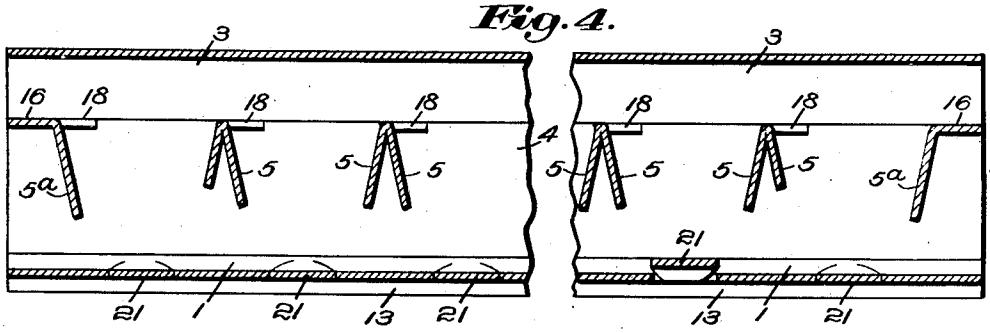


Fig. 5.

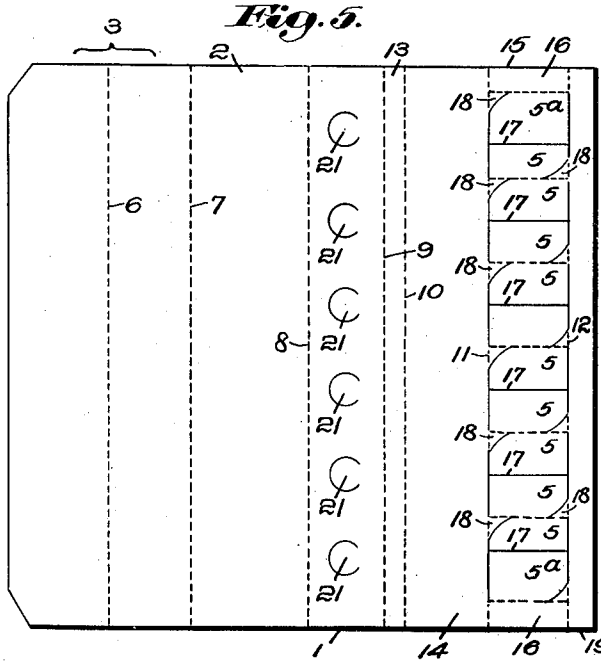
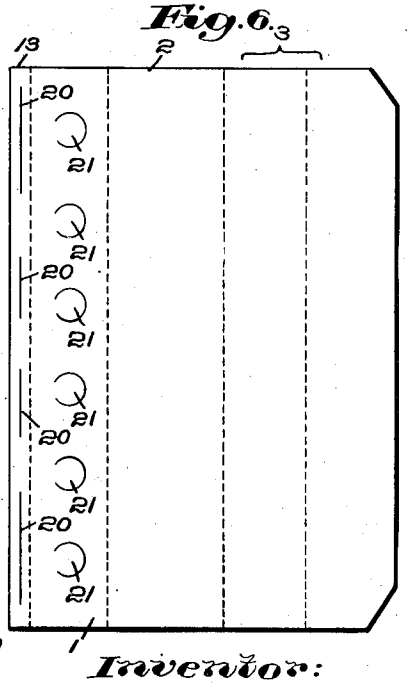


Fig. 6.



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UNITED STATES PATENT OFFICE.

ARTHUR W. SCOTCHER, OF NEWARK, NEW JERSEY.

CONTAINER.

Application filed May 17, 1924. Serial No. 714,017.

My invention relates to containers or cartons for general use and aims to provide an improved carton or receptacle particularly adapted for the packaging of fragile articles.

In the accompanying drawings disclosing one illustrative form of my invention:—

Fig. 1 is a plan view of a container embodying one form of my invention, the cover being open and with the central interior portion broken away to show the bottom of the container;

Fig. 2 is an end view thereof;

Fig. 3 is a view similar to Fig. 2 but with the cover closed;

Fig. 4 is a vertical longitudinal section on the line 4—4 of Fig. 3;

Fig. 5, upon a smaller scale, shows a blank from which a portion of the disclosed container is formed; and

Fig. 6 is a plan view of the container when collapsed, being upon the same scale as in Fig. 5.

Containers or receptacles, such as cartons, constructed in accordance with my invention are preferably provided with compartments or cells for the individual articles or groups thereof, but are not limited to any specific number of such compartments or cells, or to any specific arrangement of the same. In the disclosed embodiment of my invention, for illustrative purposes, I have shown a plurality of compartments or cells arranged in two series or rows but it will be understood that either the number of rows or of compartments in a row may be varied. A carton embodying my invention desirably is adapted to be collapsed or folded flatwise and in the manner of a book and when open is instantly in condition for use, it being unnecessary to assemble or manipulate any additional or separate partitions or other pieces. In this and in other substantial respects my invention is an improvement over the device of the patent to James H. Carter #927,488, dated July 13, 1909.

Referring to the drawings, and more particularly to Figs. 1 to 3, the carton there shown comprises generally a bottom or base 1, longitudinal side walls 2, 2, and a cover including the opposed elements 3, 3. Said carton also includes a longitudinal upright wall or partition 4 intermediate the side walls 2, 2 and a plurality of transverse partition-forming members or spacers 5, 5, etc.

The construction of the carton will be best understood by reference first to the blank or blanks from which it is formed. As herein shown the carton comprises opposed sections or elements each formed from similar blanks folded and suitably secured together in opposite relation, each such element providing a series or row of compartments or cells. Obviously a greater number of such elements may be employed where more rows are desired but in the disclosed embodiment two rows of cells or compartments only are shown, or if desired one only of said elements or carton sections may be used, forming by itself a carton comprising a single row of compartments or cells. Since the blanks for forming the plurality of sections of the plural-rowed carton are similar a detailed description of one of them will suffice.

The blank, as shown in Fig. 5, consists of a substantially rectangular piece of cardboard, paper, fiber, or other suitable material. Said blank is scored or marked for folding along substantially parallel lines, indicated in Fig. 5 by the dotted lines 6 to 12 inclusive, and which divide the blank into a plurality of strips.

The two strips at the left of the blank shown in Fig. 5 comprise the cover member 3 for one section of the carton. The strip next to the right, lying between the dotted lines 8 and 9, constitutes the bottom wall for that section of the carton. In the completed carton said bottom is inclined, being supported along one side edge by means of the narrow strip 13 between the dotted lines 9 and 10, the blank being folded along said lines in opposite directions, as clearly seen in Figs. 2 and 3. The blank also includes the strip designated 14, between the dotted lines 10 and 11, and which forms, in the assembled carton, a part of the said longitudinal partition 4; see Figs. 2 and 3.

Adjoining said strip 14 to the right in Fig. 5 is a strip 15, between the dotted lines 11 and 12, and from which the transverse partitions or spacers are formed. At the opposite ends of said strip 15 are cross pieces or braces 16, 16. The intermediate portion of said strip 15 is cut as indicated by the full lines 17, 17, etc. to form the series or row of flap-like spacers 5, 5 etc. herein supported in pairs. Each such pair of spacers when depressed or folded downwardly as shown in section in Fig. 4 constitute a partition between adjacent cells or compartments. Ad-

ditional support for said spacing members 5, 5 is afforded by the three-cornered sections 18, 18, etc. provided at opposite sides of the line upon which each pair of spacers is folded. It will be noted that in each cell or compartment said three-cornered sections or pieces 18 are positioned at diagonally opposite points, so as to afford support for the article at opposite sides thereof and prevent it from moving from side to side. Preferably each piece 18, which also functions to reinforce the carton walls, has its free edge cut to conform generally to the shape of the adjacent portion of the contained article, desirably being curved inwardly, as illustrated, where curved surfaced articles, such for example as eggs, are to be received. Said pieces 18 cooperate with the spacers or transverse partition forming members 5 to engage the sides of the article at a plurality of portions, thus providing side supporting means in each cell substantially surrounding and approximately conforming to the shape of the article to hold it steady. The blank terminates at its right end, Fig. 5, in a relatively narrow securing strip 19.

In forming the carton, the described blank is folded along the line 7 to form the cover member 3 and along the line 8 substantially at right angles to said fold on line 7, thereby forming the bottom wall 1. The strip 13 is folded downwardly along the line 9, forming a cushioning member or rib, and the strip 14 is bent up into substantially vertical position by folding the blank along the line 10. The strip 15 carrying the spacers 5, 5, etc. is bent inwardly till substantially horizontal and is secured in such position by the reinforcing and securing strip 19, the latter being positioned flatwise against the inner face of the side wall 2, see Figs. 2 and 3, and secured as by gluing, or in any other suitable manner.

A blank when folded and secured as described forms one section of the plural-rowed carton, or may be used itself as a carton comprising a single row of cells. The transverse partitions 5, 5 etc. normally remain in substantially the same plane with the cross pieces 16, 16 at opposite ends of the carton. Said carton or carton-section may be collapsed or flattened, so that the side wall 2 and bottom 1 are in one plane, and the longitudinal partition member 4 and transverse partition 5 lie also in one plane and flatwise against said first mentioned parts. The plural-rowed carton is completed by placing two sections so flattened, one on top of the other but reversed end for end so as to bring the respective walls 2 on the outside and fastening said sections together along their respective ribs 13 as by wire staples 20, 20 or other suitable fastening means, as illustrated in Fig. 6. In this flattened condition the carton is in condition for shipping.

When a carton is to be used it is merely opened out in the manner of a book; it immediately assumes its open position, as in Fig. 2. No further manipulation or adjustment is necessary, there being no detached parts such as partitions which require separate assembling.

Viewing particularly Figs. 2 and 3 it will be observed that as shown the distance between a side wall 2 and the longitudinal partition 4 is slightly less at the bottom of the carton than near the top and also less than the length of the individual transverse partitions 5. When said normally horizontal partitions are pressed down, as when the articles are placed in the carton, they accordingly are wedged and held in open position. This effect is increased at the ends of the carton to give additional protection and to retain the articles against escape lengthwise of the carton. The end partition members 5^a, 5^a, etc. as shown are substantially wider than the remaining partitions, those next said end members 5^a being narrower to a like extent. Due to this construction said partitions 5^a when bent downwardly constitute end retaining walls for the carton, being stopped or locked and capable of resisting outward pressure thereby to prevent escape of the contents at the ends of the carton.

The disclosed plural-rowed carton, it will be noted, is formed of a plurality of pieces of material stapled or otherwise secured together in book form and when opened out provides the desired plurality of compartments or cells arranged in rows corresponding in number to the number of pieces of material. Within the scope of my invention, if desired, two blanks such as shown in Fig. 5 but oppositely positioned with their respective strips 19 adjoining may be cut simultaneously from a single long piece of stock. In such case the blanks may be partially folded so as to bring their respective strips 14 together and then stapled or secured together, the two sections being subsequently cut apart between their said strips 19, along the line forming the right edge of the blank of Fig. 5, or if it is desired to employ the blanks separately as single-row cartons the stapling or other securing will be omitted.

The carton may be closed by folding the cover members 3, 3 inwardly toward each other and inserting their free ends downwardly between the two members which form the longitudinal partition 4, as illustrated in Fig. 3, and in which position they will be held closed, or if desired one only of the cover members may be so inserted, the other being folded down upon it and extended across the top of the carton.

The bottom 1, 1 of the carton is effectively cushioned by the strips 13, 13 which in the complete plural-rowed carton form, together

with the lower portion of the longitudinal partition members 4, 4, a rigid rib of a plurality of thicknesses of material. Said rib supports the bottom wall out of contact with any flat surface on which the carton may be placed, thereby cushioning the same and preventing damage to fragile articles, particularly while the latter are being placed in the compartments or cells of the carton. In some instances if desired said bottom cushioning means may be omitted, in which case the fold in the blank along the line 10 may be omitted and the bend along the line 9 made in the opposite direction from that previously described; the carton sections, if not to be employed separately as single-row cartons, will then be secured together along the lower portion of their respective strips 14 desirably when but partially folded if said sections are formed from a single piece of stock as above described. It will also be observed that the described cover construction affords ample protection and cushioning for the top of the closed container, the free edge portions of the cover members 3, 3, forming in effect an upward continuation of the longitudinal central partition 4.

To assist in removing the articles from the carton means is desirably provided affording access thereto at the bottom of the carton. Herein for the purpose I have shown a plurality of apertures in the bottom of the carton, one for each cell or compartment and normally closed by the closure pieces or doorlike flaps 21, 21 etc. formed in the blanks. Said closure pieces 21 also cooperate with the rib 13 to afford additional cushioning at the bottom of the receptable.

My invention is not limited to the illustrative embodiment herein disclosed.

Claims:

1. A cellular carton comprising a plurality of units each providing a single row of cells and each including a bottom portion, opposite side portions, and a transverse partition forming member secured at its opposite sides to said side portions, said units being secured together in side-by-side relation, the bottom of each unit being upwardly inclined toward the juxtaposed sides of the units and having at its inner side edge an integral downwardly turned strip supporting the bottom in said inclined position and secured flatwise against the adjacent side portion whereby the contained articles are cushioned.

2. A cellular carton comprising a plurality of units each providing a single row of cells and each including a bottom portion, opposite side portions, and a transverse partition forming member secured at its opposite sides to said side portions, said units being secured together in side-by-side relation, the bottom of each unit being upwardly inclined toward the juxtaposed sides of the units and terminating at its inner side edge in a downwardly turned strip supporting the bottom in said inclined position and secured flatwise against the adjacent side portion whereby the contained articles are cushioned, said inclined bottom portions being formed with flap-like, partially detached sections one for each cell, and of relatively small area as compared with that of the floor of the cells, said sections enabling the contents to be pushed up from the carton bottom to facilitate grasping thereof for removal in the upward direction and also affording additional bottom cushioning means for the contents.

3. A cellular carton comprising a plurality of units each providing a single row of cells and each including a bottom portion, opposite side portions, and a transverse partition forming member secured at its opposite sides to said side portions, said bottom portions being provided with means enabling the contents to be pushed up from the carton bottom to facilitate their removal, which means also consitutes a bottom cushion for said contents, said means consisting of a flap-like partially detached section in said bottom portions, one for each cell.

In testimony whereof, I have signed my name to this specification.

ARTHUR W. SCOTCHER.