Aug. 24, 1937. E. J. BONVILLE 2,090,780

BOX

Filed Sept. 25, 1936

Fig. 1.

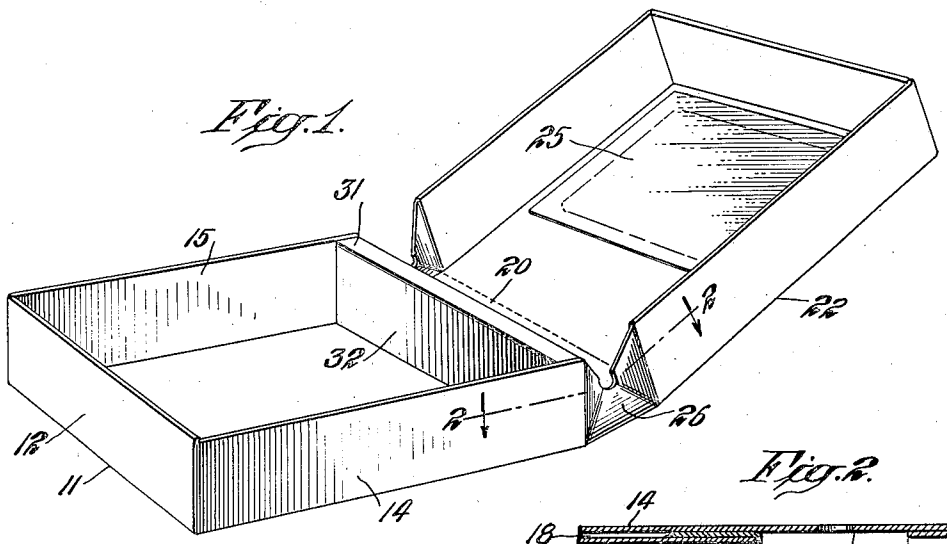


Fig. 2.

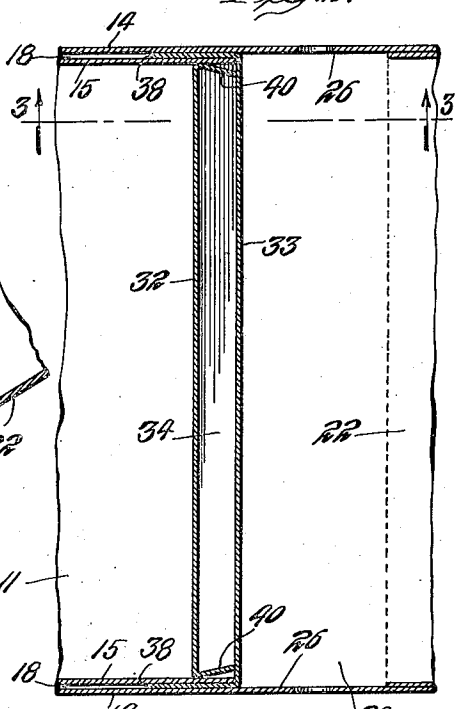


Fig. 3.

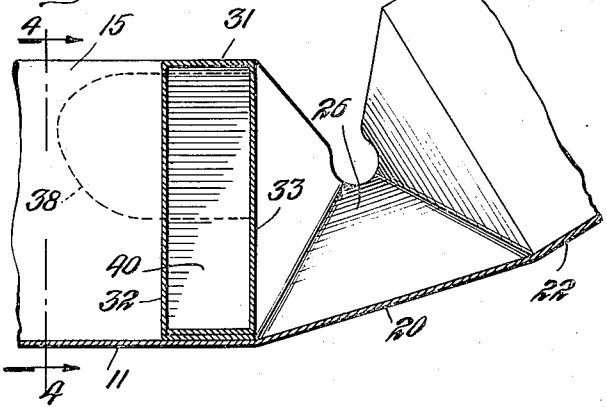


Fig. 4.

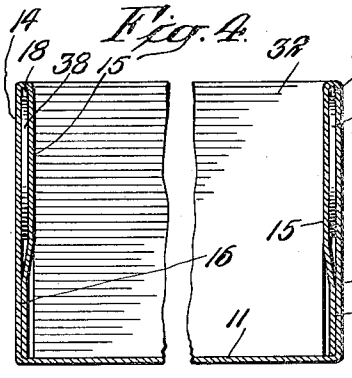
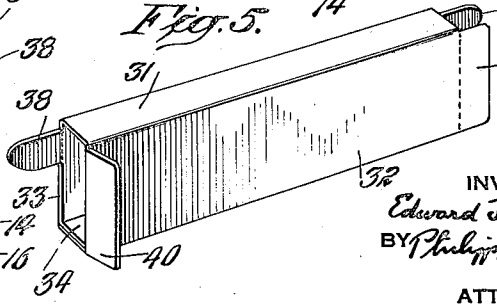


Fig. 5.



INVENTOR
Edward J. Bonville
BY Philipp, Sawyer, Rice & Kennedy
ATTORNEYS

Patented Aug. 24, 1937

2,090,780

UNITED STATES PATENT OFFICE

2,090,780

BOX

Edward J. Bonville, New London, Conn., assignor to Robertson Paper Box Co. Inc., Montville, Conn., a corporation of Connecticut

Application September 25, 1936, Serial No. 102,510

6 Claims. (Cl. 229—34)

This invention relates to paper boxes or cartons, and more particularly to removable inserts therefor.

An object of the invention is to provide a removable insert for such boxes, such inserts serving the purpose of a transverse brace, a supplemental backing and a filler member.

Another object is to provide such a removable member or filler brace which may be made in variable widths for insertion in a box of standard size where such box is designed to hold articles of different size, which, because of such difference in size or difference in folding or difference in packing, will not always completely fill out the interior of the box. In such cases the same box may be used with a selected proper width of filler brace which, with the packed goods, will fill up the interior of the box with the result that the packed goods will fit snugly therein.

Other objects and advantages of the invention will appear from the following description taken in connection with the accompanying drawing, which illustrates a preferred embodiment of the invention and in which:

Fig. 1 is a perspective view of a paper box or carton provided with the filler brace of the present invention;

Fig. 2 is a horizontal sectional view through the filler brace of Fig. 1 and adjacent portions of the top and bottom of the box;

Fig. 3 is a vertical longitudinal section taken on the line 3—3 of Fig. 2;

Fig. 4 is a vertical transverse section taken on the line 4—4 of Fig. 3, and

Fig. 5 is a perspective view illustrating the preferred form of filler brace.

Referring in detail to the drawing, the box illustrated is one of the collapsible folding type. It may be formed from a single blank and comprise the bottom 11 provided with the outer end wall 12 which may be folded over interiorly of the box to form an inner end wall in known manner. The method of securing the inner end wall to the outer end wall is immaterial to the present invention; it may be glued, stapled or otherwise secured thereto. The bottom 11 is provided with outer side walls 14 folded over to provide inner side walls 15. In accordance with the invention these inner side walls 15 are glued along their lower edges, as indicated at 16 in Fig. 4, to the lower portions of the outer side walls, leaving their upper portions to form with the upper portions of the outer side walls tab-receiving spaces 18.

The bottom of the box has in hinged relation therewith a back 20 which occupies the position of Figs. 1 and 3 when the box is open, but which, as will be readily understood, is vertical when the box is closed. It will be noted that it consists, as usual, of a single thickness of material. In hinged relation with the back 20 is a top 22 which may be formed like the bottom portion, but is large enough to fit over the bottom portion side walls in known manner. It too has double side walls and a double end wall and may, if desired, be provided with a cutout window portion covered with transparent material 25. The side walls of the top and side walls of the bottom may be connected, if desired, in known manner by the bellows corners 26.

The filler brace may be made of the same material as the box itself and, as shown more particularly in Fig. 5, may be made in a single piece folded to shape. As shown, it has a top 31, a front wall 32, back wall 33 and a bottom 34, formed by overlapping folding portions of the front and back walls secured together as by glue or otherwise. The back wall 33 is provided with a folding holding tab 38, one of which extends from each end of said back wall and in folded relation therewith for insertion when the box is in the opened position of Fig. 1 into the tab-receiving spaces 18 already referred to. It will be seen that the filler brace can be removed only when the box is open and the top back, and that when the box is closed the filler member cannot move backward because of the box back 20, nor forward because of the holding tabs in the tab-receiving spaces between the inner and outer side walls.

The filler brace member is provided with means for maintaining its desired cross section and, as herein shown, for this purpose its front wall is provided at each end with a projecting folding tab 40 having in general, and preferably substantially, the same shape as the internal cross section of the filler member. For example, it may advantageously have the same height and be slightly greater in width than the distance between the front and back walls of the filler member measured interiorly of said member. The flaps or tabs 40 may then be folded from the position of Fig. 5 into the position of Fig. 2, being forced through the end openings of the filler member and released interiorly thereof, in which position they will remain owing to their slightly greater width, and maintain the cross section of the filler member whether or not it has been assembled in a box.

It will be understood that depending upon the space occupied in the box bottom by the articles

to be packed therein, filler braces of correct width will be chosen so that the filler braces and the packed articles will snugly fill the box bottom, the filler braces always serving not only as filler members, but as box back reinforcing members and transverse box braces as well.

What is claimed is:

1. A box having outer side walls, an inner side wall secured to each outer side wall and providing therewith a horizontally extending tab receiving space closed at its top, and a filler brace having spaced front and back sections lying within the box and extending from one inner side wall to the other, forming a back wall and filler member for said box and having folding tab means at each of its ends, the tab means being inserted in said tab receiving spaces.

2. A box having opposite outer side walls, each having an inner side wall member secured thereto and providing therewith a tab receiving space, and a removable vertical end wall member extending from one inner side wall member to the other and having folding tab means at each end inserted in the tab receiving spaces, said end wall member having a top, bottom and front and back walls, and means within said last named walls for maintaining its cross section.

3. A box having opposite outer side walls, each having an inner side wall member secured thereto and providing therewith a tab receiving space, and a removable vertical end wall member extending from one inner side wall member to the other and having a holding tab at each end inserted in the tab receiving spaces, said end wall member having a top, bottom and front and back walls, and having at each end a wall bracing flap between said front and back walls.

4. A box having opposite outer side walls, each having an inner side wall member secured thereto and providing therewith a tab receiving space, and a removable vertical end wall member extending from one inner side wall member to the other and having a top, bottom and front and back walls, one of said walls having at each end a folding holding tab within the tab receiving spaces, and the other of said walls having at each end a bracing flap folded between said front and back walls.

5. A box having a bottom portion provided with a front wall, side walls having tab holding recesses, and a back wall hinged to said bottom portion and having a top hinged to it, and a removable reinforcing filler brace forming a back wall extending along the back edge of the box bottom from one side wall to the other, said filler brace having a front, back, and bracing means therebetween, and having at each end a folding holding tab located in one of said tab holding recesses.

6. A box having a bottom portion provided with a front wall, side walls each having an outer portion and an inner reinforcing portion secured thereto and providing therewith a tab holding recess, said bottom portion having a back wall hinged thereto, a box top hinged to said back wall, and a removable back wall reinforcing filler brace extending along the back edge of the box bottom from one inner side wall reinforcing portion to the other, said filler brace having a top, bottom, and front and back walls, the back wall having at each end a folding holding tab within one of said tab receiving recesses, and the front wall having at each end a bracing flap folded within the filler brace.

EDWARD J. BONVILLE.