June 17, 1941. A. ILLGES 2,246,097

FIBERBOARD CONTAINER

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FIG. 1.

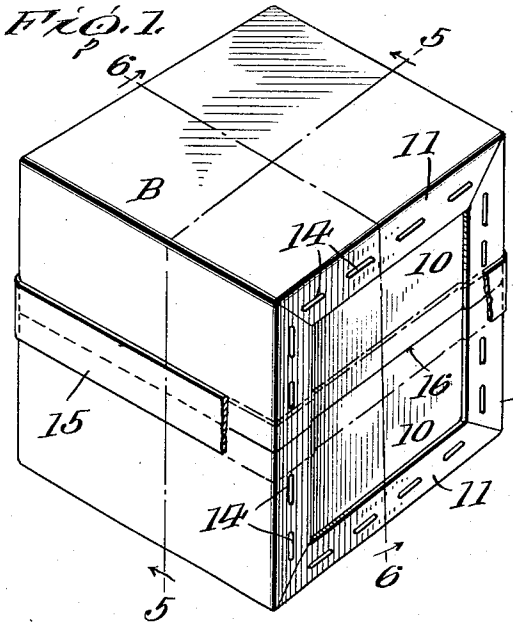
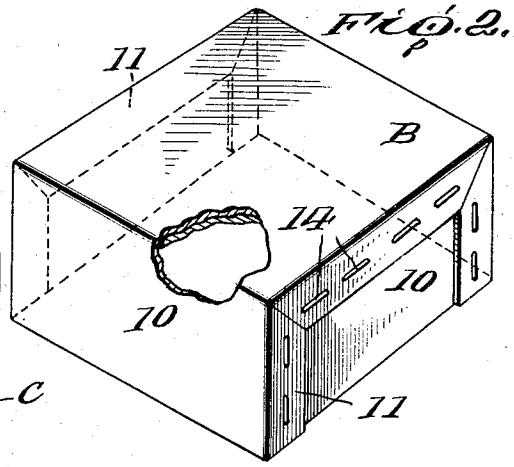


FIG. 2.



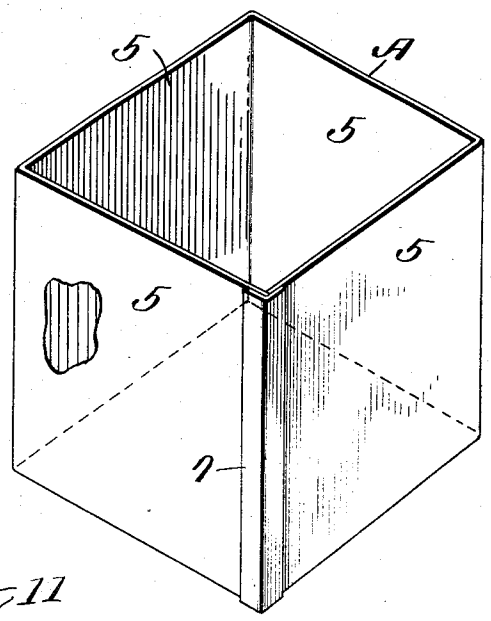


FIG. 3.

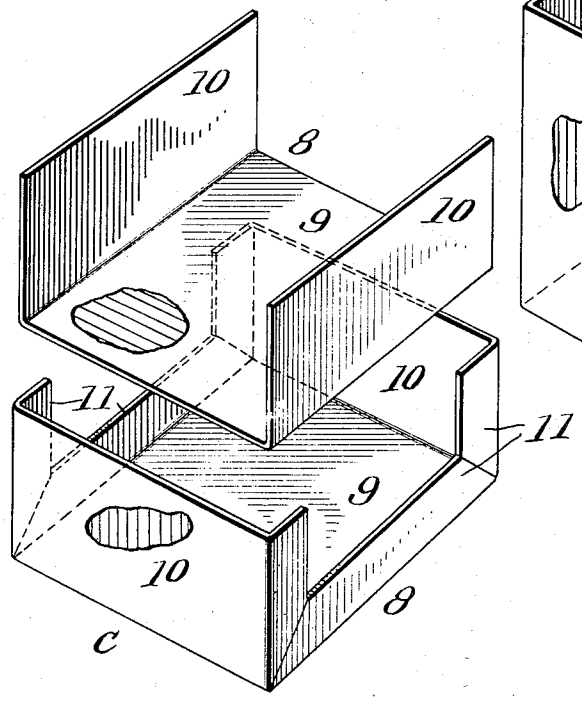


FIG. 4.

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FIG. 5.

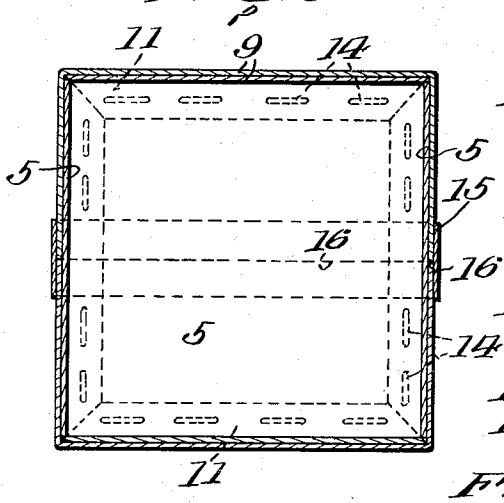


FIG. 6.

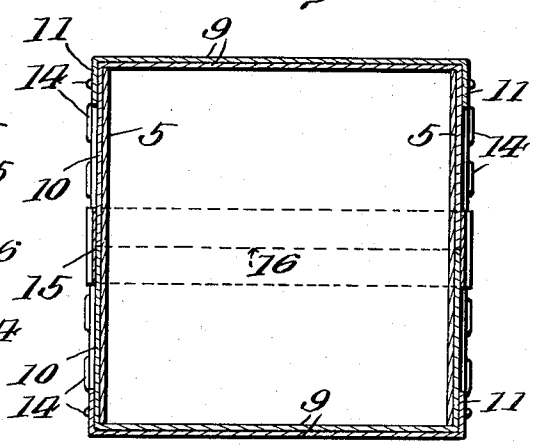


FIG. 7.

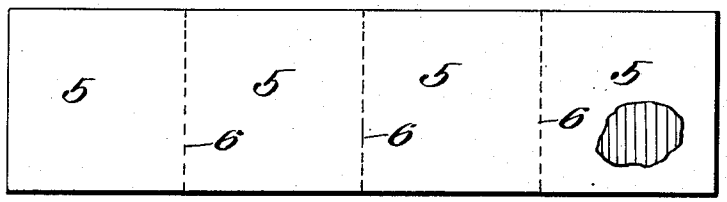


FIG. 8.

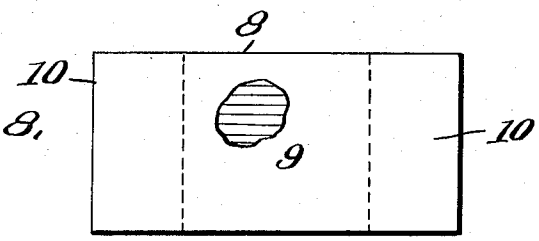
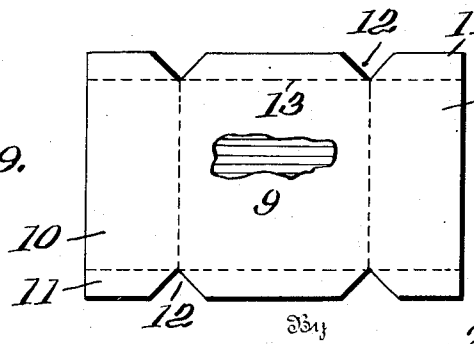


FIG. 9.



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Fig. 10.

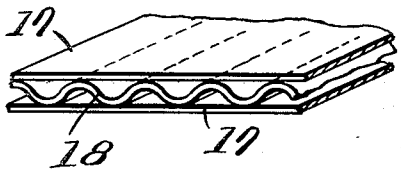


Fig. 11.

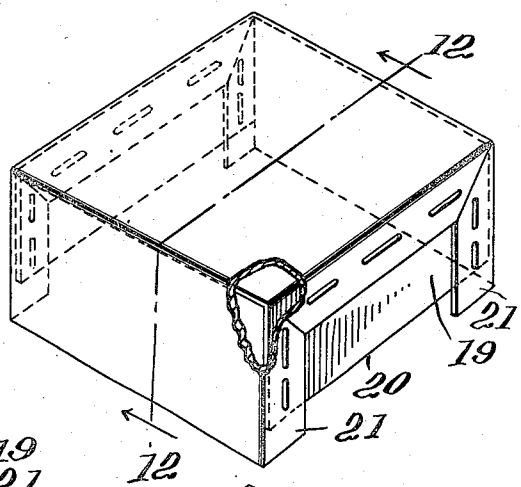
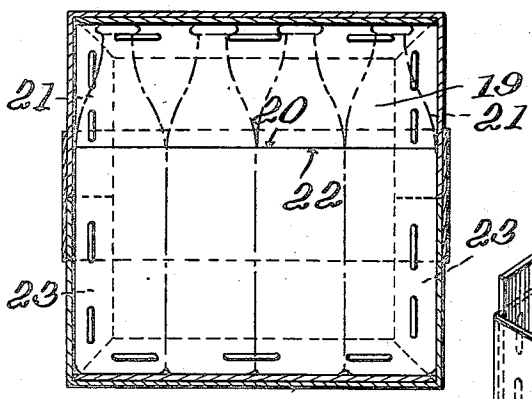


Fig. 12.



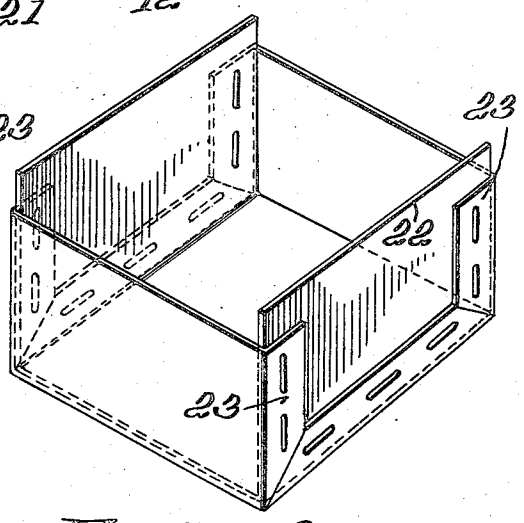


Fig. 11a.

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UNITED STATES PATENT OFFICE

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FIBERBOARD CONTAINER

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Application June 11, 1938, Serial No. 213,250

5 Claims. (Cl. 229—23)

The invention relates generally to improvements in containers, and more particularly to containers of the type in which the container is made of upper and lower sections and the free edges thereof brought together in abutting relation in closing and secured together by employment of a cemented strip extending over the line of abutment.

An object of the invention is to provide a container of the type stated in which similar top and bottom sections are brought together in edge abutting relation to form the container, each said section being composed of two U-shaped members cooperatively disposed so that the bases of the U's all project in a common direction and collectively form an open rectangle, the side edges of the base and legs of one U having stitch flanges extending therefrom and secured to the legs of the other U.

Another object of the invention is to provide a container formed of top and bottom sections as stated and in which the U's are formed of corrugated board and laid one upon the other so that the direction of projection of the corrugations in one U bears right-angular relation to the corrugations of the other U.

Another object of the invention is to provide a container formed of top and bottom sections as stated and in which the sections are equipped with elements which interlock and strengthen the walls of the container against side play whereby said sections can be made to form a container suitably strong whether or not a liner is employed in conjunction with said sections.

Another object of the invention is to provide a container of the type stated which embodies more than the usual strength and durability and in which the component parts are so cooperatively arranged as to present double thickness walls at the top, bottom, and all four sides of the container.

Another object of the invention is to provide a novel container of the type stated composed of three portions or sections, namely, a body liner having four connected side walls and open at top and bottom, and top and bottom sections each telescoping over an open top or bottom of the liner and each presenting a double wall thickness at that portion thereof which closes over the open top or bottom of said liner.

With the above and other objects in view which will hereinafter appear, the nature of the invention will be more clearly understood by following the description, the appended claims, and the several views illustrated in the accompanying drawings.

In the drawings:

Figure 1 is a perspective view of the improved container.

Figure 2 is a perspective view of the top section, parts being broken away.

Figure 3 is a perspective view of the inner sleeve, parts being broken away.

Figure 4 is a perspective view of the elements comprising the bottom section, said elements being shown disassembled, and parts being broken away to illustrate the direction of projection of the wall board corrugations.

Figure 5 is a central vertical section taken on the line 5—5 on Figure 1.

Figure 6 is a central vertical section taken on the line 6—6 on Figure 1.

Figure 7 is a plan view of the blank from which the inner sleeve is formed, parts being broken away.

Figure 8 is a plan view of the blank from which one of the U-shaped members is formed, parts being broken away.

Figure 9 is a plan view of the blank from which one of the outer U-shaped members is formed, parts being broken away.

Figure 10 is a detail perspective view illustrating a fragment of corrugated board of which the improved container may be constructed.

Figure 11 is a detail perspective view of the top section of a container equipped with wall portions adapted to interlock with the bottom section.

Figure 11a is a detail perspective view of the bottom section which is equipped with interlocking wall portions adapted to cooperate with the interlocking wall portions on the top portion.

Figure 12 is a vertical cross section of a container formed of the sections shown in Figure 11, the section being taken on the lines 12—12 on Figure 11.

The improved container illustrated in Figures 1 to 9 of the drawings comprises a liner section A, a top section B and a bottom section C, the top and bottom sections being telescoped over the open end of the sleeve sections so that the edges of said sections abut substantially at the horizontal center of the container as shown in Figure 1 of the drawings.

The section A is formed from a blank such as is shown in Figure 7 of the drawings and which includes four side wall or panel portions 5 formed by bending the integral strip of material shown in Figure 7 at the score lines indicated at 6.

The panels are bent to the position shown in Figure 3 of the drawings, and the meeting ends are joined at a single corner by a suitable tape, as indicated at 7.

The top or bottom sections B and C are identical in construction and each is composed of U-shaped members generally designated 8. The members forming each such section are arranged with the bases 9 of the U's in face-to-face engagement and with the legs 10 of the U's all projecting in a common direction and in a manner, as shown in Figures 2 and 4 of the drawings, for collectively forming an open rectangle adapted to telescopically receive an open end of the liner or inner sleeve A shown in detail in Figure 3 of the drawings.

Each innermost U member is formed from a blank such as is illustrated in Figure 8 of the drawings, and each outermost U member is formed from a blank such as is illustrated in Figure 9 of the drawings. It will be observed by reference to Figure 9 that each outermost U member includes stitch flange extensions 11 which are formed by notching the edges of the blank as indicated at 12 and folding it along score lines indicated at 13. In the assembled container section, the extensions 11 engage the outer faces of the legs of the respective inner U member as illustrated in Figures 1, 2 and 4 of the drawings and are secured to said legs by stitching staples are indicated at 14.

In assembling the improved container, one of the sections B or C may, if desired, be stitch staple secured to the end of the liner or inner sleeve A over which it is telescoped. When the container elements are assembled and the container filled with the commodity to be shipped therein in the manner illustrated in Figure 1 of the drawings, a suitable tape 15 is applied over the abutment line 16 formed by the meeting edges of the sections B and C for the purpose of securing the container against opening.

By reason of the provision of the liner disclosed in detail in Figure 3 of the drawings, the novel construction of the top and bottom sections as illustrated in Figures 2 and 4 of the drawings, and the mounting of said sections over the open ends of the liner inner sleeve section shown in detail in Figure 3, with the opposed edge portions of said sections in abutting relation, each of the top and bottom and four walls of the container comprises a double-walled structure and the container is thus given more uniformly distributed and greater strength than has been embodied in previous containers.

It is to be understood that the improved container can be constructed of any suitable material and that the sections disclosed in Figures 2 and 4 of the drawings can be employed in the formation of a container of suitable strength without the liner shown in detail in Figure 3. Obviously, the inclusion of the liner provides a stronger structure in which not only the side walls but also the top and bottom walls are of double thickness. In the shipment of certain commodities, such as bottles, it is desirable to have double thickness walls opposing the tops and bottoms of the bottles whereas single wall thicknesses will provide suitable strength at the side walls. In such uses the liner disclosed in Figure 3 can be dispensed with without undesirable sacrificing of container strength.

It is preferred that the container be constructed of corrugated board of the type illustrated in detail in Figure 10 of the drawings. This material is well known and in common use in the container industry and includes face sheets 17 presenting smooth surfaces at the exposed faces, and intervening corrugated sheeting 18 to the corrugations of which the face sheets are secured.

When the elements of which the improved container is composed are formed of corrugated board the corrugations of the elements which comprise the top and bottom sections are reversely positioned, that is, the corrugations of one section traverse the corrugations of the cooperating section in right-angular relation as indicated in the broken out portions of Figures 4, 8 and 9. By thus arranging the corrugations, greater strength is provided in the assembled container. It will be noted also that the corrugations of the element shown in Figure 9 are arranged to parallel the score lines 13 on which the flanges 11 are bent, thus greatly facilitating the bending up of these rather narrow flange portions.

As has been previously described, the container may be composed of top and bottom sections only, without the inter-positioning of the liner member shown in Figure 3, and a suitable container constructed in this fashion can be formed of the top and bottom sections illustrated in Figures 2 and 4 of the drawings. It is preferred, however, that such a container be composed of top and bottom sections such as are shown in Figures 11 and 12 of the drawings and which include interlocking wall portions which strengthen the completed container against lateral play in the single thickness walls.

The sections employed in Figures 11 and 12 of the drawings are identical with those disclosed in Figures 2 and 4 except that the legs 19 of one section are shortened as at 20 so that they do not extend down as far as the stitch flange portions 21, and the leg portions of the other section are lengthened as at 22 so that they project up beyond the stitch flange portions 23, as best shown in Figure 11 of the drawings. With the parts thus formed the leg portions 22 extend into and interlock with the cooperating container section and aid in strengthening the container side walls against side play. A container thus constructed can be used without the liner shown in Figure 3 and yet provide considerable side wall strength. Obviously, however, the addition of the liner will materially strengthen the container and provide a structure presenting double wall thicknesses at all sides, top and bottom. Without the liner, the top and bottom sections of both forms provide a container having top and bottom walls of double thickness, and side walls each of a single thickness.

It is of course to be understood that the details of structure and arrangement of parts may be variously changed and modified without departing from the spirit and scope of the invention.

I claim:

1. A container comprising an open ended liner section, a top section, and a bottom section, said top and bottom sections telescoping the open ends of the liner section with their opposed edges in abutting relation, and each said top and bottom section being composed of two U-shaped members having the bases of the U's in face-to-face engagement and the legs of the U's projected individually in the same general direction to collectively form an open rectangular single thickness wall structure for telescopically receiving the respective liner section end, thereby provid-

ing a container having a double wall portion at top, bottom and all four sides, and the outer U-shaped member of each top or bottom section having edge flange extensions overlying and secured to the legs of the other U-shaped member of the same section, said members being composed of corrugated material, the corrugations of the flange equipped member being disposed to parallel the flanges, and the corrugations of the other member being disposed transversely of the corrugations of the flange equipped member, and the legs of one U-shaped member of one section being longer than the legs of the U-shaped member of the other section which they oppose whereby to provide interlocking wall-strengthening portions.

2. A container comprising an open-ended liner section, a top section, and a bottom section, said top and bottom sections telescoping the open ends of the liner section with their opposed edges in abutting relation, and each said top and bottom section having a double wall portion overlying the respective open end of the liner section which it opposes, thereby providing a container having a double wall portion at top, bottom and all four sides.

3. A container comprising an open-ended liner section, a top section, and a bottom section, said top and bottom sections telescoping the open ends of the liner section with their opposed edges in abutting relation, and each said top and bottom section being composed of two U-shaped members having the bases of the U's in face-to-face engagement and the legs of the U's projected individually in the same general direction, means joining said legs to cause them to collectively form an open rectangular wall structure for telecopically receiving the respective liner section end, thereby providing a container having a double wall portion at top, bottom and all four sides.

4. A container comprising an open ended liner section, a top section, and a bottom section, said top and bottom sections telescoping the open ends of the liner section with their opposed edges in abutting relation, and each said top and bottom section being composed of two U-shaped members having the bases of the U's in face-to-face engagement and the legs of the U's project individually in the same general direction to collectively form an open rectangular single thickness wall structure for telescopically receiving the respective liner section end, thereby providing a container having a double wall portion at top, bottom and all four sides, and one U-shaped member of each top or bottom section having flange extensions secured to the U-shaped member which it engages.

5. A container comprising an open ended liner section, a top section, and a bottom section, said top and bottom sections telescoping the open ends of the liner section with their opposed edges in abutting relation, and each said top and bottom section being composed of two U-shaped members having the bases of the U's in face-to-face engagement and the legs of the U's projected individually in the same general direction to collectively form an open rectangular single thickness wall structure for telescopically receiving the respective liner section end, thereby providing a container having a double wall portion at top, bottom and all four sides, and the outer U-shaped member of each top or bottom section having edge flange extensions overlying and secured to the legs of the other U-shaped member of the same section.

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