Dec. 26, 1967 T. E. BOWER 3,360,113

GARMENT CONTAINER

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FIG. 1

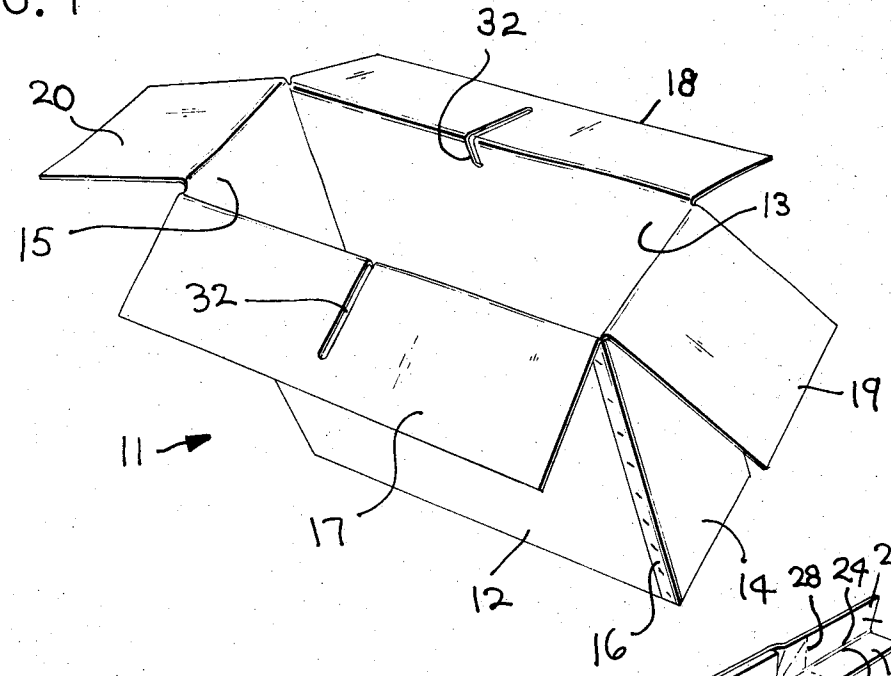


FIG. 2

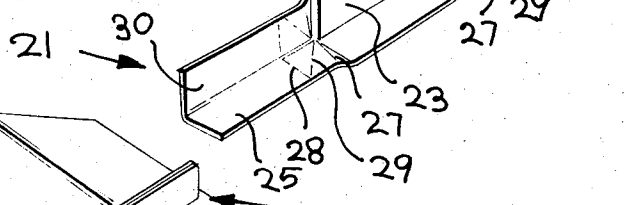
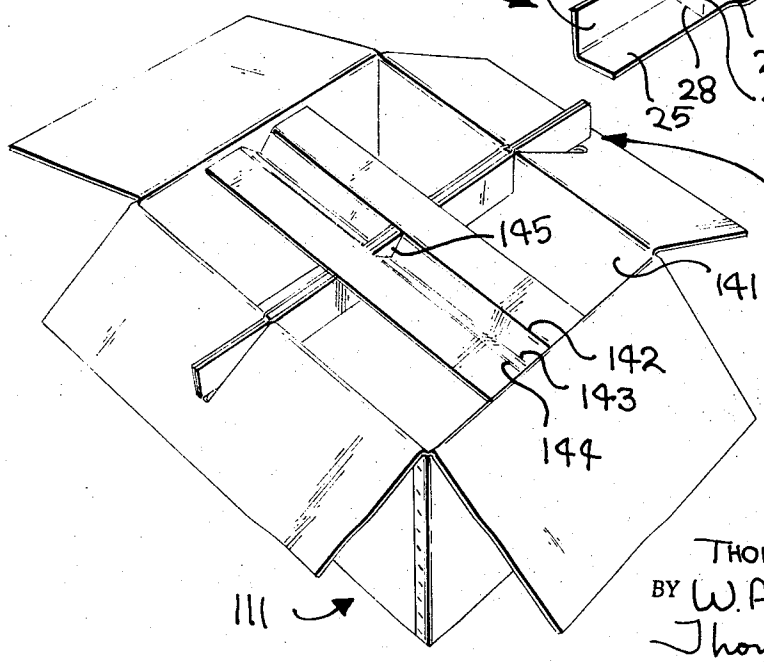


FIG. 8



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FIG. 3

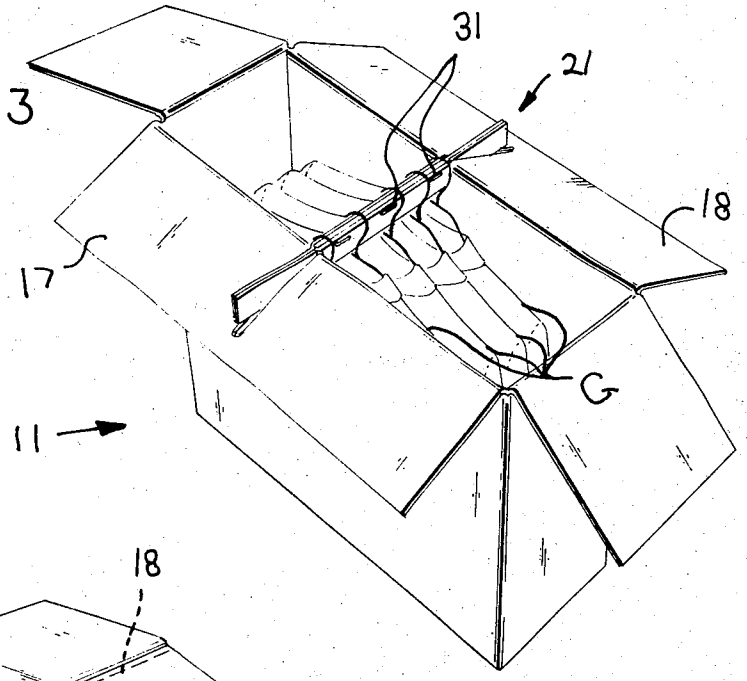
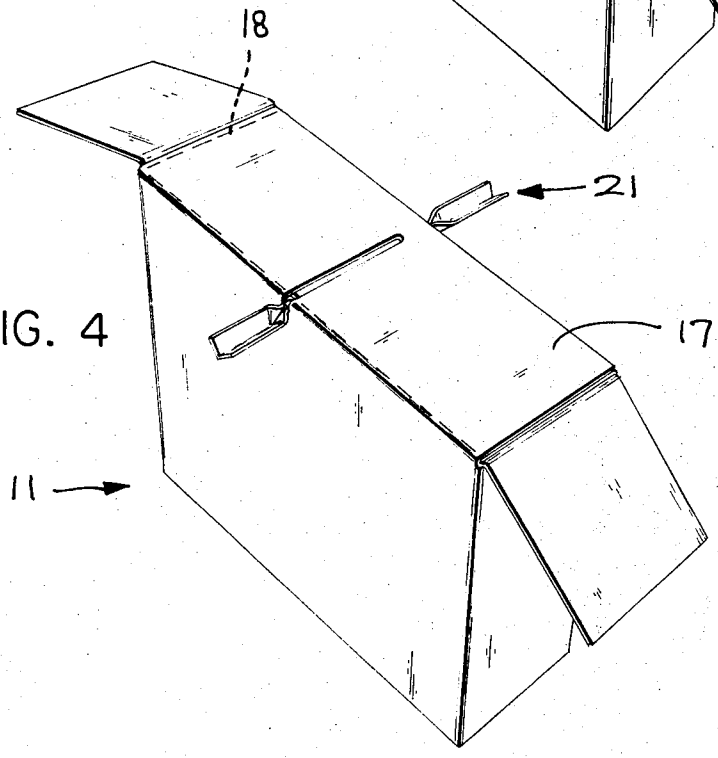


FIG. 4



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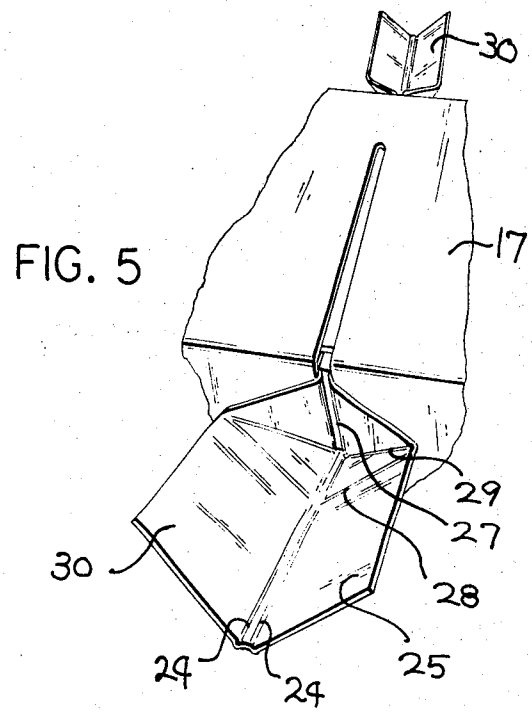


FIG. 5

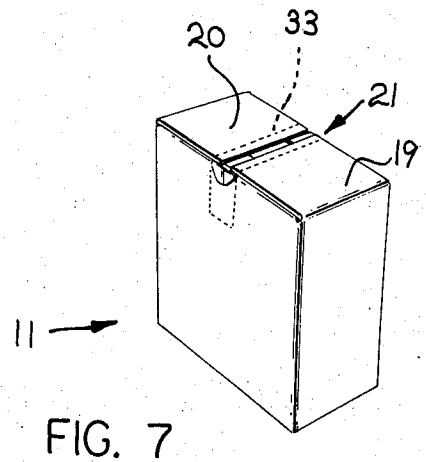


FIG. 7

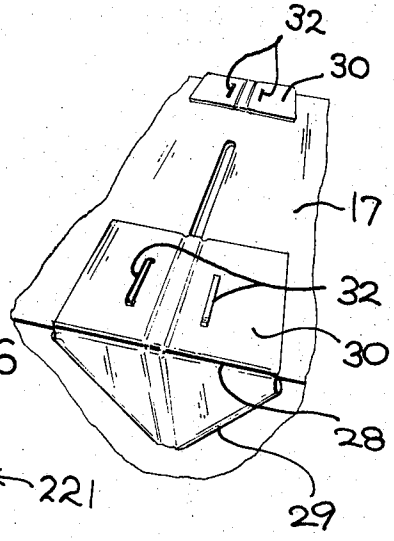


FIG. 6

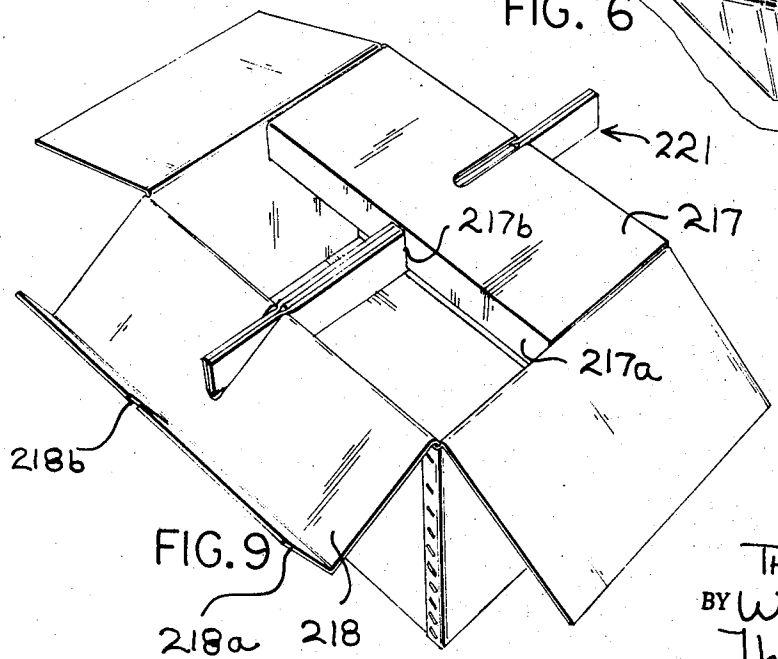


FIG. 9

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3,360,113

GARMENT CONTAINER

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13 Claims. (Cl. 206—7)

This invention relates to a container for the shipment and/or storage of garments. More particularly, this invention relates to a container in which garments may be suspended from means comprising a part of such container by means of garment hangers constructed from metal or the like comprising, or similar to, conventional metal hangers. More particularly, the invention relates to a container for hanger-suspended garments, the container comprising an outer protective fibreboard tubular body structure of rectangular cross-section and a suspension bar supported at and traversing the upper portion of the tubular structure.

The use of prior art containers for hanger-suspended garments comprising a rectangular fibreboard tubular body structure and an upper suspension bar has met with favor in a number of garment shipping and storage applications. However, the specific containers known by applicant to have been used in the prior art for such applications have been deficient, in relationship to the present invention, in a number of respects. Initially, the cost of known prior art suspension bars for such a container, which have usually been of metallic construction, is substantially greater than the cost of the suspension bar of the present invention which, in the preferred embodiment of the invention, may be readily fabricated from a piece of solid fibreboard and a relatively small piece of wood. Additionally, the suspension bar in the present invention is suspended in a novel way from the top closure flaps of the tubular body structure, rather than being suspended directly on the side walls of the tubular body structure. Sample containers of the present invention embodying such construction have exhibited good dynamic loading characteristics, as determined by drop tests, and the novel way of suspending the suspension bar from the top closure flaps is believed to have been a significant factor in obtaining such favorable results.

For a further understanding of the present invention, attention is directed to the following portion of the specification, the drawing and the appended claims.

In the drawing:

FIG. 1 is a perspective view of a rectangular tubular structure, with suitable end closure flaps, used in the construction of a container in accordance with the preferred embodiment of the present invention;

FIG. 2 is a perseptcive view showing, in partly-assembled relationship, the components of the suspension bar used in a container of the present invention ;

FIGS. 3–6 are perspective views showing a sequence of steps in the construction of a container of the present invention from the tubular structure of FIG. 1 and the suspension bar of FIG. 2, FIGS. 5 and 6 being fragmentary views;

FIG. 7 is a perspective view showing a completely assembled container in accordance with the present invention;

FIG. 8 is a perspective view, similar to FIG. 3, showing a step in the construction of a container in accordance with an alternative embodiment of the present invention; and

FIG. 9 is a perspective view, similar to FIGS. 3 and 8, showing a step in the construction of a container in accordance with yet another embodiment of the present invention.

As is shown in FIG. 1 of the drawing, a container in

accordance with the present invention comprises, as an element thereof, an upright tubular structure **11** which is rectangular in horizontal cross-section. Tubular structure **11** is defined by four walls connected to one another in an endless array and consisting of a first pair of opposed walls **12** and **13** and a second pair of opposed walls **14** and **15**. In the preferred embodiment of the present invention, tubular structure **11** is formed from a unitary sheet of fibreboard of suitable rigidity, e.g., single-wall or double-wall corrugated fibreboard, and walls **12**, **14**, **13** and **15** comprise serially connected panel members of rectangular outline defined in said sheet by weakening said sheet along lines at predetermined locations, as by scoring, in a manner well understood by those skilled in the art. In such a construction, the terminating panels in the unitary sheet from which the tubular structure is formed, shown as panels **12** and **14**, may be joined to one another by a conventional manufacturers' joint, shown as a stitched joint **16**. While it is not specifically shown, since it does not constitute a material portion of the present invention, it is, nonetheless, contemplated that one of the major panels of tubular structure **11**, e.g., panel **13**, may, in known fashion, be transversely scored to provide a "drop front" feature for convenience in loading and/or unloading the container from the front.

Each of the walls constituting tubular structure **11** is provided with an end closure flap integrally foldably secured to the upper edge thereof to form, when inwardly folded as is hereinafter described, a closure for the upper end of the tubular structure. Thus, opposed walls **12** and **13** are provided with closure flaps **17** and **18**, respectively, and opposed walls **14** and **15** are provided with closure flaps **19** and **20**. Such closure flaps may be readily formed in a unitary sheet of corrugated fibreboard with the wall panels **12**, **13**, **14** and **15** in a well-understood manner, when it is desired to construct tubular structure **11** from such a material.

Although it is not shown, because it does not constitute a material part of the present invention, the bottom end of the tubular structure **11** may also be considered to be closed in some conventional manner, as by closure flaps foldably secured to the bottom edges of walls **12**, **14**, **13** and **15**, respectively.

As is shown in FIG. 2 of the drawing, a suspension bar **21**, intended for use in combination with a tubular structure of the type illustrated in FIG. 1 in a manner hereinafter described, can be constructed from a long narrow sheet **22** of foldable sheet-like material, e.g., solid fibreboard, and a planar reinforcing member **23**, which preferably is a piece of wood. Sheet **22** is deformed in a central longitudinal pattern, as along closely spaced parallel score lines **24**, to permit the sheet to be folded with its longitudinal edges in overlying relationship. Planar member **23**, which is of a length sufficient to span the distance between opposed walls **12** and **13** of tubular structure **11**, for reasons which will subsequently be obvious, is inserted between the overlying edges of sheet **22** substantially to the depths of scoreline **24** and is attached to one, or both, of the portions of the sheet on each side thereof by any of several well-known means, such as by staples **31**, as is shown in FIG. 3.

Planar member **23** is located centrally of the end edges of sheet **22** and sheet **23** is of sufficient length to have extension portions **25** of substantial length extending beyond the end edges of planar member **23**. Each side of extension portions **25** is deformed, as by scoring, along spaced parallel transverse lines **27** and **28** and along diagonal line **29** to define a terminal portion **30** therebeyond. Thus, each extension portion **25** may be reversely folded along lines **27**, **28** and **29** so that terminal portion **30** overlies the portion of the sheet intermediate terminal portions **25**.

Walls 12 and 13 of tubular structure are each provided with a centrally located slot 32 which extends from a location in such wall to a location in the respective end closure panel of panels 17 and 18 and generally at right angles to the juncture between such wall and the associated end closure panel. Slots 32 are aligned with each other and serve to snugly receive suspension bar 21, with a plurality of hanger-suspended garments G, shown in a discontinuous line, in place thereon, as is shown in FIG. 3, while the end closure flaps at the upper end of tubular structure 11 are outwardly folded to expose the interior of tubular structure 11. To accomplish this function it is, of course, important that the portions of slots 32 in walls 12 and 13 be of a depth substantially as great as the depth of suspension bar 21 and that the length of the portions of slots 32 in flaps 17 and 18 be sufficiently great to allow for unimpeded movement therethrough of extension portions 25 of member 21.

After suspension bar 21 is in place in the slots 32 of tubular structure 11, end closure flaps 17 and 18, as is shown in FIG. 4, are inwardly folded to overlie the reinforced portion of member 21. In the embodiment illustrated in FIGS. 1–7 flaps 17 are wide enough to fully overlap one another; however, in a wider container it may be preferred to use flaps which are not wide enough to have overlapping portions. Subsequently, as is shown in FIGS. 5 and 6, the reversely foldable portions 25 of sheet 22 of member 21 are folded along lines 27, 28 and 29 to bring terminal portions 30 of sheet 22 into positions overlying end closure flaps 17 and 18. When terminal portions 30 are in position overlying flaps 17 and 18, they are secured thereto, as by means of staples 32. The use of adhesives such as hot melt adhesives to secure terminal portions 30 to flaps 17 and 18 is also contemplated. In this manner the weight of suspension bar 21 and the articles suspended therefrom are carried at least partly by the end closure flaps which are believed to enhance the overall resistance of the container to dynamic or shock loading, which may result, for example, from the dropping of a loaded container from an appreciable elevation.

After suspension bar 21 is assembled to tubular structure 11 in the manner hereinbefore described, end closure flaps are inwardly folded to overlie flaps 17 and 18 and terminal portions 30 of sheet 22, as is shown in FIG. 7. Flaps 19 and 20 are preferably of a width to substantially meet in a region centrally of flaps 17 and 18 and the flaps 19 and 20 may be held down and the juncture therebetween sealed by means of a strip of tape 33, shown in outline in FIG. 7. As an unillustrated alternative to the mode of assembly described above, the placement of staples 32 may be delayed until flaps 19 and 20 have been folded into position in which case staples 32 will also serve to secure flaps 19 and 20 to terminal portions 30 and to flaps 17 and 18.

In small containers constructed in accordance with the present invention, e.g., those where the spacing between the walls 12 and 13 of tubular structure 11 is of the order of 10 inches, the embodiment of the invention in accordance with FIGS. 1–7 has been found to be quite satisfactory. However, in larger containers where the spacing between walls 12 and 13 is substantially larger, e.g., 16 inches, it has occasionally been found desirable to provide additional means to support the reinforced portion of suspension bar 21 at opposed locations on the sides thereof generally centrally of its span between walls 12 and 13 to prevent the bar from twisting out of an upright position. FIG. 8 is a view, similar to FIG. 3, of such a larger container comprising a tubular structure 111, otherwise similar to tubular structure 11, and a suspension bar 121, otherwise similar to suspension bar 21, and further comprising a preferred embodiment of support means 141 for performing such support function. Support means 141 comprises a generally planar unitary sheet of fibreboard spanning the upper end of tubular structure 111 and disposed generally horizontally. Such sheet is folded along relatively closely spaced score lines 142, 143 and 144 to form a rib of V-shaped cross-section extending transversely of suspension means 121. The portion of the fibreboard sheet between score lines 142 and 144 is slotted at a location centrally of the lateral edges of the sheet to form a slot 145 in the V-shaped rib which receives the reinforced portion of suspension bar 121 and supportingly engages opposite sides thereof. Subsequently, the construction of a container in accordance with the embodiment of FIG. 8 may be completed as in accordance with the steps shown in FIGS. 3–7 for the construction of a container in accordance with the embodiment of the invention of FIGS. 1–7.

As is shown in FIG. 9, the support function of the support means 141 of FIG. 8 may be accomplished without a separate support element by providing end closure flaps 217 and 218 with a transversely extending score line to form downwardly foldable tabs 217*a* and 218*a* each of which may be vertically slotted, as at 217*b* and 218*b*, to receive suspension means 221.

The best mode known to me to carry out this invention has been described above in terms sufficiently full, clear, concise and exact as to enable any person skilled in the art to make and use the same. It is to be understood, however, that it is within my contemplation that certain modifications of the above-described mode of practicing the invention can be made by a skilled artisan without departing from the scope of the invention and it is, therefore, desired to limit the invention only in accordance with the appended claims.

I claim:

1. A container for suspended garments comprising, in combination: four walls defining an upright tubular structure of rectangular horizontal cross-section; a pair of end closure flaps located at the upper end of said tubular structure, each of said flaps being integrally foldably secured to one of an opposed pair of said walls; first and second slots each extending, respectively, from a location in one of said opposed pair of said walls to a location in the end closure flap attached to said wall and generally at right angles to the juncture between said wall and said flap; a suspension bar received in said slots and spanning the distance therebetween, said suspension bar comprising reversely foldable extension portions at each end thereof; said flaps being inwardly folded to overlie said suspension bar; said reversely foldable extension portions at each end of suspension bar being inwardly folded to overlie said flaps; and attachment means securing said reversely folded extension means to the flap which said extension means overlies.

2. A container in accordance with claim 1 and further comprising; a second pair of end closure flaps located at the upper end of said tubular structure, each of said flaps being integrally foldably secured to one of the other opposed pair of said walls, the flaps in said second pair being inwardly folded to overlie the flaps in said pair of end flaps; and means for securing said second pair of flaps to the underlying flap of said first pair.

3. A container in accordance with claim 2 wherein all of said flaps are of rectangular configuration, wherein said one of the opposed pair of walls is wider than the other opposed pair of walls, and wherein the extent of each of the first pair of flaps in a direction perpendicular to the juncture between said flap and the wall to which it is attached is slightly less than the width of the walls in said other opposed pair.

4. A container in accordance with claim 1 wherein said walls and said flaps are formed from a unitary sheet of corrugated fibreboard and wherein said walls comprise serially connected panels of said unitary sheet.

5. A container in accordance with claim 1 wherein the portion of the suspension bar in the location between the opposed pair of said walls is oriented in an upright position and wherein the termini of the reversely folded extension means are oriented in a horizontal position.

6. A container in accordonce with claim 1 wherein said suspension bar and the extensions thereto are formed from a unitary sheet of solid fibreboard folded in a generally U-shaped configuration.

7. A container in accordance with claim 6 and further comprising a planar reinforcing bar of a major extent sufficient to span the distance between the opposed pair of slotted walls, said planar reinforcing bar being located between the thicknesses of the sheet of solid fibreboard and being located intermediate the reversely folded extension portions of said suspension bar.

8. A container in accordance with claim 7 wherein said planar reinforcing bar comprises a piece of wood.

9. A container in accordance with claim 1 and further comprising support means located within said container at a location adjacent the end of the tubular structure to which said flaps are attached, said support means being effective to engage opposite sides of said suspension bar at opposed locations intermediate the ends thereof.

10. A container in accordance with claim 9 wherein said opposed locations are substantially equidistant from said opposed pair of walls.

11. A container in accordance with claim 9 wherein said support means comprises a generally planar sheet of fibreboard extending across said end of the tubular structure and oriented generally at right angles to said

serially connected walls, said planar sheet comprising a rib extending transversely of said suspension bar, said rib comprising a vertical slot into which said suspension bar is placed.

12. A container in accordance with claim 11 wherein said planar sheet and said rib are integrally formed from a unitary sheet of corrugated fibreboard and wherein said rib is V-shaped in transverse section.

13. A container in accordance with claim 9 wherein said support means comprises a pair of tabs, each being integrally foldably attached to an edge of one of said pair of end closure flaps and being folded to extend downwardly therefrom and generally at right angles thereto, each of said tabs being provided with a narrow vertically extending slot to receive said suspension bar.

References Cited

UNITED STATES PATENTS

2,535,233	12/1950	Ross	206—7
3,026,996	3/1962	Belsinger	206—7

FOREIGN PATENTS

1,156,437	12/1957	France.

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