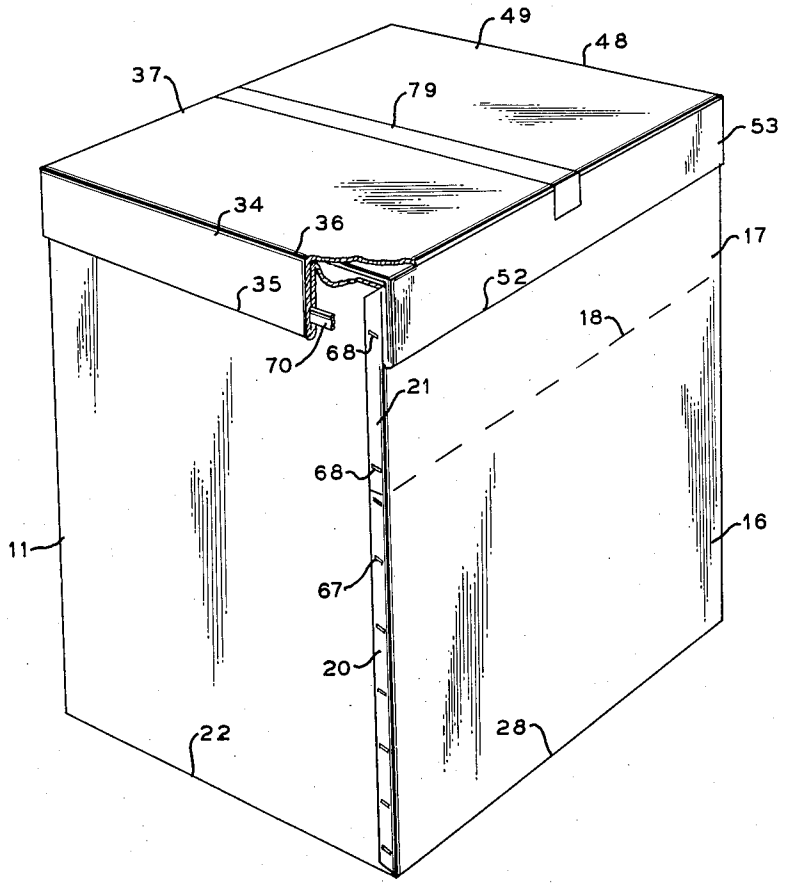
April 18, 1961 S. P. BELSINGER 2,980,239

SHIPPING CONTAINER

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FIG. 1



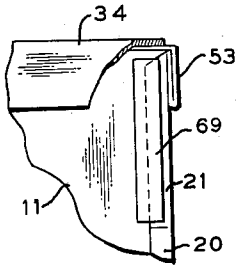


FIG. 8

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SHIPPING CONTAINER

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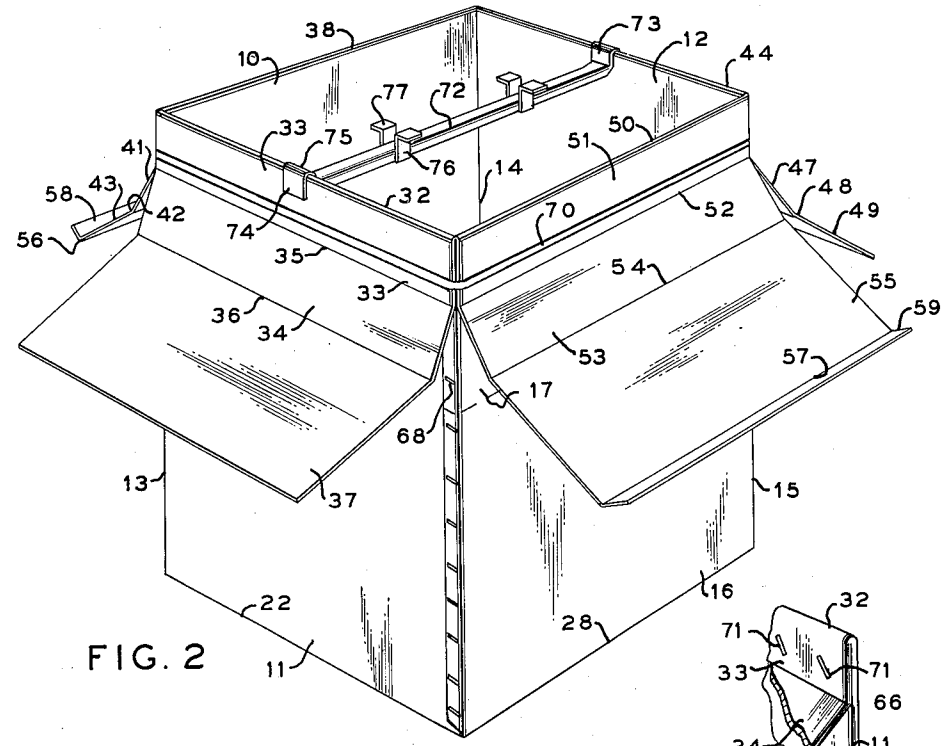


FIG. 2

FIG. 9

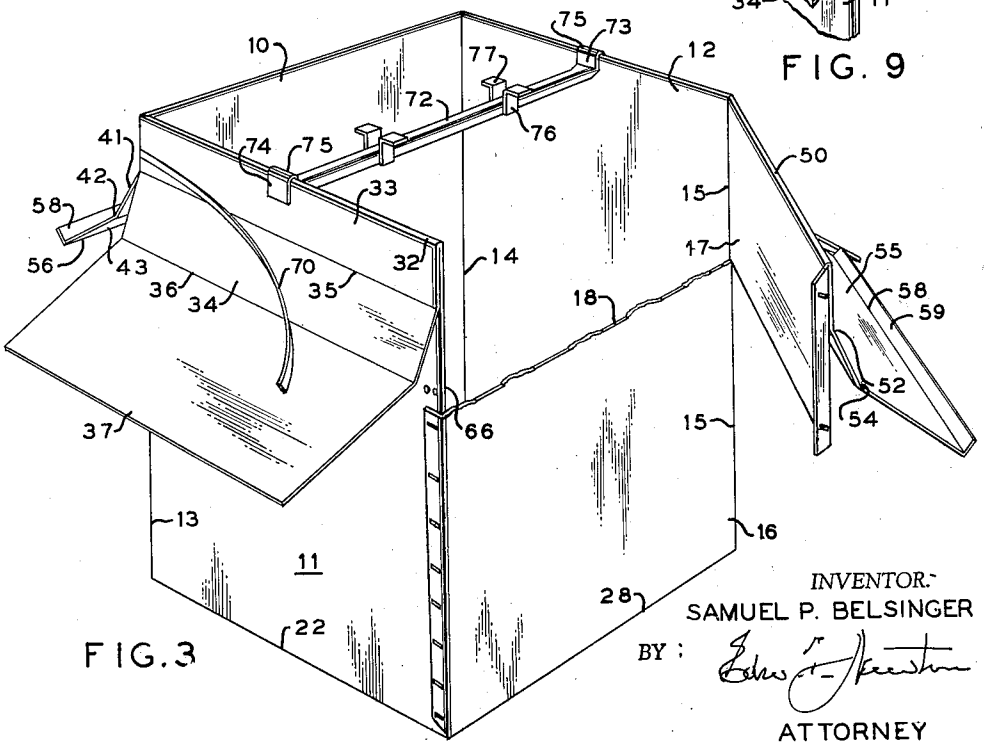


FIG. 3

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SHIPPING CONTAINER

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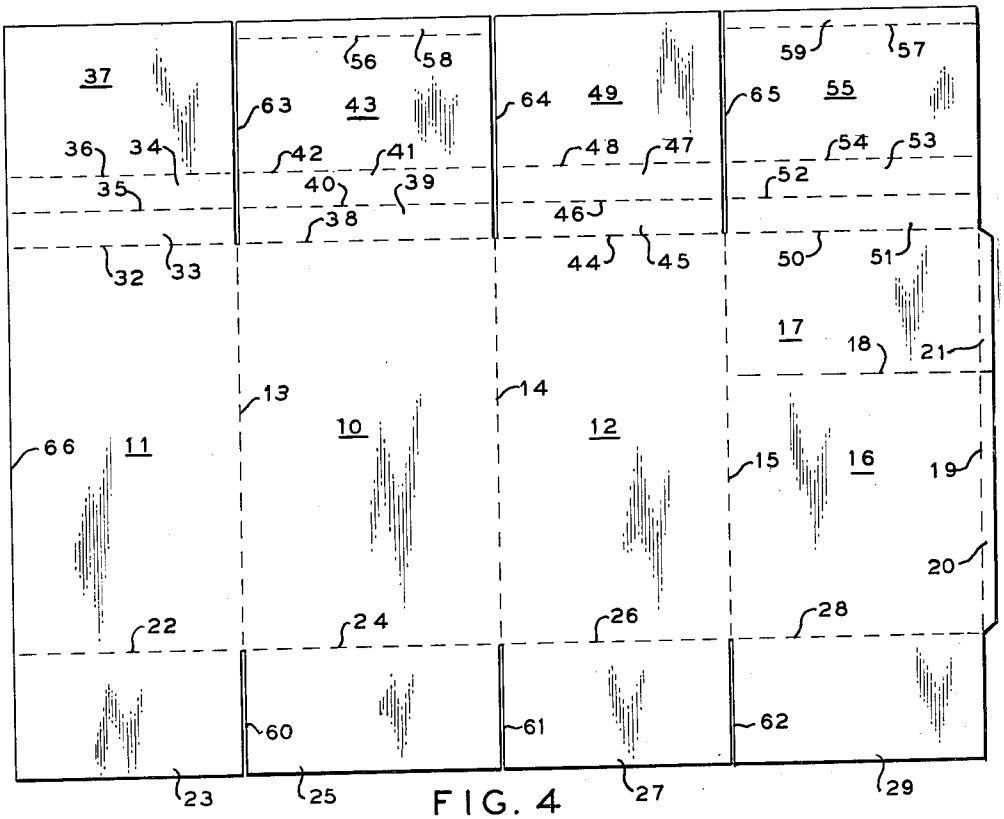


FIG. 4

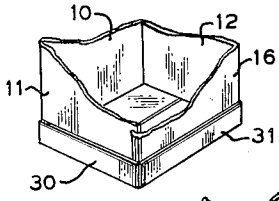


FIG. 5

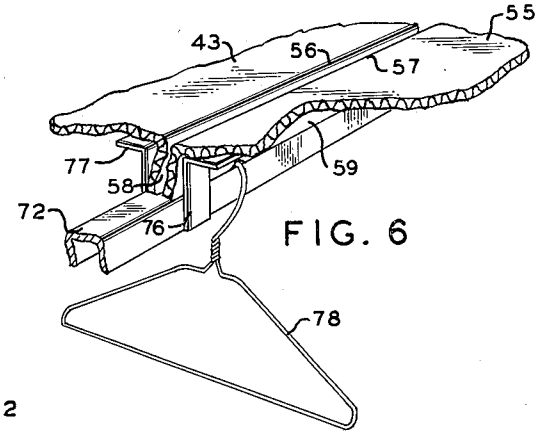


FIG. 6

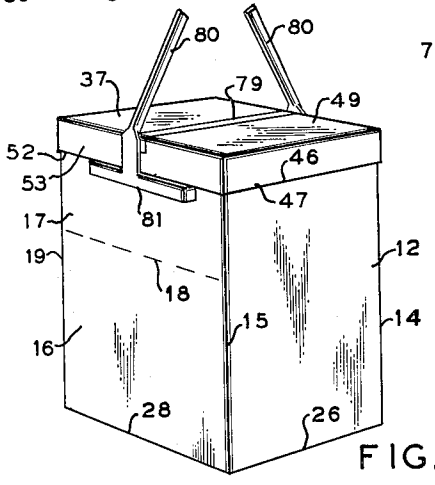


FIG. 7

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2,980,239

SHIPPING CONTAINER

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Filed July 22, 1958, Ser. No. 750,236

5 Claims. (Cl. 206—7)

This invention relates to a shipping container, and is more particularly concerned with a shipping container of the type utilized in the clothing industry and for shipping wearing apparel disposed on hangers.

This is a continuation-in-part of my copending application Serial No. 655,818, filed April 29, 1957, entitled "Wardrobe." While the wardrobe disclosed in the above identified application was designed and functions most satisfactorily for the temporary storage of random clothing and is utilized by moving vans for the storage of individuals' clothing articles during transit from one location to another, the particular structure disclosed as the preferred embodiment in said application required modification to provide a heavy duty shipping container.

Briefly, my invention includes a fibre board box or container of the usual cubic or squared construction, formed from a one-piece fibre board blank. The bottom and lower portion of my container may be of the usual box construction, however, in the portion above the bottom portion the front panel is serrated or provided with an interrupted cut to provide a tear-open, hinged, door panel which is held closed by the serration, by fastening means and by cooperation of the flange of the top flap and the hanger bar. This cut provides a ready means for separating the hinged upper front panel from the fixed lower front panel when desired, yet when the container is shipped in its original condition the front panel has substantially the same strength as the remaining panels thereof. The top portion of my container includes the hanger bar with flanges from the opposed flaps projecting downwardly between brackets to engage the hanger receiving surface of the hanger bar, and a multi-ply reinforced upper edge formed by overlapping flanges between the top flaps and the panels. The flanges adjacent the wall panels are folded outwardly against the wall panels and secured thereagainst by a strap, a series of staples or by gluing so as to provide smooth uncut double thickness edges receiving the bearing plates of the hooks of the hanger bar. Until the strap is cut or removed and the serrations ruptured, the door panel of my container cannot be opened and therefore there is little danger of theft from my container.

The hanger bar of my container may be removed and installed at will, when the top of the container is open. The hanger bar, however, is fixed with respect to the container, when the container is closed, without the necessity of puncturing or otherwise rupturing any portion of the container. Further, in the container here disclosed, there are no sharp corners on the hanger bar to dig into the relatively soft corrugated paper board from which my container is normally produced.

Accordingly, it is an object of the present invention to provide a container which is inexpensive to manufacture using the present machines of commerce and yet durable in structure.

Another object of my invention is to provide a shipping container for wearing apparel disposed on hangers, which container may be properly loaded at the garment factory

utilizing rapid low-cost methods of multi-unit or bulk packaging suitable for a one man operation in which a full case load of garments may be racked, inspected and loaded.

Another object of my invention is to provide a container which is a solid one-piece unitary construction and which is extremely durable during transit and will resist sharp blows from any direction.

Another object of my invention is to provide a wardrobe-type container in which the hanger bar does not readily tear its supporting surface.

Another object of my invention is to provide a container suitable for retaining articles of clothing therein on hangers and which, while being essentially theft proof when unopened, is capable of being readily opened for the easy removal of clothing without necessitating the removal of the hanger bar of the container.

Another object of my invention is to provide a container which, when opened for the removal of clothing, may be re-sealed to make a substantially dust proof storage container or a container capable of being re-shipped.

Another object of my invention is to provide a container in which, when the container is stored adjacent other similar containers or a wall, the body portion thereof is automatically spaced from those containers or from the wall so as to reduce the likelihood of damage caused by moisture being absorbed from the wall or any projecting objects extending from the wall or from the adjacent containers.

Another object of my invention is to provide a container having a hanger bar which may be easily removed or installed in the container and yet when the container is closed, the position of the hanger bar is fixed with respect to the container without puncturing the fibre board of the container.

Another object of my invention is to provide a container which, when loaded with a substantially heavy load, may be lifted by conventional means without danger of distorting the container or rupturing it.

Other and further objects and advantages of my invention will become apparent from the following description when taken in conjunction with the accompanying drawings, in which like characters of reference designate corresponding parts throughout the several views, and wherein:

Fig. 1 is a partially broken away perspective view of a container manufactured in accordance with the present invention, the top portion thereof being closed and sealed in a shipping condition.

Fig. 2 is a perspective view of the container shown in Fig. 1, the top of the container being opened to receive articles of clothing to be placed on hangers on the hanger bar.

Fig. 3 is a perspective view of the container disclosed in Fig. 1, the container being opened for the removal of clothing stored within the container.

Fig. 4 is a plan view of the scored and cut fibre board blank from which the container of Figs. 1, 2 and 3 is formed.

Fig. 5 is a perspective view of a modified form of the container shown in Fig. 1, this modified container being in the closed condition.

Fig. 6 is a perspective view of a detail showing the hanger bar of my invention receiving a hanger, the hanger being retained in place by the flanges of the upper flaps of my container.

Fig. 7 is a fragmentary perspective view on a reduced scale showing the container shown in Fig. 1 being lifted by conventional lifting equipment.

Fig. 8 is a side elevational view of a fragment of the container illustrated in Fig. 1 and showing an alternate method of securing the tear tab to one panel of the container.

Fig. 9 is a fragmentary perspective view of a detail showing an alternate method of securing the reverse flange of the container shown in Fig. 1 to its panel.

Referring now in detail to the embodiments chosen for purpose of illustration, numeral 10 denotes the rear rectangular wall panel of the fibre board container, integrally formed with the side wall panels 11 and 12 on opposite sides thereof and separated therefrom by spaced vertical score lines 13 and 14, respectively. The side wall panel 12 is provided with a score line 15, which is spaced from and parallel to score lines 14. The front wall panel is integrally formed with side wall panel 12 and consists of a lower stationary or fixed panel 16 and an upper hinged door panel 17 separated from each other by an interrupted cut, serration, or skip cut 18 which is preferably made transversely across the upper portion of the front panel. It will be understood that this cut 18 includes a series of spaced aligned cuts or perforations through the front panel, which cuts do not completely separate panel 16 from panel 17 until the space between the adjacent cuts is ruptured by tearing along cut 18, as shown in Fig. 3. Outwardly of panels 16 and 17 is a tab separated by a vertical score line 19 from panels 16 and 17. This tab includes a lower tab member 20 and an upper tear tab member 21, respectively, to lower panel 16 and upper panel 17 and separated from each other by cut 18 which may project into this tab.

At the lower extremity of panel 11 is a hinge line 22, from which projects the bottom flap 23. Similarly, panel 10 is provided with a hinge line 24 and a bottom flap 25, while panel 12 is provided with a hinge line 26 and a bottom flap 27 and panel 16 is provided with a hinge line 28 and a bottom flap 29.

At the upper edge of panel 11, I have provided a score line 32 from which projects a reverse flange 33. Connected to reverse flange 33 is an intermediate flange 34 separated from flange 33 by score line 35. The upper edge of intermediate flange 34 is provided with a hinge line 36 and above this hinge line 36 is a top flap 37. Similarly, the upper edge of panel 10 is provided with a score line 38, a reverse flange 39, a score line 40, an intermediate flange 41, a hinge line 42, and a top flap 43. Also, panel 12 is provided with a score line 44, a reverse flange 45, a score line 46, an intermediate flange 47, a hinge line 48 and a top flap 49 while panel 17 is provided with a score line 50, a reverse flange 51, a score line 52, an intermediate flange 53, a hinge line 54 and a top flap 55. From an examination of Fig. 4, it will be understood that score lines 32, 38, 44 and 50 are aligned transversely with each other and normal to score lines 13, 14 and 15, while score lines 35, 40, 46 and 52 are spaced above and parallel to score lines 32, 38, 44 and 50, and are aligned transversely with each other. Further, hinge lines 36, 42, 48 and 54 are spaced above and parallel to score lines 35, 40, 46 and 52 and are also transversely aligned with each other. Top flaps 43 and 55 are scored adjacent their upper edges by score lines 56 and 57, respectively, to provide hanger bar engaging flanges 58 and 59, respectively.

From a further examination of the blank shown in Fig. 4, it will be seen that bottom flaps 23 and 25 are separated by a cut 60 along a lower extension of score line 13, flaps 25 and 27 are separated by a cut 61 along a lower extension of score line 14 and that flaps 27 and 29 are separated by a cut 62 along a lower extension of score line 15. Also, cuts 63, 64 and 65 along an upper extension of score lines 13, 14 and 15, respectively, separate that portion of the blank above score lines 32, 38, 44 and 50 so as to provide a cut between each of flaps 37, 43, 49 and 55.

From the foregoing description it will be apparent that when the blank shown in Fig. 4 is assembled, the blank is folded along the central fold line 14 so that score line 19 abuts the outer edge of panel 11. The tab member 20 may be joined by staples 67 which pass through the tab member 20 and into the portion of panel 11 adjacent edge 66. Tab 20 may be joined either outside the container as shown in Figs. 1, 2 and 3 or inside the container. In other instances, the tab members 20 and 21, or either, may be deleted from my container, as will be understood by those skilled in the art. In the case of the deletion of tab member 20 a suitable tape should be utilized to join edge 66 to the edge which would be defined by score line 19. Of course, it will be understood that the present invention is not limited to the particular manufacturer's joint employed to join panels 11 and 16 together.

In the shipping condition of my container, as shown in Fig. 1, tabe 21 is secured to panel 11 by a pair of staples 68 which are spaced sufficiently wide apart that a person may insert his hand between these staples 68 and between tab 21 and panel 11 for opening purposes. In some instances it may be found desirable to substitute for staples 68 a pressure sensitive tape, such as tape 69 in Fig. 8; however, it will be understood that staples 68 or tape 69 are not necessary in all instances and may be eliminated in the event that the cut 18 is sufficiently high on the container that there is little likelihood of the door or upper panel 17 being inadvertently ripped open.

After panel 16 has been joined to panel 11, as described above, that portion of the blank shown in Fig. 4 above the line defined by score lines 32, 38, 44 and 50 is folded outwardly back against their respective panels 10, 11, 12 and 17. It will be understood that flaps 37 and 55 will lie along one side of the flattened box or container while flaps 43 and 49 will lie along the other side thereof. In this flattened condition, a strap, such as strap 70, may be accurately passed around the lower portion of reverse flanges 33, 39, 45 and 51 and then joined together as is well known in the art.

It will be understood that in place of the strap 70, a plurality of staples 71, as seen in Fig. 9, may be substituted for strap 70. These staples 71, of course, pass through the reverse flanges 33, 39, 45 and 51 and into and through the upper portion of panels 10, 11, 12 and 17, respectively, to permanently secure these reverse flanges flat against the outer surfaces of their respective panels. While I have disclosed the utilization of strap 70 or staples 71 to secure the reverse flanges in place against their respective panels, glue or any other retaining means may be employed which will permanently secure these flanges in place during shipment.

After the retaining means, such as strap 70, has been installed as described above, the box is squared; the flaps 23, 25, 27 and 29 are then folded to close the bottom opening and secured in place as is well known in the art. Next, the intermediate flanges 34, 41, 47 and 53 are folded upwardly along score lines 35, 40, 46 and 52, and the respective top flaps 37, 43, 40 and 55 may be folded inwardly over the upper or top opening of the container. The flanges 58 and 59 may also be folded downwardly to complete the shaping of the container.

As best seen in Figs. 2, 3 and 6, I have provided a hanger bar comprising an inverted, U-shaped, channel member 72 having end hooks to engage the upper edge of panels 11 and 12 to space the web of channel member 72 downwardly and parallel to the upper edge of the container as defined by score lines 32, 38, 44 and 50. The hooks on the ends of channel member 72 include upstanding flat, complementary, vertically disposed, bearing plates, such as bearing plate 73, which abut the inner surface of side panels 11 and 12, respectively. These inner bearing plates have a smooth surface and are folded outwardly along their upper edges to lap over the upper edge of panels 11 and 12 and to project downwardly and terminate above strap 70 or staple 71,

thus providing outer bearing plates, such as plate 74 joined to bearing plates, such as plate 73, by webs 75.

Intermediate the ends of channel member 72, I have provided a plurality of opposed brackets respectively secured, by welding or the like, to the sides of channel member 72. Each of these brackets includes an upstanding flange 76 which projects above the web portion of channel member 72 and is provided at its upper end with outwardly extending flap receiving plate 77. It will be understood that the hook members space the channel member 72 downwardly sufficiently so that the upper surface of the flap receiving plates, such as plate 77, are in substantially the same plane with the upper edges of the box as defined by score lines 32, 38, 44 and 50. Also, the distance between the upper surface of the flap receiving plate 77 and the hanger receiving surface or the web of the inverted channel member 72 is such that the flanges 58 and 59 may project between the complementary opposed brackets whereby the outer edges of these flanges 58 and 59 engage the hangers, such as 78, shown in Fig. 6.

It will also be understood by those skilled in the art that if an extremely strong container is desired, the bottom structure of my container may be formed with reverse flanges and intermediate flanges such as is illustrated for the top portion of my container. In such an instance, the strap 70 or staple 71 may be employed at the bottom for securing the reverse flanges to the panel portions of the container. Since this construction is substantially identical to the construction illustrated for the upper portion of my container, Fig. 5 illustrates the assembled lower portion of my container with the intermediate flanges 30 and 31 which are similar to the intermediate flanges 34 and 53 and complementary thereto.

In use, my container is assembled as shown in Fig. 2 except that the hanger bar thereof is removed from the container. It will be understood by those skilled in the art that the operation of loading a full load of clothes into my container may be accomplished by one person who may easily inspect and count the garments immediately prior to the time my container is sealed for shipment. To accomplish this, the clothing manufacturer may conveniently support the hanger bar by installing small chains around the brackets; then install the articles of clothing to be shipped in the container on hangers, such as hanger 78, and place these hangers over the hanger bar, while the hanger bar is supported in this horizontal position. Thereafter, the container is positioned beneath the hanger bar or the hanger bar positioned over the container and the hanger bar lowered so that the hooks on the ends of the hanger bar engage the edges defined by score lines 32 and 44 in a position between panels 10 and 17. Next, the flaps 43 and 55 are folded inwardly across the upper opening of the container so that the flanges 58 and 59 project between the brackets fixed to channel 72. Once the flanges 58 and 59 project between these brackets, the position of the hanger bar is fixed with respect to the container and hence there is substantially no likelihood of the hanger bar sliding in one direction or the other. Afterwards, the flaps 37 and 49 are folded over flaps 43 and 55 and a piece of tape, such as tape 79, is placed across the junction of flaps 37 and 49, as shown in Fig. 1. The intermediate flanges 34 and 47 act against the bearing plates, such as plate 74, while flaps 37 and 49 pass over the webs 75 to further secure the hanger bar in place.

When the container is shipped, the same is in the condition shown in Fig. 7 and may be handled by suitable tongs, such as tongs 80, which have opposed horizontal jaws, such as jaw 81, with a flat upper surface so that these jaws may project beneath the edge formed by score lines 35 and 46 or 40 and 52.

Since the top of my container is integrally formed with the body portion, the entire container being a one-piece construction, very substantial weights may be carried within the box and lifted in the manner described above without danger of the container rupturing or being inadvertently dropped.

When the container with clothing therein is received by the purchaser, it is opened, as shown in Fig. 3. To open my container, first, the tape 79 is removed from the top of the container and the top flaps folded back to the positions shown in Fig. 2. Thereafter, if strap 70 is around the reverse flanges, this strap 70 is cut as shown in Fig. 3. Next, the person opening my container inserts his hand between panel 11 and tab 21 and by grasping tab 21, in one rapid pull, separates tab 21 from panel 11 and tears the front panel along cut 18, thereby rupturing the uncut portions of cut 18. If tape 69 is employed, of course, the tape should be removed before tab 21 is grasped. My container is now in the condition shown in Fig. 3. The clothing on the hangers, such as hanger 78, may then be removed through the space between cut 18 and the hanger bar and there is little likelihood of this clothing becoming torn, rumpled, or disarranged, since ample space is thereby provided for their removal.

When it is desired, the clothing may be stored in the container and the door panel 17 closed to the position shown in Fig. 2. It is to be noted that upon closing, the tab member 21 projects between panel 11 and flange 33 so that tab member 21 is frictionally retained, holding door panel 17 closed. Thereafter, the flaps 55 and 43 may be again folded over the upper opening of my container so that the flanges 58 and 59 again project into the space between the brackets. The flaps 37 and 49 next may be folded over flaps 43 and 55 and such tape as is necessary may be employed to again seal my container along cut 18, top flaps 37 and 49 and/or across the abutting edges of panels 11 and 17. In some instances it may be found desirable when reshipping my container to again install strap 70 around the reverse flanges. In this condition, my container forms a substantially dust-proof closure for the clothing stored therein and may be reshipped if desired. It will also be understood that when flanges 58 and 59 are in place as shown in Fig. 6, the hangers such as hanger 78 will not readily be dislodged from their position on the channel member 72.

It will be obvious to those skilled in the art that many variations may be made in the embodiments here disclosed for the purpose of illustrating the present invention and that elements thereof may be combined or made in several parts or these elements may be re-arranged, without departing from the scope of the present invention as defined by the appended claims.

I claim:

1. A shipping container formed from a one-piece blank of fibre board scored and cut to define a closure having top and bottom openings comprising front, rear and a pair of side panels, said front panel being provided with intermittent cuts along a line to separate said front panel into an upper door panel and a lower panel joined together by uncut portions between the intermittent cuts, said lower panel being secured between the front edges of said side panels, reverse flanges extending from the upper portions of said front, side and rear panels, intermediate flanges extending from the edges of said reverse flanges, flaps extending from said intermediate flanges to close said top opening, hanger engaging flanges extending from the flaps of said front and rear panels, said reverse flanges being folded outwardly and downwardly against their respective panels, a strap extending around said reverse flanges between said reverse flanges and said intermediate flanges, a tab extending from said upper door panel and adapted to be engaged between a side panel and its reverse flange, and a bottom closing the bottom opening of said container.

2. A shipping container formed of fibre board scored and cut to define a closure for receiving articles of cloth-

ing on hangers comprising front, rear and a pair of side panels, said front panel being provided with intermittent cuts along a line to separate said front panel into an upper door panel and a lower panel joined together by uncut portions between the intermittent cuts, said lower panel being secured between the front edges of said side panels, flaps extending from said panels, hanger engaging flanges extending from the flaps of said front and rear panels, a tab extending from said upper door panel and adapted to be engaged by said side panel, a hanger bar, said hanger bar comprising a hanger receiving member and inverted U-shaped hooks on the ends of said hanger receiving member, the ends of said hooks being characterized by inner and outer bearing plates joined along their upper portion by a web, said hooks being adapted to be received by said side panels with the inner bearing plate of each hook being against the inner surface of one of said side panels, said hooks spacing said hanger receiving member downwardly from said edge, upstanding means extending from said hanger receiving member to be engaged by said flaps of said front and rear panels and to receive therebetween said hanger engaging flaps and a bottom closing the bottom of said container.

3. A shipping container formed from one piece blank of fibre board scored and cut to define a closure for receiving articles of clothing on hangers comprising front, rear and a pair of side panels, said front panel being provided with intermittent cuts along a line to separate said front panel into an upper door panel and a lower panel joined together by uncut portions between the intermittent cuts, said lower panel being secured between the front edges of said side panels, reverse flanges extending from the upper portions of said front and side and rear panels, intermediate flanges extending from the edges of said reverse flanges, flaps extending from said intermediate flanges, hanger engaging flanges extending from the flaps of said front and rear panels, said reverse flanges being folded outwardly and downwardly against their respective panels, securing means securing said reverse flanges against their panels, a tab extending from said upper door panel and adapted to be engaged between a side panel and its reverse flange, a hanger bar, said hanger bar comprising a hanger receiving member and inverted U-shaped hooks on the ends of said hanger receiving

member, the ends of said hooks being characterized by inner and outer bearing plates joined along their upper portion by a web, said hooks being adapted to fit over the upper edges of said side panels and their reverse flanges with the inner bearing plate of each hook being against the inner surface of one of said side panels and the outer bearing plate of each hook being against the outer surface of the reverse flange of one of said side panels, said hooks spacing said hanger receiving member downwardly from said edge, upstanding opposed brackets extending from said hanger receiving member to be engaged by said flaps of said front and rear panels and to receive therebetween said hanger engaging flaps and a bottom closing the bottom of said container.

4. In a container formed of fibre board, cut and scored to define a closure having a front panel and a pair of side panels, said front panel including a door panel hingedly secured to one of said panels and means secured to other side panels for frictionally holding a portion of said door panel, said means including a flange secured to said other of said side panels and said portion of said door panel including a tab insertable between said flange and said side panel.

5. A shipping container comprising front, rear and a pair of side panels arranged initially in side by side relationship and integrally joined with each other, said front panel being provided with an interrupted cut to separate said front panel into upper and lower panels joined by uncut portions of said portions of interrupted cut, said lower panel being permanently secured in place between said side panels, said rear and side and front panels providing a closure for receiving articles of clothing on hangers, a hanger bar extending between said side panels to receive said hangers, and a pair of means, one on said upper panel and the other on said side panels for frictional engagement and disengagement when said upper panel is closed and opened.

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