Fig. 1

Fig. 2

Fig. 3

Fig. 4

Inventors: Joe Field 23 0  Harry Field 24 2  ATTY.

By: Morris Lecter

ATTY.
This invention relates to containers for the shipping and storage of hanger supported garments and the like, and has particular reference to an improved multiple garment container assembly including an improved container foldable out of a single blank of fibroboard or the like.

It is an object of the invention to provide an improved container for the shipping and storage of hanger supported garments without appreciable garment creasing or wrinkling, and wherein the container is readily and simply constructed by folding from a single pre-cut and scored blank of corrugated fibroboard or the like.

It is another object of this invention to provide for ready folding to form a container of box-like character, a novel blank of corrugated fibroboard or like material, which is pre-cut and scored in a manner to define relatively hingedly connected wall or panel elements constituting container front, back and opposite side walls, and end flaps on the elements certain of which afford the bottom closure means of the container and others the top closure means, the pre-cut and scored blank further defining the panel element constituting the container front wall, such as to adapt a portion of the element for swinging movement relative to the remainder of the element, as to provide a front door for the container.

It is still further object of this invention to afford a sturdy and relatively lightweight fibroboard container adapted to contain and support a plurality of hanger supported garments, wherein the container provides a relatively large lateral access opening for facilitating container insertion and removal of garments, and a closure for securely holding the same in the embracing embodiment of the invention, relatively foldable parts permitting folding of the closure in open condition, with projection of portions thereof beneath the container, whereby to locate the closure in an out-of-the-way position relative to the access opening.

A further object of this invention is to provide in an improved container of the aforesaid character, having side walls and foldable top closure elements, a hanger bar spanning the side walls and supported on the upper margins thereof, and a garment retainer insert element having a portion overlying the hanger bar and garment hanger hook ends seated on the bar, wherein the hanger bar is disposed inwardly of the container below its upper end sufficiently to locate the outer surface of the garment retainer portion substantially in the plane of the upper side wall margins, whereby to permit seating of the container top closure elements against the upper side wall margins and the outer surface of the garment retainer portion, in the closed position of the closure elements.

It is a still further object of the invention to provide a container of the character indicated, assembled by folding of a pre-cut and scored fibroboard blank and including a hanger bar applied in a specified relation to the container and adapted for strengthening the assembled container, wherein the container is readily foldably collapsible upon removal of the hanger bar, as to facilitate container storage when not in use.

The foregoing and other objects and advantages of this invention will become apparent from the following description of a few preferred embodiments thereof, as is illustrated in the accompanying drawings in which:

FIG. 1 is a plan view of a one piece pre-cut and scored fibroboard blank according to one embodiment of the invention, constituting the body of the presently improved container shown in FIG. 2;

FIG. 2 is a perspective view of the container as folded out of the blank of FIG. 1, showing the front access opening thereof and the closure element above and below thereof in an open condition, the view further illustrating a garment hanger support bar mounted on the container;

FIG. 3 is an enlarged fragmentary sectional view of the container, as taken from line 3—3 in FIG. 2, but showing the container door and top closure flaps in container closed positions, the view illustrating a separately formed garment retainer insert in effective position in the container relative to hanger supported garments therein;

FIG. 4 is an enlarged fragmentary detail sectional view of the container assembly, as viewed from line 4—4 in FIG. 3;

FIG. 5 is a reduced perspective view of the garment retainer insert shown in section in FIG. 3;

FIG. 6 is a plan view in reduced size, of a one-piece pre-cut and scored fibroboard blank which embodies a modification of the form of blank shown in FIG. 1; and

FIG. 7 is a perspective view of the container as folded out of the blank of FIG. 6, showing the access door in an open position, and a garment hanger support bar mounted on the container.

With reference to the embodiment according to FIGS. 1 to 5, and referring first to FIG. 1, illustrated in plan is a single blank of suitable relatively heavy corrugated fibroboard or the like. The blank is cut and scored according to predetermined design, such as to facilitate folding thereof into carton or container form of desired configuration, as in the present example the configuration shown in FIG. 2, affording a generally rectangular and vertically elongate tubular body which here is approximately square in horizontal section although it may be of rectangular section in any desired proportion. The fibroboard blank as viewed in FIG. 1, comprises a single or one piece sheet which is scored along two parallel longitudinal primary score lines 10 and 11, having a predetermined desired transverse spacing and defining respectively, the top and bottom margins of the container walls.

Longitudinally spaced, parallel transverse scoring along score lines 14, 15, and 16 normal to and intersecting score lines 10 and 11, define therewith (left to right) a container side wall 18, back wall 19, open front wall 20 and a projecting flange 21 on the latter. At the left of side wall 18 and between score lines 10 and 11, is the container front wall 24 which is separated from side wall 18 by transverse cut or recess 25 parallel with score lines 14—16 and of predetermined desired length in extension from the longitudinal score line 10, such length preferably being appreciably greater than half the transverse (vertical) extent of the front wall, as shown. Completing the definition of front wall 24 relative to the adjacent side wall 18, is the transverse scoring along score line 26 between the lower terminus of cut 25 and the longitudinal score line 11.

The lower marginal portion of the blank below longitudinal score line 11, is marginally cut as shown, and is provided with transverse cuts or recesses 28, 29 and 30 intersecting score line 11 and aligned respectively, with score lines 26, 14 and 15. Such formation thereby defines front wall bottom flap 32, which preferably has a dimension in the transverse direction (FIG. 1) approximately half the horizontal depth of the ultimate container (FIG. 2), a bottom flap 33 on side wall 18, bottom flap 34 on back wall 19 and corresponding to the front wall bottom flap 32, and bottom flap 35 on side wall 20.

In similar manner, the upper marginal portion of the blank above longitudinal score line 10, is marginally cut and provided with the recesses 38, 39 and 40, defining front and back wall top flaps 42 and 43 respectively, each
like the corresponding bottom flaps 32 and 34, and like top flaps 44 and 45 respectively on side walls 18 and 20. The longitudinal score lines 19 and 11 are in each instance parallel with the adjacent longitudinal edge of the blank fibre board sheet and spaced therefrom in each instance an amount approximately half of the width of the front or back wall 18 and 20 respectively. Completing blank formation, the front wall 24 is provided with scoring along a longitudinal score line 47 parallel with score line 11 therebelow and extending to intersection with the junction 48 of transverse recess 25 and score line 26, and further scoring along a longitudinal score line 49 parallel to and above score line 47, extending to the transverse recess 25. Thus, the front wall comprises the lower section or panel 50 integral at one side with side wall 18 over score line 26, and a front door portion 52 (to be noted in connection with subsequent description of FIG. 2) having lower section or panel 53 and upper section or panel 54 defined by the score line 49. Importantly to the present invention and for a purpose hereinafter to appear, the transverse spacing of score line 49 from score line 47 is substantially the same as the transverse spacing of score line 47 from the score line 11 therebelow. Consequently the score lines 50 and 53 correspond in shape and area, such that they have approximately the same depth or transverse (vertical) dimension as viewed in FIG. 1.

The blank as thus provided is conditioned by the several recesses and the scoring along the indicated score lines, for relative folding displacements of its wall and flap portions to form a container body of generally box-like form, as shown in FIG. 2 and the detail views of FIGS. 3 and 4. The resulting container, as appears in FIG. 2, includes the opposite side walls 18 and 20, back wall 19, and bottom closure indicated on score line 49 which is formed on the bottom flaps 32 and 34 folded into relative abutting or almost abutting positions and overlapped by the folded flaps 32 and 35 suitably secured thereto in closed condition. The flange 21 on side wall 20 is intrapped toward the opposite side wall, while the free margin 57 of front wall portion or panel 50 is lapped with the flange 21 and secured thereto, as by suitable staples 58. The side walls 18 and 20 define with panel 50 a front opening 60 giving access to the container interior, the panel 50 thus constituting a front sill section relative to the opening.

The side from closing relation to the opening 60 is the heretofore indicated door portion 52 which is hingedly integral with sill section 59 over the scoring along score line 47, such score line being horizontal and extending transversely of the door and sill in the formed container. The door portion further, is of sectional character as heretofore noted, providing the lower section or panel 53 and the upper section or panel 54 hingedly integral with the lower section scoring along horizontal score line 49 which parallels score line 47. Moreover, on the upper door section 54 is the front wall top flap 42 hingedly integral therewith over the scoring along that portion of score line 10 (FIG. 1) applicable to such flap and door section. As shown in FIG. 2, the door is in a part open condition, attained by relative folding of its sections forward of sill 50 and with the top flap 42 extended beneath the container bottom closure 56. However and concerning an important invention, the door is here adapted for folding displacement to a full-open, out-of-the-way position. Such adaptation is attained by providing the lower door section 53 and the sill section 50 to have approximately the same depth (as heretofore indicated in the description of the blank shown in FIG. 1). Thus, and upon tipping or rocking of the container backwardly along the bottom ledge of back wall 19 as a pivot, the door may be readily foldably displaced to project the top flap 42 and upper door section 54 beneath the container bottom closure 56, to an extent such as to bring the lower door section 53 into external, relatively close overlying relation to the sill section 50. Upon return of the container to normal upright position, the door will be thereby retained in such out-of-the-way open condition, hence entirely free of any interference with close approach to the front opening 60 by the user of the container. The container is designed for engagement by the hook ends of garment hangers. One such hanger is shown in outline at 66 in FIG. 3, supporting a garment indicated at 68 and having its hook end 69 engaged over the top edge of bar 64. Suitably welded to the ends of bar 64 are bracket members 70 each of inverted U-shape in transverse section, as such is indicated in the sectional detail view of FIG. 4, and each of which includes a pair of outwardly pushed tongues 71 (leaving openings 71') that are welded to the inner surfaces of the flanges of the bar 64. The overall length of the bar unit is predetermined with regard to the spacing of the container side walls to which it is to be applied, so that the bar 64 will span the side walls with the brackets 70 seated in embracing relation to the side wall top portions and bearing against the side wall top edges 61. Such bar unit 62 which is readily removable from the container, is substantially centered on the side walls and not only affords the mounting support for a plurality of garment hangers, but serves in addition, to hold and strengthen the container in its box form. The latter function of the bar unit is facilitated by providing the brackets 70 such that each has a relatively large seating contact area with its associated side wall, the large contact area particularly over the side wall top edge 61, further effecting a desirable distribution of the hanger bar load over the side walls. Importantly also, and for a purpose presently to appear, the bar 64 is structurally related to its brackets 70 so that when the latter are fully seated on the container side walls, as shown in FIG. 2, the top edge 65 of the bar will be substantially uniformly spaced to a predetermined extent, inwardly of the container from the plane of the container side wall top edges 61. This particular form of bar construction is illustrated more fully in FIG. 6 of our copending application, Serial No. 544,774, filed of the present invention, 1965, now Patent No. 3,803,617, issued October 10, 1966.

Given the assembled container and hanger bar as shown in FIG. 2, with the front door thereof folded from the part open condition shown to its heretofore described full open, out-of-the-way condition, hanger supported garments, such as suits, dresses, etc., then may be placed in the container with the hanger hook ends on the bar 64. When the desired number of garments, within or up to the capacity of the given container, has been so hung therein and adjusted so that the garments hang properly without crease or wrinkle producing interference between
adjacent garments, the container then may be closed and sealed as for shipping or storage. Container closure is here effected in connection with the insertion and placement of a separate garment retainer insert, as will be now described.

The above mentioned garment retainer insert is a separate member, as illustrated in the perspective view of FIG. 5 and shown in effective position in FIG. 3. It comprises a single piece of corrugated fiberboard or the like, shaped as by folding out of a rectangular scored fiberboard blank of predetermined size or dimensions. The folding insert, indicated at 72, provides a central portion 73 of inverted U-shape in transverse section (FIG. 3) and having a length substantially equal to the length of the hanger bar 64 and presenting a rectilinear top surface or edge 74. Extending divergently from the legs of the central portion 73 are like wall or panel elements 76 and 77 which terminate, respectively, in generally upwardly, like side walls or panels 78 and 80. Side panel 78 includes an intumixed marginal lip 81, while the other side panel 80 has a similar intumixed lip 82. The insert formed as described, is entered in the upper zone of the container to have its central portion 73 in embracing relation to the hanger bar 64 and in cantilevered position, severing any hanger hook ends thereon, and to locate its panel elements 76 and 77 in relatively close overlying relation to the upper or shoulder portions of the garments in the container, as shown in FIG. 3. In the present example, panel 77 extends toward back wall 29, and has its uppering panel 80 in substantially parallel connecting relation to the back wall, with the lip 82 thereof underlying the back wall top flaps 43 in its hinge region. As so located, the lip 82 and flap 43 in open position are secured together, at the right and left hand side of the flap 43 preferably by stapling, one such staple connection being indicated at 84 in FIG. 3. This is done when the flap 43 and the lip 82 are folded to a vertical position.

Having secured the back side of the insert, the other panel 76 thereof is similarly related to the garment shoulder portions and the top of the panel 78 is stapled to the top of the lip 81. Then upon displacement of the container door from its full open position (as attained in the manner hereinafore indicated) and unfolding its panels 53 and 54 to a co-planar relation against the flange door stop 21 and closing the container opening 60, the insert panel 78 is manipulated to lie flat against the upper door panel 54 and to have its lip 81 underlying the hinge zone of door top flap 42. Whereupon the lip and flap are secured together by stapling, including the staples 85. It is to be observed that the insert when so stapled to the door facilitates retaining the door in closed position particularly prior to closure of the door flap and its securment in closed position.

As hereinafore noted, the top edge 65 of hanger bar 64 has a predetermined spacing below the plane of the container side wall top edges 61. Such spacing is determined with regard to the thickness or gauge of the hanger hook ends 69 and the thickness of the fiberboard insert in its central section 73, such that when the insert is in place as hereinafore described, the top surface or edge 74 of the insert central section 73 will lie substantially in the aforesaid plane of the top edges 61. Upon intumixing of the top flaps 42 and 43 to close the upper end of the container (FIG. 3), such flaps may be brought into marginal sealing relation with the wall to prevent the escape of such tape may be applied over the margins of the closed door adjoining the container side walls, and similarly along the side wall engaging margins of the top flaps, as to seal the container against entrance of dust and dirt.

As so completed, the garment packed container then is ready for shipment or storage. In handling the container, particularly in the course of shipment, it is to be observed that the insert 72 through its panels 76 and 77 closely along the garment shoulder portions, will effectively substantially prevent dislocation of garments from their hangers or displacements of the hangers, thereby preventing creasing or wrinkling of the garments. The insert 72 also holds the flaps 44 and 45 in their vertical positions whereby these flaps tend to reinforce the upper portions of the side walls 18 and 20.

When it is desired to open the container for access to the garments therein, as to remove any or all thereof, the sealing tapes 86 are removed, and the top flaps 42 and 43 swung to open positions. Whereupon the insert 72 is disconnected from the door flap 42, as by removing the staples 85, and lifted out of the way (or the insert may be entirely removed by disconnecting it from the back wall top flap 43). The door panels 53, 54, and flap 42, then are folded to any desired part-open position or to full-open position (attained as hereinafore described), thereby to expose the opening 60 and afford access therethrough to the garments in the container.

The container in empty condition may be readily collapsed to a substantially flat folded condition, as for storage when not in use. To permit collapse thereof, it is necessary to remove both the hanger bar unit 62 and the insert 72. Removal of the bar unit 62 is readily accomplished, merely by lifting thereof to disengage the brackets 68 from the side walls. The bar and insert, unit 62 then may be retained with the collapsed container in storage, ready for reapplicability to the container when reformed for use.

FIGS. 6 and 7 illustrate, respectively, a fiberboard blank embodying a modification over the blank of FIG. 1, and the container modified from the modified blank. In both these figures, parts thereof corresponding to the same parts shown in FIGS. 1 to 4, will bear the same reference characters but differentiated by primes. Referring first to FIG. 6, the fiberboard blank is scored along longitudinal and parallel score lines 10' and 11', and along transverse parallel score lines 14', 15' and 16' between and intersecting score lines 10' and 11', thereby defining container side wall 18', back wall 19', opposite side wall 20' and flange 21'. Also, it has its opposite longitudinal margins cut as before, to define bottom flaps 32', 33', 34' and 35' and top flaps 42', 43', 44' and 45'. The present modification appears in the left end region of the blank between score lines 10' and 11', as viewed in the figure. In that region it has the transverse scoring along score line 26' intersecting score line 11'', which here terminates at the inner terminal end 90 of a longitudinal cut or recess 91 parallel to score line 11' and open at the left margin 92 of the blank. Additional scoring is provided along a transverse score line 94 in alignment with score line 26' and extending from the end 90 of cut 91, to intersection with the longitudinal score line 10'. Such cut and scoring thus define in the left region of the blank, distinct sill and door panels 95 and 96, respectively. As indicated, the door panel includes the top flap 42'.

The container as shown in FIG. 7, is folded out of the blank of FIG. 6, and differs from the container of FIG. 2 only in its front door and sill portions. As before, the sill 95 is secured to the side wall flange faces of the hanger bar brackets 70 and the top surface 74. The top flaps thus closed, are retained in closed condition and sealed along their adjoining margins on insert edge 74, as by a strip 56 of suitable attachment and sealing tape, shown in part in FIG. 4. Although not here shown, the strip 56 may be of the type of tape as shown on FIG. 4. However, not about hanger hook ends thereon. The top flaps 42, 43 then are closed and sealed as forementioned, means of adhesively attaching the flaps to the side wall. The garment retainer insert, razor 57, thereby affording a threshold for the container front opening 60' which is swingable about a vertical axis to any desired open position, as to the indicated open position which affords unrestricted access to the container through front opening 69'. When in closed position, the door 96 will be substantially coplanar with the sill panel 95, and have its free vertical margin 98 in abutment with flange 21'.
In use, the container has the hanger bar unit 62' applied thereto, and will include in the garment packed condition thereof, a garment retainer insert such as the insert unit 72 of FIG. 5, placed in the container and secured to the top flaps 42' and 43' as hereinafter described in connection with the embodiment of FIG. 2. Apart from the door modification, then, the container of FIG. 7 is like that of FIG. 2, and is closed and sealed in like manner, with the addition of a sealing tape strip applied over and along the separation gap between the sill 95 and door 96.

Having now described and illustrated presently preferred embodiments of the invention, it will be apparent to those skilled in the art that various changes and modifications in structure and arrangement of parts may be made without departing from the spirit and scope of the invention.

What is claimed is:

1. In a container for a plurality of garments supported on hangers having hook ends, the combination of a container body foldable out of a single pre-cut and scored fiberboard blank, providing front, back and opposite side walls each having top and bottom flaps, the bottom flaps of the walls being folded to form the bottom closure of the body, said front wall having a lower portion between the side walls and defining therewith a front opening affording access to the body interior, the front wall further having an upper portion constituting a door and adapted to move from a closed position relative to said front opening, said front wall top flap being on said door, the top flap of each side wall being turned thereagainst forming a double thickness side wall top portion having a rectilinear top edge, a hanger member insert between the body side walls having a rectilinear top edge engageable by the hook ends of garment hangers, means at the ends of said member engaging said side wall top portions and supporting the member thereof with its top edge spaced a predetermined distance inwardly of the body from the plane of the side wall top edges, and a garment retainer insert member formed of fiberboard and adapted for insertion to mounted position in said body with a portion of the member overlying the top edge of said hanger member and engaging the hook ends thereof, said predetermined spacing distance of the hanger member top edge from the plane of the side wall top edges being such as to locate said insert member portion to have its outer surface substantially in said plane, the insert member providing wall means which in mounted position of the insert member in the container body, extend relatively closely over hanger supported garments therein, and upwardly along said container back wall and said door in closed position in substantially parallel contacting relation with each, said insert member wall means termination in lips provided for securement to the top flaps of said back wall and door, and the top flaps of said back wall and door having said lips secured thereto, being foldable insert member edges of the side walls and against said outer surface of said insert member portion, to form the top closure of the container body.

2. In a container for a plurality of garments supported on hangers, the combination of a container body foldable out of a single pre-cut and scored fiberboard blank, providing front, back and opposite side walls each having top and bottom flaps, the bottom flaps of the walls being folded to form the bottom closure of the body, said front wall having a lower portion between the side walls and defining therewith a front opening affording access to the body interior, the front wall further having a level portion constituting a door, movable to and from a closed position relative to said front opening, said front wall top flap being on said door, the top flap of each side wall being turned thereagainst forming a double thickness side wall top portion having a rectilinear top edge, a hanger member insert between the body side walls, means at the ends of said member engaging said side wall top portions and supporting the member thereof with its top edge spaced a predetermined distance inwardly of the body from the plane of the side wall top edges, and a garment retainer insert member formed of fiberboard and adapted for insertion to mounted position in said body with a portion of the member overlying the top edge of said hanger member and engaging the hook ends thereof, said predetermined spacing distance of the hanger member top edge from the plane of the side wall top edges being such as to locate said insert member portion to have its outer surface substantially in said plane, the insert member providing wall means which in mounted position of the insert member in the container body, extend relatively closely over hanger supported garments therein, and upwardly along said container back wall and said door in closed position in substantially parallel contacting relation with each, and the top flaps of said back wall and door being foldable against said top edges of the side walls to form the top closure of the container body.

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