

March 22, 1949.

H. A. TOMARIN

2,464,904

FOLDING BOX

Filed April 15, 1947

2 Sheets-Sheet 1

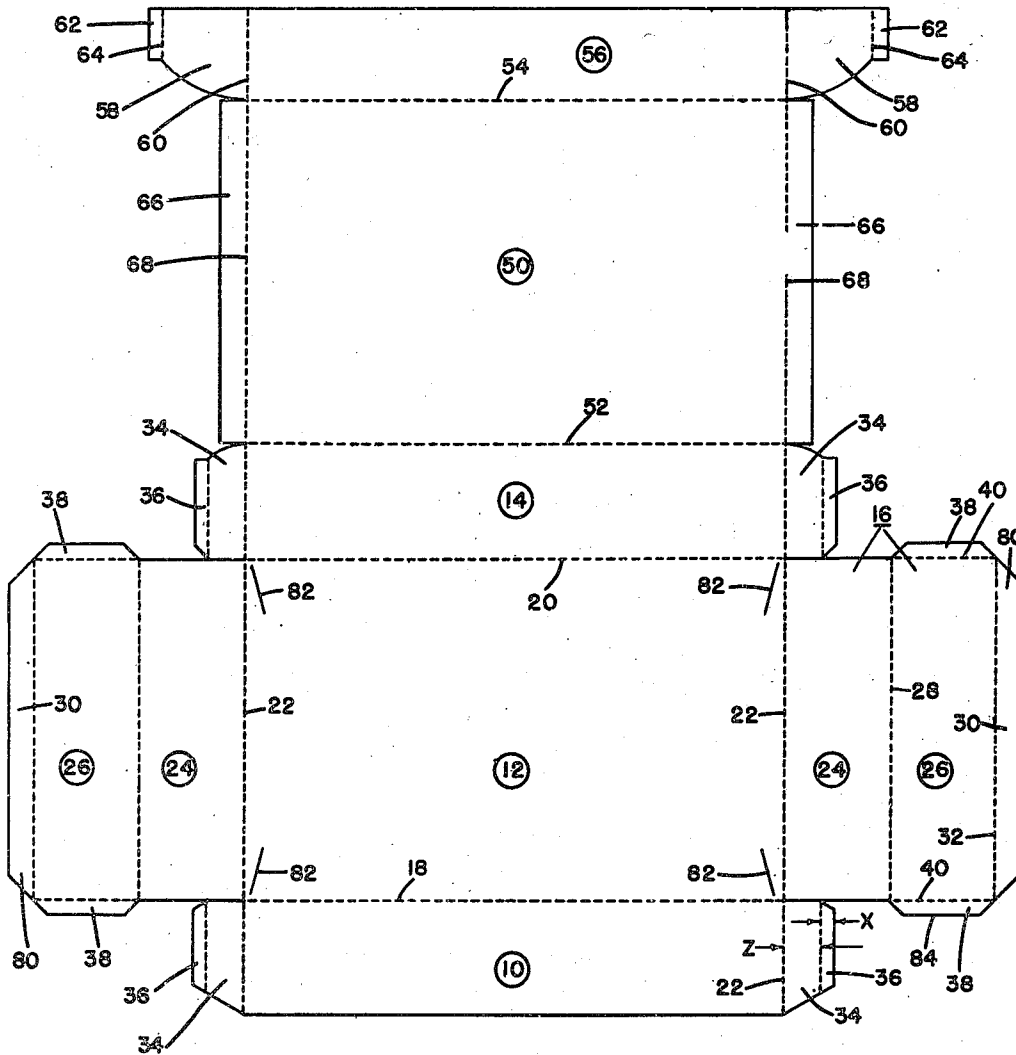


FIG. 1

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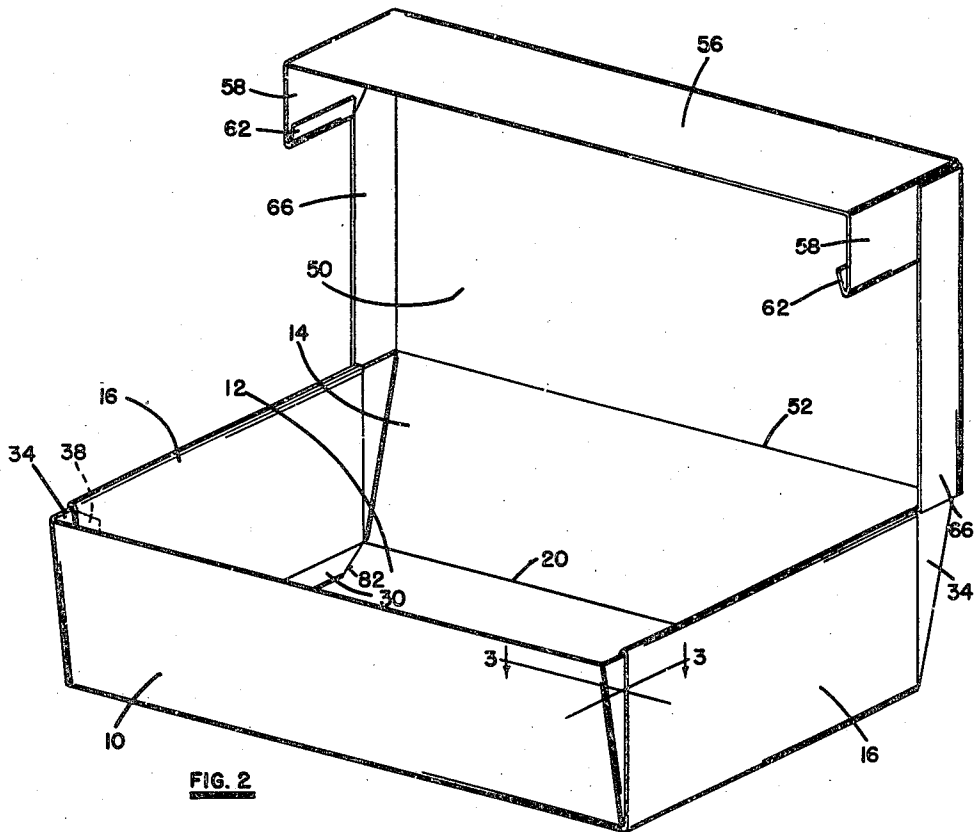


FIG. 2

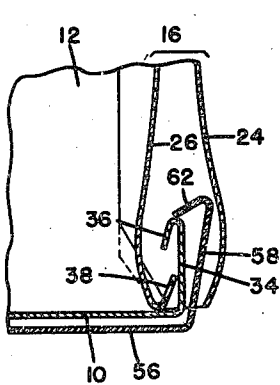


FIG. 5

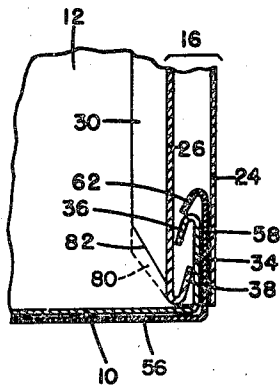


FIG. 4

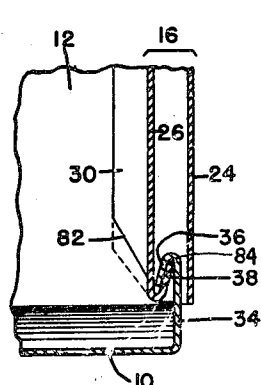


FIG. 3

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FOLDING BOX

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5 Claims. (Cl. 229—36)

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This invention relates to folding boxes, and more particularly to a one-piece folding box having a cover member formed integrally therewith.

An object of the invention is to provide a folding box, such as by way of example, of the type in which clothing, such as suits, shirts and the like, may be packaged for transportation from a store to the home of the ultimate consumer, and which box includes an integrally formed cover member which is provided with means for releasably engaging the body portion of the box for precluding accidental or unintentional opening of the cover member.

A further object of the invention is to provide a folding box having the hereinabove described characteristics wherein the cover member may be unlocked from a lowered closed position relative to the body portion of the box in response to pressure applied at certain portions of the cover member.

Still a further object of the invention is to provide a one-piece folding box, the body and cover member of which may be completely assembled or set up without the use of adhesives, staples, stitches, or other such attaching means.

Still a further object of the invention is to provide a one-piece box which includes a five-sided open topped body portion and a cover member, wherein the front and rear walls of the body portion are shiftable from a plane disposed at substantial right angles relative to the bottom member outwardly to a fully extended inclined position to facilitate the insertion of articles into the body portion of the box, without mussing, after which said front and rear walls may be returned to their initial upstanding positions for enabling the cover member to be closed and locked relative to the body portion.

Still a further object of the invention is to provide a one-piece blank which may be easily produced, by modern mass production technique, and which blanks may be shipped, in knocked down form, to the ultimate users of the blanks who may quickly and easily set them up as needed.

These and other objects are attained by the means described herein and as disclosed in the accompanying drawings, in which:

Fig. 1 is a plan view of a blank comprising a detail of the present invention.

Fig. 2 is a perspective view of a box fabricated from the blank of Fig. 1 in a fully set up condition with the front and rear walls in a fully extended condition.

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Fig. 3 is a sectional view taken on a plane defined by lines 3—3 of Fig. 2.

Fig. 4 is a view similar to Fig. 3 but with the front panel shifted inwardly from its fully extended position into a plane at substantial right angles relative to the bottom panel, and with the lid in a lowered locked position.

Fig. 5 is a view similar to Fig. 4 showing the relationship of the various elements when shifted to a lid releasing relationship.

With reference now to Fig. 1, it will be noted that a sheet of material, such as by way of example, cardboard, may be suitably cut and scored whereby to provide a front panel 10, a bottom panel 12, a rear panel 14 and side panels 16 wherein said front and rear panels are formed integrally with the front and rear edges 18 and 20 respectively of the bottom panel and wherein each of side panels 16 are formed integrally with side edges 22 of the bottom panel.

In the preferred embodiment of the invention, side panels 16 comprise an outer wall 24 and an inner wall 26 set apart by means of a score or fold line 28, and an attachment flap 30 set apart from inner wall 26 by score or fold line 32.

The side edges of the front and rear panels are provided with flap portions 34 formed integrally therewith and extending outwardly therefrom, as illustrated. Each of said side flaps are provided with and terminate in wings 36, wherein the width dimension X of each of said wings is of a dimension less than the overall width Z of its respective side flap, for a purpose hereinafter more fully explained.

Wings 38 are provided integrally with and extend outwardly from the front and rear edges of inner walls 26, said wings being defined by score or fold lines 40.

A cover member comprises top panel 50 which is integrally interconnected to the upper edge 52 of rear panel 14. The forward edge 54 of the top panel is provided with a front section 56, the side edges of which are provided with side flaps 58 which are set apart by score or fold lines 60 from front section 56, and the outer ends of which flaps terminate in wings 62 set apart by score or fold lines 64.

Preferably, though not necessarily, top panel 50 is provided with side sections 66 which are defined and set apart from the top panel by means of fold or score lines 68.

The blank of Fig. 1 may be folded to provide the box disclosed in Fig. 2 as follows:

Wings 38 of inner walls 26 may be folded inwardly about fold lines 40 for disposing said

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wings in overlapping relationship with their respective inner walls.

Inner walls 26 may then be folded over, about fold line 28, onto outer wall 24, after which the outer wall may be swung upwardly, about fold line 22 into a plane at substantial right angles relative to bottom panel 12.

Attachment flap 30 may be folded outwardly from its inner wall into the plane of bottom panel 12 thereby enabling side edges or corners 80 to be inserted into slits 82 provided adjacent the corners of bottom panel 12.

In this manner the double walled side panels disclosed in Fig. 2 will be formed wherein the free or outer edges 84 of wings 38 will be located adjacent the inner face of outer wall 24, see Fig. 3.

Wings 36 of flap portions 34 of front and rear panels 10 and 14 may then be folded inwardly over their respective flap portions after which said flaps may be folded about fold line 22 upwardly into a plane at substantial right angles relative to their respective panels.

The front and rear panels may then be folded upwardly about their respective fold lines 18 and 20 as flap portions 34 and their associated wings 36 are inserted between the inner and outer walls of side panels 16 disposing intumed wings 36 in interlocking relationship with corresponding wings 38 of the side panels, see Figs. 4 and 3. In this manner, a five sided body portion comprising bottom, front, rear and side panels will be provided, wherein the front and rear panels are shiftable from the fully extended positions disclosed in Fig. 2 wherein said panels are inclined outwardly from and relative to bottom panel 12, to a closed position wherein said panels are disposed at substantial right angles relative to bottom 12.

With reference now to Figs. 3 and 4, it will be noted that the extended position of the front and rear panels is determined by the interlocking relationship between wings 36 and 38, thereby establishing positive stops for these panels. It will be observed that corresponding wings 36 and 38 will not be in physical engagement during those periods of time when the front and rear panels have been moved inwardly from their fully extended positions, however, by reason of the interlocking relationship of the wings 36 and 38, it will be noted that these wings will positively engage, whenever their respective panels are swung forwardly relative to bottom panel 12.

At this point, it will be noted that the degree or amount by which the front and rear panels may be extended is determined by and is a function of the differential between dimension X and Z (see Fig. 1) of the flaps and wings 34 and 36.

After the body portion has thus been set up, the cover member may be made ready for use by folding wings 62 about fold lines 64 upwardly and over their side flaps 58, and of then folding side flaps upwardly into a plane at substantial right angles relative to the front section after which the front section 56 may be folded upwardly about fold line 54 into a plane at substantial right angles relative to the plane of top panel 50. Side sections 66 may then be folded about fold lines 68 into planes at substantial right angles relative to the top panel, after which the cover member may be folded about fold line 52, downwardly and over the open top portion of the body member.

After the front and rear panels have been moved to a closed position, front section 56 of

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the top panel may be disposed in overlapping relationship relative to front panel 10 during which its side flaps 58 and associated wings 62 are inserted between the adjacent faces of the outer walls of side panels 16 and the side flaps 34 of front panel 10, for disposing wings 62 in overlapping relationship with wings 36 of the front panel, thereby effectively securing the cover member in a closed or locked relationship relative to the body portion.

When it is desired to open the box, a downward pressure applied to the front side edges of the top panel will distort or buckle the inner and outer walls of the side panels as disclosed in Fig. 5 whereby side flap 58 and its associated wing 62 will be free to move outwardly for effecting a disengagement of wing 62 from wing 36, thereby enabling flap 58 to be withdrawn for enabling the cover member to be opened.

However, it should be noted that the interlocking relationship between wings 36 and 38 is not nullified or rendered ineffective during those periods of time when the inner and outer walls have been bowed to the lid releasing position disclosed in Fig. 5.

The cover member may be locked and unlocked innumerable times, wherefore the resultant box may be used many times thereby greatly enhancing its utility as a storage container.

The instant device is particularly well adapted as a container for clothing, such as suits, dresses, skirts, and the like, by reason of the fact that the outwardly extending front and rear panels greatly facilitate insertion of the garments into the body portion without mussing. After the garments have been thus housed within the body portion, the front and rear walls may be quickly and easily moved from their fully extended positions to closed positions after which the cover member may be closed and secured in place.

It should be noted that when desired, a five sided container having an open top may be provided by omitting the cover panel 50 from the blank of Fig. 1. The resultant container would include front and rear panels each shiftable to extended position illustrated in Fig. 2.

What is claimed is:

1. A container comprising a body portion including front, rear, bottom and side panels wherein said front and rear panels are formed with and integrally connected to the front and rear edges of said bottom panel and wherein said side panels are formed with and integrally connected to the side edges of said bottom panel, each of said side panels including an outer and inner wall and an attachment flap set apart by fold lines about which said inner wall may be folded downwardly into a plane in parallelism with its respective outer wall for providing double walled side panels, and intumed wings provided along and integrally with the forward and rear ends of each of said inner walls, side flaps integrally formed with the side edges of said front and rear panels and terminating in intumed wings, said side flaps dimensioned for insertion between the inner and outer walls of said side panels for disposing their respective wings in interlocking relationship with the wings of said inner walls for providing a five sided open topped body portion, and a cover member including a top panel integrally connected to the upper edge of the rear panel of said body portion, a front section integrally connected to the front edge, said front section including side flaps the ends of which terminate in intumed wings dimensioned

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for insertion between the adjacent faces of the outer walls of said side panels and the side flaps of the front panels for disposing said intumed wings in overlapping relationship with corresponding wings of the side flaps of the front panel for securing said cover member in closed relationship relative to said body portion.

2. A container comprising a body portion including front, rear, bottom and side panels wherein said front and rear panels are formed integrally with the front and rear edges of said bottom panel and wherein said side panels are formed integrally with the side edges of the bottom panel, each of said side panels comprising an outer and inner wall and an attachment flap extending outwardly from the bottom panel in that order, each of said inner walls foldable about and in parallelism with their corresponding outer walls for providing a pair of double walled side panels, means for securing said attachment flaps relative to said bottom panel, wing portions provided along the forward and rear ends of said inner walls, said wings foldable inwardly between said inner and outer walls with their free edges adjacent the inner face of the outer wall of its respective side panel, side flaps formed integrally with and extending from the side edges of said front and rear panels, wing portions provided in the ends of each of said flaps wherein the width dimension of said wings is less than the overall width of their respective flaps by an amount sufficient to space the free edge of an intumed wing in spaced relationship with the inner face of its corresponding panel, said flaps and wings dimensioned for insertion between the inner and outer walls of said side panels for disposing their respective wings in interlocking relationship with corresponding wings of said side panels for providing a five sided open topped body portion the front and rear panels of which are swingable about their lower edge from a position at substantial right angles with said bottom panel to fully extended outwardly inclined positions determined by the interfering relationship between the wings of said side panels and the wings of said front and rear panels.

3. A container comprising a body portion including front, rear, bottom and side panels wherein said front and rear panels are formed integrally with the front and rear edges of said bottom panel and wherein said side panels are formed integrally with the side edges of the bottom panel, each of said side panels comprising an outer and inner wall and an attachment flap extending outwardly from the bottom panel in that order, each of said inner walls foldable about and in parallelism with their corresponding outer walls for providing a pair of double walled side panels, means for securing said attachment flaps relative to said bottom panel, wing portions pro-

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vided along the forward and rear ends of said inner walls, said wings foldable inwardly between said inner and outer walls with their free edges adjacent the inner face of the outer wall of its respective side panel, side flaps formed integrally with and extending from the side edges of said front and rear panels, wing portions provided in the ends of each of said flaps wherein the width dimension of said wings is less than the overall width of their respective flaps by an amount sufficient to space the free edge of an intumed wing in spaced relationship with the inner face of its corresponding panel, said flaps and wings dimensioned for insertion between the inner and outer walls of said side panels for disposing their respective wings in interlocking relationship with corresponding wings of said side panels for providing a five sided open topped body portion the front and rear panels of which are swingable about their lower edge from a position at substantial right angles with said bottom panel to fully extended outwardly inclined positions determined by the interfering relationship between the wings of said side panels and the wings of said front and rear panels.

4. A container comprising a body portion including front, rear, bottom and side panels wherein said front and rear panels are formed with and integrally connected to the front and rear edges of said bottom panel and wherein said side panels are formed with and integrally connected to the side edges of said bottom panel, each of said side panels including an outer and inner wall and an attachment flap set apart by fold lines about which said inner wall may be folded downwardly into a plane in parallelism with its respective outer wall for providing double walled side panels, and intumed wings provided along and integrally with the forward and rear ends of each of said inner walls, side flaps integrally formed with the side edges of said front and rear panels and terminating in intumed wings, said side flaps dimensioned for insertion between the inner and outer walls of said side panels for disposing their respective wings in interlocking relationship with the wings of said inner walls for providing a five sided open topped body portion, and a cover member including a top panel integrally connected to the upper edge of the rear panel of said body portion, a front section integrally connected to the front edge, said front section including side flaps the ends of which terminate in intumed wings dimensioned for insertion between the adjacent faces of the outer walls of said side panels and the side flaps of the front panels for disposing said intumed wings in overlapping relationship with corresponding wings of the side flaps of the front panel for securing said cover member in closed relationship relative to said body portion, and wherein the forward portion of the inner and outer walls of said side panels are bowable apart incident to a downward pressure applied to the front side corners of said cover member for effecting disengagement of the overlapping relationship between the wings of the side flaps of the front section with the wings of said front panel for releasing said cover member from its closed position relative to said body portion.

5. A container comprising a body portion including front, rear, bottom and side panels wherein said front and rear panels are formed integrally with the front and rear edges of said bottom panel and wherein said side panels are formed integrally with the side edges of the

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bottom panel, each of said side panels comprising an outer and inner wall and an attachment flap extending outwardly from the bottom panel in that order, each of said inner walls foldable about and in parallelism with their corresponding outer walls for providing a pair of double walled side panels, means for securing said attachment flaps relative to said bottom panel, wing portions provided along the forward and rear ends of said inner walls, said wings foldable inwardly between said inner and outer walls with their free edges adjacent the inner face of the outer wall of its respective side panel, side flaps formed integrally with and extending from the side edges of said front and rear panels, wing portions provided in the ends of each of said flaps wherein the width dimension of said wings is less than the overall width of their respective flaps by an amount sufficient to space the free edge of an inturned wing in spaced relationship with the inner face of its corresponding panel, said flaps and wings dimensioned for insertion between the inner and outer walls of said side panels for disposing their respective wings in interlocking relationship with corresponding wings of said side panels for providing a five sided open topped body portion the front and rear panels of which are swingable about their lower edge from a position at substantial right angles with said bottom panel to fully extended outwardly inclined positions determined by the interfering relationship between the wings of said side panels and the wings of said front and rear panels, and a cover member comprising a top panel integrally connected to the upper edge of said rear panel, a depending front section integrally connected to the front edge of said top panel, side flaps formed in the ends of said front

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section, wings provided in the ends of said last mentioned flaps foldable inwardly toward said front section, said side flaps and wings dimensioned for insertion between the adjacent faces of the outer walls of said side panels and the side flaps of the front panel for disposing said wings in overlapping relationship with the respective wings of the side flaps of said front panel for securing said cover member in closed relationship relative to said body portion, and wherein the forward portion of the inner and outer walls of said side panels are bowable apart incident to a downward pressure applied to the front side corners of said cover member for effecting disengagement of the overlapping relationship between the wings of the side flaps of the front section with the wings of said front panel for releasing said cover member from its closed position relative to said body portion.

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