Dec. 24, 1957 H. F. CECIL 2,817,431

SHIPPING AND STORAGE CONTAINER

Filed Oct. 18, 1954

fig. 1.

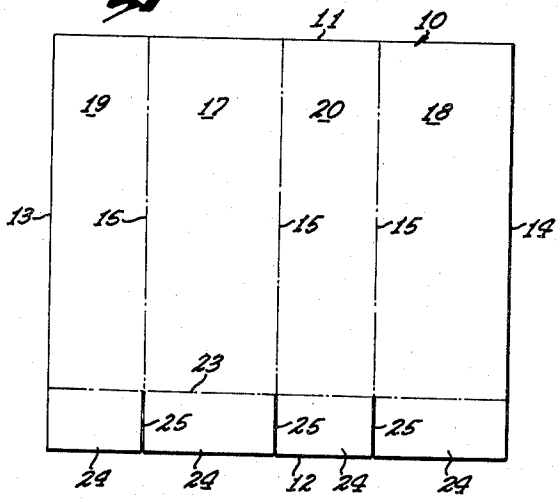


fig. 2.

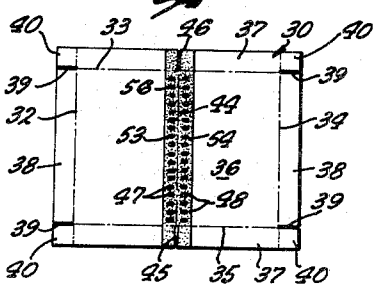


fig. 4.

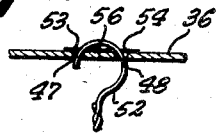


fig. 3.

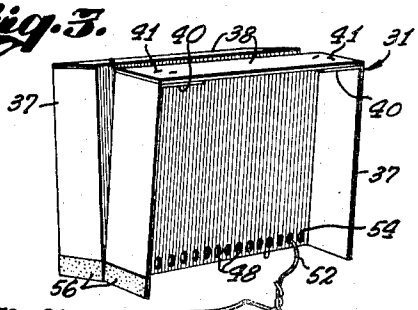


fig. 5.

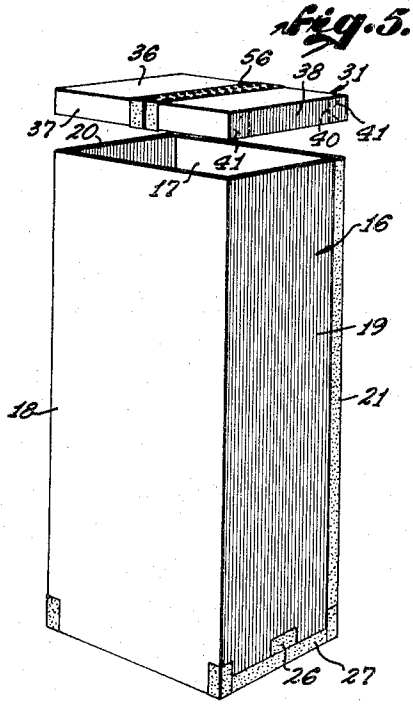
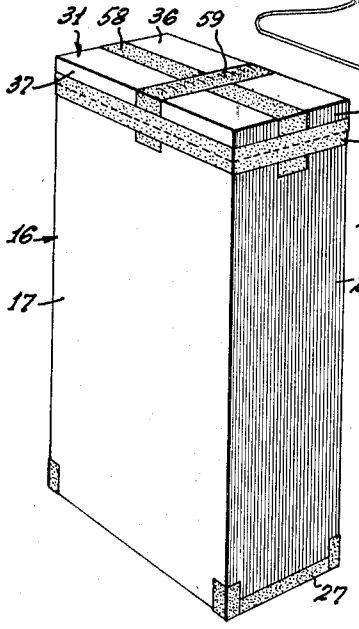


fig. 6.



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2,817,431

SHIPPING AND STORAGE CONTAINER

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8 Claims. (Cl. 206—7)

This invention relates to containers for shipping and/or storing garments, piece goods, and the like.

It is an object of the invention to provide an improved container having hanger means releasably secured to the cover of the container for supporting objects hung in the container.

A further object of the invention is to provide a container of the above mentioned character and adapted to be formed from paper board blanks which can be shipped in unassembled or partly assembled flat condition to reduce shipping costs.

Another object of the invention is to provide a container for shipping or storing garments and other piece goods, which container has a plurality of garment hangers releasably secured thereto and maintained in fixed spaced apart relation, whereby the hangers are prevented from sliding against each other and thus maintain the garments free from wrinkles and ready for use or display upon being unpacked from the container.

Another object of the invention is to provide an improved container for hanging garments therein, which is of simple and rugged construction and because of its simplicity of construction can be manufactured relatively inexpensively, with a view to supplying the public with a container of the above-mentioned character at low cost.

Further objects and advantages of the invention will become apparent during the course of the following part of this specification, wherein the details of construction and manner of assemblying an embodiment thereof are described with reference to the accompanying drawings, in which:

Figure 1 is a plan view of a blank of sheet material for forming a body section of a container embodying my invention;

Figure 2 is a plan view of a blank for forming a cover for the container;

Figure 3 is a perspective view of the cover on an enlarged scale and shown in folded position with a wire garment hanger depending therefrom;

Figure 4 is a detail longitudinal section of the cover showing the manner in which the hanger is attached to the cover when the cover is placed in its flat position as on the body section of the container;

Figure 5 is a perspective exploded or disassembled view of the container; and

Figure 6 is a perspective view of the container in fully assembled condition, as when ready for shipment.

Referring to the drawings more in detail, wherein for the purpose of illustration, is shown a preferred embodiment of my invention, reference numeral **10** desigates a blank formed from sheet material of fibre board, corrugated board, and like stiffly flexible materials, herein collectively referred to as "paper board." The blank **10** is of rectangular outline having edges **11** and **12**, which are herein referred to as end edges, and edges **13** and **14** constituting side edges of the blank. It is scored or otherwise weakened along three parallel lines **15**, on which the blank may be folded to form a tubular body section **16**,

shown in Figure 5 in completely assembled condition. The fold lines **15** are spaced apart in a manner to provide two wide walls **17** and **18** and two narrow walls **19** and **20**, with the wide walls **17** and **18** being herein designated as the front and rear panels respectively, and the narrow walls **19** and **20** being designated as side panels for the container. Tubular body section **16** is formed by bringing the side edges **13** and **14** contiguous to each other and securing them together as by means of a cemented tape **21**. Should it be desired to ship a number of containers in partly assembled and stacked condition so as to reduce shipping costs, the tubular section may be flattened by collapsing the front and rear panels thereof against each other to form a flattened structure of double the thickness of the sheet material.

To form a bottom wall for the container, the blank **10** is folded on a line **23** which extends between side edges **13** and **14** at right angles to fold lines **15** and proximate end edge **12**. Such bottom wall is constituted of rectangular end flaps **24** defined by cuts **25** which are aligned respectively with fold lines **15** and extend inwardly from end edge **12** to the fold line **23**. With the bottom flaps folded inwardly in overlapping relation with respect to each other and normal to the front, rear, and side panels of the container, they are suitably secured together as by tapes **26** and **27** pasted over adjacent edges of the flaps to seal the bottom wall of the container against dirt and dust and to add strength and rigidity to the container.

Reference numeral **30** designates a blank of paper board which is suitably scored and cut to form a cap or cover **31** for the container. The blank **30** is rectangular in outline and is scored to form fold lines **32**, **33**, **34** and **35** defining a top panel **36** which is co-extensive in area with the cross-sectional area of tubular body section **16**. The fold lines of blank **30** are parallel to respective edges of the blank and are uniformly spaced inwardly of the edges so that marginal walls of uniform height will be formed around the top panel **31** when the blank is bent on its fold lines. Reference numeral **37** designates the front and rear marginal walls of the cover and numeral **38** designates the side marginal walls. The side walls are made free from the flaps which form the front and rear walls by the cuts **39** which are aligned with the fold lines **33** and **35** respectively to provide corner flaps **40** for joining the front and rear walls to the side walls. These corner flaps are suitably secured to the side walls **38** as by staples **41**, whereby the walls **37** and **38** form a tubular portion for the cover which is telescopically received over the open end of the body section **16** with the inside face of the top panel **36** seated on the top edge **11** of the body section.

An important feature of the invention is the provision of means for releasably attaching garment hangers to the cover of the container. To this end the top panel **36** is scored along a transverse line **44** which, in the illustrated embodiment, bisects the top panel. The front and rear walls of the cover are cut at **45** and **46** respectively from the free edges of such walls to the fold lines **35** and **33** respectively so that the cover may be bent upon itself along fold line **44** as is shown in Figure 3. The top panel is provided with a plurality of apertures **47** arranged with their centers in a line parallel to and at one side of fold line **41**, and on the other side of the fold line is another row of apertures **48**, equal in number to the apertures **47**. The individual apertures in one row are so located that they will become axially aligned with respective apertures in the other row when the cover is folded upon itself as shown in Figure 3. Stated otherwise, each aperture in the rows of apertures **47** and **48** constitutes one member of a pair of apertures, one on each side of the fold line **41**, with the centers of the apertures in each

pair being in a respective line substantially at right angles to the fold lines 41.

A garment hanger 51 of conventional design is shown in Figure 3 attached to the cover. The hanger has a hook portion 52, which in the illustrated embodiment is of circular configuration and it extends through a pair of apertures 47 and 48. To insure that the hanger hook be held in the apertures against being lifted therefrom, the apertures are located with respect to the fold line 44 in a position such that the outermost edge 53 of an aperture 47 and the outermost edge 54 of an aperture 48 are each spaced from the fold line 44 by a distance which is less than the radius of the hook 52. Thus when the top panel 36 is in flat position as shown in Figures 4–6, it lies in a plane forming a secant with respect to the hook, and the chord portion of such secant (i. e. distance between edges 53 and 54) is less than the diameter of the hook whereby the hook becomes engaged by the top panel at aperture edges 53 and 54. Such spacing of the apertures from the fold line 44 also causes the hook to fit down in the cover, whereby only a small portion thereof projects above the top surface of the top panel 36.

For the purpose of reinforcing the top panel 36 and especially for preventing the hook of the hanger from tearing the panel between pairs of apertures 47 and 48, there is a fabric tape 56 cemented or otherwise suitably pasted on the top surface of the panel. Such tape is perforated to provide holes aligned with the apertures 47 and 48 and the tape extends across the front and rear walls 37 of the cover to reinforce the edges defined by the cuts 45 and 46. To reduce the amount of open space in the cover, the apertures 47 and 48 are formed of oblong shape with the longer dimension thereof arranged substantially at right angles to the fold line 44, and the width of the apertures is substantially equal to the diameter of the wire forming the hook of the hanger, whereby those arcuate portions of the hook which are contained within the apertures when the cover is in flat condition substantially cover the area of the apertures. It is to be noted, too, that the spacing of pairs of opposite apertures in the direction of the fold line 44 maintains the plurality of hangers which may be hung on the cover, in spaced apart and parallel relation, whereby the hangers are kept from sliding against each other when the container is moved. Thus garments (not shown) which are placed on the hangers hang free in the container and do not become pressed against each other.

After the container has been packed with garments, sealing tapes are employed to secure the cover on the box section of the container and to seal the container against entry of dirt or dust. To this end a tape 58 is pasted to the top surface of the cover and it extends at each end thereof beyond the bottom edge of the side walls of the cover to be pasted to respective side panels of the box section, thereby to hold the cover in its flat position down on the box section. A tape 59 is applied to cover the apertures 47 and 48 and the cuts 45 and 46 and the tape 59 also serves to hold the hanger hooks down in their respective apertures. Finally a tape 60 is pasted around the container to the lower edge of the cover and to panels of the box section, thereby firmly securing and sealing the cover on the box section.

When it is desired to remove the contents from the container the tapes 59 and 60 may be cut or removed to free the cover from the body section 16 of the container. The cover may then be folded upon itself on fold line 44 so that each half portion of the cover extends vertically upwardly from and rests upon the top edge 11 of the body section with the clothes hangers and garments thereon hanging from the cover. With the cover in such folded position on the body section, the cover may then be lifted upwardly from the body section to remove the garments from the container. Any suitable lifting means may be employed for the purpose of raising the cover and garments from the container, such for example as a wire frame (not shown) which engages the cover under the cover walls 38 and is adapted to be raised as by means of a rope passing through a pulley or pulleys attached to a support above the container. In this way the garments are conveniently accessible in a condition wherein each garment is hung on a hanger and the hanger and garment may be removed from the cover merely by lifting the hook of a hanger from the apertures in the cover. Thus the garments are received and removable from the container in the same condition in which they were originally placed in the container and not rumpled or soiled from being shipped.

From the above explanation of how the garments may be removed from the container it becomes clear that they may be loaded into the container on respective hangers in an easy and convenient manner in a reverse order of steps from that just described for removing them. Thus with the cover of the container suspended in a folded condition from a ceiling or other suitable support, hangers with garments on them may be hung on the cover by passing the hooks of the hangers through respective pairs of apertures 47 and 48 in the cover. The body section of the container may then be placed under the suspended garments and raised to enclose the garments. The cover may then be lowered and rested on the top edge 11 of the body section and thus unfolded and sealed on the body section as with the tapes 59 and 60.

While I have herein shown and described my invention in what I have conceived to be the most practical and preferred embodiment, it is recognized that departures may be made therefrom within the scope of my invention, which is not to be limited to the details disclosed herein but is to be accorded the full scope of the claims so as to embrace any and all equivalent structures.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A shipping and storage container comprising a tubular body section closed at one end and open at its other end, an end cap formed separately from the body section comprising a panel coextensive with the cross sectional area of the body section and covering the open end of the body section, said panel being foldable along a transverse line therein and having a pair of apertures disposed one on each side of said transverse line for receiving means for suspending objects to be hung in the container.

2. A garment container comprising a tubular body section closed at one end and open at its other end, an end cap comprising a panel coextensive with the cross sectional area of the body section, marginal walls integral with the panel and providing a tubular portion for the end cap, the end cap being telescopically received over the open end of the body section for closing said open end, said marginal walls being severed whereby said tubular portion is separable into two sections, said panel being foldable along a line passing through the places at which said marginal walls are severed, and apertures in said panel disposed on opposite sides of said line for receiving the hook of a hanger for hanging garments in the container.

3. A garment container comprising a tubular body section closed at one end and open at its other end, an end cap formed separately from the body section comprising a panel covering the open end of the body section, said panel being foldable along a transverse line therein and having a pair of apertures disposed one on each side of said transverse line for receiving the hook of a hanger for hanging garments in the container, said apertures being arranged for axial alignment with each other when the panel is folded upon itself on said transverse line, whereby said hanger hangs in a plane normal to said transverse line.

4. A garment container according to claim 3 wherein said apertures are of oblong shape with the longer di-

mension thereof extending in a direction normal to said transverse line.

5. A shipping and storage container comprising a tubular body section closed at one end and open at its other end, a cover formed separately from the body section closing the open end of the body section, said cover being foldable along a transverse line therein, said cover having a series of spaced apart pairs of apertures, the apertures of each pair being disposed one on each side of said line, said apertures being arranged to receive a plurality of hanger elements for suspending objects in the container, with the hanger elements being releasably engaged in respective pairs of the apertures.

6. A container according to claim 5 and including reinforcing tape on the cover, said tape having apertures therein registering respectively with the apertures in the cover.

7. A shipping and storage container of paper board comprising a box section having front, rear, and side panels and a bottom wall, a cover formed separately from the box section closing the top of the box section, said cover having a straight row of spaced apart pairs of apertures extending from front to rear of the container, the apertures of each pair being disposed in a line normal to said row, a plurality of hanger elements equal in number to the number of pairs of apertures, each hanger element having a hook portion, said apertures of each pair being spaced from each other by a distance such that the outermost edge of each is spaced from the outermost edge

of the other by a distance less than the diameter of said hook portions, said hanger elements being suspended in the container with their hook portions extending through the apertures of each pair respectively, and tape means on the top surface of the cover covering said apertures.

8. A blank of paper board for forming the cover of a container adapted for shipping and storing objects, said blank being of rectangular outline, score lines formed in said blank on which the blank may be folded to provide two sets of opposing marginal side walls around the periphery of the cover, said lines marking the periphery of an area constituting a top panel for the container, each wall of one set of said walls being severed intermediate the ends thereof, a score line formed in said panel and extending between the places at which said walls are severed whereby said cover may be folded upon itself on the score line in said panel, said panel having a series of spaced apart pairs of apertures, the apertures of each pair being disposed one on each side of and spaced equally from the score line in the panel for axial alignment with each other when the cover is folded upon itself to receive the hook of a hanger.

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