Aug. 13, 1963 W. B. GILE 3,100,594

SHIPPING CARTON

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Fig. 6

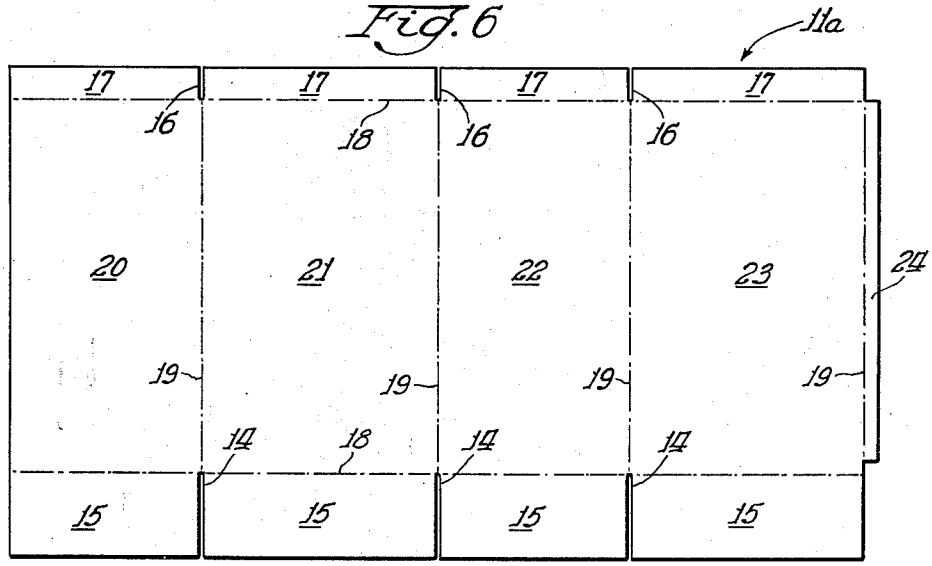


Fig. 3

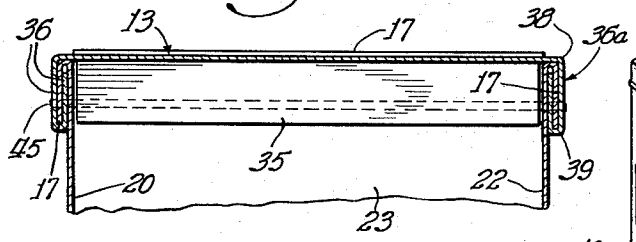


Fig. 1

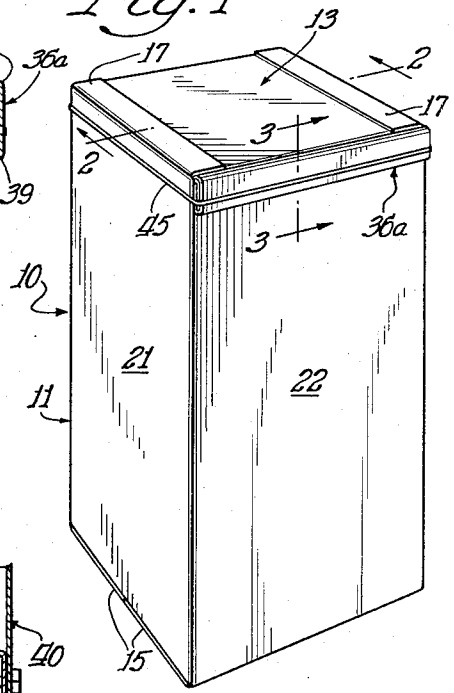


Fig. 7

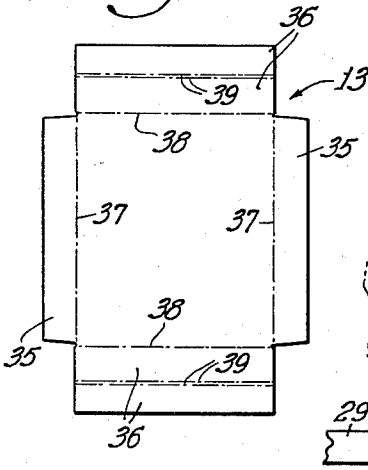
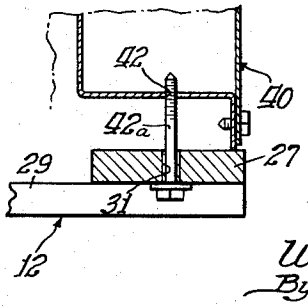


Fig. 8



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Fig. 4

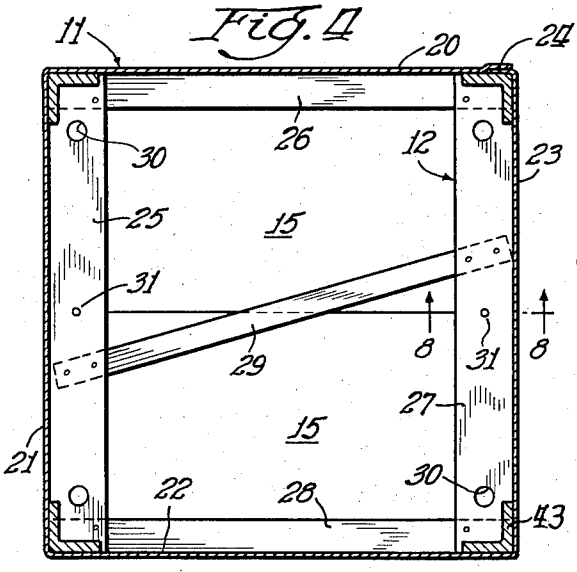


Fig. 2

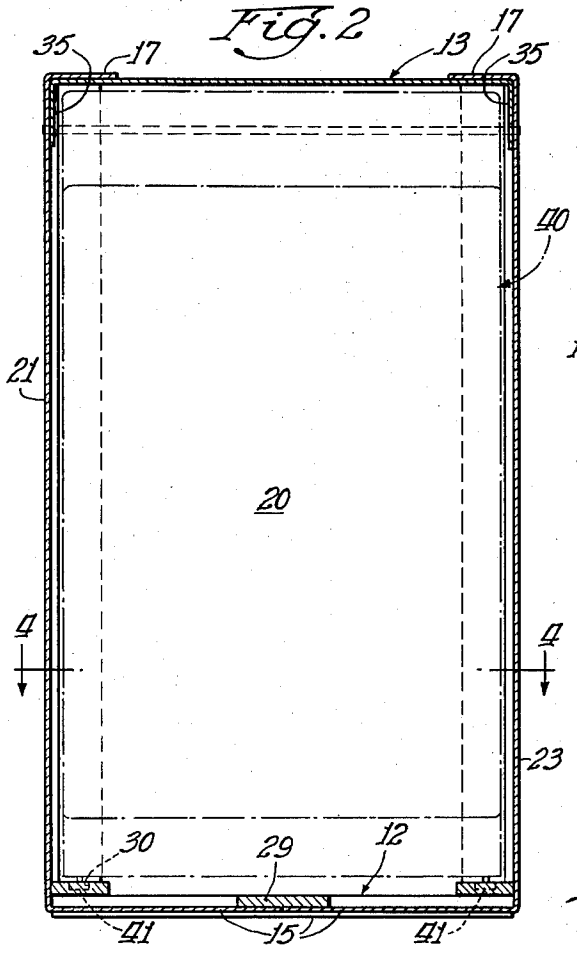
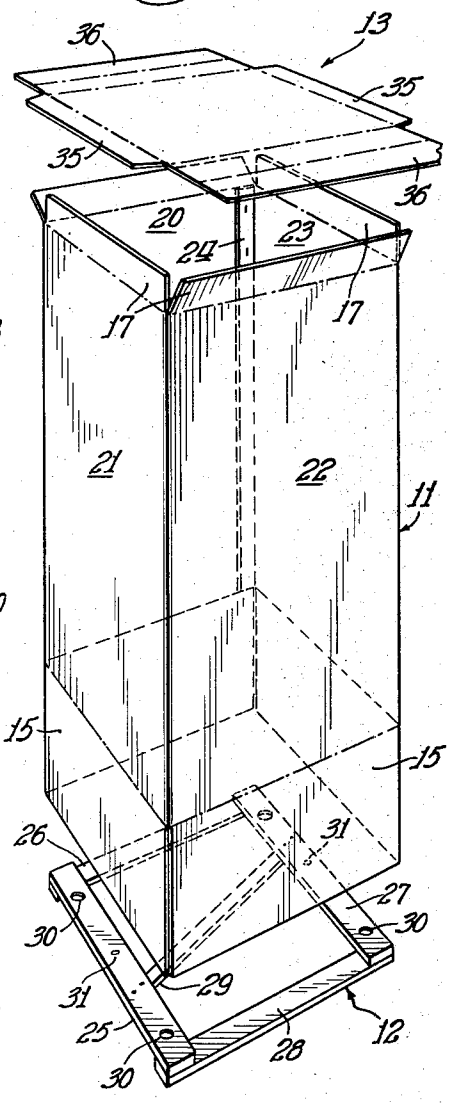


Fig. 5



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SHIPPING CARTON

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2 Claims. (Cl. 229—16)

This invention relates to an improved shipping container and more particularly to a carton used for shipping domestic appliances.

In providing a shipping container or carton for domestic appliances, it is necessary to provide a carton which will protect the appliance during shipping and storage and which will be simple and economical to construct and use. Many presently used cartons require miltered joints for the flaps which cannot be provided with standard corrugating board equipment. Also, presently known containers require a wooden frame within the top of the container to provide the necessary rigidity and strength for the carton. Further, many of the prevailing cartons require specially constructed openings or projections which are used in conjunction with special gripping devices to provide a means for handling the carton after enclosing the appliance. Cartons requiring all of these special structures, are costly to produce and are not only time consuming but cumbersome to assemble and use. It is, therefore, extremely important to provide a container which uses a minimum of materials and is easy to manufacture and assemble, and which can be readily handled with the same equipment used for the well-known drum-type carton.

It is the primary object of this invention to provide a shipping container of simple and economical construction for use in shipping domestic appliances.

Another object of this invention is to provide a corrugated board container having increased strength and which utilizes a minimum amount of wooden frame work.

Another object of this invention is to provide a corrugated board container which can be readily assembled and used, with low material and labor costs.

A further object of this invention is to provide a corrugated board shipping container having a structure which facilitates lifting and handling of the carton without requiring special lifting equipment.

With these and other objects in view, the present invention contemplates a shipping container having a wooden base sealed in one end, and provided with foldable flaps on the other end. A closure member having foldable flaps on the edges thereof is laterally positioned in the other end of the container. Two opposed foldable flaps on the closure are folded with adjacent flaps on the carton for partially securing the closure member to the body and for providing a projecting strengthening member to be used for lifting the container. The remaining opposed foldable flaps on the closure member are folded and secured within the container adjacent foldable flaps on the container which are secured to the outside of the closure for further securing the closure member to the container to seal the remaining end of the container.

This invention consists of the novel constructions, arrangements and devices to be hereinafter described and claimed for carrying out the above stated objects and such other objects as will be apparent from the following description of preferred forms of the invention, illustrated with reference to the accompanying drawings, wherein:

FIG. 1 is a perspective view of the container showing the container in assembled condition.

FIG. 2 is a longitudinal sectional view taken along line 2—2 of FIG. 1 showing an appliance contained within the assembled container and the inter-relationship of

two of the flaps of the top or closure and two of the flaps of the tube or body of the container.

FIG. 3 is a partial longitudinal sectional view taken along line 3—3 of FIG. 1 showing the inter-relationship of the two double fold flaps of the top or closure and two of the flaps of the tube or body of the container.

FIG. 4 is a transverse sectional view taken along line 4—4 of FIG. 2 showing the position of the wooden base frame and corner braces within the container.

FIG. 5 is an exploded perspective view of the container in the disassembled condition.

FIG. 6 is a plan view of the cut and scored blank utilized in making the tubular body of the container.

FIG. 7 is a plan view of the cut and scored blank utilized in making the upper closure member of the container.

FIG. 8 is a partial sectional view taken along line 8—8 of FIG. 4 showing the means used for securing the appliance to the wooden base frame.

Referring to the drawings, there is illustrated a shipping container (FIG. 1) generally designated by the numeral **10**. The container **10** comprises three main elements; namely, a tubular body portion **11**, which is substantially rectangular in cross section (FIG. 4), a wooden base frame **12**, and a top or closure member **13**. The tubular body **11** is formed from a corrugated board **11***a* (FIG. 6) which is slotted at **14** to form bottom flaps **15** and at **16** to form top flaps **17**. The board **11***a* is scored along parallel lines **18** to form fold lines for the bottom and top flaps **15** and **17**. The board **11***a* is also scored along parallel lines **19** to provide fold lines which divide the board into panels **20**, **21**, **22**, **23** and a joining flap **24**. The corrugated board **11***a* is folded along the parallel lines **18** and **19** and the joining flap **24** is secured to the vertical panel **20** (FIG. 5), to provide the tubular body **11** (FIG. 4).

The base frame **12** is rectangular and comprises four wooded boards **25**, **26**, **27** and **28** (FIGS. 4 and 5) which are rigidly interconnected to form the frame **12**. A brace **29** is provided between boards **25** and **27** of the frame **12** and the planks **25** and **27** are provided with positioning recesses **30** and holes **31**.

The closure member **13** of the container **10** comprises a corrugated board **13** (FIG. 7) which has single-fold flanges **35** and double-fold flanges **36**. The corrugated board **13** is scored along parallel lines **37** to provide a fold line for the single-fold flanges **35**. Also, the board **13** is scored along parallel lines **38** and along pairs of lines **39** to provide fold lines for the double-fold flanges **36**.

An appliance, generally designated by the numeral **40**, such as an automatic washer or dryer, is housed within the container **10** (FIG. 2) which is assembled around the appliance **40**. The appliance has four adjustable feet **41** which are positioned in the recesses **30** (FIG. 2) of the frame **12** to secure the appliance against movement on the frame. The appliance **40** has securing holes **42** in registry with the holes **31** in the frame **12**. Sheet metal or lag screws **42***a* (FIG. 8) are inserted through the holes **31** of the frame **12** and are threaded into the securing holes **42** of the appliance **40** to secure the appliance to the frame **12**.

The shipping container body **11** is positioned over the appliance **40** and the wooden base **12** so that the wooden base is laterally positioned within the body **11** immediately above and within the lower line **18** of the bottom flaps **15**. The bottom flaps **15** are then folded inwardly in overlapping relation and secured to each other to seal the bottom of the container **10**. A corrugated corner brace or spacer **43** (FIG. 4) is inserted in each of the four corners of the body **11** between the appliance **40** and the body **11**. These braces **43** extend longitudinally between the top fold line **18** of the panels **20–23** and the base **12** so as to give verti-

cal support to the carton and to position the appliance within the container 10.

The corrugated board closure member 13 (FIG. 5) is applied to the body 11 to seal the top of the container. For this purpose, the top flaps 17, connected to the side panels 20 and 22, are folded outwardly away from the container 10 and the single-fold flaps 35 of the closure member 13 are folded downwardly (FIG. 5). The closure member 13 is positioned adjacent the fold line 18 of the upper flaps 17 and the single-fold flaps 35 are secured to the inside of the panels 21 and 23 of the container body 11. The flaps 17 connected to the side panels 21 and 23 are folded laterally inward over the outside of the end closure member 13 and are secured to the outside of closure member 13 (FIGS. 1 and 2).

The double-fold flaps 36 of the closure member 13 are thereby placed in parallel engagement with respective single-fold flaps 17 connected to the panels 20 and 22 of the body 11. The double-fold flaps 36 are folded along lines 39 and then along lines 38. The double-fold flaps 36 are thereby folded around the respective flaps 17 connected to the panels 20 and 22 and then folded against the respective side panels 20 and 22 to each form a strengthening member 36*a* (FIG. 3), positioned laterally outward from the side panels 20 and 22. A steel strap 45 is applied around the members 36*a* and the top of the shipping container 10 (FIG. 1) to secure the members 36*a* in position against the body 11.

It should be noted that my invention provides a carton which will not use as much material as is used in presently known comparable cartons, and as a consequence will be less expensive. Further, an additional advantageous cost-saving feature is that it occupies a minimum floor space due to its compactness, so that warehouse and railroad car capacity and loadings will be increased approximately 25%. Shipping costs are thereby reduced by utilizing my carton. No special equipment is required for manufacturing the carton as conventional carton-making equipment can be readily and inexpensively modified to manufacture my improved carton. In addition, the sealing equipment used to package articles, such as household appliances, and used for sealing my improved carton is less than 10% of the cost of sealing equipment for a regular shipping carton. In addition, the floor space required for sealing equipment has been reduced substantially, as the floor space required for sealing equipment for this carton would be approximately 5 linear feet of conveyor, as compared to 35 to 40 feet, or more, for other types of sealing equipment that would be used on a regular shipping carton.

While I have described my invention in connection with certain specific constructions and arrangements, it is to be understood that this is by way of illustration and not by way of limitation and the scope of my invention is defined solely by the appended claims which should be construed as broadly as the prior art will permit.

I claim:

1. A shipping container for appliances and the like comprising a tubular portion of corrugated board and having a substantially rectangular cross section; closure means at one end of said tube and adapted to form the bottom thereof, said closure means comprising bottom flaps formed from said corrugated board folded inwardly in overlapping relation and secured each to the other whereby to seal the bottom of said tube, a base frame of reinforced wooden boards joined to form a rectangular base adapted to fit within the closure formed by the tube and base of the container, said base frame having positioning recesses adapted to receive and position the feet of an appliance and having holes adapted to receive the securing means retaining said appliances to said base frame, corner braces in each corner of the tubular means extending longitudinally of the tube member and adapted to furnish vertical support and reinforcement thereto and position the appliance and base means within the said container; a closure member laterally positioned adjacent the top end of said tube, a first and second pair of opposed foldable tube flaps extending from said top end of said tube and a first and second pair of foldable closure flaps extending laterally from opposite sides of said closures, said first pair of said closure flaps being adapted to be secured to the inside of said tube respectively adjacent flaps of said first pair of said tube flaps, said first pair of tube flaps being adapted to be folded and secured to the outside of said closure member, said second pair of foldable closure flaps extending laterally from opposite sides of said closure member and adapted to fold around respective flaps of said second pair of tube flaps for securing the closure member to said tube to seal the other end of said tube end to provide an external strengthening member.

2. A shipping container for appliances and the like comprising a tubular portion of corrugated board and having a substantially rectangular section; closure means for one end of said tube and adapted to form the bottom thereof, said closure means comprising a base frame positioned within said tube and bottom flaps formed of the material of said tube and joined beneath said base frame to seal the bottom of said tube, said base frame having positioning recesses to receive and position the feet of an appliance adapted to be mounted thereon and having holes facilitating the securing of said appliance to said base frame; a closure member laterally positioned adjacent the top end of said tube, a first and second pair of opposed foldable tube flaps extending from said top end of said tube and a first and second pair of foldable closure flaps extending laterally from opposite sides of said closures, said first pair of said closure flaps being adapted to be secured to the inside of said tube respectively adjacent flaps of said first pair of said tube flaps, said first pair of tube flaps being adapted to be folded and secured to the outside of said closure member, said second pair of foldable closure flaps extending laterally from opposite sides of said closure member and adapted to fold around respective flaps of said second pair of tube flaps for securing the closure member to said tube to seal the other end of said tube end to provide an external strengthening member.

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