Dec. 30, 1969 R. J. KIVELL 3,486,612

SHIPPER PACKAGE

Filed April 24, 1968 2 Sheets-Sheet 1

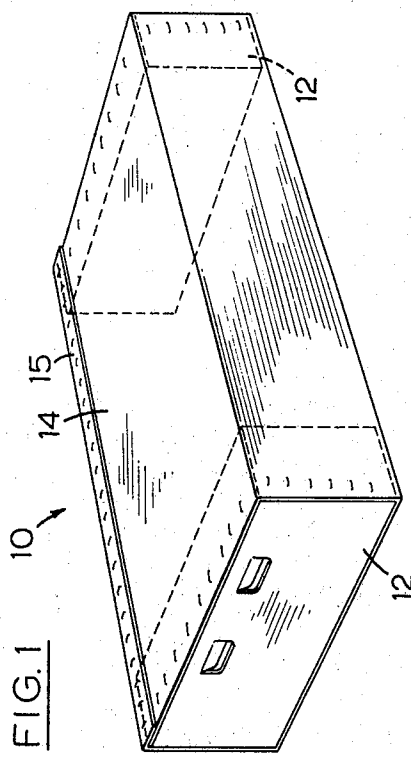


FIG. 1

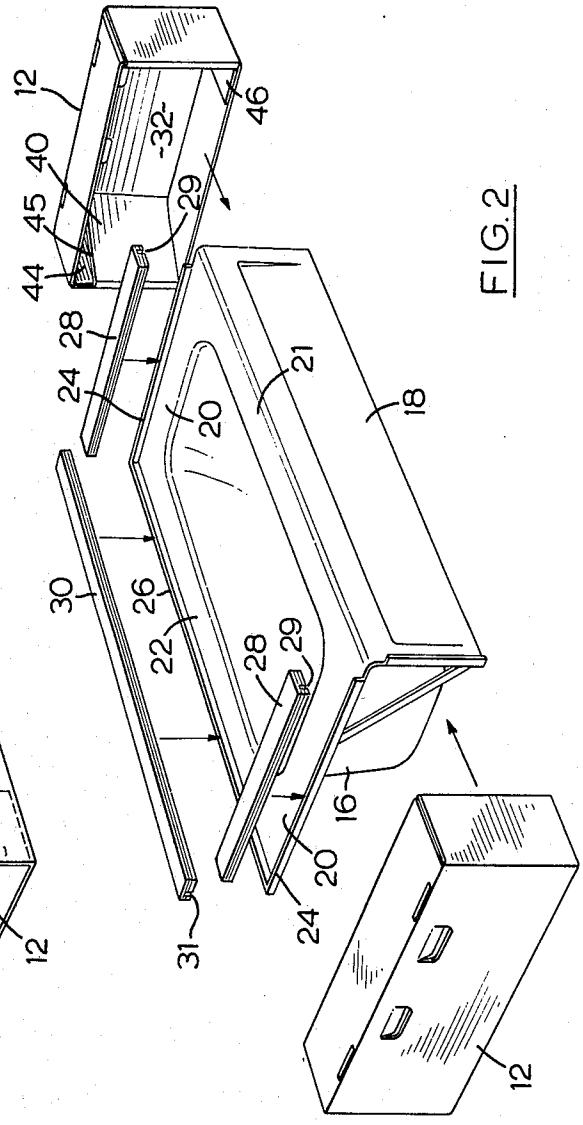


FIG. 2

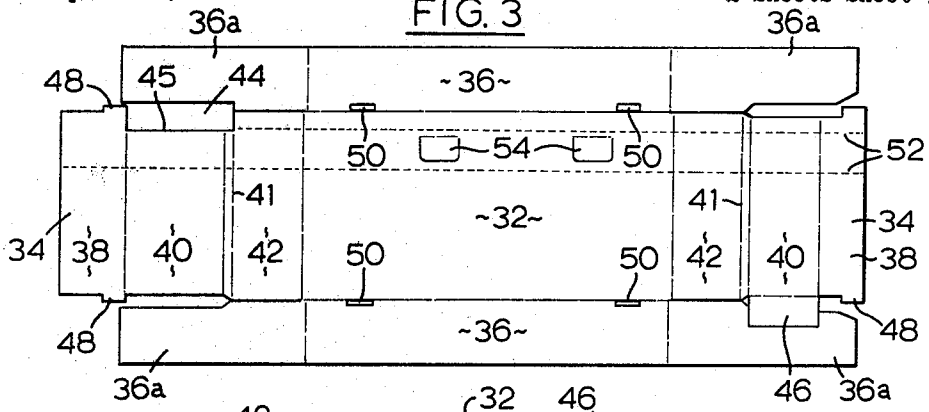
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SHIPPER PACKAGE

Filed April 24, 1968 2 Sheets-Sheet 2

FIG. 3



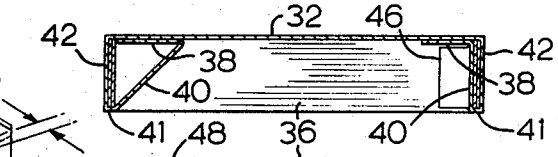


FIG. 5

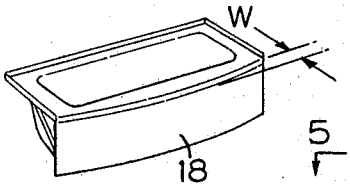


FIG. 9

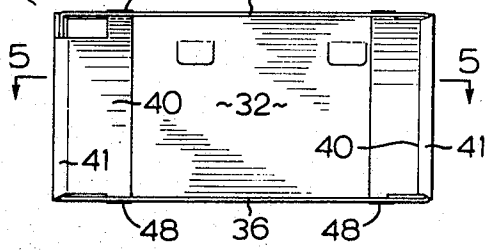


FIG. 4

FIG. 6

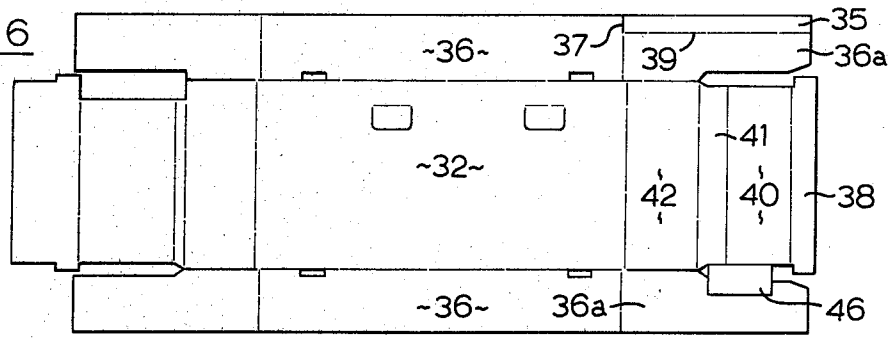
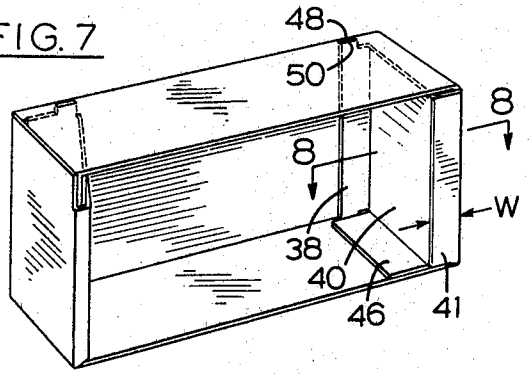


FIG. 7



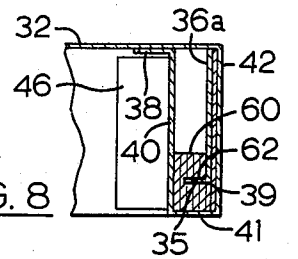


FIG. 8

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3,486,612

SHIPPER PACKAGE

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Int. Cl. B65d 85/00, 5/46, 13/00
U.S. Cl. 206—46 6 Claims

ABSTRACT OF THE DISCLOSURE

This invention relates to a shipper package which consists of a pair of end caps adapted to receive opposed ends of a bath tub and a wrapper which extends around the bath tub after the end caps have been positioned. The wrapper covers the portion of the bath tub which is not enclosed by the end caps. The end caps are made from a corrugated fibreboard blank which is notched and creased to permit the erection of the end cap without the use of any adhesive or stapling means.

FIELD OF THE INVENTION

This invention relates to shipper packages. In particular this invention relates to a shipper package for shipping a bath tub.

DESCRIPTION OF THE PRIOR ART

Presently articles such as bath tubs are shipped in packages or containers which are made from wood or corrugated fibreboard or a combination thereof. The known packages are expensive to manufacture and considerable time is required in order to position the bath tub within the package. The known containers are not well suited for automatically or semiautomatically packaging bath tubs and consequently the packaging operation is a manual operation. Furthermore the known containers do not provide any specially adapted structure for supporting the portions of the bath tub best suited to bear the weight of the tub during its transportation. Additionally the known packages do no provide any support means formed integrally with the main structure of the package to provide padding for supporting and spacing the bath tub within the package.

The present invention relates to a shipper package which comprises a pair of end caps formed from a fibreboard or paperboard blank and adapted to receive an end of a bath tub in close fitting relationship. The package also includes a wrapper which extends around the portions of the bath tub which are not enclosed by the end caps.

The invention will be more clearly understood after reference to the following detailed specification read in conjunction with the drawings.

BRIEF DESCRIPTION OF DRAWINGS

FIGURE 1 is a pictorial view of the assembled shipper package.

FIGURE 2 is an exploded view illustrating the manner in which the end caps fit over oppositely disposed ends of a bath tub.

FIGURE 3 is a plan view of a blank of the type used to form the end cap of FIGURE 2.

FIGURE 4 is a front view of an assembled end cap formed from the blank of FIGURE 3.

FIGURE 5 is a sectional view taken along the line 5—5 of FIGURE 4.

FIGURE 6 is a plan view of a blank according to a further embodiment of this invention.

FIGURE 7 is a pictorial view of an end cap assembled from the blank of FIGURE 6.

FIGURE 8 is a sectional view taken along the line 8—8 of FIGURE 7, and

FIGURE 9 is a pictorial view of a bath tub of the type with which the end cap of FIGURE 7 may be used.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

With reference to the drawings it will be seen that the shipper package generally indicated by the reference numeral **10** comprises a pair of end caps **12** and a wrapper member **14**. Each face of the package **10** is substantially rectangular such that several of the packages may be stacked one upon the other or side by side in uniform rows. The rectangular shape of the package is much more convenient for storage purposes than the normal outline of a bath tub which would not permit the bath tub to sit squarely on a flat surface or permit one bath tub to be squarely supported by another bath tub one upon the other. By providing a pair of end caps of generally rectangular configuration the problems of storing and shipping bath tubs are considerably reduced without the need to provide a carton which is sufficiently large to contain the entire bath tub and which must be provided with suitable spacer members to support various portions of the tub.

FIGURE 2 of the drawings illustrates the manner in which the present invention is used to package a bath tub such as that generally indicated by the reference numeral **16**. The bath tub **16** is of the well known type which has a flat front facing or skirt **18** and upper edge portions **20**, **21** and **22**. The transverse edge portions have a lip **24** extending upwardly from the outer edge thereof and the longitudinal edge portion **22** has a similar lip **26** extending upwardly from the outer longitudinal edge thereof. End spacer pads **28** and back spacer pads **30** are formed with slots **29** and **31** to receive the lip portions **21** and **26** respectively in a close fitting relationship. The pads **28** and **30** are preferably formed from several sheets of corrugated paperboard or fibreboard laminated with one another to provide the required thickness. Pads **28** and **30** are of generally rectangular configuration and have an upper surface of substantially greater width than the width of the lips **24** and **26** and provides a greater surface area in contact with the end caps when the package is assembled; this serves to distribute the load carried by the upper surface of the package when the package is in use.

Referring now to FIGURE 3 it will be seen that the end caps **2** are formed from a paperboard blank which consists of an end wall panel **32** hingedly connected to composite side wall forming panels **34** and top and bottom wall forming panels **36**.

The side wall forming panels **34** are made up from panels **38**, **40**, **41** and **42** which are hingedly connected and foldable upon one another to form the side walls of the end cap. One panel **40** is notched as shown at **44** such that when the end cap is assembled a clearance space **44** will be provided to permit the marginal edges of the bath tub to extend into the space **44** to be supported by the edge **45** of the panel **40**. The other panel **40** is formed with the lug **46** which upon assembly of the end cap extends parallel to the bottom wall **36** and provides a padded support for the lower end of the skirt **18** when the end caps are in use.

The panels **38** are formed with small projecting tabs **48** which upon assembly of the end cap fit into slots **50** formed along the fold line connecting side walls **36** to the end wall **32**. When the end cap **32** is erected the tabs **48** enter the slots **50** and secure the end cap in the assembled position without any need for gluing or stapling. The panels **36***a* are hingedly connected to the side walls **36** and upon assembly of the end cap the panels **36***a* extend substantially at right angles to the panels **36** and are disposed between the panels **40** and **42** of the side walls **34**.

The blank is reinforced by reinforcing tapes **52** which extend longitudinally of the blank and hand openings **54** formed in the end wall **32** between the reinforcing tapes **52**. The entire assembled package including the bath tub can be lifted by the hand openings **54**.

To assemble the end cap the panels **36***a* are folded to an angle of 90° relative to the panels **36**. Panels **36** are then folded at an angle of 90° to the end wall **32** and the panels **42** are folded at an angle of 90° to the end wall **32**. The panels **41** are folded at an angle of 90° to the panel **42** to form the inner face of the side walls of the end cap. With reference to FIGURE 5 it will be seen that one of the panels **40** extends substantially parallel to adjacent panel **42** while the other panel **40** extends at an acute angle relative to the adjacent panel **42**. As previously indicated the lugs **48** carried by the panels **38** enter the slots **50** to retain the end walls in their erected position.

In the packaging of a bath tube the pads **28** and **30** are positioned over the lips **24** and **26** of the top as previously described. The end caps are then pushed over the ends of the bath tub and tightly embrace the portions of the bath tub which they surround. The recess **44** of each end cap receives a corner portion of the edge members **20** and **22** and the edge **45** of the end caps provides a vertical support for these portions of the edge members **20** and **22**. The lower corner portions of the skirt **18** are supported by the support pads **46** and the angularly disposed panel **40** extends into contact with the cup-shaped portion of the bath tub to limit the freedom of movement thereof.

After the end caps have been positioned the wrapper member **14** is applied as shown in FIGURE 1. The wrapper member **14** extends around the bath tub and the walls **34** and **36** of the end caps **12**. The wrapper **14** is formed into a sleeve by a lap joint **15** and is retained in this sleeve configuration by means of an adhesive or staple supplied along the lap joint. The wrapper **14** is also stapled or otherwise adhesively secured to each of the end caps **14** to form an integral shipper package with a bath tub or the like located therein. It will be apparent that the packaging process is extremely simple with this type of package.

By providing end caps which can be easily assembled from a knock-down position the cost of the package is substantially reduced. Furthermore the wrapper material can be of a relatively lightweight paperboard or fibreboard material as the load in the moving and storing operations will be taken by the end caps which are preferably made from corrugated paperboard or fibreboard.

The bath tub which is illustrated in FIGURE 9 is of the well known type which is wider in the middle of its length than it is at either end by an amount W. In order to maintain the rectangular configuration while employing end caps of the type previously described it is necessary to make the exterior width of the end caps at least equal to the maximum width of the bath tub. If the end caps previously described with reference to FIGURES 3, 4 and 5 were used they could not have a close fitting relationship with the ends of the bath tub while forming a generally rectangular package.

A blank capable of providing an end cap for use with the type of bath tub illustrated in FIGURE 9 is shown in FIGURE 6. The blank is substantially the same as that illustrated in FIGURE 3 except that the panel **41** is wider than the corresponding panel illustrated in FIGURE 3. Panel **41** is of a width W substantially equal to the distance in width between the maximum and minimum widths of the bath tub of FIGURE 9. The panel **36***a* is slit at **37** and formed with a fold line **39**. The portion of the panel **36***a* bound by the fold line **39** and the slit **37** generally indicated by the reference numeral **35** is preferably crushed flat to provide an edge suitable for receiving a spacer member **60**. The spacer member **60** is formed from a plurality of layers of corrugated paperboard or the like in a manner similar to pads **28** and **30** and it is formed with a slot **62** into which the crushed edge **35** fits in a close fitting relationship. As shown in FIGURE 8 of the drawings the crushed edge **35** is folded along the fold line **39** to extend at right angles to the panel **36***a* and to support the spacer member **60** adjacent to the panel **41**. When the end cap illustrated in FIGURE 7 is used in conjunction with the bath tub illustrated in FIGURE 9 the shipper package which is formed will be of a generally rectangular configuration.

From the above description of the preferred embodiments of the invention it will be apparent that the applicant's shipper package is inexpensive to manufacture and may be assembled with ease.

What I claim is:

1. A shipper package comprising: a bath tub, a pair of ends caps and a wrapper, said bath tub consisting of a tub portion, an upper rim member extending outwardly from the upper edges of said tub portion, a skirt member extending downwardly from the front portion of said upper rim member, each of said end caps comprising an end wall, a top wall, a bottom wall and a pair of side walls, said end caps being positioned over oppositely disposed ends of said bath tub, said wrapper member extending around and enclosing the portion of the bath tub extending between said end caps, said wrapper cooperating with said bath tub and said end caps to form a composite shipper package, at least one side wall of each end cap being formed with an outer wall panel and an inner wall panel, an upper edge portion of said inner wall panel underlying and vertically supporting a portion of the upper rim member of said bath tub.

2. A shipper package comprising: a bath tub, a pair of end caps and a wrapper, said bath tub consisting of a tub portion, an upper rim member extending outwardly from the upper edges of said tub portion, a skirt member extending downwardly from the front portion of said upper rim member, each of said end caps comprising an end wall, a top wall, a bottom wall and a pair of side walls, said end caps being positioned over oppositely disposed ends of said bath tub, said wrapper member extending around and enclosing the portion of the bath tub extending between said end caps, said wrapper co-operating with said bath tub and said end caps to form a composite shipper package, said tub being formed with a lip portion extending upwardly from opposite end edges and the back edge of said upper rim member, spacer pad means supported by and extending upwardly from said opposite end edges and said back edge of said upper rim member to a height at least equal to the height of said lips, said pads engaging the top wall of said end caps in a close fitting relationship upon assembly of the package.

3. A shipper package as claimed in claim **2**, wherein each of said spacer pads consists of a substantially rectangular member having a longitudinally extending channel formed therein adapted to receive a lip member to operably locate said pads in a position on said rim member.

4. A shipper package comprising: a bath tub, a pair of end caps and a wrapper, said bath tub consisting of a tub portion, an upper rim member extending outwardly from the upper edges of said tub portion, a skirt member extending downwardly from the front portion of said upper rim member, each of said end caps comprising an end wall, a top wall, a bottom wall and a pair of side walls, said end caps being positioned over oppositely disposed ends of said bath tub, said wrapper member extending around and enclosing the portion of the bath tub extending between said end caps, said wrapper co-operating with said bath tub and said end caps to form a composite shipper package, said bath tub having a longitudinally extending convex shaped skirt such that it has a greater width at the center of its length than it has at either end, at least one side wall of each of said end caps

being formed with an outer panel, an intermediate panel and an inner panel, said intermediate panel connecting said outer and inner panels and having a width substantially equal to the difference between the maximum and minimum widths of the bath tub, spacer means located between said inner and said outer panels of said end wall of each end cap for maintaining said inner and outer panels in a spaced relationship.

5. A shipper package as claimed in claim 4, wherein said spacer means comprises a substantially rectangular column having a longitudinally extending channel formed therein, tab panel means extending parallel to and disposed between said inner and outer panels, said tab panel having an edge portion extending substantially parallel to said intermediate panel and fitting within said channel of said spacer column and thereby mounting said spacer column adjacent said intermediate panel.

6. A shipper package comprising a bath tub, a pair of end caps and a wrapper, said bath tub consisting of a tub portion, an upper rim member extending outwardly from the upper edges of said tub portion, a skirt member extending downwardly from the front portion of said upper rim member, each of said end caps being formed from a corrugated paperboard or fibreboard blank suitably cut and scored to provide, end wall panel means, top wall panel means and side wall panel means, each of said side wall panel means consisting of a first panel hingedly connected to said end wall and a second panel hingedly connected to said first panel, lug means formed on said

second panels and projecting outwardly from opposite side edges thereof, slot means formed in said top and bottom panels, said lug means being engagable within said slot means to maintain said end caps in an erected position and releasable therefrom to permit said end cap to return to a knock-down configuration, said end caps being positioned over oppositely disposed ends of said bath tub, said wrapper member extending around and enclosing the portion of the bath tub extending between said end caps, said wrapper co-operating with said bath tub and said end caps to form a composite shipper package.

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MARTHA L. RICE, Primary Examiner

U.S. Cl. X.R.

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