

Oct. 14, 1969

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3,472,363

CONTAINER AND PALLET

Filed Jan. 3, 1968

3 Sheets-Sheet 1

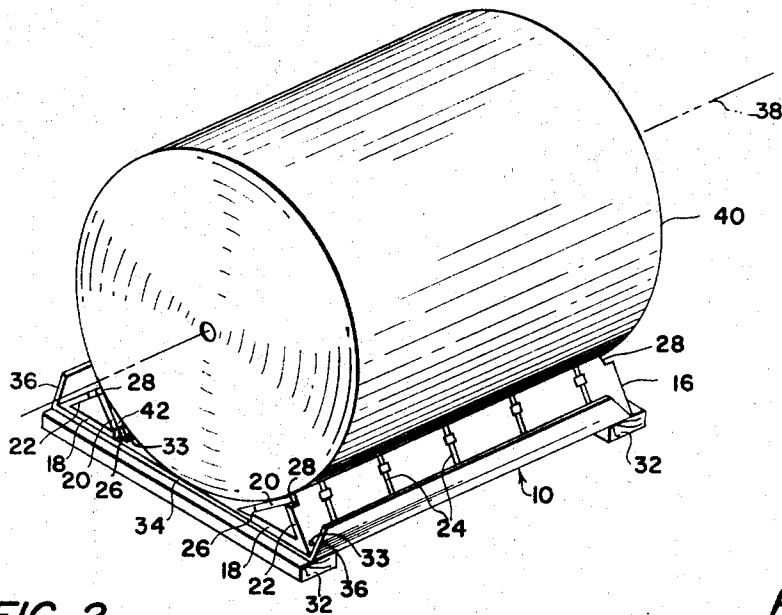


FIG. 2

FIG. 3

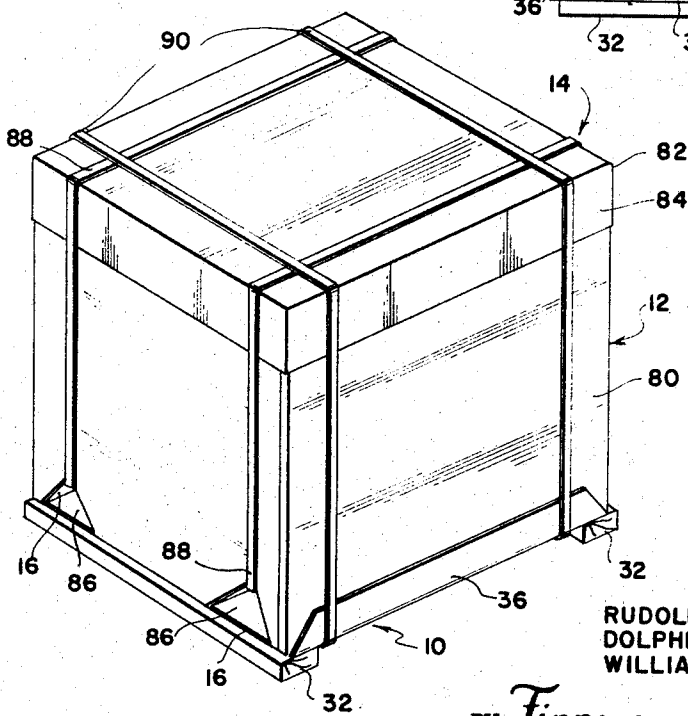
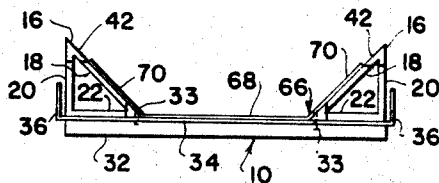


FIG. 1

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3 Sheets-Sheet 2

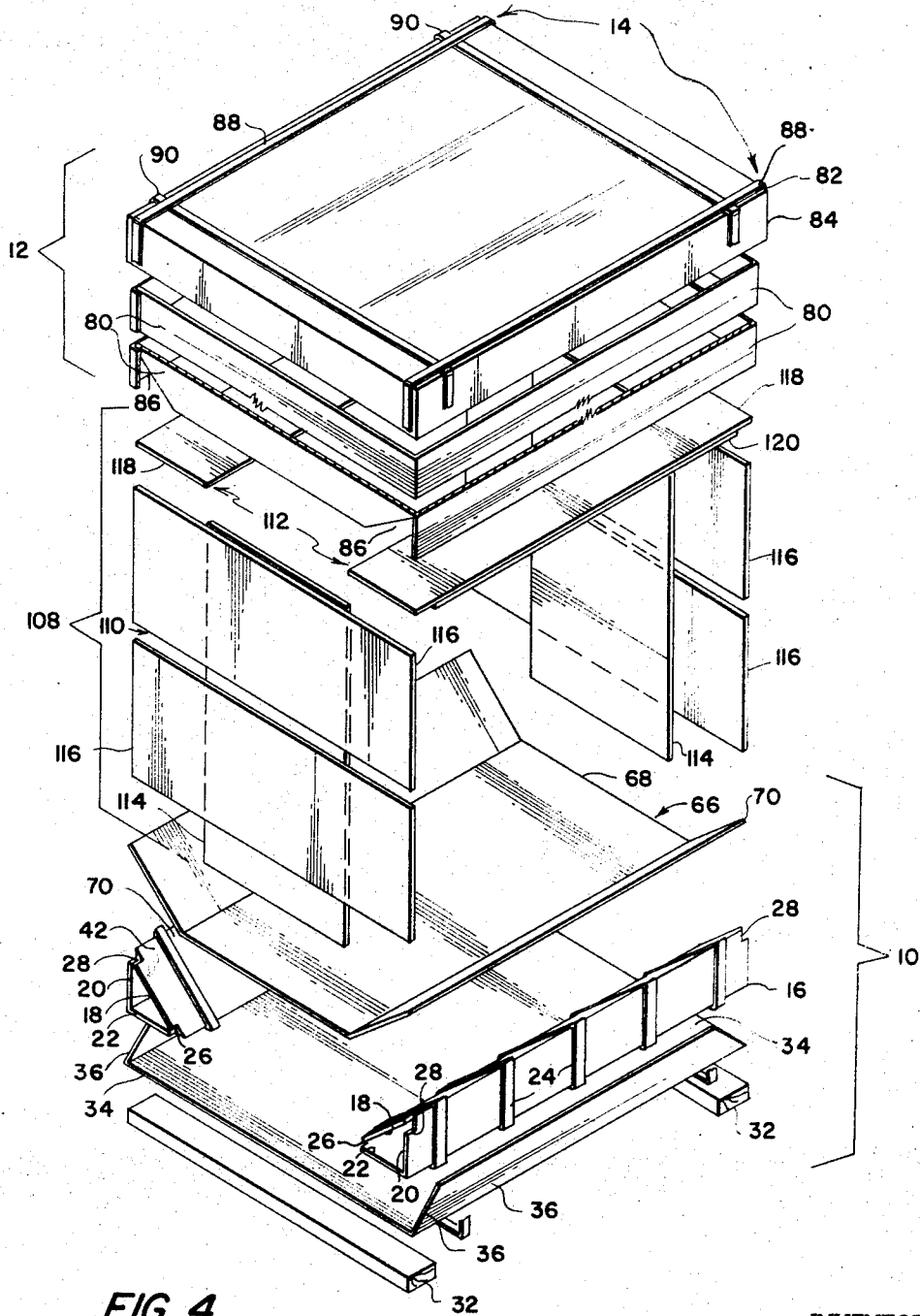


FIG. 4

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3 Sheets-Sheet 3

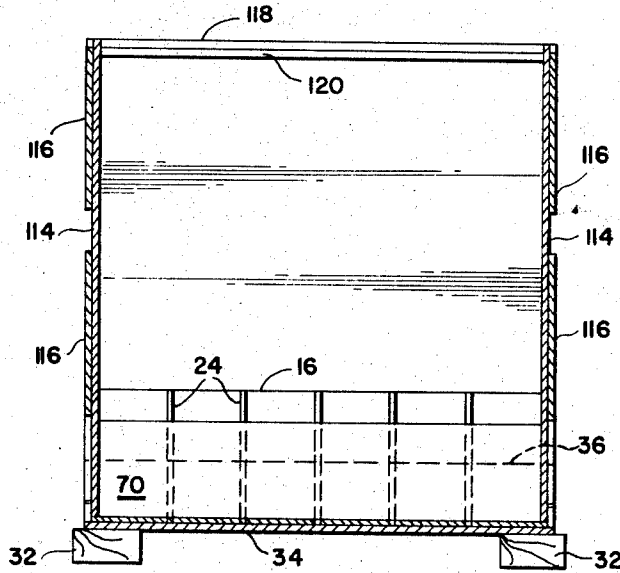


FIG. 6

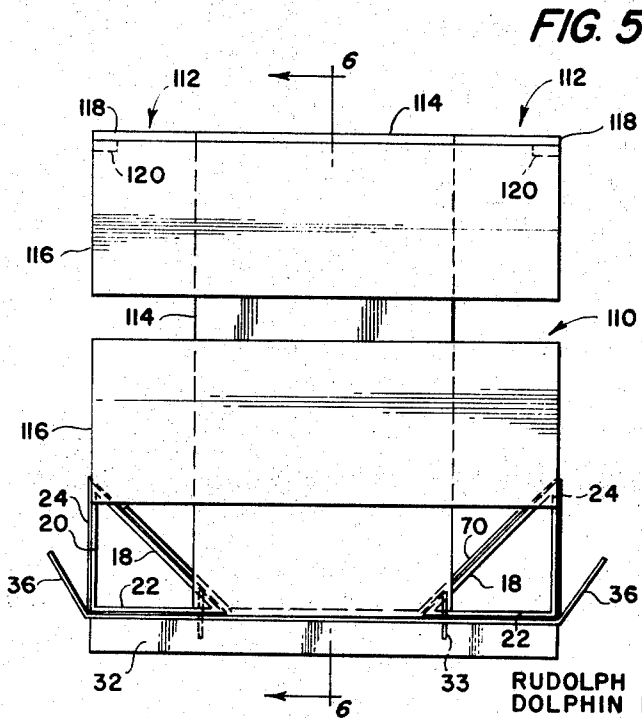


FIG. 5

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3,472,363

CONTAINER AND PALLET

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Filed Jan. 3, 1968, Ser. No. 698,091

Int. Cl. B65d 85/02, 85/04, 85/66

U.S. Cl. 206—46

18 Claims

ABSTRACT OF THE DISCLOSURE

A container for handling cylindrical articles is provided. The container has a base which includes skids for raising the container off of the floor and permitting the insertion of a lifting means under the container, hollow longitudinal members for holding the cylindrical article in place, and a bottom panel. Structural framework extends up from the base to give the assembled container sufficient strength to allow filled containers to be stacked on top of each other. The container further includes a sleeve which encloses the structural framework and rests on the base, and a top which fits over the top of the sleeve and cooperates with the sleeve and the base to enclose the article. The container is secured together by tying means passing through the hollow, longitudinal members and additional tying means passing through the skids. The base may be used either alone as a pallet for handling the article prior to assembly of the container or independently of the container for handling articles generally.

This invention relates to improved containers and also to improved pallets which may act as the base of containers. More particularly, this invention relates to improved containers which may be rapidly assembled and disassembled and which may be used to package cylindrical rolls and the like, and to improved pallets which may be utilized as the base of the containers for cylindrical articles.

There has been a continuing search for containers which may be easily assembled about an article. Assembly of the container about an article which has been placed on a container base eliminates the problems involved in lowering a heavy article into a container having vertical side walls. It is desirable to assemble containers at the place where the containers are used. This procedure permits the containers to be shipped to the user and stored by the user in a knocked down form; thus saving shipping costs and storage space.

In the past such containers have been made largely of paperboard. These containers have suffered from the fact that when the assembled containers are stacked on top of each other the containers are frequently crushed and their contents are damaged.

It is a common practice in the material handling art to place the articles on a pallet to reduce the manual handling of the article and facilitate movement of the article by a lift truck or the like. Previous attempts to provide pallets that may be used with cylindrical articles have presented problems. If the pallet has a flat base, a cylindrical article transfers its weight to a single line or area of contact along the base. Some cylindrical articles, for example, large rolls of cloth, may be damaged by this type of weight transfer.

It is desirable to ship an article on the pallet used in handling the article at the point of shipment, for example a manufacturing plant, because the operations of removing the article from the pallet and inserting the article into a separate shipping container can be eliminated.

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Thus, it is preferable that the pallet used with the article is capable of becoming the base of the container used to ship the article.

Accordingly, it is a primary object of this invention to provide an improved container which is easy to assemble and to secure about an article.

Another object of the invention is to provide a container which may be assembled and secured about an article placed on the base of the container without requiring movement of the article.

Still another object of an embodiment of this invention is to provide pallets and containers for rolls of cloth and the like in which the pallets and containers are designed to eliminate excessive deformation of the cloth due to transfer of its weight to the supporting structure of the pallet or container base.

Yet another object of an embodiment of this invention is to provide improved containers which can be stacked on each other without crushing or distorting articles packed in the containers.

A further object of this invention is to provide a new and improved pallet which can be used to transport and which can act as a base for a container for the article.

Additional objects and advantages of the invention will be set forth in part in the description which follows, and in part will be obvious from the description, or may be learned by practice of the invention, the objects and advantages being realized and attained by means of the instrumentalities and combinations particularly pointed out in the appended claims.

To achieve the foregoing objects and in accordance with its purpose, as embodied and broadly described, this invention may be described as a container comprising a base including a pair of horizontal longitudinal hollow members extending substantially the entire length of the container, and means for securing the members in a spaced parallel relationship. The container also includes enclosure means mounted on the base for enclosing the top, ends, and sides of the article and securing means passing through the hollow members and around the enclosure for securing the enclosure to the base.

The invention may also be described as a container for cylindrical articles comprising a base which includes a pair of longitudinal members for supporting the article and preventing lateral movement of the article with each of the members including a sloped surface extending the length of the container. The base also has means for securing the members in a spaced parallel relationship with the sloped surfaces extending upwardly and outwardly of the axis of the article and spaced less than the diameter of the article apart. The container also includes enclosure means mounted on the base for enclosing the article and means are provided for securing the article to the base.

The base of the container of this invention may be used as a pallet for handling the article prior to assembly of the container or independently for handling articles generally.

The invention in its preferred embodiments provides a structural framework mounted on the base inside of the enclosure. It is also preferred that the enclosure have openings aligned with the ends of the hollow members and that the tying means pass through the hollow members, out the openings and around the enclosure, to secure the enclosure to the base.

The invention consists in the novel parts, constructions, arrangements, combinations and improvements shown and described. The accompanying drawings which are incorporated in and constitute a part of this specification, illustrate certain embodiments of the invention and, to-

gether with the description, serve to explain the principles of the invention.

Of the drawings:

FIG. 1 is a perspective view of one embodiment of the assembled container of the invention;

FIG. 2 is a perspective view of the base of the container of FIG. 1 and illustrates the use of the container base as a pallet for a cylindrical article;

FIG. 3 is a front elevation of another embodiment of the base of the container of this invention;

FIG. 4 is an exploded perspective view of an embodiment of the container of the invention with the enclosure sleeve sectioned and shown in shortened form for ease of reading of the drawing;

FIG. 5 is an end elevation of a partially assembled container illustrating the base and the structural framework of the container of FIG. 4 and omitting the enclosure sleeve for ease of reading of the drawing; and

FIG. 6 is a sectional view taken along line 6—6 of FIG. 5.

Reference will now be made in detail to the present preferred embodiments of the invention.

In FIG. 1, a container constructed in accordance with this invention is shown, comprising a base generally 10, an enclosure generally 12 mounted on the base, and tying means generally 14 for securing the enclosure to the base.

As best seen in FIG. 2, base 10 includes a pair of horizontal longitudinal members 16 extending substantially the entire length of the container. As here embodied the horizontal members, generally 16, are hollow and are of triangular cross-sections. Each of members 16 is comprised of three (3) slats 18, 20, and 22 held in the form of a triangular solid by tying means 24. The mating edges of slats 18, 20, and 22 are mitered to provide a smooth fit between the slats and improve the structural rigidity of the members 16.

Preferably the ends of each of members 16 have notches 26 and 28 cut out of their inner and upper edges for use in assembling the containers as will be described in more detail hereinafter.

In accordance with the invention the base also includes means for securing the bottom members in a spaced parallel relationship. As here embodied these means are comprised of a pair of parallel skids 32 extending perpendicular to members 16. Members 16 may be fixed to skids 32 by connecting means 33 such as screw nails best seen in FIGS. 2 and 3.

It is preferred that skids 32 extend slightly outside of the ends of members 16 to provide an abutment for the remainder of the container when it is assembled. Also, it is desirable to align the hollow members 16 so that their corresponding ends terminate in a common vertical plane.

As may be seen in FIGS. 1 and 2, the triangular shape of members 16 permits a flat surface, provided by slats 18, to be secured to the skids 32, thus assuring a strong connection between members 16 and skids 32.

A hollow triangular cross-section formed by three slats is preferred for longitudinal members 16 to impart strength and rigidity to the base with a minimum of weight. It will be obvious to those skilled in the art that various cross-sectional configurations could be used.

In the embodiment illustrated in FIGS. 1 and 2 and best seen in FIG. 2, base 10 also includes a bottom panel 34 secured between members 16 and skids 32.

Bottom panel 34 is preferably rectangular in shape extending the length of members 16 and extending beyond each of the ends of skids 32 and the outer side edges of members 16. The portion of bottom panel 34 extending beyond skids 32 and members 16 forms flaps 36 which are used in assembling the container as will be described in more detail hereinafter. Preferably the outer edges of flaps 36 are tapered as shown.

The preferred means for securing members 16 in a spaced parallel relationship includes skids 32. The skids

also lift the container off of the ground and permit the forks of a lift truck to be inserted under the container.

As may be seen in FIG. 2 members 16 are spaced on opposite sides of the vertical plane passing through the axis 38 of the article 40. It is desirable for assembling the containers of the invention that the outer side edges of members 16 extend slightly beyond the widest part of the article to establish the transverse dimension of the container. However, the outer side edges of members 16 should not extend appreciably beyond the article because it is desirable to make the transverse dimension of the container as small as possible for a given article.

The outer side edges of members 16 preferably are positioned adjacent the flaps 36 of bottom panel 34. This alignment reinforces the side edges of the bottom of the assembled container and also simplifies alignment of the elements of the container when the container is assembled.

The triangular shape of each of members 16 provides a sloped surface 42 on the outside of slats 20. Since the length of members 16 is arbitrarily selected as just slightly larger than the length of article 40, sloped surfaces 42 will be adjacent the article throughout its entire length. As may also be seen in FIG. 2, sloped surfaces 42 extend upwardly and outwardly of the axis 38 of article 40 and are spaced apart, at their inner edge, a distance less than the diameter of article 40. By spacing sloped surfaces 42 with their interior edges positioned less than the diameter of article 40 apart, article 40 is tangentially supported by each sloped surface 42. If desired the article may also be supported by bottom panel 34.

Two points of support for circular cross-sections of a cylindrical article are necessarily provided by the base if the transverse dimensions separating sloped surfaces 42 is less than the diameter of cylindrical article 40. Basic trigonometric and geometric relationships may be used to ascertain the cross-section and horizontal spacing of horizontal members 16 if three (3) points of support for cross-sections of a cylindrical article of a given diameter are desired. After defining the configuration of the cross-section of horizontal members 16, one skilled in the art may easily determine the horizontal spacing of the sloped surfaces 42 which will provide support for a cylindrical article of a given diameter by sloped surfaces 42 and the bottom panel 34.

Base 10 may be used alone as a pallet, may be used in conjunction with other elements to form a complete container, or may be used first as a pallet for transporting the article prior to packaging and then as a base for the container when the article is packaged.

When the base 10 is to be used as a pallet only, it is preferable to eliminate the flaps 36 on bottom panel 34. In situations where a bottom panel is not necessary to give support to the article or to keep the article clean, it may be desirable to eliminate panel 34 entirely.

Though the various parts of the base may be made of any suitable material, preferably slats 18, 20, and 22 are of plywood, skids 32 are of wood, bottom panel 34 is of paperboard, and tying means 24 is of steel banding.

Another embodiment of a base for the container of the invention is shown in FIG. 3 where the orientation of the horizontal members 16 is changed. Here as in the embodiment illustrated in FIGS. 1 and 2, three (3) slats 18, 20 and 22 are rigidly attached to form a member 16 having a cross-section which is triangular in shape. The cross-section illustrated in FIGS. 1-3 is that of an isosceles right triangle. In the embodiment of FIG. 3, slat 22 which forms one of the legs of the triangle is positioned flush with the bottom panel. One leg of the triangular cross-section, slat 18, is inclined upwardly and extends outwardly from the longitudinal center line of the base. Another leg of the triangle, slat 20, extends upward from the outer edge of slat 22.

Thus as may be seen in comparing the embodiments illustrated in FIGS. 2 and 3, by varying the orientation

of a pair of triangular members 16 with a predetermined cross-section size, the members can be used in bases designed for articles having two (2) different diameters with the overall transverse dimension of each base kept to a minimum.

As shown in FIG. 3 a bed liner generally 66 is provided to add strength to bottom panel 34 and to cushion the transfer of weight of a cylindrical article to the base. The bed liner 66 includes a central portion 68 positioned on bottom panel 34 and side portions 70 which overlay sloped surfaces 42 of each of horizontal members 16. If desired, padding or other materials (not shown) may be placed on the bed liner to further cushion the article. When the base illustrated in FIG. 2 is used as a base of a container, it preferably also utilizes a bed liner like liner 66. The liner may be constructed of any suitable material and is preferably paperboard.

In accordance with the invention, an enclosure, generally 12, is mounted on the base 10 for enclosing the top, ends, and sides of the article. The enclosure 12 protects the packaged article from dust, dirt, and abrasion. As here embodied and as may be best seen in FIGS. 1 and 4, enclosure 12 includes a sleeve 80 forming the four (4) outer side walls of the container and a top 82 having depending flanges 84 about its periphery forming the top wall of the container. Sleeve 80 includes four (4) openings 86 aligned with the ends of the hollow members 16 so that unobstructed passages are provided through the entire length of the container.

With reference to FIG. 1, openings 86 are sized and aligned so that sleeve 80 continuously overlays the end edges, that are elevated from the bottom panel, of hollow members 16. The end edges of the hollow members 16 which are flush with bottom panel 10 may be exposed. Sleeve 80 also overlays the end edges of bottom panel 20 and thus the ends of the containers are substantially sealed when the enclosure 12 is secured to the base.

Sleeve 80 may be formed from one or more foldable blanks scored for folding to form the side walls of the container. A sleeve made from a single blank is illustrated in FIG. 4. The folded blank is secured in shape by any suitable means such as wire staples (not shown). The sleeve is of course slightly wider than the article to be packaged and the length of the sleeve slightly exceeds the length of the article. Corrugated paperboard is a suitable material of construction for the sleeve.

Top 82 is preferably of a material such as corrugated paperboard which is easy to form into the desired configuration.

As may be best seen in FIG. 1 tying means 14 are provided for securing the enclosure to the base. As here embodied, the tying means includes longitudinal steel banding 88 which passes through the hollow members 16, out the openings 86 in the enclosure 12, and around the enclosure. Additional tying means 90 are provided which extend across the underside of bottom panel 34 between the skids 32 and around the enclosure.

The transverse positioning of the tying means 14 and the additional tying means 90 provides maximum strength for the container while resulting in minimum distortion of the container. It can be seen that the tying means 14 may be passed through the hollow members 16 and around the enclosure 12 without lifting of the article or the partially assembled container. Similarly, the additional tying means 90 may be extended across the underside of the bottom panel between the skids and around the enclosure without movement of the article or the container.

Preferred embodiments of the invention include a framework to strengthen the containers and to permit the containers to be stacked on top of each other. As here embodied, and as may be best seen in FIGS. 4-6, the framework, generally 108, includes a pair of end frames, generally 110, and a top frame, generally 112.

End frames 110 each comprise a vertical member 114 and a pair of horizontal members 116 attached to the

vertical member 114 on the outer surface thereof with the outer surface of the horizontal members positioned in the same plane. Suitable means such as nails (not shown) are provided to attach the horizontal members to the vertical member. The lower edge of the bottom horizontal frame members 116 is preferably positioned above the bottom edge of the vertical member a distance slightly less than the height of the members 16 of base 10. The upper surface of the upper horizontal frame members 116 is positioned slightly below the top surface of the vertical members 114. The length of the horizontal frame members 116 is preferably substantially the same as the distance apart of the outer sides of members 16. The height of vertical frame members 114 is preferably slightly larger than the diameter of the article to be packaged and the width of vertical members 114 is preferably slightly larger than the distance apart of the inside edges of members 16.

As here embodied and as shown in FIGS. 4, 5, and 6, the top frame 112 includes a pair of spaced main members 118 which are to be mounted on the end frames 110. Main members 118 are slightly longer than the article to be packaged, and extend between the end frames 110. Top frame 112 also includes a pair of depending members 120 each rigidly attached to one of the main members by nails or the like (not shown). The depending members 120 are shorter in length than the main members and are spaced inwardly of each of the end edges of the main members 118 a distance which approximates the thickness of the horizontal member 116 of end frame 110.

The horizontal main members 118 are of a thickness substantially the same as the distance which the top of vertical frame member 114 of end frame 110 extends above the top horizontal frame member 116, and are of a width substantially the same as the distance that the horizontal frame member 116 extends horizontally beyond one of the side edges of vertical frame member 16.

When framework 108 is assembled, as shown in FIGS. 5 and 6, the two (2) main members 118 rest on the tops of the two (2) top horizontal frame members 116 with the end edges of depending members 120 abutting the inside surfaces of horizontal frame members 116 and with the ends of the inside edges of horizontal members 118 abutting the top of the side edges of vertical frame members 114.

The method of assembly of the container may be best seen in FIG. 4. The base will have been preassembled into a pallet as shown in FIG. 2 or 3. The specific embodiment here illustrated would be a pallet as shown in FIG. 3. Since the pallet in this instance is designed to be used as the base of a container, liner 66 would be in place underneath the article to be packaged. Thus, when the article is received at the packaging area, it is already on the pallet with the bed liner 66 in place between the article and the remainder of the pallet.

The packaging of the article may then proceed in the following manner. The sleeve 80 is slid into place around the article with the bottom of the sides of the sleeve resting on bottom panel 34 between flaps 36 and members 16. The bottom of the ends of sleeve 80 rests on the exposed upper surface of skids 32 with openings 86 aligned with the openings in members 16.

If it is desired that the container be structurally strong, it is preferred that a framework next be inserted into the container. It should be noted, however, that the container may be used without the framework if the structural strength is not necessary. The two end frames 110 are inserted at the end of the article with the side edges of the vertical member of the end frame inserted in notches 26 of members 16 and with the bottom edge of vertical member 114 resting on the top surface of bottom panel 34. The bottom edge of the bottom horizontal member 116 rests on notches 28 of members 16.

The depth of notches 26 is substantially equal to the thickness of vertical member 114 plus the thickness of one of horizontal members 116. The depth of notches 28 is substantially the same as the thickness of one of horizontal members 116 of end frame 110. Thus, when end frame members 110 are in place, the outer edges of the horizontal members 116 are in substantial alignment with the ends of members 16 as shown in FIG. 6.

Main members 118 of framework 108 are next put in place with their lower surfaces resting on the top of upper horizontal members 116 of end frames 110 and with their inner edges engaging the side edges of vertical members 114 of end frames 110. Depending members 120 extend between the top horizontal members 116 of the two end frames 110 with the inner surfaces of the end panels 116 abutting the ends of depending members 120.

With the frame thus assembled, it will be apparent to those skilled in the art that the container is strengthened against compression forces from its sides, ends, or top. Specifically, the abutting relationship of the inner surface of vertical member 114 and the notches 26 in members 16, and the abutting relationship of top horizontal members 116 with the ends of depending members 120 causes the container to resist compression forces applied at its ends.

The abutting relationship of main members 118 with the side edges of vertical member 114 causes the container to resist compression forces from the sides of the container. This sidewise strength of the container is further enhanced by the fact that end frame 110 is mounted in notches 106 of members 16 which are in turn rigidly connected to skids 32.

The positioning of main members 118 on the top of horizontal members 116 which in turn are connected to vertical members 114 which rest on skids 32 provides strength to the container to resist vertical compression forces. It should be noted that such forces will be transmitted through the framework to the skids and thus will not damage the article in the container.

After the framework is in place, top 82 is slid over the top edges of sleeve 80 to close the container. Tying means 14, which are preferably steel bands, are then inserted into openings 86 in one end of sleeve 80, through the hollow center of members 16, out of openings 86 in the other end of sleeve 80, and across the top of the container where each of the bands is then fastened to itself in conventional manner, as by clamping. Next, additional tying means 90 are wrapped around the sides of the container passing underneath the container in the area between skids 32 and across top 82. These additional tying means are then secured to themselves to complete the package.

In accordance with the invention, new and improved containers for articles, and pallets which may also be used as the base of the container are provided. The containers are capable of being rapidly assembled about an article placed on the base without handling of the article. The preferred embodiments of the container of the invention possess compressive strength to permit the assembled containers to be stacked on top of each other even when filled with a heavy article.

It will be apparent to those skilled in the art that various modifications and variations could be made in the present container and pallet without departing from the scope or spirit of the invention. For example, it will be obvious to those skilled in the art that there are equivalent materials of construction which could be substituted for the preferred materials set forth above.

What is claimed is:

1. A container for packaging a cylindrical article of a given diameter with the axis of the article disposed in a substantially horizontal plane, said container comprising:

(A) A base including a pair of horizontally extending longitudinal members for supporting the article and preventing lateral movement of the article, each of said members having a sloped surface extending substantially the entire length of the container, and means for securing said members in a spaced parallel relationship with their sloped surfaces sloping upwardly and outwardly of the axis of the article and spaced less than the diameter of the article apart;

(B) A structural framework comprising vertically extending end frames mounted on said base for transfer of downward compressive force thereto and for preventing horizontal movement of the article along its axis, and a horizontally extending top frame extending between said end frames for imparting strength to the container to prevent crushing by compressive forces;

(C) An enclosure mounted on said base for enclosing the top, ends, and sides of the article, said enclosure extending around the outside of said framework; and

(D) Means for securing said enclosure to said base.

2. The container of claim 1 wherein said base includes a bottom panel and said longitudinal members are mounted on said bottom panel in spaced parallel relationship to permit the cylindrical article to receive support from said sloped surfaces and said bottom panel.

3. A container comprising:

(A) A base including a pair of horizontal, longitudinal, hollow members extending substantially the entire length of the container, and means for securing said hollow members in a spaced parallel relationship;

(B) A structural framework comprising vertically extending end frames mounted on said base for transfer of downward compressive load thereto and for preventing horizontal movement of the article along its axis and a horizontally extending top frame supported by and extending between said end frames for imparting strength to the container to prevent crushing by compressive force;

(C) An enclosure mounted on said base for enclosing the top, ends, and side of the article, said enclosure including openings aligned with the ends of said hollow members, said enclosure extending around the outside of said framework; and

(D) Tying means for securing said enclosure to said base, said tying means passing through said hollow members, out the openings in said enclosure, and around said enclosure.

4. The container of claim 3 wherein said means for securing said hollow members in a spaced parallel relationship includes a bottom panel, skids attached to the underside of the bottom panel to permit insertion of lifting means under said bottom panel, and connecting means for connecting said members and said skids.

5. The container of claim 4 wherein said skids are aligned transversely of said hollow members.

6. The container of claim 5 wherein said means for securing said enclosure to said base includes additional tying means extending across the underside of said bottom panel between said skids and around said enclosure.

7. The container of claim 9 wherein said longitudinal hollow members have a triangular cross-section.

8. The container of claim 7 wherein the corresponding ends of each of said triangular hollow members terminate in a common vertical plane and wherein said hollow members include at each end a pair of cutouts, said cutouts extending inwardly from the ends of the hollow members and aligned for insertion of said end frames into said cutouts to place the outer surface of said end frames in the common vertical planes.

9. A container for packaging a cylindrical article of a given diameter with the axis of the article disposed in

a substantially horizontal plane, said container comprising:

- (A) A base including
 - (1) a bottom panel
 - (2) a pair of horizontally extending hollow longitudinal members for supporting the article and preventing lateral movement of the article; each of said members having a sloped surface extending substantially the entire length of the container, and means for securing said members in a spaced parallel relationship with their sloped surfaces sloping upwardly and outwardly of the axis of the article, and with the interior edges of said sloped surfaces spaced less than the diameter of the article apart;
 - (B) A structural framework including
 - (1) vertically extending end frames engaging said base for transfer of downward compressive forces thereto and for preventing horizontal movement of the article along its axis;
 - (2) a horizontally extending top frame supported by and extending between said end frames for imparting strength to the container to prevent crushing by compressive force;
 - (C) An enclosure mounted on said base for enclosing the top, ends, and sides of the article and said framework, and including openings aligned with the ends of said longitudinal members; and
 - (D) Tying means for securing said enclosure to said base, said tying means passing through said hollow members, out the openings in said enclosure, and around said enclosure.
10. The container of claim 9 including a bed liner having a central portion which overlays said bottom panel and side flaps which are supported by said sloped surfaces.
11. The container of claim 9 wherein said sloped surfaces present tangential support surfaces to the cylindrical article.
12. The container of claim 9 wherein said sloped surfaces are spaced to permit the cylindrical article to receive support from said sloped surfaces and said bottom panel.
13. The container of claim 9 wherein said longitudinal hollow member includes three wooden slats rigidly attached to form a member with a triangular cross-section and wherein the face of one slat of each member forms said sloped surface and the face of a second slat of each member is positioned flush on said bottom panel.
14. The container of claim 13 wherein the corresponding ends of each of said triangular hollow members terminate in a common vertical plane, and wherein said hollow members include at each end cutouts across the end portions of the slat forming said sloped surface and across the end portion of each of the other slats which lies adjacent said sloped surface, said cutouts extending inwardly from the ends of the hollow members to allow

insertion of said end frames in said cutouts with the outer surface of said end frames positioned in the common vertical plane.

15. The container of claim 9 wherein said base includes skids attached to the underside of the bottom panel to permit the insertion of lifting means under said bottom panel.

16. The container of claim 15 wherein said skids are aligned transversely of said hollow members and including additional tying means extending across the underside of said panel between said skids and around said enclosure.

17. A package for the shipping of a cylindrical article, said package comprising:

- (A) A cylindrical article of a given diameter, the axis of said article disposed in a substantially horizontal plane;
 - (B) A base including a pair of transversely spaced, horizontally extending hollow longitudinal members for tangentially supporting the cylindrical article and preventing lateral movement of the article, each of said members having a sloped surface extending substantially the entire length of the container, and means for securing said members in a spaced parallel relationship with their sloped surfaces sloping upwardly and outwardly of the axis of the article and spaced less than the diameter of the article apart;
 - (C) An enclosure mounted on said base for enclosing the top, ends, and sides of the article, said enclosure including openings aligned with the ends of said longitudinal members; and
 - (D) Means for securing said enclosure to said base including tying means which pass through said hollow longitudinal members, out the openings in said enclosure and around said enclosure.
18. The package of claim 17 in which said means for securing said members in a spaced parallel relationship includes a bottom panel, and skids aligned transversely of said hollow members and attached to the underside of said bottom panel.

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MARTHA L. RICE, Primary Examiner

U.S. Cl. X.R.

108—55; 206—52, 59; 248—119

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,472,363 Dated October 14, 1969
Inventor(s) Rudolph B. Rustin, Jr., Dolphin D. Overton, III and
William E. Hughes

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 8, line 43, "side" should read -- sides --;
column 8, line 54, after "permit" insert -- the --;
column 8, line 63, "9" should read -- 3 --.

SIGNED AND
SEALED
JAN 27 1970

(SEAL)

Attest:

Edward M. Fletcher, Jr.
Attesting Officer

WILLIAM E. SCHUYLER, JR.
Commissioner of Patents