Dec. 18, 1962 T. J. DESBOIS 3,069,059

CONTAINER AND SUPPORT THEREFOR

Filed Feb. 7, 1961 2 Sheets-Sheet 1

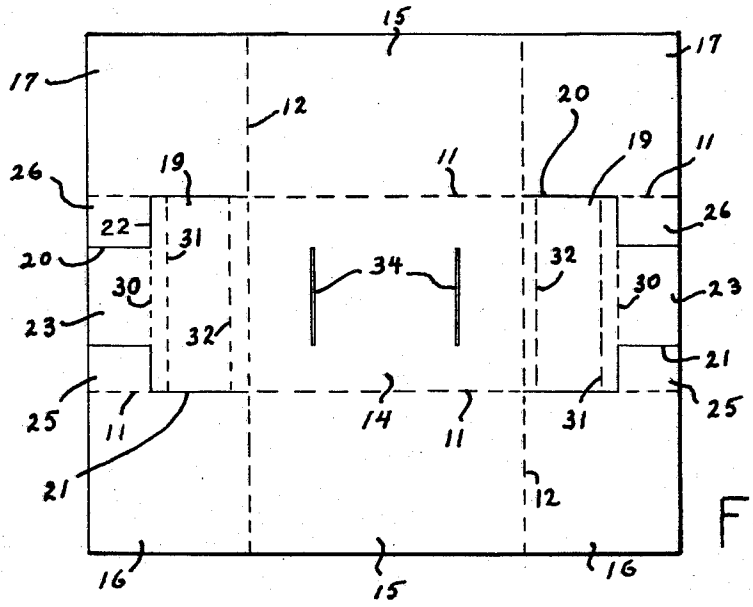

FIG. 1

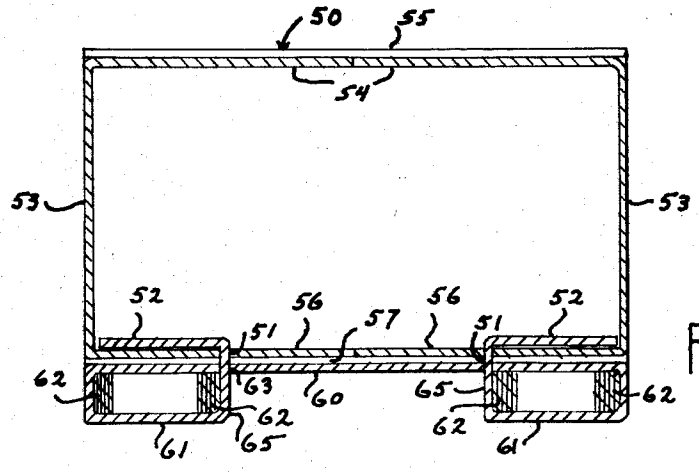

FIG. 5

INVENTOR
THEODORE J. DESBOIS

BY Ashlan J. Harlan Jr.
ATTORNEY

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CONTAINER AND SUPPORT THEREFOR

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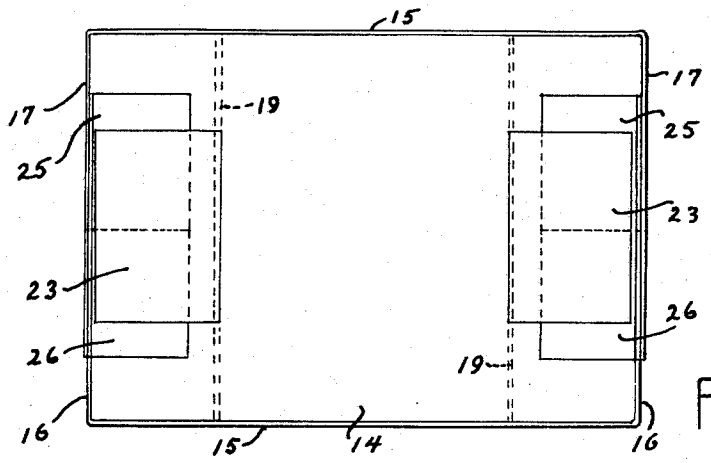

FIG. 2

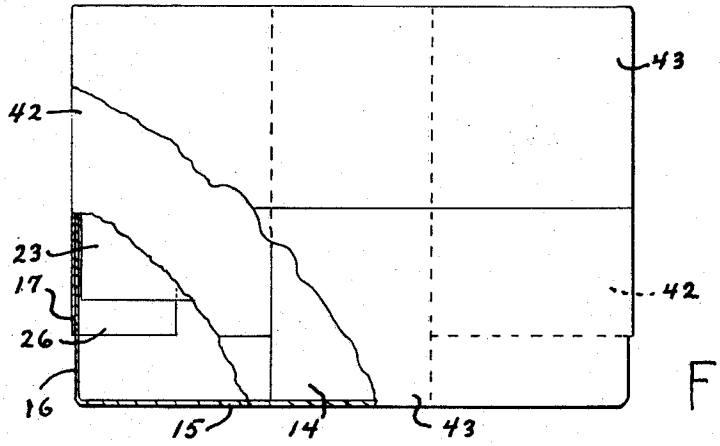

FIG. 3

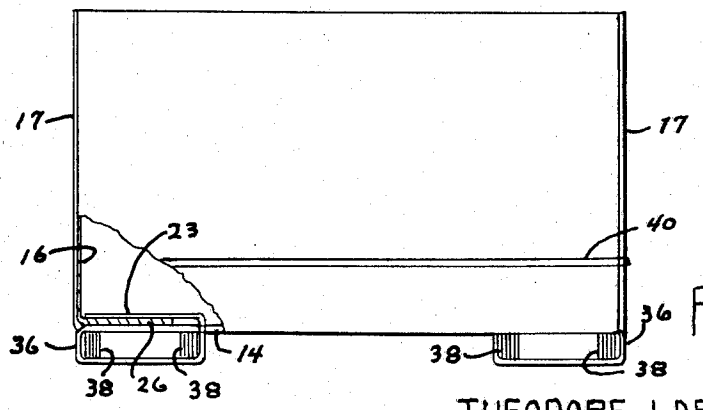

FIG. 4

INVENTOR

THEODORE J. DESBOIS

BY Ashton J. Harlan Jr.

ATTORNEY

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CONTAINER AND SUPPORT THEREFOR

Theodore J. Desbois, 423 Hyde Park Blvd., Niagara Falls, N.Y.

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6 Claims. (Cl. 229—6)

This invention relates to containers and is particularly concerned with containers having pallets or pallet-like supporting portions associated therewith.

Because of the high cost of the labor involved, manual handling of shipping containers is now minimized as much as possible. When feasible, products are shipped in bulk. However, smaller packages must often be used, and if possible in such cases the containers such as bags, cartons, and the like are placed at the time of shipping or before on a pallet. Ideally, the containers are not thereafter handled individually again until removed from the pallet by the consignee. The pallets used are usually designed to be picked up, transported, and in some cases stacked by fork-lift trucks.

It is an object of the present invention to provide a shipping container having a pallet or pallet-like supporting portion.

Another object of the invention is to provide a shipping container of the character described which may be conveniently used for carrying large objects, a plurality of small objects or bulk material.

Another object of the invention is to provide a packaging assembly which is easily constructed and assembled and requires comparatively little space in storage.

A further object of the invention is to provide a container of the character described which may be discarded and easily disposed of after use but which may, if desired, be collapsed for storage and reuse.

Still another object of the invention is to provide a shipping container of the character described which is inexpensive to manufacture and use.

Other objects and advantages of the invention will be apparent from the following description taken in conjunction with the accompanying drawings in which:

FIGURE 1 is a plan view of a blank of corrugated board, fiber board or similar material adapted to be assembled into a container according to the invention;

FIGURE 2 is a top plan view on an enlarged scale of a shipping container formed from the blank illustrated in FIGURE 1;

FIGURE 3 is a top plan view, with parts broken away, of a modified form of container according to the invention;

FIGURE 4 is a front elevation, with a corner broken away, of the container illustrated in FIGURE 2; and

FIGURE 5 is a longitudinal sectional view of a container having a separable pallet portion.

Referring to FIGURE 1 in which the dashed lines represent folding scores it will be seen that in the generally preferred form the blank of corrugated board, paperboard, cardboard, or the like (which hereinafter will be generically referred to as "fiberboard") is rectangular. The blank is essentially divided by the pairs of score lines **11**, **11** and **12**, **12** into 7 panels. The central panel **14** forms the bottom of the container and the panels **15**, **16** and **17** form the ends and sides. Since the score lines **11** are parallel and each is normal to both of the score lines **12**, **12** which are also parallel with each other and with the sides of the blank, the panels **14** and **15** are rectangular and so, also, except for the tabs **25** and **26** hereinafter described, are the panels **16** and **17**. Since the score lines **11**, **11** and **12**, **12** are disposed symmetrically with respect to the blank, the blank has two axes of symmetry, one bisecting the front and back edges of the blank and the other bisecting the side edges thereof. Accordingly, in the following description it will be understood that each of the panels **15**, **16** and **17** is a mirror image of the other panel bearing the same reference character and that in describing the location, positioning, movement or the like of one, the other is included.

Between the panels **16** and **17** at each side of the blank a flap **19** is formed by spaced slits **20** and **21** that extend inwardly from the side edges of the blank. At their outer ends the slits **20** and **21** are closer together than at their inner ends, forming jogs **22** in the edges of the flap and constituting the outer portion of the flap a tongue **23**. Between the jogs **22** and the side edges of the blank the panels **16** and **17** project inwardly to form tabs **25** and **26**, respectively. Score lines **30**, **31** and **32**, parallel to the lines **12**, are formed in each of the flaps **19**. A pair of longitudinally spaced slots **34** is provided in the panel **14** to receive the tongues **23** of the flaps **19**.

In FIGURES 2 and 4 there is shown a shipping container according to the invention and formed from a blank such as that of FIGURE 1. The several panels and the like are identified by the same reference characters as in FIGURE 1. It will be seen that the panel **14** constitutes the bottom of the container and the panels **15** the ends thereof, the latter being bent upwardly on the score lines **11**. The sides of the container are formed by the panels **16** and **17** which are bent on the score lines **12** into overlapping position. They may be secured together by stapling or by a suitable adhesive. The tabs **25** and **26** are also bent up on the outer portions of the score lines **11** and rest on the panel **14** to which they may be stapled or otherwise fastened.

As best shown in FIGURE 4 the container is supported along each side by loop portions **36** formed by bending the flaps **19** on the score lines **30**, **31** and **32** and passing the end tongues **23** through the slots **34** in the base panel **14**. The tongues **23** extend outwardly on the base panel over the tabs **25** and **26** substantially to the respective side edges of panel **14** and may be held in place by a load in the container. Within each of the loop portions **36** there are provided a pair of laterally spaced longitudinal supporting blocks **38**. The blocks **38** preferably extend to full length of the loop portions and are the same height as the inside height of the loop portion below the base panel **14**, thereby supporting the load and maintaining the loops open. The tongue portions **23** of each of the flaps **19** form bridges across the supporting blocks within the respective loops. It is preferred to form the blocks **38** of adhesively joined strips of fiberboard. However, any other suitable material, for example, wood, may be employed. The spaced loops are, of course, suitable and intended for receiving the fork of a fork-lift truck.

It will be evident from the foregoing description that containers according to the invention may be easily assembled by merely folding along the score lines, fastening together the panels **16** and **17** at the sides, securing the tabs **25** and **26** to the bottom, folding back the flaps **19** along the score lines **30**, **31** and **32** and inserting supporting blocks in the loops formed when the tongues **23** are passed through the slots **34**.

The container thus formed is suitable for carrying large objects. Where, however, small objects or bulk materials are to be carried the container may be provided with a liner of suitable character to prevent leakage. Alternatively, the small objects or bulk material may be packaged in one or a plurality of boxes or bags which may be loaded into the container. The container may be reinforced by one or more bands **40** of steel, reinforced plastic tape, or the like extending around its perimeter.

If desired, a lid (not shown) may be provided for a container according to the invention. Such a lid may be secured by strapping or in other suitable fashion. In the modified form of the invention shown in FIGURE 3 the

container is provided with top flaps forming a cover. In producing this modification a blank is provided in which the panels **15**, **16** and **17** forming the ends and sides of the load receiving portion are larger, extending outwardly from the score lines **11**, **11** a greater distance, the exact distance being determined by the size of the top flaps desired. Score lines (not shown) are provided to facilitate bending over the extra width of the panels and four slits (not shown) are provided to separate the panels **15** from panels **16** and **17**, respectively, at their outer portions to permit independent folding of the flaps at the ends and sides. The overlapping portions of panels **16** and **17** which form the flaps **42** are preferably secured together with a suitable adhesive. After the container is formed as described above, the tops of the joined panels **16** and **17** on each side of the container are bent inwardly to form side flaps **42** and the tops of the panels **15** are bent inwardly to form end flaps **43** the ends of which may be abutting as shown. The top flaps **42** and **43** may be stapled together or adhesively joined as desired.

Containers constructed in accordance with the present invention are convenient and economical. As pointed out above, they are quickly and easily assembled and before assembly they occupy a minimum of space. They may be easily picked up and carried by fork-lift trucks. Since they are light in weight, particularly if made of corrugated paperboard, shipping charges are reduced. Further, of course, no separate pallet is necessary. Although containers according to the invention are quite durable and in many cases are reusable, their inexpensive construction permits them to be discarded after a single use where the expense of return shipping is not warranted.

Another modified form of the invention is illustrated in FIGURE 5. Here the load-receiving portion of the container device is separable from the supporting portion. The load-receiving portion may, as shown, be an ordinary box or carton **50** formed of corrugated board but modified to provide spaced slots **51** through the bottom thereof through which the tongues **52** of a pallet like that disclosed in applicant's copending application Serial No. 796,360, filed March 2, 1959, now Patent No. 2,970,797, may pass. As illustrated, the box **50** comprises sides **53**, top flaps **54** and **55**, and bottom flaps **56** and **57**. The pallet comprises a platform **60** and a pair of laterally spaced folded loops **61**, each enclosing spaced supporting blocks **62** and having its end tongue **52** extending through a slot **63** in the platform and through registering slots **51** in the carton bottom. The ends of the tongues are bent outwardly within the box or carton and extend substantially to the respective adjacent side edges of the pallet whereby to bridge the supporting blocks **62** within the respective loops. Although in FIGURE 5, as in the other figures also, the thickness of the panels and the like is exaggerated, it will be necessary for the inner vertical panels **65** of the loops to be wider than the outer panels thereof because of the additional layers of material through which they must pass.

It will be understood that in the modified form of the invention illustrated in FIGURE 5 the pallet portion may be of any desired size. The dimensions of the carton or box **50** may also be varied, it being possible for the box to overhang the edges of the pallet if desired. Similarly, the unitary containers illustrated in FIGURES 1–4 may also be made in various sizes as required for specific uses.

As mentioned above, shipping containers according to the invention as shown in FIGURES 1–4 may be constructed of corrugated board or other fiberboard. Corrugated board is usually preferred because of its combination of strength and lightness. In the embodiment shown in FIGURE 5 the pallet portion is preferably formed from corrugated board while the load-receiving box portion may be of any desired and suitable material. In some cases, for example, boxes of wood or metal will be most useful while in other cases fiberboard will be satisfactory. Where desired or necessary suitable reinforcing means may be employed with containers according to the invention either for the load-receiving portion or the supporting portion. Thus, for example, the corners may be braced, additional support may be provided under the base of the load-receiving portion, or one or more panels or the like may be strengthened or stiffened by facings. Where fiberboard is used it may, if desired, be coated or impregnated for imparting resistance to wear or water and/or for strengthening.

Since various other modifications and changes may be made without departing from the spirit of the invention, it is intended that the invention shall not be construed narrowly. Rather it is desired that it shall be interpreted as broadly as permitted by the appended claims.

I claim:

1. A container of fiberboard adapted for use with fork lift trucks which comprises: a rectangular load-receiving portion comprising a base and sides integral therewith and extending upwardly therefrom, and a pair of laterally spaced supporting and lifting loops beneath said load-receiving portion and extending along opposite sides thereof, a pair of supporting blocks extending longitudinally within each of said loops, said blocks being laterally spaced within each of said loops whereby to maintain said loops open and to provide centrally within said loops longitudinal passages for reception of the fork of a fork lift truck, each of said loops being formed of a flap folded rectangularly beneath said base and having a tongue portion extending upwardly through said base to the upper face thereof and extending outwardly on said base substantially to the respective adjacent side edge thereof, thereby to form a bridge across said supporting blocks within said loop.

2. A container as set forth in claim 1 in which said loops are integral with said base.

3. A container as set forth in claim 2 in which at least one of said sides is provided with a tab bent inwardly and secured to said base.

4. A container as set forth in claim 2 in which said sides comprise portions adapted to be folded over to form a cover for said load-receiving portion.

5. A container as set forth in claim 2 in which said sides comprise panels integral with said base and bent upwardly therefrom and two of said sides are formed by overlapping of a pair of said panels.

6. A container as set forth in claim 5 in which each of said overlapping panels is provided with a tab bent inwardly at the bottom thereof and secured to said base.

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