# United States Patent [19]

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[54] **CARDBOARD BLANKS AND BOXES FORMED THEREFROM**


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[52] **U.S. Cl.** .....**27/3,** 229/23 R

[51] **Int. Cl.** .....**A61g 17/00**

[58] **Field of Search**.....27/3, 4, 7, 8, 2; 229/16 R, 23 R, DIG. 4



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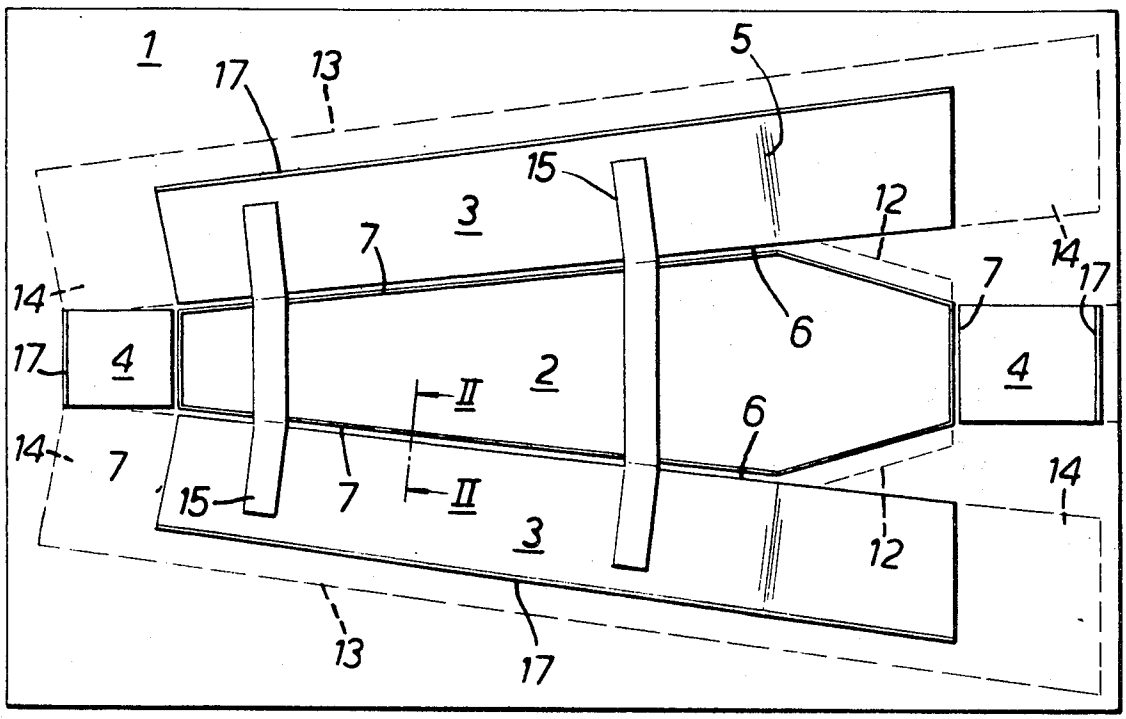
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[57] **ABSTRACT**

A cardboard blank for erection to form a box is of composite form. It comprises a base panel and separate wall panels attached to a backing sheet in the correct relative positions for erection to form the box with adjoining edge regions of the separate panels appropriately abutting one another. The outline of the backing sheet is such that it projects at the free side edges of the panels to provide portions which lap over adjoining panels when the blank is erected.


**1 Claim, 4 Drawing Figures**



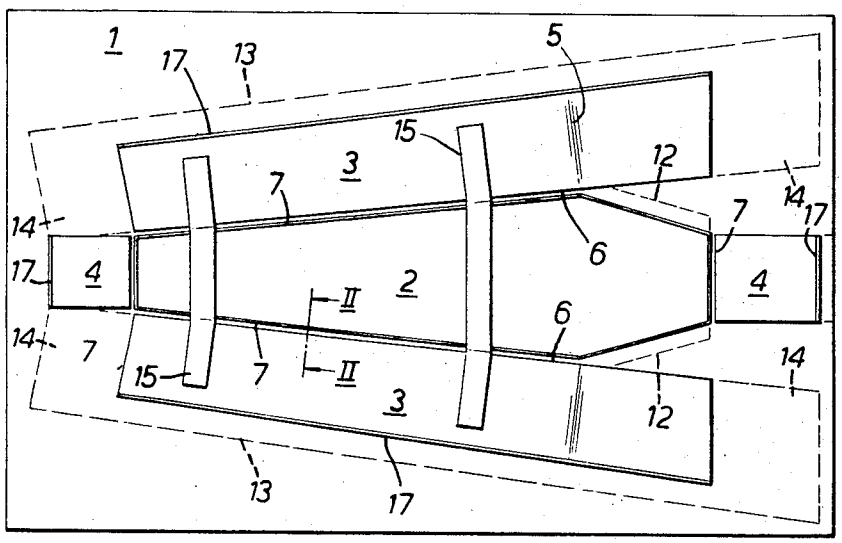



FIG. 1.

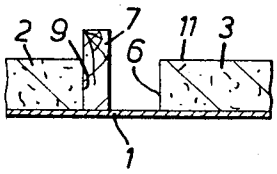



FIG. 2.

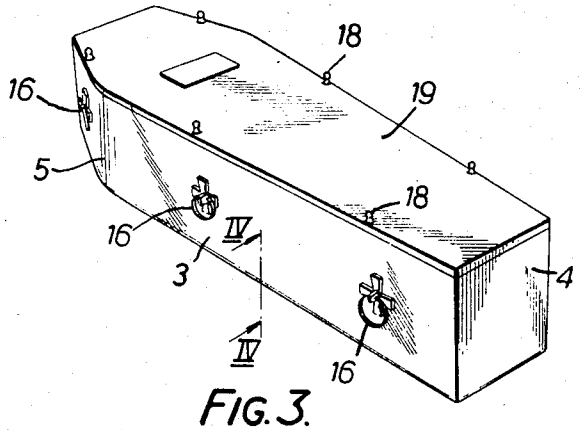



FIG. 3.

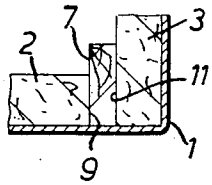



FIG. 4.

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# CARDBOARD BLANKS AND BOXES FORMED THEREFROM

## BACKGROUND OF THE INVENTION

This invention relates to cardboard blanks to be erected to form boxes and it is particularly, but by no means exclusively, concerned with coffin blanks. The term "cardboard" is used herein in a broad generic sense and includes such materials as are commonly referred to as fiberboard, solid "board" and like materials.

The object of the invention is to provide a blank which, when designed for erection to provide a coffin, has the advantages of a coffin with separate wall and base panels whilst simultaneously providing the advantages inherent in the use of a blank.

According to the invention a composite blank comprises a base panel and separate wall panels attached to a backing sheet in the correct relative position for erection to form a box with adjoining edge regions of the separate panels appropriately abutting one another, the outline of the backing sheet being such that it projects at the free side edges of the panels to provide portions which lap over adjoining panels when the blank is erected.

Preferably the backing sheet projects an additional amount at each end of each side panel, whereby to provide projecting portions each of which completely overlaps corresponding end wall panels. In a coffin blank this gives greatly increased strength to the ends of an erected coffin, whereby better to withstand a sudden tug when dragging the coffin out of a hearse, for example. A coffin blank will normally employ waterproof cardboard for the panels, and when of conventional shape four wall panels are desirably used with the side wall panels having crease lines at the region of maximum width of the coffin so that they readily bend to the desired shape.

When the blank is erected the backing sheet, which is desirably of "Craft" paper, provides the folds between adjoining panels, and abutting portions of the latter may be coated with a suitable adhesive prior to folding so that they become bonded one to the other. The blank may also include strips of webbing or other initially flexible material each of which extends laterally across the base panel and at least part way up the side panels in order to form sling-like loops which materially support the weight of the contents of the erected box and thus relieve the base of loading. These strips may terminate at side handles, and the base may be further strengthened by inset wooden fillets let into gaps between the base panel and the surrounding side panels. On erection these fillets are bonded to the panels. In a coffin blank timber fillets may also be fixed along what will become the upper edges of the side and end panels, these strips being overlapped by the projecting backing sheet which is folded over the top edge of the erected coffin. Thus these top fillets are concealed and they provide reliable fixing for staples by which the coffin lining is attached.

## BRIEF DESCRIPTION OF THE DRAWINGS

A coffin blank in accordance with the invention and the coffin erected therefrom are illustrated in the accompanying drawings. In the drawings:

FIG. 1 is a plan view of the composite blank, illustrating the initial steps of producing the blank,



FIG. 2 is a fragmentary sectional view on the line II — II of FIG. 1,

FIG. 3 is a perspective view of the erected coffin, complete with lid, and

FIG. 4 is a fragmentary sectional view on the line IV — IV in FIG. 3.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

The composite blank includes a backing sheet 1 of 42 pounds Craft paper and five separate cardboard panels of a multi-layered corrugated and waterproof cardboard such as that normally sold under the trade mark "Tri-Wall" and which has three layers of corrugations. The panels are respectively a base panel 2, two side wall panels 3 and two end wall panels 4. The backing sheet 1 is initially rectangular as shown in FIG. 1 and large enough for the panels 2, 3 and 4 to be placed thereon in the appropriate relative positions. They are attached to the backing sheet 1 by means of an impact adhesive.

The panels 2 to 4 are shaped and positioned so as to provide an erected coffin of conventional form, as shown in FIG. 3, with a widest mid-position situated closer to the "head" end, from which position the base panel 2 tapers and is of decreasing width to each end. The side and end wall panels 3 and 4 are of substantially rectangular shape, although at the "head" end the edge corners are inclined outwardly away from the base so that when erected the "head" end panel 4 slopes upwardly slightly from the base. The side panels have crease lines at 5 which facilitate bending, during erection, at said intermediate region.

Spacing of the panels on fixing to the backing sheet 1 is such that along each fold line, between adjoining edges of the base panel 2 and the side panels 3 and 4, a rectangular-section groove 6 is provided. One internal corner of the groove 6 coincides with the corresponding fold line, and into the other corner of the groove there is inserted and cemented a fillet of wood 7 of rectangular section which is stood on edge in the groove 6 so that it projects above the latter. The width of the groove corresponds to the thickness of the fillet 7 plus the depth of the groove 6, i.e. the thickness of the fiberboard panels. In the blank the fillets 7 are bonded to the backing sheet 1 and to the adjoining edges 9 of the base panel 2, as shown in FIG. 2, and on erection they are bonded to the adjoining face 11 of the respective side and end panels 3 and 4. On erection of the coffin each side or end panel 3 or 4 is folded upwardly about the corresponding fold line so that the fillet 7 is firmly sandwiched between the corresponding edge 9 (see FIGS. 3 and 4) of the base panel 2 and the corresponding facing surface 11 on the adjacent side or end panel. The fillet 7 is bonded by means of an appropriate adhesive. In order to provide internal reinforcement along the sides of the shorter tapered portion of the base panel 2, i.e. at the "head" end thereof, the fillets 7 are continued to that end of the base panel 2 and bonded to the edges thereof. The fillets 7 are secured so that when the corresponding ends of the side panel 3 are bent, about the fold lines at 5, to conform to the taper of the base panel 2 these fillets are sandwiched between the shorter tapered "head" portion of the base panel 2 and the side panels 3.

After the five panels 2 to 4 and the fillets 7 have been secured in position the backing sheet 1 is trimmed off, during manufacture of the blank, so that it projects the desired amount at the free edges of the panels. The finally trimmed outline is as shown in broken lines in FIG. 1, and except at each end of the two side panels 3, the trimmed backing sheet 1 merely projects sufficiently to provide a small corner overlap (as at 12), or fold-in (as at 13) along the top rim of the coffin. At the ends of the side panels 3 a sufficient projection is left as at 14 to overlap the adjoining end panel 4 completely. Thus in the erected coffin each end panel is completely overlapped by two thicknesses of the backing sheet paper, whereby to provide a construction with reinforced ends.

Internal support loops of woven textile webbing 15 terminating at mounting positions for external side handles 16 are provided in the blank, these loops being rigidified by the cement by which they are secured to the inner side faces of the panels 2 and 3. The handle fixings pass through the webbing loops adjacent the free ends thereof, so that in use the weight of a corpse is suspended in the loops from the handles 16 when the coffin is lifted. Also included in the composite blank is plywood strip 17 arranged at the free edges of the side and end panels 3 and 4 so as to extend completely around the top rim just within the erected coffin ready to receive staples by which the usual coffin lining (not shown) is secured by the funeral furnishers. The plywood strip is covered by the fold-in projections 13 of the trimmed backing sheet 1, and it also provides a



firm anchorage for the fixing screws 18 by which a separate coffin lid 19 is secured. The lid 19 may be of the same corrugated cardboard material as the panels 2 to 4.

I claim:

1. Coffin-forming means comprising:

a composite blank which includes a backing sheet of paper, a base panel of corrugated cardboard and four separate wall panels, each of corrugated cardboard, attached to the backing sheet in the correct relative positions for erection to form a coffin with adjoining edge regions of the separate panels abutting one another, the said backing sheet having an outline such that it projects at the free side edges of the wall panels to provide portions which lap over adjoining wall panels when the blank is erected, said backing sheet projecting an additional amount at each end of an opposite pair of said wall panels to provide projecting portions each of which completely overlaps the corresponding one of the other wall panels,

handle mountings disposed externally of said pair of opposite wall panels, and

strips of initially flexible material extending, in the erected coffin, laterally across the base panel and at least part way up said opposite wall panels and terminating at said handle mountings so that they form sling-like loops which materially support the weight of the contents of the coffin.

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