Dec. 31, 1963 W. J. TYRSECK ETAL 3,116,004

FOLDING PAPER BOX FOR LIGHT BULBS

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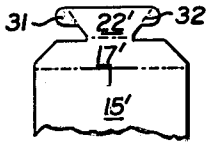


FIG. 1A.

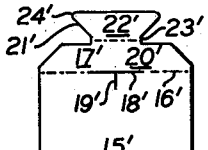
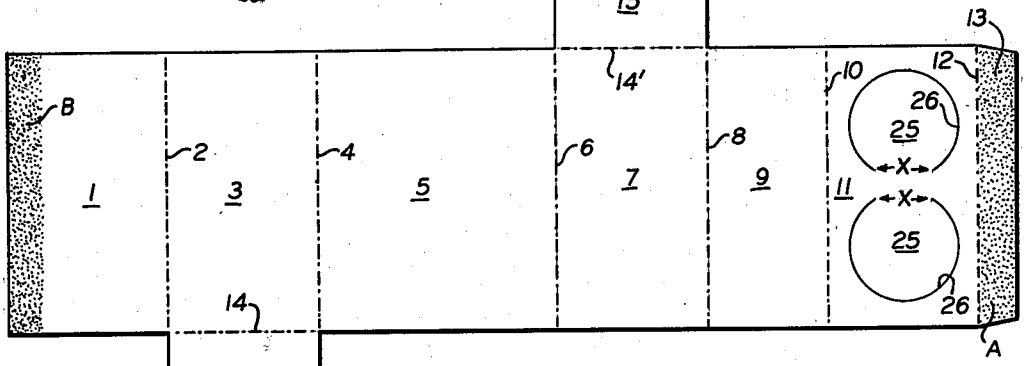
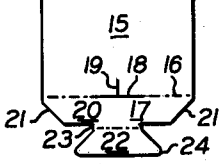


FIG. 1.





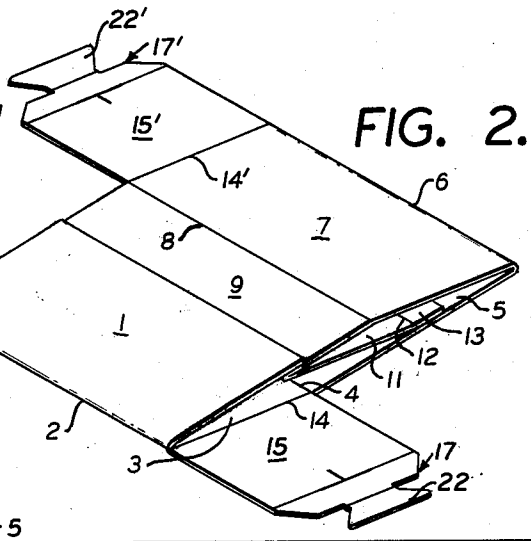
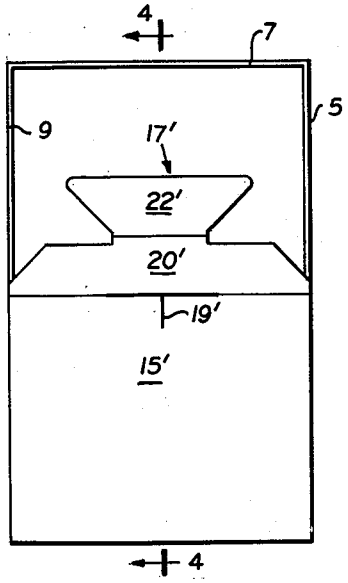


FIG. 2.

FIG. 3.



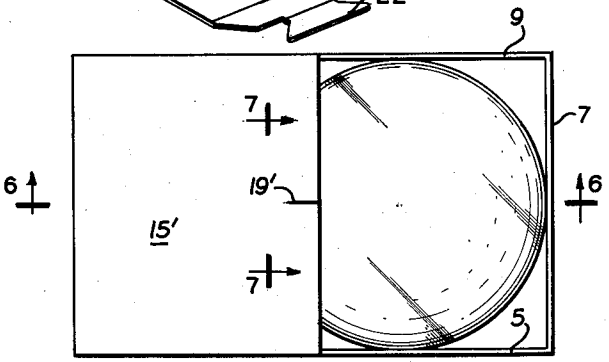


FIG. 5.

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FIG. 4.

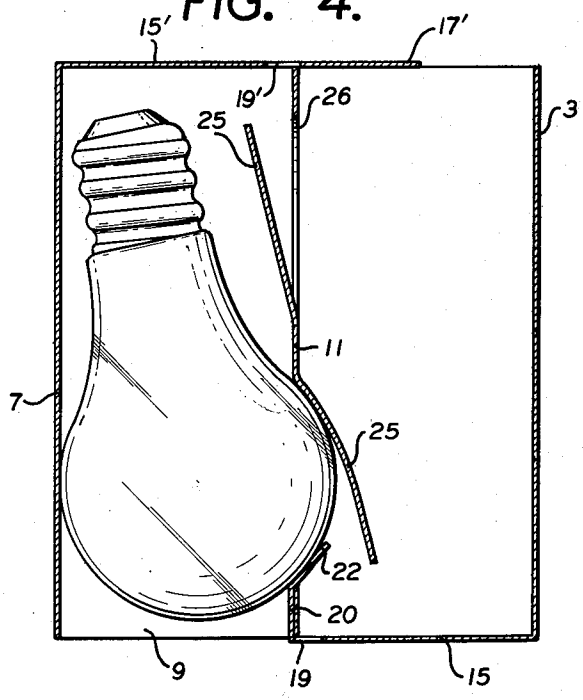


FIG. 7.

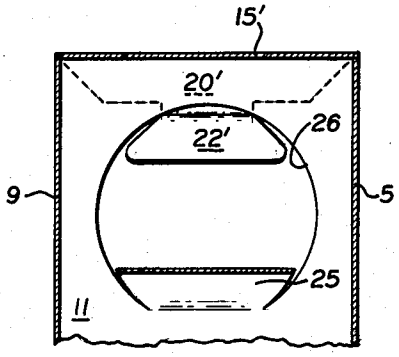


FIG. 6.

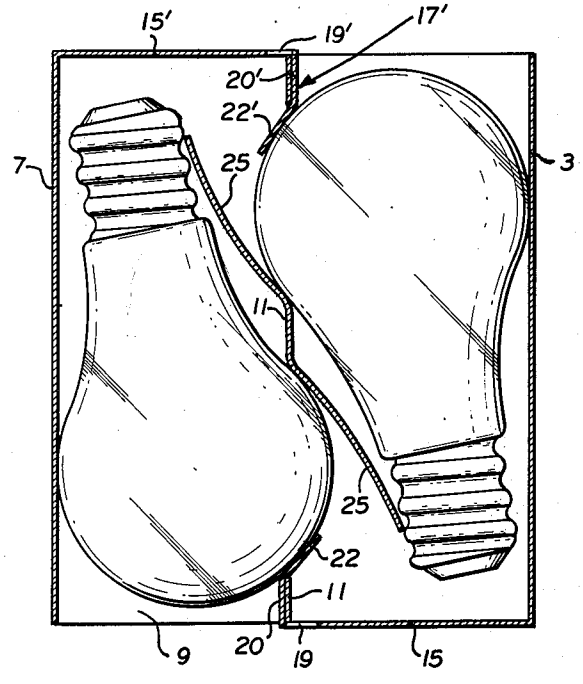
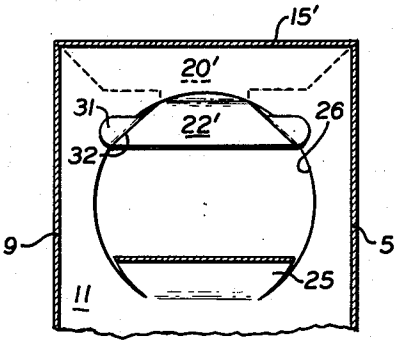


FIG. 7A.



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FOLDING PAPER BOX FOR LIGHT BULBS

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Filed Sept. 9, 1959, Ser. No. 838,916
4 Claims. (Cl. 229—39)

This invention relates to light bulb packages and more particularly to folding paper boxes for packaging such articles.

In our previous applications, Serial No. 796,477, filed March 2, 1959 for Folding Paper Container; Serial No. 825,956, filed July 9, 1959, for Folding Paper Container, and Serial No. 830,371, filed July 29, 1959, for Folding Paper Container, we have disclosed improved light bulb cartons and the present application is a modification or improvement thereon.

It is an object of the invention to provide a folding paper light bulb carton, preferably taking two bulbs, and holding the same securely and having an end closure structure.

Another object is to provide a partitioned foldable light bulb carton having an end closure element provided with flaps or securing elements cooperating with the package holding means for a bulb, whereby the structure is securely locked together by insertion of the bulb itself.

Another object is to provide such a carton, in which the end closure accommodates passage of a bulb.

With these and other objects which will appear in the course of the following full description in mind, the invention consists in the combination and arrangements of parts and details of construction which will now first be fully described with reference to the accompanying drawings, and then be more particularly pointed out in the appended claims.

In the drawings:

FIG. 1 is a flat view of a blank for forming a carton according to the invention;

FIG. 1A shows a modification of a portion of the blank of FIG. 1;

FIG. 2 shows the blank of FIG. 1 in folded or collapsed condition and ready for shipment to the customer and insertion of the contents;

FIG. 3 is a plan view showing the carton with one bulb inserted and in readiness for insertion of the second bulb;

FIG. 4 is a section on the line 4—4 of FIG. 3;

FIGS. 5 and 6 are plan and section views similar to FIGS. 3 and 4, but show the carton with both bulbs inserted;

FIG. 7 is a detail fragmentary view taken on the section line 7—7 of FIG. 5; and

FIG. 7A is a detail fragmentary view similar to FIG. 7, but showing the modification of FIG. 1A.

The blank, as shown in FIG. 1, comprises an aligned series of panels identified by the odd numerals from 1–11, terminating in a glue flap 13, these panels being hingedly connected to each other by appropriately scored and creased fold lines as indicated by the even numerals 2–12, inclusive. Panel 3 has hingedly connected to it by fold line 14 a transversely foldable panel element 15 which, in turn, has a flap 17 hingedly connected along a fold line 16. Fold line 16 has a central cutout 18 and slit 19, for purposes hereafter described, and the flap 17 takes the form of a base section 20 having beveled or slanted ends 21 as shown and a dovetail projection 22 supported on a narrow neck portion 23 and having a wider end portion 24 as shown. Panel 7 supports along its edge (the opposite side of the blank) and on the fold line 14' a similar end closure structure to the structure

15–24 just described and in which the elements are identified by similar reference numerals with the addition of a prime superscript (').

The panel 11, which is a partition panel, has a pair of arcuate cuts 26 defining flap elements 25 bendable out of the plane of the panel 11 along the lines generally indicated by the letter x and which lines extend between the ends of the cuts 26.

The box blank having been prepared with adhesive over the stippled areas A and B (on the back and front of the blank, respectively) is folded successively on fold lines 10, 6 and 2 to produce the collapsed box of FIG. 2 (shown as somewhat opened up for clarity of illustration).

The collapsed box or carton is set up in the usual manner by applying pressure at its opposite ends (fold lines 2 and 6) and opens out into the form shown in FIGS. 3–4, the panels 15, 15' being bent over as shown. The bulb is now inserted (stem first) pushing down the flap 17 (17') and pushing the wide end 24 (24') thereon into the opening provided by the cut 26, where it is held by the bulb engaging in this opening. At the same time, flap 25 is swung out on its hinge line x, so that the bulb is securely held in the carton. The dimensioning of parts and configuration of cuts is described in detail in our prior applications above mentioned and may take various forms without departing from the present invention in its broader aspect.

The dimensioning of parts is such that in the set up box, the hinge line 16 lies over the end of partition panel 11 and the proportion of parts is substantially 4–5, each sub-compartment of the carton having this proportion and the end panel 15 being likewise in this proportion. Approximately a 25% expansion in the direction at right angles to the partition panel is required on inserting the bulb and the slits 18, 19, previously referred to, permit a slight yielding of the edge of end panel 15 and flap 17 to accommodate the bulb. As soon as the thick part of the bulb is past the end of the carton (plane of panel 15), elements 15 and 17 spring back into their original condition.

The neck 23 of element 17 coincides with the upper edge of the cutout 26 so that the line on which the dovetail projection 22 is bent is a chord of the arc 26. Bending the wide part below this chord under the edge of the cut 26 holds the end panel 15 securely down in position at the end of the carton.

End panel 15 strengthens and rigidifies the carton structure and moreover provides a surface for printing brand name and size and style identification of the bulbs. Since the outer surfaces of panels 3, 5, 7, 9 and 1 are also available for printing, a carton has been provided in which the description of contents is readily visible no matter how the cartons may be stacked.

In the modified form of the invention shown in FIGS. 1A and 7A, the flaps 17, 17' are modified, the wide portion 24 being further extended by adding thereto ears 31 which may be hinged along score lines 32. In this form of construction, when the bulb has pushed the ears 31 through the openings defined by cuts 26 and the ears 31 have sprung out on the opposite side of the partition panel 11, the end panel 15 (15') is securely held in position even after a bulb may be removed.

What is claimed is:

1. A folding paper light bulb package comprising a rectangular sleeve with walls in the proportion of about 5 to 8, having a central partition parallel to two opposite walls of the sleeve and dividing the sleeve into two compartments having walls in about the proportion of 5 to 4, the said partition having bulb receiving apertures spaced from each other and from the ends of the partition, ac-

commodating and holding a pair of bulbs in position in the said compartment with each of the bulbs substantially in contact with three of the sleeve walls, and an end closure, comprising an end panel hingedly joined to one of the said opposite walls and folded so as to close the adjacent compartment end and lie in supported relation to the partition, the said end panel having a flap extending beyond the said partition and bent down against the same and held thereagainst by the bulb in the other said compartment, the said end panel having a central cut adjacent the said hinge line and the hinge line having a cut to each side thereof, whereby the end panel and flap will yield to permit passage of the bulb and return to original position when the bulb is fully inserted.

2. A folding paper light bulb package according to claim 1, comprising also an end closure as claimed therein for the other compartment end at the opposite end of the sleeve.

3. A folding paper light bulb package according to claim 1, in which the said flap projection comprises lateral extensions lying in back of the aperture edges to hold the flap therein.

4. A folding paper light bulb package according to claim 3, comprising also an end closure as claimed therein for the other compartment end at the opposite end of the sleeve.

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