Sept. 28, 1954 R. T. WHITE 2,690,254

LAMP BULB PACKAGE

Filed Sept. 22, 1949 2 Sheets-Sheet 1

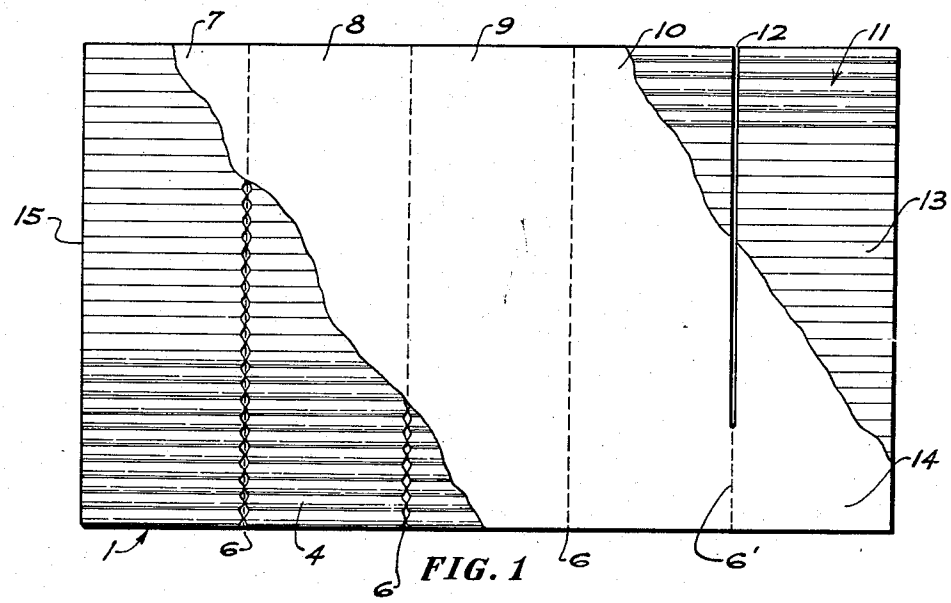


FIG. 1

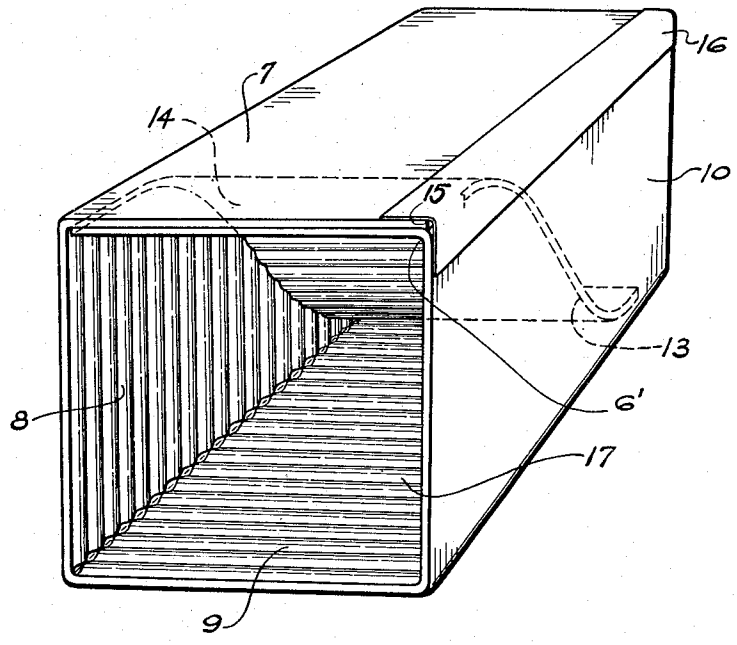


FIG. 2

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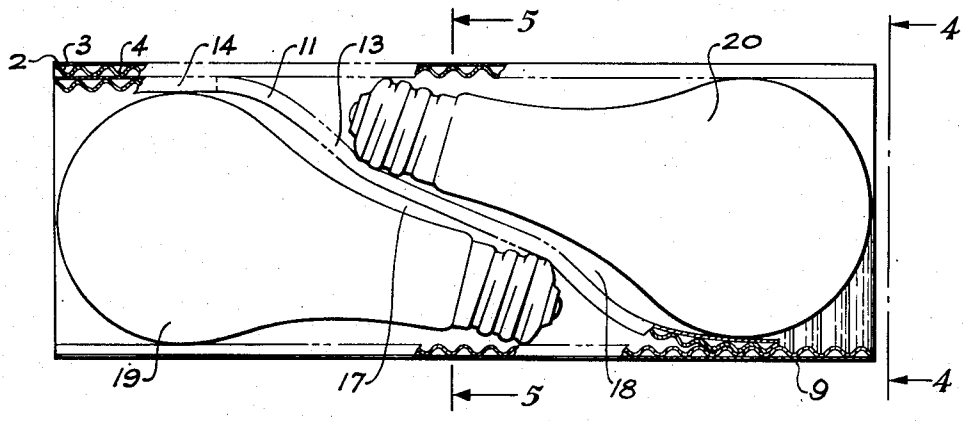


FIG. 3

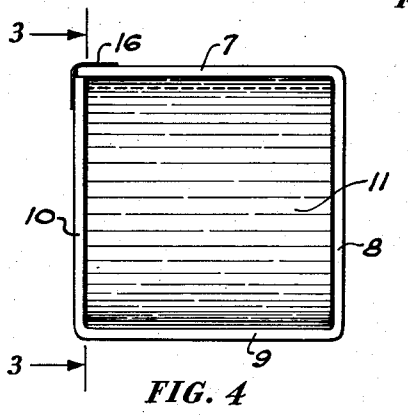


FIG. 4

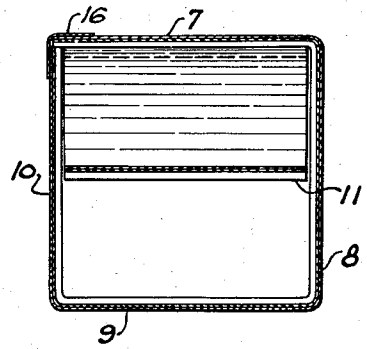


FIG. 5

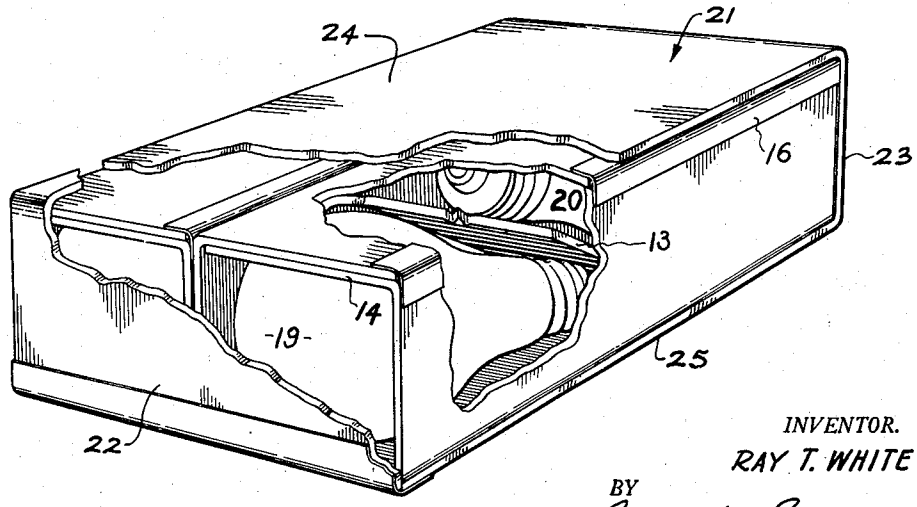


FIG. 6

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UNITED STATES PATENT OFFICE

2,690,254

LAMP BULB PACKAGE

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Application September 22, 1949, Serial No. 117,104

1 Claim. (Cl. 206—65)

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This invention relates to packages or containers of the type used for protectively encasing fragile articles and more particularly to packages or containers adapted to receive a plurality of conventional electric lamp bulbs in nested relation to each other.

My present invention contemplates a wrapper or package of corrugated paper of the general type described and claimed in my copending application Serial No. 19,507, filed on April 7, 1948, now Patent No. 2,654,472, dated October 6, 1953, and which is formed into the shape of a tube of sufficient internal dimensions snugly to receive the particular lamp bulbs to be packaged. Cross-reference is accordingly hereby made to said corresponding application. By providing my present package with imperforate side walls and an additional partition wall to divide the tube internally, I have found that the lamp bulbs may be nested together within the tube without danger of breakage thereof. I have found further, that additional safety in so packaging lamp bulbs may be attained by providing the partition wall with dimensions substantially the same as the internal dimensions of the tube so as positively to prevent any deleterious contacts between the bulbs.

It is therefore an object of my invention to provide a lamp bulb package that may be fabricated economically and which will effectively house and contain a plurality of lamp bulbs without danger of bulb breakage. Other objects of my invention are: the provision of a lamp bulb package that occupies a minimum of space by permitting the bulbs to be received therein in nested or overlapped relation thereby effecting substantial savings in required shipping and storage space; the provision of a lamp bulb package which has an internally disposed partition wall for protectively separating lamp bulbs inserted therein and which insures that the packaged bulbs will not damage each other when subjected to jolts such as may be incurred during shipping or while the package is being carried by the ultimate user; and the provision of a lamp bulb package that is small and easy to handle and therefore a convenient and attractive means in which to market lamp bulbs.

These and other objects of my invention will appear from the following description of a preferred form thereof, reference being had to the accompanying drawings in which:

Figure 1 is a plan view of the corrugated paper blank from which my package is formed, only a portion of the corrugations being shown to simplify the drawing;

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Figure 2 is a perspective view of a package or wrapper made from the blank shown in Figure 1;

Figure 3 is a longitudinal vertical cross sectional view of my assembled package taken substantially on line 3—3 of Figure 4, a pair of bulbs being shown in the package;

Figure 4 is a transverse vertical cross sectional view of my improved package taken substantially on the line 4—4 of Figure 3, the bulbs being removed;

Figure 5 is similar to Figure 4 with the section taken substantially on the line 5—5 of Figure 3, the bulbs being removed; and

Figure 6 is a partially cut-away perspective view showing a pair of my two-bulb packages disposed within an outside cover to form a convenient four-bulb package.

Referring now to the drawings and particularly to Figure 1, reference character 1 designates generally the blank of single-faced corrugated paper or board from which my lamp bulb package is formed. These blanks 1 may be cut from large sheets or long strips of suitable corrugated material which, as shown, is made up of a backing sheet wall 2 (see Figure 3) and a corrugated wall 3 having a series of corrugations 4 formed therein. The blank 1 is provided with a plurality of score or fold lines 6 and 6' extending transversely of and preferably perpendicularly to the corrugations 4 thereon and formed by scoring or flattening the corrugations of the corrugated wall portion 3. These fold lines 6, for simplicity of illustration, are indicated by dotted lines in the portion of Figure 1 from which the corrugations have been omitted. In the preferred form of my package, the blank 1 is provided with three substantially parallel and uniformly spaced fold lines 6 and a fourth parallel and uniformly spaced but shorter fold line 6'. These fold lines divide the blank into four substantially identical panels 7, 8, 9 and 10 and a partition wall or panel 11. The free edge of end panel 7 is indicated at 15 in Figures 1 and 2.

Partition wall 11 is partially severed from adjacent panel 10 as indicated by the slot 12 which has been cut on an extension of the fold line 6' between panel 10 and wall 11. The slot 12 partially separates partition wall 11 from the rest of the blank so that said partition wall has a free portion 13, defined by the length of slot 12 and which may be flexed out of the plane of the blank, and an anchored portion 14 which is integral with the rest of the blank and attached to panel 10 along fold line 6'. The length of slot 12, and consequently the length of free portion 13 of partition wall 11, is important in

determining the size and shape of the bulb receiving compartments 17 and 18 of my assembled package as will be described more fully later.

The above described blank 1 may be readily converted into a bulb package or container of the form shown in Figure 2 by folding adjacent panels 7, 8, 9 and 10 on their common fold lines 6 with the corrugations 4 on the inside and so that each panel is perpendicular to the other and becomes an outer wall of the package. Thus, as viewed in Figure 2, panel 7 becomes the outer top wall, panel 8 the left side wall, panel 9 the bottom wall, and panel 10 the right side wall of the package. It will be understood, however, that the above named relative positions of the walls are merely descriptive of the box in the position illustrated in Figure 2.

Prior to folding the respective panels to form a box as shown in Figure 2, partition wall 11 is folded upwardly, as viewed in Figure 1, on fold line 6' and perpendicularly to panel 10. As the panels 7, 8, 9 and 10 are folded inwardly and as panel 7 is brought around to form the top outer wall of the box it is made to overlap the partition wall 11 so that the corrugations 4 of panel 7 are adjacent the backing wall portion 2 of partition wall 11. Thereafter the free edge 15 of top wall 7 is secured to the outer side wall 10 by tape 16 or other suitable adhesive means. The outer walls 7, 8, 9 and 10 of my package are imperforate and, being folded upon each other at substantially right angles, are mutually self-supporting and sufficiently rigid to retain the form of an elongated open-ended box having a substantially square cross section.

When the package has been folded and edge 15 secured as described above, the partition wall 11 is adjacent the top wall 7 of the package and the free portion 13 of partition wall 11 may be flexed inwardly while the anchored portion 14 will remain substantially parallel and adjacent to the top wall 7. The free portion 13 of the partition wall 11, when positioned as seen in Figures 2 and 3, divides the interior of the package into compartments 17 and 18 which are adapted protectively and snugly to receive lamp bulbs 19 and 20, respectively.

The length of slot 12 and consequently the length of free portion 13 of partition wall 11 preferably should be greater than one-half of the length of the adjacent panel 10. The reason for this will be seen by noting, see Figure 3, that the bulbs 19 and 20 are positioned within the package in overlapped or nested relation in order to occupy as little space as possible within the package and it is advantageous for the partition wall 11 completely to prevent any contact between the bulbs. The maximum length of slot 12 is limited only by the requirement for sufficient length of fold line 6' so that the anchored portion 14 of partition wall 11 will be adequately attached to side wall 10. I have found that a satisfactory length for slot 12 is approximately three-quarters of the length of partition wall 11 although I do not wish to be limited to this length of slot.

As the corrugations 4 run transveresly thereof, the free portion 13 of partition wall 11 is sufficiently flexible so that the bulbs 19 and 20 may be inserted through the ends of the package with their threaded ends facing inwardly (as shown in Figure 3) until the enlarged ends of the bulbs are completely within the tubular package. Since the internal dimensions of the package are such as to snugly receive the enlarged ends of the

particular size of bulb intended to be disposed therewithin, bulbs 19 and 20 are frictionally retained within compartments 17 and 18 and are partially locked therein by the engagement of the threaded ends of bulbs 19 and 20 with the corrugated inner surfaces of outer walls 7 and 9. As is seen in Figure 3, the corrugations on the inner side of the free end portion of partition wall 11 are meshed with the adjacent corrugations on the inner side of the wall 9. This intermeshing is effective in preventing longitudinal movement of the partition wall 11 in the assembled package and thus assists in making a strong and rigid unit.

As mentioned above, partition wall 11 has substantially the same width dimension as the panels 7, 8, 9 and 10 and because of this dimensional relation the free portion 13 of partition wall 11 extends substantially entirely across the interior of the assembled package or tube and divides it into the two compartments 17 and 18. Therefore, when the bulbs 19 and 20 are disposed within the package as shown in Figure 3, said bulbs are completely and protectively separated from each other. In this manner I have insured that the packaged lamp bulbs cannot be damaged by deleterious contact with each other.

When the partition wall 11 is in position diagonally across the tube to separate the interior of the package into two sections or compartments as seen in Figure 3, it also serves to stiffen and prevent collapse or distortion of the outer walls of the square tubular package. In the package shown in Figures 4 and 5 there is a slight clearance between the side edges of partition wall 11 and the inner surfaces of the adjacent outer walls 8 and 10. By providing this small clearance the free end 13 of partition wall 11 will tend to drop downwardly under the influence of gravity when the package is oriented as shown in Figures 2 to 5. This assists in entering the threaded end of bulb 20 into its proper position in the package. It will be understood, however, that in some instances the free end portion 13 of partition wall 11 may be made of such width as frictionally to engage the inner surfaces of the adjacent side walls 8 and 10 in which case the partition wall may be moved into position to receive the bulb 20 either manually or by suitable mechanism and prior to insertion of the bulbs in the package.

In Figure 6 I have shown a pair of my improved lamp bulb packages disposed within an open-sided corrugated box 21 which has end walls 22 and 23, a top wall 24, and a bottom wall 25. The outer protective box 21 has a lengthwise internal dimension sufficient snugly to receive my improved lamp bulb packages. End walls 22 and 23 of the box 21 close the open ends of the lamp bulb packages and therefore protect the exposed portions of the lamp bulbs 19 and 20. The drawer-like disposition of my lamp bulb packages within protective box 21 insures that every portion of the lamp bulb is adequately shielded and protected and also affords a neat, compact and attractive multiple bulb package unit from which one double bulb package can be removed while the other remains in the outer box.

Although I have described the illustrated embodiment of my invention with some degree of particularity, it will be understood that modifications and variations can be made in my improved package without departing from the spirit of my invention. Therefore, I do not wish

to be limited in any manner other than by the scope of the appended claim.

I claim:

A one piece lamp bulb package comprising a plurality of single faced corrugated outer walls disposed with their corrugated surfaces inward and defining an open-ended tube, a pair of lamp bulbs disposed therein in nested relation with their base ends overlapping each other and with the longitudinal axis of one bulb intersecting the longitudinal axis of said tube within and adjacent one end of the tube and the longitudinal axis of the other bulb intersecting the longitudinal axis of said tube within and adjacent the opposite end of the tube, said tube having a substantially square transverse cross-section, the length of said tube being less than twice the length of one of said bulbs by substantially the amount of overlap of the base ends of the bulbs, and an integral imperforate flexible single faced corrugated partition wall having substantially the same dimensions as each of said outer walls and being attached for a portion of its length at one end of the tube to the longitudinal edge of one of said outer walls, and unattached for the balance of its length, the corrugations on said outer walls and on said partition wall extending transversely of said tube, the attached portion of said partition wall being juxtaposed to another of said outer walls and the unattached

portion thereof extending from said outer wall between the nested overlapped parts of said bulbs to the wall opposite said another wall, the corrugations at the free end of the unattached portion of said partition wall meshing with the corrugations on the inner surface of said opposite wall.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
557,371	Ferguson	Mar. 31, 1896
1,670,498	Einson	May 22, 1928
1,737,950	Scotland	Dec. 3, 1929
1,740,550	Michelin	Dec. 24, 1929
1,976,403	Kasser	Oct. 9, 1934
2,097,757	Deike	Nov. 2, 1937
2,130,445	Bemiss	Sept. 20, 1938
2,197,510	Ringler	Apr. 16, 1940
2,225,133	Silver	Dec. 17, 1940
2,537,151	Mires	Jan. 9, 1951
2,569,733	Ringler	Oct. 2, 1951
2,611,531	Conkle	Sept. 23, 1952

FOREIGN PATENTS

Number	Country	Date
241,097	Great Britain	Oct. 15, 1925
609,848	France	May 22, 1926
544,958	Great Britain	May 5, 1942