Nov. 25, 1952 C. J. ARTHUR 2,619,227

PACKAGING SYSTEM

Filed Jan. 23, 1950 2 SHEETS—SHEET 1

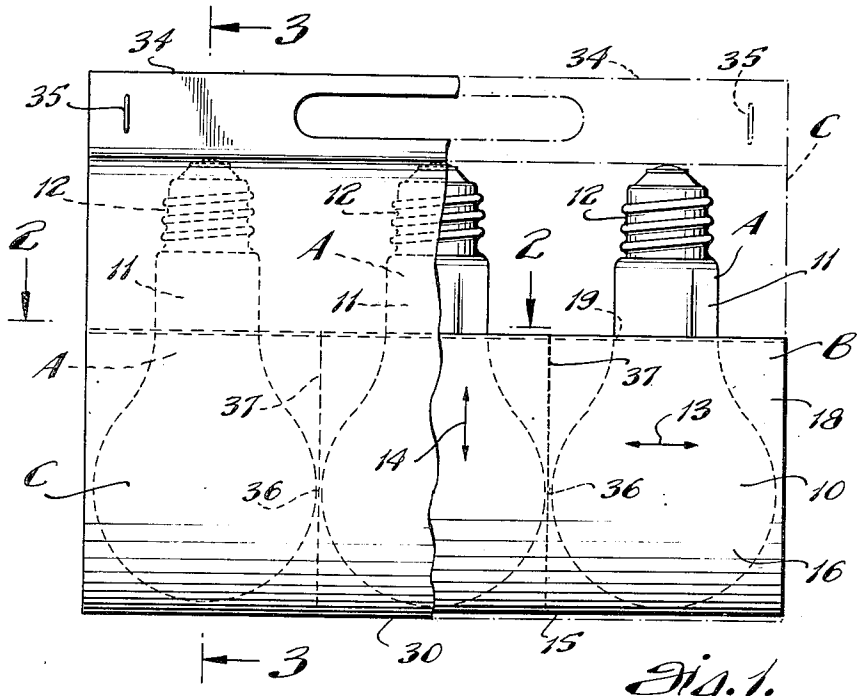


Fig. 1.

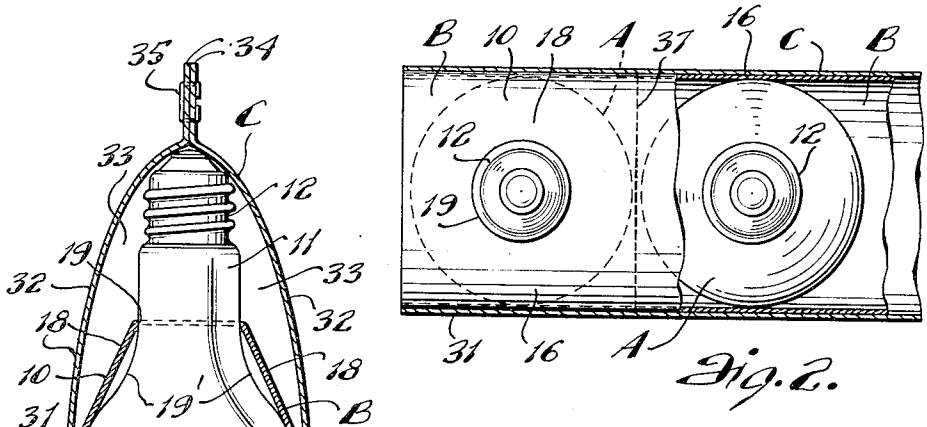


Fig. 2.

Fig. 3.

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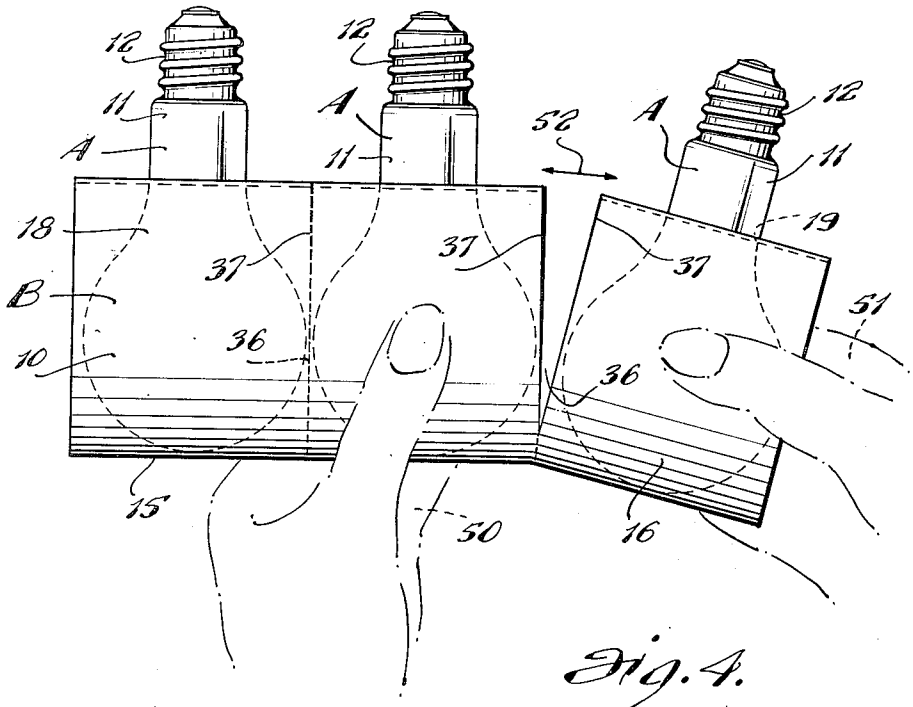


Fig. 4.

Fig. 5.

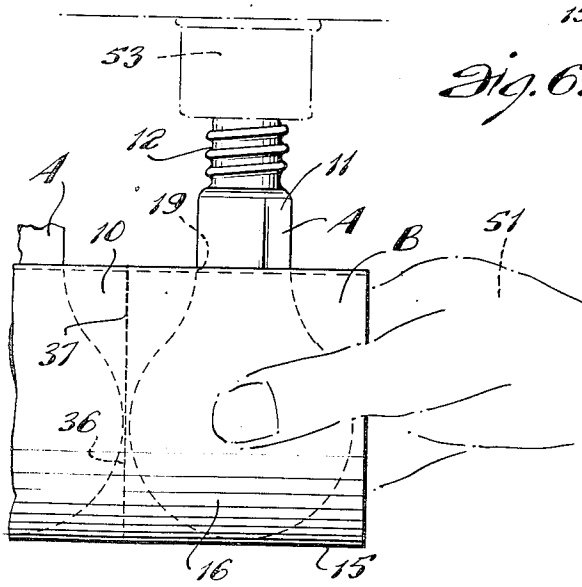
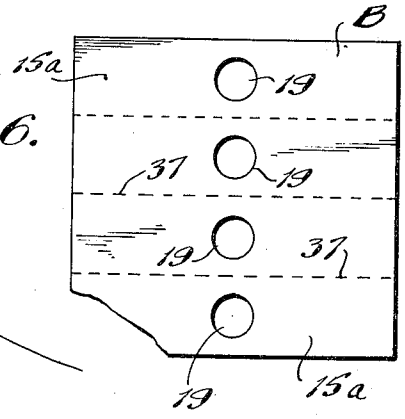


Fig. 6.



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PACKAGING SYSTEM

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13 Claims. (Cl. 206—56)

1

The present invention relates to a packaging system.

Although not limited thereto, the present invention will be specifically described in connection with a packaging system as applied to electric light bulbs, but it is to be understood that it has a much broader application to the packaging of objects such as bottles, cans or other articles having a relatively enlarged base and a narrow neck, which may be sold or merchandised singly or in units of one, two, three, six or a dozen.

It is among the objects of the present invention to provide a novel packaging system for objects of the character described which will enable them to be readily packaged manually or by automatic machinery, shipped, stored and merchandised with a minimum of packaging material and with maximum space economy and which will also enable ready sale of varying quantities, either one at a time, two at a time, three at a time, six at a time or other quantities.

Another object is to provide a novel blank for packaging electric light bulbs, bottles or the like which may be readily applied in flat or slightly rounded form to the necks of the objects to be packaged followed by wrapping around the body of the objects and attachment of the edges.

Another object of the present invention is to provide a novel packaging system for electric light bulbs or other retainers or containers of similar shape with an enlarged base and narrow neck, which will permit most convenient packaging, either automatic or manual, storage, shipping and display, inspection and testing thereof with a minimum amount of packaging material and with the use of relatively small quantities of packaging materials, with the assurance that the packages may be readily carried by the consumer and readily split into units containing the desired number of the articles which the consumer desires to purchase at any one time.

Another object is to provide a packaging system for electric light bulbs which may readily be applied by automatic machinery and which will enable ready testing of such bulbs without removal from the package and which will assure the bulbs against breakage and which will enable small sales of one, two or any greater number of bulbs without removal from the package.

Still further objects and advantages will appear in the more detailed description set forth below, it being understood, however, that this more detailed description is given by way of illustration and explanation only and not by way of limitation, since various changes therein may be made by those skilled in the art without departing from the scope and spirit of the present invention.

In accomplishing the above objects, it has been found most satisfactory, according to one embodiment of the present invention, to provide

2

a packaging system in which corrugated or other paper board is desirably employed, in the form of a sleeve with the axes of the articles to be packaged transverse to the axis of the sleeve and with the neck portions, whether they be the necks of electric bulbs or the necks of bottles, protruding from openings in the side of the sleeve to enable inspection or testing of the articles.

A principal feature of the present invention resides in saving of paper packaging material and saving of board since a flat blank with spaced holes may be readily positioned on top of the necks of the bulbs and then folded around the bulbs into a cylinder, either manually or automatically, with the lower overlapping edges being stapled, adhesively connected or otherwise attached together.

With electric light bulbs, the screw caps of the bulbs will project and enable ready testing thereof without removal of the bulbs from the package.

To protect the articles and assure a firmer and better package, an outer sleeve is desirably employed which will fit over the inner sleeve containing the bulbs, bottles or other articles and serve as an external carrier and also may serve as a handle or provide a handle member. The upper projecting portion of the outer cylinder of the package may have a partly cut-out portion to serve as a handle, although a plain sleeve may also be employed.

In one form of the present invention the inner and outer tubes are both made of single-faced or double-faced flexible corrugated material, the corrugations of which should extend circularly around the tubes in the inner tube and transversely around the package in the outer tube, although this alignment of the corrugations may be widely varied.

Other forms of corrugated board may be employed with the corrugations extending longitudinally of the cylinder or, if desired, instead of corrugated board other types of material may be employed, for example reinforced, foldable material such as plastic sheets, cloth board and so forth. Desirably the corrugations of the inner tubular wrapper and the outer tubular wrapper should be transverse to each other.

With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts as hereinafter more specifically described and illustrated in the accompanying drawings, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which fall within the scope of the claims hereunto appended.

In the drawings wherein like reference characters denote corresponding parts throughout the several views:

Fig. 1 is a side elevational view of a package according to the present invention, with the outer tube partly broken away to more clearly show the inner package arrangement.

Fig. 2 is a vertical transverse sectional view upon the line 2—2 of Fig. 1.

Fig. 3 is a vertical transverse sectional view upon the line 3—3 of Fig. 1.

Fig. 4 is a side elevational view of the inner package, indicating how the units may be separated from the package for separate sale.

Fig. 5 is a side elevational view of part of the inner package, indicating how the bulbs may be individually tested without removal from said package.

Fig. 6 is a top plan view of the blank for the inner cylindrical or tubular wrapper of the present invention, upon a relatively small scale as compared to Fig. 4.

Referring to Figs. 1 to 5, there is shown by way of illustration a plurality of light bulbs A packaged in an internal sleeve B and an external sleeve C.

The lamp bulb itself has a base 10 with a narrow converging neck 11 and a screw cap 12.

It is obvious that various other types of bottles and cans may have larger bases 10 together with small necks 11 and caps 12 whether they are used for carrying beverages or for other purposes.

The glass base 10 is fairly fragile and should be protected by an inner tube B of corrugated board. The corrugations may extend either in the direction 13, which is preferred, or in the direction 14, which is usually not preferred.

The tube or inner sleeve may overlap at its bottom 15 and be joined together at that position and its sides 16 should closely cling to the sides 17 of the bulb while the upper portion 18 may be separated from the cavity 19 at the base of the neck 11 of the bulb (see particularly Fig. 3).

As shown in Fig. 6, the blank B forming the inner cylindrical element may be applied by fitting the openings 19 over the neck portions 11 of the bulbs A, following which the edges 15a are connected together, overlapped or otherwise attaching by tacking, sealing, cementing or stapling.

At the top of the tube there are openings provided at 19 from which the neck 11 protrudes.

The outer tube C has a curved base 30, lower side portions 31 which closely cling to the side walls 16 of the inner tube A and then extend at 32 with a substantial space 33 away from the neck 11 and above the openings 19 (see Fig. 3).

At the top of the sleeve C will be two upwardly projecting flaps 34 which are stapled or otherwise joined together at 35.

Desirably the bulbs, as indicated at points 36, do not contact one another and there is a slight spacing provided. The inner sleeve is desirably perforated or scored all around, as indicated at 37, so that the bulbs may be readily separated in single units, as indicated in Fig. 4, or in sets of four or more, as the case may be, as indicated in Fig. 4, the separation taking place by means of the hands 50—51 of the arrow 52.

As shown in Fig. 5, by removing the inner sleeve B with the bulbs A from the outer sleeve C, it is possible to test each bulb A individually against the bulb tester or electrical source 53 by applying its screw cap 12 thereto without removing the bulb from the inner container B.

It is thus apparent that the applicant has made a simple, inexpensive, durable package for electric light bulbs and other containers or articles which will permit the bulbs to be packaged at a minimum of expense and tested without complete unpackaging and which will also enable ready separation into packaged units of one, two or four, as the case may be.

As stated before, the fact that the inner package or inner tube B may be formed from a single flat die-cut blank with perforations enables ready manual or automatic packaging and saves material and labor. The corrugations, particularly on a single-face corrugated board, will tend to flatten out and fix the bulbs A in position.

Although tubular inner and outer package elements are shown, it is obvious that the inner and outer package elements may also be formed of prismatic or rectangular cross section. Desirably where single-face corrugated board is employed, the facing is on the outside and the corrugations run around the inner cylinder transverse to the longitudinal axis thereof, so that they may more readily conform to the bulbs.

While there has been herein described a preferred form of the invention, it should be understood that the same may be altered in details and in relative arrangement of parts within the scope of the appended claims.

Having now particularly described and ascertained the nature of the invention, and in what manner the same is to be performed, what is claimed is:

1. An electric light bulb package for bulbs having elongated necks with screw caps comprising an elongated inner tubular holder of corrugated paper having openings spaced along the length thereof to permit projection and testing of the electric bulbs, said inner holder being formed of a flat sheet of corrugated board having a spaced row of openings intermediate of its width through which the necks project, the sides being wrapped downwardly around the sides and being overlapped at the bottom to form the completed tube and also including a plurality of electric light bulbs arranged side by side with their longitudinal axes parallel and their necks all extending externally in one direction through said openings.

2. A packaging system for articles having large bases and relatively narrow necks comprising an inner tubular holder having spaced openings receiving said necks and closely engaging the sides and bottoms of said bases and an outer tubular holder to slide over and enclose said inner holder, said inner holder being formed of a flat sheet of corrugated board having a spaced row of openings intermediate of its width through which the necks project, the sides being wrapped downwardly around the sides and being overlapped at the bottom to form the completed tube and said articles being positioned in side-by-side relationship in said inner holder with their longitudinal axes parallel and their necks projecting in one direction in a row through said openings to the outside of said inner holder.

3. An electric light bulb package for a plurality of light bulbs having spherical-like bases and converging elongated narrow necks with screw caps thereon, said package having an inner tubular holder with spaced openings to receive the necks of said bulbs and an outer tubular holder to slide over and enclose said inner holder, said inner holder being formed of a flat sheet of corrugated board having a spaced row of openings intermediate of its width through which the necks project, the sides being wrapped downwardly around the sides and being overlapped at the bottom to form the completed tube and also including a plurality of electric light

bulbs arranged side by side with their longitudinal axes parallel and their necks all extending externally in one direction through said openings.

4. A packaging system for articles having large bases and relatively narrow necks comprising an inner tubular holder having spaced openings receiving said necks and closely engaging the sides and bottoms of said bases and an outer tubular holder to slide over and enclose said inner holder, said inner container being scored so that it may be split into any desired number of units, said inner holder being formed of a flat sheet of corrugated board having a spaced row of openings intermediate of its width through which the necks project, the sides being wrapped downwardly around the sides and being overlapped at the bottom to form the completed tube and said articles being positioned in side-by-side relationship in said inner holder with their longitudinal axes parallel and their necks projecting in one direction in a row through said openings to the outside of said inner holder.

5. An electric light bulb package for a plurality of light bulbs having spherical-like bases and converging elongated narrow necks with screw caps thereon, said package having an inner tubular holder with spaced openings to receive the necks of said bulbs and an outer tubular holder to slide over and enclose said inner holder, said inner container being scored so that it may be split into any desired number of units, said inner holder being formed of a flat sheet of corrugated board having a spaced row of openings intermediate of its width through which the necks project, the sides being wrapped downwardly around the sides and being overlapped at the bottom to form the completed tube and also including a plurality of electric light bulbs arranged side by side with their longitudinal axes parallel and their necks all extending externally in one direction through said openings.

6. A packaging system for articles having large bases and relatively narrow necks comprising an inner tubular holder having spaced openings receiving said necks and closely engaging the sides and bottoms of said bases and an outer tubular holder to slide over and enclose said inner holder, said tubular holder being formed of corrugated board, said inner holder being formed of a flat sheet of corrugated board having a spaced row of openings intermediate of its width through which the necks project, the sides being wrapped downwardly around the sides and being overlapped at the bottom to form the completed tube and said articles being positioned in side-by-side relationship in said inner holder with their longitudinal axes parallel and their necks projecting in one direction in a row through said openings to the outside of said inner holder.

7. An electric light bulb package for a plurality of light bulbs having spherical-like bases and converging elongated narrow necks with screw caps thereon, said package having an inner tubular holder with spaced openings to receive the necks of said bulbs and an outer tubular holder to slide over and enclose said inner holder, said tubular holder being formed of corrugated board, said inner holder being formed of a flat sheet of corrugated board having a spaced row of openings intermediate of its width through which the necks project, the sides being wrapped downwardly around the sides and being overlapped at the bottom to form the completed tube and also including a plurality of electric light bulbs arranged side by side with their longitudinal axes parallel and their necks all extending externally in one direction through said openings.

8. A telescoping double tubular corrugated paper package for a plurality of incandescent electric light bulbs arranged in a row with said bulbs having spherical base portions with their narrow necks projecting upwardly, an inner corrugated paper tube composed of an elongated strip of corrugated paper with the rows of corrugations extending transversely of the strip and with a series of openings for said necks extending in a row along the middle of the strip and the sides of the strip being folded down and around the sides of the spherical base portions and overlapped and fastened together below the bottoms of the spherical base portions.

9. The package of claim 8 in which an outer tube is provided to enclose an inner tube and the necks of the bulbs extending beyond the inner tube.

10. The package of claim 8 in which an outer tube is provided to enclose an inner tube and the necks of the bulbs extending beyond the inner tube, said outer tube having the corrugations extending transversely of the corrugations of the inner tube and also consisting of a flat strip of corrugated paper which has been overlapped and connected together at a position 180 degrees away from the fastening and overlapping of the inner tube.

11. The package of claim 8 in which the inner tube is scored between said openings to permit ready separation of the bulbs from one another.

12. A method of packaging electric light bulbs which comprises arranging a row of electric light bulbs with their neck portions extending upwardly and with their axes parallel, also providing a flat sheet of corrugated paper board with a central row of openings corresponding in spacing and size to said neck portions as arranged in a row, then placing the corrugated paper upon said necks with the necks projecting through said openings and then wrapping the corrugated board on each side of said openings around and under the bulbs and attaching the edges to each other under the bottoms of the bulbs.

13. An electric light bulb package comprising a cylindrical tube of corrugated paper material with the corrugations extending longitudinally of the tube, said tube having a row of spaced circular openings along one side thereof, a plurality of electric light bulbs arranged in a row with their longitudinal axes parallel and their necks all extending in the same direction with their bulb portions inside the tube and their neck portions projecting through said openings from inside the tube and said tube having score lines extending completely around the tube between the bulbs and openings.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
243,875	Emery	July 5, 1881
1,253,489	Houghland	Jan. 15, 1918
2,112,535	Kondolf	Mar. 29, 1938
2,201,197	Minor, Jr.	May 21, 1940
2,205,437	Ringler	June 25, 1940
2,280,935	Stevens, Jr.	Apr. 28, 1942
2,339,555	Glass	Jan. 18, 1944