United States Patent

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[54] **WRAPPING FILM**
8 Claims, 8 Drawing Figs.

[52] U.S. Cl. 206/65; 229/51
[51] Int. Cl. B65d 71/00, B65d 5/54
[50] Field of Search ..... 206/52, 65, 45.31, 45.33, 58; 229/38, 51(Div.)

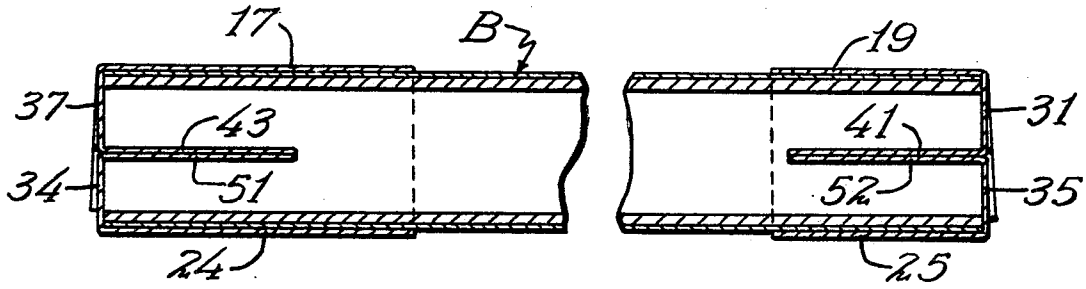
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ABSTRACT: A series of hollow rolls of wrapping film are secured in side by side relation by end caps enclosing the ends of the rolls. The rolls and caps are overwrapped. The two end caps for each package are simultaneously formed and glued so that as the caps are opened up double thickness tongues are provided which extend into the end rolls of the series.



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SHEET 1 OF 2

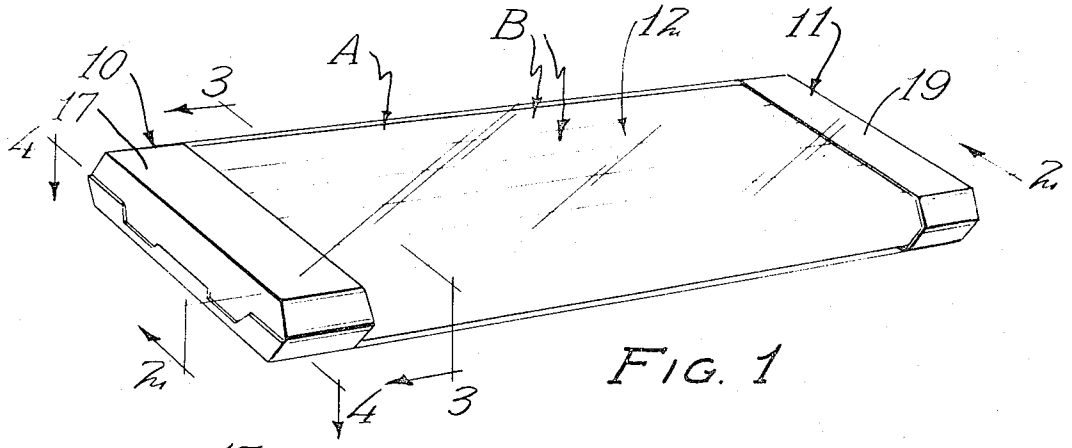


FIG. 1

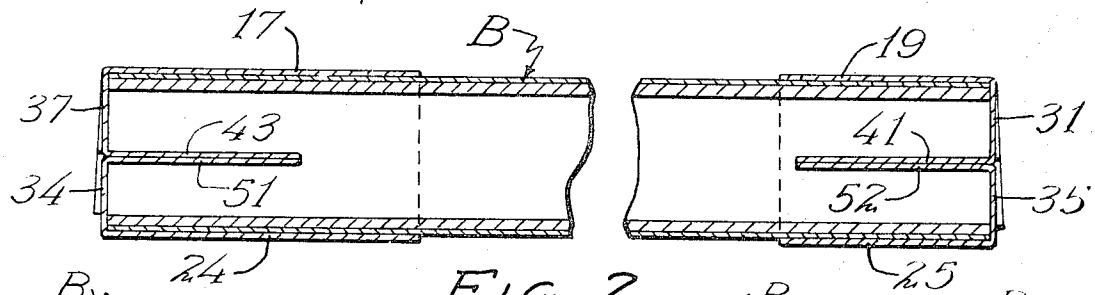


FIG. 2

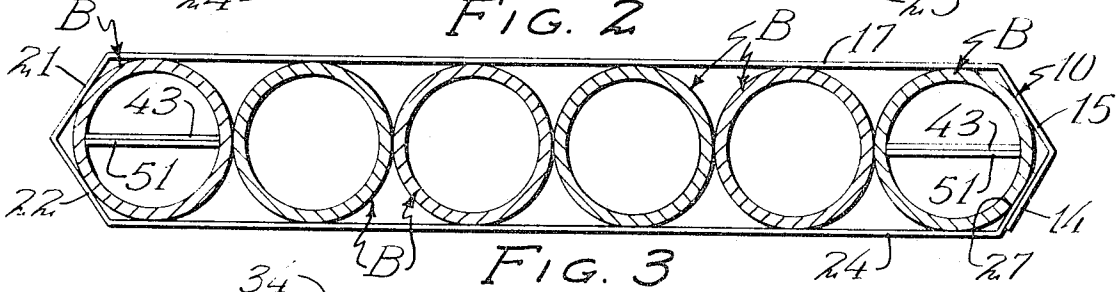


FIG. 3

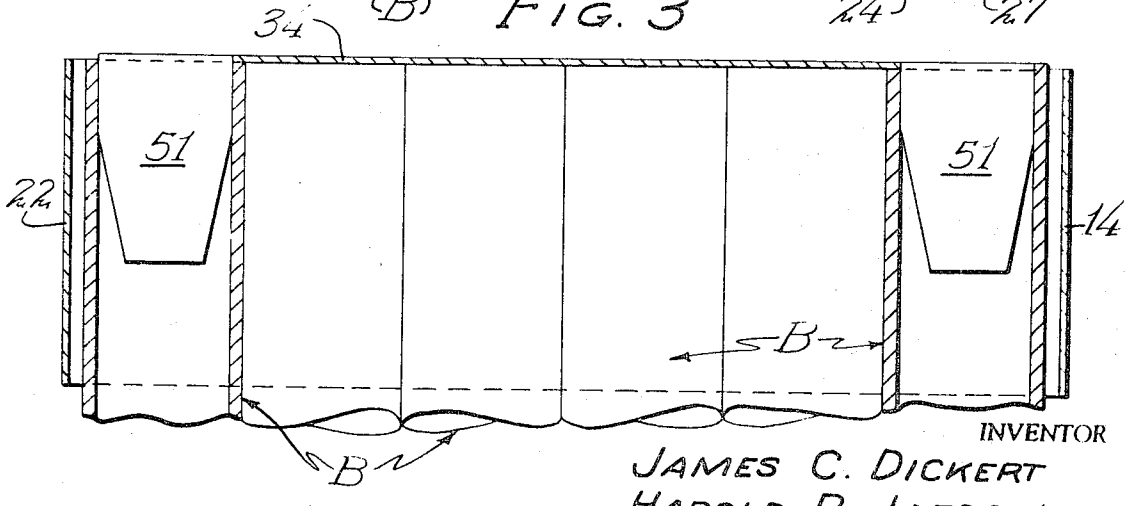


FIG. 4

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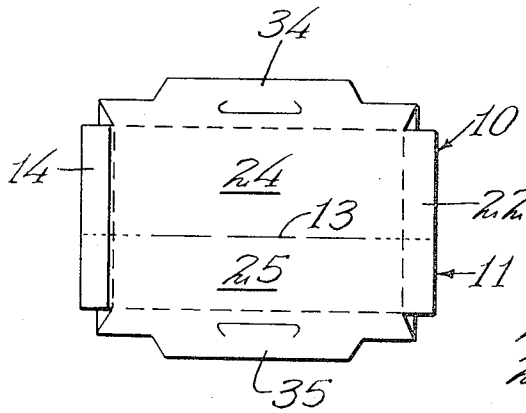


FIG. 6

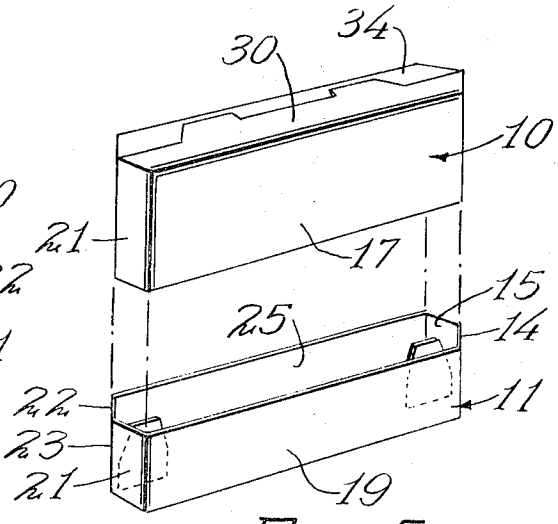


FIG. 5

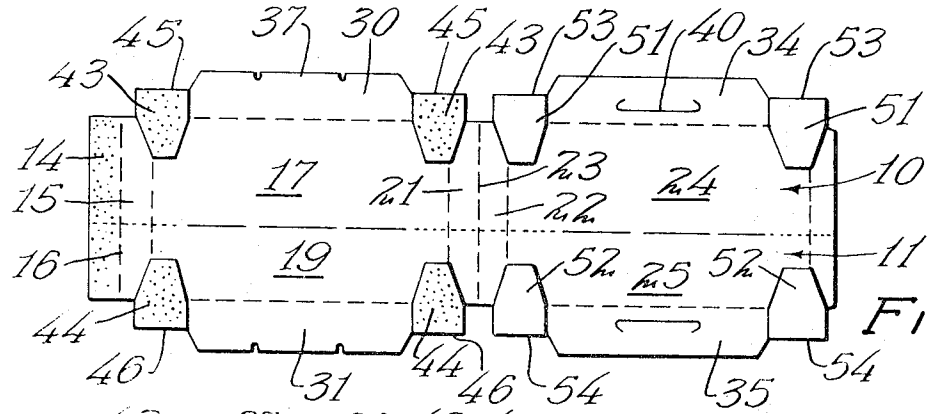


FIG. 7

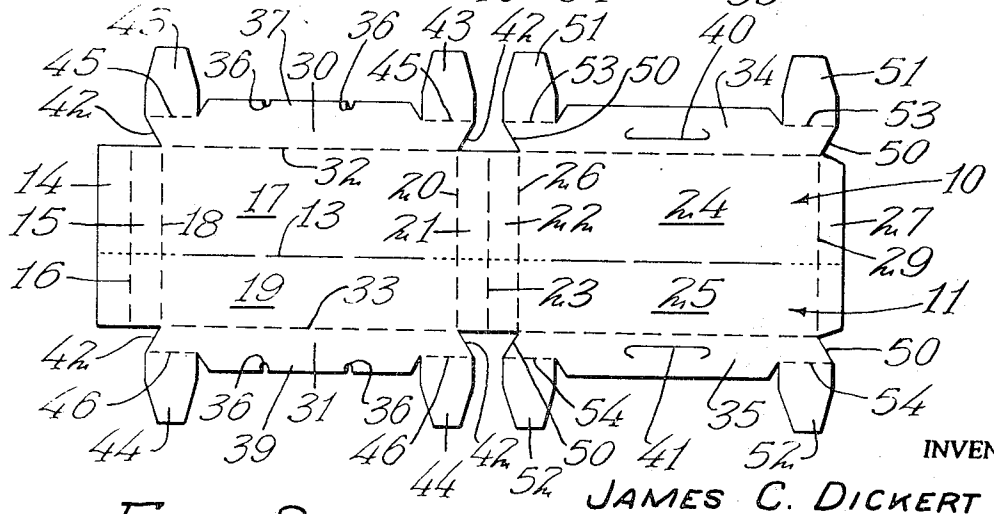


FIG. 8

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WRAPPING FILM

This invention relates to an improvement in wrapping film roll package and deals particularly with a means of unitizing a series of rolls of gift wrapping paper or the like so that the rolls may be sold as a unit.

Gift wrapping film, foil, or paper is usually wound on paperboard cores, each roll containing perhaps 5 feet of film slightly more than 2 feet in width. When rolls of such film are sold in bulk, there is usually a considerable spoilage due to the handling of the rolls by the customers. In order to prevent such damage, one of the companies has produced a package including a pair of end caps which fit over the ends of a plurality of side-by-side rolls of film, and the rolls and caps are overwrapped with a transparent film. Such a package clearly displays the decorative rolls of film so that the purchaser may inspect the patterns of material prior to purchasing them. At the same time, the individual rolls of film are enclosed within the overwrap, where they can not be frayed or soiled due to handling by the customers.

The end caps are preferably provided with lock ends which produce, in effect, open ended trays which slide over the ends of the rolls of film. In order to fit properly about the rolls, the trays are usually generally hexagonal in cross section, having pointed ends which fit about the end rolls of the series. The closed ends of the trays are also preferably provided with a pair of ears or tongues which extend into the hollow ends of the outermost two of the rolls to prevent the rolls from crowding together during the overwrapping process. These spacing tongues are usually formed integrally with the flaps forming the closed ends of the caps, and originally these tongues were folded individually to bring the two opposed tongues at each end of the closure into substantially face contact. The manual folding of the tongues was a slow and costly operation.

A feature of the present invention resides in the provision of an end cap for a package of the type described which includes closure forming flaps designed to lock in overlapped relation to form an end closure, and including pairs of tongues near opposite ends of the cap which are adhered in face contact during the formation of the caps. The glued tongues add somewhat to the cost of production of the caps, but this added cost is far exceeded by the labor saved in the packaging forming operation. With the present form of cap, the caps may be expanded either manually or through the use of a suitable jig, and the tongues automatically are in position to extend into two rolls. With the present arrangement, the package may be formed in perhaps less than one half the time previously required, and with much greater ease.

A feature of the present invention resides in the simplification of the gluing operation by forming two end caps simultaneously, and separating them before use. By forming the two caps at once, the two caps may be glued more easily and in no greater time than is normally required to glue a single cap. Furthermore, in view of the fact that the printing upon the two caps at opposite ends of the package usually differs, forming the two caps simultaneously automatically forms the two caps required for each package so the task of maintaining an equal inventory of both of the caps is greatly decreased.

A further feature of the present invention resides in the fact that by adhering the opposed tongues in face contact, the task of inserting the tongues into the proper rolls in considerably decreased, as in effect there is but a single double thickness tongue to insert rather than two single thickness tongues. Thus, the present cap is advantageous from this standpoint.

In the drawings forming a part of the specification,

FIG. 1 is a perspective view of the package in its completed form.

FIG. 2 is a longitudinal section on the line 2–2 of FIG. 1.

FIG. 3 is a sectional view the position of the section being indicated by the line 3–3 of FIG. 1.

FIG. 4 is a sectional view through the end of the package the position of the section being indicated by the line 4–4 of FIG. 1.

FIG. 5 is a perspective view of the end caps in separated set up form.

FIG. 6 is a plan view of the glued flat folded blank.

FIG. 7 is a plan view of the blank after the first folding operation.

FIG. 8 is a diagrammatic view of the blank from which the end caps are formed.

The wrapping film roll package is indicated in general by the letter A, and includes a series of rolls of film such as paper, foil, or the like, which are held in place by a pair of end caps 10 and 11, the entire package being overwrapped with a transparent film 12. The two end caps 10 and 11 are simultaneously formed as a single blank, the two end caps being connected by a weakened line of separation 13 extending across the entire blank.

The blank shown in FIG. 8 of the drawings includes a pair of end panels 14 and 15 connected along a fold line 16 which intersects the weakened line 13 at right angles. The face panels 17 and 19 are foldably connected along fold line 20 to a pair of end panels 21 and 22 which are foldably connected along an intermediate fold line 23. The end panel 22 is foldably connected to the second face panels 24 and 25 along a fold line 26 which is parallel to the previously described lines of fold. A glue flap 27 is foldably connected to the ends of the face panels 24 and 25 along a fold line 29.

Closure flaps 30 and 31 foldably connected to the face panels 17 and 19 along fold lines 32 and 33 which are substantially parallel to the weakened line of separation 13. Closure flaps 34 and 35 are foldably connected to the face panels 24 and 25 respectively along extensions of the fold lines 32 and 33. The closure flaps 30, 31, 34, and 35 are somewhat longer than the distance between the face panels of the caps and accordingly overlap when folded into right angular relation to the face panels to which they are hinged. The closure flaps 30 and 31 are provided with spaced notches 36 in the free edges thereof which define opposite sides of locking tongues 37 and 39. The flaps 34 and 35 are each provided with a generally U-shaped locking slit 40 and 41 adapted to accommodate the locking tongues 37 and 39 respectively when the end caps are in use.

As indicated in the drawings the ends of the closure flaps 30 and 31 are defined by cut lines 42 which diverge outwardly from the hinged lines 32 and 33 connecting the face panels 17 and 19 to the closure flaps. Positioning tongues 43 and 44 are foldably connected to the closure flaps 30 and 31 at opposite ends thereof along fold lines 45 and 46 which are spaced from fold lines 32 and 33 respectively a distance substantially equal to one half the distance between the opposed face panels when the caps are set up. In other words, when the caps are opened into position to receive the ends of the rolls B, the fold lines 45 and 46 extend substantially along the center line of the end caps.

The closure flaps 34 and 35 of the face panels 24 and 25 are partially defined by outwardly diverging cut lines 50 which diverge outwardly from the ends of the face panels 24 and 25 at the fold lines 32 and 33. Positioning tongues 51 and 52 are connected to the closure flaps 34 and 35 respectively along aligned fold lines 53 and 54. The fold lines 53 and 54 are spaced from the respective fold lines 32 and 33 a distance substantially equal to one half the distance between the opposed face panels when the end caps are in roll receiving position.

FIG. 7 of the drawings shows the blank after the first folding operation has taken place. As indicated, the tongues 43 have been folded inwardly along the fold lines 45 and the tongues 44 have been folded inwardly along the fold lines 46. Similarly, the tongues 51 and 52 are folded inwardly along the fold lines 53 and 54. Adhesive is applied to the tongues of one side of the blank as well as to the end panel 14.

The blank shown in FIG. 7 is next folded along the fold line 23 connecting the end panels 21 and 22. This folding operation brings the tongues 51 into face contact with the tongues 43, and brings the tongues 52 into face contact with the tongues 44. The tongues are preferably somewhat tapered in order to easily enter the interior of a roll, and all of the tongues are of the same general outline shape. To complete the gluing operation, the blank is folded along the fold line 16, and is adhered to the surface of the glue flap 27. Thus, the walls

are connected in tubular relation and the opposed tabs are all secured in face contact.

When the package is to be formed, the caps **10** and **11** are split across the weakened line of separation to form **2** caps as indicated in FIG. **5** of the drawings. The closure flaps **30** and **34** are folded inwardly into overlapping relation and by flexing these flaps slightly beyond right angular relation to the walls to which they are hinged, the locking tongue **37** of the flap **30** is engaged in the locking slot **40** of the closure flap **34**. The cap **11** is similarly erected by folding the closure flaps **31** and **35** inwardly are somewhat greater than 90° until the locking tongue **39** engages in the slot **41**. When released, the end flaps spring back to right angular relation to the walls of the cap.

The caps **10** and **11** are then telescoped onto opposite ends of the rolls B, the combined double thickness tongues extending into the end rolls of the series to hold these rolls in place, particularly during the wrapping operation. The rolls, with the caps applied, are then directed through an overwrapping machine which completely encloses the structure in a transparent film.

I have described the principals of construction and operation of my wrapping film roll package, and while I have endeavored to set forth the best embodiments thereof I desire to have it understood that obvious changes may be made within the following claims without departing from the spirit of my invention.

We claim:

1. A wrapping film roll package including:

a plurality of hollow rolls in parallel side-by-side relation;

an end cap enclosing at least one end of said side-by-side rolls;

said end cap including sidewalls extending across the said plurality of rolls and end walls extending along the end rolls of said plurality;

one of said end walls comprising a pair of foldably connected end panels hingedly connected to the corresponding ends of said face panels;

the other of said end walls comprising an end panel hingedly connected to the other end of each of said face panels, and a glue flap hingedly connected to one of said last named end panels and hingedly adhered in surface contact with the other of said last named end panels;

closure flaps hingedly connected to said sidewalls and folded along the ends of said rolls; and

tongues on said closure flaps adhered in face contact and extending into the ends of a pair of said hollow rolls.

2. The structure of claim **1** and in which said tongues are free of hinged connection with one another.

3. The structure of claim **1** and in which said closure flaps extend in overlapping relation and include cooperable means to hold the same overlapped.

4. The structure of claim **3** and in which said cooperable means comprises a tongue on one closure flap and a cooperable slot in the other.

5. A cap structure for use in enclosing the ends of a series of side by side hollow rolls, the cap structure including a pair of end caps connected along a weakened line of separation, the cap structure including:

a first end wall including a pair of first end wall panels foldably connected together and folded into substantially face contact;

a first and second face panel extending in substantially contiguous relation and connected to the edges of said end wall panels;

a second end wall including a pair of end wall panels hingedly connected together and hingedly connected to said first and second face panels along fold lines at the edges of said first and second face panels opposite those to which said first end wall panels are secured;

first and second closure flaps hingedly connected to the outer parallel edges of said first and second face panels and extending in coplanar relation to said face panels to which they are hinged;

tongues hinged to opposite ends of each of said closure flaps along lines of fold parallel to said outer parallel edges of said face panels; and

said tongues of said first and second closure flaps extending between said first and second closure flaps and adhered in face contact.

6. The structure of claim **5** and in which the portions of said closure flaps between the tongues hinged thereto extend beyond the lines of fold connecting said tongues to said closure flaps.

7. The structure of claim **5** and including cooperable means on said first and second closure flaps adapted to interengage when said closure flaps are swung inwardly to form a closure.

8. A flat folded end cap for use in enclosing an end of a series of side-by-side hollow rolls, the end cap including:

a series of panels hingedly connected along parallel fold lines and including a glue flap, a first first end wall panel, a face panel, a first second end wall panel, a second second end wall panel, a face panel, and a second first end wall panel;

said first and second second end wall panels being folded into contiguous relation, said face panels being folded into contiguous relation, said face panels being folded into contiguous relation, and said first first end wall panel being folded into contiguous relation with said second first end wall end panel;

said glue flap being folded into face contact with said second first end wall panel and adhered thereto;

closure flaps hingedly connected to the face panels and coplanar therewith;

a pair of tongues hingedly connected to each said closure flaps near opposite ends thereof and along fold lines parallel to the lines of hinge connecting said closure flaps to said face panels; and

said tongues being folded into contiguous relation between said closure flaps and adhered in face contact.