

Dec. 23, 1969

P. J. DEASY
PACKAGE

3,485,345

Filed Dec. 22, 1966

3 Sheets-Sheet 1

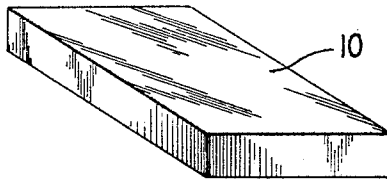


FIG. 1.

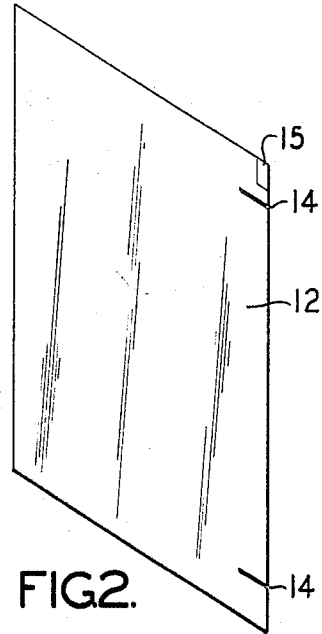


FIG. 2.

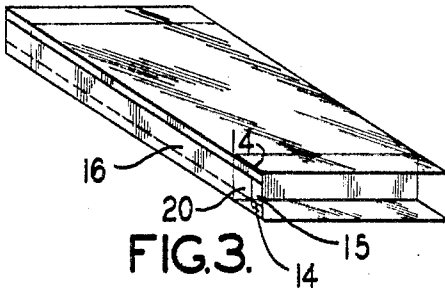


FIG. 3.

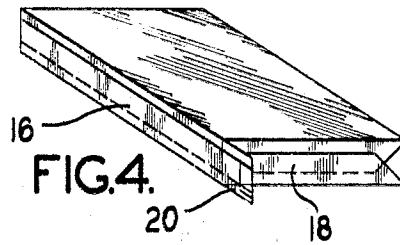


FIG. 4.

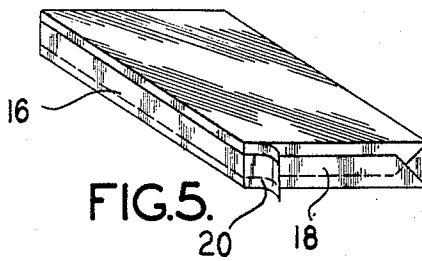


FIG. 5.

INVENTOR
PETER J. DEASY
BY *Walter C. Fehm*
ATTORNEY

Dec. 23, 1969

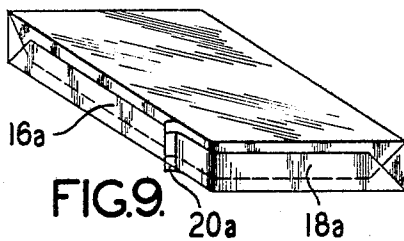
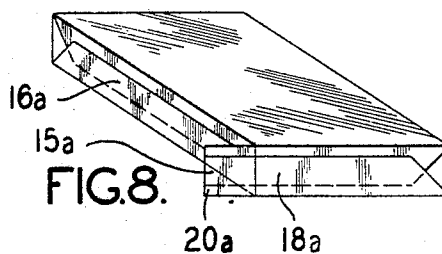
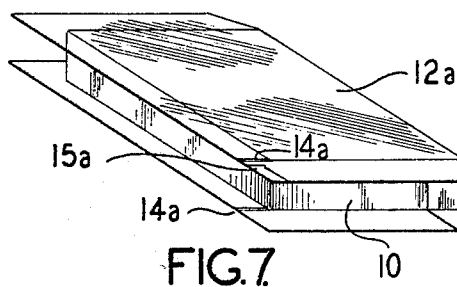
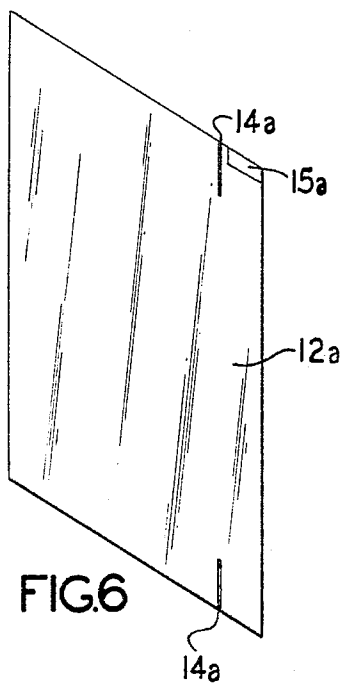
P. J. DEASY

3,485,345

PACKAGE

Filed Dec. 22, 1966

3 Sheets-Sheet 2



INVENTOR
PETER J. DEASY
BY *Walter C. Kehrer*
ATTORNEY

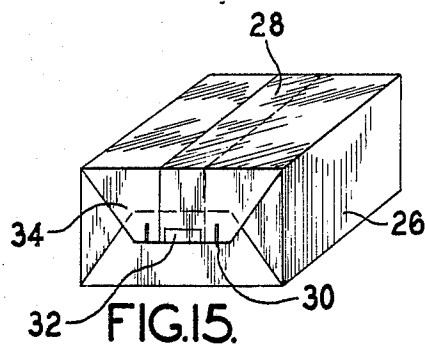
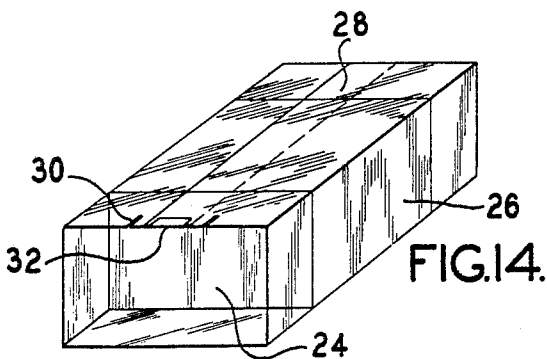
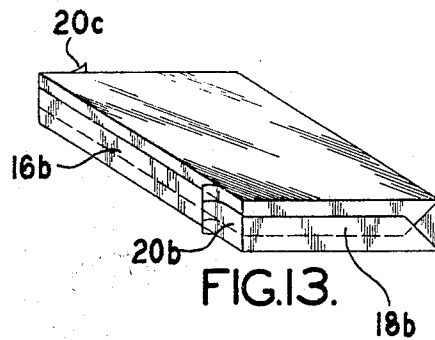
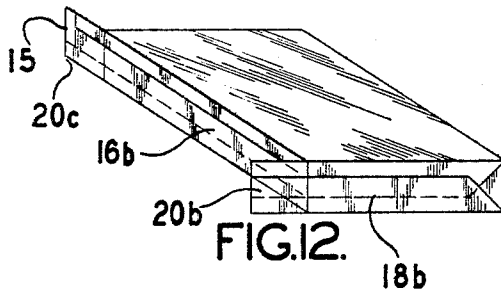
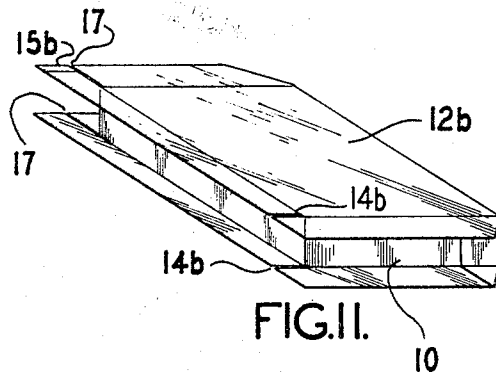
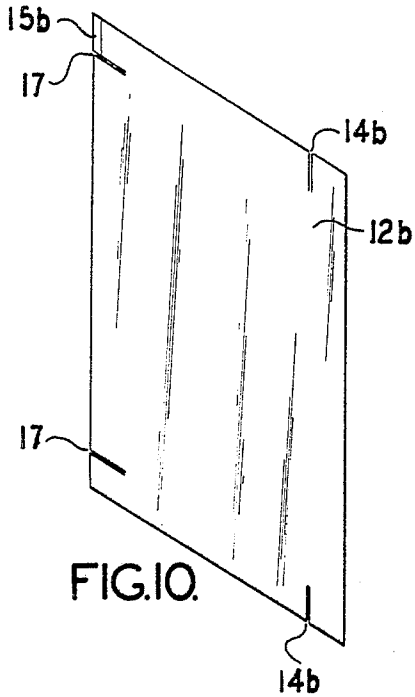
Dec. 23, 1969

P. J. DEASY
PACKAGE

3,485,345

Filed Dec. 22, 1966

3 Sheets-Sheet 3



INVENTOR
PETER J. DEASY
BY *Malta C. Kehm*
ATTORNEY

1

2

3,485,345
PACKAGE

Peter J. Deasy, Manningtree, England, assignor to
Bakelite Xylonite Limited, a British corporation
Filed Dec. 22, 1966, Ser. No. 603,798
Claims priority, application Great Britain, Jan. 7, 1966,
962/66
Int. Cl. B65d 85/00, 17/16, 65/32
U.S. Cl. 206—46

1 Claim

ABSTRACT OF THE DISCLOSURE

Packaging for an article in which wrapping material is wrapped around an article to form two lapped seals on adjacent sides, each seal having one tab defined by cuts made therein.

This invention relates to a method of wrapping or overwrapping articles, especially in wrapping materials that are difficult to tear and thus difficult to remove from the article.

When wrapping articles in materials having a high tear strength, at least initially, it is customary to incorporate a tear tape in the wrapping. A tear tape is a strip of material having a strength equal to or greater than the strength of the wrapping material that is attached to the wrapping material on the surface thereof that, when the article is wrapped, is against the surface of the article in such a way that the tear tape extends at least partially round the article and provides a zone or relative weakness in the wrapping material so that when the tear tape is pulled the wrapping material tears along the line of the tear tape.

The incorporation of tear tape in wrapping materials has two main disadvantages. First they increase the cost of wrapping in the material and secondly, an extra stage in the wrapping process, mainly, the attachment of the tear tape to the wrapping material, is necessary.

Accordingly it is an object of the present invention to provide an opening device for packaging which provides the advantages of a tear tape without actually incorporating a tear tape into the wrapping material itself.

It is another object of the present invention to employ the seam formed by the overlapping edges of wrapping material in a package to control the direction of tearing of the wrapping material when the package is opened by pulling a portion thereof.

These and other objects are accomplished in the present invention which provides packaging for an article in which wrapping material is wrapped around an article so that a pair of edges thereof overlap, the overlapping edges of the material being sealed together in a lap seal, the improvement comprising a tab defined by cuts made in the material on both sides of the lap seal and proximate thereto, the tab extending widthwise across the lap seal so that when the tab is pulled the wrapping material tears along each side of the lap seal enabling easy opening of the packaging.

This invention thus provides a method of wrapping articles, which comprises wrapping the article in the wrapping material and sealing the package, wherein the sequence of folding and sealing the wrapping material round the article is such, and the edge of the wrapping material is so incised, that after the last seal has been made there is left a tab of wrapping material comprising an extension of sealed lap seal such that when the tab is pulled the wrapping material tears on each side of the lap seal.

The invention will become more apparent from the following detailed specification and drawings in which:

FIGURE 1 illustrates an article to be packaged;

FIGURE 2 illustrates a sheet of wrapping material

before it is wrapped around the article to be packaged;

FIGURE 3 illustrates the first step in wrapping the material around the article;

FIGURE 4 illustrates a further step in wrapping the material forming a tear tab;

FIGURE 5 illustrates the fully wrapped package embodying the present invention;

FIGURE 6 shows another sheet of wrapping material in another packaging embodiment of the present invention;

FIGURE 7 illustrates the wrapping of the sheet in FIGURE 6 around the article to be packaged;

FIGURE 8 illustrates a further step in the wrapping of the material of FIGURE 6 forming a tear tab;

FIGURE 9 illustrates the completely wrapped package using the wrapping material of FIGURE 6.

FIGURE 10 illustrates another embodiment of the wrapping material of the present invention;

FIGURE 11 illustrates the first step in wrapping an article with the wrapping material of FIGURE 10;

FIGURE 12 illustrates a more completely wrapped package using the wrapping material of FIGURE 10 and showing the formation of two tear tabs;

FIGURE 13 illustrates a completely wrapped package with the tear tab, employing the material illustrated in FIGURE 10;

FIGURE 14 shows another embodiment of the wrapping material of the invention in the first step of wrapping it around an article; and

FIGURE 15 illustrates a completely wrapped package employing the wrapping material of FIGURE 14.

Referring now to the drawings, one method of wrapping an article in accordance with the invention as illustrated in FIGURES 1 to 5 comprises using a sheet of wrapping material 12 which has two slits 14 parallel to the shorter sides of the sheet 12 both formed in the same edge of the sheet, and if desired, a tab marker 15. The sheet 12 is wrapped around article 10 and sealed at the overlap forming a lap seal 16 with the slits 14 together defining a tear tab 20 as illustrated in FIGURES 3 and 4. The material at the ends of the article is then folded in and sealed down as indicated by end lap seal 18 shown in FIGURES 4 and 5. As indicated in FIGURES 4 and 5 tab 20 forms an extension of lap joint 16. The tab 20 is folded over the lap seal 18 and is lightly sealed down.

FIGURES 6 to 9 show a similar method of wrapping an article to that shown in FIGURES 1 to 5 except that tearing from the tab 20a extends along one of the short sides of the article instead of along a long side. For this purpose the slits 14a are formed in two opposed short sides of the sheet of wrapping material 12a as shown in FIGURE 6. The sheet 12a, having tab marker 15a, is wrapped around article 10 and sealed at overlaps at the ends and at the long side thereof as indicated by lap seals 18a and 16a as shown in FIGURES 7 and 8. Slits 14a define the tab 20a which is positioned laterally astride the lap seal 18a as shown in FIGURES 7 and 8. The tab 20a is lightly sealed down to the wrapping material 12a as shown in FIGURE 9.

FIGURES 10 to 13 show a method which is a combination of those shown in FIGURES 1 to 9 which results in a wrapping having two tabs 20b and 20c. In this case, as shown in FIGURE 10, the sheet of wrapping material has four slits 14b and 17, two of which are as shown in FIGURES 1 to 5 and two of which are as shown in FIGURES 6 to 9. The sheet 12b having tab marker 15b, is wrapped around the article 10 and sealed

at overlaps at the ends and at the long side thereof as indicated by lap seals 18b and 16b as shown in FIGURES 11 and 12. Slits 14b define the tab 20b and slits 17 define the tab 20c as shown in FIGURES 10, 11 and 12. Tab 20b as shown, is at the junction of the two lap seals 16b and 18b. The tabs are then sealed down to the wrapper as shown in FIGURE 13. As indicated tab 20b is sealed tightly onto the material forming lap seal 16b so that in effect the lap seals 16b and 18b are continuous.

Another modification of the method of the invention is illustrated in FIGURES 14 and 15 in which a part of the lap seal overlies a folded end seal but which is not sealed to the underlying material. In this method the material, 26 having slits 30 and tab marker 32 is wrapped around article 24 and sealed at lap seal 28 as shown in FIGURE 14. The material on the ends of the article is folded in to form two flaps 32 and 34. The flap 32 which does not contain the slits 30 is folded against the end of the article and the flap 34 is folded over part of flap 32 as shown in FIGURE 15. When sealing the wrapping at the end of the article having the slits 30 the part of flap 34 bounded by the slits 30 and covering the lap seal 28 is not sealed so that a tab, indicated by tab marker 32, which can be pulled to break the wrapping is left.

The article to be wrapped is preferably a rectangular-sided box and the lap joint is preferably formed along one side of the box. The incisions in the edge of the wrapping material, which for wrapping such a box will be a rectangular piece of material, are formed in the same edge of the wrapping material parallel to the edges of the marginal portions of the wrapping material that form the lap joint.

The incisions may be made in the wrapping material before or as the material is fed to the wrapping machine or they may be made during the wrapping process before the last fold and seal is made.

Preferably, after the last seal has been made the tab is folded so that it is flat against the side of the article and is lightly sealed to the portion of the wrapping material that it contacts. The wrapping material is preferably therefore so printed that the tab may be identified.

When the tab is pulled the wrapping material tears on each side of the lap joint and so the wrapping on at least one side of the article will be broken. Generally the method of wrapping the article will be such that lap joints are formed on these sides of the article and if it is desired that the wrapping should be broken on two sides of the article to make the wrapping easier to remove tabs can be formed on two adjoining lap joints and the tab at the meeting point of the two lap joints can be sealed down so that, in effect, a continuous lap joint extends along two sides of the article.

If the wrapping material is a material that is not itself heat-sealable it may be a material that has been coated with heat-sealable material or with an adhesive, for example, a cold seal adhesive. Such a coating may be an overall coating or a pattern coating.

The wrapping material is not critical and can be any of the materials, particularly those which are transparent, normally used for wrapping articles especially those materials usually requiring a tear tape. Generally, cellulosic

material can be used such as paper, paper board, cellulose film, including regenerated cellulose film and the like as well as thermoplastic sheet or film, metal foil or other compositions suitable as wrapping material.

Thermoplastic film which can be used in the present invention comprises one or more synthetic organic thermoplastic polymers. Generally useful polymers are homopolymers of alpha olefins, compounds having the formula $R-CH=CH_2$, wherein R is hydrogen, or an aliphatic hydrocarbon group such as an alkyl group, particularly an alkyl group having 1 to 8 carbon atoms, and copolymers thereof with one or more other compounds copolymerizable therewith which contain polymer producing unsaturation such as is present for example in carbon monoxide and in organic compounds containing the ethylene linkage $C=C$ e.g. styrene, vinyl fluoride, butene, vinyl acetate, vinyl formate, methyl methacrylate, monobutyl maleate, 2-ethyl hexyl acrylate, N-methyl-N-vinyl acetamide, methacrylic acid, ethyl acrylate, acrylic acid, isoprene, acrylamide, vinyl triethoxysilane, bicycloheptene, divinyl phosphonate and the like as well as other types of polymers including polycarbonates and condensation products of equimolar amounts of dihydric phenols and mono and/or diepoxide, the thermoplastic polyhydroxyethers.

What is claimed is:

1. Packaging for an article in which wrapping material is wrapped around an article in such a manner to form two lap seals, a first seal and a second seal which are situated on adjacent sides of said packaging and extend into close proximity with one another, said lap seals each having one tab defined by cuts made in the material on both sides of said lap seals, said first seal having a tab situated in overlapping proximity with said second seal and being adhered to the outside portion thereof to connect the two lap seals, said second lap seal having a tab situated at the end thereof remote from the connecting tab of said first seal and partially sealed to an outside portion of an adjacent side of the package so that pulling the tab of said second seal produces a tear which extends consecutively along said second seal, said connecting tab and said first seal to open said packaging.

References Cited

UNITED STATES PATENTS

3,168,975	2/1965	Buttery et al.	229—51
1,133,253	3/1915	Appel	229—66 X
2,152,382	3/1939	Horgan	229—51
2,322,594	6/1943	Russell	229—51
2,833,404	5/1959	Jacobs et al.	229—51 X
3,362,615	1/1968	Rodda	229—51

FOREIGN PATENTS

916,697	8/1954	Germany.
---------	--------	----------

MARTHA L. RICE, Primary Examiner

U.S. Cl. X.R.

229—51, 87