

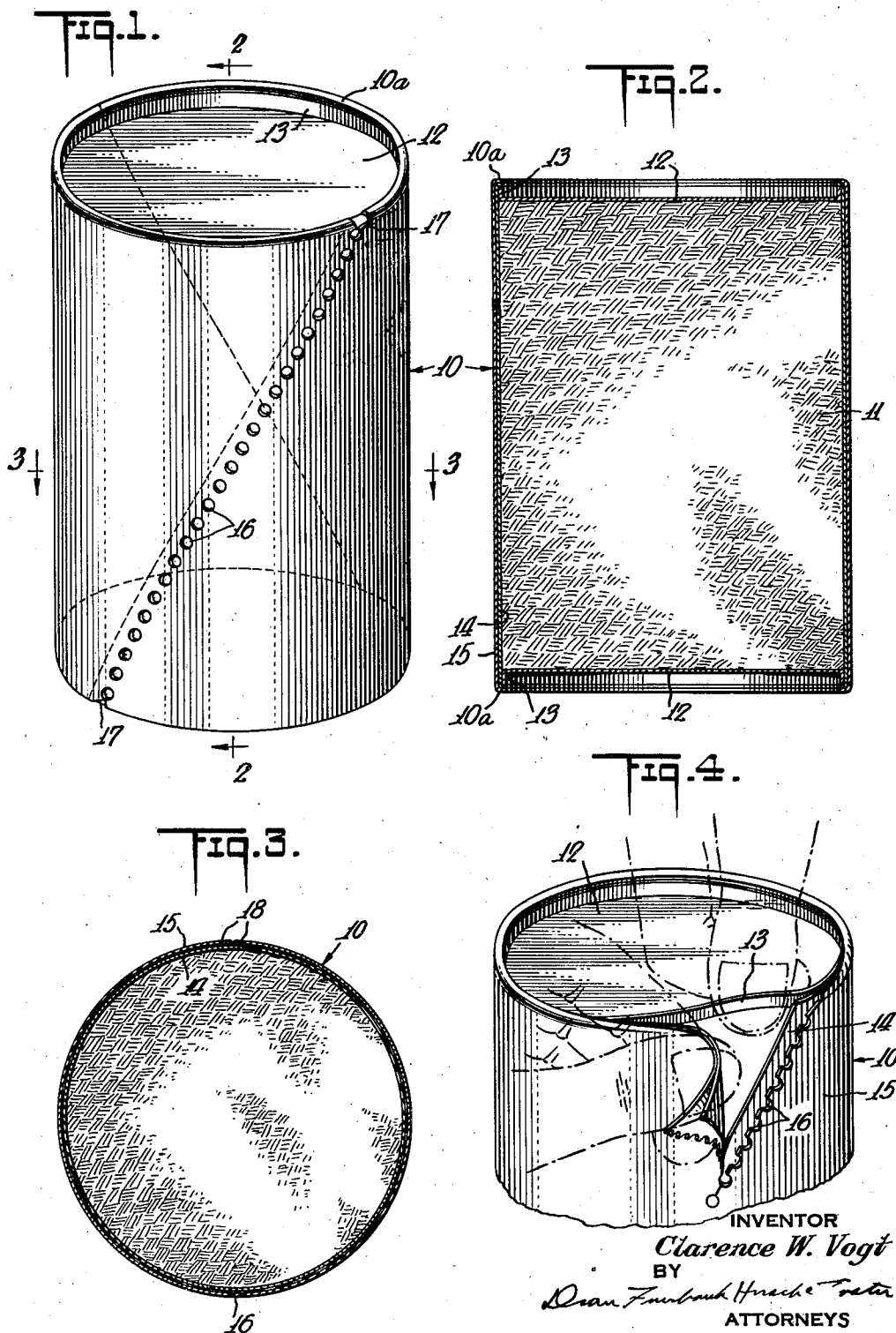
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PACKAGE

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PACKAGE

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7 Claims. (Cl. 99—180)

This invention relates to packages, the containers thereof, and more particularly to a package consisting of a body of a plastic material and an enwrapment therefor. The enwrapment is so designed that it may be conveniently opened along the length thereof to liberate the body of material therefrom and without deformation thereof.

One object of the invention is to provide a package which may be conveniently and expeditiously opened without the use of any tools and without the fingers coming in contact with the enwrapped material and in which there is no tendency to crush or deform the material during the opening operation.

Another object is to provide a package, some of the constituent elements of which are secured together by adhesion, yet so designed that the adhesive material cannot come in contact with the packaged contents.

Another object is to provide a package having a line of proposed tear along which the package is opened and which tear line is so arranged that it is substantially strain resisting against inadvertent tearing, during casual handling of the package.

As one important feature the cylindrical peripheral wall is formed of two superposed layers, the outer layer having a tear line parallel to the meeting edges of the material forming the inner layer whereby upon breaking or separating the outer layer along its tear line the entire casing may be opened up.

As a further feature, the tear line is formed as a series of perforations and the inner layer seals the perforations to prevent the escape of the material during shipment or handling.

As a further feature, the tear line extends helically at a comparatively steep pitch so that the line extends only a relatively short distance around the periphery and thus the casing may be easily opened up and flattened out as a sheet.

The invention may be more fully understood from the following description in connection with the accompanying drawing wherein:

Fig. 1 is a perspective view of one form of a package embodying the invention,

Figs. 2 and 3 are sectional views therethrough on the lines 2—2 and 3—3 respectively of Fig. 1, and

Fig. 4 is a fragmentary perspective view illustrating certain steps in the operation of opening the package shown in Fig. 1.

The package illustrated includes a cylindrical casing 10 filled with plastic material 11, such

for instance as ice cream, lard, shortening etc. which completely fills the casing. These two ends may be closed in any suitable manner but preferably by flanged caps 12 forced into the cylinder ends against the material 11 with the flanges 13 extending outwardly and with the ends of the cylinder spun or crimped over these flanges as indicated at 10a to retain the caps in position.

The cylindrical peripheral wall of the enwrapment or casing preferably comprises a section of spiral tubing, one satisfactory method and apparatus for forming and filling said section being described and claimed in my copending application Serial No. 735,740, filed July 18, 1934. In another copending application Serial No. 739,391, filed August 11, 1934, I disclose and claim a process of completing the formation of the packages which may be of the type embodying the present invention by forcing the material back from the ends of the cylindrical sections by gas pressure and closing the ends while under such pressure.

The spiral tubing which is cut into sections to form the peripheral wall of the present package consists of an inner spirally wound layer 14 preferably of paper or other suitable flexible sheet material. The line of abutment of the sheet forming the spirally wound inner layer is concealed by a spirally wound outer sheet or wrapper 15, the two spirally wound layers 14 and 15 being adhesively connected together. I have illustrated the adhesive as applied in spaced spiral bands 18.

The outer layer or wrapper is provided with a line of perforations 16 parallel to the spirally disposed abutting edges of the inner wrapper and lying closely adjacent said edges. The adhesive material which connects the inner and outer spirally wound cylindrical casing sections is omitted in the region of the perforations in the outer sheet. There is no adhesive directly under the perforations and there is no adhesive along the narrow spiral band between the line of perforations in the outer sheet and the line where the edges of the spirally wound inner shell abut. Thus if the outer sheet is torn along the line of perforations, the edges of the inner shell which are held in abutment only by the outer sheet will be free to separate. By making the perforations at one or both ends of the line of perforations somewhat larger than the others as indicated at 17, the edges of the outer sheet may be easily picked up to initiate the tearing operation.

In liberating the ice cream or other plastic

material from the package, the crimped end may be raised and smoothed out at one end and the cap pulled out. Then one end of the line of perforations is torn with any suitable tool or by hand as indicated in Fig. 4 and the tearing continued along the entire length of the package and the casing thus easily opened up to permit removal of the contents. Both caps may be removed before beginning the tearing or the tearing may be started from one or both ends before the caps are removed or the tearing may in some cases be completed before either cap is removed.

The present package makes it unnecessary to soil a separate plate by dumping the block of ice cream or other plastic material on the plate for slicing or other subdivision or serving since the completely opened package may serve as a tray or rest upon which the slicing or other subdividing may be done. In some cases it may be desired to remove only a slice or two from the enwrapped block in which event only one end of the package is opened and the peripheral wall of the enwrapment or casing is only partially torn open and the torn portion is folded back to a sufficient extent so that one or more slices may be cut from the end of the block.

The paper strip from which the spiral tubing is formed is relatively wide and the pitch of the spiral is relatively steep. This is important in most cases because in tearing the tubular container from end to end, the tear extends around only approximately a small portion, for instance, a quarter of the circumference of the package and is essentially a longitudinal tear. Such a tearing operation is far more convenient than a tear which is primarily a circumferential one and which would be almost an unwinding operation as would be the case if there were only a slight pitch to the spiral winding. It is advantageous however to have the tear line follow a spiral since the package is thus rendered less susceptible to inadvertent opening at the weakened tear line due to compression strains. In other words, a crushing strain applied to the side of the cylinder is more effectively resisted than if a straight longitudinal line of tear were relied upon.

It is within the scope of the invention to form the cylindrical section of the casing of other material than spirally wound tubing but such material is preferred due to the fact that it is inherently adapted for the application of a highly satisfactory weakening line.

The end caps afford a very substantial resistance to endwise displacement prior to tearing open of the cylinder. If the plastic material be ice cream or other compressible material, these end caps are preferably applied while the block of ice cream is under substantial air pressure in the order of three or four pounds, and are forced in and spun over securely enough so that the compressed air within the ice cream or voids in the material will not dislodge said caps after the package is completed and the outside pressure is released. Thus the danger of a suddenly applied pressure on one end cap forcing out the other end cap and the ice cream with it, is greatly reduced.

Due to the convenience with which the outer wrapper may be manually grasped to initiate a tearing operation and due to the presence of the projecting flanges on the caps, there is no necessity for contaminating the enwrapped plastic

body by contact with the fingers when completely or partially opening the package.

Another advantage of the enwrapment which tears along a spiral line results from the fact that the wrapper is much more easily removed from a material tending to stick or adhere thereto because of the unpeeling action than is the case where the material must be slid or pushed out of a closely confining container.

The inner shell or layer may be of relatively stiff material but this is not essential as the resistance of the ice cream itself is a very material factor in rendering the package form-sustaining and not subject to denting or injury during the vicissitudes of shipment or casual handling.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A package including a cylindrical casing comprising two spirally wound layers of flexible material, the outer layer having a weakened tearing line extending spirally thereof and disposed adjacent to but out of registry with the line of the abutting edges of the inner layer, said layers being adhesively connected together but being free of adhesive in the region of the tear line.

2. A package including a substantially solid cylindrical block of comestible material and a casing thereabout including a cylindrical peripheral wall closely fitting the block and means closing the ends of said casing, said casing comprising two adhesively connected layers of spirally wound flexible material, the outer layer having a weakened tearing line therein extending substantially from end to end thereof and arranged closely adjacent to the line of abutment of the edges of the inner layer and said layers being devoid of adhesive connecting means between said tearing line and said line of abutment, whereby tearing of the outer layer on the weakened line frees the inner layer along the line of abutment.

3. A package including a substantially solid cylindrical block of plastic comestible material and an enwrapment thereabout including a tubular casing closely fitting the block, and a pair of caps closing the ends of the casing, said casing comprising two adhesively connected layers of spirally wound flexible material, the outer layer having a line of perforations therein extending from end to end thereof and arranged closely adjacent to the line of abutment of the edges of the inner layer, said casing being of greater length than diameter and the lines of abutment of the spirally wound material traversing less than one-half of the circumference of the casing, whereby upon tearing the outer layer along said line of perforations the casing may be opened from end to end and the block laterally discharged.

4. A package including a substantially solid cylindrical block of plastic comestible material and an enwrapment thereabout including a tubular casing closely fitting the block, and a pair of caps closing the ends of the casing, said casing comprising two adhesively connected layers of spirally wound flexible material, the outer layer having a line of perforations therein extending from end to end thereof and arranged closely adjacent to the line of abutment of the edges of the inner layer, said line of perforations and said line of abutment traversing less than one-half of the circumference of the package, whereby upon tearing the outer layer along said line of perforations the casing may be opened from end to end and the block laterally discharged, the per-

forations at the ends of the line being enlarged to facilitate the initiation of the tearing operation.

5 A container having a peripheral wall comprising two adhesively connected layers of spirally wound flexible material, the outer layer having a weakened tearing line therein extending substantially from end to end thereof and arranged closely adjacent to the line of abutment of the edges of the inner layer and said layers being
10 devoid of adhesive connecting means between said tearing line and said line of abutment, whereby tearing of the outer layer on the weakened line frees the inner layer along the line of abutment.

6. A package including a cylindrical casing of
15 greater length than diameter and comprising two layers of flexible material, the inner layer having abutting edges extending from one end of the package to the other along a spiral line traversing less than one-half of the circumference of the
20 package, and the outer layer having a line of

perforations adjacent to, parallel with and spaced laterally from said abutting edges of the inner layer, whereby upon tearing the outer layer along said line of perforations the casing may be opened from end to end and the contents discharged. 5

7. A package including a cylindrical casing of greater length than diameter and comprising two layers of flexible material, the inner layer having abutting edges extending from one end of
10 the package to the other along a spiral line traversing less than one-half of the circumference of the package, and the outer layer having a weakened line adjacent to, parallel with and spaced laterally from said abutting edges of the inner layer, 15 whereby upon tearing the outer layer along said weakened line the casing may be opened from end to end and the contents discharged.

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