

Document made available under the Patent Cooperation Treaty (PCT)

International application number: PCT/AU2008/000173

International filing date: 12 February 2008 (12.02.2008)

Document type: Certified copy of priority document

Document details: Country/Office: AU
Number: 2007900654
Filing date: 12 February 2007 (12.02.2007)

Date of receipt at the International Bureau: 04 March 2008 (04.03.2008)

Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b)



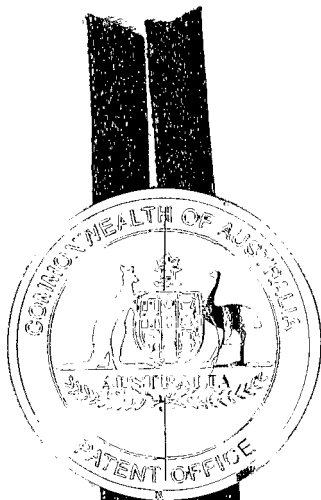
World Intellectual Property Organization (WIPO) - Geneva, Switzerland
Organisation Mondiale de la Propriété Intellectuelle (OMPI) - Genève, Suisse



Australian Government

Patent Office
Canberra

I, PETER SCHLAEFER, TEAM LEADER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2007900654 for a patent by MAURICE JOSEPH PAUL TABONE as filed on 12 February 2007.



WITNESS my hand this
Twenty-seventh day of February 2008

A handwritten signature in cursive script, appearing to read 'P. Schlaefer'.

PETER SCHLAEFER
TEAM LEADER EXAMINATION
SUPPORT AND SALES

2007900654 12 Feb 2007

PROVISIONAL PATENT SPECIFICATION**INVENTION TITLE :-****A CONTAINER TOP AND RIM BEING GENERALLY COPLANAR FOR FLAT LABEL APPLICATION ACHIEVING TAMPER EVIDENCE.****INVENTOR:-****MAURICE JOSEPH PAUL TABONE****DATE OF INVENTION:-****FEBRUARY 6th 2007****AREA OF INVENTION:**

This Invention generally relates to container tops and, in particular, to a thermoformed plastic container having a tamper evident container top or lid option. The present invention would preferably be used on thermoformed containers to package a variety of perishable food products such as cherry tomatoes, strawberries, alfalfa/bean sprouts, as well as bakery products etc. These food products are generally sold to consumers through supermarket chain stores and the like.

BACKGROUND:

Although traditional two piece (separate base with snap on lid) containers and traditional, single hinged lidded thermoformed containers are still widely in use, these "traditional designs" are not ideal for flat, self-adhesive label tamper evident applications. This is a disadvantage in high output operations where applying a "wrap around" (non flat) self adhesive label in order to secure the container lid to the container sidewall area is uneconomically and often problematic.

This invention intends to simplify the task of applying a tamper evident seal in a "flat" fashion to these lidded thermoformed containers. Applying the tamper evident seal in a "flat" format is proven to be more conducive to high speed, self-adhesive label applicators and the high volume packing lines upon which these machines are in use.

In more recent times, alternatives have included "dual hinged lids" which when closed (often automatically in filling/packing/labeling machines), create a generally flat area across the two adjacent closed lid edges in the centre of the container top, thus allowing a "flat" self-adhesive label to be applied over the "lid join", thus acting as a tamper evident seal. Although the current multiple lidded design effectively achieves tamper evidence on relatively small containers, there are instances where applying a self-adhesive label to the centre of the container top (over the "lid join") would not be viable for reasons such as - obstructing the consumer's vision of the container's contents (because of the relatively high "label to lid area ratio") or, on larger containers, the need to apply a label which is large enough in proportion to the "lid join" length, merely to achieve a substantial enough tamper evident seal would prove uneconomical. Accordingly there is a need for a simple, tamper evident thermoformed container solution that does not so govern any associated self-adhesive label size (cost) in order to achieve tamper evidence and is therefore appropriate for container applications in all shapes and sizes.

1 OF 7

12 Feb 2007

2007900654

CURRENT DESIGN DISADVANTAGES:

The most common problem encountered by users/packers of traditional single hinged lidded thermoformed containers whilst attempting to use a self adhesive label to achieve tamper evidence, is that these containers (in a variety of designs and sizes) do not have any available, appropriate flat ("coplanar") area from the lid top to the sidewall of the container upon which to adhere a self-adhesive label in a flat fashion, either manually or by automation. It is accepted that applying a label in this way (i.e. "flat") would be the most appropriate and economical method for any number of reasons, of which some are described in this provisional patent specification. On occasions, the lack of an available, appropriate, generally "coplanar" area upon which to apply a self-adhesive label or similar to attain tamper evidence, has led to issues such as superfluous label designs/shapes which are cumbersome when applying in a non-flat "wraparound" fashion either manually or rarely automatically which proves costly due to the machinery/applicator and label needing to be customized to suit the specific "wraparound" application. The unnecessarily oversized/fancy shaped labels are comparatively expensive and are often not aesthetically pleasing once wrapped around to the container's lid edge in a quest for tamper evidence. Also, as barcodes are generally required to be printed on these product labels which need to be applied flat for best scanning/readability, this compounds the problems associated with wraparound label use on single lid flapped containers.

THE INVENTION:

The invention described here has very accessible tamper evident capabilities and can be adapted to any currently known container design, whilst only incorporating a single hinged lid flap. This simplicity allows for manual or high speed, automatic closure and flat, self-adhesive label application creating tamper evidence, whilst employing the minimum amount of moving parts in its operation. The invention can be used for either, vented and non-vented containers and also allows for a hang sell hole option for "off shelf" retail display if required. This invention maintains minimal obstruction of vision through the container lid, whilst offering important tamper evident capabilities. Unlike currently available multiple lid flap designs, the container size and shape will not unnecessarily dictate the self adhesive label size/cost required to achieve tamper evidence. For certain applications, this invention will also allow alternative graphic methods to be successfully used (eg. Pre-printing the branding and nutritional panels onto the lid area), thus reducing labeling requirements to a smaller, basic tamper evident label only.

2 of 7

2007900654 12 Feb 2007

BRIEF DESCRIPTION:

As best viewed in **FIGURES, 1, 2 + 3 (attached)** this invention relates to a container top for a container base (1) having a bottom and upwardly extending side walls (2), the top being molded of plastic material and including: a top lip edge rim (3) to be mounted on or formed integrally with the said side walls (2) and surrounding an opening (4) via which product would pass with respect to the container. A singular lid flap (5) being pivotally attached to the top lip edge rim (3) so as to be movable between a closed position at least substantially closing the opening, and an open position at least partly exposing the opening (4) to allow product to pass into the container. The lid flap (5) in the open position being angularly displaced from the closed position in a direction away from the container base (1). The lid flap (5) has a flat portion (the "flat lid flap portion") (6). The said flat lid flap portion (6) being generally adjacent to a flat portion on the container top lip edge rim (the "flat rim portion") (7) when the lid flap (5) is in the closed position so that the flat portions (6 & 7) are generally coplanar. If required, the flat lid flap portion (6) may also overlap the "flat rim portion" (7) when the lid flap (5) is in the closed position. When the lid flap (5) is in the closed position, a label or other self adhesive material (8) can be adhered to the flat lid flap portion and the flat rim portion (6 & 7) to achieve a tamper evident seal across these two flat portions.

HOW IT WORKS:

This invention simply produces a generally coplanar area by incorporated into the container's design a "flat lid flap portion" and a "flat rim portion" that co-operate when the lid flap is closed to produce said "generally coplanar" area. Preferably, this "generally coplanar area" will be directly opposite the lid flap's hinged edge (see example "C") when the lid flap is closed, however the "top lip edge rim" at the container's corners (see example "B") or anywhere else on the "top lip edge rim" of the container (see example "A") may be designed to act as the said "flat rim portion" if required. Based on the position of the "flat rim portion", the corresponding "flat lid flap portion" is positioned, formed and shaped to arrive generally coplanar to the "flat rim portion" when the lid flap is closed ("A", "B" & "C"). A self-adhesive label or similar sheet material can then be applied to this generally coplanar area, creating a tamper evident seal between the "flat lid flap portion" and the "flat rim portion" ("A", "B" & "C"). In any case, the surface area of both the flat lid portion and the flat rim portion co-operating together to be generally coplanar (as described herewith), would be ample and suitable to apply a self-adhesive label or similar sheet material to in a generally flat fashion and attain tamper evidence. Preferably, the generally coplanar label application area produced by this invention and accompanied container design, would not interfere with any instrument (human or otherwise), used to apply a self-adhesive label in a flat fashion in any known way (e.g. auto-applicator head clearance), therefore being conducive to effective and trouble free label application.

30F7

2007900654 12 Feb 2007

SCOPE OF THE INVENTION:

Though preferably rectangular or square, prior to incorporating this invention within its design, a container may be of any existing and known shape, size or design/style.

If hang sell is a requirement, the invention's "flat rim portion" may be extended in a direction away from the container's side wall to accommodate a hang sell hole (see example "C").

This invention can be applied to any suitable, hinged lidded container design.

As the container lid may have mechanical locking mechanisms. These locking mechanisms or lugs may be of any suitable, known type and will generally be integrally formed into the lid flap side edges and top lip edge rim, so as to cooperate to lock the lid flap in the closed position. Locking lugs of any known kind may also be positioned on the "flat lid flap portion" and the corresponding "flat rim portion" if required (see example "D").

The container's lid style may also be of any suitable, known type, being generally either "inside fitting" or "outside fitting" in relation to the top lip edge rim circumference when closed.

When the lid flap is closed, the "flat lid flap portion" and the corresponding "flat rim portion" may present at any angle in relation to the container base, lid or sidewalls whilst remaining generally coplanar in relation to each other (see example "E").

When the lid flap is closed, the angle at which the generally coplanar "flat lid flap portion" and corresponding "flat rim portion" present, would preferably result in a suitable area for a self-adhesive label or similar, to be applied by an automated applicator machine (see example "F") in a generally flat fashion.

When the lid flap is closed, the "flat lid flap portion" and the corresponding "flat rim portion" are generally adjacent though they may partially overlap if required, whilst remaining generally coplanar in relation to each other.

Although preferably applied to a container top or lid, the invention described herewith may also be applied to a design of a singular, hinged "lid flap portion" and "rim portion", which is orientated by way of design or end use, so as to not be the uppermost part of the container (i.e. the singular, hinged lid flap may actually be on the side or base of the container when in normal use or otherwise).

4067

FIG.1 (OPEN-TOP VIEW)

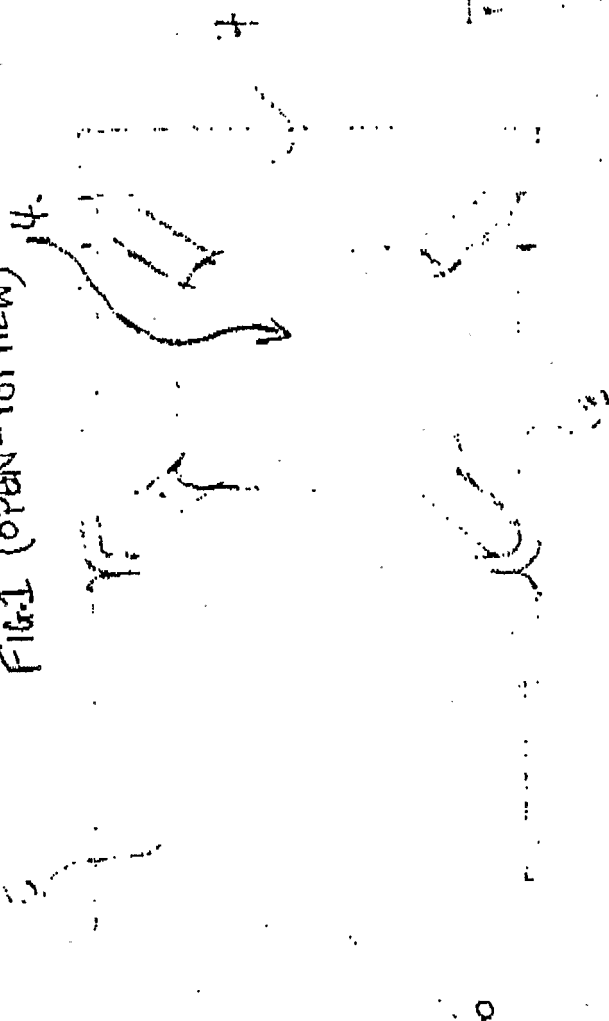


FIG.3 (CLOSED-TOP VIEW)

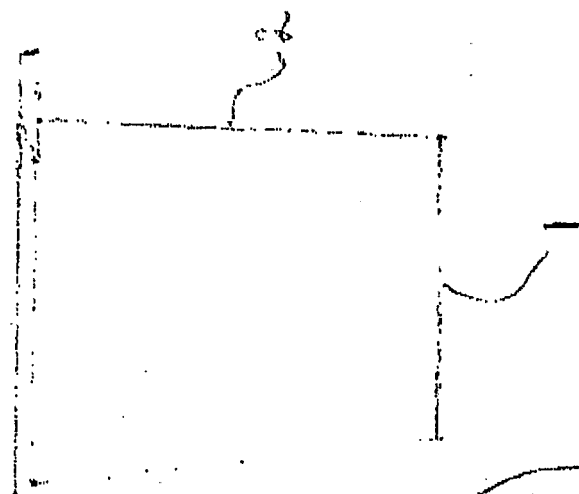
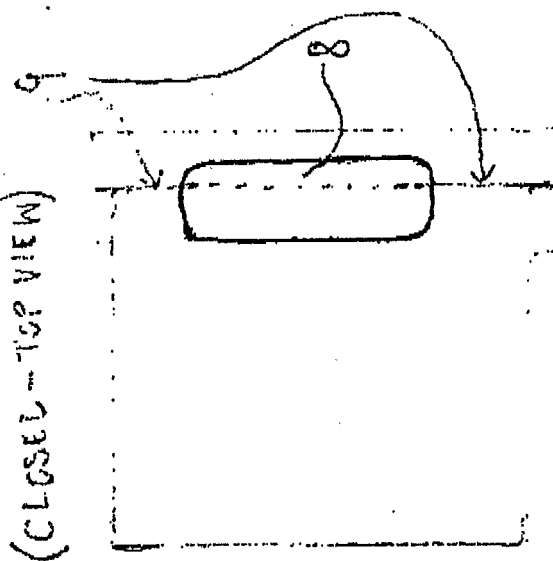
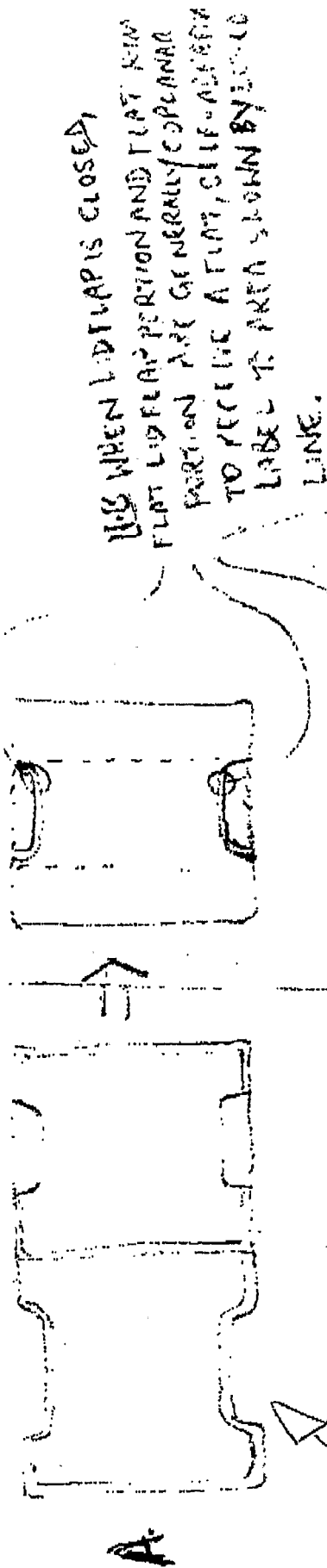
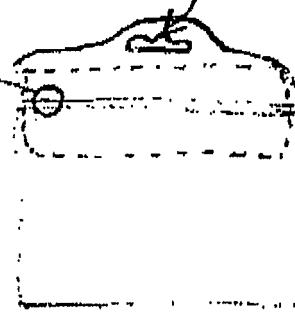
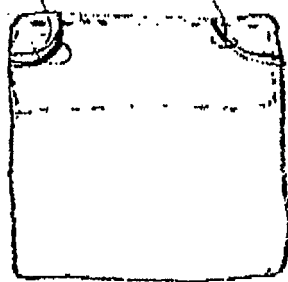


FIG.2 (CLOSED-TOP VIEW)





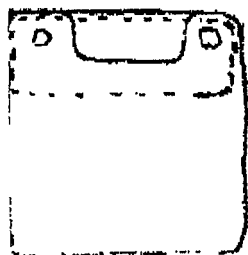
US WHEN LID FLAP IS CLOSED,
FLAT LID FLAP PORTION AND FLAT RIM
PORTION ARE GENERALLY COPLANAR
TO RECEIVE A FLAT, CLIP-ADHESIVE
LABEL & AREA SHOWN BY DOTTED
LINE.



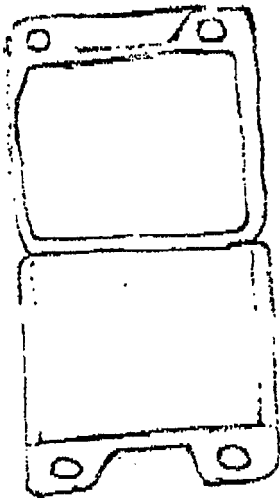
EXAMPLE C ALSO SHOWS FLAT RIM
PORTION OF FLAT LID FLAP PORTION
FLAT RIM PORTION AND FLAT RIM
PORTION ARE GENERALLY COPLANAR

TOP VIEW SHOWING
CLOSED CONTAINER WITH
LABEL AREA (DOTTED LINE) NOTED.

TOP VIEWS SHOWING "OPEN" OPTIONS



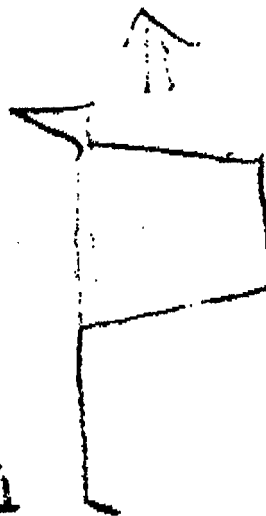
CLOSED WITH APPLIED LABEL (DOTTED LINE) INDICATED



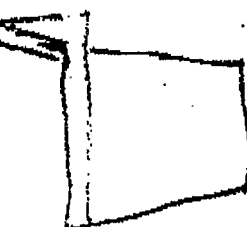
TOP VIEW SHOWING OPEN POSITION WITH LOCK LUGS POSITIONED WITHIN THE FLAT LID FLAP AND FLAT RIM AREAS

FLAT, SELF-ADHESIVE LABEL POSITION

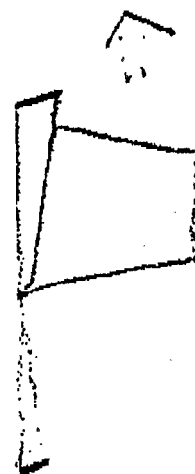
E.



OPEN



CLOSED



OPEN



CLOSED

FIG. 1
EXAMPLE 'E' SHOWS TWO POSSIBLE ANGLES AT WHICH THE FLAT LID PORTION AND THE FLAT RIM PORTION COULD CO-OPERATE TO BE COPLANAR AND RECEIVING A FLAT SELF-ADHESIVE LABEL

FIG. 1