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Declarations under Rule 4.17:

- as to the identity of the inventor (Rule 4.17(i))
- as to applicant's entitlement to apply for and be granted a
 patent (Rule 4.17(ii))
- of inventorship (Rule 4.17(iv))

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- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the
 claims and to be republished in the event of receipt of
 amendments (Rule 48.2(h))

[Continued on next page]

(54) Title: BLOW MOULDED WIDE MOUTH PET CONTAINER AND PROCESS OF MANUFACTURE THEREOF

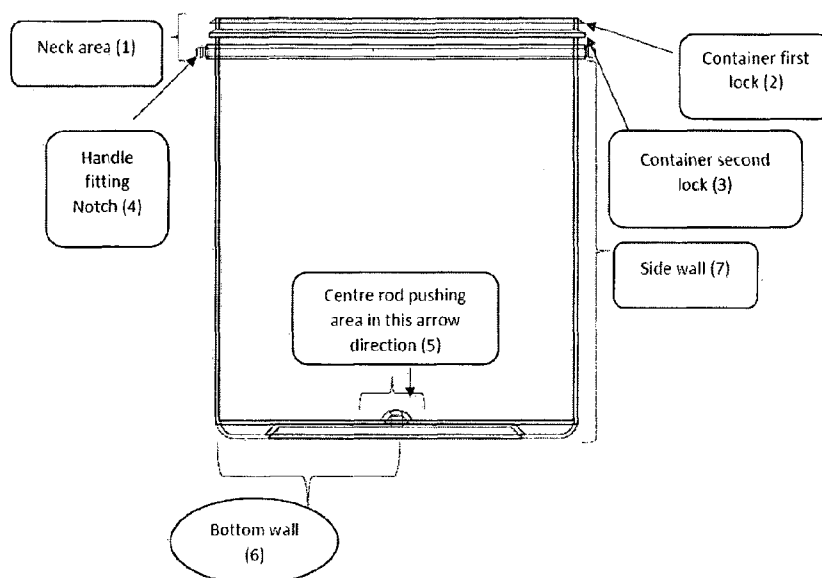


FIGURE 1

(57) Abstract: The present disclosure describes a blow moulded wide mouth container. The blow moulded container comprises a wide mouth coupled to a snap-fitting lid. The container includes a neck area comprising of first lock area, second lock area. The container includes a cylindrically flowing body blow moulded from an injection moulded perform/ a body segment blow moulded from an injection moulded perform of a pre-determined shape.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IN 17/00025

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - B29C 49/00, B29C 49/02, B29C 49/06, B65D 47/04, B65D 47/08 (2017.01)

CPC - B29B 2911/1432, B29B 2911/14333, B29B 2911/14335, B29B 2911/14336, B29B 2911/14337, B29C 39/00, B29C 49/00, B29C 49/02, B29C 49/06, B29L 2031/716, B65D 47/0838

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

See Search History Document

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

See Search History Document

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

See Search History Document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2,246,317 A (BXL Plastics Limited) 29 January 1992 (29.01.1992) entire document, especially Title, Abstract, figs. 1-5, pg 2, ln 6-28, pg 5, ln 22-33, pg 5, ln 12-21, 34-35.	1-5
A	US 2014/0158686 A1 (Selina) 12 June 2014 (12.06.2014) entire document, especially Title, Abstract, fig.1A, 4-5, para[0031].	5
A	US 2006/0121223 A1 (Chisholm et al.) 08 June 2006 (08.06.2006) entire document.	1-5
A	US 4,802,295 A (Darr) 07 February 1989 (7.02.1989) entire document.	1-5
A	US 2015/0343693 A1 (Nogueira) 03 December 2015 (03.12.2015) entire document.	1-5
A	US 2003/0001316 A1 (Cargile et al.) 02 January 2003 (02.01.2003) entire document.	1-5

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IN 17/00025

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I: Claims 1-5, drawn to a blow moulded container.

Group II: Claims 6-14, drawn to a process of manufacturing wide mouth container.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

--See Extra Sheet--

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-5

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

.*- Continuation of Box III Observations where unity of invention is lacking-.*

SPECIAL TECHNICAL FEATURES

Group II has the special technical features of a process of manufacturing a wide mouth container comprising the steps of;
injection moulding of a pre-form in an injection-moulding apparatus, the pre-form having a snap fitting region and a handle fitting region on either sides of the container;
placing the pre-form in a blow moulding cavity of a blow-moulding apparatus and moving a body segment of the pre-form for defining a cylindrical shape without undercuts on a container side wall and tapering the container side wall towards a container bottom wall;
stretching the container bottom wall with a centre rod to the bottom of the blow mould mechanically followed by blowing and inflating the container via compressed air, said compressed air is injected in a large volume with high speed and pressure inside the container within 20 to 30 milli seconds before the pre-form cools down and loses in stretching ability wherein inflating of the container occurs as per the pre-defined shape of the blowing mould; and removing the bottle from the mould cavity for finished container, not required by Group I

SHARED TECHNICAL FEATURES

The inventions of Group I and II share the technical features of a blow moulded container comprising:

a wide mouth, a container including a neck area, a cylindrically flowing body blow moulded from an injection moulded pre-form devoid of undercuts,

a container, a container side, wherein the container sidewall is of a predetermined wall thickness and a pre-determined diameter devoid of undercuts, a container bottom wall, wherein the container side wall tapers towards the container bottom wall.

Group I and II are related as an apparatus (Group I) and a method of manufacturing the apparatus (Group II). The apparatus is known in the prior art as shown by GB 2,246,317 A to BXL Plastics Limited (hereinafter "BXL"). Therefore, Groups I and II lack unity since the shared technical features do not represent any contribution over the prior art, BXL.

BXL teaches a blow moulded container (Title; Abstract; figs. 1-3) comprising:

a wide mouth (2) coupled to a snap-fitting lid (see large opening 2 coupled to snap fitting lid 4; pg 5, ln 12-21, 34-35; fig. 1) characterized in that:

a container (8) including a neck area (see area disposed on top of cylindrical container 8; fig. 2-3)

a cylindrically flowing body (see cylindrical body of container 8; figs. 2-3) blow moulded from an injection moulded pre-form (7) devoid of undercuts (see pg 5, ln 22-33; wherein container 8 is blow molded from injection mold blank 7 said container body having no undercuts) or a body segment blow moulded from an injection moulded pre-form of a pre-determined shape devoid of undercuts;

the container (8) further includes handle fitting notches (see hinge notches 3 extending from sidewall of container body 8; figs. 2-3), such that said handle fitting notches (3) are positioned just below the neck area on the container side wall (said notches 3 positioned below the neck area and on side wall of container body 8; figs. 1-3);

the container side wall (8) and

a container bottom wall (see bottom wall of container 8; figs. 1-3) of a diameter less than the pre-determined diameter of the container side wall, wherein the container side wall tapers towards the container bottom wall (see figs. 2-3; wherein bottom wall of container 8 tapers from a larger diameter outer wall to a smaller diameter base wall).

As the common features were known in the art at the time of the invention, they cannot be considered special technical features that would otherwise unify the groups.

Therefore, Groups I-II lack unity under PCT Rule 13 because they do not share a same or corresponding special technical feature.