



- (51) International Patent Classification:
A61J 11/00 (2006.01)
- (21) International Application Number:
PCT/GB2013/050807
- (22) International Filing Date:
27 March 2013 (27.03.2013)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
1205810.3 31 March 2012 (31.03.2012) GB
- (71) Applicant: **BB IPR LIMITED** [GB/GB]; c/o Parker Cavendish, 28 Church Road, Stanmore, Middlesex HA7 4XR (GB).
- (72) Inventor: **TOLLMAN, Stephen Paul**; c/o Parker Cavendish, 28 Church Road, Stanmore, Middlesex HA7 4XR (GB).
- (74) Agent: **SAUNDERS & DOLLEYMORE LLP**; 9 Rickmansworth Road, Watford, Hertfordshire WD18 0JU (GB).
- (81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV,

[Continued on next page]

(54) Title: CAP FOR FEEDING BOTTLE

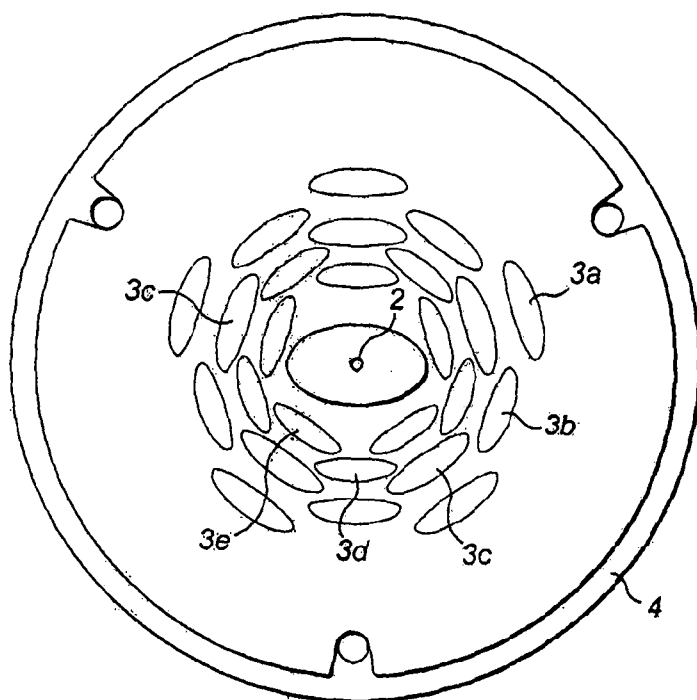


FIG. 1

(57) Abstract: The removable cap for a feeding bottle is made from flexible plastics material with a smooth exterior surface which is soft to a baby's lips and chin and has an upstanding nipple (1) open at the bottom and with an aperture (2) at the top. The underside of the cap is provided with a plurality of spaced shallow indentations (3a) to (3e) elliptical in shape and moulded into the plastics material. The indentations are arranged in concentric circles around the open end of the nipple and increase in length and width progressively from the innermost circle to the outermost circle.



MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, **Published:**

SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, — *with international search report (Art. 21(3))*
GW, ML, MR, NE, SN, TD, TG).

-1-

Cap for feeding bottle

The invention relates to a removable cap for the top of a feeding bottle used for babies. The cap carries an upstanding nipple which is open at the bottom for the inflow of the liquid bottle contents and an aperture at the top for the outflow of the contents into the baby's mouth when it sucks on the nipple.

The aim of the present invention is to provide such a cap which more realistically replicates the feel of a mother's breast and nipple than is achieved by conventional feeding bottles.

According to the invention, the removable cap is constructed of flexible plastics material and has a smooth exterior surface which is soft to the touch of the baby's lips and chin and an area of which surrounding the open end of the nipple is provided in its underside with a plurality of spaced shallow indentations which are elliptical in shape.

By means of the invention, the area of the cap around the nipple has an enhanced flexibility in comparison with the remainder of the cap and can flex and stretch upwardly together with the nipple while suction is applied, also allowing the nipple to tilt as the baby's mouth is moved. As a result, the nipple moves like a mother's nipple and affords baby a more natural breast-like feeding experience. When the suction ceases, the cap returns to its unflexed state.

The indentations are moulded into the cap during manufacture and the preferred plastics material is silicone.

-2-

An example of the invention will now be described with reference to the accompanying drawing in which:

Fig. 1 is an underplan of the cap when removed from the bottle;

Fig. 2 is a top perspective view of the cap; and

Fig. 3 is the same view as in Fig. 2 but showing the cap as it would look when suction is applied at the nipple by the baby.

The illustrated circular cap for applying to the top of a baby's feeding bottle is substantially segmentary domical in shape and moulded in silicone material with a smooth exterior surface which is soft to the touch of the baby's lips and chin. Upstanding from its apex there is an integral oval-shaped nipple 1 with an aperture 2. In the enlarged Fig. 1 view, only the interior of the nipple is visible through its open end.

In an area of the cap surrounding the open end of the nipple, the underside of the cap is provided with a plurality of spaced shallow elliptical indentations formed during moulding of the cap. As shown in the Fig. 1 embodiment, which illustrates a favourable arrangement of the indentations, they are disposed in five concentric circles around the nipple and they increase in length and width progressively from the indentations 3e in the innermost circle to the indentations 3d, 3c, 3b and finally 3a in the outermost circle. This arrangement has been found to be most effective.

Fig. 3 illustrates the cap in its condition when suction is applied to the nipple 1, with the area supporting the nipple flexed and stretched to upstand from the remainder of the material whereas in Fig. 2 the cap is shown in its unflexed state.

The cap is removably attached to the neck of a feeding bottle by means of a separate ring (not shown) which engages a peripheral flange 4 on the cap.

-4-

Claims

1. A removable cap for the top of a feeding bottle used for babies, comprising an upstanding nipple which is open at the bottom for the inflow of liquid bottle contents and an aperture at the top for the outflow of the contents into the baby's mouth when it sucks on the nipple, wherein the cap is constructed of flexible plastics material and has a smooth exterior surface which is soft to the touch for the baby's lips and chin and an area of which surrounding the open end of the nipple is provided on its underside with a plurality of spaced shallow indentations elliptical in shape and moulded into the plastics material, the indentations being arranged in concentric circles around the open end of the nipple and increasing in length and width progressively from the innermost circle to the outermost circle.
2. A cap according to claim 1, wherein the plastic material is silicone.

1 / 1

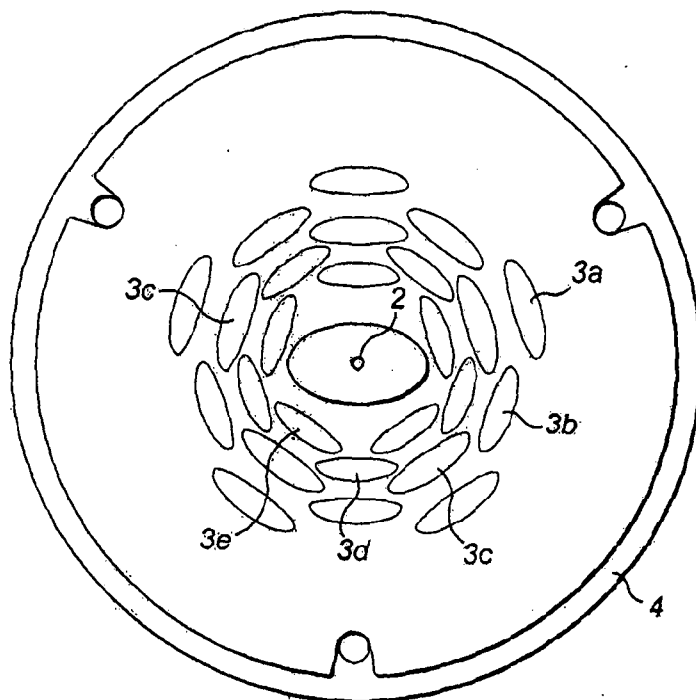


FIG. 1

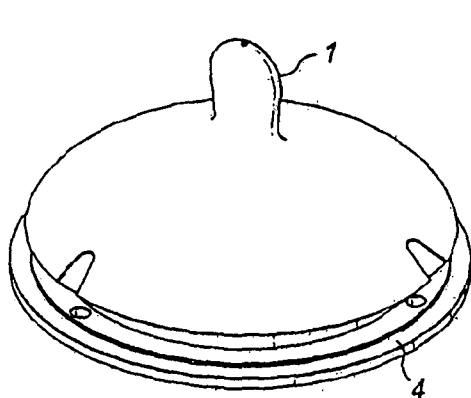


FIG. 2

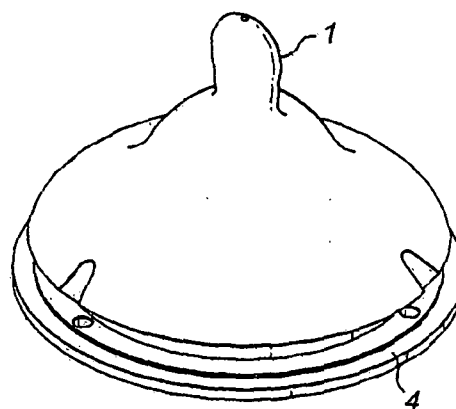


FIG. 3

INTERNATIONAL SEARCH REPORT

International application No

PCT/GB2013/050807

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61J11/00

ADD.

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)

A61J

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

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

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 1 779 833 A1 (PIGEON CORP [JP]) 2 May 2007 (2007-05-02) figure 5 paragraph [0052] -----	1
A	WO 2006/000816 A1 (JACKEL INT LTD) 5 January 2006 (2006-01-05)	1
A,P	& US 8 181 800 B2 (REES ARNOLD [GB] ET AL) 22 May 2012 (2012-05-22) figure 1 column 2, line 56 - line 65 -----	1
A	DE 32 41 845 A1 (MAPA GMBH GUMMI PLASTIKWERKE [DE]) 24 May 1984 (1984-05-24) page 18 figures ----- -/-	1



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

"&" document member of the same patent family

Date of the actual completion of the international search

5 July 2013

Date of mailing of the international search report

17/07/2013

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Edlauer, Martin

INTERNATIONAL SEARCH REPORT

International application No

PCT/GB2013/050807

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 20 2011 052329 U1 (KONINKL PHILIPS ELECTRONICS NV [NL]) 24 January 2012 (2012-01-24) figures abstract -----	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2013/050807

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1779833	A1	02-05-2007	AU 2005265599 A1 02-02-2006 CN 101001599 A 18-07-2007 EP 1779833 A1 02-05-2007 HK 1102506 A1 16-12-2011 JP 4925295 B2 25-04-2012 KR 20070039557 A 12-04-2007 SG 153842 A1 29-07-2009 US 2007272645 A1 29-11-2007 WO 2006011573 A1 02-02-2006
WO 2006000816	A1	05-01-2006	AU 2005256863 A1 05-01-2006 CA 2571574 A1 05-01-2006 EP 1765257 A1 28-03-2007 EP 2572697 A1 27-03-2013 JP 4939407 B2 23-05-2012 JP 2008504095 A 14-02-2008 KR 20070039103 A 11-04-2007 NZ 552902 A 30-07-2010 US D620125 S1 20-07-2010 US D626246 S1 26-10-2010 US 2008210655 A1 04-09-2008 WO 2006000816 A1 05-01-2006
DE 3241845	A1	24-05-1984	DE 3241845 A1 24-05-1984 US 4505398 A 19-03-1985
DE 202011052329	U1	24-01-2012	CN 202497467 U 24-10-2012 DE 202011052329 U1 24-01-2012 EP 2465484 A1 20-06-2012 WO 2012085727 A1 28-06-2012