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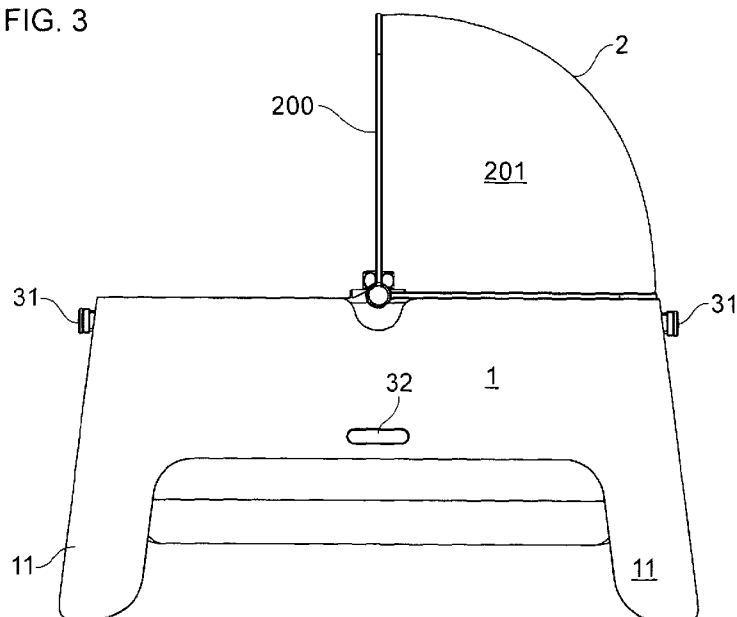
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Published:

- 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))

(54) Title: AN INFANT BED

FIG. 3



(57) Abstract: The present invention provides a solution to the problem of safe care of infants in sunny environments. To varying degrees people and in particular infants are vulnerable to the effects of over exposure to sunshine. Often sun cream or lotion is applied to infants, but this is not always practical with very young babies. The present invention provides a means to maintain an infant shielded from sun light. The invention is typically envisaged to be used in holiday or sunbathing situations, to ensure that an infant is safe and prevented from over exposure to sunlight. The present invention relates to an infant bed comprising body having raised sides (1), a pivotable canopy mechanism (2) and a tether means (3) for anchoring the canopy in a fixed state.

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## AN INFANT BED

### Field of the Invention

The present invention relates to an infant bed, more particularly a bed for use by an infant outside a house or dwelling.

### Background

Whether at home or outdoors, infants and neonates need their own bed, which is often referred to as a cot or Moses basket. These infant beds are also known as, bassinets, cots, cribs, chairs or beds (used herein interchangeably). Increasingly parents and carers are concerned about safety, both regarding third parties and escape from the constraints of the chair, bed or cot. In particular infant beds are designed to restrict and confine a baby to the bed.

There is increasingly concern over sun exposure, both for adults and infants and so an increasing need for shade or canopy so as to avoid inadvertent exposure to the sun.

### Prior Art

United States Patent US 5 299 331 (Badillo) discloses a beach blanket assembly having a raised border for use on a beach surface. The assembly includes: a beach blanket having a central portion surrounded by a peripheral border, said peripheral border being supportable in a raised generally upright position; an inflatable beach blanket bumper surrounding and abutting said blanket peripheral border when said border is in said raised upright position thereof; anchor means for releasably anchoring the assembly to the beach surface, said anchor means includes stakes having upper and lower end portions.

The end portions are intended for embedment below the beach surface of said upper end portions of which are intended to be disposed above the beach surface so as to abut and support at least one of said beach blanket peripheral borders. There is also provided a beach blanket bumper.

The stakes are disposed inwardly of the bumper. A releasable attachment means attaches said peripheral border of said blanket to, at least one, of said anchor means and said beach blanket bumper so as to support the same in a raised generally upright position. The blanket offers no shade to occupants.

United States Patent US 3 656 194 (Perego) discloses a playpen for children, foldable between an erected (or open) position and a closed or compact position. The playpen comprises, in combination: a one-piece moulded bottom; a one-piece moulded upper rim; respective hooks moulded integrally with said one-piece moulded bottom and with said one-piece moulded upper rim; a net secured to said hooks that define the side wall of the playpen; metal legs pivotally secured to said one-piece moulded upper rim; and hook means, including components integral with said one-piece moulded bottom, connecting said legs to said one-piece moulded bottom. The playpen offers no shade to occupants.

United States Patent US 6 345 400 (Elliott et al) discloses a portable cot apparatus for supporting a user comprising: a stackable frame structure for supporting the portable cot apparatus; and b. a flexible support having a detachable fastener for removably and selectively coupling the flexible support to the stackable frame structure, wherein the stackable frame structure is configured to interlock with another stackable frame structure for stacking multiple portable cots.

Despite the foregoing there is still a need for a portable cot which protects a baby or neonate from over exposure from sunshine.

### Summary of the Invention

According to a first aspect of the present invention there is provided an infant bed with raised sides having a pivotable canopy mechanism and tether means for anchoring the canopy in a fixed state.

Ideally the bed is formed from a moulded synthetic plastics or resin material, ideally with a weather, ultraviolet light (UV) and stain resistant finish.

In preferred embodiments the synthetic plastics material that is used to form the body of the infant bed is polypropylene.

Ideally the bed and canopy are constructed from a lightweight synthetic plastics material which ensures that the bed is light, easy-to-use and portable. However, in some embodiments, where a heavier weight is required, a denser material may be used, such that the infant bed is less inclined to movement. Such further embodiments may be constructed from powder coated aluminium or the like.

In yet further alternative embodiments a painted or cured wood, rattan and/or other frame material may be used to form the bed. In addition a combination of materials may be in used in a composite form, such as a metal frame – for providing support – and rattan side panels on raised sides, with wooden slatting for a bed base.

In another embodiment the shape of the bed is typically parallelepiped (box shaped), with sides intersecting at 90° angles.

Ideally a tether includes a lanyard attachment point. The tether may also have a **Velcro** (Trade Mark) or other fastener system, such as buckle or clip or press stud for anchoring the canopy.

In an alternative embodiment the tether or anchoring means may be defined by a locking means.

The canopy mechanism may be used to raise a plastic, metal, wood, wicker or canopy, awning or cover, which may be canvas.

Ideally the canopy is dimensioned and arranged to screen substantially the entire bed. As an alternative a fine mesh may be utilised to provide the material of the canopy, in order that ventilation is achieved as well as sun a sun screening effect.

One or more thickness screens may be provided so as to enable a user to choose between a total and a partial screen.

Additionally – or alternatively – a mesh may be fitted to the canopy so as to provide an insect screen, thereby protecting the occupant from mosquitos and other insects.

In preferred embodiments the canopy mechanism and canopy are formed integrally – one with another – and are demountable from the infant bed.

Advantageously the canopy mechanism and canopy include an extendible portion, or a concertina or fluted hood so as to provide an adjustable sun screen.

In an alternative arrangement a flexible arm or holder is provided for a detachable sunshade or umbrella.

Alternatively, or in addition, the canopy may be mounted in a channel or groove along a side such that it may be pulled over to shade the infant when required. The canopy may be returned to a stowed, parked or stashed position when not required.

Ideally said stashed position is at one or both of the (shorter) ends of the bed. Further embodiments may have canopies that extend from the (longer) sides

of the bed. In yet a further embodiment combinations or arrangements of canopy may be provided so that other regions of the bed may be selectively covered in order to shade an occupant.

In another embodiment mounting positions, or holders or arms, for umbrellas, parasols or sun shades are provided at a plurality of locations. Alternatively cantilever mounts or arms are provided for receiving a sunshade or umbrella.

The canopy is optionally removable and stowable in, on or under the bed when not in use.

In a particularly preferred embodiment a cushion insert is available and/or provided, such that the insert is detachable for cleaning. This insert is ideally a foam rubber or synthetic foam compound filled insert with a wipeable external surface and configured to be fitted to the bed by covering the bed base and sides, minimising any chance of injury to the infant. Alternatively a natural breathable fabric is used to maximise ventilation and minimise irritation to the infant.

Optionally drainage and/or breather holes may be formed in a lower base region of the bed.

Ideally the bed is provided with a means of carrying comprising a handle and/or wheels and/or strap.

In some embodiments further attachments or functions may be available, such as dispenser nozzles or compartments, or timer facilities.

### Brief Description of Figures

Figure 1 shows an overhead isometric view of the preferred embodiment;

Figure 2 show a reverse isometric view of the preferred embodiment;

and

Figure 3 shows a side view of the preferred embodiment with the canopy mechanism in use.

### Detailed Description of Preferred Embodiment of the Invention

Referring to Figure 1, there is shown a preferred embodiment of the infant bed has raised sides 1, a canopy mechanism 2 and a tether means 3.

The pictured embodiment is constructed in moulded or cast synthetic plastics material, preferably of heavy duty and well suited to exterior conditions, in particular sunbeams and sunlight.

The preferred embodiment has raised sides 1 with legs 11 raising the sides from the floor, making it easier for an infant's carers to attend to the infant.

The canopy mechanism 2 in the pictured embodiment is a folded or otherwise stowable material awning, formed of a material such a canvas mesh ideally treated such that sunlight is reflected or filtered.

The extended canopy mechanism 2 is shown in Figure 3, with the material 201 of the canopy mechanism visible.

This material is attached to a rotating beam 200 rotating about two pins 20 mounted on the side of the bed.

The tether means 3 comprises either a clip 30 or a lanyard attachment point 32 for attachment of a strap, ideally having **Velcro** (Trade Mark) or other hook and eye attachment means.

The clip 30 has an adjustable screw stud 300 which screws into a bracket 301, said bracket in use surrounding an appropriate portion of a carer's sun bed or other relevant structure. In some embodiments the stud 300 may be sprung, in order that closure or release is easily facilitated.

The clip 30 is attached to a beam 31, which rotates about two pins 310. This enables the beam to act as a handle for the infant's carer to carry the bed, when the clip is not being used. The pins 310 may be detachable to enable the beam 31 to be removed from the bed.

In preferred embodiments therefore the beam is metal or powder coated metal, or rubberised metal in order to ensure appropriate strength.

The material may also include sunbeam filtration, such as to minimise passage of ultraviolet (UV), in particular UVA and/or UVB.

Alternate embodiments may have no legs, sides that extend to the floor or be provided on swivel bases.

The invention has been described by way of examples only and it will be appreciated that variation may be made to the above-mentioned embodiments without departing from the scope of invention.

With respect to the above description, it is to be realised that the optimum dimensional relationships for the parts of the invention, to include variations in size, materials, shape, form, function and manner of operation, assembly and use, are deemed readily apparent and obvious to one skilled in the art, and all equivalent relationships to those illustrated in the drawings and described in the specification are intended to be encompassed by the present invention.

Therefore, the foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will



readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

Variation may be made to the embodiments described without departing from the scope of the invention, for example an attachment device or an attachment surface, such as a lip, may be provided for attaching toys or other items. The attachment surface may be on the rim of the hood or in the middle part of a frame around the bed.

Another variation includes a window, formed in a side wall of the bed, which optionally has a curtain, through which a parent/carer may peep at the baby, without having to disturb the baby by lifting the whole canopy.

Claims

1. An infant bed comprises a body having raised sides; a pivotable canopy mechanism and a tether means for anchoring the canopy in a fixed state.
2. An infant bed according to claim 1 has solid side walls.
3. An infant bed according to claim 1 or 2 wherein the canopy is demountable from the infant bed.
4. An infant bed according to any preceding claim wherein the canopy is dimensioned and arranged to screen the bed substantially the entire bed.
5. An infant bed according to any preceding claim formed from a synthetic plastics material.
6. An infant bed according to claim 5 wherein the synthetic plastics material is polypropylene.
7. An infant bed according to any preceding claim has an extendable awning.
8. An infant bed according to any preceding claim has a body that is shaped to stack.
9. An infant bed according to any preceding claim has an adjustable clip for attaching the infant bed to a separate structure.
10. An infant bed according to any preceding claim has ventilation apertures or holes formed in a base portion thereof.
11. An infant bed according to any preceding claim wherein means is provided for receiving a flexible arm or holder for a detachable sunshade or umbrella.

12. An infant bed according to any preceding claim wherein a cushion insert is provided to provide a sleeping surface for a baby or neonate.
13. An infant bed according to any preceding claim wherein an attachment device or an attachment surface, such as a lip, is provided for attaching toys or other items.
14. An infant bed according to any preceding claim wherein an aperture is formed in a side wall of the bed so as to define a window.
15. An infant bed according to claim 14 wherein a curtain is provided.
16. An infant bed substantially as herein described and with reference to the drawings.

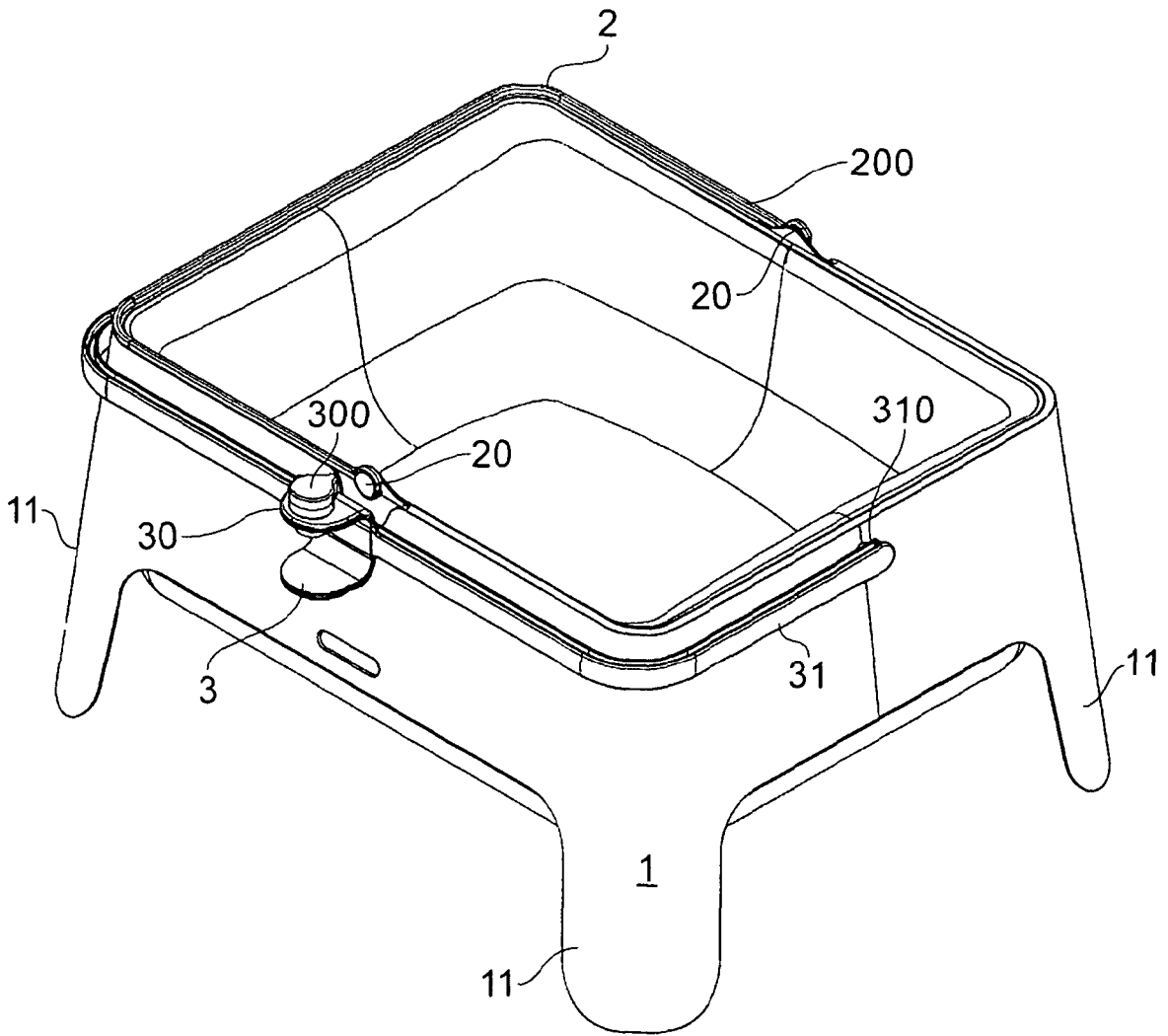


FIG. 1

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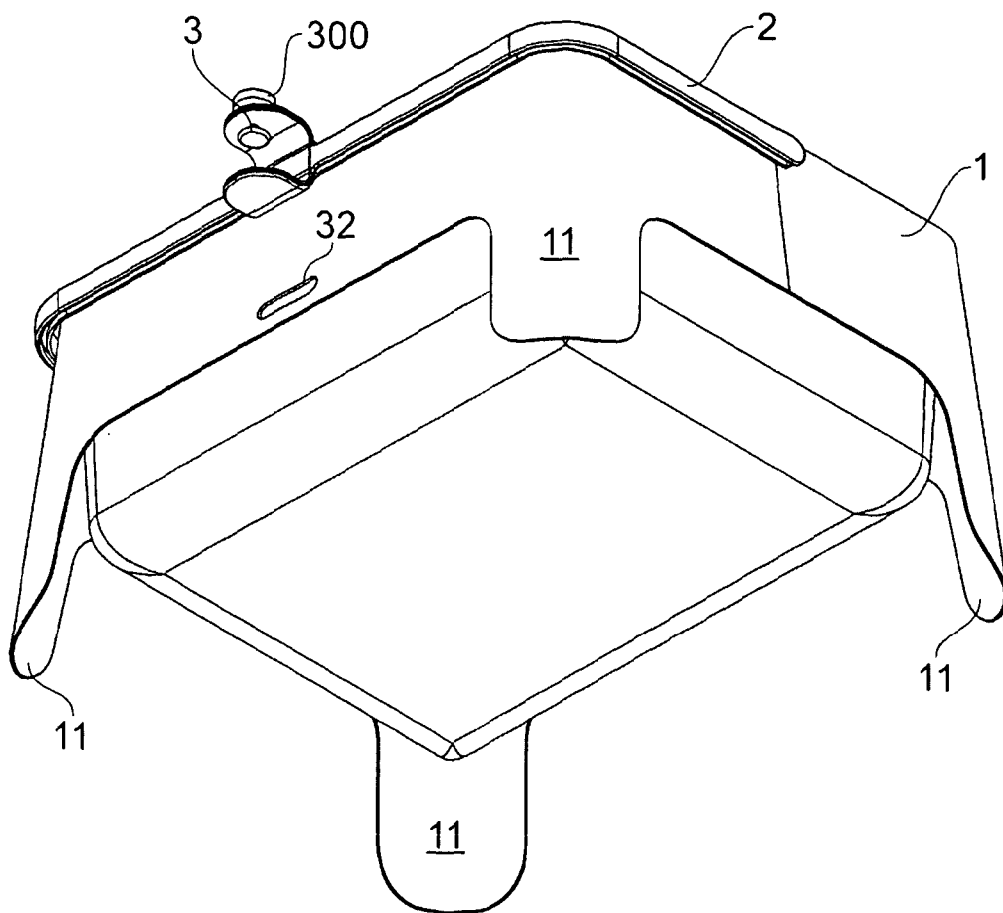


FIG. 2

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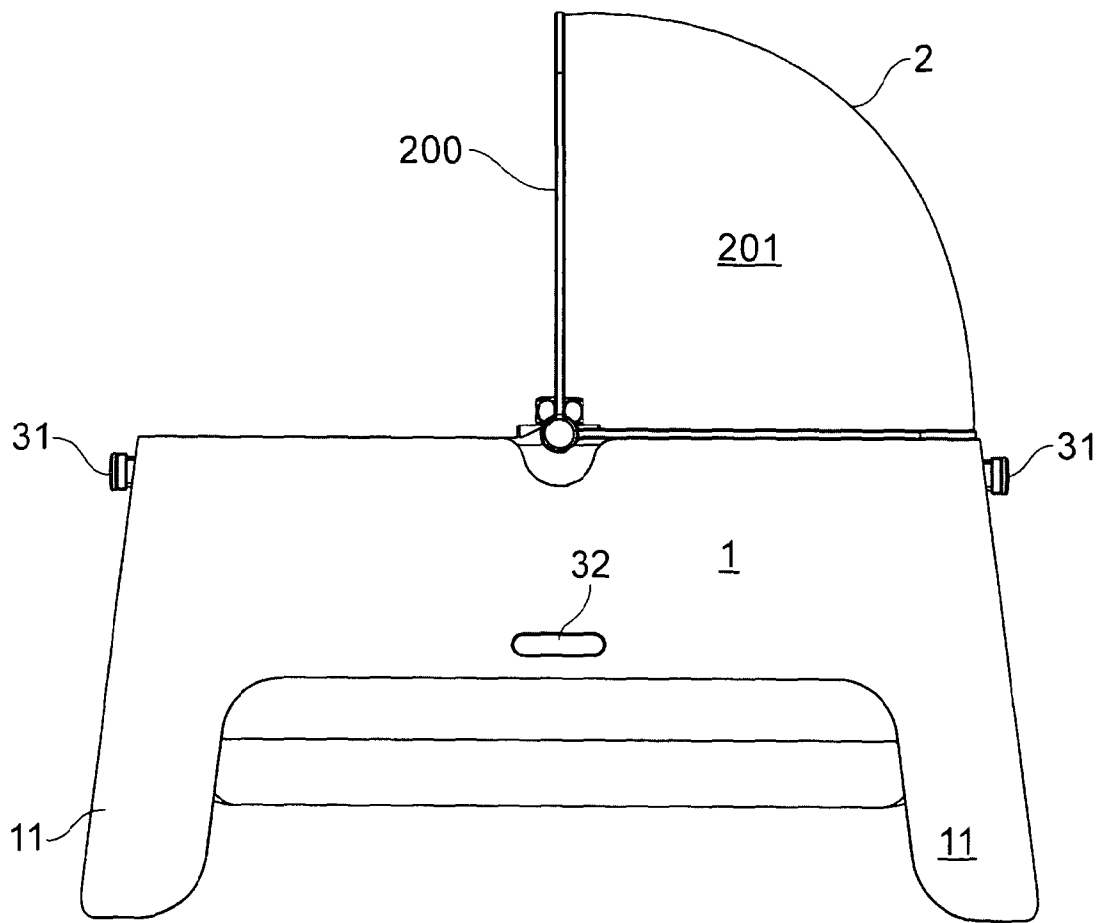


FIG. 3

# INTERNATIONAL SEARCH REPORT

International application No  
PCT/GB2011/001604

**A. CLASSIFICATION OF SUBJECT MATTER**  
 INV. A47C7/66      A47C19/20      A47D9/00      A47D13/02      A47D7/04  
 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)  
 A47C A47D A61G

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 practical, search terms used)  
 EPO-Internal

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2009/087337 A1 (BIDDLE SOLVEJ DILYS [GB]) 16 July 2009 (2009-07-16)	1-4,7,9,12,13
Y	page 4, paragraphs 2, last; figures 1-6 page 6, paragraph 3 page 10, paragraph 4 page 21, paragraph 2; claims 1-5	5,6,8,10,11,14,15
Y	----- AU 60649 80 A (KAHMANN M) 22 January 1981 (1981-01-22) page 2, line 15 - line 21; claims 1,13; figure 2 page 7, line 17 - line 18	5,6,8
Y	----- EP 1 813 171 A1 (PREMIERE BABY LTD [GB]) 1 August 2007 (2007-08-01) claim 1; figure 1	10
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Further documents are listed in the continuation of Box C.       See patent family annex.

\* Special categories of cited documents :

<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"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</p> <p>"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</p> <p>"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.</p> <p>"&amp;" document member of the same patent family</p>
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Date of the actual completion of the international search  <b>22 February 2012</b>	Date of mailing of the international search report  <b>14/03/2012</b>
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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  <b>Amghar, Norddin</b>
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# INTERNATIONAL SEARCH REPORT

International application No  
PCT/GB2011/001604

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4 871 141 A (CHEN DAVID [TW]) 3 October 1989 (1989-10-03) claim 1; figures -----	11
Y	US 2009/049604 A1 (CHEN XU-HUI [TW] ET AL) 26 February 2009 (2009-02-26) claims 5,16; figures 1,2,4,5 -----	14,15
A	EP 0 930 035 A1 (DETAYE FRANCOISE [FR]) 21 July 1999 (1999-07-21) paragraph [0002]; claim 1; figures 1,2 -----	13
Y	WO 93/18690 A1 (GLOBAL MFG & PACKAGING [NZ]) 30 September 1993 (1993-09-30) page 4, paragraph 2; claims 5,8; figures -----	14



# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/GB2011/001604

## 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.: 16  
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:  
see FURTHER INFORMATION sheet PCT/ISA/210
  
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:

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 an 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.:

### 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.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

Continuation of Box II.2

Claims Nos.: 16

Claim 16 contains a reference to the description and/or the drawings. According to Rule 6.2(a) PCT, claims should not contain such references except where absolutely necessary, which is not the case here.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.2), should the problems which led to the Article 17(2) declaration be overcome.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2011/001604

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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