

PCT

WORLD INTELLECTUAL PROPERTY
ORGANIZATION
International I

INTERNATIONAL APPLICATION PUBLISHED UNDER



(51) International Patent Classification⁶ :

A61J 17/00, A61M 15/00

A1

(11) I

WO 9607391A1

(43) International Publication Date: 14 March 1996 (14.03.96)

(21) International Application Number: PCT/AU95/00580

(22) International Filing Date: 1 September 1995 (01.09.95)

(30) Priority Data:
PM 7848 2 September 1994 (02.09.94) AU

(71)(72) Applicant and Inventor: MURCHIE, Barry, Joseph
[AU/AU]; 62 Oxley Drive, Bowral, NSW 2576 (AU).

(74) Agent: RAINEY, David, Albert; Thomson Pizzey, P.O. Box
291, Woden, ACT 2606 (AU).

(81) Designated States: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT, UA, UG, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD, SZ, UG).

Published

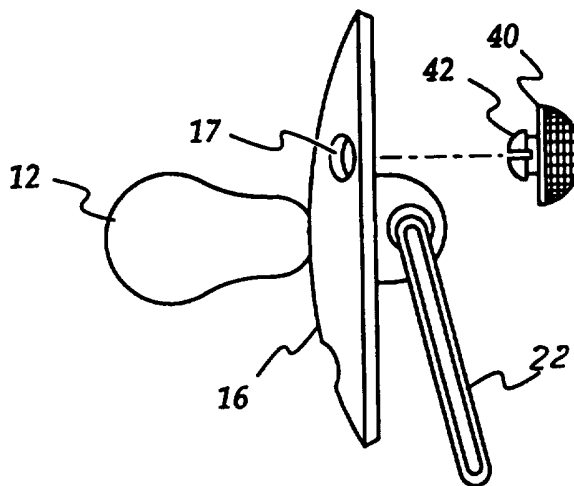
With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: BABY'S BREATHING AID

(57) Abstract

An infant breathing aid assembly is disclosed wherein an infant soother having a safety shield (16) with at least one vent (17) cooperates with a decongestant module having a housing (40) for housing a vapour emitting medicine and fixing means (42) adapted to be retentively received in the vent for fixing the housing to the infant soother. In use the housing closely abuts the safety shield to substantially seal the vapour emitting medicine within the housing and the safety shield, and the housing emits vapour from the medicine.



FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	GB	United Kingdom	MR	Mauritania
AU	Australia	GE	Georgia	MW	Malawi
BB	Barbados	GN	Guinea	NE	Niger
BE	Belgium	GR	Greece	NL	Netherlands
BF	Burkina Faso	HU	Hungary	NO	Norway
BG	Bulgaria	IE	Ireland	NZ	New Zealand
BJ	Benin	IT	Italy	PL	Poland
BR	Brazil	JP	Japan	PT	Portugal
BY	Belarus	KE	Kenya	RO	Romania
CA	Canada	KG	Kyrgyzstan	RU	Russian Federation
CF	Central African Republic	KP	Democratic People's Republic of Korea	SD	Sudan
CG	Congo	KR	Republic of Korea	SE	Sweden
CH	Switzerland	KZ	Kazakhstan	SI	Slovenia
CI	Côte d'Ivoire	LI	Liechtenstein	SK	Slovakia
CM	Cameroon	LK	Sri Lanka	SN	Senegal
CN	China	LU	Luxembourg	TD	Chad
CS	Czechoslovakia	LV	Latvia	TG	Togo
CZ	Czech Republic	MC	Monaco	TJ	Tajikistan
DE	Germany	MD	Republic of Moldova	TT	Trinidad and Tobago
DK	Denmark	MG	Madagascar	UA	Ukraine
ES	Spain	ML	Mali	US	United States of America
FI	Finland	MN	Mongolia	UZ	Uzbekistan
FR	France			VN	Viet Nam
GA	Gabon				

"BABY'S BREATHING AID"**BACKGROUND OF INVENTION**

5 This invention relates to a method and apparatus for assisting the breathing of an infant suffering from minor breathing and nasal congestion problems and the like due to, for example, a cold.

DESCRIPTION OF PRIOR ART

10 There are many known methods of treating an infant for breathing difficulties and the like. These include the application of decongestants, nose droppers, and vapour emitting ointments. However parents often desire to avoid the overuse of medicines such as decongestants and droppers. Vaporising ointments are somewhat messy if
15 applied to the skin of the baby and some babies are allergic to chemicals in ointments. Ointments also tend to collect small particles such as dirt and dust on the child and/or clothing.

20 It is known for a decongestant to be associated with a baby's pacifier. Examples of known arrangements are to be found in UK patents 2231497 and 2269754 to Singh, EP patent 406505 to Doll and CH patent 679009 to Naf.

25 SUMMARY OF INVENTION

The present invention aims to provide an alternative to known infant breathing aids.

In one aspect this invention resides broadly in a decongestant module for an infant breathing aid assembly
30 including an infant soother having a safety shield, the decongestant module including:-

a housing for housing a vapour emitting medicine, and fixing means for fixing the housing to the infant soother;

35 wherein in use the housing closely abuts the safety shield to substantially seal the vapour emitting medicine within the housing and the safety shield, the housing being adapted to emit vapour from medicine housed

therewithin.

As used herein the expression "infant soother" means a teat or teat-simulating device for placing in an infant's mouth on which the infant suckles. An infant
5 soother is also known as a dummy or a pacifier.

The fixing means can fix the module to the pacifier in different ways. For example the fixing means may be received in receiving means such as a recess on the pacifier for retentively receiving the module in a snap
10 fit action. However it is preferred that the fixing means is adapted to be received in a vent in the safety shield.

The housing may be customised to fit individual types of soothers however it is preferred that the
15 housing is adapted to closely abut differently shaped safety shields. The housing may be a flexible shell.

It is preferred that the fixing means includes spigot means. In one embodiment the spigot means includes a pair of resilient fingers fixed to the
20 housing. Alternatively, the spigot means can be lockingly engageable in a recess in the housing. It is preferred that the vapour emitting medicine is carried in a carrier.

In another aspect this invention resides broadly in
25 an infant breathing aid assembly including:-

an infant soother having a safety shield and anchor means for anchoring a decongestant module thereto, and

a decongestant module having a housing for housing a vapour emitting medicine and fixing means for fixing the
30 housing to the anchor means;

wherein in use the housing closely abuts the safety shield to substantially seal the vapour emitting medicine within the housing and the safety shield, the housing being adapted to emit vapour from medicine housed
35 therewithin.

In a preferred embodiment the anchor means includes at least one vent in the safety shield. Alternatively the anchor means can include receiving means for

retentively receiving the decongestant module in a snap fit action. In another embodiment the anchor means can comprises handle means on the infant soother and the medicine may be suitably packaged for attachment to the handle means.

Preferably the decongestant module is located on the soother in a position to avoid direct contact between the medicine and the baby's face. The housing may include passage means such as perforations or it can be in the form of a cage or the like to facilitate travel of the vapour from the medicine to the baby.

The components of the breathing aid may be of any suitable material, and may be formed, for example, by plastics moulding.

In a further aspect this invention resides broadly in a method of treating breathing difficulties and nasal congestion in infants, the method including:-

fitting a decongestant module to an infant soother, whereby in use, when the soother is in the infant's mouth, the infant can inhale medicinal vapour emitted from the module.

BRIEF DESCRIPTION OF DRAWINGS

In order that the invention may be more readily understood and put into practical effect, reference will now be made to the accompanying drawings which illustrate preferred embodiments of the invention, wherein:

FIG 1 is a side view of an infant's breathing aid constructed in accordance with this invention;

FIG 2 is a rear view of the breathing aid shown in FIG 1;

FIG 3 is a perspective rear view of the breathing aid shown in FIGS 1 and 2, and

FIGS 4 to 7, FIGS 8 to 10, FIGS 11 to 14 and FIG 15 respectively illustrate alternative embodiments of the invention.

DETAILED DESCRIPTION OF INVENTION

Referring to FIGS 1 to 3, a known standard infant soother 10 is provided with a rubber teat 12 which is attached to the front face 14 of a face or safety shield 16. The face shield may be convex relative to the teat as shown, or it may be flat or concave. Three angularly spaced ventilation apertures 17 extend through the face shield. A handle mounting 18 is integrally moulded to the rear face 20 of the face shield 16, and a U shaped handle 22 is pivotally received in a pair of aligned apertures 23 provided in the handle mounting 18. The ends 24 of the handle 22 are attached to the handle mounting apertures 23 in a releasable snap action arrangement.

The rear face 20 of shield 16 has a decongestant module receiving (or anchor) means in the form of a circular recess 30 adapted to receive a decongestant module having a flexible housing in the form of a cage 32 which houses a replaceable pad 34 of absorbent material. Both the pad 34 and the cage 32 are hemispherical in shape and the cage 32 is releasably retained in the recess 30 by a snap action fit with the recess and the base rim 36 of the cage. It will be appreciated that the flexible cage 32 can also fit to a convex surface of a shield.

In operation, a vapour emitting medicine is applied to the absorbent pad 34 and the pad and cage assembly is snap fitted into engagement with the circular recess 30 in the rear face 20 of the face shield 16. The vapour fumes travel towards the baby's face via the ventilating apertures 17 and/or via the periphery of the face shield 16. As the pad and cage assembly is readily releasable, the absorbent pad 34 may be re-impregnated with the vapour emitting medicine when desired or alternatively, replaced with a new pad.

The snap action fit of the cage 32 with the rim 36 of the cage 32 and the snap action fit of the handle ends 24 with the apertures 23 of the handle mounting, avoid release by a young child.

Referring to FIGS 4 to 7 an alternative decongestant module differs from that shown in FIGS 1 to 3 in that a flexible housing in the form of cage 40 is provided with a plug 42 having a pair of resilient fingers. Plug 42
5 releasably snap fits into one of the ventilating apertures 17.

Referring to FIGS 8 to 10 an alternative decongestant module differs from that shown in FIGS 1 to 3 in that an elongated cage 50 is received in a recess 51
10 in the rear face 20 of the shield. The cage is located adjacent two ventilating apertures 17 and is provided with a pivotal retaining cover 52. The cover 52 can be locked into position by a suitable snap action arrangement.

Referring to FIGS 11 to 14 a decongestant module is in the form of a band 60 of absorbent material which is retained in position adjacent the rear face 20 of the face shield 16 by the handle 22. The two ends 62 and 64
15 of the band (shown in dotted outline in FIG 14) are connected together by fastening means such as a plug and rivet 66 to form a conveniently sized ring 68. One end 62 of the band is provided with spaced adjustment apertures 70 to facilitate selection of different sized
20 rings. The ends of the bands may be locked into place to avoid accidental separation. An alternative arrangement is to manufacture the band in the form of a non-adjustable standard sized ring whereby the ring can be located in position or replaced by removing and
25 subsequently replacing the snap action fitted handle 22.

Alternatively as seen in FIG 15, a decongestant module 72 has a central boss 74 about which a flexible mushroom-like skirt 76 depends. Skirt 76 has apertures
30 78 through which vapour escapes from a medicine impregnated pad 90 housed in skirt 76. Module 72 is mounted to a soother by being located in vent 84 of shield 82 by means of plug 92 having an upper flange 86 which abuts against the opposite side of shield 82 when
35 spigot 88 is received in a matching recess 80 in boss 74.

Such an arrangement is less likely to be detached by a more mature infant. Other child proof fitting arrangements can be used.

5 The embodiments of the invention have a number of advantages over the prior art devices known to the applicant in that the chemicals of the medicine should not come into contact with the skin during normal use, messy applications of ointments to the skin are avoided and the pacifying action of the soother should help to
10 relax the child. The breathing aid may also be used as a conventional soother/pacifier.

Moreover the decongestant module of the present invention is adapted for use with standard soothers irrespective of the configuration of the safety shield.
15 The replaceable modules also enable an infant to retain a favourite soother when the decongestant module itself has been exhausted of medicine because the module can be replaced rather than the complete soother having to be discarded.

20 It will of course be realised that whilst the above has been given by way of illustrative examples of this invention, all such and other modifications and variations hereto, as would be apparent to persons skilled in the art, are deemed to fall within the broad
25 scope and ambit of this invention as is hereinafter claimed.

CLAIMS

1. A decongestant module for an infant breathing aid
5 assembly including an infant soother having a safety shield, said decongestant module including:-

a housing for housing a vapour emitting medicine, and fixing means for fixing said housing to said infant soother;

10 wherein in use said housing closely abuts said safety shield to substantially seal said vapour emitting medicine within said housing and said safety shield, said housing being adapted to emit vapour from medicine housed therewithin.

15

2. A decongestant module as claimed in claim 1, wherein said fixing means is adapted to be received in a vent in said safety shield.

20 3. A decongestant module as claimed in claim 2, wherein said housing is adapted to closely abut differently shaped safety shields.

4. A decongestant module as claimed in claim 3, wherein
25 said housing is a flexible shell.

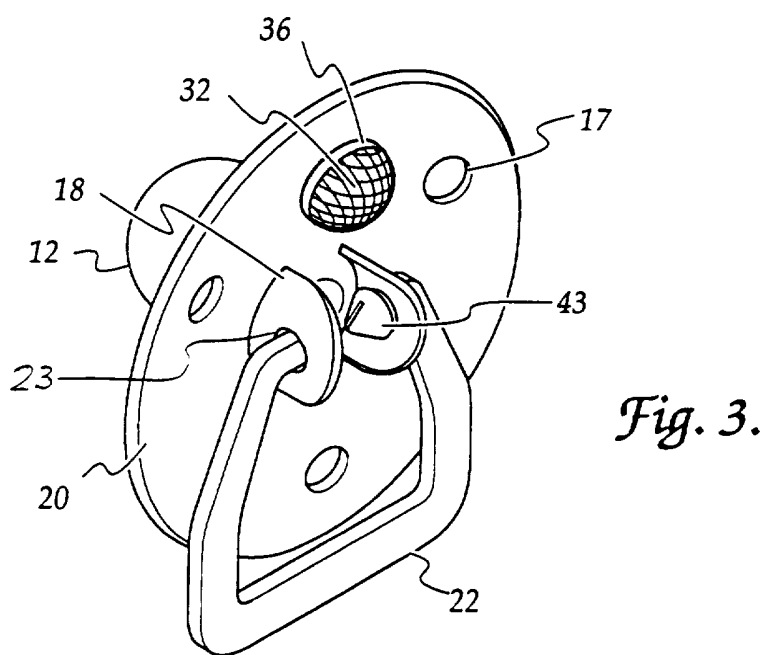
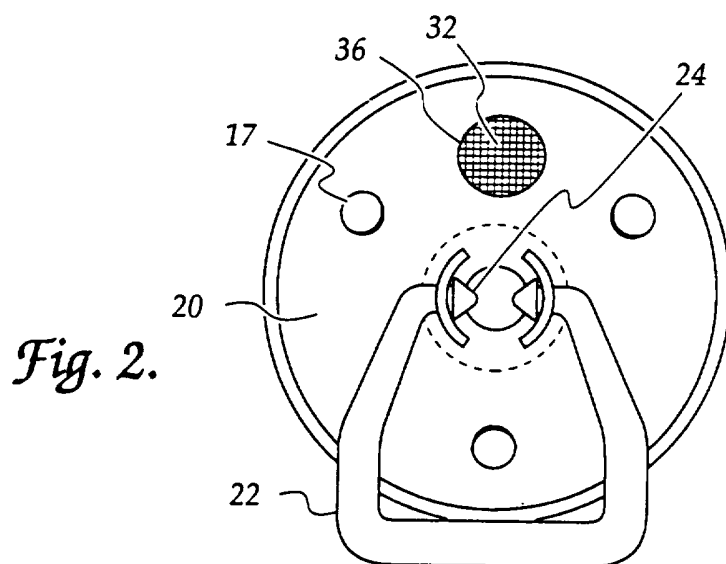
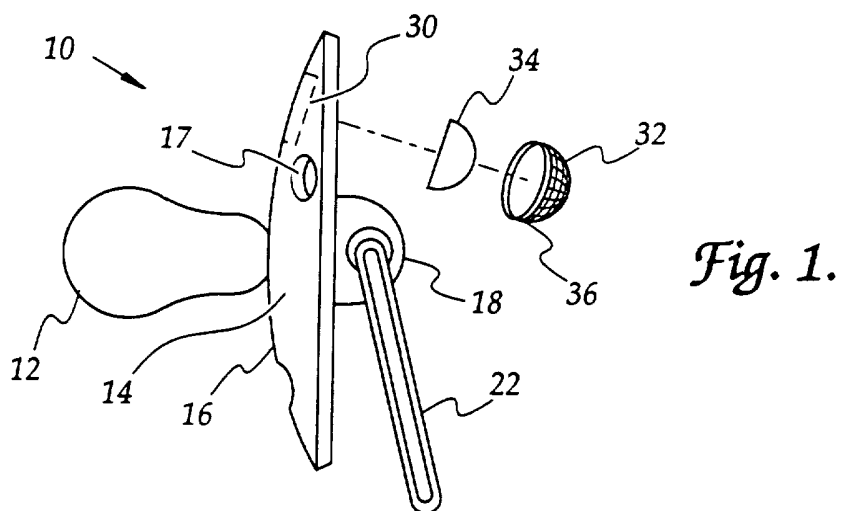
5. A decongestant module as claimed in claim 3, wherein said fixing means includes spigot means.

30 6. A decongestant module as claimed in claim 5, wherein said spigot means includes a pair of resilient fingers.

7. A decongestant module as claimed in claim 5, wherein said spigot means is lockingly engageable in a recess in
35 said housing.

8. A decongestant module as claimed in claim 1, wherein said vapour emitting medicine is carried in a carrier.

9. An infant breathing aid assembly including:-
an infant soother having a safety shield and anchor means for anchoring a decongestant module thereto, and
a decongestant module having a housing for housing a vapour emitting medicine and fixing means for fixing said housing to said anchor means;
wherein in use said housing closely abuts said safety shield to substantially seal said vapour emitting medicine within said housing and said safety shield, said housing being adapted to emit vapour from medicine housed therewithin.
10. An infant breathing aid assembly as claimed in claim 9, wherein said anchor means includes at least one vent in said safety shield.
11. An infant breathing aid assembly as claimed in claim 9, wherein said anchor means includes receiving means for retentively receiving said decongestant module in a snap fit action.
12. An infant breathing aid assembly as claimed in claim 9, wherein said anchor means comprises handle means on said infant soother.
13. A method of treating breathing difficulties and nasal congestion in infants, the method including:-
fitting a decongestant module as claimed in claim 1 to an infant soother, whereby in use, when the soother is in the infant's mouth, the infant can inhale medicinal vapour emitted from the module.



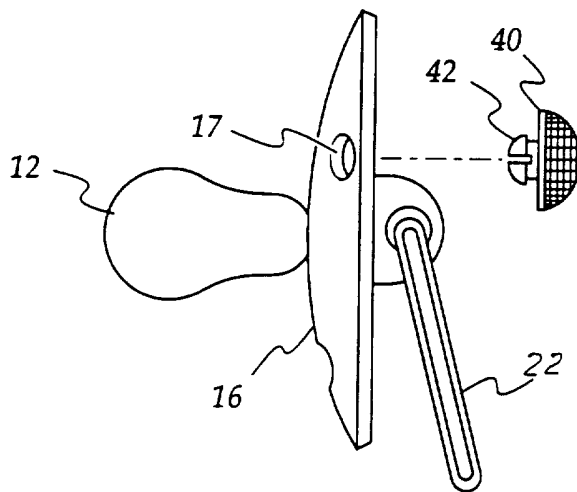


Fig. 4.

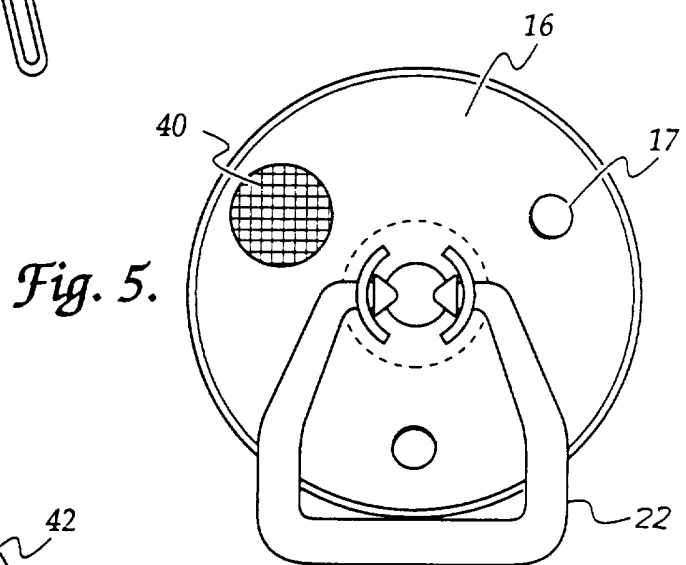


Fig. 5.

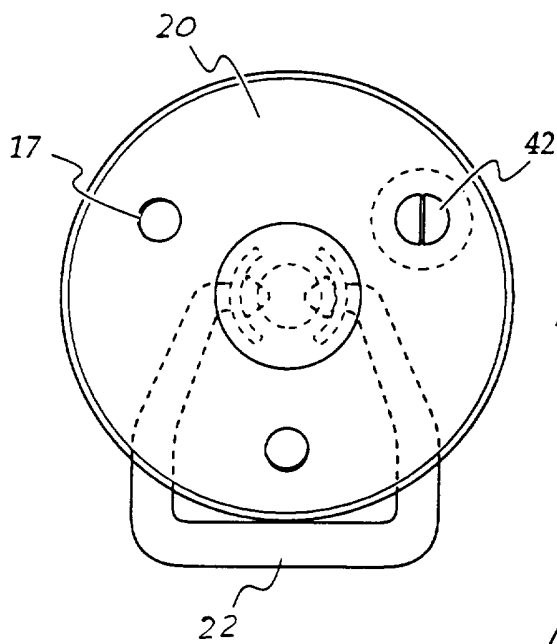


Fig. 6.

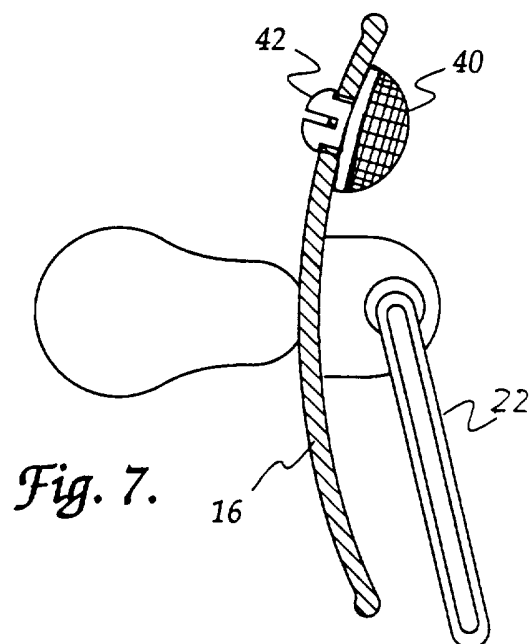


Fig. 7.

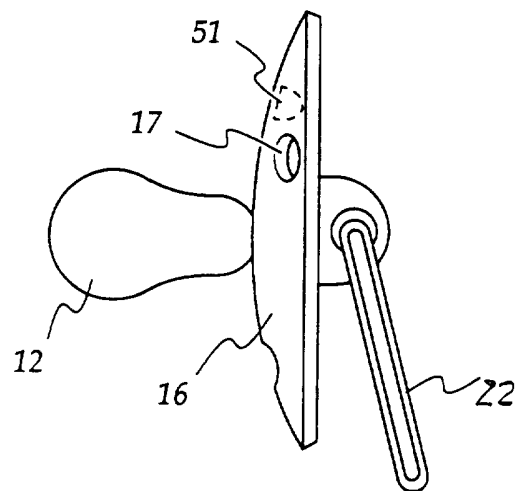


Fig. 8.

Fig. 9.

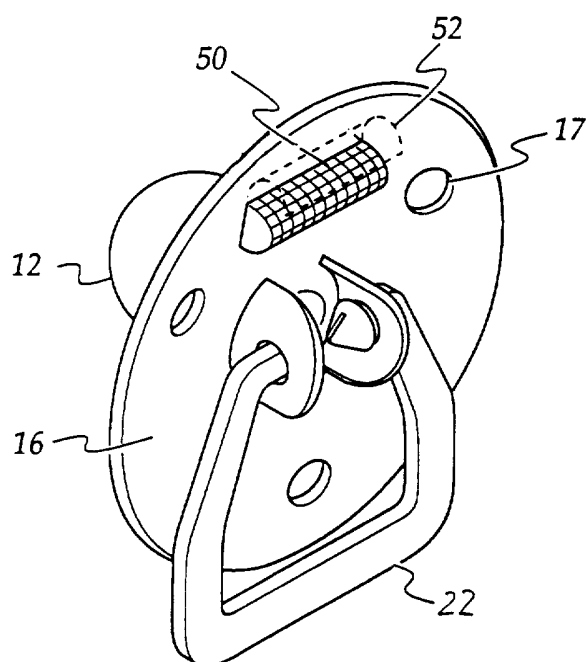
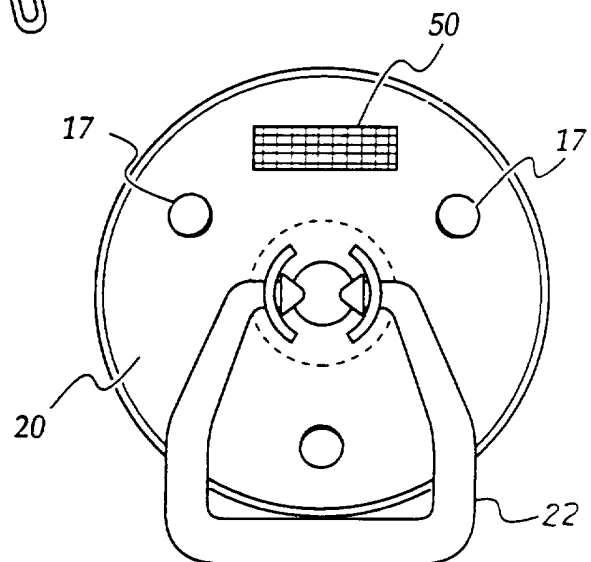


Fig. 10.

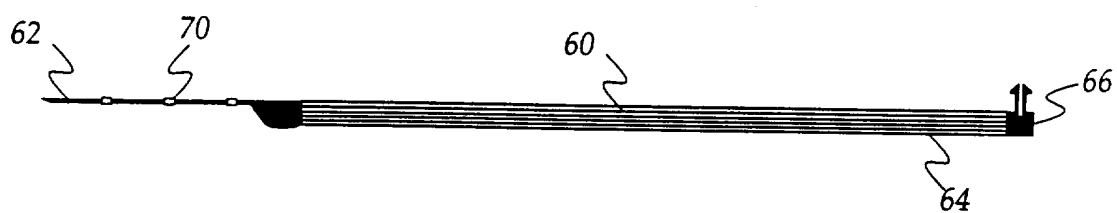


Fig. 11.

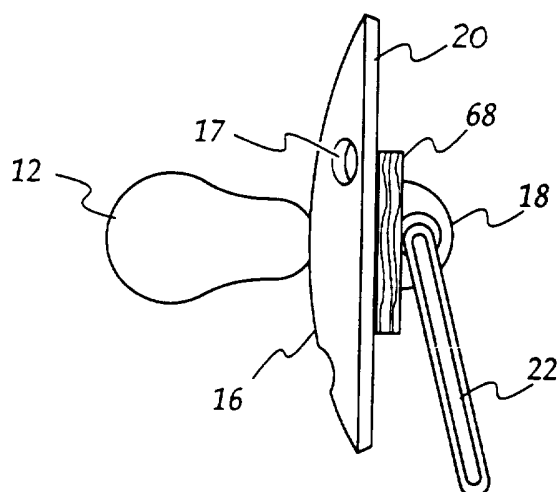


Fig. 12.

Fig. 13.

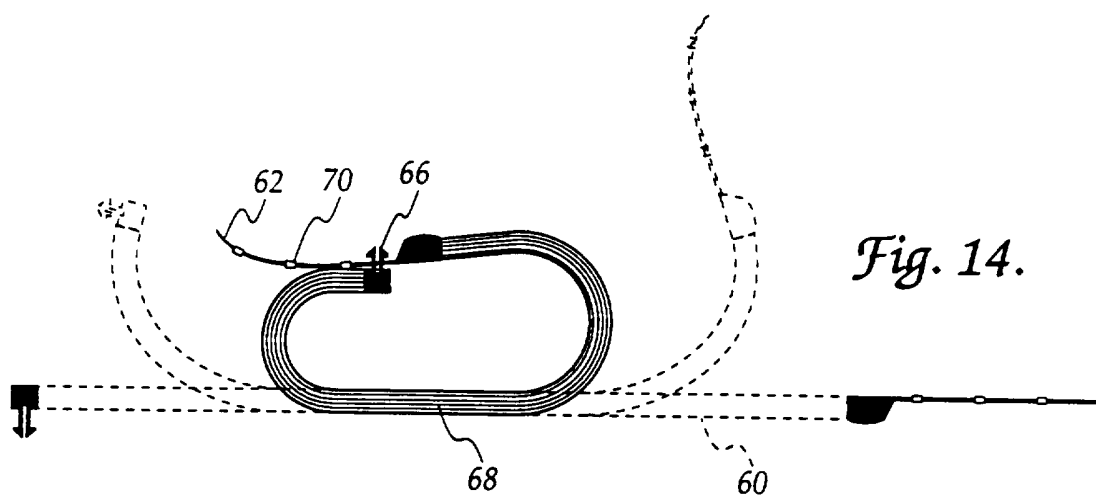
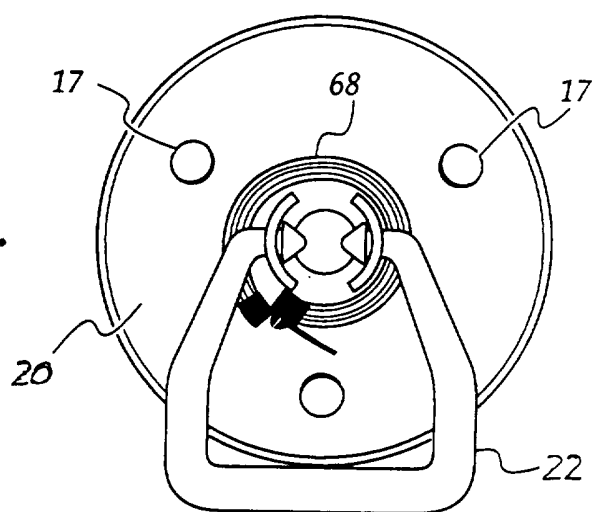
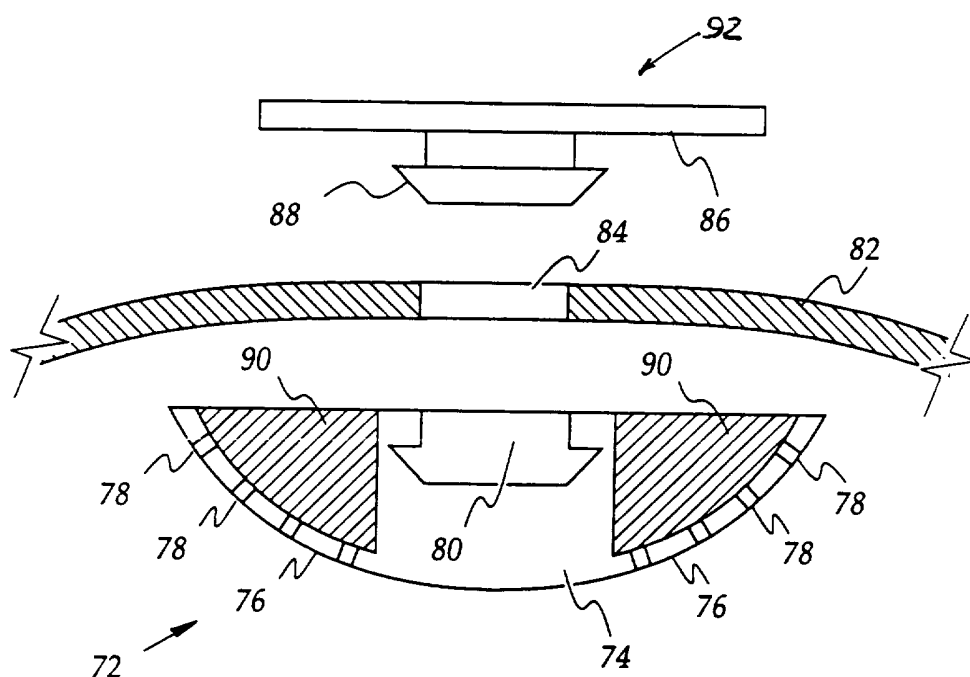


Fig. 14.

*Fig. 15.*

INTERNATIONAL SEARCH REPORT

International Application No.
PCT/AU 95/00580

A. CLASSIFICATION OF SUBJECT MATTER

Int Cl⁶: A61J 17/00; A61M 15/00

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)
IPC A61J 17/00; A61M 15/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
AU : IPC as above

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2269754 A (AJIT SINGH) 23 February 1994 Figure 2 and page 4 line 14 - page 5 line 11	1-13
X	GB 2231497 A (AJIT SINGH) 21 November 1990 Figure 1 and page 1 line 32 - page 2 line 4	1-13
X	CH 679009 A (NAF) 13 December 1991 Entire document	1-13

☒ 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 document 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
29 December 1995

Date of mailing of the international search report

Name and mailing address of the ISA/AU
AUSTRALIAN INDUSTRIAL PROPERTY ORGANISATION
PO BOX 200
WODEN ACT 2606
AUSTRALIA Facsimile No.: (06) 285 3929

16 JAN 1996

Authorized officer

J. HO

Telephone No.: (06) 283 2329

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/AU 95/00580

C (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	ZA 88/1564 A (VAN DER STRUYS et al) 8 September 1988 Abstract	1-13
X	EP 406505 A (DOLL) 9 January 1991 Entire document	1-13
X	DD 296422 A (SCHOTT) 5 December 1991 Abstract	1-13
X	DE 3820291 A (DOLL) 21 December 1989 Figures 1 and 2	1-13
	-	-

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No.

PCT/AU 95/00580

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member
DE	3820291	
DD	296422	
EP	406505	
ZA	88/1564	
CH	679009	
GB	2231497	
GB	2269754	
		END OF ANNEX