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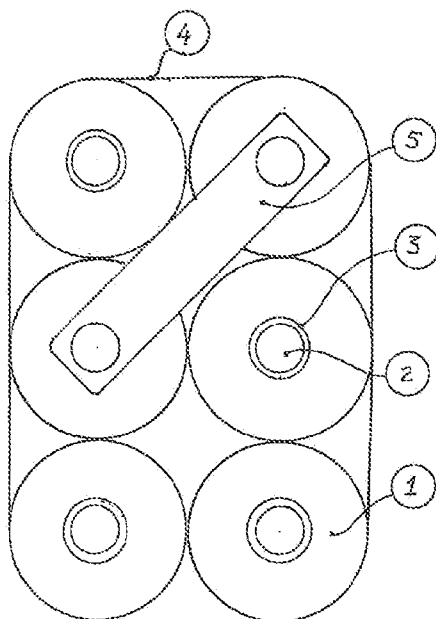
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**Published:**

- 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))

[Continued on next page]

(54) Title: DEVICES FOR PREVENTING PET BOTTLES OR SIMILAR CONTAINERS BUNDLED BY STRIP-LIKE RETAINERS FROM TAKING DISARRANGED, NAMELY "QUINCUNX", POSITIONS



*Fig. n. 1*

(57) Abstract: Quincunx preventing device (5) for maintaining PET bottles or similar containers assembled in an orthogonal arrangement in bundles by means of ligatures (4) in order to prevent them from mutually slipping towards a disarranged position namely a "quincunx" position.

**(88) Date of publication of the international search report:**  
17 April 2014

INTERNATIONAL SEARCH REPORT

International application No  
PCT/IB2013/053109

A. CLASSIFICATION OF SUBJECT MATTER  
INV. B65D71/50 B65D71/04  
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)  
B65D  
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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 775 486 A (EDQVIST HAAKAN [SE]) 7 July 1998 (1998-07-07) column 3, line 8 - column 6, line 35; figures 1-6	1-12
X	EP 1 400 461 A1 (ILLINOIS TOOL WORKS [US]) 24 March 2004 (2004-03-24) paragraphs [0013] - [0024]; figures	1,7-12
X	US 2004/055906 A1 (MARCO LESLIE S [US]) 25 March 2004 (2004-03-25) paragraphs [0026] - [0043]; figures	1,7-12
X	DE 37 39 574 A1 (GLOEYER WOLFGANG [DE]) 1 June 1989 (1989-06-01) the whole document	1,7,8
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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 application or patent 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  4 September 2013	Date of mailing of the international search report  21/02/2014
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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  Fournier, Jacques
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## INTERNATIONAL SEARCH REPORT

International application No  
PCT/IB2013/053109

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 1 029 680 A (ILLINOIS TOOL WORKS) 18 May 1966 (1966-05-18) page 2, line 30 - page 4, line 22; figures -----	1-4
X	DE 20 19 948 A1 (HEIDENREICH & HARBECK GMBH) 4 November 1971 (1971-11-04) page 9, paragraph 2; figures -----	1,4
X	US 2005/150783 A1 (OGG RICHARD [US]) 14 July 2005 (2005-07-14) paragraphs [0029] - [0057]; figures -----	1,12
X	US 4 628 666 A (LEMS PETER [US]) 16 December 1986 (1986-12-16) the whole document -----	1-4
X	DE 34 01 884 A1 (GLOEYER WOLFGANG) 23 May 1985 (1985-05-23) the whole document -----	1,12

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/IB2013/053109
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5775486	A	07-07-1998	NONE
-----			
EP 1400461	A1	24-03-2004	AU 2003241649 A1 08-04-2004
			BR 0303288 A 27-04-2004
			CA 2441296 A1 20-03-2004
			CN 1490226 A 21-04-2004
			EP 1400461 A1 24-03-2004
			JP 2004115129 A 15-04-2004
			KR 20040025837 A 26-03-2004
			MX PA03008542 A 19-04-2005
			NZ 528053 A 25-06-2004
			US 2004055905 A1 25-03-2004
-----			
US 2004055906	A1	25-03-2004	AU 2003261500 A1 10-06-2004
			BR 0304798 A 31-08-2004
			CA 2449361 A1 21-05-2004
			CN 1509957 A 07-07-2004
			EP 1422158 A1 26-05-2004
			JP 2004168426 A 17-06-2004
			KR 20040045290 A 01-06-2004
			MX PA03010163 A 25-05-2004
			NZ 529325 A 30-07-2004
			TW I232835 B 21-05-2005
			US 2004055906 A1 25-03-2004
-----			
DE 3739574	A1	01-06-1989	NONE
-----			
GB 1029680	A	18-05-1966	NONE
-----			
DE 2019948	A1	04-11-1971	NONE
-----			
US 2005150783	A1	14-07-2005	NONE
-----			
US 4628666	A	16-12-1986	NONE
-----			
DE 3401884	A1	23-05-1985	NONE
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**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-12

Invention I, claims 1-12, relates to permanent quincunx preventing devices.

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2. claims: 13-15

Invention II, claims 13-15, relates to non-permanent quincunx preventing devices. Although claims 14 and 15 have been drafted as dependent on claim 12, they are actually dependent on claim 13.

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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IB2013/053109

## 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:

see additional 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 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.:

1-12

### 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.