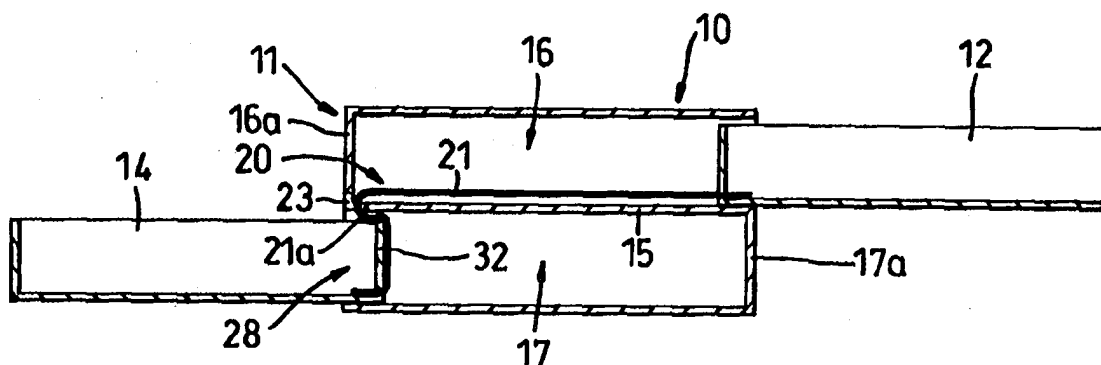




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : B65D 5/38	A1	(11) International Publication Number: WO 98/24696 (43) International Publication Date: 11 June 1998 (11.06.98)
(21) International Application Number: PCT/GB97/03265 (22) International Filing Date: 5 December 1997 (05.12.97) (30) Priority Data: 9625419.8 6 December 1996 (06.12.96) GB (71)(72) Applicant and Inventor: WILKINS, Andre, Philip [GB/GB]; "The Walled Garden", Loughborough Road, Bunny, Nottinghamshire NG11 6QT (GB). (74) Agent: DEALTRY, Brian; Eric Potter Clarkson, St. Mary's Court, St. Mary's Gate, Nottingham NG1 1LE (GB).		(81) Designated States: CA, IL, US, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>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.</i>

(54) Title: CARTON BOX WITH SLIDING DRAWERS



(57) Abstract

A container box (10) comprising a container body (11) slidably housing at least two trays (12, 14) each movable between a retracted position and an extended position, the trays being interconnected by drive means (20) such that movement of one tray (12) to its extended position causes the other tray (14) to be simultaneously moved to its extended position.

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.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece	ML	Mali	TR	Turkey
BG	Bulgaria	HU	Hungary	MN	Mongolia	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MR	Mauritania	UA	Ukraine
BR	Brazil	IL	Israel	MW	Malawi	UG	Uganda
BY	Belarus	IS	Iceland	MX	Mexico	US	United States of America
CA	Canada	IT	Italy	NE	Niger	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NL	Netherlands	VN	Viet Nam
CG	Congo	KE	Kenya	NO	Norway	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NZ	New Zealand	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	PL	Poland		
CM	Cameroon	KR	Republic of Korea	PT	Portugal		
CN	China	KZ	Kazakstan	RO	Romania		
CU	Cuba	LC	Saint Lucia	RU	Russian Federation		
CZ	Czech Republic	LI	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

CARTON BOX WITH SLIDING DRAWERS

The present invention relates to a container box in which articles may be retained.

According to one aspect of the invention there is provided a container box comprising a container body slidably housing at least two trays each movable between a retracted position and an extended position, the trays being interconnected by drive means such that movement of one tray to its extended position causes the other tray to be simultaneously moved to its extended position. Preferably the drive means are arranged such that movement of said other tray from its extended position to its retracted position causes said one tray to be simultaneously moved from its extended position to its retracted position.

Preferably the container body includes a first sleeve slidably housing said one tray and a second sleeve slidably housing said other tray. The sleeves are preferably located directly one above the other.

The container body and trays may be made of any suitable material. Preferably the container body and trays are fabricated from sheet material such as card.

Various aspects of the present invention are hereinafter described with reference to the accompanying drawings, in which:-

Figure 1 is a schematic perspective view of a container box according to the present invention.

Figure 2 is a sectional view take along line II-II in figure 1 and showing both trays at their retracted position;

Figure 3 is a sectional view similar to figure 2 showing both trays at their extended position;

Figures 4a, 4b respectively illustrate movement of the trays to their extended and retracted positions;

Figure 5 is a blank (not to scale) suitable for forming a tray for use in the box of Figure 1;

Figure 6 is a blank (not to scale) suitable for forming a container body for use in the box of Figure 1;

Figure 7 is a plan view of a drive means suitable for use with the container and tray illustrated in Figures 5 and 6.

Referring initially to Figure 1 there is shown a container box 10 comprising a container body 11 and a pair of trays 12, 14 (only one being visible in Figure 1).

The container body 11 is partitioned internally (see figures 2 and 3) by an internal dividing wall 15 to define two sleeves 16, 17 each of which slidably contains a tray 12, 14 respectively.

The trays 12, 14 are drivingly interconnected by drive means 20 preferably in the form of a flexible inextensible strip 21.

The strip 21 is anchored at the inner end 26 of tray 12, passes through a guide opening 23 in wall 15, extends above tray 14 towards its inner end 28 and is anchored adjacent said inner end 28 to tray 14.

In Figures 1 and 2, the trays 12, 14 are shown at their retracted positions whereat they are fully housed within their respective sleeves 16, 17.

As seen in Figures 3 and 4a, movement of tray 12 out of its sleeve 16 pulls strip 21 upwardly through guide opening 23 and thereby simultaneously pulls tray 14 out of its sleeve 17. Continued movement of tray 12 out of sleeve 16 is permitted until it reaches its extended position whereat the majority of the tray 12 projects from sleeve 16.

The extended position is conveniently determined by the drive means 20.

In this respect, as illustrated, the strip 21 is preferably trained to pass behind the inner end wall 32 of tray 14 and extended upwardly toward opening 23.

Preferably the strip 21 is formed from a relatively stiff resilient material, such as a polyacetate sheet, such that as seen in Figure 3 when end wall 32 approaches a region directly beneath the opening 23, the strip 21 bows downwardly to produce bowed portion 21a which interferes with end wall 32 to restrain further outward movement of tray 14.

In order to move both trays 12, 14 from their extended position (as in Figure 3) to their retracted position (as in Figure 2) tray 14 is pushed inwardly into sleeve 17 (as shown in Figure 4b). This causes strip 21 to

be pulled downwardly through opening 23 and so simultaneously draws the tray 12 into sleeve 16.

In order to ensure that tray 12 is pulled by an operative to its extended position (and not tray 14), the container body side walls 36 are preferably provided with recesses 37 which expose sidewalls 38 of tray 12 for gripping by the operative.

The container body 11 and trays 12, 14 are preferably fabricated from a sheet material such as card or other similar sheet material but it will be appreciated that the principles of the invention may be applied to containers and trays made of other types of material. For example the container body 11 and/or trays 12, 14 may be fabricated from wood or may be plastics mouldings.

A suitable card blank 50 is illustrated in Figure 5 for forming trays 12, 14. The blank 50 includes a bottom forming wall 51 to which side wall panels 52 and each wall panels 53 are attached by fold lines 55, 56 respectively.

A slit 57 is provided through which one end of strip 21 (illustrated in Figure 7) is fed.

A suitable card blank 60 for forming the container body 11 is illustrated in Figure 6. The blank 60 includes an anchor strip 61 for gluing internally of the container a partition panel 62 an inner sidewall panel 63, a container bottom wall panel 64, a container sidewall panel 65, a container top wall panel 66 and a second container sidewall panel 67. Bottom wall panel is provided with a half height end wall panel 69

which in use defines the end wall 17a of sleeve 17 and top wall panel 66 is provided with an end wall panel 70 which in use defines end wall 16a of sleeve 16. The panel 70 includes tongues 71 for engagement in slits 72 formed in the partition panel 62.

The partition panel 62 is provided with two flaps 73 which are spaced apart to define guideway opening 23 in the assembled container 11.

It is envisaged that the container box 10 may be used as a packaging box for packaging items for sale. For example one tray may be filled with Christmas cards and the other tray may be filled with envelopes. After purchase of the container box, it is envisaged that the purchaser will continue to use the box for storage of the cards and envelopes or when these are used up, possible other items.

It will be appreciated therefore that after purchase, the container box is still a usable box and does not have to be disposed of.

CLAIMS

1. A container box comprising a container body slidably housing at least two trays each movable between a retracted position and an extended position, the trays being interconnected by drive means such that movement of one tray to its extended position causes the other tray to be simultaneously moved to its extended position.
2. A box according to claim 1 wherein the drive means are arranged such that movement of said other tray from its extended position to its retracted position causes said one tray to be simultaneously moved from its extended position to its retracted position.
3. A box according to Claim 1 or 2 wherein the container body includes a first open ended sleeve slidably housing said one tray and a second open ended sleeve slidably housing said other tray, the first and second sleeves being located directly one above the other.
4. A box according to Claim 3 wherein the first and second sleeves are separated by a partition wall and arranged such that the open end of the first sleeve is located at one end of the container body and the open end of the second sleeve is located at the opposite end of the container body such that the direction of movement of said one tray to its extended position is opposite to the direction of movement of said other tray to its extended position.
5. A box according to Claim 4 wherein the drive means comprises a flexible inextensible strip the strip being connected at one end to the

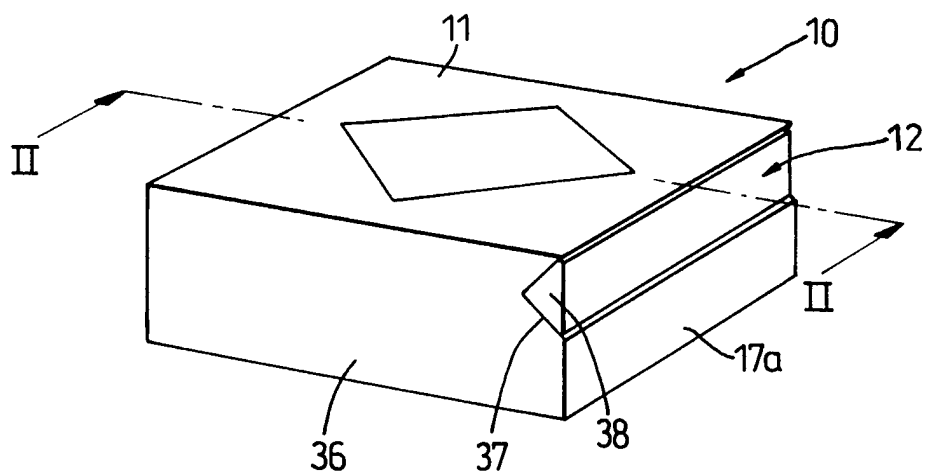
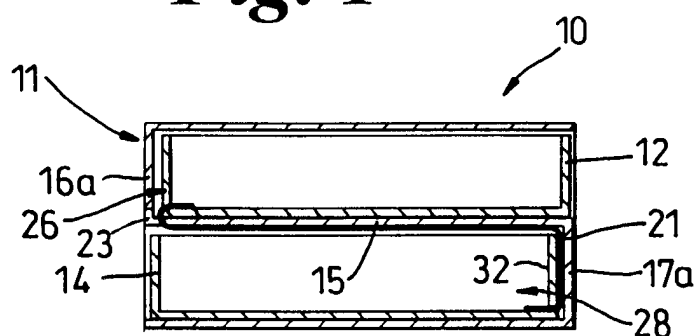
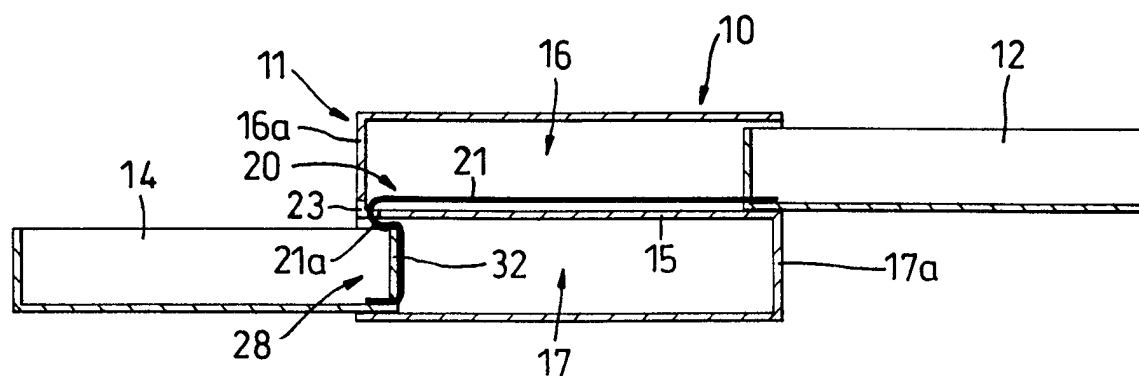
inner end of said one tray and being connected at its opposite end to the inner end of the other tray, the strip being threaded through the partition wall adjacent to one end of the container body.

6. A box according to Claim 5 wherein the strip is formed from polyacetate.

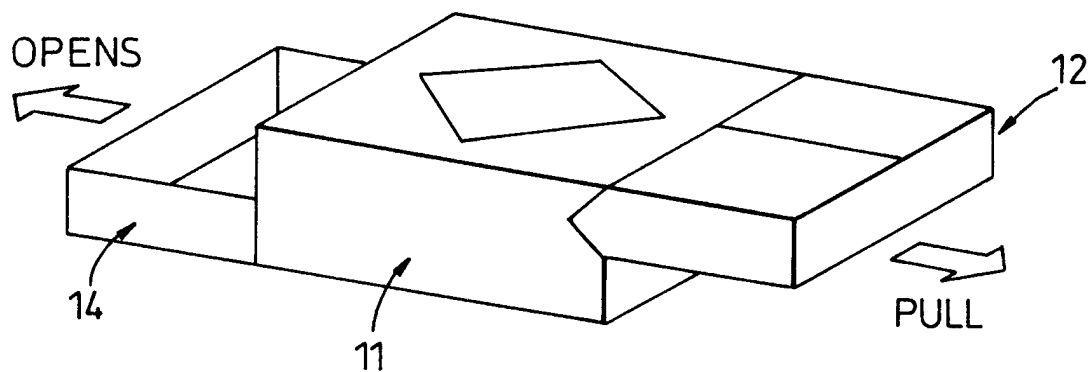
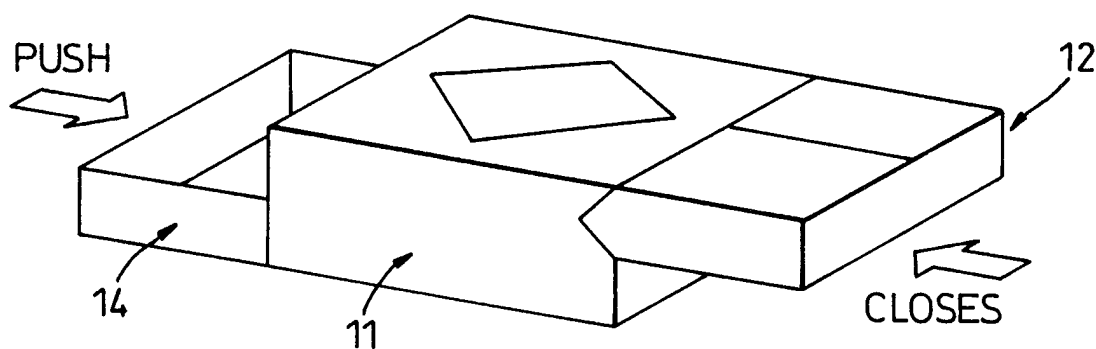
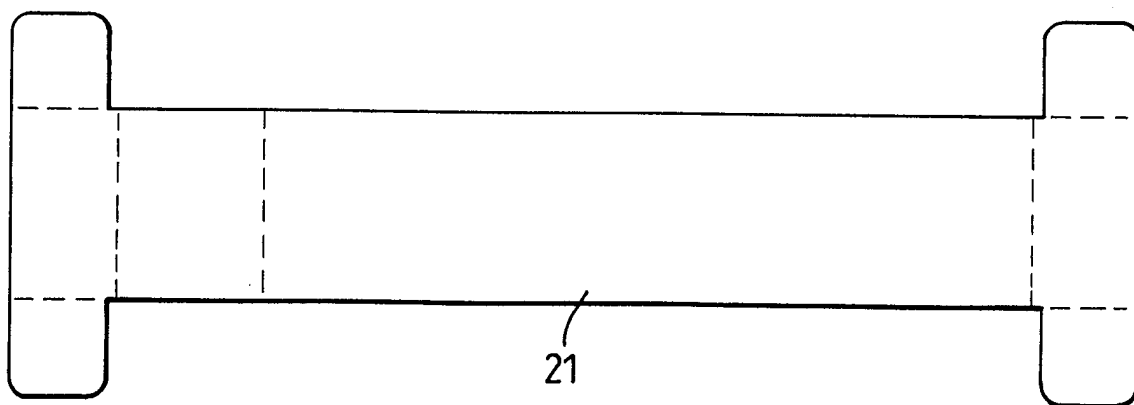
7. A box according to any preceding claim wherein each tray is fabricated from a sheet material such as card.

8. A box according to any preceding claim wherein the container body is fabricated from a sheet material such as card.

1/3

*Fig. 1**Fig. 2**Fig. 3*

2/3

*Fig. 4a**Fig. 4b**Fig. 7*

3/3

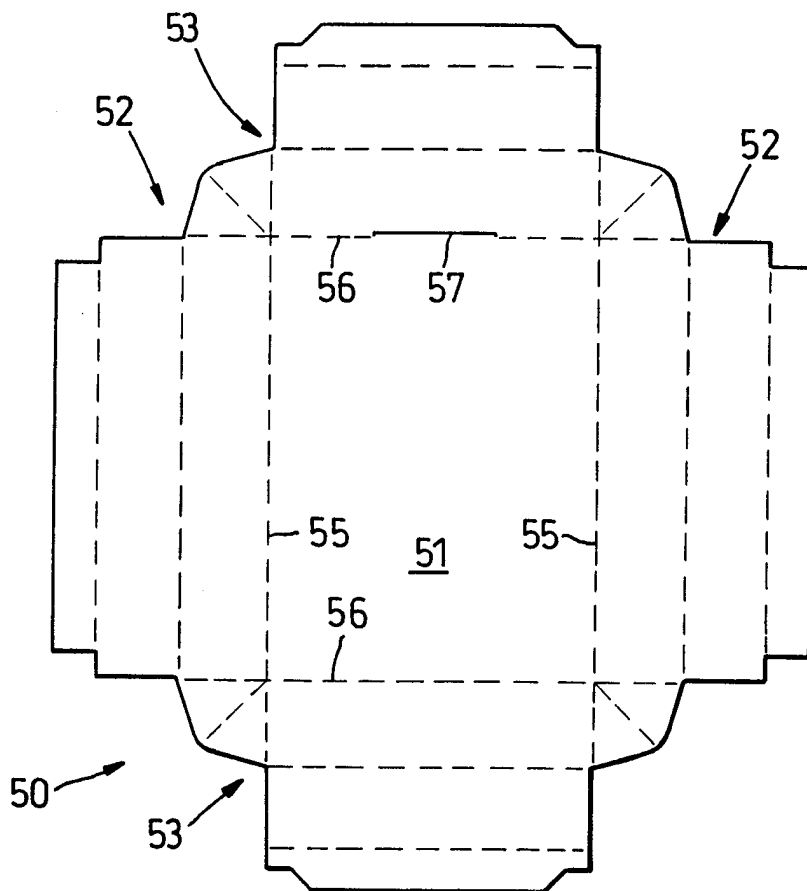


Fig. 5

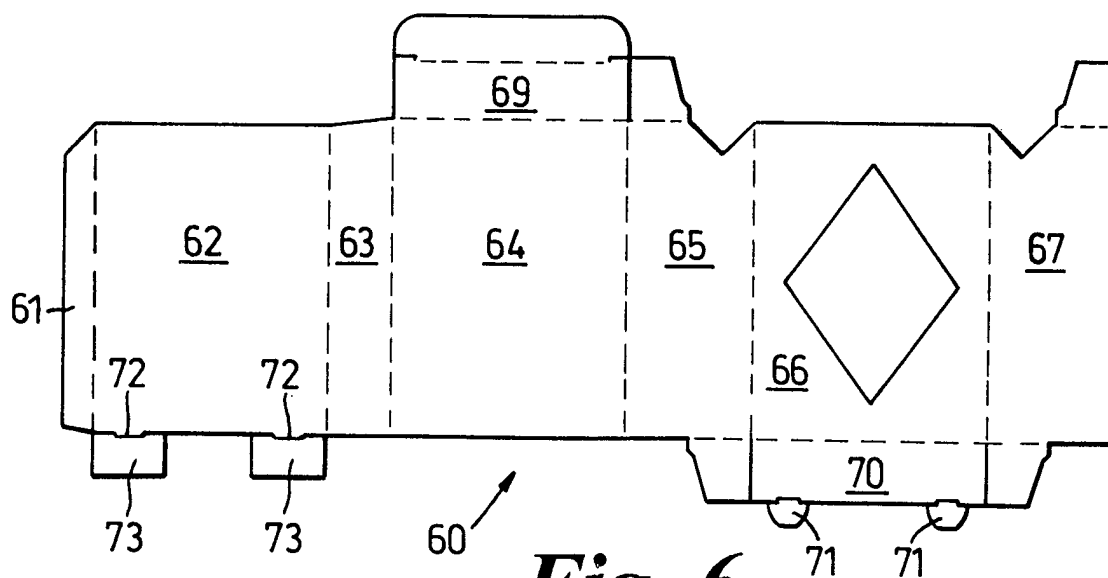


Fig. 6

INTERNATIONAL SEARCH REPORT

Inter. Appl. No.

PCT/GB 97/03265

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 B65D5/38

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 6 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 practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 304 449 A (F. MOUSLEY) 24 January 1929	1,2
Y	see the whole document ---	3,7,8
Y	GB M06944 A (THOMPSON) 27 June 1912 & GB, A, 06944 A.D. 1912 see the whole document ---	3,7,8
A	US 1 450 477 A (F. ALLWORTH) 3 April 1923 see the whole document ---	1-8
A	GB 116 703 A (C. DAVIS) 5 September 1918 see the whole document ---	1-8
A	GB 445 021 A (H. MAGNUS) 1 April 1936 see the whole document -----	1-8

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in 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

9 March 1998

Date of mailing of the international search report

30/03/1998

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Pernice, C

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 97/03265

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 304449 A		NONE	
GB M06944 A		NONE	
US 1450477 A	03-04-23	NONE	
GB 116703 7 A	15-10-69	NONE	
GB 445021 A		NONE	