



Europäisches Patentamt  
European Patent Office  
Office européen des brevets



(11) **EP 1 208 773 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:  
**29.05.2002 Bulletin 2002/22**

(51) Int Cl.7: **A47F 1/12**

(21) Application number: **01122431.8**

(22) Date of filing: **20.09.2001**

(84) Designated Contracting States:  
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU  
MC NL PT SE TR**  
Designated Extension States:  
**AL LT LV MK RO SI**

(72) Inventor: **Alvàn, Jonas**  
**129 30 Hägersten (SE)**

(74) Representative: **Asketorp, Göran**  
**Hansson Thyresson Patentbyrå AB,**  
**Box 73**  
**201 20 Malmö (SE)**

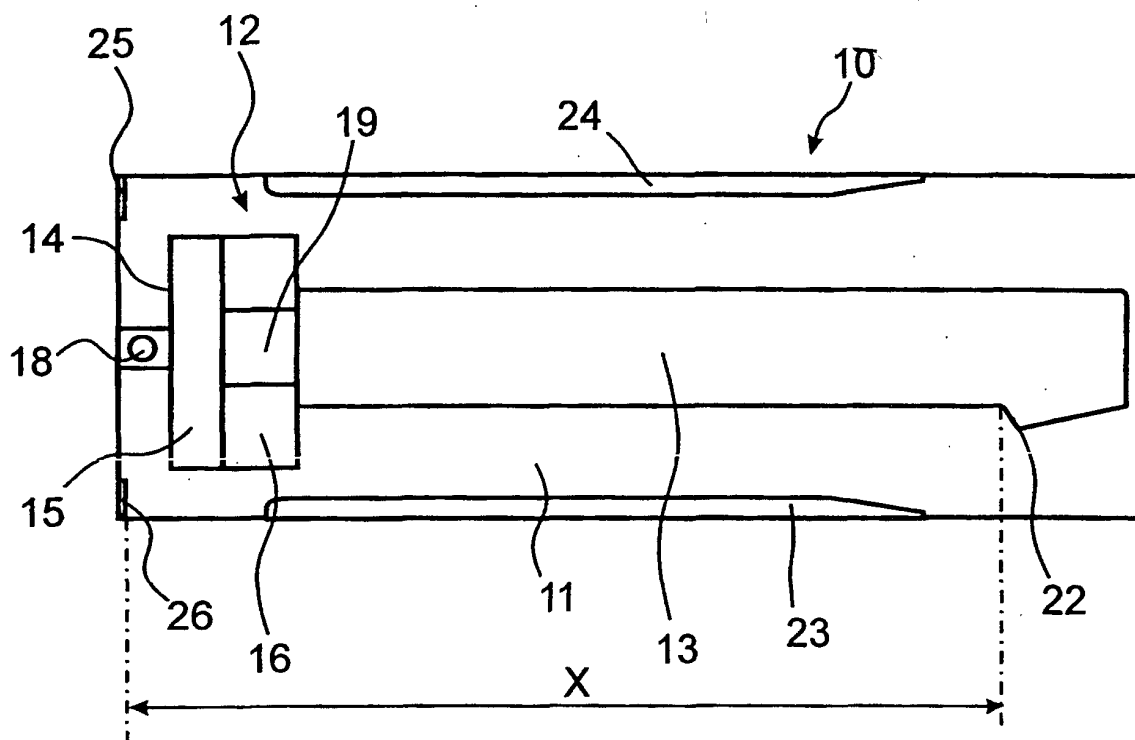
(30) Priority: **27.09.2000 SE 0003439**

(71) Applicant: **FREPART AB**  
**14633 Tullinge (SE)**

(54) **A cassette for dispensing merchandise**

(57) The invention concerns an item dispenser (10) for stands including an item advancer (12) that is located in a track (13) in the bottom (11) of the dispenser, a spring (17) that applies tension on the item advancer directed toward the front part of the dispenser and a securing device intended for the item advancer. The se-

curing device includes a notch (22) in the rear part of the track, the front part of which is angled toward the front of the dispenser so that the item advancer is angled in a corresponding manner in its secured position. The item dispenser is reactivated automatically when it is full of items because the item advancer is then directed again toward the front of the dispenser.



**Fig. 1**

**EP 1 208 773 A1**

## Description

### TECHNICAL FIELD OF THE INVENTION

**[0001]** The invention concerns an item dispenser with a bottom, a front and a rear end, and two opposing sides and a movable item advancer included in a track in the bottom of the item dispenser, a spring affecting the item advancer towards the front end, along with a securing device for the item advancer located at the rear end. Item dispensers of this type are used in connection with stands where they can be used to convey items so that they are always at the front of the stand. Examples of items are packages of cigarettes and cassette tapes.

### STATE OF THE ART

**[0002]** Current item dispensers include an item advancer connected with a spring or similar in order to move the products forward. This construction lacks a securing mechanism which complicates replenishment of items. This problem becomes manifest when it is desirable to replenish items from the back, which is most often the case.

**[0003]** There are also item dispensers with securing devices whose securing mechanism includes hooks that are fastened in openings in the base of the construction. An item dispenser of this kind is shown and described in GB 2290077A. Activation occurs by the item advancer being displaced backwards so that the hooks release from the openings. This means that the item dispenser is rendered inoperative in that the items are not automatically moved forward unless the operator activates the spring by hand. The construction is furthermore relatively complicated with various movable parts for achieving the securing effect that leads to low operational safety and low cost effectiveness.

### THE INVENTION IN SUMMARY

**[0004]** The present invention concerns redressing the problem of reactivation of item dispensers and to provide an operationally safer and more cost effective item dispenser. In order to provide this, the item dispenser includes - as have certain previous item dispensers - an item advancer provided with a spring for advancement of items and a securing device intended for the item advancer. The present invention is characterized in that the securing occurs with the aid of a notch angled toward the front side in a track in the bottom of the item dispenser. The notch is adapted to the item advancer that can be secured on the notch. The notch is angled, which means that the item advancer is angled in a corresponding manner when secured. The item dispenser is automatically reactivated in connection with the final stage of replenishing in that the item advancer is then automatically directed toward the front of the item dispenser when the last item is pressed down between the second

to last item and the item advancer.

**[0005]** In one embodiment the length of the item dispenser can be adjusted according to a certain number of products so that the automatic release of the securing device is more effective. The item dispenser can also suitably be designed as an integrated unit complete with all required components. In another embodiment the item dispenser can be designed to an adjustable length by designing the bottom in two interacting parts.

**[0006]** No moving parts are used in the present invention to achieve the effect of securing or release, so problems of operational safety and cost effectiveness are avoided. The problem of reactivation of the item dispenser is eliminated, since this occurs automatically when replenishment of items is completed. Further advantages with and functions of the invention can be seen in the description below and in the accompanying patent claims.

### BRIEF DESCRIPTION OF THE DRAWINGS

**[0007]** The invention will be explained in more detail hereafter with reference to the drawings, where

**[0008]** Fig. 1 is a schematic view from above of an empty item dispenser with the item advancer in a forward position.

**[0009]** Fig. 2 shows the item dispenser in Fig. 1 partially filled with items and with the item advancer in the secured position.

**[0010]** Fig. 3 is a longitudinal section view of the item dispenser in Fig. 1 without sides.

**[0011]** Fig. 4 is a rear view of the item dispenser in Fig. 1.

### THE INVENTION

**[0012]** The embodiment of the invention shown in Figs. 1 and 2 is an elongated item dispenser 10 embodied with a bottom 11 and an item advancer 12. Bottom 11 is embodied so that a track 13 is formed in the longitudinal direction in bottom 11. Track 13 runs from a front part to a rear part of the item dispenser and is embodied so that item advancer 12 can run horizontally in the longitudinal direction of item dispenser 10. The longitudinal sides of bottom 11 are provided with vertically positioned sides 23, 24 with front tabs 25, 26. Bottom 11 and sides 23, 24 thus constitute an integrated unit. In one embodiment bottom 11, sides 23, 24, and front tabs 25, 26 can be designed in one piece from a suitable plastic material. In other embodiments sheet metal or similar rigid material is used instead. Track 13 is provided with a notch 22 in the rear part of one side of track 13.

**[0013]** Fig. 2 shows the item dispenser partially filled with items 27, and the item advancer secured in notch 22. An additional item is indicated at 28. A cut away section of the items at the front part of the item dispenser shows track 13 and a leaf spring 17.

**[0014]** Fig. 3 shows that item advancer 12 includes a

level vertical plate oriented toward the front part and with an upper portion 15 that is angled backwards. The vertical plate 14 is positioned on a horizontal bottom plate 16. Item advancer 12 is further provided with leaf spring 17 (see Fig. 2), or similar, the first end of which is fastened in the front part of the item dispenser with aid of a suitable fastening device 18. The other end of leaf spring 17 is positioned in a housing 19 located on bottom plate 16 behind plate 14 via an opening in the lower part of plate 14. Leaf spring 17 is thus located so that item advancer 12 is under tension against the front part of item dispenser 10.

**[0015]** Also with reference to Fig. 4, item dispenser 12 is provided with an L-shaped guide rail 20, 21 positioned through the track on each respective side of the underside of bottom plate 16. The vertical portion of guide rails 20, 21 is attached to the under side of bottom plate 16 and the horizontal portion of guide rails 20, 21 extends parallel with bottom 11. Guide rails 20, 21 and bottom plate 16 are thus located below, respectively above, bottom 11 so that item advancer 12 can run horizontally in track 13 but not vertically. Plate 14, bottom plate 16, housing 19 with spring 17, and guide rails 20, 21 form item advancer 12. In one embodiment item advancer 12 can be designed in a suitable plastic material and leaf spring 17 designed in flexible metal.

**[0016]** Notch 22 is embodied so that item advancer 12 can be secured in notch 22 with aid of the vertical portion of guide rails 20, 21. The front portion of notch 22 is furthermore angled toward the front part of item dispenser 10 so that item advancer 12 when secured is positioned on a slant toward the track.

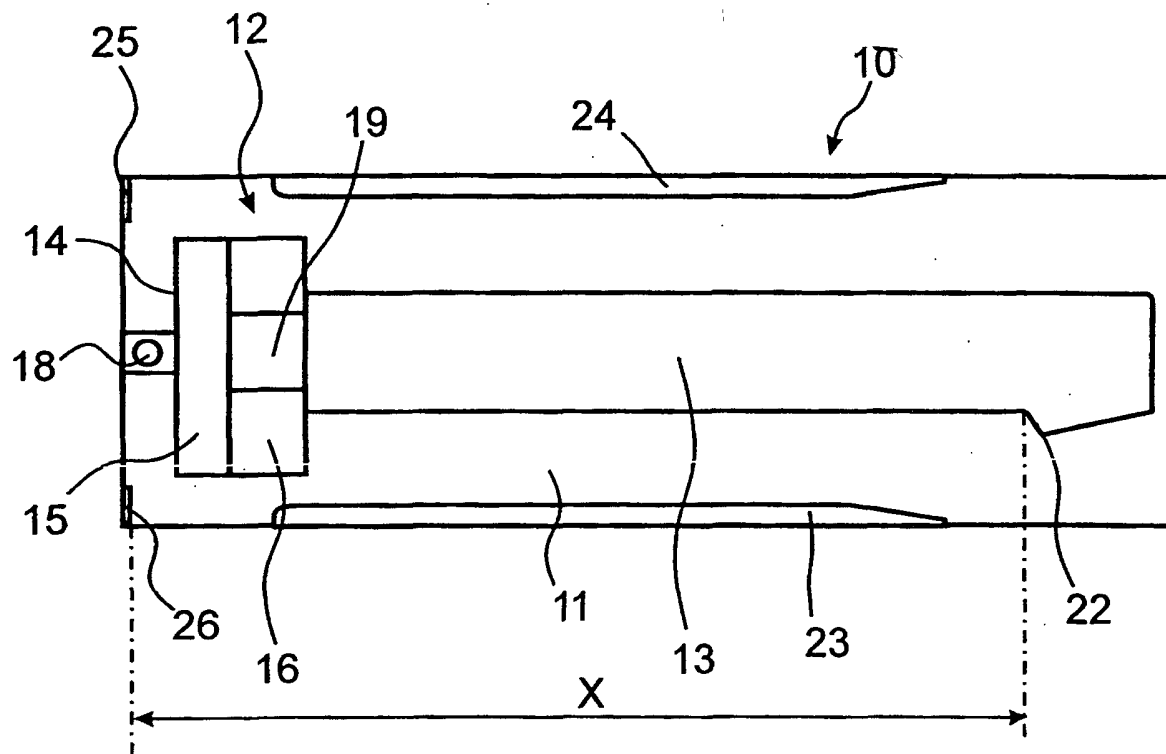
**[0017]** Item advancer 12 is moved backwards when the item dispenser is loaded and is hooked in notch 22. Items are filled from the top and suitably such that items already inserted are moved forward toward front tabs 25, 26. When the item dispenser is filled up but for the last item 28, it is situated as shown in Fig. 2. By then moving one more article down to the position indicated at 28, item 28 will slide toward the angled upper portion 15 and push the whole item advancer in a rotating motion as indicated by arrow A. With this motion the item advancer will be released from notch 22 and push items 27 toward front tabs 25, 26 because of the tension of spring 17.

**[0018]** The space for products in item dispenser 10, which extends from the rear part of front tabs 25, 26 to the portion of Notch 22 farthest toward the front, has the dimension X. This distance X, that is shown in Fig. 1, can be adjusted for a specific number of products for optimal automatic output efficiency of the securing device when the item dispenser is full.

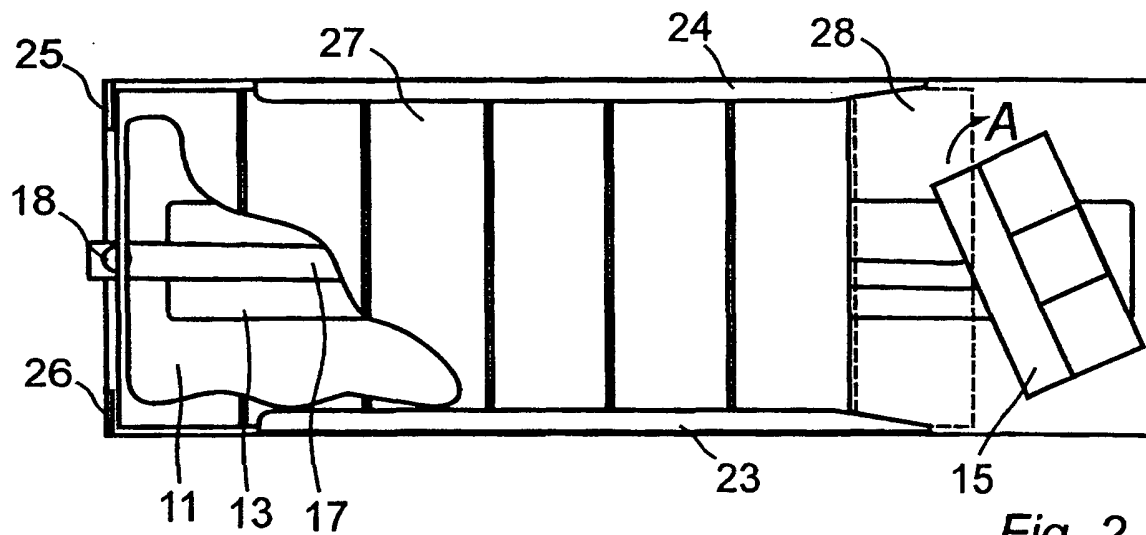
**[0019]** In an alternative embodiment not shown, bottom 11 with included sides 23, 24 and front tabs 25, 26 can be manufactured in two interacting parts, a front part and a rear part. The parts are arranged so as to be moveable with relation to each other so that length X of the item dispenser 10 can be changed.

## Claims

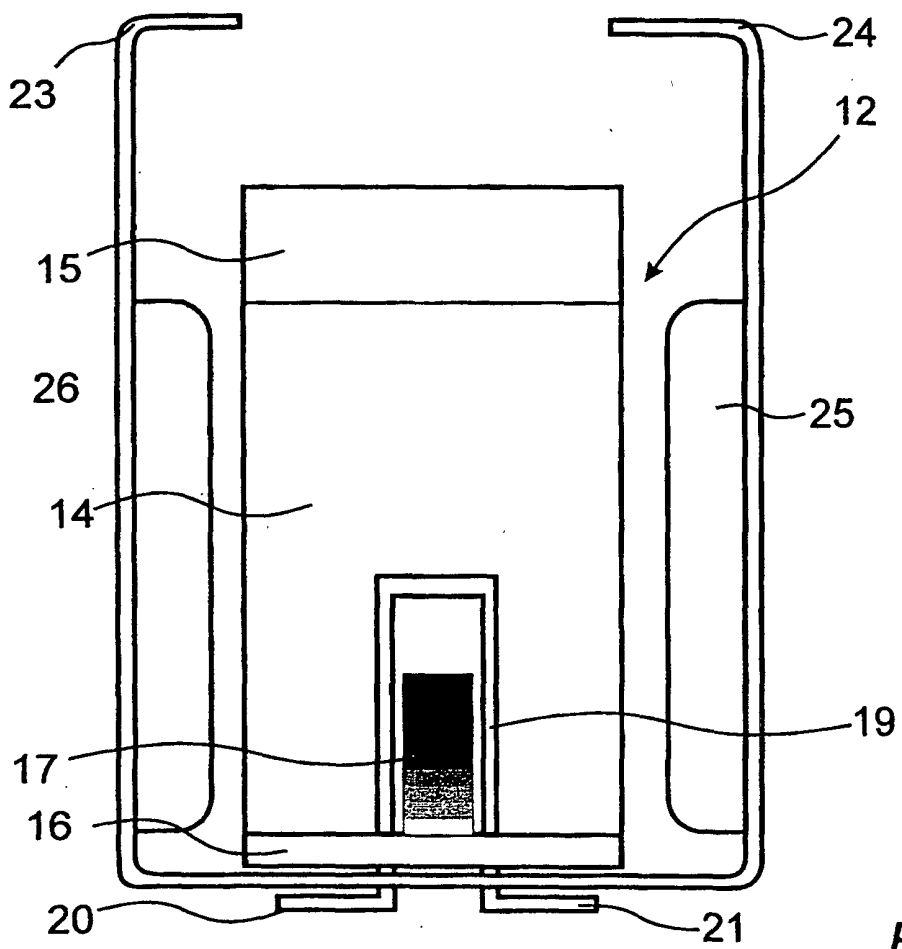
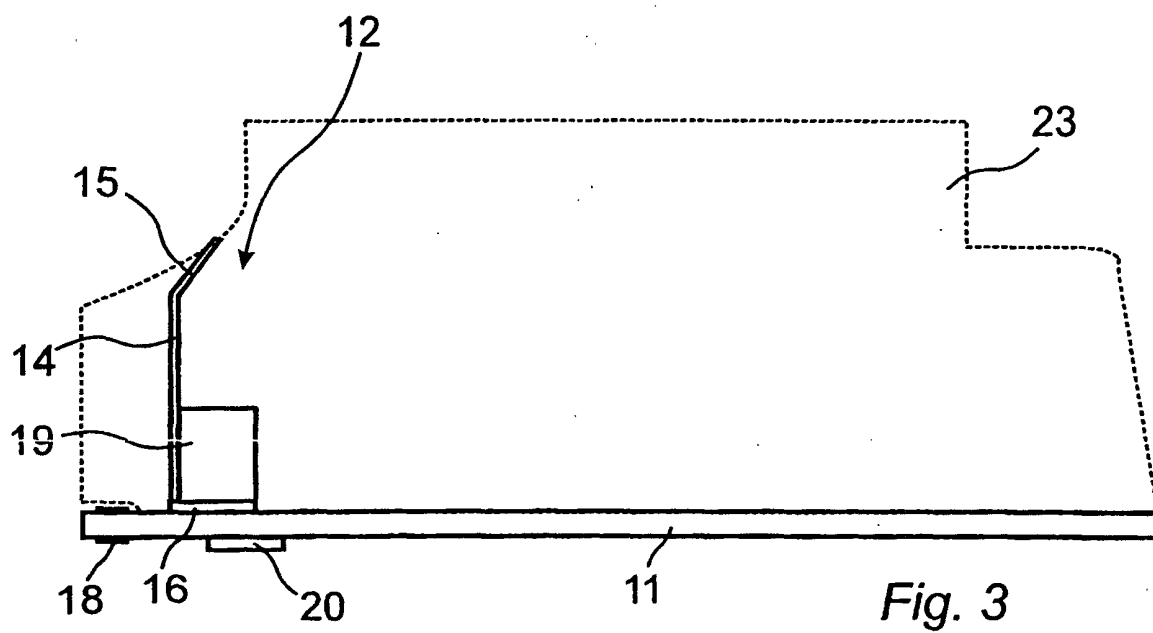
1. An item dispenser (10) with a bottom (11), a front and a rear end, comprising a moveable item advancer (12) in a track (13) in the bottom of the item dispenser, a spring (17) affecting the item advancer toward the front end, and a securing device for the item advancer positioned at the rear end, **characterized in** **that** the securing device comprises a notch (22) fit to item advancer (12), wherein notch (22) is arranged in track (13) at the rear end, **that** notch (22) is embodied with a portion angled toward the front end of the item dispenser so that the item advancer in the secured position is at a slant toward track (13) in order automatically to be released from the secured position when an item is pressed against it.
2. An item dispenser according to Claim 1, wherein the item dispenser is embodied as a unit with two opposing sides (23, 24) integrated with the bottom and the front and rear ends.
3. An item dispenser according to Claim 1, wherein the length of the item dispenser is adjusted for a certain number of items.
4. An item dispenser according to Claims 2 or 3, wherein bottom (11) or sides (23, 24) are provided with front tabs (25, 26), against which the items are located under the effect of the item advancer.
5. An item dispenser according to any of the Claims 2-4, wherein bottom (11), sides (23, 24), and front tabs (25, 26) are embodied in one piece in a suitable plastic material.
6. An item dispenser according to any of the preceding Claims, wherein spring (17) is a leaf spring.
7. An item dispenser according to any of the preceding Claims, wherein item advancer (12) includes a vertical plate (14) embodied with an upper portion (15) that is angled toward the rear.
8. An item dispenser according to any of the preceding Claims, wherein one end of the spring (17) is provided in a housing (19), placed on a bottom plate (16) behind a plate (14).



*Fig. 1*



**Fig. 2**





European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 01 12 2431

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	GB 2 290 077 A (PPE LTD) 13 December 1995 (1995-12-13) * page 7, line 1 - page 12, line 3 * * abstract; figures *	1,3,5,6,8	A47F1/12
Y	* the whole document *	2,4,7	
Y	US 5 366 099 A (SCHMID MICHAEL) 22 November 1994 (1994-11-22) * column 3, line 4 - column 3, line 46 *	2,4,7	
A	GB 2 297 241 A (ARTFORM INT LTD) 31 July 1996 (1996-07-31) * page 3, line 5 - page 10, line 16 * * abstract; figures *	1-8	
A	US 6 105 791 A (CHALSON JAY ET AL) 22 August 2000 (2000-08-22) * column 2, line 66 - column 3, line 50 * * abstract; figures *	1-8	
A	US 5 240 126 A (FOSTER DAVID N ET AL) 31 August 1993 (1993-08-31) * column 1, line 65 - column 2, line 40 * * abstract; figures *	1-8	
A	EP 0 782 831 A (DIFFUSION INTERNATIONALE D ART) 9 July 1997 (1997-07-09) * the whole document *	1-8	A47F G07F
A	US 3 767 084 A (BAYHA J) 23 October 1973 (1973-10-23) * the whole document *	1-8	
The present search report has been drawn up for all claims			
Place of search <b>MUNICH</b>		Date of completion of the search <b>9 April 2002</b>	Examiner <b>MacCormick, D</b>
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03.82 (P04001)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 12 2431

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

09-04-2002

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 2290077	A	13-12-1995	NONE	
US 5366099	A	22-11-1994	NONE	
GB 2297241	A	31-07-1996	NONE	
US 6105791	A	22-08-2000	NONE	
US 5240126	A	31-08-1993	NONE	
EP 0782831	A	09-07-1997	FR 2743281 A1	11-07-1997
			DE 69608654 D1	06-07-2000
			DE 69608654 T2	15-02-2001
			EP 0782831 A1	09-07-1997
			ES 2148709 T3	16-10-2000
US 3767084	A	23-10-1973	NONE	