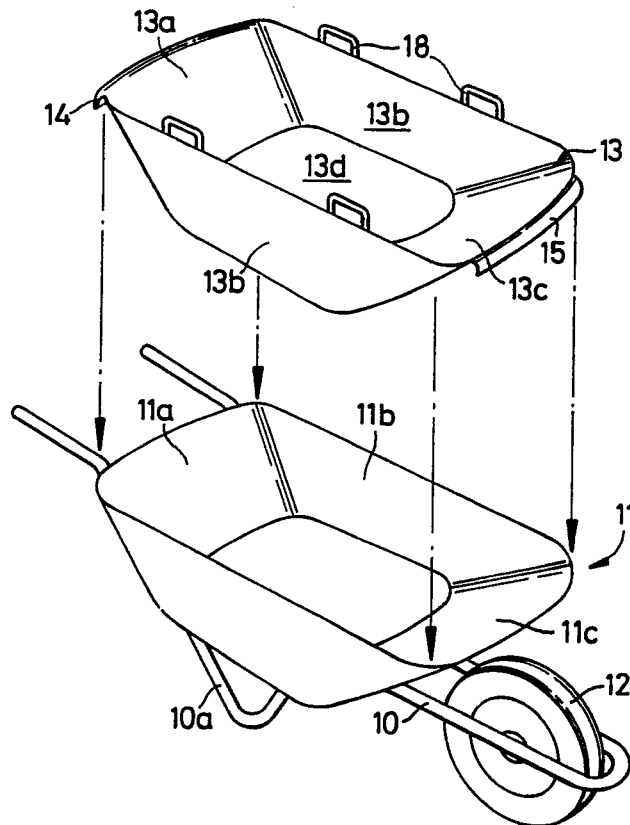




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁵ : B62B 1/20</p>	<p>A1</p>	<p>(11) International Publication Number: WO 91/06460 (43) International Publication Date: 16 May 1991 (16.05.91)</p>
<p>(21) International Application Number: PCT/GB90/01673 (22) International Filing Date: 1 November 1990 (01.11.90) (30) Priority data: 8924932.0 4 November 1989 (04.11.89) GB (71) Applicants (for all designated States except US): PATON, Robert, James [GB/GB]; 55 Cardwell Road, Gourrock, Renfrewshire PA19 1WW (GB). WEGMÜLLER, Alfred [GB/GB]; Kirk House, Main Street, Aberuthven, Auchterarder PH3 1HE (GB). (72) Inventor; and (75) Inventor/Applicant (for US only) : WEGMÜLLER, David [GB/GB]; Kirk House, Main Street, Aberuthven, Auchterarder PH3 1HE (GB).</p>		<p>(74) Agent: FITZPATRICKS; 4 West Regent Street, Glasgow G2 1RS (GB). (81) Designated States: AT (European patent), BE (European patent), CA, CH (European patent), DE (European patent), DK (European patent), ES (European patent), FR (European patent), GB (European patent), GR (European patent), IT (European patent), LU (European patent), NL (European patent), SE (European patent), US. Published <i>With international search report.</i></p>

(54) Title: BARROW KIT



(57) Abstract

A basin (13) which fits within the body (13) of a wheelbarrow and includes a downturned first (14) and second lip (15) along the rear (13a) and front walls (11c) of the basin (13). These downturned lips (14 and 15) engage over the upper edges of the respective rear (11a) and front (11c) walls of the wheel barrow (11) to prevent the basin (13) from slipping out during tipping of the barrow. Preferably a downturned peripheral lip (14, 15, 16) is provided around the full periphery of the basin (13).

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Barrow Kit

This invention relates to a barrow for transporting goods, particularly a wheelbarrow.

Even with the advent of so much advanced materials handling machinery, the humble barrow such as the wheelbarrow, is still an essential tool in modern industry. This is especially so in the building industry. Here a wheelbarrow is used to transport tools, bricks, sand, and ready mixed cement. Due to the incompatibility of these materials however, they are most conveniently transported in different wheelbarrows. For example sand or cement powder could not be transported just after ready mixed cement, unless the wheel barrow is washed out and dried - which of course is time consuming and inconvenient. Furthermore if the cement is not washed out immediately, the wheelbarrow will be ruined. Therefore normally certain wheelbarrows have to be retained exclusively for transporting certain messy material such as cement. Since this of course vastly increases the number of wheelbarrows required on the building site the overall cost to the industry increases because of the increased cost of maintaining an available stock of wheelbarrows, and the transportation of these to and from different building sites.

GB 837,228 (incorporated herein by reference) discloses a removable insert for a wheelbarrow, which mitigates many of the aforesaid problems, however, the barrow has to be specially adapted such as by having clips to retain the insert in place.

According to the present invention there is provided a resilient basin for a barrow which is shaped and sized to fit substantially within the barrow, the basin having a first downturned lip on a first upper edge thereof and an opposed second downturned lip on a second upper edge to thereby in use engage the respective rear and front edges of the barrow.

According to a second aspect of the invention there is provided a barrow kit comprising a barrow having a body and

a removable resilient basin fitting substantially therein, the basin having a first rear and second front downturned lip on respective rear and front edges to thereby engage the respective rear and front edges of the barrow.

The first and second lips (which do not necessarily have to be continuous) will prevent the basin (or insert) from sliding out, when the wheelbarrow is tipped forward to empty cement or the like, and can be used without specially adapting the wheelbarrow.

A number of basins can be provided, each for retaining different types of incompatible materials. Therefore after transporting one basin containing for example cement, the basin can be quickly removed thereby making available the wheelbarrow without having to clean it to then transport a basin containing sand. Furthermore in the event that the cement is not immediately washed out, if the basin is plastics (which is preferred) the cement will not adhere strongly to it and can easily be knocked out.

As a result, the number of wheelbarrows required for any one building project will therefore be dramatically reduced.

In a preferred design, the basins are stackable thereby further reducing the cost for transporting the barrow kits.

Conveniently the shape of the basin will be substantially the same as the barrow body to fit reasonably well therein and thereby retain most of the carrying capacity of the wheelbarrow.

The basin is provided with a means by which it may be gripped and removed from the barrow. This could conveniently be hand apertures adjacent the upper edge of the basin or handles projecting from the basin.

Preferably the basin has means for engaging the barrow to prevent slipping from the barrow during tipping.

The invention will now be described by way of example only with reference to the accompanying drawings in which:-

Fig. 1 - shows a top perspective view of a wheelbarrow and a basin separate therefrom;

Fig. 2 - shows the basin within the wheelbarrow;

Fig. 3 - is a top and front respective view of another embodiment of the basin;

Fig. 4 - is a side view of the basin of Fig. 3 within a wheelbarrow;

Fig. 5 - is an exploded view of the detail A of Fig. 4;

Fig. 6 - is an exploded view of the detail B of Fig. 4;
and

Fig. 7 - is a perspective view of another embodiment of a basin and barrow.

The wheelbarrow is of a conventional type having a frame 10 supporting a body 11 for carrying materials, mounting a wheel 12 at the front thereof and providing legs 10a at its rear end.

The basin 13 is rigid and moulded from plastics such as polyethylene or polypropylene. It is of substantially the same shape as the wheelbarrow body 11 and fits snugly therein. Thus the basin is substantially rectangular in plan view and has an open top, a steep rear wall 13a and side walls 13b, and a more gradually rising front wall 13c for easier tipping of materials. The base of the basin is designated 7, 3d. The basin 13 can fit wholly within the body of the wheelbarrow (which has respective rear 11a, side 11b and front wall 11c) as shown in Figs. 2 and 4, or it can be deeper as shown in Fig. 7 for carrying more bulky materials.

As can be seen from Fig. 2, the upper rear and front edges of the basin have a first 14 and second 15 down turned lip extending therealong to engage the respective rear 11a and front 11b upper edges of the barrow. The distance between the walls of the first and second lips 14 and 15 is slightly greater than that between the front 11a and rear 11b edges of the barrow. In the embodiment of Fig. 2, the first (rear) 14 lip curves downwardly and inwardly towards the rear wall of the barrow 11a in a hooked or curved type arrangement, whereas in the embodiment of Figs. 3 to 6, the first lip 14 extends downwardly substantially parallel to the rear wall 11a of barrow 11 and rear wall 13a of the basin 13. Referring to the second (front) lip 15, there is

a larger effective angle between the front wall 13c of the barrow and the second downturned lip 15 (see Fig. 6). In effect the first and second lips 14 and 15 are arranged to allow them to retain the basin in the barrow when it is tipped forward. Preferably the arrangement of the first and second lips 14 and 15 lend for a snap fit over the barrow edges. Thus, in the embodiment shown in Figs. 3 to 6, the first lip engages over the top edge of the rear wall 11a of the barrow, and the second lip 15 snap fits over the top edge of the front wall 11c.

In the embodiment of Figs. 3 to 6, further third downturned lip 16 are also provided on the sides of the basin thereby forming a peripheral lip 14, 15, 16 around the basin.

The third lips serve to cover the side edges of the barrow, to prevent cement or the like falling down between the basin 11 and barrow 13. They do not have the same retaining function as the first and second lips 14 and 15. As shown in Figs. 3 and 4, the third (side) lips 16 have raised portions 17 at opposed positions to provide more handspace for lifting the basin 13 (full or empty) out of the barrow 11.

To help lift the basin 13 shown in Fig. 2 from the wheelbarrow, U-shaped handles 18 are provided projecting from the upper end of the basin. These handles can be reinforced with steel rings to allow the basin to be hoisted out of the barrow by a steel bar extending through opposed handles.

In use, several basins 13 can be stacked within the one wheelbarrow and transported out to the building site. Cement could be mixed and carried in a first basin which could then be removed, before sand, cement powder, and bricks are transported in other basins, but using the same barrow. In this way, one wheelbarrow can be used over and over again to transport even the most messy and incompatible materials.

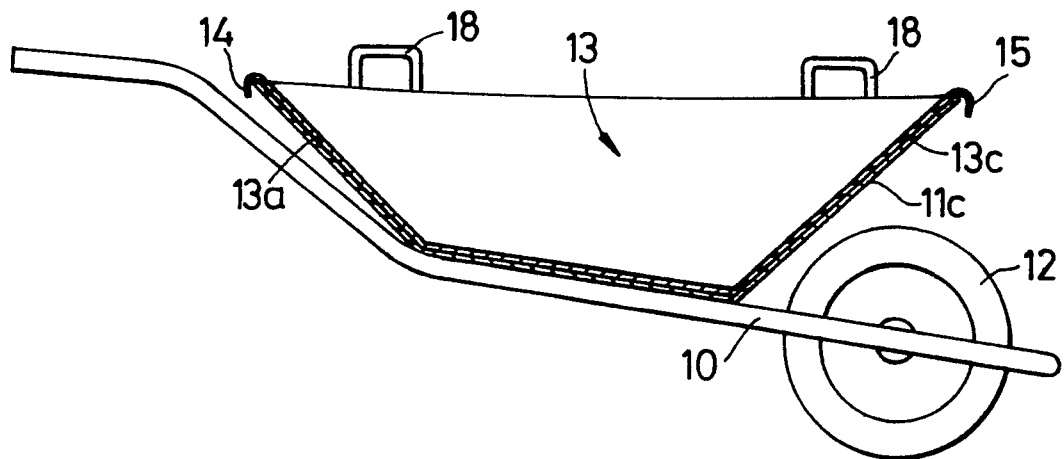
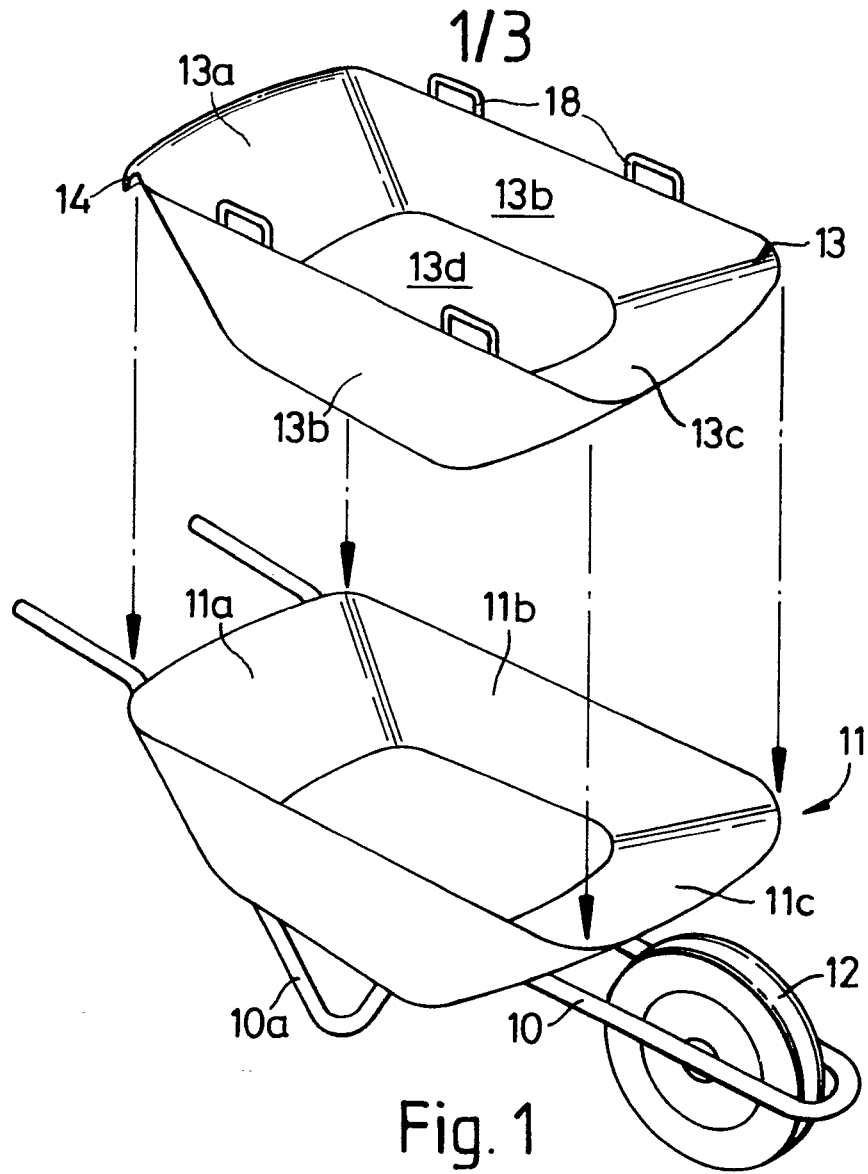
It will be appreciated that although the invention has been exemplified with reference to a wheelbarrow, other

barrow type kits could be constructed in accordance with the invention.

An advantage of this invention over existing barrows is that no adjustments of the basin or barrow are required during exchange of basins for the purposes of carrying differing materials. Additionally no small parts or accessories such as are required in previous systems which small parts can be easily lost in a construction site or damaged by the materials to be transported by the barrow.

Claims

1. A resilient basin for a barrow which is shaped and sized to fit substantially within the barrow, the basin having a first downturned lip on a first upper edge thereof and an opposed second downturned lip on a second upper edge to thereby in use engage the respective rear front edges of the barrow.
2. A basin as claimed in claim 1 wherein the first lip extends downwardly and parallel with adjacent side of the basin.
3. A basin as claimed in claims 1 or 2 wherein the first and second lips are shaped to provide a snap fit over the respective rear and front edges of the barrow.
4. A basin as claimed in any of the preceding claims wherein there is provided a downturned lip around the full periphery of the basin to at least cover the full peripheral edges of the barrow.
5. A basin as claimed in claim 4 wherein portions of the peripheral downturned lip are raised at opposed positions to provide more hand space and a surer grip for removing the basin.
6. A barrow kit comprising a barrow having a body and a removable resilient basin fitting substantially therein, the basin having a first rear and second front downturned lip on respective rear and front edges to thereby engage the respective rear and front edges of the barrow.



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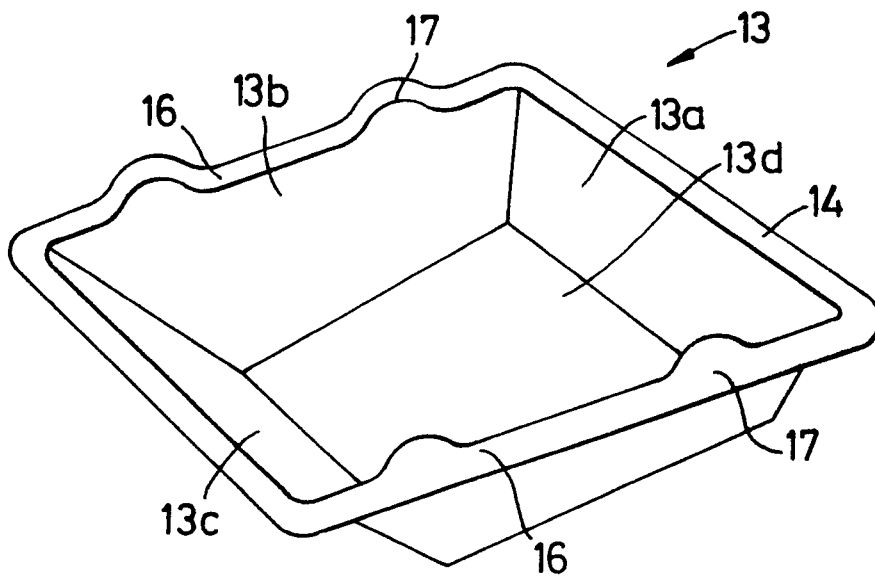


Fig. 3

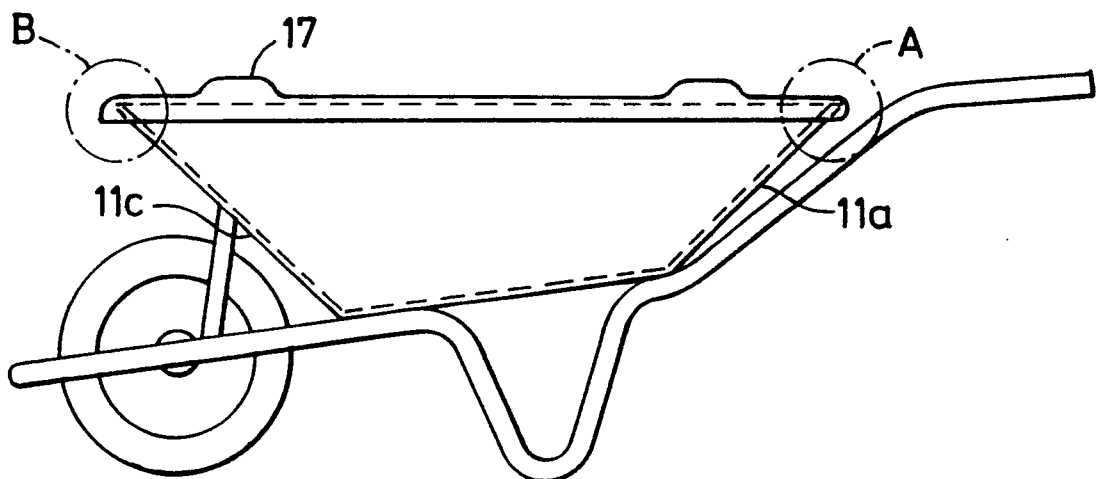


Fig. 4

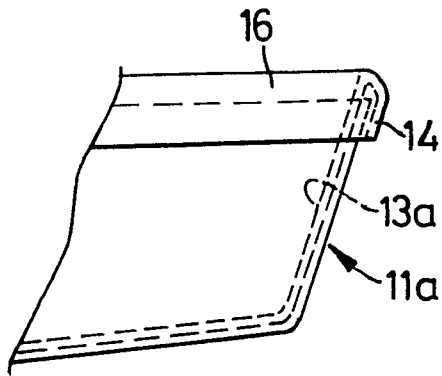


Fig. 5

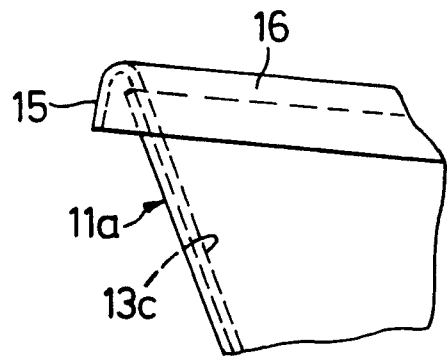


Fig. 6

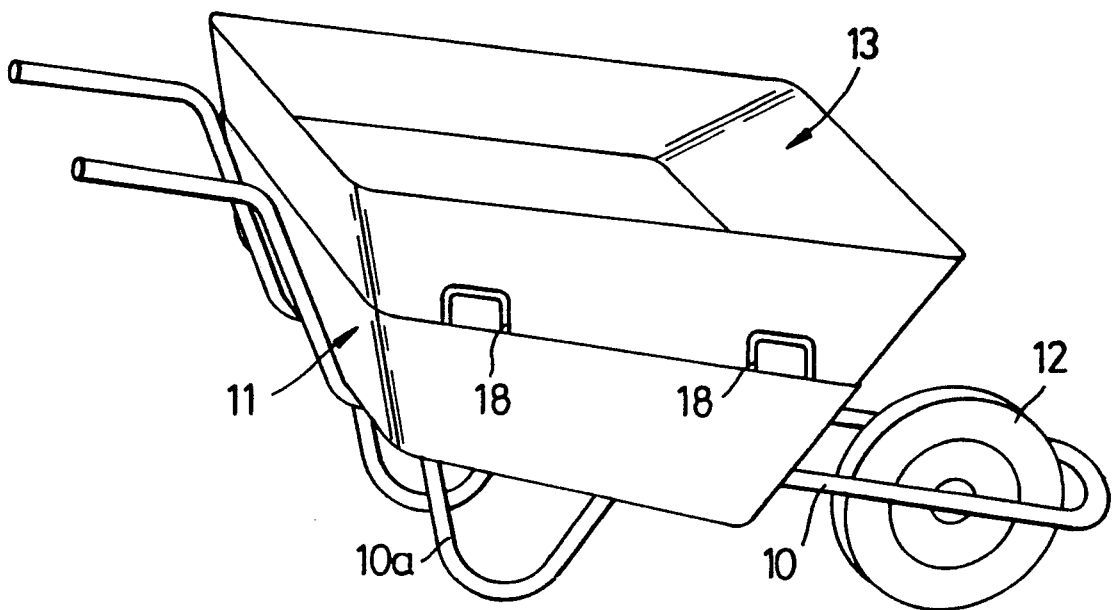


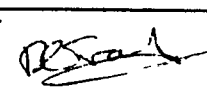
Fig. 7

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 90/01673

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) ⁶		
According to International Patent Classification (IPC) or to both National Classification and IPC		
Int.Cl. 5	B62B1/20	
II. FIELDS SEARCHED		
Minimum Documentation Searched ⁷		
Classification System	Classification Symbols	
Int.Cl. 5	B62B ; B60R	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched ⁸		
III. DOCUMENTS CONSIDERED TO BE RELEVANT⁹		
Category ¹⁰	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³
Y	US,A,4336963 (E.L.NIX) 29 June 1982 see the whole document	1, 4, 6
A	---	2, 3
Y	FR,A,1246867 (J.BACH) 17 October 1960 see the whole document	1, 4, 6
A	---	
A	US,A,3752494 (K.J.DUNN) 14 August 1973 see the whole document	1-4, 6
A	---	
A	US,A,4645225 (M.W.EUBANKS) 24 February 1987 see the whole document	1, 4, 6
A	---	
A	US,A,4560096 (P.LUCAS) 24 December 1985 see the whole document	1, 2, 5, 6

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IV. CERTIFICATION		
Date of the Actual Completion of the International Search		Date of Mailing of this International Search Report
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**ANNEX TO THE INTERNATIONAL SEARCH REPORT
ON INTERNATIONAL PATENT APPLICATION NO.**

GB 90/01673
SA 41472

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report.
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US-A-4336963	29-06-82	CA-A- 1129459 JP-A- 55114629	10-08-82 04-09-80
FR-A-1246867		None	
US-A-3752494	14-08-73	None	
US-A-4645225	24-02-87	None	
US-A-4560096	24-12-85	None	