

①⑫ **EUROPEAN PATENT APPLICATION**

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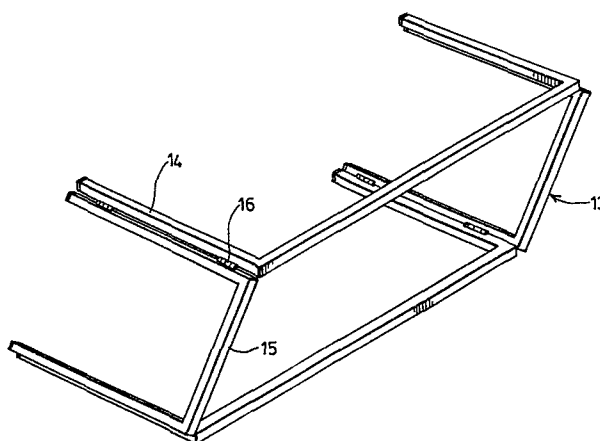
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⑤④ **Collapsible furniture.**

⑤⑦ An article of furniture comprises a flat top 11 and a frame 12. The frame has four pairs of legs 14, the legs of each pair being joined together by a rigid connector 15 to form one side and the four sides are internally hinged together to form a collapsible parallelogram. The article is held erect by means 17 on the top 11 which engage the frame to support it in a rectangular position. Means 18 may additionally be provided to attach the top to the frame. The article may form part of a kit comprising two or more frames and one or more linking pieces for joining the frames, together with one or more flat tops having means for locating and holding the frames in the erect position. The article may be in the form of a table, trolley or stool and the kit could be used to form a table or bench.



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ARTICLES OF COLLAPSIBLE FURNITUREFIELD OF THE INVENTION

The present invention relates to articles of collapsible furniture particularly, but not exclusively, tables, stools, trolleys and the like.

BACKGROUND OF THE INVENTION

5 Existing tables of this kind usually collapse by folding the legs towards the table top and hooking or snapping the folded legs in position. These are often stiff to operate and are not always stable. Another type of collapsible table is the trestle table which is formed from a board which is freely supported on a plurality of trestles.

SUMMARY OF THE INVENTION

10 According to the present invention there is provided an article of furniture comprising a flat top and a collapsible frame, the frame comprising four pairs of legs, the legs of each pair being joined together by a rigid connector to form one side, and the four sides being hinged together to form a parallelogram
15 in which the hinges are inside the frame; and the said top having means for engaging the frame to hold the frame in its erected position.

20 The article of furniture may be in the form of a table, stool or trolley. To store the article, the top is removed and the frame is folded laterally to a flat position without straining or bending. The method of folding is not one that can be induced accidentally to collapse the article, and the article is thus more stable than the conventional variety.

The top may additionally be provided with means for trapping the frame in position once the top is located on the frame.

5 Preferably the rigid connector is at the upper end of the legs on each pair and forms an extra support for the flat top. The flat top may have a lip round the outside, for example where the article is a trolley.

10 Advantageously the article forms part of a kit comprising two frames and one or more linking pieces for connecting the frames, together with one or more flat tops. The linking pieces may be of sufficient dimensions to support a further top or a single top may span more than one frame.

15 BRIEF DESCRIPTION OF THE DRAWINGS

One embodiment of the invention will now be described, by way of example, with reference to the accompanying drawings in which:-

20 Figure 1 is a general perspective view of a table according to the present invention, erected,

Figure 2 is a general perspective view of the frame of the table of Figure 1 partially collapsed,

25 Figure 3 is a perspective view of the underside of the top of the table of Figure 1,

Figure 4 is a cross-section on A-A of the table of Figure 1 and

30 Figure 5 is a top view of a linking piece illustrating its attachment to a frame for connecting two frames.

SPECIFIC DESCRIPTION OF EMBODIMENTS OF THE INVENTION

35 The table illustrated in the drawings comprises a flat surface table top 11 and a collapsible frame 12. The frame 12 is a parallelogram of four sides 13 hinged internally at the corners so that the frame

can be folded flat for storage or transportation, or made rectangular for use. Each side 13 comprises two legs 14 and at least one rigid connector or cross member 15 which can be welded or otherwise joined to the legs 14. Alternatively the legs and rigid connector of each side can be bent out of, or formed as, a single length of material. Additional legs 14 or cross members such as the connector 15 or other strengthening bars can be provided. Means can also be provided for supporting lower shelves.

The sides are hinged together by hinges 16, which may be a single piano hinge for each corner, or a pair or set of separate hinges at each corner.

In the illustrated embodiment the table top 11 has at least one batten 17 on each side, positioned so as to engage the connector 15 from the inside to hold the frame 12 square with respect to the table top. Other engaging means could be provided such as a continuous lip on each side, and the engaging means can be inside or outside the connector 15. In one embodiment the table frame is held square by lugs at the corners which engage inside or outside the frame. Once the table top has been located in position it may be held there, for example by pivot clips 18 which lie along the batten or lip 17 when the top 11 is being fitted and pivot to clip under the connector 15 for securing the top 11.

Where the connector 15 is not at the top of the legs, the battens 17 on the under surface of the table top may be replaced by corner pieces which fit between or over the two legs at each corner similarly to the lugs described above. Alternatively where the connectors 15 are at the top of the legs 14 they may be partially cut away to form a horizontal seating for the table top 11 and an upright portion for engaging the sides of the table top to locate and hold it in position.

In another embodiment the table top is held on the frame by bolts or screws which pass through the table top and the connectors and the battens can be dispensed with.

5 The table top can be made out of wood, plastics material, melamine or glass, and the frame can be metal, wood or plastics material or any combination of these. The top can be any suitable shape.

10 Although the illustrated frame has been designed particularly for tables, it is envisaged for use in any situation where a detachable base is required, whether it be with or without wheels.

15 The frame collapses laterally by moving two sides towards each other as illustrated in Figure 2. The folded frame can be easily stored and transported. To assemble the table the frame is first made square and the top 11 is then engaged with the top of the frame with the battens 17 inside the connector 15. The top is secured on the frame by pivoting the
20 pivot clips 18. A table thus erected is not liable to be collapsed by normal pressures on it, or by people bumping into the side of it.

 The use and versatility of the table can be increased by the provision of linking pieces which
25 can be used to connect two or more frames together so provide tables of different shapes and sizes. Although the shape of the frame is not material, small square frames are most practical. These can be used with linking pieces such as those illustrated at 20 in
30 Figure 5 which are of sufficient dimensions to carry table topping. Whether the linking pieces be individual U-shaped pieces, or the linking piece illustrated, the pieces are attached to the frame by fitting lugs 19 into seatings at the top of the legs. Each linking
35 piece 20 will connect one side of one frame to one side of an adjacent frame. This process can obviously

be continued with several frames and connecting
pieces until a table base of a suitable size and
shape is formed. The table top for the construction
can be either in a single piece or in two or
5 more pieces. In either case means must be provided
for holding each of the frames square.

WHAT WE CLAIM IS:-

1 An article of furniture comprising a flat top and a collapsible frame, the frame comprising four pairs of legs, the legs of each pair being joined together by a rigid connector to form one side, and the four sides being hinged to form a collapsible parallelogram; and the said top having means for engaging the frame to hold the frame in its erected position.

2. An article according to claim 1 characterised in that the top is additionally provided with means for trapping the frame in position once the top is in position on the frame.

3. An article according to claim 2 characterised in that the said means for trapping the frame includes pivot clips attached to the top and pivotable to engage the frame.

4. An article according to any of the preceding claims characterised in that the means for engaging and holding the frame comprises at least one downwardly extending portion which engages outside the frame when the article is erected.

5. An article according to any of claims 1 to 3 characterised in that the means for engaging and holding the frame comprises at least one downwardly extending portion which engages inside the frame when the frame is erected.

6. An article according to any of claims 1 to 3 characterised in that the top is provided with depending lugs to engage and hold the corners of the frame.

7. An article according to any of the preceding claims characterised in that at least one linking piece is provided to connect one pair of legs to the legs of an adjacent frame.

8. An article according to claim 7 characterised in that the linking piece is in the form of a linking frame which is capable of supporting a further top.

9. A table comprising two frames, each of which comprises four pairs of legs, the legs of each pair being joined together by a rigid connector to form one side, and the four sides being to form a collapsible parallelogram; at least one linking piece for connecting the two frames and at least one flat top, the flat top or tops having means for engaging the frames to hold them erect.

10. A table substantially as herein described with reference to the accompanying drawings.

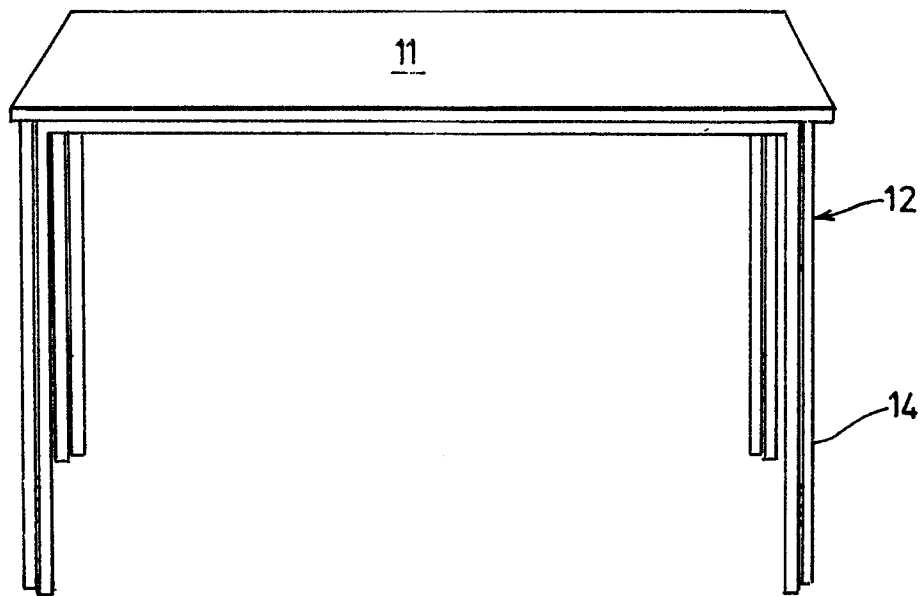


Fig.1.

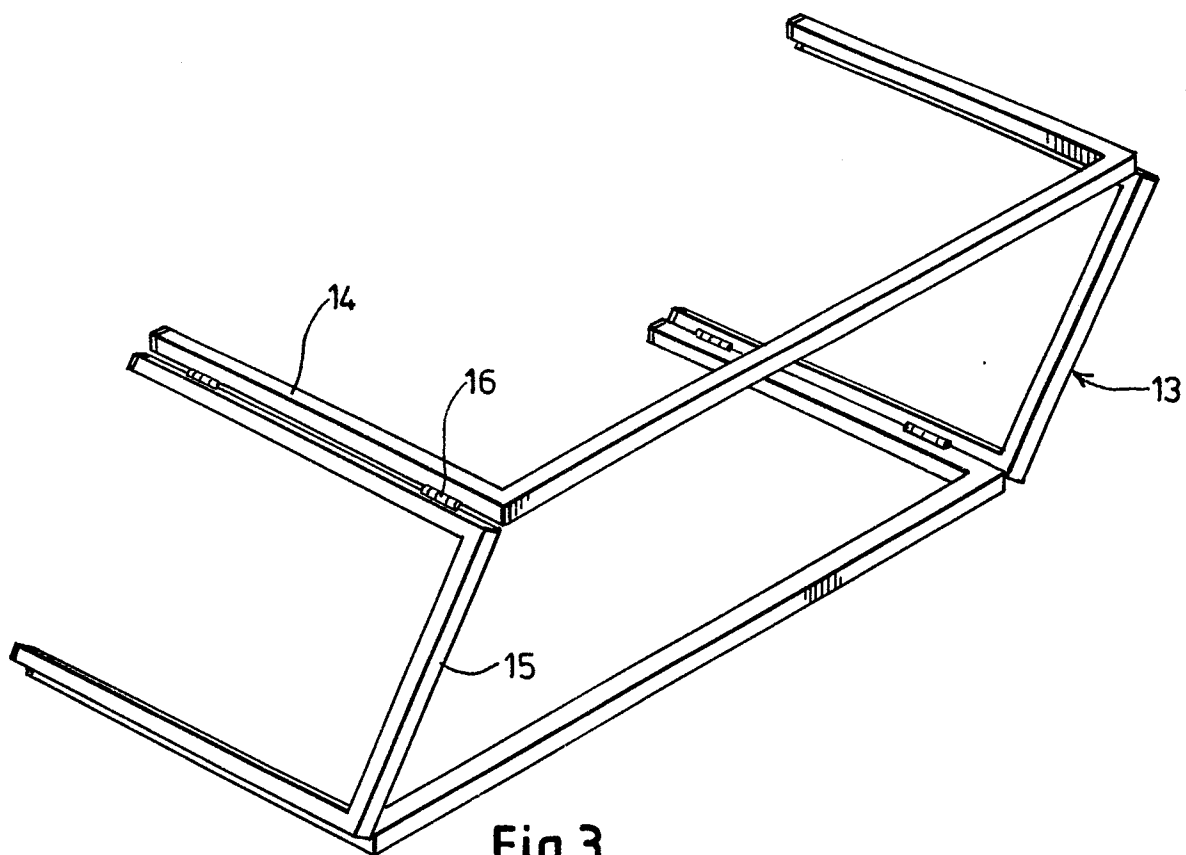


Fig.3.

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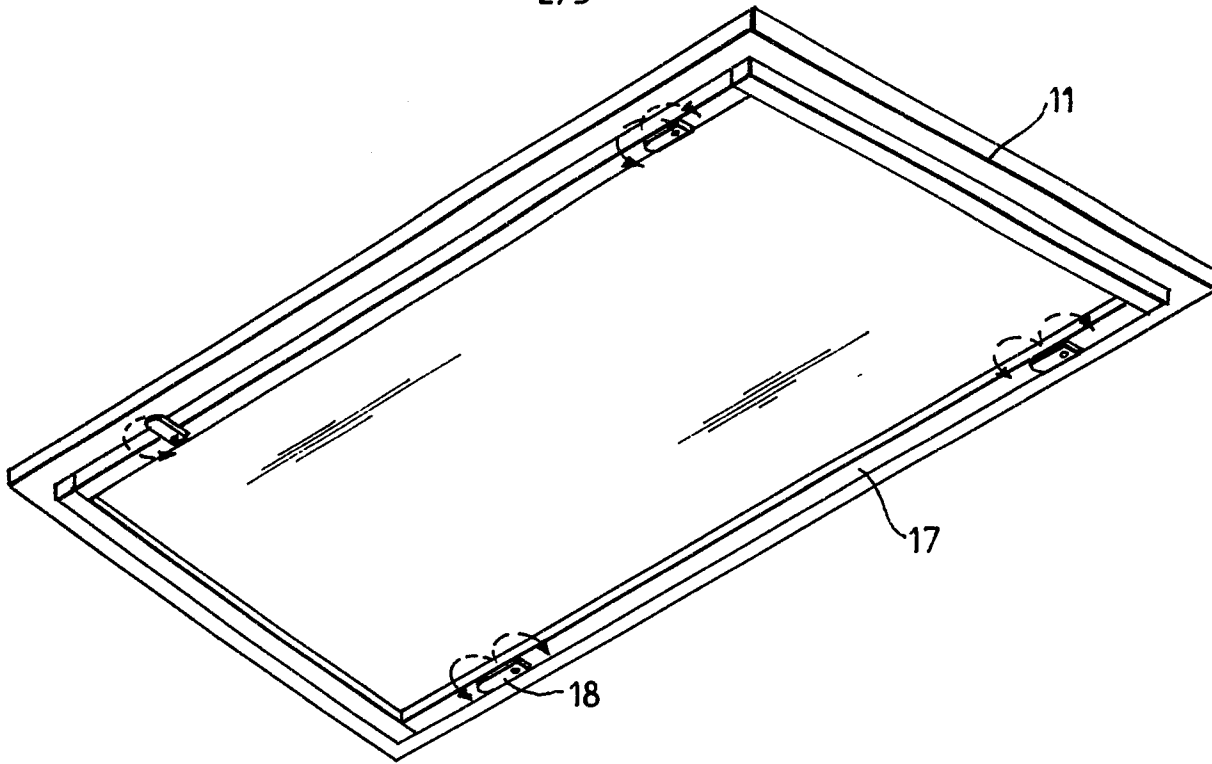


FIG. 2.

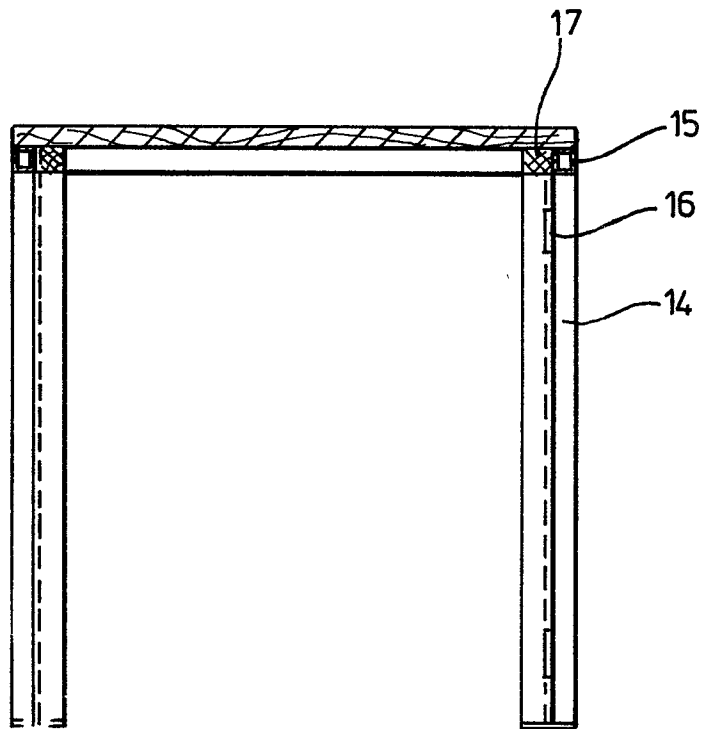
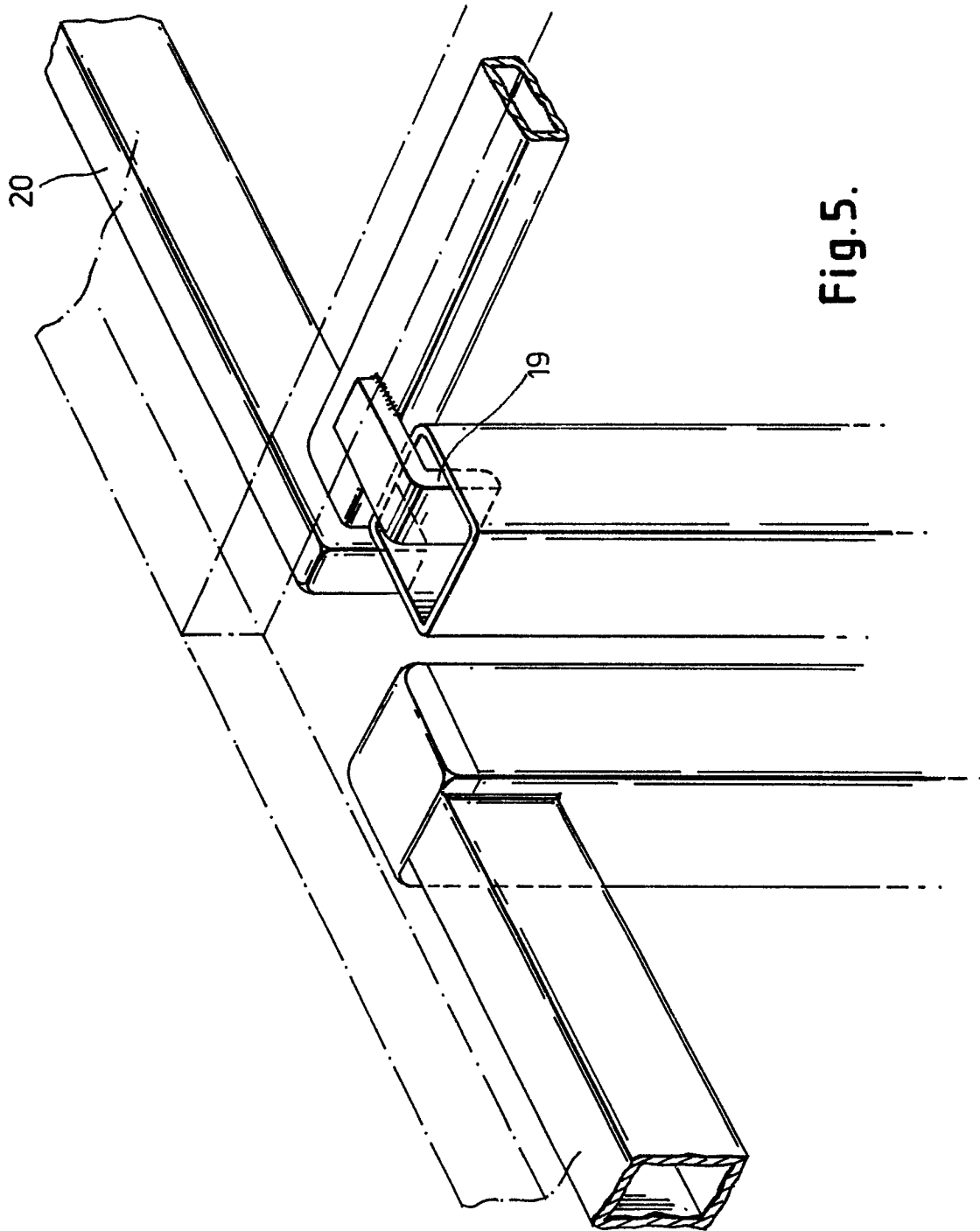


FIG. 4.





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. ³)
X	FR-A- 639 816 (SOC. COURTIEU FRERES) * Whole document *	1,2	A 47 B 3/12
Y		9	
A		5,6,10	
X	DE-B-1 126 085 (R. PROBST) * Figures 1-4 *	1,2	
A		4,10	
A	US-A-2 947 587 (L.E. NAVELLIER) * Column 3, lines 3-19; figures 1-6 *	1,2,4,6	TECHNICAL FIELDS SEARCHED (Int. Cl. ³) A 47 B
A	GB-A- 24 599 (WRANGHAM WINDER)(AD1911) * Figures 1-5 *	1,2	
A	GB-A- 772 116 (T. PRINGLE SEGGIE) * Page 1, lines 74-80 *	1-5	
A	US-A-3 835 795 (LEVENBERG) * Column 2, lines 33-36; figure 6 *	3	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 22-11-1982	Examiner CURZI D.
CATEGORY OF CITED DOCUMENTS 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 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 & : member of the same patent family, corresponding document			



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. ³)
A	US-A-2 591 797 (EXLINE et al.) * Figures *	1,2,4,6	
A	GB-A- 396 166 (H. DUNNICLIFF) * Figures 1,6,7 *	6	
Y	FR-A-2 238 451 (DESIGN DEVELOPMENT INT.) * Figures 1-5 *	9	
A		7,8	
A	DE-A-1 946 626 (JOHN PAUL) * Figures 1-8 *	7-9	
			TECHNICAL FIELDS SEARCHED (Int. Cl. ³)
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 22-11-1982	Examiner CURZI D.
CATEGORY OF CITED DOCUMENTS			
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		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 & : member of the same patent family, corresponding document	