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EUROPEAN PATENT APPLICATION

21 Application number: 81305755.1

51 Int. Cl.³: **G 09 F 15/00**
E 04 B 2/74, G 09 F 7/18

22 Date of filing: 07.12.81

30 Priority: 06.12.80 GB 8039199

43 Date of publication of application:
16.06.82 Bulletin 82/24

84 Designated Contracting States:
AT BE CH DE FR IT LI LU NL SE

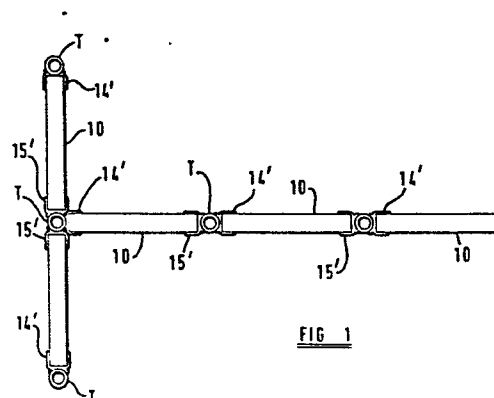
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54 Display assemblies.

57 A display assembly comprising at least two display panels (10), means to stand said panels (10) on a support surface in an upright position to enable articles to be displayed on the panels (10), wherein the display panels (10) each have an edge member (14', 15') of part cylindrical configuration arranged to co-operate with each other, the edge members (14', 15') having magnetic means to enable the panels to be releasably connected together in edge to edge relationship, at any desired angle between predetermined limits.



Title: "Display Assemblies"

This invention relates to a display assembly of the type hereinafter referred to as of the type specified, comprising at least two display panels and means to stand said panels on a support surface in an upright position to enable articles to be displayed on the panels.

For example, the panels may stand directly on the support surface or have feet means to support the panels.

Where the panels stand directly on a support surface, without any feet means, it is essential that the panels can be assembled side by side at an angle so that the assembly will be stable, but in either case it is desirable that the panels can be assembled side by side at varying angles as required to provide a versatile display.

Display assemblies are known from, for example U.S. Patent 3,571,999 which are provided with pressure engaged releasable fastener means comprising first co-operable fastener elements secured around the external faces of upright standards and second co-operable fastener elements secured to the end portions of each panel, to enable the panels to be connected to the uprights.

However, although such fastener means permit the panel to be assembled at varying angles to one another, it is not possible to readily change the angle whilst the panels are assembled but it is necessary to dismantle the display assembly. Further, such assemblies require the provision of separate upright standards and panels.

A further disadvantage is that upon repeated assembly and disassembly of the display, the fastener means deteriorate.

It is an object of the present invention to provide a new or improved display assembly.

According to a first aspect of the invention, we provide a display assembly of the type specified wherein the display panels each have an edge member of part cylindrical configuration arranged to co-operate with each other or with an intermediate member of at least part cylindrical external configuration, the edge members and the intermediate member, where provided, having magnetic means to enable the panels to be releasably connected together in edge to edge relationship, at any desired angle between predetermined limits.

One panel may have an edge member of magnetised material which magnetically attracts the edge member of the other panel which is of magnetic material with the intermediate member where provided, interposed between the edge members of said one and other panels.

Where an intermediate member is provided, this may also comprise magnetised or magnetic material.

Alternatively, each of said panels may have an edge member of magnetic material and the intermediate member comprises magnetised material, whereby said edge members and intermediate member are connected together by magnetic attraction.

Further alternatively, one of said panels may have an edge member of material magnetised in one direction of polarity and the other panel an edge member of magnetised material in the opposite direction of polarity, whereby the edge member of said one panel is adapted to be connected by magnetic attraction to the edge member of said other panel, without any intermediate member.

Where no intermediate member is provided, one of said edge members may comprise a part cylindrical male part and the other of said edge members a part cylindrical female part of co-operating internal configuration.

Where the intermediate member is provided, then the intermediate member may comprise a cylindrical tube and the edge members of each panel comprise a part cylindrical female part of co-operating internal configuration.

The magnetised material may be provided by a strip of magnetised rubber fixed to the or each edge member and/or to the intermediate member where provided or the edge member or members and/or the intermediate member, where provided, may be made of magnetic material and be magnetised.

The panels may each comprise a part cylindrical female part on one edge and a part cylindrical male part on the opposite edge, whereby further similar panels may be connected to said at least two panels by magnetic means. Alternatively, the two opposite edges may each comprise a part cylindrical female part which may each engage an intermediate member of at least part cylindrical configuration to enable further similar panels to be connected to said two panels.

Said edge members may conveniently comprise plastic or aluminium extrusions, and one of said edge members may have a ferrous metal tube attached thereto, to provide said male part.

The invention will now be described in more detail by way of example with reference to the accompanying drawings, wherein:-

FIGURE 1 is a diagrammatic plan view of a display assembly embodying the invention;

FIGURE 2 is a cross-sectional view showing the connection between two panels of the assembly of Figure 1 to an enlarged scale;

FIGURE 3 is a fragmentary perspective view to an enlarged scale of one of the panels of the assembly shown in Figure 1;

FIGURE 4 is a perspective view of a display assembly comprising a corner display.

FIGURE 5 is a perspective view of a light fitting for use with the display assembly of Figure 1 or Figure 4;

FIGURE 6 is a cross-sectional view of an alternative embodiment of the invention;

Referring to the drawings, an assembly of display panels 10 is shown in Figure 1. Each display panel 10 as seen in Figures 2 and 3 comprises a body part 11 of rectangular configuration comprising an insulating and fire resistant material sheet 12, such as that sold under the Trade Name "COOLAG" which comprises a sandwich of insulating material between suitably treated fire resistant cardboard sheets 13. Of course, other types of panels may be provided such as a plain lightweight wood or cork panels.

At opposite side edges 14, 15 first and second edge members 14' and 15' are provided. The first edge member 14' comprises a plastic or aluminium extrusion which has a pair of limbs 17 which enable the extrusion to be resiliently clipped to the side edge of the sheet 12. Adhesive, such as a double-sided adhesive tape or glue is used located beneath the limbs 17 to adhere the extrusion to the sheet 12 for added strength. The extrusion has two grooves 18, a neck 19 of each groove being normally resiliently urged closed. The extrusion further comprises an arcuate support surface 20. The first edge member 14' further comprises a ferrous metal tube T of cylindrical internal and external configuration, which is preferably chromium plated and secured to the surface 20 by a plurality of self-tapping screws 21. The heads 22 of the screws 21 are located on the underside of the support surface 20 of the extrusion in a recess 23 thereof.

The second edge member 15' also comprises a plastic or aluminium extrusion which is fixed to the sheet 12 in the same manner as edge member 14', i.e. by adhering resilient limbs 25 to the sheet 12.

The edge member 15' presents a part cylindrical surface 26 in which a strip of magnetised rubber 28 is secured, again for example, by double sided adhesive tape, although if desired the strip 28 may be secured by screws, glue or any other means. The extrusion of the edge member 15' also has a pair of grooves 29 like grooves 18, with a neck 30 of each groove 29 being normally resiliently urged closed.

The sheet 12 is covered with a decorative fabric as required, such as draylon or nylon or other fabric, as shown at 31 in Figure 2, the side edges of the fabric 31 being received in the grooves 18, 29 and being retained therein by the neck 19, 30 of each groove. The top and bottom edges 32, of the panels 10 are also provided with a plastic extrusion as shown at 33 in Figure 3 where the fabric is omitted, the extrusion 33 being identical to the extrusion of edge member 14' although no tube T is attached. The upper and lower edges of the fabric 31 are therefore received in grooves 18' in the extrusions 33.

It can be seen from Figure 3 that the edge members 14', 15' and the extrusions 33 are mitred to provide neat corners.

As shown in Figure 1, two panels 10 can be connected in edge to edge relationship at any desired angle between limits which are dependant upon the configuration of the extrusions. If the circumferential angular extent of the extrusion is greater or smaller than that shown, then different limits are imposed upon the angles between adjacent panels, and on the number of panels which can be assembled together. For example, the angular extent may be 120° and not 90° as shown.

As shown in Figures 1 and 2, the extrusion of edge member 15' has cut-outs 35 in which a wall 36 of the extrusion of edge member 14' may be received to enable the panels 10 to be assembled at up to 90° to one another.

In use, a plurality of panels 10 as described hereinbefore with reference to Figures 2 and 3 are assembled together in a desired pattern, for example the T-shape as shown in Figure 1, tube T of the first edge members 14' of the panels 10 being positioned in contact with magnetised strips 28 of the second edge members 15' of an adjacent panel 10 so that the adjacent edge members 14', 15' are connected together by virtue of magnetic attraction between the magnetised rubber on the second edge members 15' and the magnetic material of the ferrous tubes T of the first members 14'.

Alternatively, the panels 10 may be assembled in the configuration shown in Figure 4, where panels 10 are stacked on top of one another with the lower edge of one panel, 10a say, resting on the upper edge of a lower panel 10b as well as in edge-to-edge relationship with other panels 10c and 10d respectively. The tubes T of each panel 10a, 10b are connected by a spigot connection 35 as is shown in Figure 3, comprising a pair of cylindrical plugs 36, 37 of slightly smaller diameter than the internal diameter of the tubes T, the plugs 36, 37 being connected by a restricted grooved portion 38 in which an O-ring 39 is received, to prevent the spigot 35 falling within the tube T of the lower panel.

In use, the O-ring 38 is sandwiched between the tubes of the upper and lower panels 10a, 10b.

A light fitting 44 such as shown in Figure 5 may conveniently be mounted in the upper open end of a tube T by virtue of a plug 35', similar to spigot 35, also having an O-ring 39' in a groove 38'. Located in the plug is a bracket 42 on which a light 43 is supported, the electric cable 46 for the light passing through the bracket 42 and then upwardly through the plug 39 and from the top of the plug 35' to a convenient electrical socket outlet (not shown).

As shown in Figure 4, such a light fitting may illuminate the panels 10. Further, the corner

illustrated in Figure 4 utilises a further tube T' which is not attached to a panel 10 by self-tapping screws but is magnetically attached to the edge members 15' of the right hand panels 10c and 10d by the magnetic strip 28 of the extrusion of the right hand panel magnetically attracting the ferrous material of the tube T'.

Further, a long cross panel 10e is provided which is engaged with further short tubes Ts which are connected to the upper end of tube T' by a further spigot 35 and with the upper end of tube T of the left hand upper panel 10a by magnetic attraction to add rigidity to the corner display and to conceal the light fitting 44.

It will be appreciated that if desired, the assembly need not be made free standing by arranging adjacent panels at varying angles as in the examples described, but feet means may be provided or other supports to retain the assembly in the position wherein the panels 10 are upright.

Although in the examples described hereinbefore, it is the female second edge member 15' which has been described as comprising a strip 28 of magnetised material, if desired the male first member 14' may comprise magnetised material, e.g. tube T could be made of magnetised material, and the second member 15' provided with or made of magnetic material.

Still further alternatively, both the female 15' and male 14' members could be made of magnetised material but with opposite directions of polarity.

In a still further embodiment, which is illustrated in Figure 6, both the edge members of each panel are of the same female configuration and construction as the second edge member 15' described with reference to Figures 2 and 3, and in this case an intermediate member comprising a ferrous metal tube 50 is provided which both the magnetised rubber strips 28 of each female member 15' magnetically attract.

Again, by selection of the angular circumferential extent of the female members 15' around the male member 50, it may be arranged for two or more than two panels 10 to be connected to a single intermediate member 50.

Again, if desired, instead of the female members 15' attached to the panels 10 being magnetised, they may be made of magnetic material and the intermediate member 50 be magnetised by any suitable means.

In either embodiment, instead of providing the edge members 14', 15' as plastic extrusions with a ferrous metal tube T, T' attached to extension 14', other types of magnetic attraction means may be provided which permit the panels 10 to be assembled in edge-to-edge relationship at varying angles between predetermined limits. For example, a tube T may be directly adhered to one edge of the panel 10, and magnetised material provided on the opposite edge.

The present invention provides an economical and convenient means whereby a desired array of display panels may be assembled together. The invention has the advantage that the assembly and disassembly of the display panels is simple, it merely being necessary to place the edge members in desired juxtaposition or in desired juxtaposition with an intermediate member where one is provided, and the display panels are automatically connected together by the magnetic forces arising. Further, the orientation of the adjacent panels may be varied as desired whilst assembled, to provide a wide range of configurations. Separate uprights and panels are thus not required to achieve a stable versatile display assembly. Shelves and the like may be attached to the panels 10 by brackets which engage above the upper edges 32 of the panels 10, or by brackets which engage the tubes T, as required.

CLAIMS:

1. A display assembly comprising at least two display panels (10), means (32) to stand said panels on an support surface in an upright position to enable articles to be displayed on the panels, characterised in that the display panels (10) each have an edge member (14',15') of part cylindrical configuration arranged to co-operate with each other or with an intermediate member (50) of at least part cylindrical external configuration, the edge members (14',15') and the intermediate member (50), where provided, having magnetic means (28) to enable the panels (10) to be releasably connected together in edge to edge relationship, at any desired angle between predetermined limits.
2. An assembly according to Claim 1 wherein one panel (10) has an edge member (14',15') of magnetised material which magnetically attracts the edge member (14',15') of the other panel (10) which is of magnetic material with the intermediate member (50) where provided, interposed between the edge members (14',15') of said one and other panels (10).
3. An assembly according to Claim 1 or Claim 2 wherein an intermediate member (50) is provided, which comprises magnetised or magnetic material.
4. An assembly according to Claim 3 wherein an intermediate member (50) is provided and each of said panels (10) has an edge member (15) of magnetic material and the intermediate member (50) comprises magnetised material, whereby said edge members (15') and intermediate member (50) are connected together by magnetic attraction.
5. An assembly according to Claim 1 wherein one of said panels (10) has an edge member (14',15') of material

magnetised in one direction of polarity and the other panel (10) an edge member (15',14') of magnetised material in the opposite direction of polarity, whereby the edge member (14') of said one panel (10) is adapted to be connected by magnetic attraction to the edge member (15') of said other panel (10).

6. An assembly according to Claim 1 or Claim 2 or Claim 5 wherein one of said edge members (14') comprises a part cylindrical male part (T) and the other of said edge members (15') a part cylindrical female part (26) of co-operating internal configuration.

7. An assembly according to any one of Claims 1 to 4 wherein an intermediate member (50) is provided, the intermediate member comprising a cylindrical tube (30) and the edge members (15') of each panel comprise a part cylindrical female part (26) of co-operating internal configuration.

8. An assembly according to any one of Claims 2 to 7 where dependant on Claim 2 or Claim 5 wherein the magnetised material is provided by a strip (28) of magnetised rubber fixed to the or each edge member (14',15') and/or to the intermediate member (50) where provided.

9. An assembly according to any one of Claims 1 to 7 wherein the edge member (14') or members (14',15') and/or the intermediate member (50), where provided, may be made at least in part of magnetic material and be magnetised.

10. An assembly according to any one of Claims 2 to 11 where dependant on Claim 2 or Claim 3 wherein said edge members (14',15') comprise plastic or aluminium extrusions and wherein an intermediate member (50) is provided, one of said edge members (14') having a ferrous metal tube attached thereto.

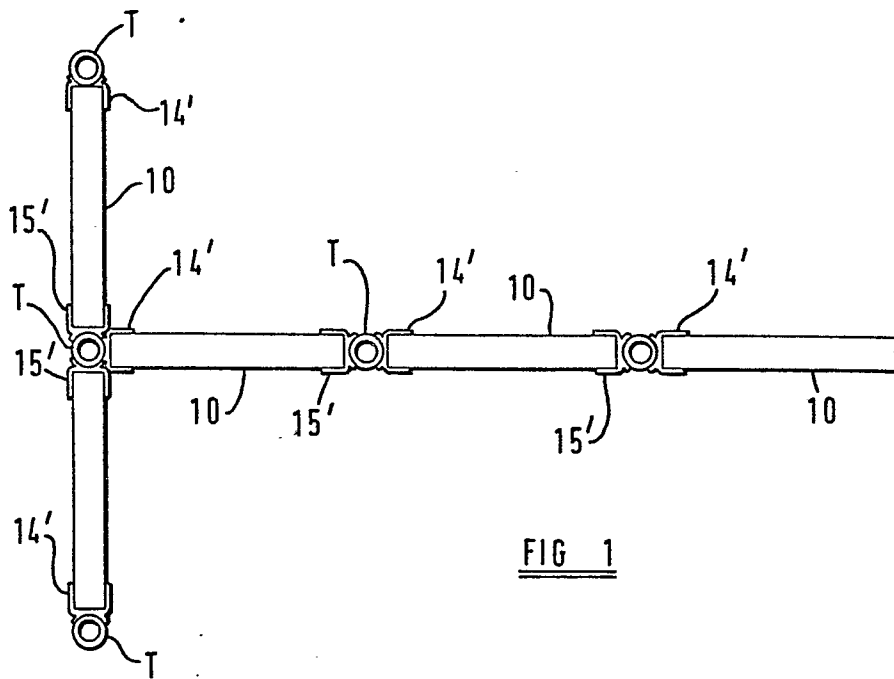


FIG 1

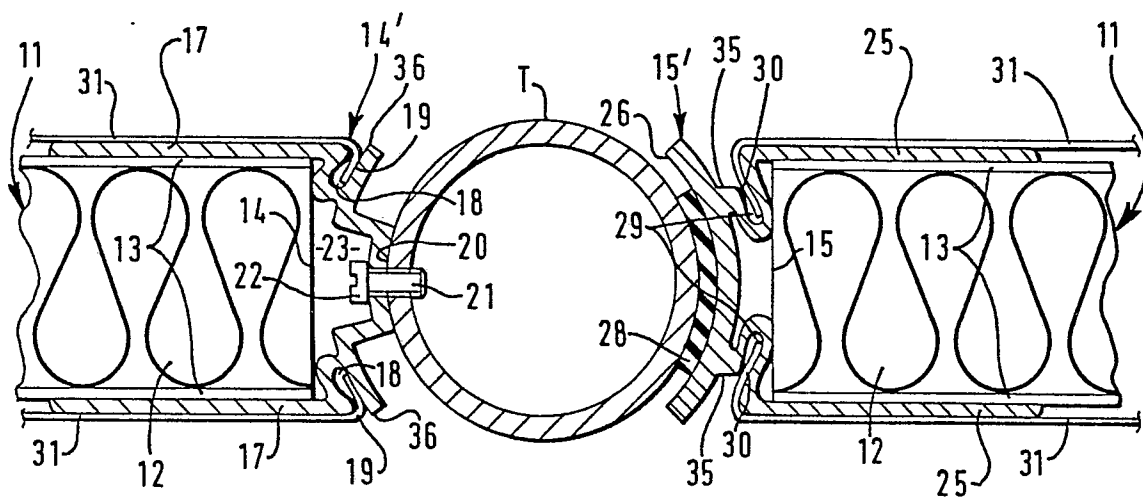


FIG 2

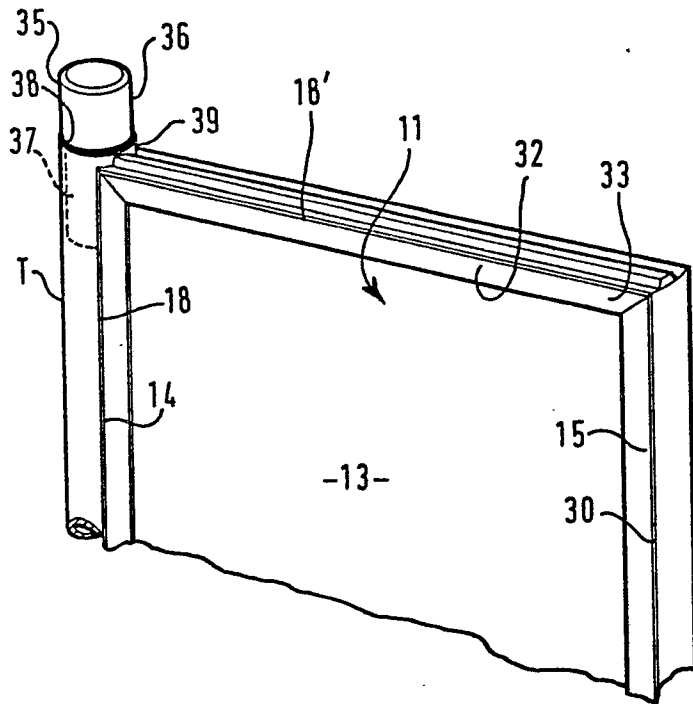


FIG 3

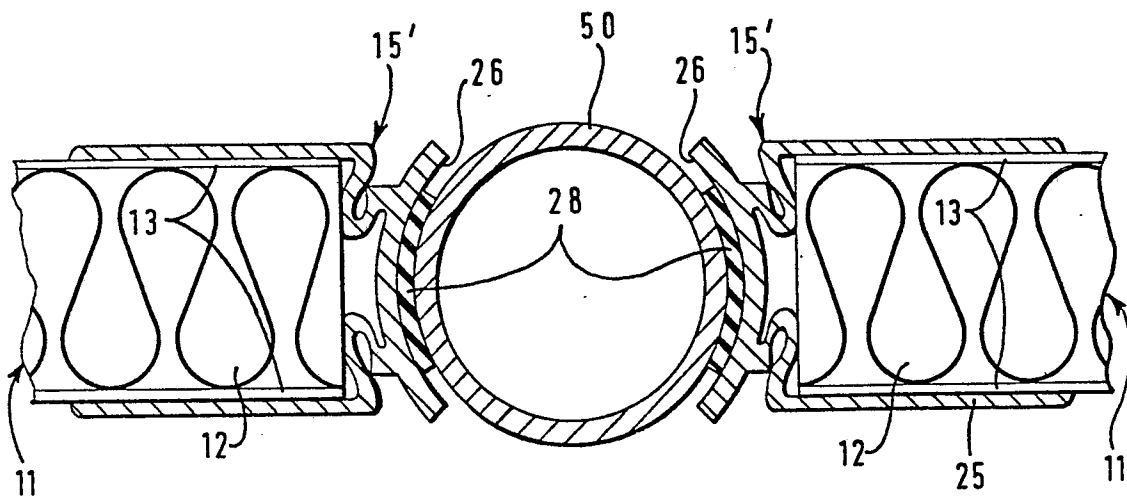


FIG 6

FIG 5

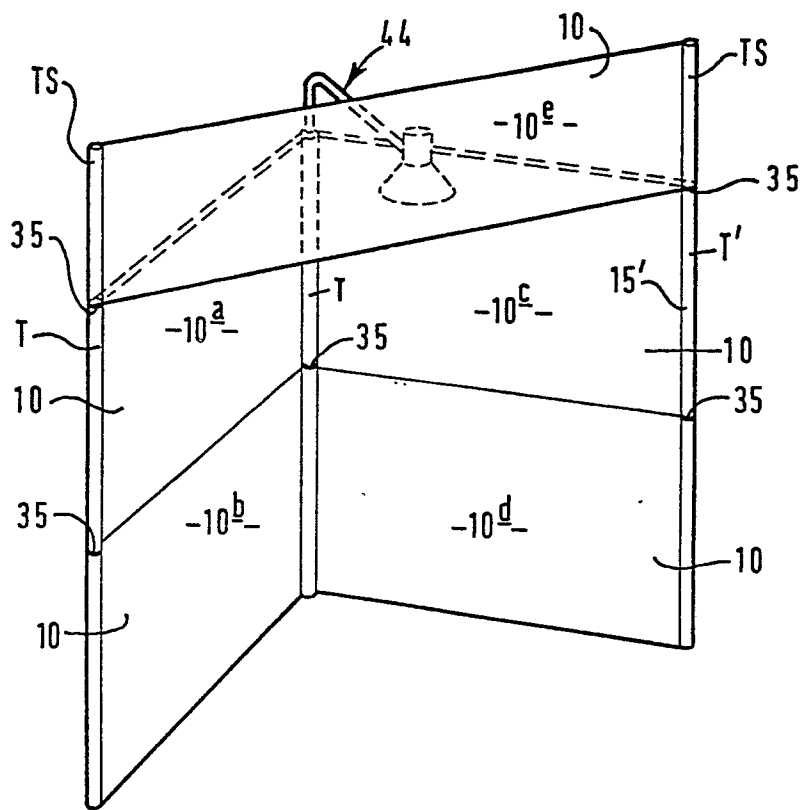
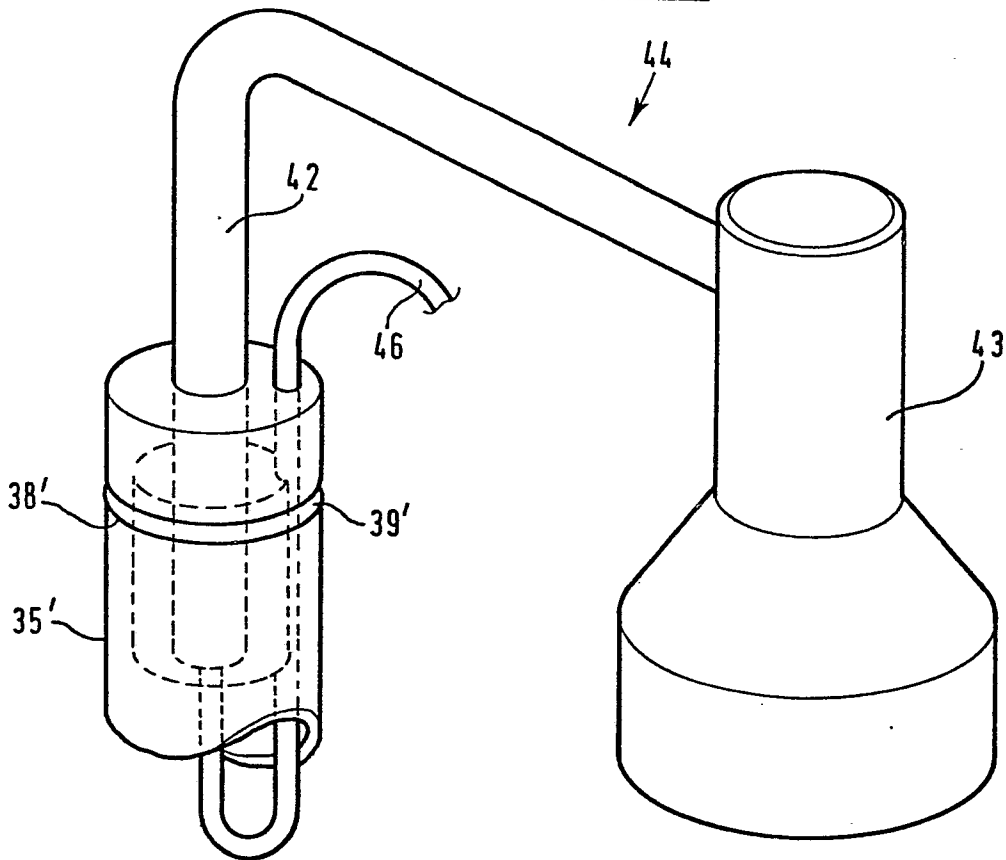


FIG 4



DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	<u>GB - A - 1 397 901 (JUSTIN HUPPE)</u> * claims 1,3-4; page 3, lines 13-89; figures 1-6 * ---	1-2,5,8	G 09 F 15/00 E 04 B 2/74 G 09 F 7/18
A	<u>GB - A - 653 816 (RAGNAR MAURITZ LUBLIN)</u> * claims 1,2; figures 1-3 * ---	1,6	
D/A	<u>US - A - 3 571 999 (JOHN G. DOWNING)</u> * claims 1-3; figures 1-4 * ---	1	TECHNICAL FIELDS SEARCHED (Int.Cl. ³) G 09 F E 04 B
A	<u>FR - A - 2 113 766 (SITOUR S.A.)</u> * claims 1,2,4; figures 1 and 6 * ---	1,3	
A	<u>GB - A - 813 060 (FREDERICK ORME)</u> * claims 1-2,4-5; figures 1-2 * -----	1	
			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
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
The Hague	16-01-1982	FRANSEN	