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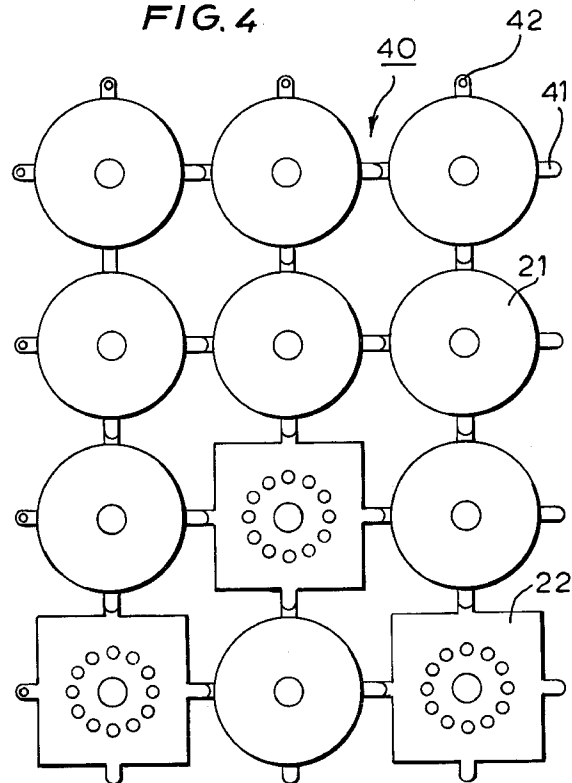
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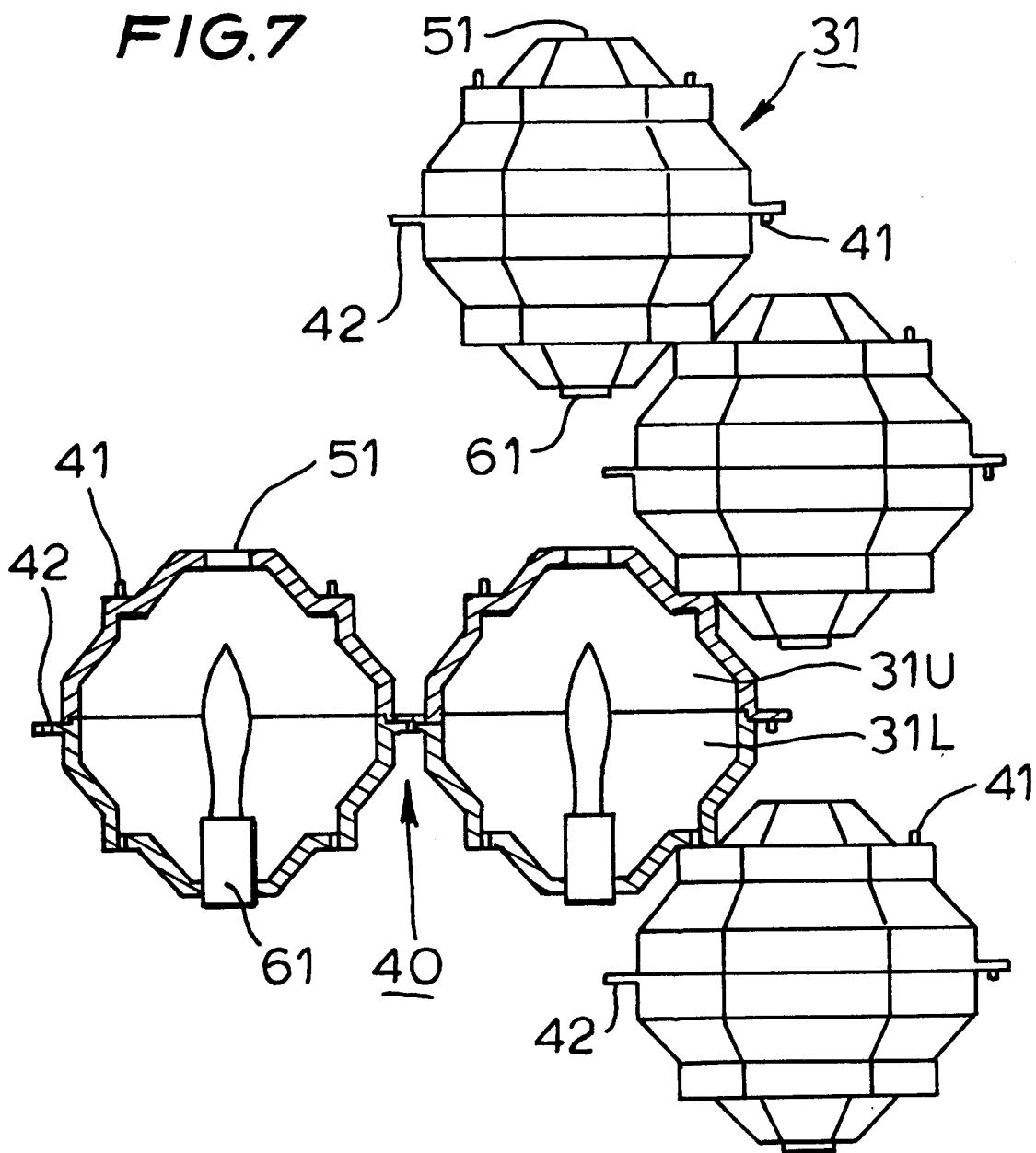
**Decorative continuous assemblage of composing elements.**

A three-dimensional assemblage forming a composite decorative outfit comprises at least two but up to an infinity of composing elements (10,20) or a sub-assembly thereof having the same or different pattern(s) connected directly through male/female joint means (41,42) such as peg/hole, tenon/mortise, flange/groove systems or indirectly by way of interconnectors (40'A,40'B) each having said male/female means provided. The elements are connected into a continuity in 1, 2 or 3 spatial directions to form a two or three dimensional assemblage. Each element optionally includes a lamp fitting facility for the attachment of light bulb. The connecting means could include a universal joint capable of swivelling around. Further, a sample plate having holes for inserting lamps and various patterns for facilitating a user to complete the assemblage may also be provided.

**FIG. 4**



**FIG. 7**



The present invention relates generally to decorative items and more particularly to a composite decorative outfit or sub-assembly resulting from the assembling together of composing elements.

Decorative items are numerous in variety, and are often used to express a sense of celebration. Typical such items are Christmas light strings, but these sometimes however exhibit a monotony of design.

The main object of the present invention is to provide a kind of decorative outfit that is abundant in versatility of visual effect; and which may if desired also provide light and/or sound-emitting items.

The object is achieved through the provision of composing elements having various patterns and which are adapted to be connected together with self-contained joint means or by way of interconnectors, so as to form a continuous assemblage in two or three dimensions.

The composing elements may have the same or different patterns, and when connected directly through built-in joint means or indirectly by way of interconnectors, may form a continuous assemblage in one, two or three spatial directions, thereby forming a two or three dimensional assemblage.

The decorative outfit may further include fitting facilities for light and/or sound-emitting means to enhance the effects of interest.

Other features of the present invention will become apparent with the following detailed description of preferred embodiments illustrated in the accompanying drawings, in which:

Figure 1 is a front elevation depicting a single element two member system connected side-by-side;

Figure 2 is a top view depicting a single element two member system connected in top-to-bottom relationship;

Figure 3 is a side elevation depicting a two element two member system connected in top-to-side or crossed relationship;

Figure 4 is a plan view depicting a two element multi-member system having dual pattern connected in a mixed relationship of top-to-bottom and side-by-side combination.

Figure 5 is a bottom view depicting a single element in geometric pattern of polygon connected into a two members system with side-by-side relationship;

Figure 6 is a front elevation of a system resembling that shown in Figure 5 but partially cut-away;

Figure 7 is a front elevation of a three-dimensional system extended from the system in Figures 5 and 6;

Figure 8 is a sectional elevation of a three-dimensional member composed of two halves including an upper and a lower half;

Figure 9 is a partial cut-away view of two interconnectors (A) and (B);

Figure 10 is a partial cut-away elevation of a single element multi-member system composed of three-dimensional members having upper-lower halves;

Figure 11 is a side elevation view of a part of an assemblage of another embodiment according to the present invention;

Figure 12 is a top view of Figure 11 to show the decorative pattern;

Figure 13 is a top view of the sample plate of Figure 11; and

Figure 14 is a cross sectional view of a sample plate of the multi-structure form.

Now referring to Figs 1 to 3, there is shown an embodiment of a ring type element 10. The ring type element 10 is of substantially circular configuration, the ring 10 being optionally backed up with a plate or sheet which constitutes a part of the element and serves as a reflector for a lamp 61 or a sound uttering device (not shown) provided on a certain location of the ring.

The ring 10 is made up of two halves 10U and 10L. The upper half 10U carries a male connector which is a pin or peg 41; and the lower half 10L carries a female connector, a hole.

A receptor 51 is provided along the half-ring 10L for taking a light 61, likewise a receptor (not shown) may be provided for a sound uttering accessory (not shown). The light 61 includes a lamp or flasher and the sound accessory could range from simple ding-dong bell to an IC actuated musical sounder.

Figure 1 shows two such elements 10 connected side by side in a plan. Each element 10 is composed of two halves, the upper half 10U and lower half 10L being clipped together with notches 11 and 12 provided thereon.

Figure 2 shows a two member system composed of two elements 10' which are connected top-to-bottom. Element 10 has a male connector 41 on its top while female 42 is on the bottom section of the ring. Of course the ring 10' may also be split into two halves if desired.

Figure 1 and Figure 2 can be considered as two dimensional, while embodiment in Figure 3 although also a two member system, can be considered as three dimensional, since the two elements 10 and 10' are connected top (of 10') to side (of 10) in a crossed manner.

Figure 4 depicts a multi-member system of two elements each of which is of plate type and of a different pattern, wherein element 21 is circular and 22 is rectangular (in this embodiment a square). In the drawing it can be seen that each element has two pairs of male/female connectors of the pin and hole type 41-42, disposed in a cross formation. The connections are made both top-to-bottom and side-by-side, to extend into a two dimensional plane. The construction may have multiple-elements and in mul-

ti-member system, it could spread into a boundless plane and yet still be of two dimensions.

The embodiment in Figures 3 and 5 show two members 31-31 each of three-dimensional polyhedrons connected side by side. Each side is provided with one of pin 41 or hole 42 for making connections.

In addition, pins and holes are scattered all around the periphery of the lantern like configuration, in this specific embodiment alternately pins 41 on top and holes 42 at the underside, and appear in opposite pairs. Such a deployment of the connectors facilitates greatly the versatile composition of patterns, and the pin-hole joint makes the members swivellable or pivotable about the axis of the pin.

In Figure 6, it is further appreciable that the element 31 may also be split into two halves 31U, 31L, and receptors 51 and accessories 61, for light or sound effect.

Figure 7 depicts a three-dimensional system extended from the system of Figures 5 and 6, which actually can be swivelled about any joint thereof to constitute an all directional space lattice.

Figure 8 is a sectional elevation of a two-part three-dimensional element 32 with upper and lower halves 32U and 32L. It is named as a Step type since the view in Figure 8 looks more or less like a series of steps.

The pin and hole connection 41-42 is exaggerated in bold form, however the functions are just the same. A light accessory is shown with a lamp 61 inserted in a receptor 51 which can also be receptor to take a sound accessory.

With the lengthened pin or peg 41 interconnectors 40'A and 40'B such as shown in Figure 9 (A) and (B) can be applied with ease. Interconnector 40'A has a peg or pin 41 and a hole 42, while 40'B has two holes 42. The swivelling property can well be expressed through these embodiments of interconnectors.

Figure 10 shows a three-dimensional, single element multi-member system composed of elements 32 each having upper and lower halves 32U and 32L. Lamps 61 are shown in receptors 51, of course which can also be sound accessories in corresponding receptors 52. Although the connecting means shown in the above embodiments are all of pin (or peg) and hole type, actually it meant to include all the variations in male/female systems, such as tenon and mortise, flange and groove, male and female threaded screw means and the like. Universal joints are also applicable.

Another embodiment shown in Figures 11 and 12 has a plurality of plate type composing elements 20 assembled by a user in accordance with the pattern on a sample plate 70. The composing element 20 is of a form which includes a cylindrical base on which can be mounted a lamp holder and a flat top, shaped such as a star or a flower with at least two extending out angles, and at each end of the protrusion angle a

joint means 40 is formed to connect to another composing element 20 directly or through an interconnector 40'A, 40'B indirectly. The sample plate 70 is made of paper or paper board or materials with a similar quality and has a plurality of through holes 71 on its surface. The diameter of any one of the holes 71 is substantially equal to the outside diameter of the cylindrical base of the composing element 20, so that the composing element 20 with a lamp 61 can be inserted therein. The sample plate 70 also has various designs of pattern printed for facilitating the user to assemble the decorative outfit.

Figure 13 shows a sample plate 70 having a plurality of holes 71. Its surface may be covered or plated with a light reflecting material to improve the decorative and reflective efficiency when the continuous assemblage is completed. Further, this sample plate 70 can be painted by the user himself with a colourful design or pattern which can be seen through the transparent or semi-transparent composing elements 20.

Figure 14 shows a multi-structured sample plate 70'A which is assembled into a continuous assemblage. Said multi-structured sample plate 70'A is in the form of four folded pieces in this Figure, but can be in any number of pieces and in any form as required for the multi-structure. It is first spread into a shape of a house in this embodiment, then plate type elements 20 are inserted into the holes 71 and connected with each other to form a rigid multistructure thereon. Finally the lamp is inserted from the underside of the frame through the holes of the plate type elements 20 to form a multi-structure assembly.

The above description is given solely by way of example. Modifications are possible for those skilled in the art without departing from the scope of the present invention which is defined by the accompanying claims.

A list of components follows to facilitate a reading of the specification, despite some of them being omitted from the drawings for simplification.

#### LIST OF COMPONENTS

- |    |  |
|----|--|
| 45 | 10 ring type element (composing element) |
|    | 10U upper half                           |
|    | 10L lower half                           |
|    | 11 notch                                 |
|    | 12 notch                                 |
| 50 | 20 plate type element                    |
|    | 21 round pattern                         |
|    | 22 square pattern                        |
|    | 23 star pattern                          |
|    | 24 flower pattern                        |
| 55 | 30 polyhedron type element               |
|    | 31 lantern type                          |
|    | 31U upper half                           |
|    | 32L lower half                           |

|                                   |    |
|-----------------------------------|----|
| 40 connector (joint means)        |    |
| 41 male (pin or peg)              |    |
| 42 female (hole)                  |    |
| 40'A interconnector type A        |    |
| 40'B interconnector type B        | 5  |
| receptor                          |    |
| 51 for lamp                       |    |
| 52 for sound device (not shown)   |    |
| accessories                       |    |
| 61 light (lamp)                   | 10 |
| 62 sound (not shown)              |    |
| 70 sample plate                   |    |
| 71 holes                          |    |
| 70'A multi-structure sample plate | 15 |

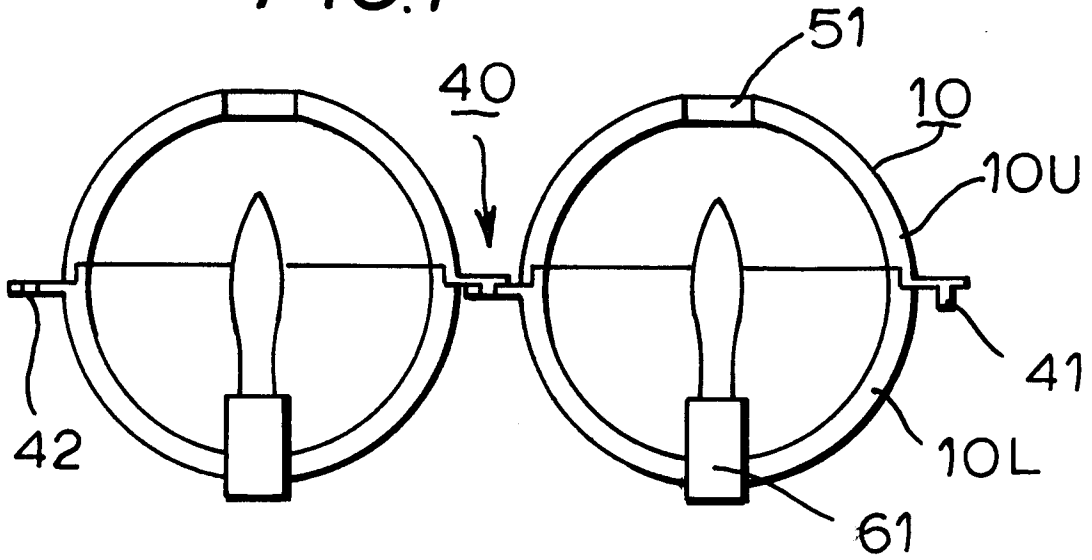
### Claims

|   |    |
|---|----|
| 1. A three dimensional continuous assemblage to form a composite decorative outfit, comprising at least two composing elements or a sub-assembly thereof having same or different pattern(s) and connected directly through joint means or indirectly by way of interconnectors into a continuity in one, two or three spatial directions, so as to form a two or three dimensional assemblage. | 20 |
| 2. An assemblage according to claim 1, wherein the joint means comprises male/female means including peg/holes, tenon/mortise, flange/groove systems and the like, the joint means optionally further including male/female threaded screw means.   | 25 |
| 3. An assemblage according to claim 1, wherein the interconnector for indirect connection comprises male/female means including peg/holes, tenon/mortise, flange/groove systems and the like.   | 30 |
| 4. An assemblage according to any one of claims 1 to 3, wherein the interconnector means includes universal joint means for swivelling around.  | 35 |
| 5. An assemblage according to claim 1, wherein each composing element is designed to be split into halves which are connected with joint means of male/female system as appropriate.  | 40 |
| 6. An assemblage according to claim 1, wherein each composing element includes facilitates for fitting at least one light and/or sound-emitting device.   | 45 |
| 7. A three dimensional continuous assemblage of composite decorative outfit including a plurality of composing elements or a sub-assembly thereof having the same or different patterns and connected directly through joint means or indirectly by   | 50 |
|   | 55 |

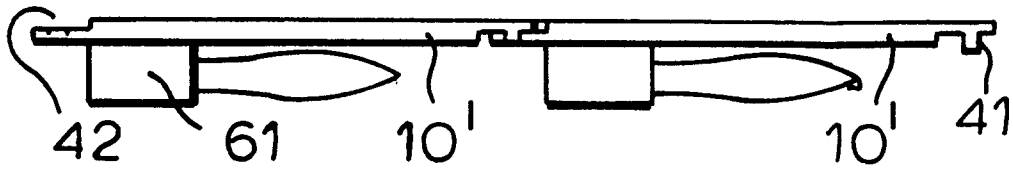
way of interconnectors into a continuity in one, two or three spatial directions so as to form a two or three dimensional assemblage, and at least one sample plate having various patterns printed thereon and holes within which may be inserted a lamp base, whereby a user may assemble the continuous assemblage on the sample plate in accordance with the pattern and the holes thereof.

8. An assemblage according to claim 7, wherein each composing element is a form of a plate type element, such as a lamp hood, open at the top and flatly expanding out like a star or a flower of various sizes with at least three protrusion angles, and at the end of each protrusion angle a joint means is formed to connect to another composing element directly or indirectly through an interconnector.
9. An assemblage according to claim 7, wherein the sample plate has at least two folded pieces which can be spread out into a three-dimensional multi-structure.
10. An assemblage according to claim 7 or 9, wherein the sample plate is made of paper or paper board or materials with same kind of quality, and which may be painted with colours and patterns by a user, and/or the sample plate optionally is printed with light reflecting material to improve the decorative and reflective efficiency.

**FIG. 1**



**FIG. 2**



**FIG. 3**

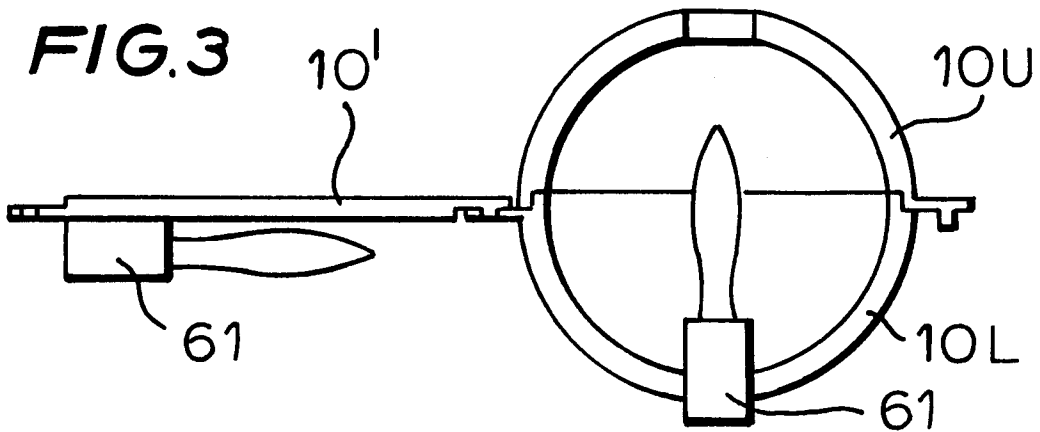
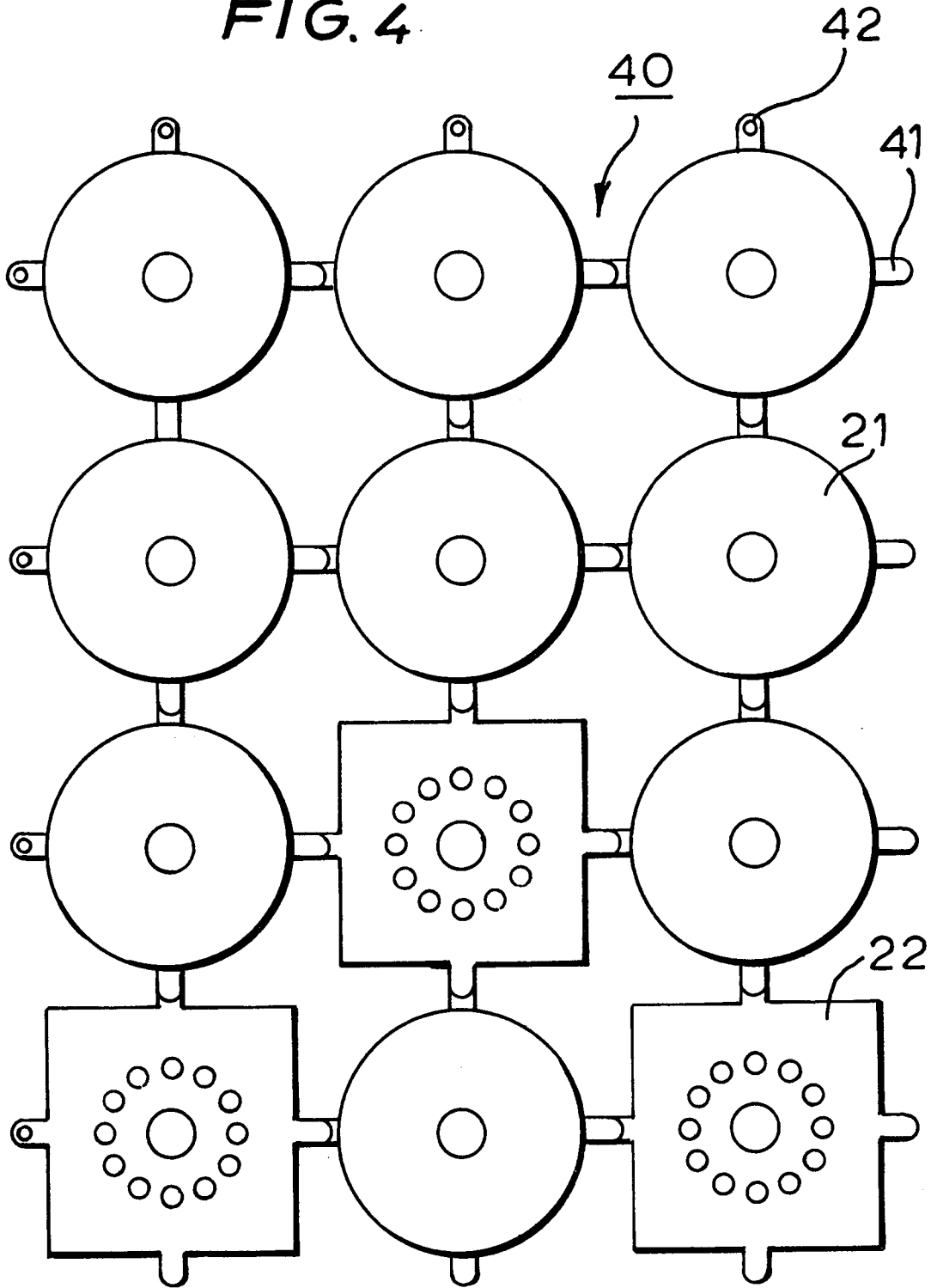
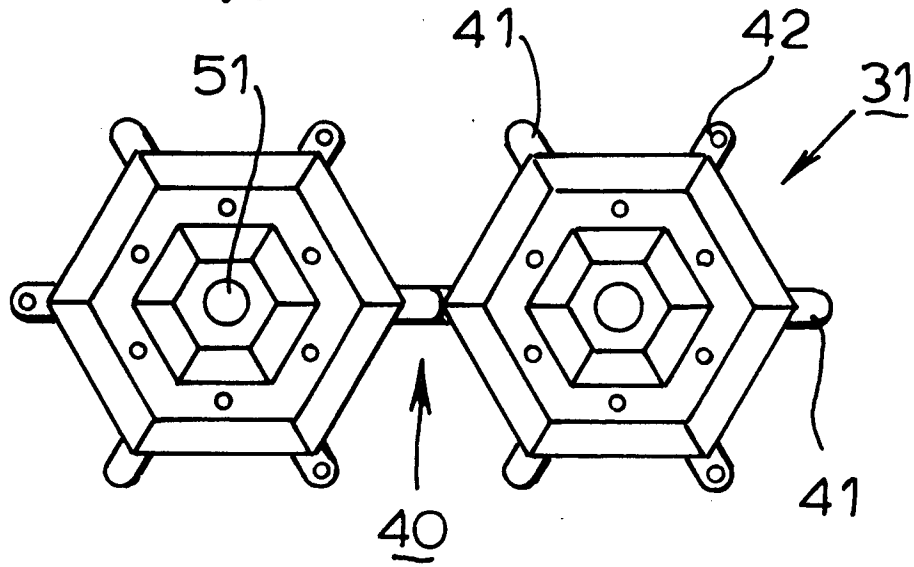


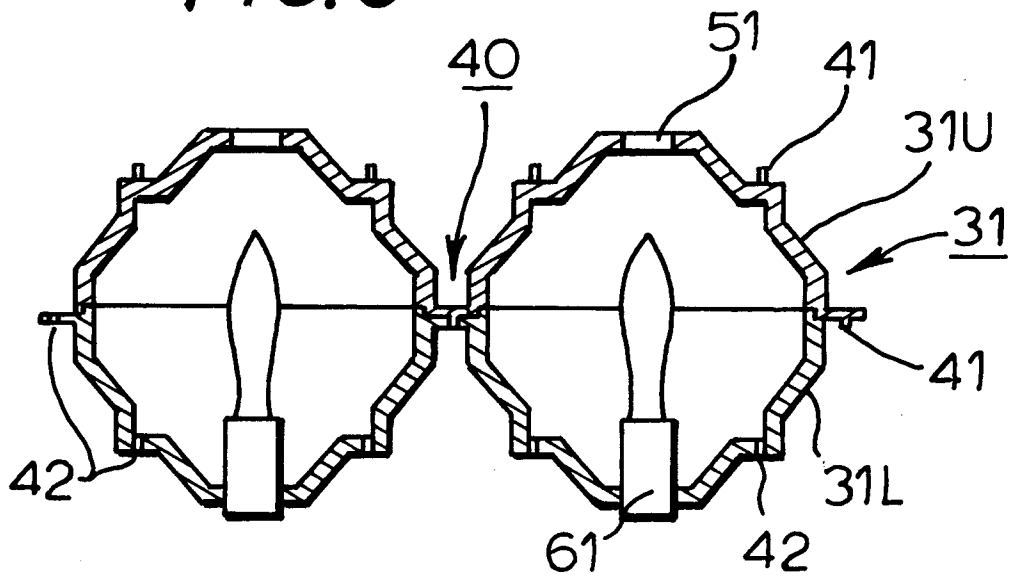
FIG. 4



**FIG. 5**

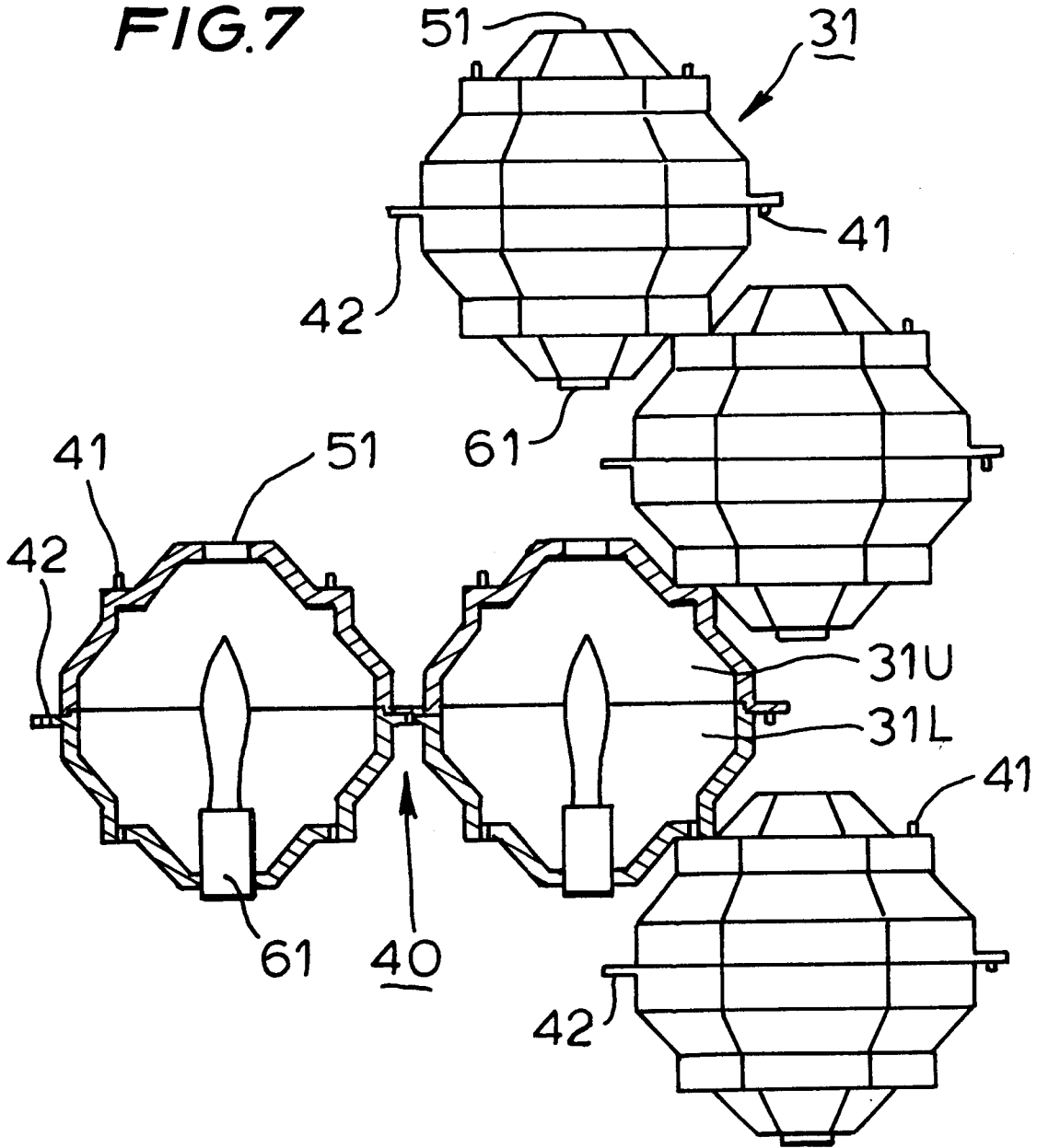


**FIG. 6**

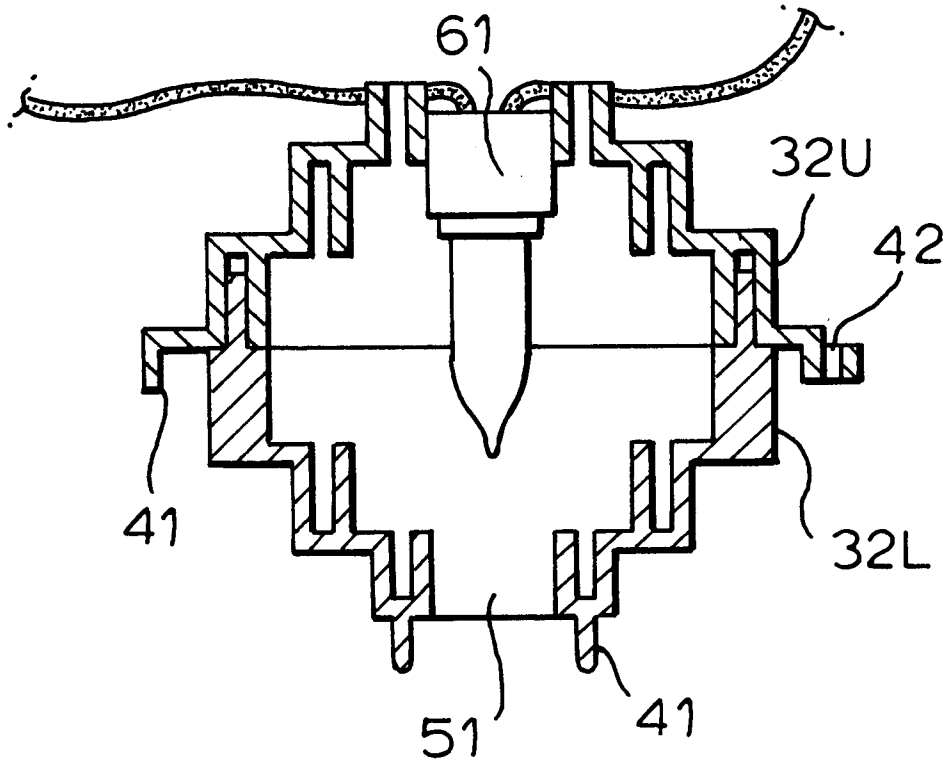




**FIG.7**



**FIG. 8**



**FIG. 9**

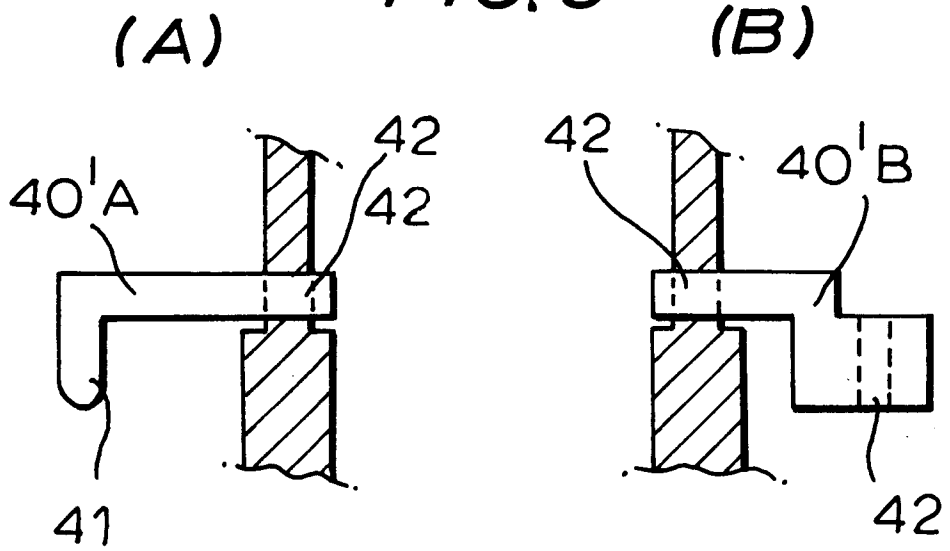
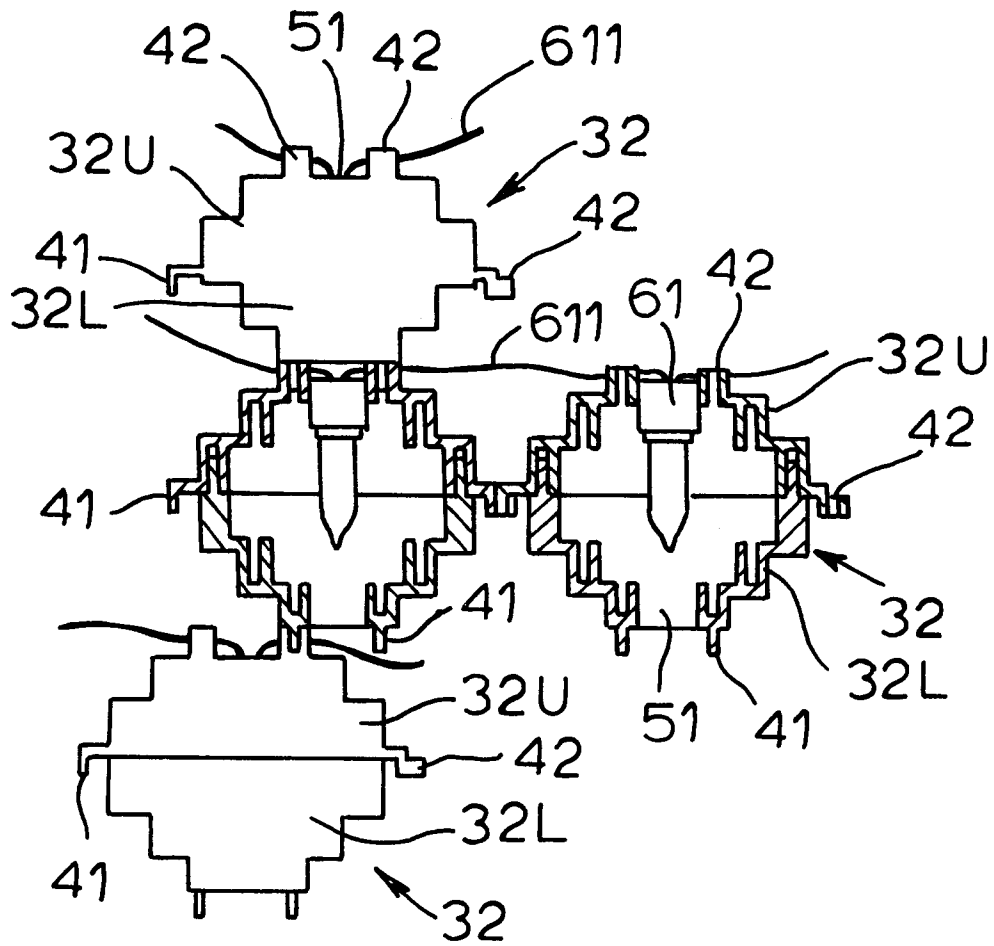
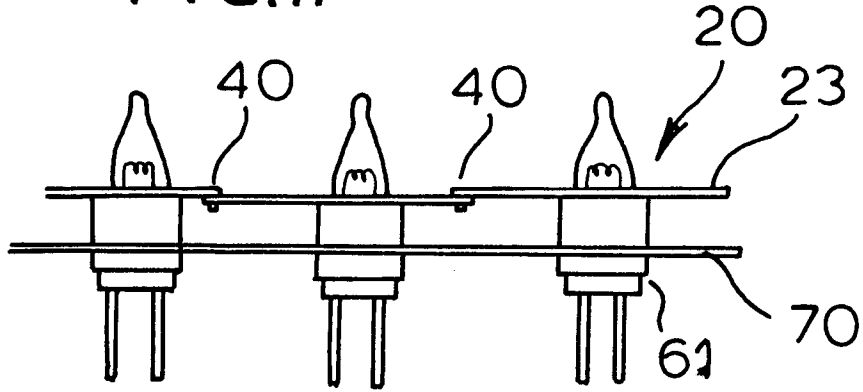


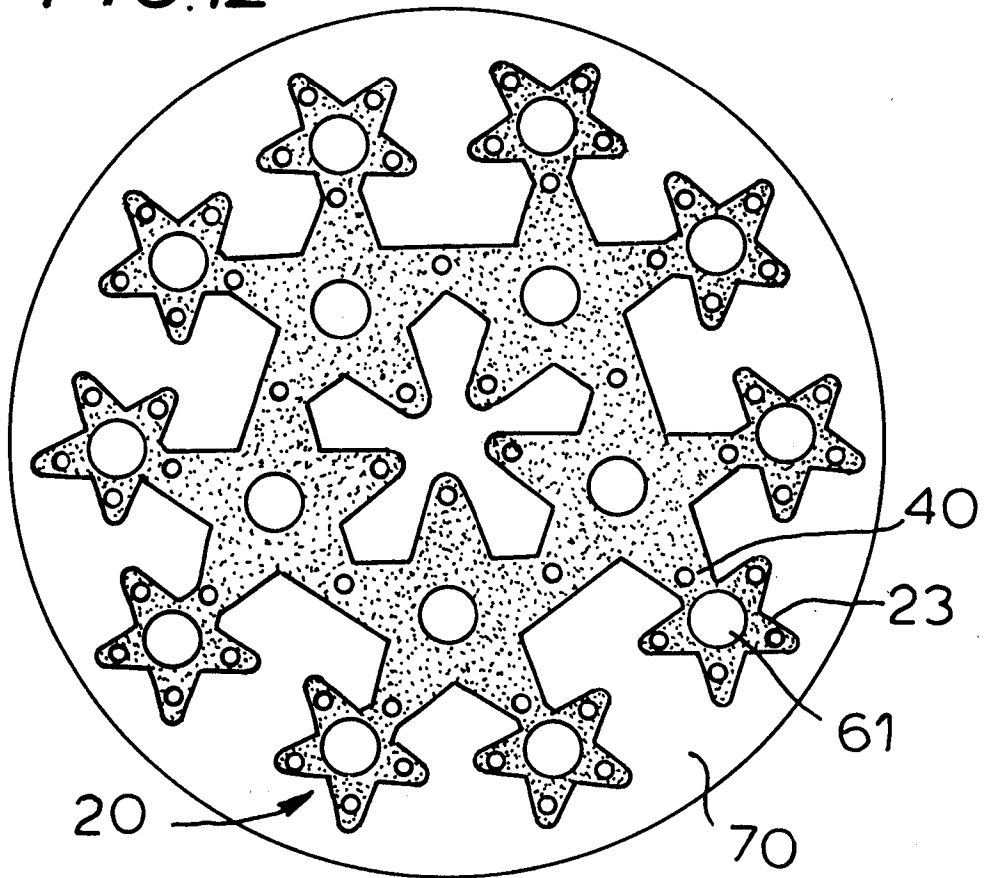
FIG. 10



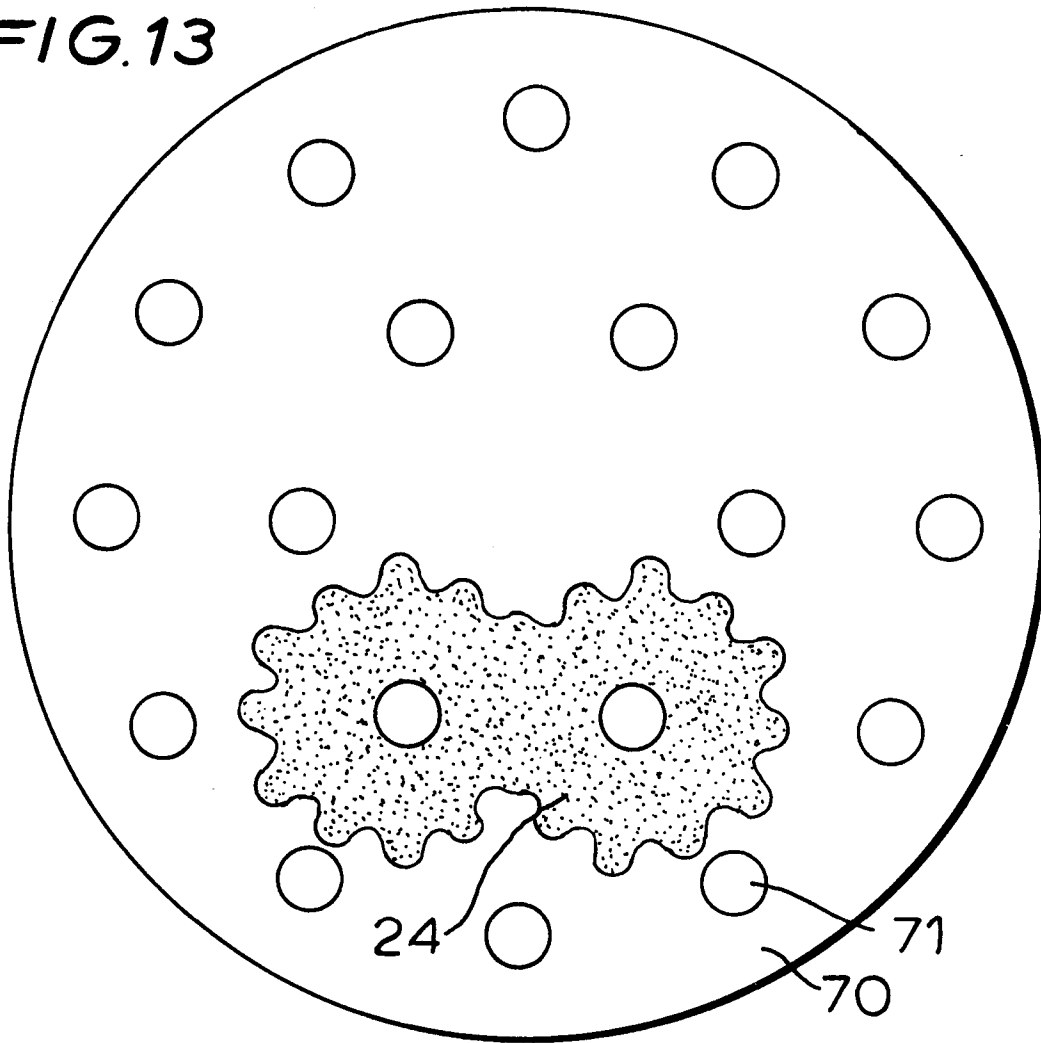
**FIG.11**



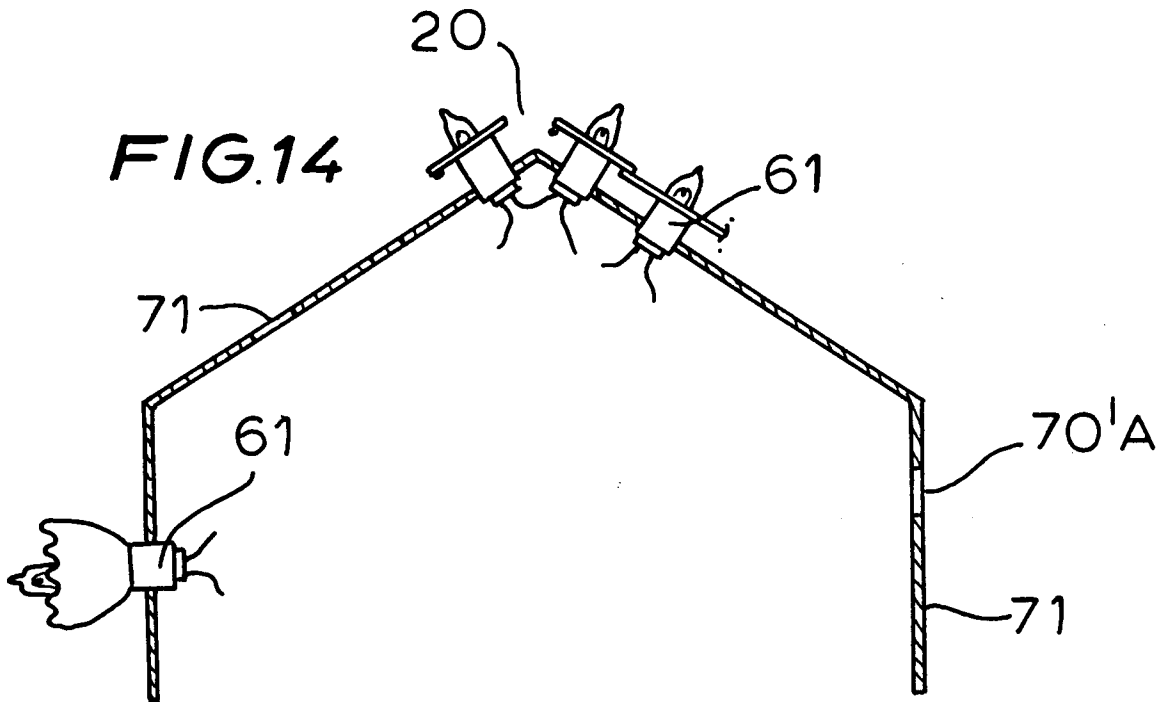
**FIG.12**



**FIG.13**



**FIG.14**





European Patent  
Office

EUROPEAN SEARCH REPORT

Application Number

| DOCUMENTS CONSIDERED TO BE RELEVANT  |  |  | EP 92302552.2  |
|--|--|--|--|
| Category   | Citation of document with indication, where appropriate, of relevant passages                                  | Relevant to claim                              | CLASSIFICATION OF THE APPLICATION (Int. Cl.5)  |
| X  | <u>AT - B - 254 747</u><br>(FISCHER)<br>* Totality *<br>--   | 1-4  | A 63 H 33/06<br>A 63 H 33/08<br>G 09 B 1/36<br>F 16 S 1/10                                     |
| X  | <u>AT - B - 268 108</u><br>(FISCHER)<br>* Totality *<br>--   | 1-5  | F 21 P 1/02<br>F 21 V 21/08<br>F 21 V 33/00<br>F 21 V 35/00                                    |
| X  | <u>DE - A - 2 016 277</u><br>(ALLGEMEINE LIEGENSCHAFTEN<br>UND TREUHAND ANSTALT)<br>* Fig. 1-4; claims *<br>-- | 1-4  | F 21 S 1/14  |
| X  | <u>DE - A - 2 457 925</u><br>(NAWRATH)<br>* Totality *<br>--   | 1-4, 6-7                                       |  |
| X  | <u>DE - A - 2 546 561</u><br>(NAWRATH)<br>* Totality *<br>--   | 1-4, 7   |  |
| A  | <u>DE - A - 2 808 312</u><br>(MARSH)<br>* Claims 2-8; page 6, lines<br>11-14; fig. 1-9 *<br>--                 | 1-4, 10  | <b>TECHNICAL FIELDS<br/>SEARCHED (Int. Cl.5)</b><br>A 63 H 33/00<br>G 09 B 1/00<br>F 16 S 1/00 |
| A  | <u>DE - A - 2 935 233</u><br>(KLOCKE)<br>* Claim 1; fig. 1 *<br>--   | 1-4  | F 21 P 1/00<br>F 21 V 19/00<br>F 21 V 21/00<br>F 21 V 33/00                                    |
| A  | <u>GB - A - 1 134 361</u><br>(NAGEL)<br>* Totality *<br>--   | 1, 6, 7  | F 21 V 35/00<br>F 21 S 1/00  |
| A  | <u>GB - A - 2 161 912</u><br>(SHIMIZU CONSTR.)<br>* Abstract; fig. 1, 2 *<br>--                                | 1, 6, 7  |  |
| X  | <u>FR - A - 2 438 792</u><br>(PELLETIER)   | 1-4, 6-7                                       |  |
| The present search report has been drawn up for all claims   |  |  |  |
| Place of search<br>VIENNA  |  | Date of completion of the search<br>30-06-1992 | Examiner<br>BAUMANN  |
| <b>CATEGORY OF CITED DOCUMENTS</b><br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document<br>T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>.....<br>& : member of the same patent family, corresponding document |  |  |  |

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Application Number

-2-

EP 92302552.2

| DOCUMENTS CONSIDERED TO BE RELEVANT   |  |   | CLASSIFICATION OF THE APPLICATION (Int. Cl.5) |
|---|--|---|---|
| Category  | Citation of document with indication, where appropriate, of relevant passages                  | Relevant to claim   |   |
| X   | * Fig. 1,3-6 *<br>--<br><u>EP - A - 0 027 840</u><br>(DÄNIKEN)<br>* Claims; fig. 1,7,8,13-34 * | 1-4   |   |
| X   | <u>US - A - 3 803 754</u><br>(FISCHER)<br>* Abstract; fig. 1-2 *                               | 1-4   |   |
| A   | <u>US - A - 3 943 353</u><br>(TADA)<br>* Totality *  | 1-4, 6-7  |   |
| X   | <u>US - A - 4 306 373</u><br>(CHATANI et al.)<br>* Abstract; fig. 6,9,12-17 *                  | 1-4   |   |
| X   | <u>US - A - 4 890 206</u><br>(LEE)<br>* Totality *   | 1-4, 6-7  | TECHNICAL FIELDS SEARCHED (Int. Cl.5)         |
| X   | <u>US - A - 4 956 757</u><br>(WANG)<br>* Totality; especially fig. 1 *                         | 1-7   |   |
| The present search report has been drawn up for all claims  |  |   |   |
| Place of search<br>VIENNA   |  | Date of completion of the search<br>30-06-1992  | Examiner<br>BAUMANN                           |
| <b>CATEGORY OF CITED DOCUMENTS</b><br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document |  | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>-----<br>& : member of the same patent family, corresponding document |   |

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