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(54) **A parasol space heater**

Ein sonnenschirmförmiges Raumheizgerät

Un appareil de chauffage d'espaces ayant une forme de parasol

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Description

Field of the Invention

[0001] The present invention relates to a gas parasol heating appliance, in particular to an improved gas parasol heater for outdoor use, for example to provide space heating outside restaurants and on garden patios. A gas parasol heating appliance according to the preamble of claim 1 is known from document JP09196381.

Background of the Invention

[0002] Gas parasol heaters currently available comprise a base structure for housing a bottle of propane gas, supporting a pole through which the gas is piped to an overhead burner. The burner supports a radiant dish or parasol which deflects heat from the burner downwards in an area generally surrounding the base. Gas parasol heaters have become popular in cooler climates throughout Europe and the U.S.A. Although over 2 metres in height, the parasol dish is generally less than one metre in diameter, and the overall structure resembles a lamp post, and is therefore relatively discreet and takes up little space.

[0003] In known gas blower heaters, such as that described in FR2044254, which are quite different to the parasol heater of the present invention, it is known to provide a guide for the actively blown heat emanating from the gas heater. The heater is offset to one side from the pole supporting the heater and the guide serves to direct this offset heat in a direction coincidental with the direction of the head of the heater. This guide extends below the level of the gas burner and is collapsible. In prior art gas parasol heaters, such as that described in JP09196381, the radiant dish is made from a single piece of pressed aluminium or the like, and on account of its size and bulk relative to the other components, must be packed separately, for delivery to a retailer and prior to assembly by the purchaser. This increases transport and shipping and warehousing costs, and ultimately the cost to the purchaser. Moreover, this method of manufacture of the dish makes it difficult to exceed a certain depth for the dish, with the result that in prior art gas parasol heaters, when assembled for use, the dish is relatively shallow and the rim of the dish does not extend to or below the level of the base of the gas burner. With this design, it has been found that, when a sudden or severe gust of wind comes from the side, when the burner is lit, "flame lift-off" can occur, with very dangerous consequences. In less windy conditions, heat is still lost to each side and not deflected downwardly to a sufficient extent, over the relatively small area below the heater where people may be sitting. It is thus an object of the present invention to provide an improved dish design in a gas parasol heater, which overcomes all of these difficulties. A particular objective is to provide a

gas parasol heater in which all of the components, with the exception of the bottled gas and ballast, which are supplied by the user, may be broken down and fitted into a single box for ease of shipping, and handling by the retailer and purchaser.

[0004] For further safety reasons, the base structure is normally weighted although wheels may be provided for moving the heater when not in use. In currently available gas parasol heaters, the base structure is therefore heavy and cumbersome. The cylindrical walls of the base structure are load-bearing, supporting the weight or some of the weight of the pole, which is always centrally located in the base, terminating at the top of the base structure. This means that there is limited space available in the cylindrical walls of the base structure for a door providing access to the space where the bottled gas is located. This makes it difficult to change a bottle of gas, or to turn on the gas or inspect the gas fittings. Furthermore, on account of the central location of the pole in the base, the top surface of the base structure is not a usable surface, and in many designs is formed by a convex top.

[0005] In an alternative embodiment of the invention, an objective is to provide a gas parasol heater with a lightweight base structure, permitting moulding from plastics components, thereby reducing unit manufacturing costs. It is also desirable to provide a gas parasol heater with easier access to the bottle of gas which is held in the base compartment.

[0006] In another embodiment, it is an objective to provide a base structure with a top surface which may be used as a small table or tray surface. The table or tray surface may be fitted as a separate component, over and resting on the base structure, and/or may be formed by a specially adapted flat surface on the top of the base structure.

Summary of the Invention

[0007] Accordingly, the present invention provides a gas parasol space heating appliance, as detailed in the appended claims.

[0008] Preferably, two to four separate dish sections are provided, which may be engaged or hinged together wherein the diameter of the assembled dish is greater than one metre, preferably about 1.1 to 1.2 metres, most preferably 1.125 metres. The depth of the assembled dish is preferably in the range of about 180 to 240 millimetres.

[0009] In a yet further embodiment, the pole is offset to one side of the base structure, and only the ground-engaging part of the base structure is adapted to bear the load of the pole. Advantageously, the top and the walls of the base structure do not bear any substantial loading force from the pole, and may be made of lightweight materials. The top of the base structure is preferably moulded from plastics material and is preferably adapted so as to include the outer table or tray surface.

Brief Description of Drawings

[0010]

Figure 1 is a side elevation of a gas parasol heating appliance not in accordance with the invention, with a central pole, and with the base shown in cross section;

Figure 2 is a plan view from above of the gas parasol heating appliance of Figure 1, showing an assembled dish made of six sections;

Figure 3 is a front perspective view of a gas parasol heating appliance in accordance with the invention, with an offset pole;

Figure 4 is a partial cross-section of the gas parasol heating appliance of Figure 3, in side elevation;

Figure 5 is a cross-section of the moulded top part of the base structure of the embodiment shown in Figures 3 and 4;

Figure 6 is a cross-section of the moulded bottom part of the base structure of the embodiment shown in Figures 3 to 5;

Figure 7 is a plan view from above of the assembled dish comprising four sections, in the embodiment shown in Figures 3 to 6;

Figure 8 is a perspective view of an alternative table arrangement, in which a separate extended table surface is shown in solid outline placed over the base in the embodiment shown in Figures 3 to 7, and in dashed outline in respect of the embodiment shown in Figures 1 and 2;

Detailed description

[0011] Preferred embodiments of a gas parasol heater in accordance with the present invention will now be described with reference to the accompanying drawings.

[0012] With reference to Figures 1 and 2 of the drawings, which show a parasol heater not forming an embodiment of the invention, which comprises a base structure 51, a centrally located pole 52, a gas burner 53 and a dish parasol 54. The gas burner 53 and gas regulator 55 are of known construction in conformance with European Standard EN 1643 and will not be described. It is preferable that the gas burner is in the shape of an inverted cone, and is internally insulated, for example with gypsum, for greater heat output and for deflecting more heat downwardly. The centrally located pole 52 and rigid pole supports 81 inside the base structure 51 are all of known construction. The pole 52 supports the burner 53 and dish 54 and is hollow, providing a conduit for the gas supply from a bottle of propane gas (not shown) housed within the base 51, in use. The novel features of the illustrated design include a dish made from six separate like components 73 which are fastened together to provide the hexagonal parasol dish, when viewed from above, as seen in Figure 2. A

smaller flat hexagonal section 82 forms a crown and holds the six sections 73 together. From Figure 1 it will be seen that the assembled dish extends to near the level of the base of the burner 53, when viewed from the side. In tests, this advantageous dish configuration has resisted dangerous "flame lift-off" with side wind speeds of up to 10 metres per second.

[0013] The pole 52 protrudes through the centre of the top section 58 of the base to present a useful surface area 59 which may be adapted as a small table or tray surface.

[0014] With reference to Figures 3 and 4 of the drawings, a gas parasol heater in accordance with an embodiment of the invention comprises a base structure 1, an off-centre pole 2, a gas burner 3 and a dish parasol 4.

[0015] Figure 3 illustrates more clearly how the pole 2 is offset from the centre of the base structure, extending through the base structure and to one side of a bottle 6 of propane gas which is held in a compartment therein.

A supply conduit 7 is led up the pole from the bottle 6 to the gas burner 3 in a known manner. The offset positioning of the pole 2 is advantageous because it allows the top section 8 of the base to present a useful surface area 9 which may be adapted as a small table or tray surface.

[0016] The top section 8 may be moulded in plastics material, and is non-load-bearing.

[0017] The bottom section 10 of the base 1 (see Fig. 3) may also be moulded in plastics material. A tubular part 11 houses the pole 2 and bears sideways loading stresses by means of top gussets 12 and bottom gussets 13. For additional strength, a metal plate, with a hole to accommodate the pole, may be bolted to the underside of the bottom section 10, if required. A compartment 14 is formed by walls 15 into which ballast in the form of sand or concrete is placed by the user, for safety reasons and for supporting the pole. Five ground-engaging legs 16 support the entire structure, but a ground-engaging jockey wheel 17 may also be provided, for moving the heater when tipped to one side, to disengage the legs 16.

[0018] Surprisingly, the offset positioning of the pole does not substantially affect the centre of gravity or stability of the gas parasol heater, as compared with currently available models.

[0019] The cylindrical side wall 18 of the base may be made of flexible plastics sheeting or thin flexible metal, such as aluminium sheeting, seated in a groove 19 in the bottom section 10 of the base. The top section 8 of the base has depending side walls 20, with a corresponding groove 21 for housing the wall 18. (see Figure 5) Thus, the lightweight wall 18 may be made in two half sections, one of Figure 5) Thus, the lightweight wall 18 may be made in two half sections, one of which is adapted as a sliding door in an appropriate groove, allowing easy access to the bottle 6 of gas. The bottle of gas is seated on a base plate 22 of metal, which includes a hole through which the pole 2 may pass, and is adapted

to sit on top of the bottom section 10 of the base (see Figure 4).

[0020] The deflector dish 4 or parasol is also shown in Figure 7. This is made in at least two, and preferably four identical sections 23, which have flanges 24 on the inside (see Figure 3) by which the sections 23 may be secured together, for example by screws. This means that the dish may be of relatively large diameter, for example greater than one metre, and preferably about 1.2 metres, but easily broken down into four parts for packing and shipping. Preferably, the outer circumferential flange 25 forms a small skirt, which may be scalloped or otherwise provided with a decorative finish (not shown). As it is possible to easily provide a larger diameter, and deeper, dish than heretofore, it will readily be appreciated that the heat output which is deflected downwardly is greatly increased.

[0021] The use of plastics and lightweight components in the alternative embodiment described above for the base structure means that the components of the base may be manufactured at substantially lower unit cost, making the unit more affordable to the home user. Also, the use of lightweight components, and components which may easily be packed into a single box measuring approximately 1 metre by 0.3 metres by 0.15 metres is possible, which makes the unit more manageable for shipping purposes, storage by the retailer and purchase by a home user. The parts are easy to assemble and the whole unit may be disassembled if desired.

[0022] Figure 8 illustrates another embodiment of the invention, not limited to a gas parasol heater with an offset pole of lightweight construction as described with reference to Figures 3 to 7 above, but also to heaters with a central pole of standard, heavier, construction, as shown in Figures 1 and 2. A larger, extended table 30 extending over the edge of the base structure may be moulded in plastics as part of the base structure or as a separate table top which rests on top of the base structure, made in plastics or metal. The table top is preferably split in sections prior to assembly, for instance into two clip together sections.

[0023] In alternative embodiments which do not fall within the scope of the claims, multiple curved dish sections are provided which may be attached together, or may already be attached at the apex and adapted to be folded or fanned out to form a rigid dish structure in a dome shape.

Claims

1. A gas parasol heating appliance comprising a base structure (51) for housing a bottle of gas, a pole (52) supportable on the base structure so as to extend upwardly from the base structure, a gas burner arrangement (53) connectable to and supportable on the pole (52) and a dish deflector (54) supportable above the gas burner arrangement and adapted to

direct heat downwardly, the dish deflector comprising multiple dish sections (73, 82) **characterised in that** the dish sections have flanges and are separate and engageable and are adapted to be fastened together by means of the flanges, in use, so as to form the dish, the dish deflector can be in parts prior to packing and shipping, and can be assembled by a purchaser so as to form the dish.

2. A heating appliance according to claim 1, comprising two to four separate dish sections.
3. A heating appliance according to any one of claims 1 to 2, wherein the diameter of the assembled dish (54) is greater than one metre.
4. A heating appliance to any one of the preceding claims wherein the diameter of the assembled dish (54) is about 1.1 to 1.2 metres.
5. A heating appliance according to any one of claims 1 to 4 in which the top (58,8) of the base structure (51, 1) is provided with or is adapted so as to include an outer table or tray surface (59,9).
6. A heating appliance according to claim 8, comprising in addition, an extended table surface (30) adapted to rest upon the said top (58,8) of the base structure (59,9).

Patentansprüche

1. Schirmförmige Gasheizvorrichtung mit einer Basisstruktur (51) zum Aufnehmen einer Gasflasche, einem Pfosten (52), der von der Basisstruktur aufragend an der Basisstruktur abstützbar ist, einer Gasbrenneranordnung (53), die mit dem Pfosten (52) verbindbar und an diesem abstützbar ist, und einem schalenförmigen Deflektor (54), der über der Gasbrenneranordnung abstützbar ist und derart vorgesehen ist, daß er Wärme nach unten zu richten, wobei der schalenförmige Deflektor mehrere Schalenabschnitte (73, 82) aufweist, **dadurch gekennzeichnet, daß** die Schalenabschnitte Flansche aufweisen, separat sind, verbindbar sind sowie im Gebrauch mittels der Flansche zur Bildung der Schale aneinander befestigbar sind, wobei der schalenförmige Deflektor vor dem Verpacken und dem Transport in Teilen vorliegen und von einem Käufer zur Schale zusammengesetzt werden kann.
2. Heizvorrichtung nach Anspruch 1 mit zwei bis vier separaten Schalenabschnitten.
3. Heizvorrichtung nach einem der Ansprüche 1 bis 2, bei der der Durchmesser der zusammengesetzten Schale (54) größer als ein Meter ist.

4. Heizvorrichtung nach einem der vorhergehenden Ansprüche, bei der der Durchmesser der zusammengesetzten Schale (54) ungefähr 1,1 bis 1,2 Meter beträgt. 5
5. Heizvorrichtung nach einem der Ansprüche 1 bis 4, bei der die Oberseite (58, 8) der Basisstruktur (51, 1) mit einer äußeren Tisch- oder Auflagefläche (59, 9) versehen oder zu deren Aufnahme ausgebildet ist. 10
6. Heizvorrichtung nach Anspruch 5, ferner mit einer erweiterten Tischfläche (30), die zum Aufliegen auf der Oberseite (58, 8) der Basisstruktur (59, 9) ausgebildet ist. 15

Revendications

1. Appareil de chauffage au gaz en forme de parasol 20
comportant une structure de base (51) destinée à
loger une bouteille de gaz, un mat (52) pouvant être
supporté sur la structure de base afin de s'élever
de la structure de base, un agencement (53) à brû-
leur à gaz pouvant être raccordé au mat (52) et sup- 25
porté par celui-ci et un déflecteur (54) en forme de
cuvette pouvant être supporté au-dessus de l'agen-
cement à brûleur à gaz et conçu pour diriger la cha-
leur vers le bas, le déflecteur en forme de cuvette
comportant des sections multiples (73, 82) de cu- 30
vette, **caractérisé en ce que** les sections de cuvet-
te comportent des rebords et sont séparées et peu-
vent être accrochées, et sont conçues pour être
fixées les unes aux autres au moyen des rebords, 35
lors de l'utilisation, afin de former la cuvette, le dé-
flecteur en cuvette peut être en pièces avant d'être
emballé et expédié, et peut être assemblé par un
acheteur afin de former la cuvette.
2. Appareil de chauffage selon la revendication 1, 40
comportant deux à quatre sections de cuvette sé-
parées.
3. Appareil de chauffage selon l'une des revendica- 45
tions 1 et 2, dans lequel le diamètre de la cuvette
assemblée (54) est supérieur à un mètre.
4. Appareil de chauffage selon l'une quelconque des 50
revendications précédentes, dans lequel le diamè-
tre de la cuvette assemblée (54) est d'environ 1,1
à 1,2 mètre.
5. Appareil de chauffage selon l'une quelconque des 55
revendications 1 à 4, dans lequel le dessus (58, 8)
de la structure de base (51, 1) est pourvu de, ou
conçu pour comprendre, une surface extérieure de
table ou de plateau (59, 9).

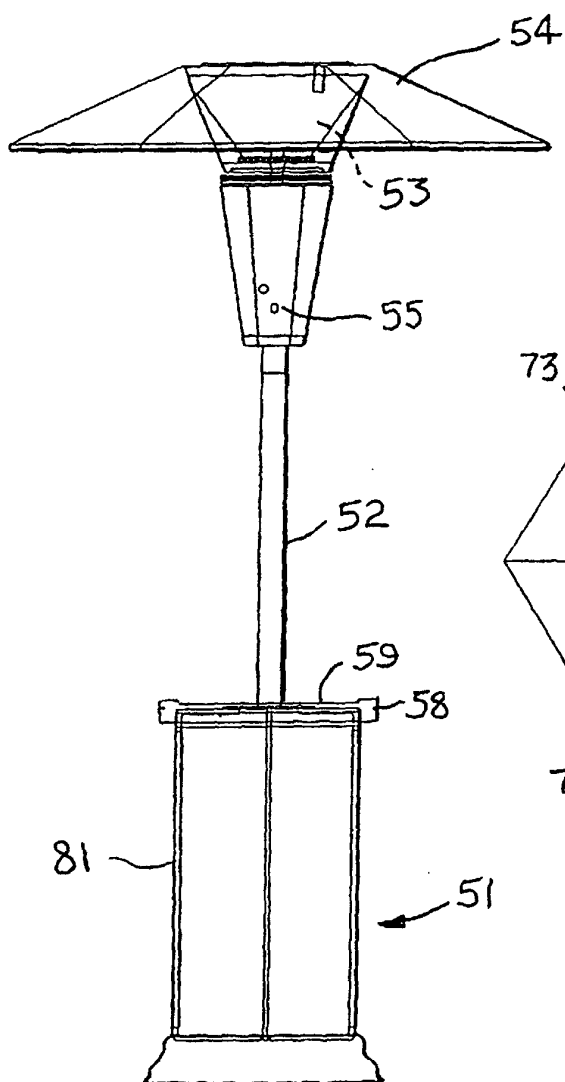


FIG. 1

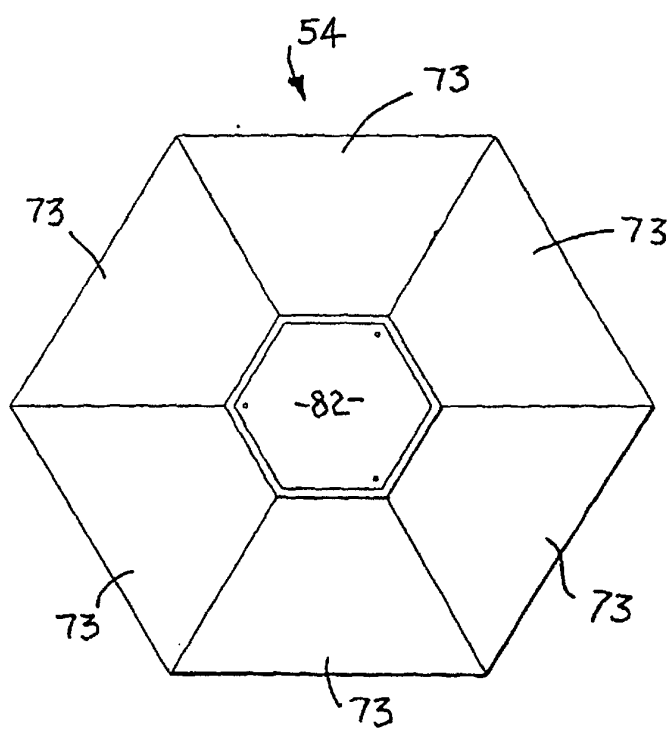
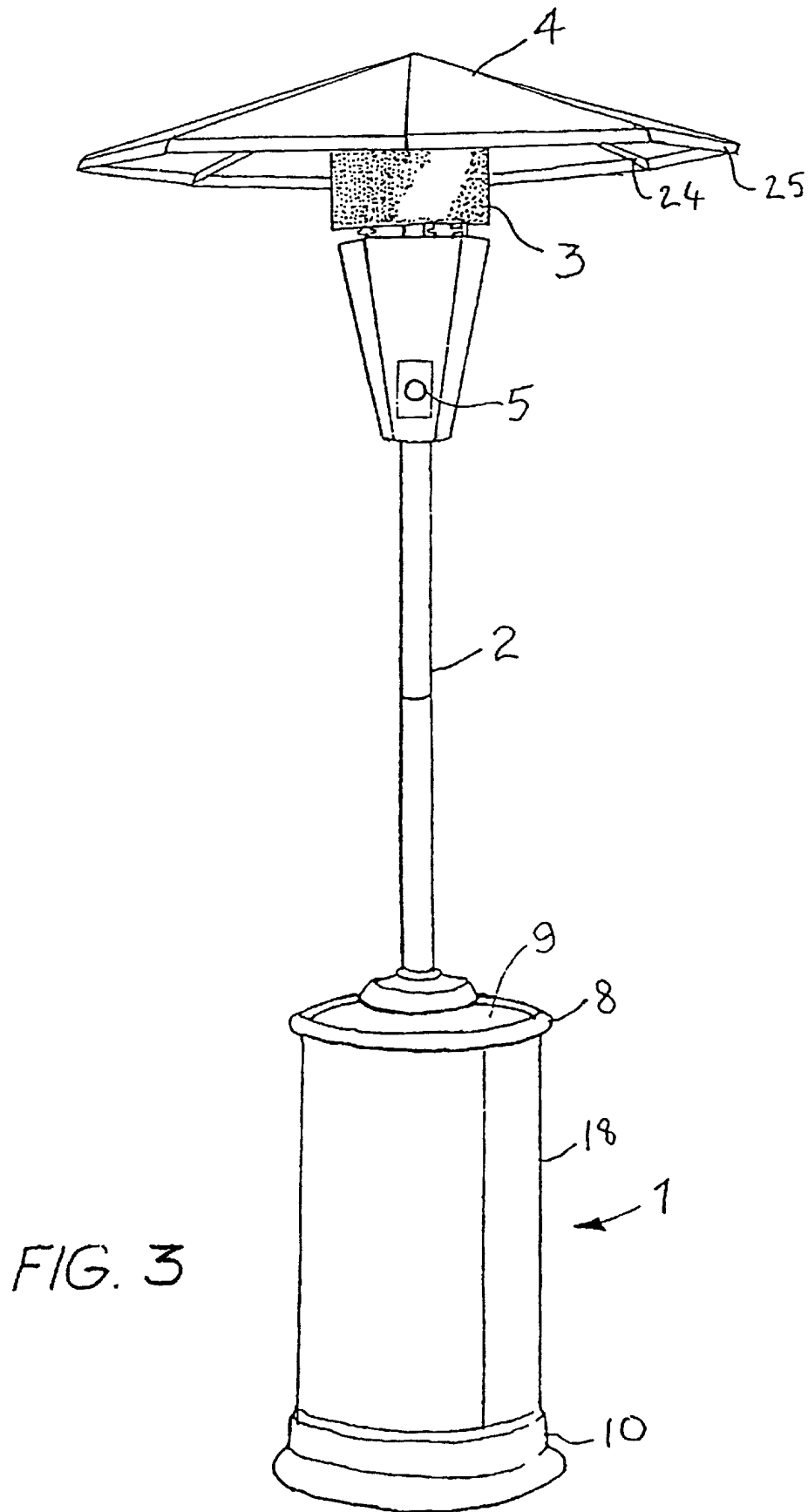


FIG. 2



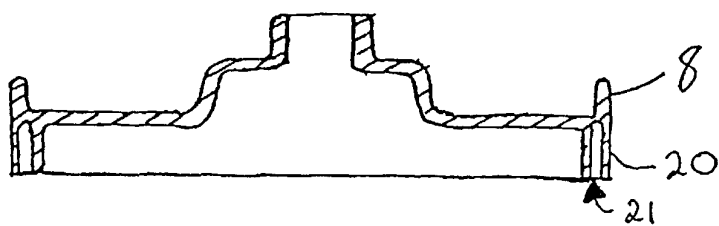


FIG. 5

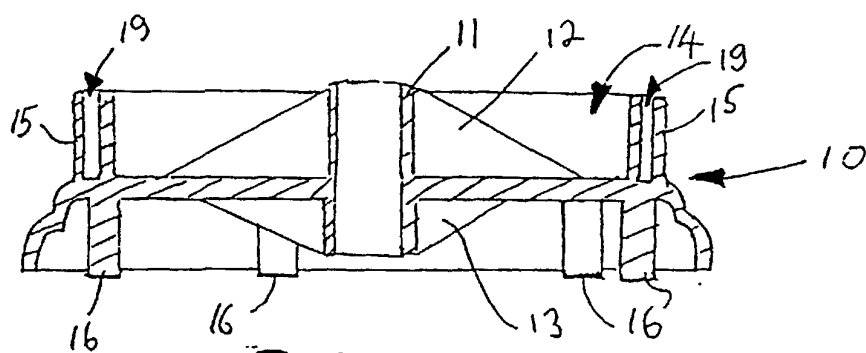


FIG. 6

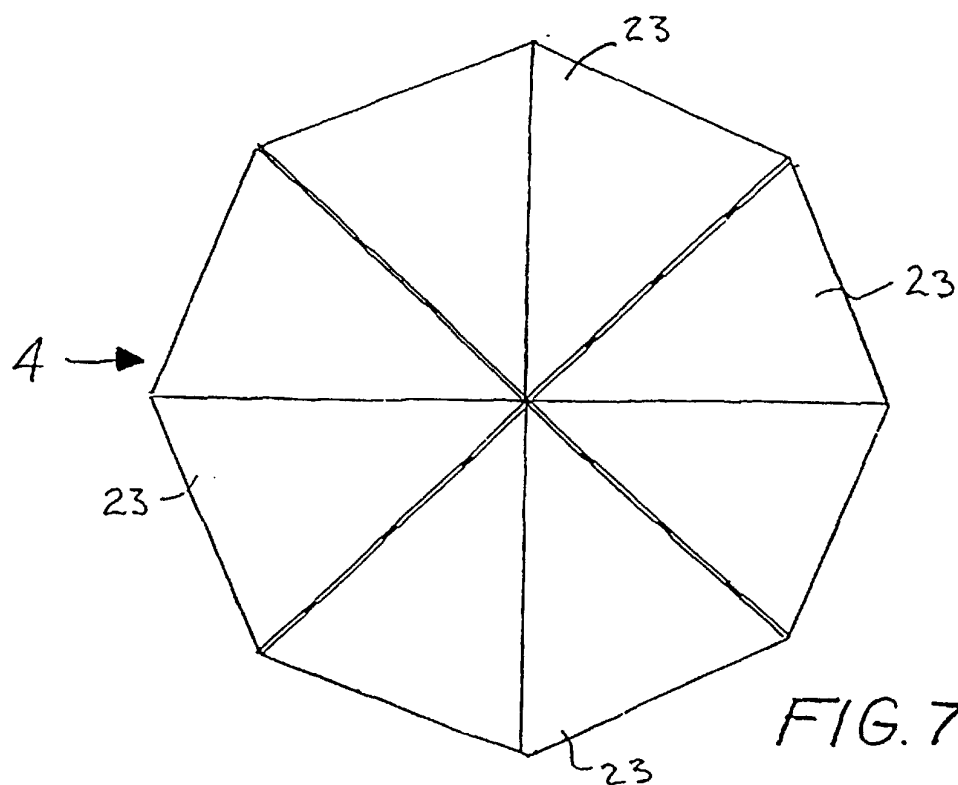


FIG. 7

