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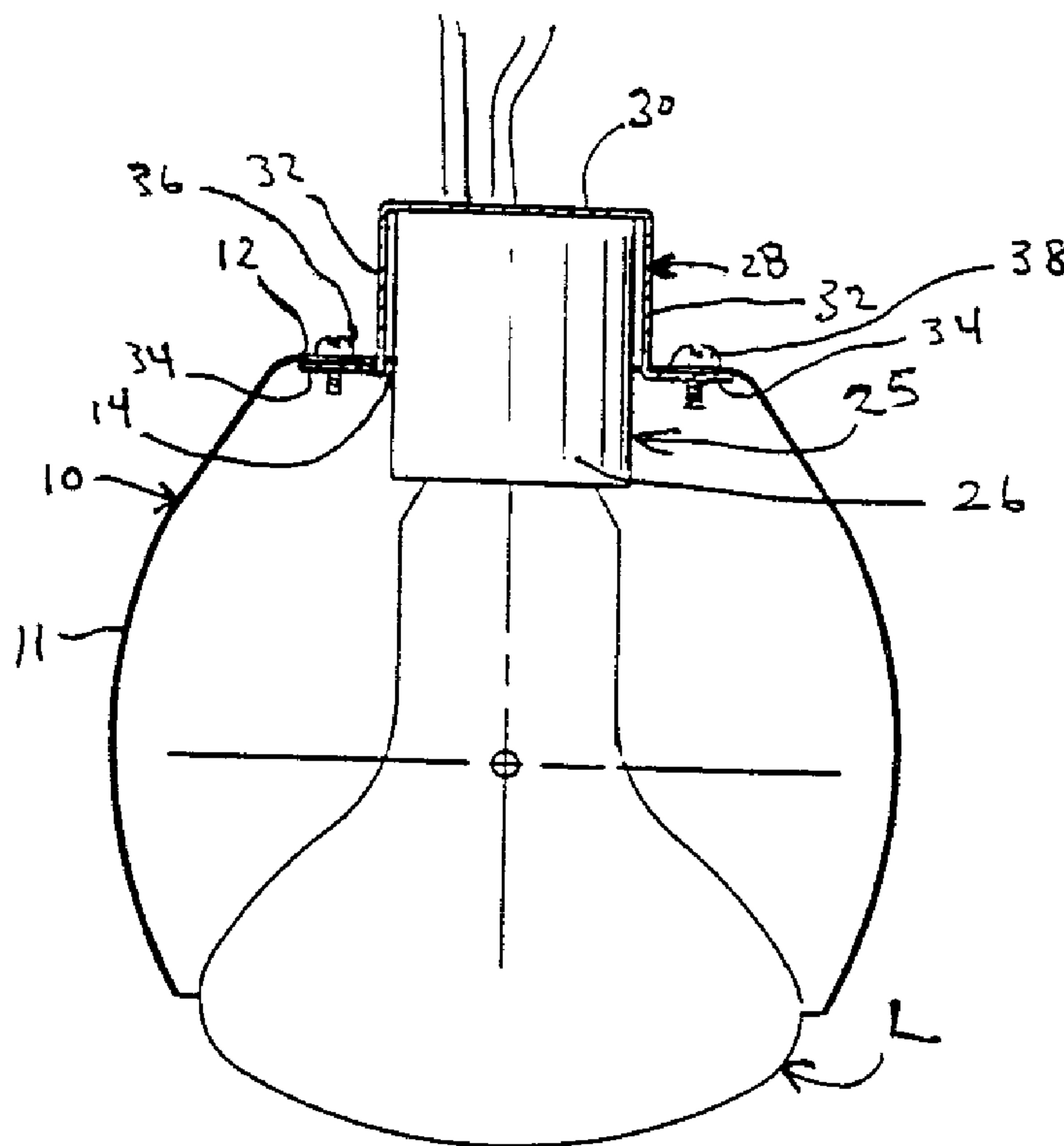
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(54) Title: TRIM AND LAMP SOCKET UNIT FOR RECESSED LIGHTING FIXTURES



(57) Abrégé/Abstract:

A recessed lighting fixture includes a trim unit and a socket unit attached thereto. The socket unit includes a generally horizontal upper plate portion, a pair of side plate portions projecting downwardly from the upper plate portion, and two tabs projecting from the lower ends of the side plate portions. The upper plate portion includes two holes adapted to receive mounting screws. Each tab includes a hole for receiving a mounting screw. The trim unit includes a socket-mounting portion having a slot arrangement for receiving two mounting screws carried by the socket unit. The configuration of the socket arrangement depends upon whether the screws are mounted in the upper plate portion or the tabs of the socket unit.

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Abstract of the Disclosure

A recessed lighting fixture includes a trim unit and a socket unit attached thereto. The socket unit includes a generally horizontal upper plate portion, a pair of side plate portions projecting downwardly from the upper plate portion, and two tabs projecting from the lower ends of the side plate portions. The upper plate portion includes two holes adapted to receive mounting screws. Each tab includes a hole for receiving a mounting screw. The trim unit includes a socket-mounting portion having a slot arrangement for receiving two mounting screws carried by the socket unit. The configuration of the socket arrangement depends upon whether the screws are mounted in the upper plate portion or the tabs of the socket unit.

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**TRIM AND LAMP SOCKET UNIT FOR
RECESSED LIGHTING FIXTURES**

Background of the Invention

The present invention relates to recessed lighting
5 fixtures and, in particular, to the mounting of a lamp
socket to a trim of such a fixture.

In conventional recessed lighting fixtures, a
cylindrical housing is mounted within a ceiling, a trim or
reflector structure is mounted to the trim, and a lamp
10 socket unit is mounted to the trim.

It would be desirable to be able to mount the lamp
socket unit to the trim in a simple manner and also to be
able to mount the same type of lamp socket in different
trims.

15 It would also be desirable to provide a mounting
arrangement whereby it can be ensured that certain types of
lamp socket units, such as a conventional spring-clip type
lamp socket unit cannot be mounted to the trim.

Summary of the Invention

20 In a recessed lighting fixture including a trim,
the trim including a reflector portion and a generally
horizontally socket-mounting portion disposed at an upper
end of the reflector portion. The socket-mounting portion
has an aperture formed therein of a size suitable for
25 enabling a portion of a socket unit to pass therethrough.
The aperture includes a first slot extending outwardly
therefrom, and a second slot spaced from the aperture at a
location generally diametrically opposite the first slot.
The second slot includes a wide portion and a narrow
30 portion. The centers of the wide and narrow portions are

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substantially equally spaced from the first slot. The first and second slots are located such that first and second screws project upwardly from the socket unit positionable within the first slot and the wide portion, respectively.

5 Then, the socket unit can be rotated about the first screw as a fulcrum to enable the second screw to enter the narrow portion before the screws are tightened down.

In another aspect of the invention, in a recessed lighting fixture including a trim, said trim including a
10 reflector portion and a socket-mounting portion disposed at an upper end of said reflector portion, said socket-mounting portion having an aperture formed therein which is open to an edge of said socket-mounting portion, and first and second slots disposed on opposite sides of said aperture,
15 each of said slots having wide and narrow portions, said slots being located such that first and second screws projecting upwardly from said socket unit are positionable within said wide portions of respective ones of said slots, and then the socket extending outwardly therefrom, and a
20 second slot spaced from said aperture at a location generally diametrically opposite said first slot, said second slot including a wide portion and a narrow portion, the centers of said wide and narrow portions being substantially equally spaced from said first slot, said
25 first and second slots being located such that first and second screws projecting upwardly from said socket unit are positionable within said first slot and said wide portion, respectively, and then the socket is movable to position both screws in said narrow portions of respective ones of
30 said slots before said screws are tightened down.

The present invention also relates to a lamp socket unit for attachment to a trim element of a recessed lighting fixture. The lamp socket unit comprises a socket

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element for receiving a lamp, and a flange mounted to the socket unit. The flange includes an upwardly generally horizontal plate portion, two side plate portions projecting downwardly from the upper plate portion, and two tabs
5 projecting generally horizontally from lower ends of the side plate portions. Each of the tabs includes a hole for receiving a mounting screw. The upper plate portion includes two holes for receiving mounting screws.

Brief Description of the Drawings

10 The objects and advantages of the invention will become apparent from the following detailed description of preferred embodiments thereof in connection with the accompanying drawings in which like numerals designate like elements, and in which:

FIG. 1 is a top plan view of a first embodiment of a trim element according to the present invention;

FIG. 2 is a view similar to FIG. 1 after a socket unit according to the present invention has been installed in the trim element;

FIG. 3 is a vertical sectional view taken through FIG. 2;

FIG. 4 is a top elevational view of a second type of trim element according to the present invention;

FIG. 5 is a view similar to FIG. 1 after the socket unit according to the present invention has been installed therein; and

FIG. 6 is a vertical sectional view taken through FIG. 5.

Detailed Description of a Preferred Embodiment of the Invention

Depicted in FIGS. 1-3 is a trim or reflector member 10 which is to be mounted in a conventional cylindrical housing (not shown). Examples of such housings can be found in U.S. Patents No. 5,075,831 and No. 5,122,944, for example.

The trim member 10 includes a reflector portion 11 and a socket mounting portion in the form of an upper horizontal part 12 which is formed integrally with the reflector portion 11. The upper part 12 has a center aperture 14. The aperture is mainly circular, with a radial inward projection 16 at one portion thereof. A radial slot 18 is formed diametrically opposite the projection.

Spaced from the projection is a keyslot 20 which includes a narrow portion 22 and a wide portion 24 the centers of which are spaced the same distance from the slot 18.

A lamp socket unit 25 comprises a cylindrical socket element 26 and a flange 28 attached thereto in any suitable fashion, e.g., by screws, rivets or other fasteners. The socket element 26 is conventional and is adapted to threadedly receive a lamp L. The flange 28 includes an upper horizontal plate portion 30, two downwardly dependent side plate portions 32, and two horizontal tab portions 34 projecting outwardly from the lower ends of respective side plate portions 32. Each tab has a screw 36, 38 projecting upwardly from a threaded hole formed therein.

The flange is sized so that the upper plate portion 38 and the side plate portions 32 can pass upwardly through the aperture 14, with the tab portions 34 abutting the underside of the upper part 12 of the trim element. The spacing between the screws 36, 38 is such that the screw 36 can be inserted into the slot 18 while the other screw 38 is inserted into the wide portion 24 of the keyslot 20. Then, the lamp socket can be rotated about the screw 36 as a fulcrum (clockwise in FIG. 3) to bring the screw 38 into the narrow portion 22. Then, by screwing down the screws, the lamp socket will be securely anchored in place.

Depicted in FIGS. 4-6 is another type of trim element 50 which includes a reflector portion 52 and a socket-mounting portion in the form of an inverted U-shaped bracket or yoke 54. The yoke includes a top plate portion 56, and two downwardly dependent side plate portions 58 which are attached to the reflector 52, e.g., by rivets. The trim element 50 is attached to a cylindrical housing in any conventional manner.

The top plate portion 56 includes a central aperture 60 which includes an oblong portion 62 and a slot 64 extending to an edge of the top plate portion.

A pair of keyslots 64 are formed on opposite sides of the central aperture 60, the keyslots 64 being identical and including narrow and wide portions 68, 70. The keyslots are spaced equidistantly from the aperture 60.

5 The lamp socket 25 is shaped similar to the one described earlier, except that the two screws 36, 38 protect upwardly from two threaded holes formed in the upper plate portion 86. Those screws are spaced apart by
10 a distance enabling them to be inserted upwardly through the wide portions 70 of the keyslots. Then, the lamp socket can be shifted linearly horizontally to bring the screws into the narrow portions of the keyslots. By then tightening down on the screws, the lamp socket will be
15 firmly secured in place. Electrical wiring for the lamp socket will extend through the apertures 60.

 It will be appreciated that the same lamp socket unit can be inserted into both types of trims, merely by relocating the location of the screws. The manner of installation is simple in each instance. Also, by making
20 the aperture 14 or 60 of such a size (i.e., too big or too small), it can be ensured that certain socket units (e.g., socket units of the spring-clip type which may not have been approved for use with these trim elements) cannot be attached to the trim.

25 Although the present invention has been described in connection with preferred embodiments thereof, it will be appreciated by those skilled in the art that additions, modifications, substitutions and deletions not specifically described may be made without departing from
30 the spirit and scope of the invention as defined by the appended claims.

WHAT IS CLAIMED IS:

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CLAIMS:

1. In a recessed lighting fixture including a trim, said trim including a reflector portion and a generally horizontal socket-mounting portion disposed at an upper end
5 of said reflector portion, said socket-mounting portion having an aperture formed therein of a size suitable for enabling a portion of a socket unit to pass therethrough, said aperture including a first slot extending outwardly therefrom, and a second slot spaced from said aperture at a
10 location generally diametrically opposite said first slot, said second slot including a wide portion and a narrow portion, the centers of said wide and narrow portions being substantially equally spaced from said first slot, said first and second slots being located such that first and
15 second screws projecting upwardly from said socket unit are positionable within said first slot and said wide portion, respectively, and then the socket unit can be rotated about the first screw as a fulcrum to enable said second screw to enter said narrow portion before said screws are tightened
20 down.

2. In a recessed lighting fixture according to Claim 1 including said socket unit which comprises a socket element for receiving a lamp, and a flange mounted to said socket unit, said flange including an upper generally horizontal
25 plate portion, two side plate portions projecting downwardly from said upper plate portion, and two tabs projecting generally horizontally from lower ends of said side plate portions, said screws being mounted in holes formed in respective ones of said tabs, said upper plate portion and
30 said side plate portions projecting through said aperture, and said tabs abutting against an underside of said generally horizontal portion of said trim.

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3. In a recessed lighting fixture according to Claim 1, wherein said socket-mounting portion and said reflector are of integral one-piece construction.

4. In a recessed lighting fixture including a trim,
5 said trim including a reflector portion and a socket-mounting portion disposed at an upper end of said reflector portion, said socket-mounting portion having an aperture formed therein which is open to an edge of said socket-mounting portion, and first and second slots disposed on
10 opposite sides of said aperture, each of said slots having wide and narrow portions, said slots being located such that first and second screws projecting upwardly from said socket unit are positionable within said wide portions of respective ones of said slots, and then the socket extending
15 outwardly therefrom, and a second slot spaced from said aperture at a location generally diametrically opposite said first slot, said second slot including a wide portion and a narrow portion, the centers of said wide and narrow portions being substantially equally spaced from said first slot,
20 said first and second slots being located such that first and second screws projecting upwardly from said socket unit are positionable within said first slot and said wide portion, respectively, and then the socket is movable to position both screws in said narrow portions of respective
25 ones of said slots before said screws are tightened down.

5. In a recessed lighting fixture according to Claim 4, wherein the slots are oriented such that the socket unit is moved linearly to position both screws in said respective narrow portions.

30 6. In a recessed lighting fixture according to Claim 4, wherein said socket-mounting portion comprises a bracket affixed to said reflector portion.

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7. In a recessed lighting fixture according to Claim 4 including said socket unit which comprises a socket element for receiving a lamp, and a flange mounted to said socket unit, said flange including an upper generally horizontal plate portion, two side plate portions projecting downwardly from said upper plate portion, and two tabs projecting generally horizontally from lower ends of said side plate portions, said screws being mounted in holes formed in said upper plate portion.

SMART & BIGGAR

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PATENT AGENTS

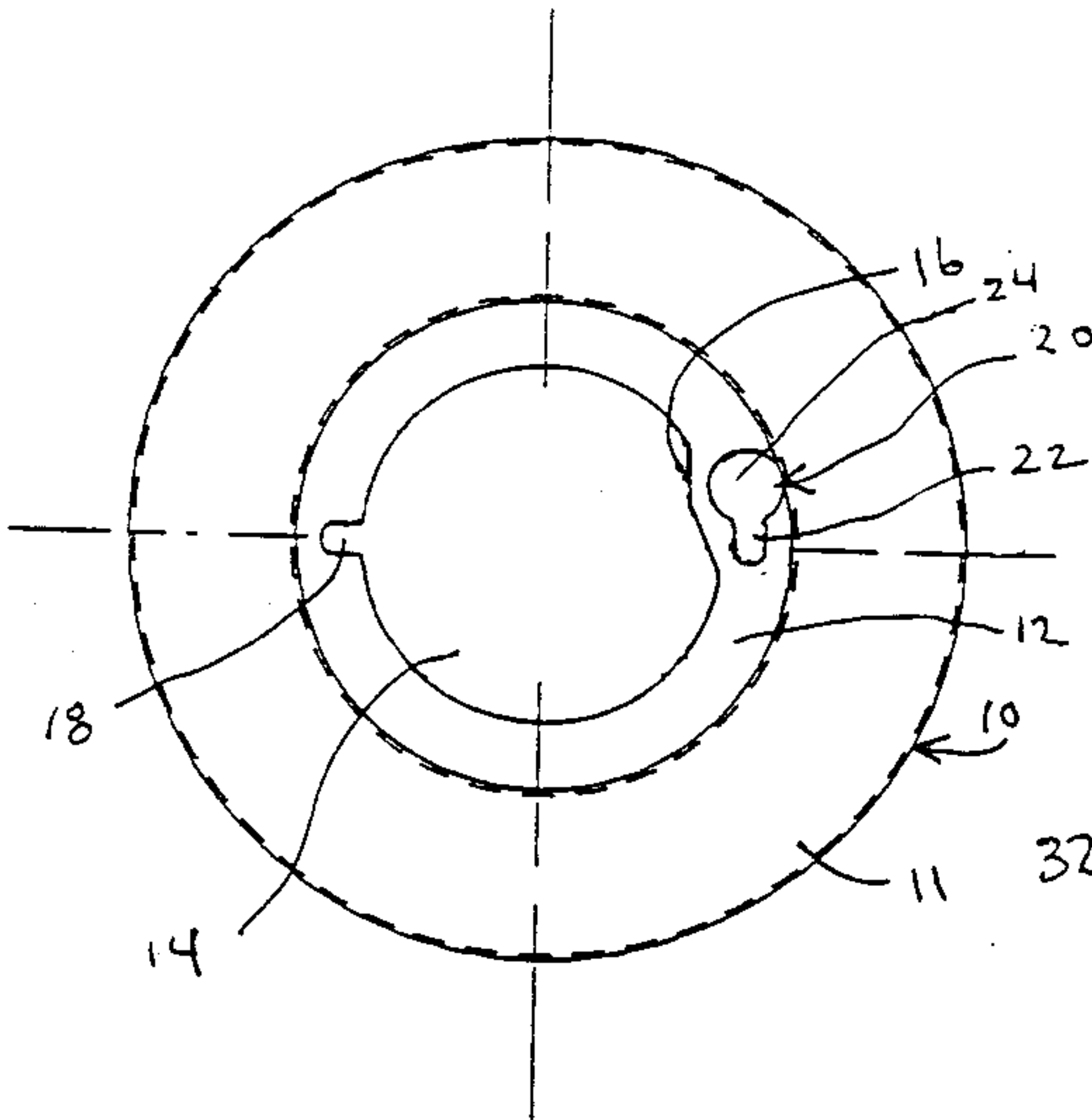


FIG. 1

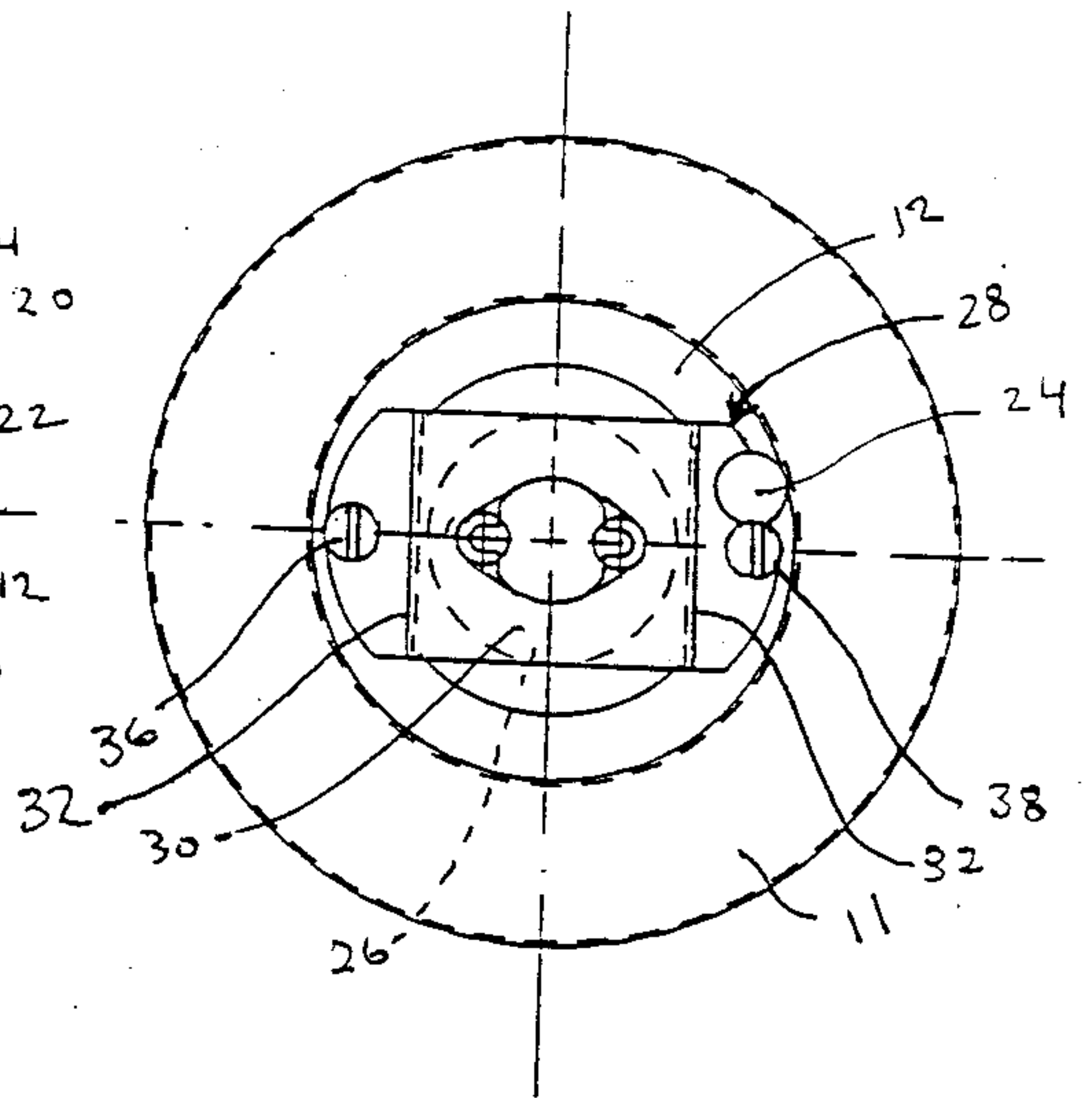


FIG. 2

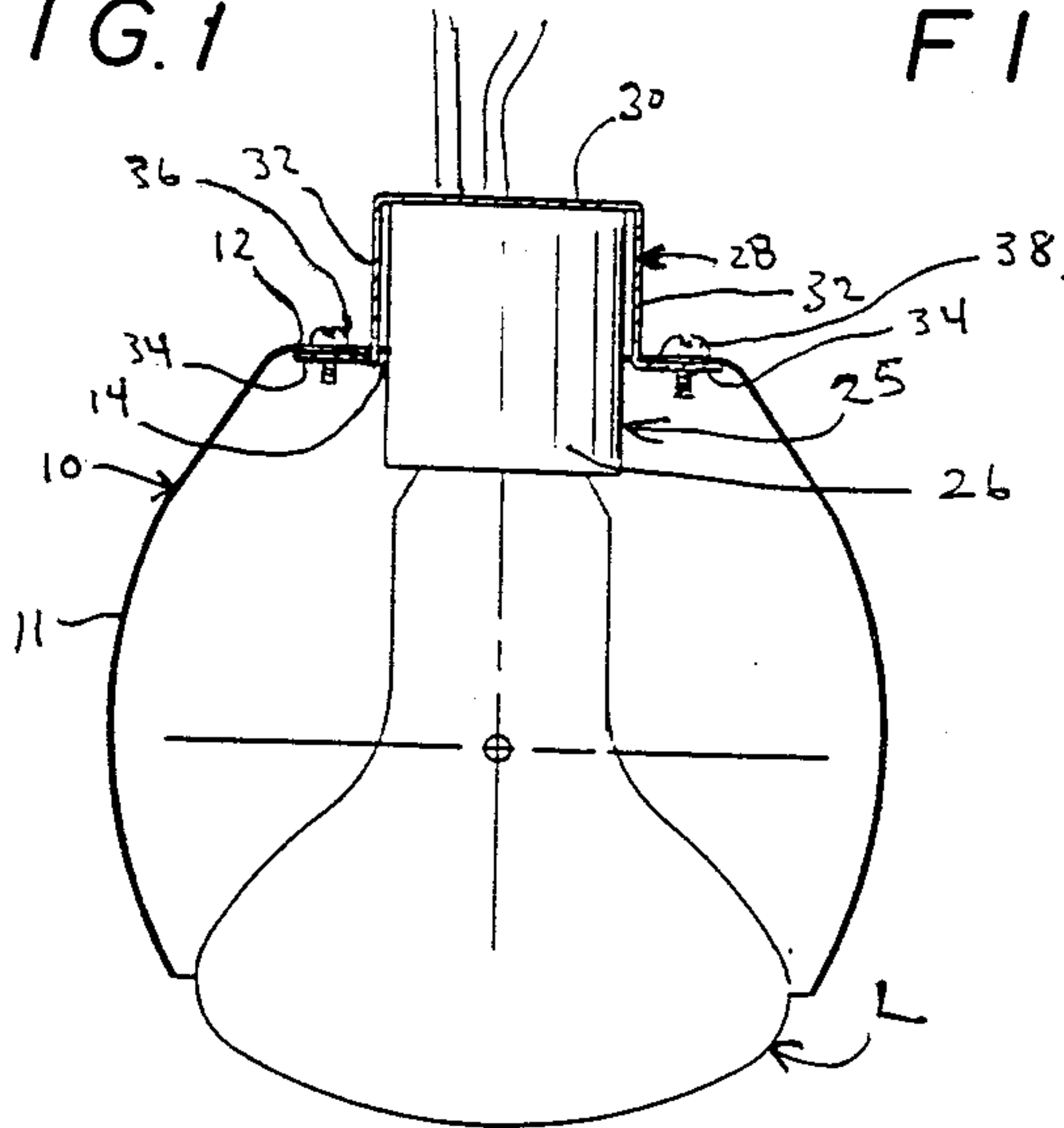


FIG. 3

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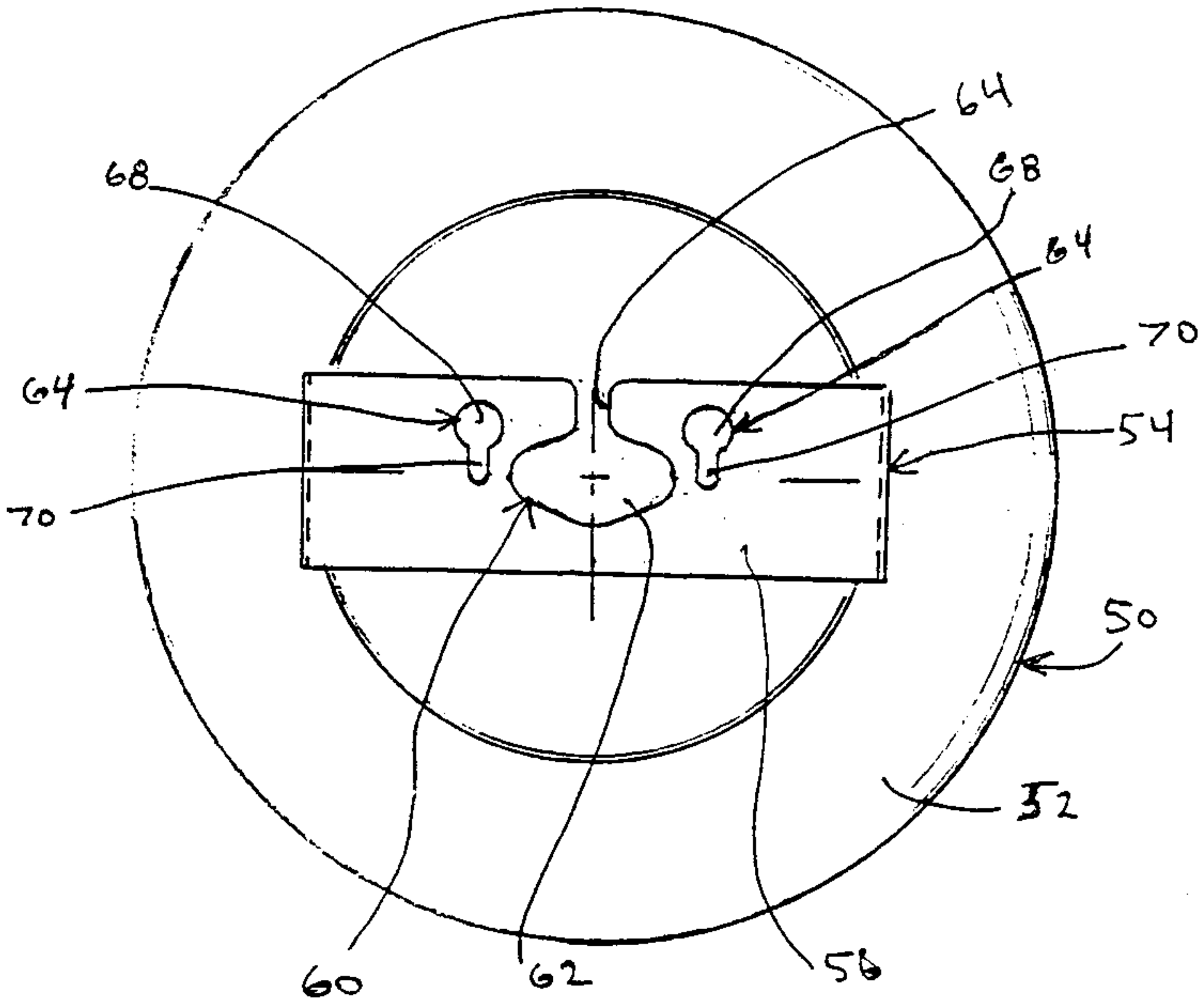
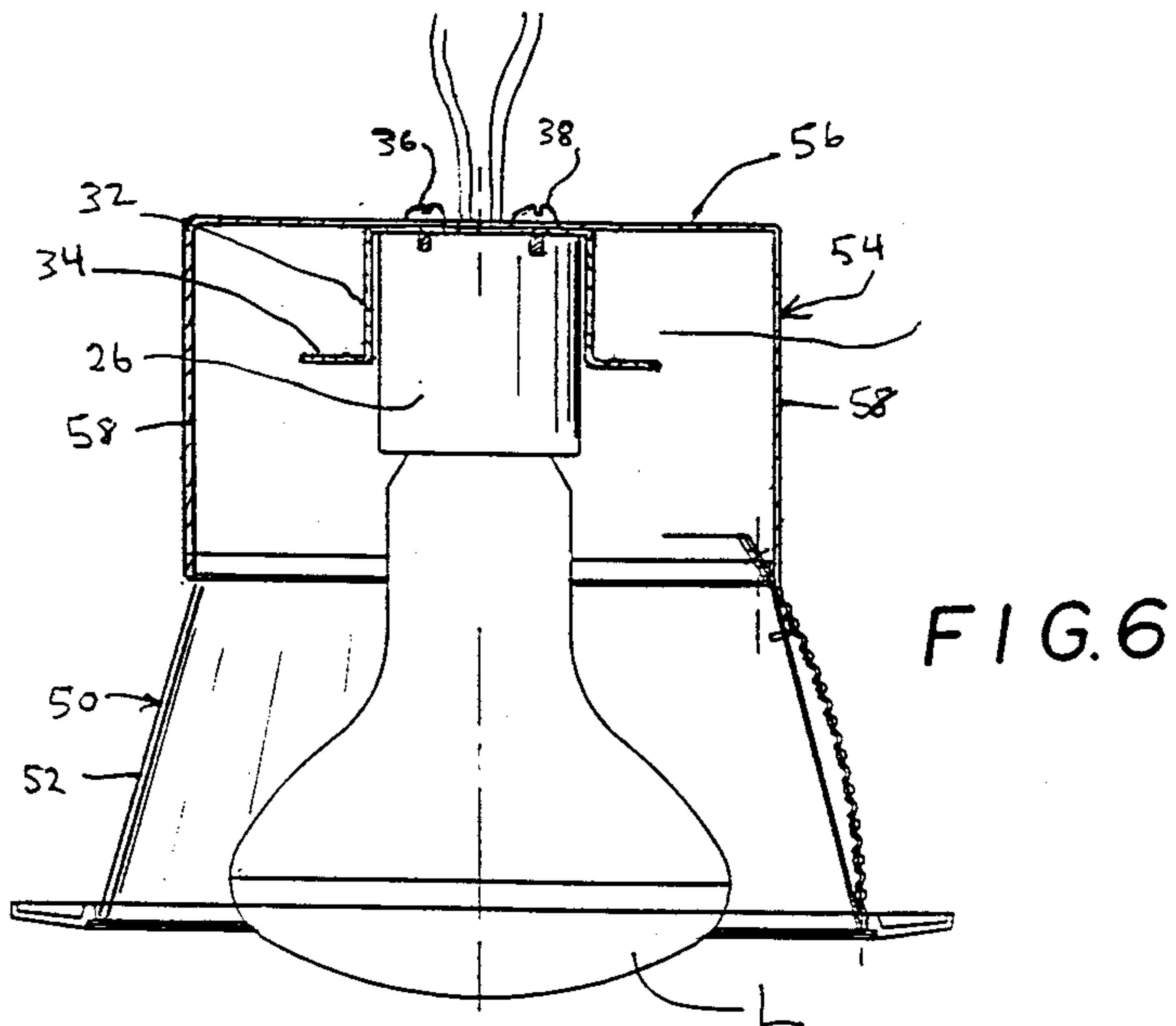
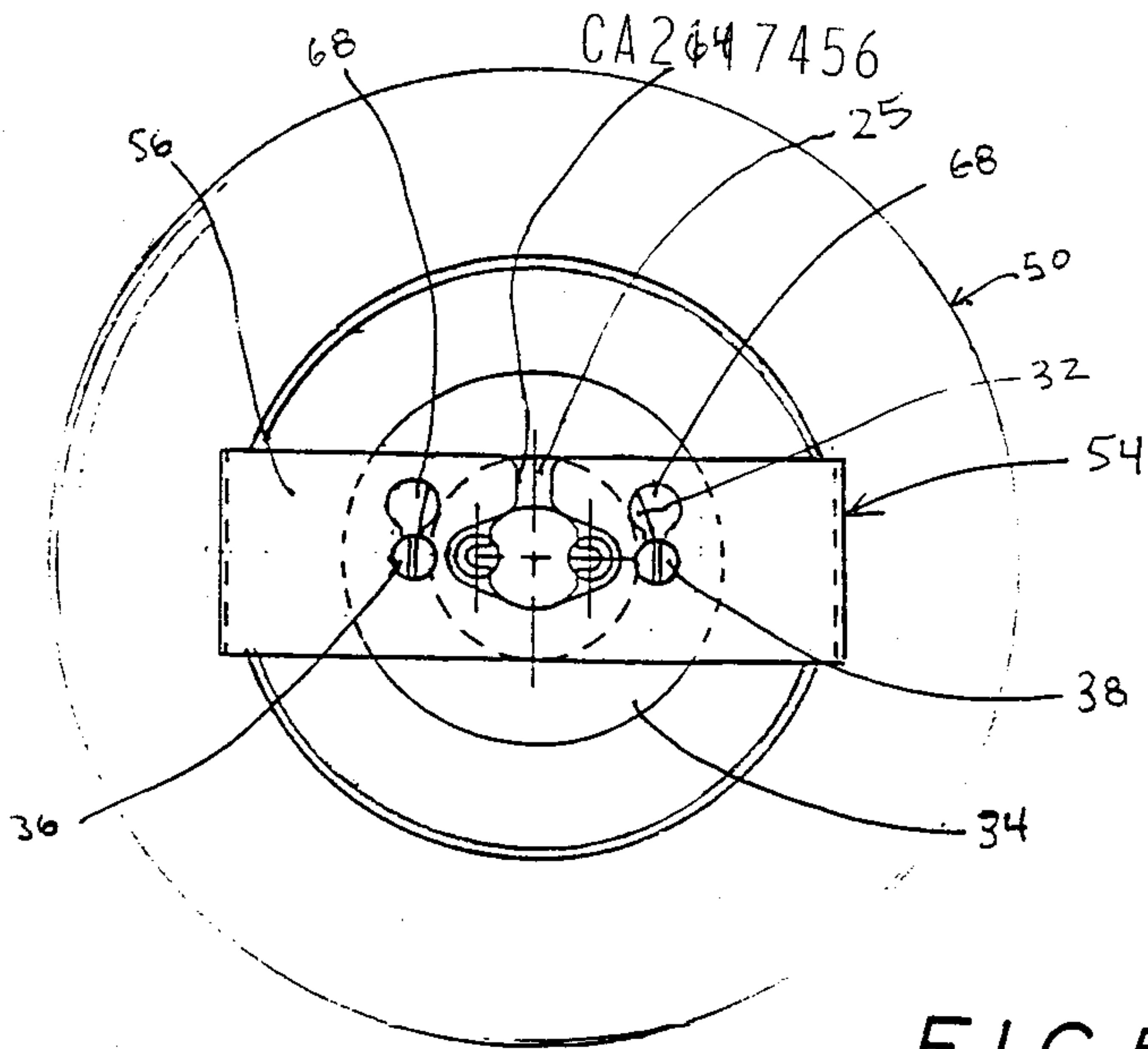


FIG. 4

Patent Agents
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*Pat. 2,474,566
Smart & Co.*

