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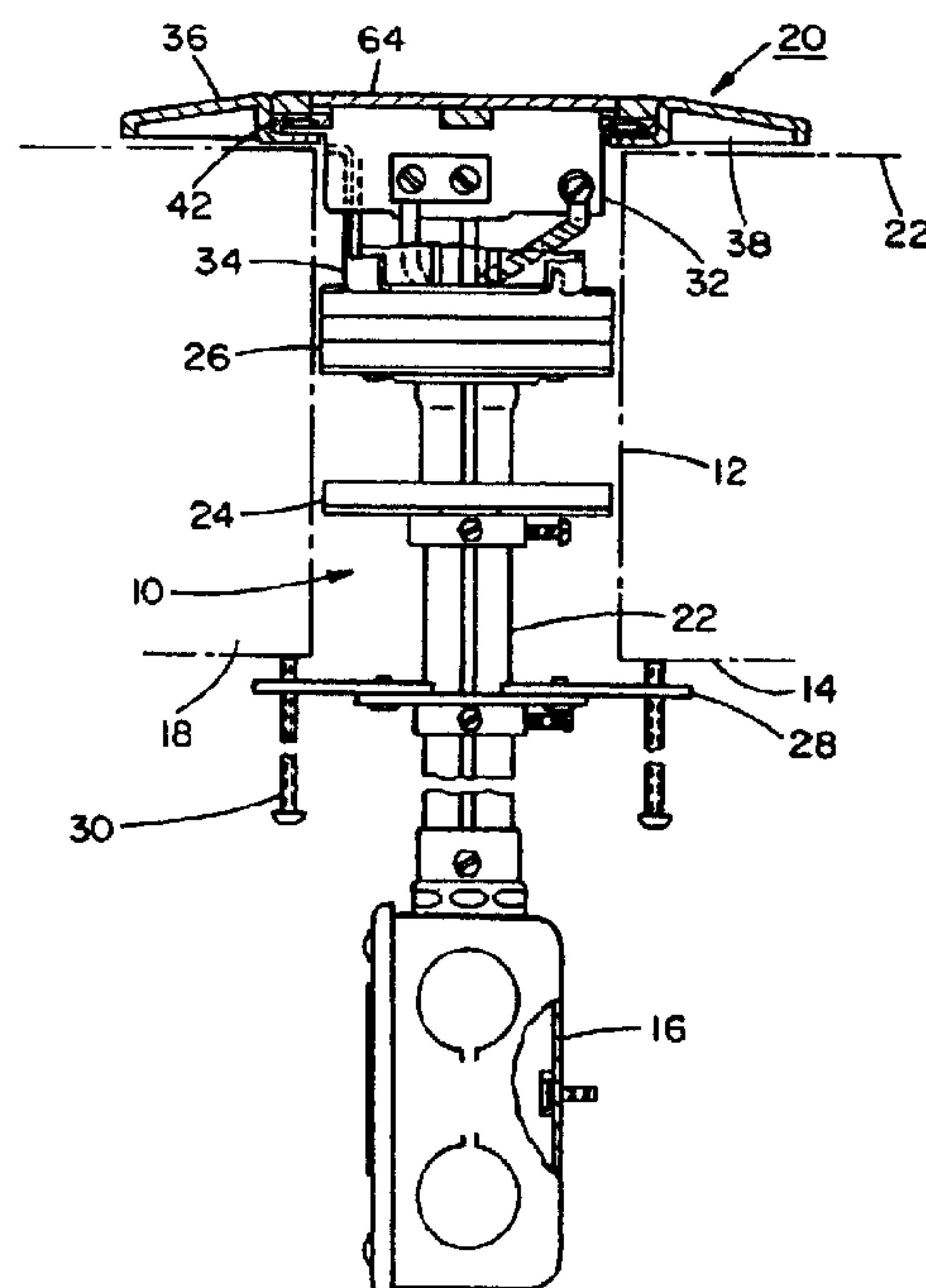
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(54) Title: POKE-THROUGH WIRING FITTING WITH FLAP COVER ASSEMBLY



(57) Abrégé/Abstract:

An in-floor multiple-service wiring device and, more particularly, a poke-through wiring fitting incorporating a novel flap cover assembly, and which fitting is adapted to be positioned in a floor aperture of a concrete building floor for the conductance of electrical power and telecommunication signals between the work spaces of multi-storied buildings. The flap cover assembly incorporates an upper cover plate consisting of metallic material, preferably such as brass or the like, and a lower cover plate, preferably constituted from a rigid molded plastic material and which is fastened to the upper plate member in surface contact with the rear face thereof. Hereby, aligned apertures are formed in both the upper and lower cover plate members, and with metallic flap covers being hingedly connected to the cover plate assembly so as to essentially be able to close off the apertures formed therein which are superimposed on the somewhat smaller-dimensioned aligned apertures formed in the lower plastic plate member, and whereby cooperative connecting structure for resiliently biasing the flap covers into normally closed positions are operatively interposed between the upper and lower cover plate members during assembly of the plate members.



POKE-THROUGH WIRING FITTING WITH FLAP COVER ASSEMBLYABSTRACT OF THE DISCLOSURE

An in-floor multiple-service wiring device and, more particularly, a poke-through wiring fitting incorporating a novel flap cover assembly, and which fitting is adapted to be positioned in a floor aperture of a concrete building floor for the conductance of electrical power and telecommunication signals between the work spaces of multi-storied buildings. The flap cover assembly incorporates an upper cover plate consisting of metallic material, preferably such as brass or the like, and a lower cover plate, preferably constituted from a rigid molded plastic material and which is fastened to the upper plate member in surface contact with the rear face thereof. Hereby, aligned apertures are formed in both the upper and lower cover plate members, and with metallic flap covers being hingedly connected to the cover plate assembly so as to essentially be able to close off the apertures formed therein which are superimposed on the somewhat smaller-dimensioned aligned apertures formed in the lower plastic plate member, and whereby cooperative connecting structure for resiliently biasing the flap covers into normally closed positions are operatively interposed between the upper and lower cover plate members during assembly of the plate members.

1 POKE-THROUGH WIRING FITTING
 WITH FLAP COVER ASSEMBLY

BACKGROUND OF THE INVENTION

1. Field of the Invention

5 The present invention relates, in general, to
an in-floor multiple-service wiring device and, more
particularly, pertains to a poke-through wiring fitting
incorporating a novel flap cover assembly, and which
fitting is adapted to be positioned in a floor aperture
10 of a concrete building floor for the conductance of
electrical power and telecommunication signals between
the work spaces of multi-storied buildings.

 In essence, during the erection of building
structures of various types; for instance, such as modern
15 multi-storied office buildings possessing concrete
floors, it is frequently necessary, and also commonly
accepted building practice, to normally provide fire-
rated poke-through fittings and devices for conducting
insulated conductors, wires, cables and the like, which
20 are employed for the transmission of electrical power and
telecommunication signals through suitable holes or
apertures which are formed in concrete building floors,
and whereby electrical power and other kinds of signals,
such as telecommunication signals, may be readily
25 transmitted from a suitable source; for instance, from a
junction box located at or proximate one face of the
concrete floor through the intermediary of the poke-
through fitting, through the aperture in the concrete
building floor to a suitable outlet or service head which
30 is located at the opposite face of the floor.

-2-

1 Depending upon the type of installation
required for the service head or outlet which is located
at the face of the floor opposite from that towards the
junction box, at frequent instances of installation, the
5 service head is adapted to be mounted flush on the
surface of the floor or on a carpet which covers the
floor; in which case, the service head or outlet is
ordinarily mounted in a cover plate encompassed by a
metallic or brass carpet flange or other suitable flange
10 structure. Hereby, such carpet flanges, while protecting
the cover plate structure for the outlet or service head,
also provide for a smooth and aesthetically pleasing
decorative surface appearance which, to an appreciable
degree, will prevent an occupant or persons walking over
15 the carpeted floor space from tripping on the service
head and possibly sustaining some injury. Moreover, the
service head should also be adapted to enable the passage
therethrough of various cables, such as for
telecommunications and telephone signals, while providing
20 for ready access to plug connectors enabling the
connection of electrical wires leading to suitable lamps,
computers and/or word processors.

2. Discussion of the Prior Art

 Although various types of service heads of the
25 type under consideration herein are currently in
widespread use in the building industry, particularly
such as incorporating cover assemblies fastened in either
brass or plastic carpet or floor flanges which are flush
mounted on a carpet or floor, and which assemblies
30 provide for cover plate structure communicating with plug
connectors and/or openings for telecommunication cables

-3-

1 leading from a junction box to the floor aperture through
the service head, none of these prior art structures
provide for a composite brass and plastic flap cover
assembly having metallic flap covers normally resiliently
5 biased into closed positions. These flap covers inhibit
the ingress of dirt, dust and contaminants to the plug
connectors and the fitting components contained within
the floor aperture when not in use, while providing a
smooth surface of an aesthetically highly pleasing
10 appearance, and which will concurrently ameliorate the
danger or hazard of an occupant of the workspace tripping
over such service head.

Thus, among various types of poke-through
wiring fittings which are equipped with service heads or
15 outlets adapted to be positioned fastened in place on or
proximate the face of a floor or on a carpeted floor
surface, and which generally incorporate a closure plate
or cover plate assembly fastened to a carpet or floor
flange, Castellani, et al. U. S. Patent 4,770,643
20 disclose an in-floor fitting, wherein a carpet flange has
a central recessed portion containing an opening, in
which recessed portions there is positioned a closure
plate, the latter of which includes removable or break-
out plugs for enabling the through-passage of insulated
25 cables, and includes plate portions having plug connector
sockets formed therein. Although this provides for a
relatively smooth surface in combination with the carpet
flange when mounted on a carpet or building floor
surface, the openings of the socket connectors adapted to
30 receive the plug prongs are always exposed to the
surroundings, thereby allowing for the ingress of dust

-4-

1 and other contaminants which; in essence, can conceivably
ultimately prevent the presence of an appropriate
electrical contact between socket connectors and plug
prongs and/or constitute a hazard of fire due to carpet
5 fibers being forced into the electrical connector
portions.

Similarly, Castellani, et al. U. S. Patent
4,827,080 disclose a carpet flange as a component of a
service head adapted to be fastened to a top plate of the
10 poke-through fitting, and in which a molded plastic cover
insert is adapted to be positioned in a recessed central
cutout of the carpet flange and fastened thereto by means
of suitable screw members and the like. However, as in
the case of the previously-discussed Castellani, et al.
15 U. S. Patent 4,770,643, the electrical socket connectors
for receiving the plug prongs are continually exposed and
potentially subject to the ingress of and contamination
by dust and/or other dirt particles, thereby rendering
this service head subject to the same drawbacks and
20 disadvantages.

Morgan U. S. Patent 5,107,072 discloses a
flush-mounted service head for a poke-through fitting,
including a carpet flange in which there is fastened a
cover plate for the poke-through in-floor fitting, and
25 wherein the cover plate possesses break-out plugs for
enabling the through-passage of insulated cables, and
also provides for molded electrical socket plug
connectors. However, as in the previously-discussed
patents, the prong-receiving openings of the plug
30 connectors are constantly exposed to the surroundings
while; moreover, the portion of the cover plate

-5-

1 containing the break-through plugs is somewhat recessed
relative to the surfaces of the plug connectors, thereby
producing an uneven exposed and partially recessed upper
surface which can conceivably cause an occupant or person
5 utilizing the floor space and walking over the service
head to trip and sustain injuries, while also providing a
dirt or dust-collecting environment.

A somewhat more pertinent construction relative
to a service head incorporating a flap cover of generally
10 the type considered herein is disclosed in Bloom U. S.
Patent 5,032,690, wherein a carpet flange of an in-floor
fitting or poke-through connector assembly is preferably
constituted of a metallic material, and which includes a
central aperture and a circular disc-shaped cover plate
15 having break-out plugs extending radially inwardly from
the plate rim for the through-passage of insulated
cables, and with pivotable flap covers being positionable
over plug connectors. However, in this particular
instance, the cover plate structure is formed from a
20 single piece preferably consisting of a metallic
material, such as brass, which necessitates the
implementing of expensive and complex manufacturing and
attaching procedures for the flap covers, while utilize
extremely thick and heavy brass material for the plate
25 structure, thereby rendering the entire assembly
extremely expensive and complicated in its manufacture,
particularly with regard to the attachment for the
pivotably closable and openable flap covers to the
fitting cover plate.

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-6-

1 SUMMARY OF THE INVENTION

Accordingly, in order to eliminate or considerably ameliorate the limitations and drawbacks encountered in prior art constructions of service heads
5 for in-floor or poke-through wiring fittings of the type described herein, in which a flap cover plate assembly for the fitting is mountable in a metallic, such as a brass carpet flange or the like to enable it to be positioned fastened in place in an essentially flush or
10 low-profiled relationship on a carpeted floor surface. Hereby, the flap cover plate assembly incorporates an upper cover plate consisting of metallic material, preferably such as brass or the like, and a lower cover plate, preferably constituted from a rigid molded plastic
15 material and which is fastened to the upper plate member in surface contact with the rear face thereof. Hereby, aligned apertures are formed in both the upper and lower cover plate members, and with metallic flap covers being hingedly connected to the cover plate assembly so as to
20 essentially be able to close off the apertures formed therein which are superimposed on the somewhat smaller-dimensioned aligned apertures formed in the lower plastic plate member, and whereby cooperative connecting structure for resiliently biasing the flap covers into
25 normally closed positions are operatively interposed between the upper and lower cover plate members during assembly of the plate members. The composite cover plate construction of the flap cover plate assembly is fitted into a central recessed opening of the carpet flange so
30 as to provide an upper flat surface which is extensively in coplanar relationship with the uppermost portion of

-7-

1 the carpet flange, and wherein the lower surface of the
lower cover plate member is adapted to be positioned on
an upper mounting flange of the poke-through fitting and
fastened thereto through the intermediary of fasteners,
5 such as screw members passing through the cover plate
assembly. Moreover, the composite flap cover plate
assembly includes radially inwardly extending slots which
are adapted to each to receive removable break-out plugs
for the selective through-passage of insulated low-
10 voltage cables or wires, usually those employed for
telecommunication equipment, upon the installation of the
wiring fitting in a floor aperture, and with the flap
covers in the upper plate member being in alignment with
socket plug connectors of the fitting extending upwardly
15 into the therewith aligned apertures formed in the lower
or bottom plate member so as to provide protection
against the ingress of dust and/or dirt when the flap
covers are in a downwardly pivoted closed position in the
upper plate member.

20 The utilization of a flap cover plate assembly
having a composite structure of preferably differing
materials renders the entire flap cover structure simple
to assemble and inexpensive in its manufacture,
especially in connection with mass-production techniques,
25 while on the other hand, providing for an upper plate
member and flap covers constituted of metal, such as
brass, similar to the metallic material of the carpet
flange to thereby render the appearance thereof rugged
and wear-resistant while being aesthetically pleasing in
30 appearance.

1 Accordingly, it is an object of the present
invention to provide a poke-through wiring fitting for
installation in the aperture of a concrete building
floor, which possesses a service head including a novel
5 and unique flap cover plate assembly which is assembled
from composite metallic and plastic material components.

 Another object of the present invention is to
provide a novel flap cover assembly for a wiring fitting
of the type described herein, wherein flap covers are
10 installed in the flap cover plate structure so as to be
normally biased into a closed position through the
intermediary of suitable biasing elements.

 Yet another object of the present invention is
to provide a flap cover plate assembly of composite
15 construction which is adapted to be installed mounted in
a carpet flange so as to constitute a service head for a
poke-through wire fitting mounted in an aperture
extending through the floor of a building structure,
wherein the flap cover plate assembly includes an upper
20 plate structure, flap covers and break-through plug
members which are preferably constituted from a metal
similar to that of the carpet flange, wherein a lower
cover plate member of a molded plastic material is
fastened to the lower surface of the upper plate
25 material, and including resilient biasing structure
operatively connected between the upper and lower plate
members and the flap covers for normally biasing the flap
covers into a closed condition coplanarly within the
upper plate member.

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1 BRIEF DESCRIPTION OF THE DRAWINGS

Reference may now be had to the following detailed description of an embodiment of a poke-through in-floor wire fitting, and particularly the service head including a flap cover assembly thereof, taken in conjunction with the accompanying drawings; in which:

Figure 1 illustrates, in a generally diagrammatic representation, a longitudinal view, shown partly in section, of a poke-through fire-retardant wire fitting, incorporating a service head with a flap cover plate assembly of the type pursuant to the invention;

Figure 2 is a top plan view of the service head of the fitting incorporating the inventive flap cover plate assembly;

Figure 3 illustrates, in a perspective exploded view, a top plan view of the flap cover plate member prior to its installation in a carpet flange;

Figure 4 illustrates a top plan view of the flap cover plate assembly with break-through plug inserts having been removed therefrom;

Figure 5 is a section taken along line 5 - 5 in Fig. 4;

Figure 6 illustrates a bottom plan view of the flap cover plate assembly structure;

Figure 7 is a top plan view of the upper plate member of the flap cover plate assembly;

Figure 8 is a side view of the assembly of Fig. 7;

Figure 9 is a bottom view of the assembly of Fig. 7;

-10-

1 Figure 10 illustrates a top plan view of one of
the flap covers which are to be installed in the flap
cover plate assembly of Figs. 4 through 6;

5 Figure 11 is a section taken line 11 - 11 in
Fig. 10;

Figure 12 is a bottom plan view of the flap
cover shown in Fig. 10;

Figure 13 is a top plan view of the lower plate
member of the flap cover plate assembly;

10 Figure 14 is a section taken along line 14 - 14
in Fig. 13;

Figure 15 is a bottom plan view of the lower
cover plate member;

15 Figure 16 illustrates a top plan view, shown on
an enlarged scale; of a removable break-through flap
cover plug;

Figure 17 is a bottom plan view of the flap
cover plug of Fig. 16;

20 Figure 18 is a section taken along line 18 - 18
in Fig. 17;

Figure 19 illustrates a top plan view of a
carpet flange in which the flap cover plate assembly
structure is adapted to be installed; and

25 Figure 20 is a section taken along line 20 - 20
in Fig. 19.

DETAILED DESCRIPTION

Referring now in more extensive particularity
to the drawings, and particularly to Figs. 1 and 2, there
is disclosed a typical exemplary poke-through fire-
30 retarding wiring fitting 10 which is adapted for
insertion through an aperture or passageway 12 which is

-11-

1 formed in a concrete floor 14 of a building structure;
for instance, such as an a multi-storied office building,
manufacturing plant, or the like. The aperture or
passageway 12 which extends through the building floor 14
5 facilitates the transfer of suitable cables, insulated
wires and telecommunication signals from a junction box
16 which is positioned below the bottom face 18 of the
concrete floor 14 to an outlet or service head 20 located
at the opposite or upper face 22 of the floor 14. For
10 purpose of clarity, such cables and insulated wires which
are employed for the transmission of electrical power and
for telecommunication systems from one floor to another
floor of the building through the aperture 12 are not
illustrated in specific detail in the drawings as being
15 unnecessary for an understanding of the invention.

Extending between the junction box 16 and the
service head 20 are one or more suitable tubular conduits
22 housing various electrical conductors and insulated
wires which are used for the transmission of electrical
20 power and telecommunication signals, and having supported
thereon suitable fire barrier elements 24 and 26, which
may be in the nature of either individual intumescent
material discs 24 and/or a plurality of such superimposed
discs 26 attached to suitable support plates for clamping
25 engagement therebetween so as to form a fire barrier
through an expansion of the intumescent disc material
upon heat and/or fire being encountered in the aperture
12, so as to prevent or retard fire from being
transmitted from one floor to another, as is known in
30 this particular technology.

-12-

1 In order to fixedly position the fitting 10
within the aperture 12 in concrete floor 14, the fitting
may be clampingly engaged therein by having the upper end
20 thereof contact the surface 22 of the floor 14, while
5 a toggle assembly consisting of a plate 28 with clamping
screw members 30 extending therethrough is tightened to
exert on axial force against the fitting so as to produce
a clamping connection with the floor 14.

 The end of the tubular conduit or conducts 22
10 proximate the service head 20 terminates in a receptacle
32 having suitable socket plug connectors therein, as may
be more clearly ascertained from Fig. 3 of the drawings,
described hereinbelow.

 Moreover, a cup-shaped insulator housing and
15 floor plate arrangement 34 extends between the
intumescent disc assembly 26 and the surface 22 of the
floor 14 about the aperture 12 so as to have the carpet
flange fastened thereto as herein described.

 Hereby, in connection with the foregoing, the
20 carpet flange 36, which is essentially a frusto-
conically-shaped disc in transverse cross-section, and
having a central opening is positioned on or close to the
floor 22 in order to permit the outer peripheral portion
38 of the carpet flange to engage over a carpet which is
25 located on the surface 22 of floor 14. In essence, as
illustrated in detail in Figs. 19 and 20, the carpet
flange 36 is of an essentially widely-employed disc-
shaped construction, in which the radially outer
circumferential portion 40 possesses an essentially
30 frusto-conical configuration in transverse cross-section,
and with the central portion being an essentially cup-

-13-

1 shaped recess 42 with an opening 44 therein, and in which
the portion 42 includes through apertures 46 for
fastening to a suitable floor plate which is part of the
upper end of receptacle 32. The lower surface of the
5 peripheral flange portion 40 is adapted to be supported
on carpeting covering the surface 22 of the floor 14, as
is well known in the art, although it may also rest on a
wooden or tiled floor. The circular carpet flange 36 is
sized as desired in conformance with specific customer
10 demands.

Within the confines of the cup-shaped recess 42
of the carpet flange 36 there is adapted to be installed
the flap cover plate assembly 50 pursuant to the
invention, as described in detail in connection with
15 Figs. 4 through 18 of the drawings. Hereby, the flap
cover plate assembly 50 is provided with diametrically
oppositely spaced tapped holes 90 which engage the
threaded portions of fastening screws 92 extending
through openings in the bottom wall surface of the cup-
20 shaped portion of flange 36, as shown in Fig. 2 of the
drawings.

Moreover, as shown in Fig. 19, provision is
made for fastening screws 94 for attaching and mounting
the receptacle 32 of the fitting, as is well known in the
25 technology.

Hereby, the flap cover plate assembly 50 is
constituted of a structure consisting of a composite of
materials, including a first or upper circular plate
member 52 which is constituted from a metallic material,
30 preferably such as solid brass, which is similar to or
identical with the material employed for the carpet

1 flange 36. Moreover, the surface finish of the upper
surface of this particular upper plate member 52 is
either polished, burnished or brush-finished in order to
provide a decorative appearance identical with that of
5 the carpet flange 36 so as to impart a continual smooth-
surfaced appearance thereto which is aesthetically
attractive. The upper plate member 52 includes two
contiguous cutouts 54 and 56 in the center region
thereof, as shown more specifically in Figs. 7 and 9 of
10 the drawings, and which are essentially of a
configuration similar to that of electrical socket plug
outlets formed in the upper end of the fitting, as shown
in Fig. 3 of the drawings.

At diametrically opposite edge regions of the
15 disc-shaped member 52, there are formed slots 58 and 60
which extend radially inwardly and terminate in semi-
circular or rounded inner ends, and which slots are
adapted to receive break-through plug members for a
purpose as described hereinbelow.

20 The rear surface of the plate 52, that facing
downwardly towards the floor aperture, includes raised
portions surface 62 which extend about the circumference
of the plate member and also generally about the
apertures 54 and 56, the latter of which, at their
25 junctures, form a continuous profiled opening.
Projecting from the rear surface of the upper plate
member 52 are a pair of short pins 62, preferably,
although not necessarily, spaced opposite each other in
proximity with the inner ends of the respective slots 58
30 and 60, and which may also be constituted of brass, and
integrally formed with or welded to the plate member 52.

1 As illustrated in Figs. 10 through 12 of the
drawings each of the apertures or cutouts 54 and 56 is
adapted to receive a flap 64, which similar to plate
member 52 is constituted of a metallic material such as
5 brass, and in which each flap 64 has perimetral
dimensions substantially in conformance with that of each
respective cutout 54 and 56 in the plate member 52 in
which it is adapted to be received. A rearwardly
extending flange or protrusion 66 extends somewhat
10 recessed about the perimetral edge of each flap 64, a
hinge structure 68 consisting of two spaced hinge
extension plates 68a, 68b which project perpendicular to
the plane of flap 64 is formed at one end thereof.
Extending between and fastened to the pair of spaced
15 hinge plates 68a, 68b is a hinge pin 69, about which
there is wound a helical coil spring 72.

 Positioned in surface contact with the rear
surface of the brass cover plate member 52 is a rear or
lower plate member 70 whose circumferential dimensions
20 are essentially identical with those of the upper plate
member 52, as shown in Fig. 5 of the drawings.

 The rear plate member 70 includes a pair of
central cut-outs 72, 74 which are adapted to be in
alignment with the openings 54 and 56 in the plate member
25 52, but which are somewhat smaller in size and separated
by a connecting web 76, whereby each of the plate
surfaces about the openings 72 and 74 is adapted to be
contacted by the rear flange or shoulder 66 on each
respective flap 64 so as to prevent the upper face of the
30 flap 64 from pivoting down below the upper surface of the
plate member 52 in the closed condition of each flap 64

-16-

1 and to resultingly remain coplanar therewith. Moreover,
the lower plate member 70 is also provided with a pair of
small through-holes 78 which are located in alignment
with the pins 62 and adapted to receive these therein,
5 with the rear or lower end of each opening 78 being
widened in diameter thereof. Consequently, upon the pins
62 being extended therethrough upon the superposition of
the plates 52 and 70, the ends of the pins which project
from the rear surface of the plate 70 are then peened so
10 as to expand and consequently produce a permanent
attachment between the plate members 52 and 70 to provide
an integral flap cover structure 50. Moreover, the flap
cover structure 50 may be provided with suitable through
apertures to enable screw members to pass therethrough
15 and fasten the flap cover unit 50 in the central cup-
shaped recess portion of the carpet flange 36 through the
intermediary of suitable threaded fasteners (not shown).

The raised surface portion 62 on the rear
surface of the upper brass plate member 52, and the
20 thereto facing surface of the rear plate member 70 form a
recessed perimetral groove therebetween, as seen in Fig.
5, and this will enable a plug 80 to be positioned in
each respective diametrically opposite slot 58 and 60.

As shown in Figs. 16 through 18, each plug 80
25 has an upper surface dimension commensurate with the size
and length of slot 58 and, respectively, 60, and a lower
lateral or side flange portion 82 which will fit into a
groove between the upper plate member 52 and the lower
plate member 70 so as to clamp the plug 80 therebetween.
30 A slotted portion or undercut 84 of generally curvilinear
or part-circular shape is formed in each plug 80 so that,

-17-

1 if it is desired to pass low power cables; for example,
such as for telecommunication signals, through the
fitting, it is merely necessary to remove the plug 80 and
break away the inner circular portion 86 thereof so as to
5 form a circular opening upon reinsertion of the remaining
radially outer plug portion 88 between the plates into
the slots 58, 60. As in the instance of the flaps 64,
each plug 80 may also be constituted of a metallic
material such as brass, which is provided with a surface
10 finish similar to that of the upper brass plate member 52
and carpet flange 36 so as to produce a uniform and
smooth overall surface appearance. In order to bias the
flaps 64 into normally closed positions which their upper
surfaces are coplanar with the upper surface of the
15 plate member 52, the helical coil spring 72 which extends
about each respective hinge pin 69 of the flaps 64 is
provided with oppositely radially outwardly projecting
end portions which biasingly engage, respectively, the
surface of the hinge portion 68 of the respective flap 64
20 and the surface of the lower plate member 70.
Consequently, when biased into an open position, each
flap 64 will be imparted a torsional biasing force by the
spring 72 tending to normally pivot the flap closed upon
release thereof or removal of a plug connector extending
25 through the apertures 58 or 60 in the flap cover assembly
50.

Preferably, although not necessarily, the lower
plate member 70 is formed from a rigid, high-strength
plastic material, for example, such as polycarbonate or,
30 preferably, ABS resin (acrylonitrile-butadiene-styrene
copolymer).

1 The foregoing composite construction of the
flap cover plate assembly 50 enables the easy assembling
of the various components, and concurrently reduces the
amount of expensive and heavy brass material employed
5 therein, while providing for a sturdy and high-strength
structure which is protective of the electrical
components of the fitting located beneath the flap cover
assembly, while imparting an aesthetically attractive
appearance to the service head when mounted on a carpet
10 floor.

 While there has been shown and described what
is considered to be a preferred embodiment of the
invention, it will, of course, be understood that various
modifications and changes in form or detail could readily
15 be made without departing from the spirit of the
invention. It is, therefore, intended that the invention
be not limited to the exact form and detail herein shown
and described, nor to anything less than the whole of the
invention herein disclosed as hereinafter claimed.

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-19-

1 WHAT IS CLAIMED:

1. In a poke-through wiring fitting for
insertion into an aperture extending through a concrete
slab floor aperture of a building structure, said fitting
5 facilitating transmission of electrical power and
telecommunication signals between a service head and a
junction box located at opposite sides of the floor; and
channel means of said fitting for conducting insulated
wires for the electrical power and the telecommunication
10 signals between said junction box and said service head,
said service head including flap cover plate structure
positionable above the upper face of said floor so as to
cover the floor aperture, the improvement comprising:
said plate structure including an upper
15 metallic plate member and a lower plate member of a rigid
non-metallic material; means for fastening said lower
plate member to a lower surface of said upper metallic
plate member, openings for electrical plugs being formed
in aligned relationship in said upper and lower plate
20 members; flap means being located in each of the openings
in said upper plate member and hingedly connected to said
upper plate member for pivotable opening and closing
movement relative to said openings; resilient biasing
means operatively connected to said upper and lower plate
25 members and said flap means for biasing said flap means
into normally closing positions into the openings of said
upper plate member, said upper and lower plate members
having circumferentially spaced radially inwardly
extending slots spaced about the circumferences thereof;
30 and break-out plug means being insertable into each said

-20-

1 slot and having upper surfaces coplanar with the upper surface of said upper plate member.

2. A wiring fitting as claimed in Claim 1, wherein said flap means in the closed condition has an
5 upper surface which is coplanar with the upper surface of said upper plate member.

3. A wiring fitting as claimed in Claim 1, wherein each said resilient biasing means comprises a helical coil spring having radially extending end
10 portions spaced hinges on said flap means; pin means extending between said hinges and having said coil spring arranged thereon, on said projecting end portion of said coil spring operatively contacting said flap means proximate said hinges and the projecting end portion at
15 the opposite end of said coil spring engaging said lower plate member for imparting a torsional force to said flap means to normally close the latter over said openings.

4. A wiring fitting as claimed in Claim 1, wherein each said plug means includes laterally extending
20 flanges engageable into complementary grooves formed between mating surfaces on said upper and lower plate members so as to clampingly retain said plug means in said slots.

5. A wiring fitting as claimed in Claim 4, wherein at least portions of said plug means are
25 breakable therefrom so as to form openings proximate the radially innermost ends of said slots to facilitate the through-passage of insulated electrical or telecommunication cables.

30 6. A wiring fitting as claimed in Claim 1, wherein said openings for electrical socket plugs in said

-21-

1 lower plate member are dimensioned to receive socket
plugs in close-fitted relationship therewith.

7. A wiring fitting as claimed in Claim 1,
wherein said fastening means comprises pins projecting
5 from the bottom surface of said upper plate member into
holes extending through said lower plate member, said pin
means having free ends which are deformable for fixedly
attaching said lower plate member to said upper plate
member.

10 8. A wiring fitting as claimed in Claim 1,
wherein said upper plate member, said flap means and said
plugs are each constituted of brass.

9. A wiring fitting as claimed in Claim 1,
wherein said lower plate member consists of a rigid,
15 high-strength plastic material.

10. A wiring fitting as claimed in Claim 9,
wherein said plastic material consists of a
polycarbonate.

11. A wiring fitting as claimed in Claim 9,
20 wherein said plastic material consists of an
acrylonitrile-butadiene-styrene copolymer (ABS) resin.

12. A wiring fitting as claimed in Claim 1,
wherein a ring-shaped flange includes a central cup-
shaped recess for mounting said flap cover plate
25 structure therein such that the upper surface of the
upper plate member of said structure is essentially
coplanar with the uppermost surface of said flange, said
flange being adapted to be positioned on a carpet
covering the surface of the building floor.

30 13. A wiring fitting as claimed in Claim 12,
wherein said carpet flange is constituted of brass.

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1 14. A wiring fitting as claimed in Claim 12,
wherein screw fastener means fasten said flap cover plate
structure to said carpet flange.

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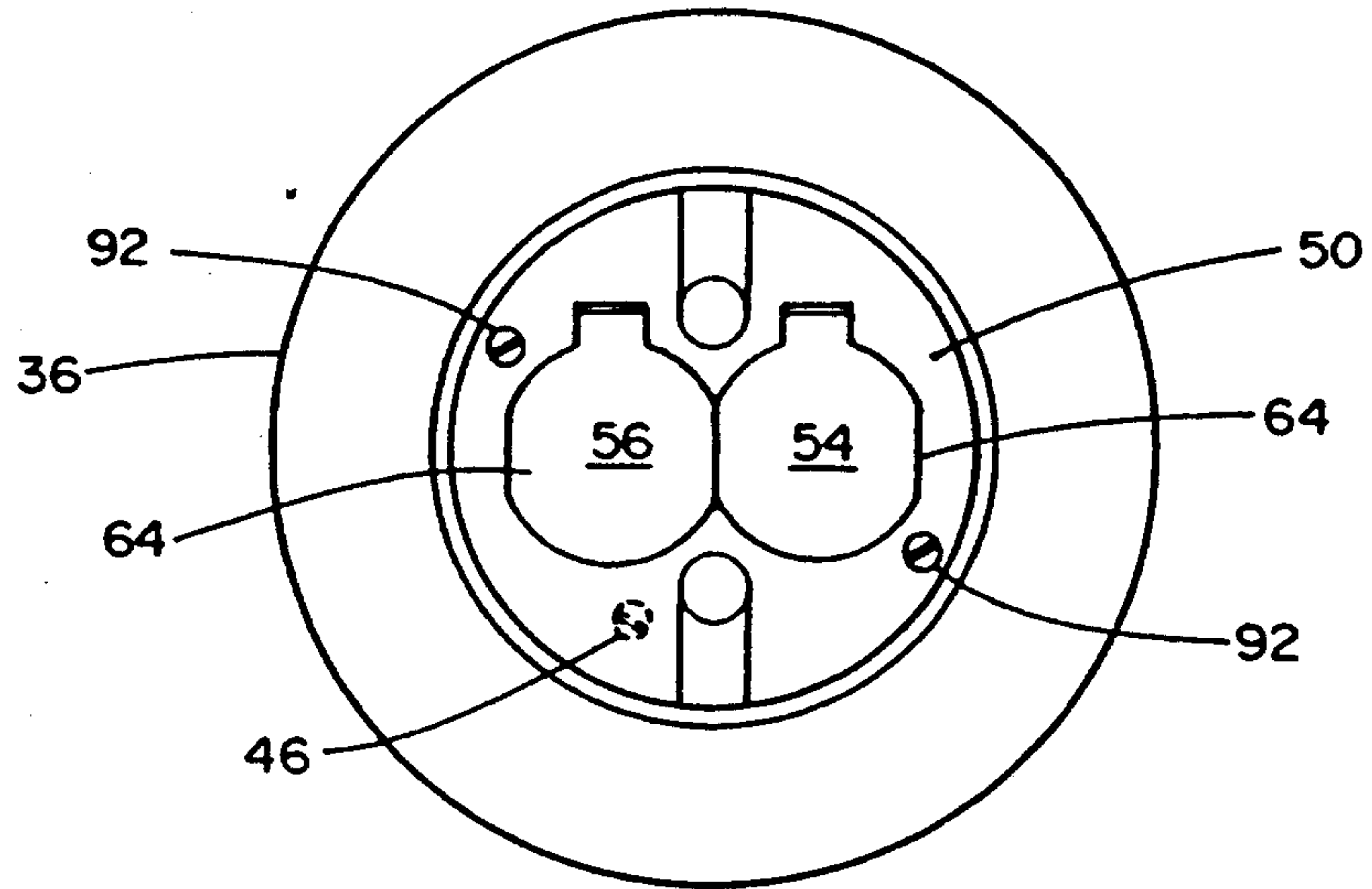


FIG. 2

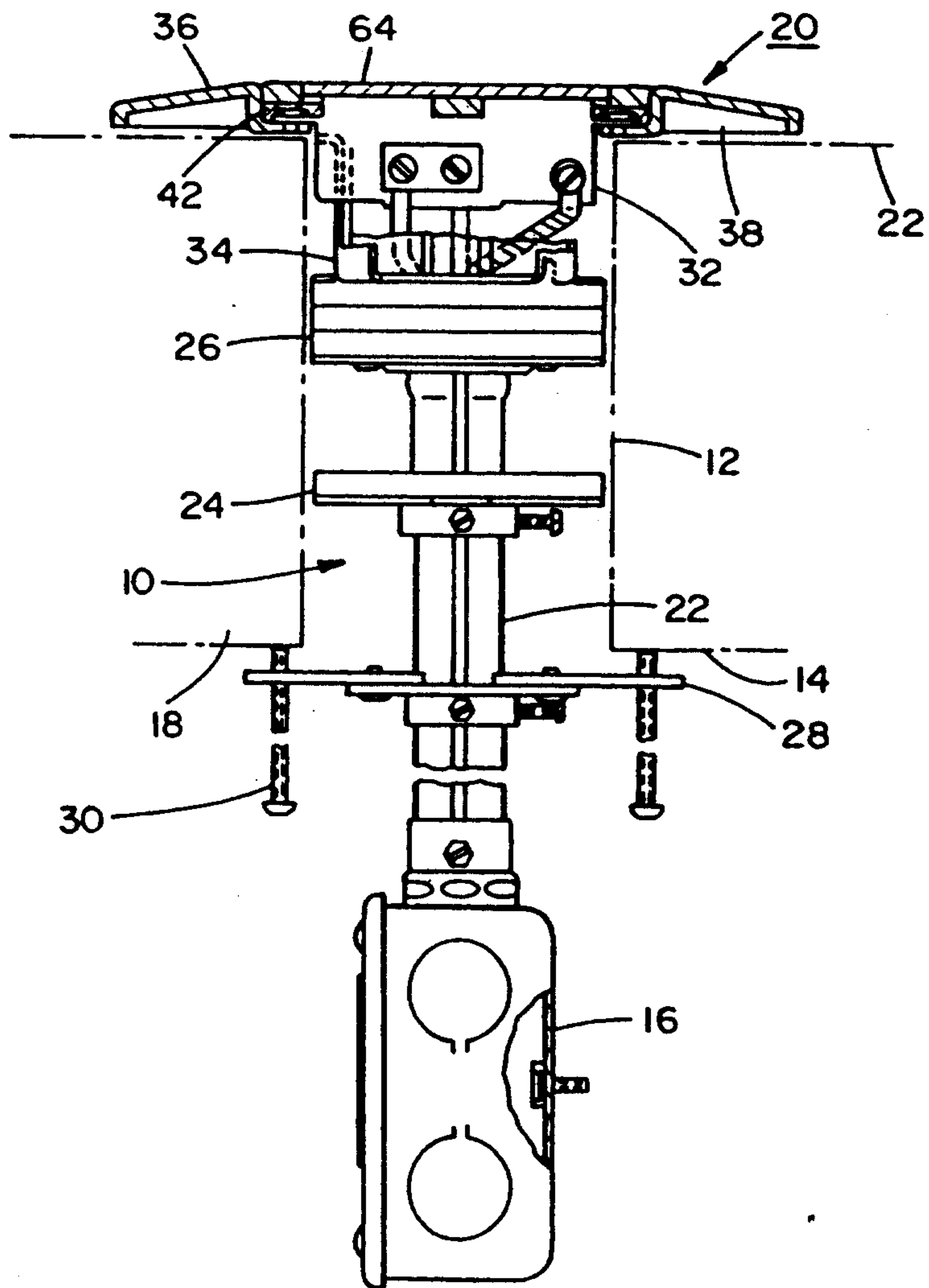


FIG. 1

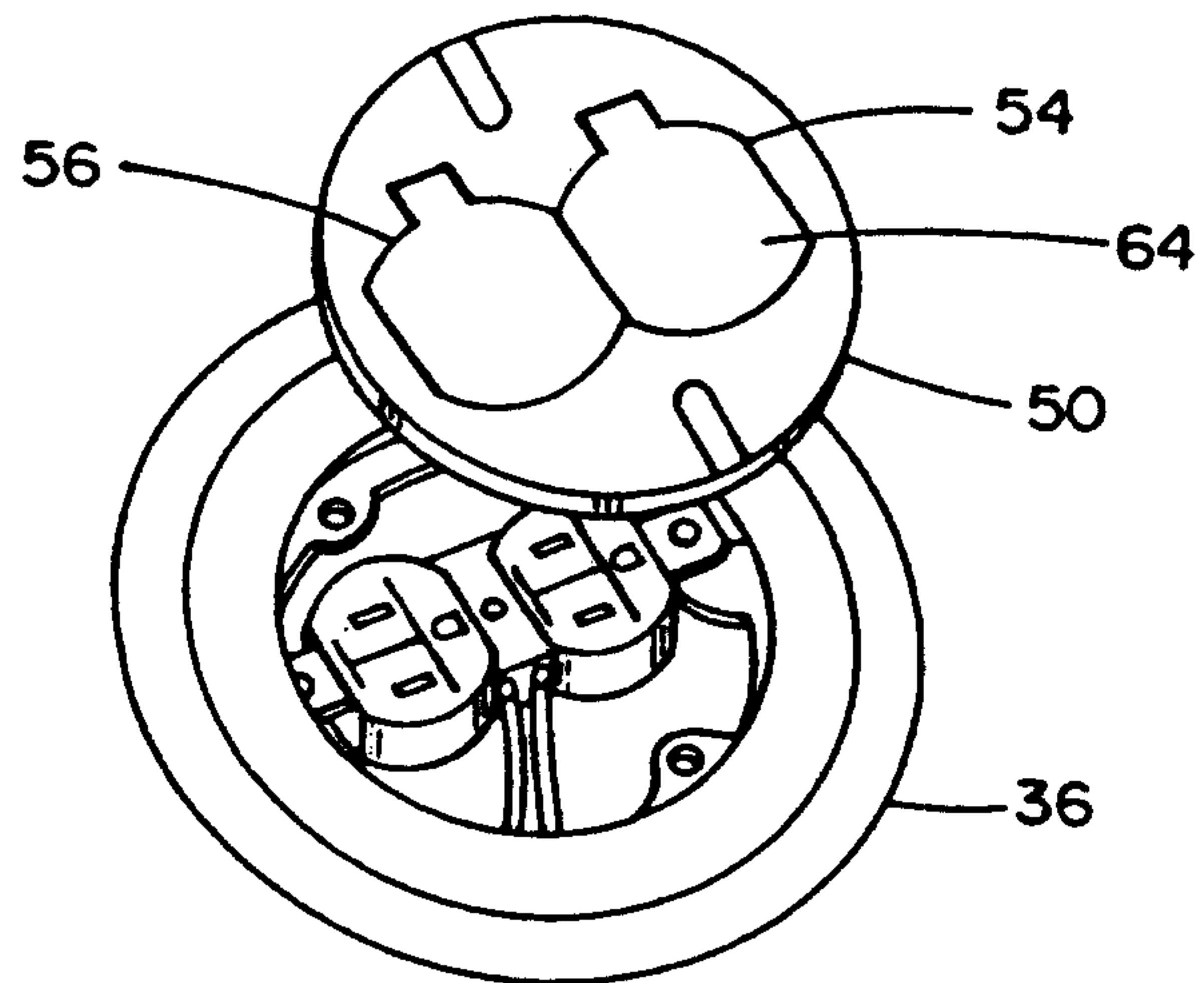


FIG. 3

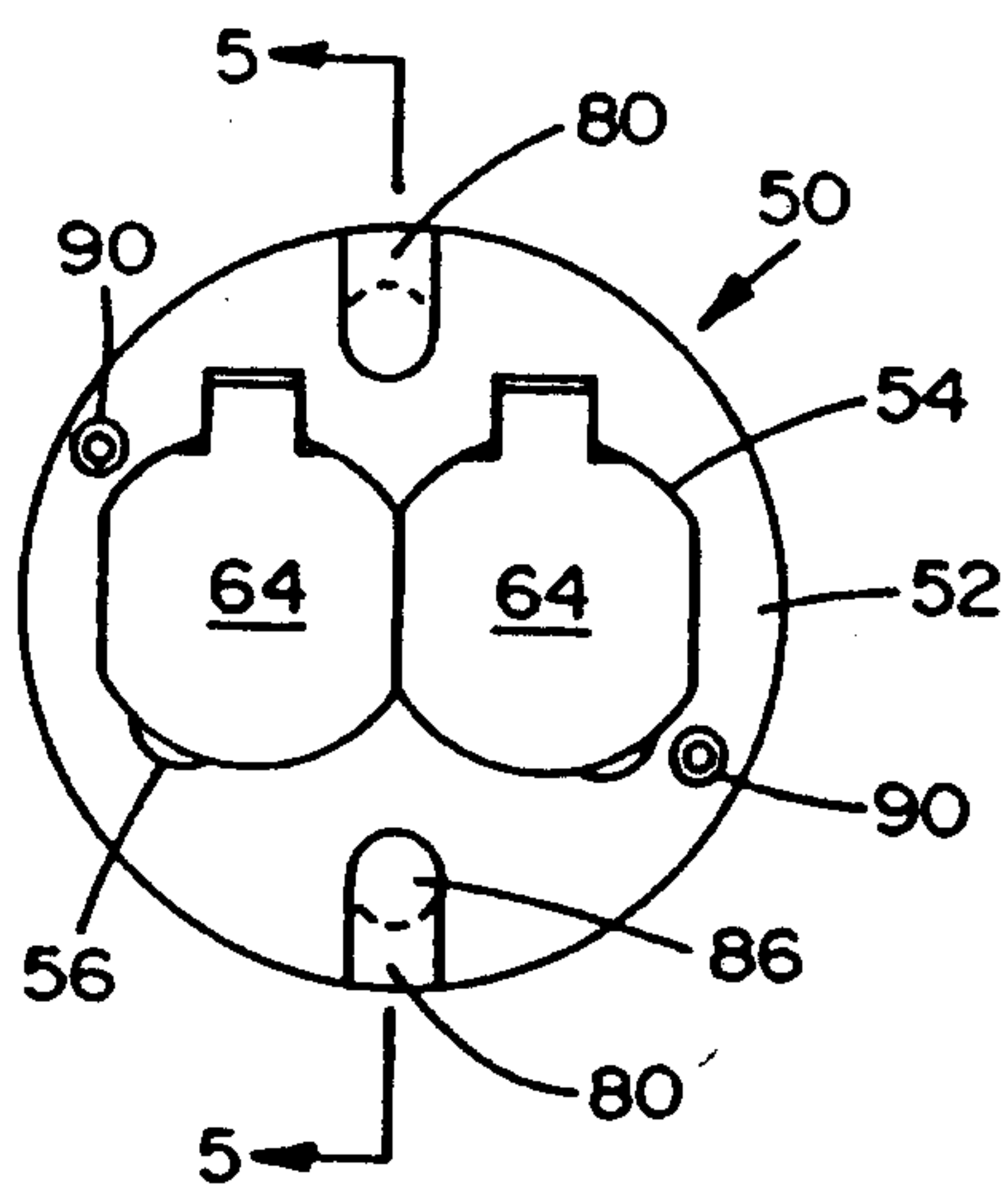


FIG. 4

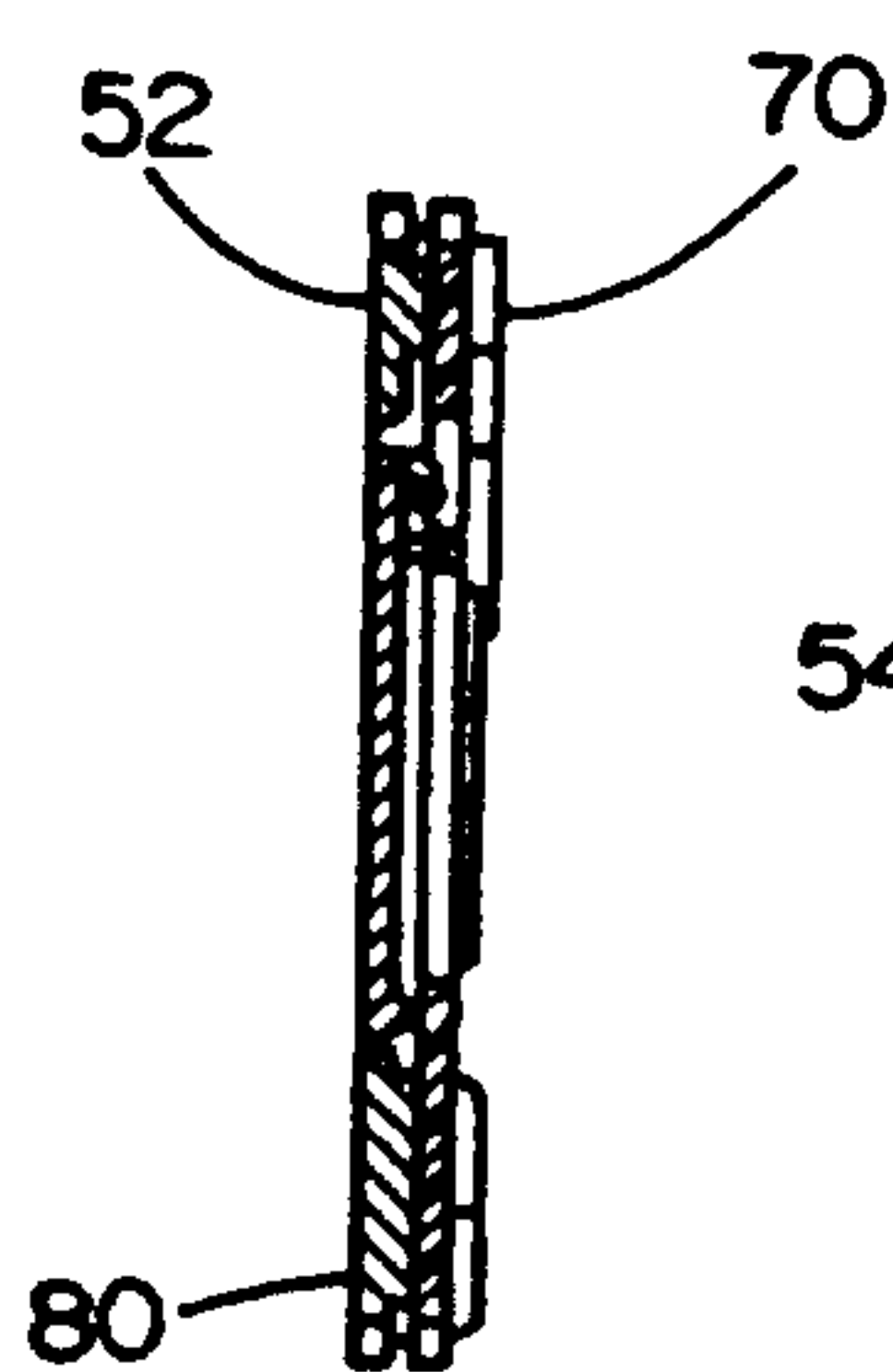


FIG. 5

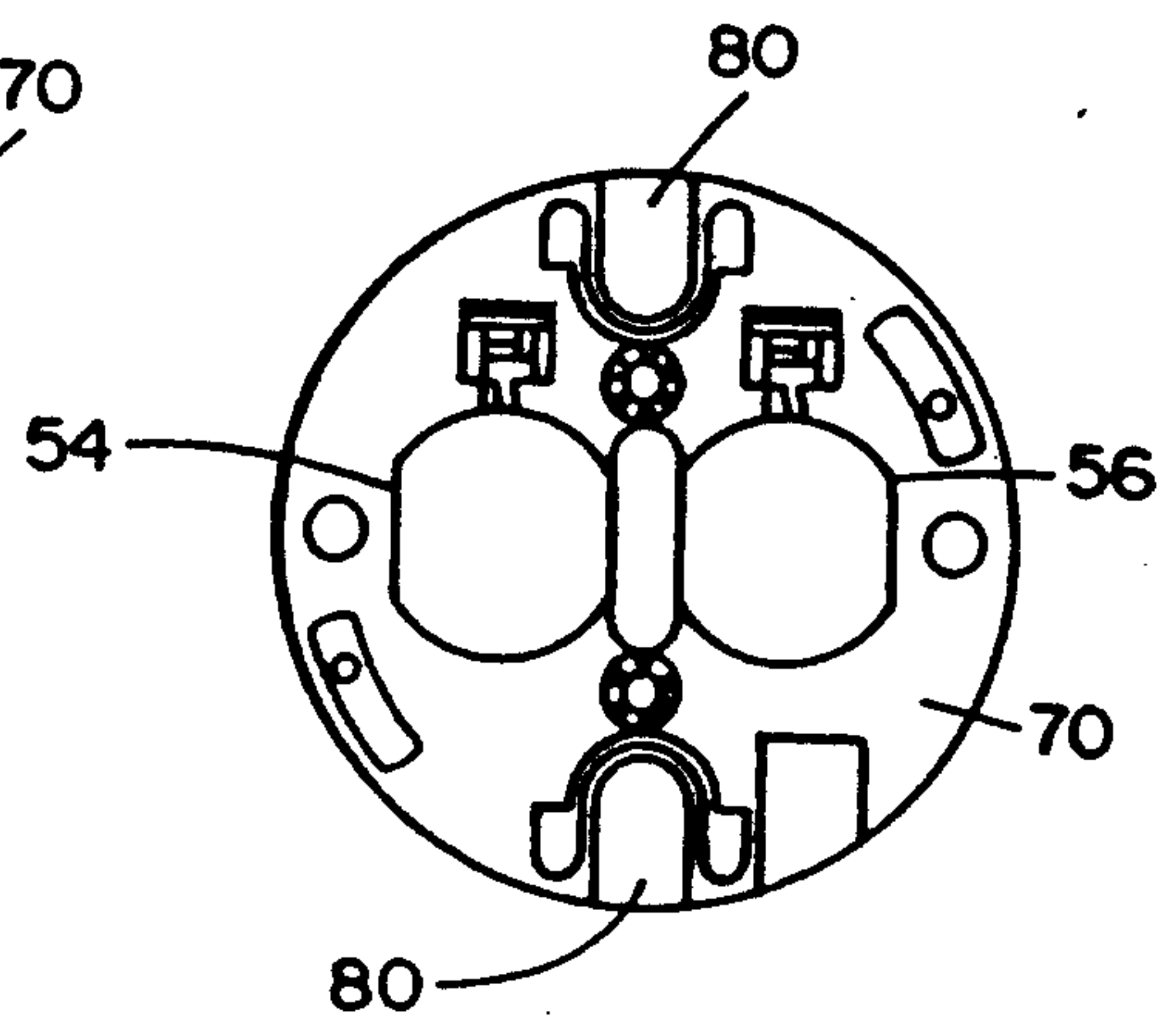


FIG. 6

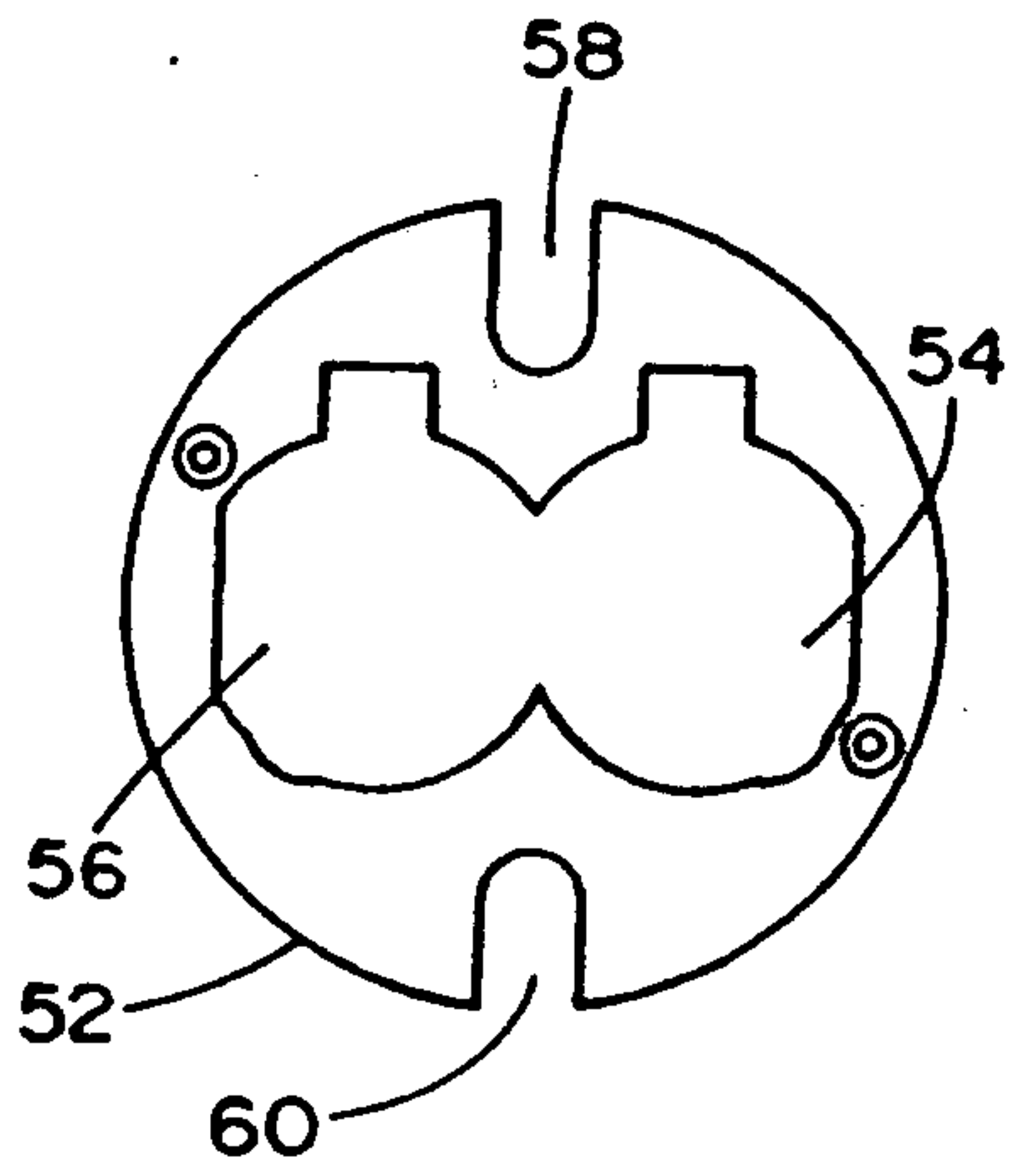


FIG. 7

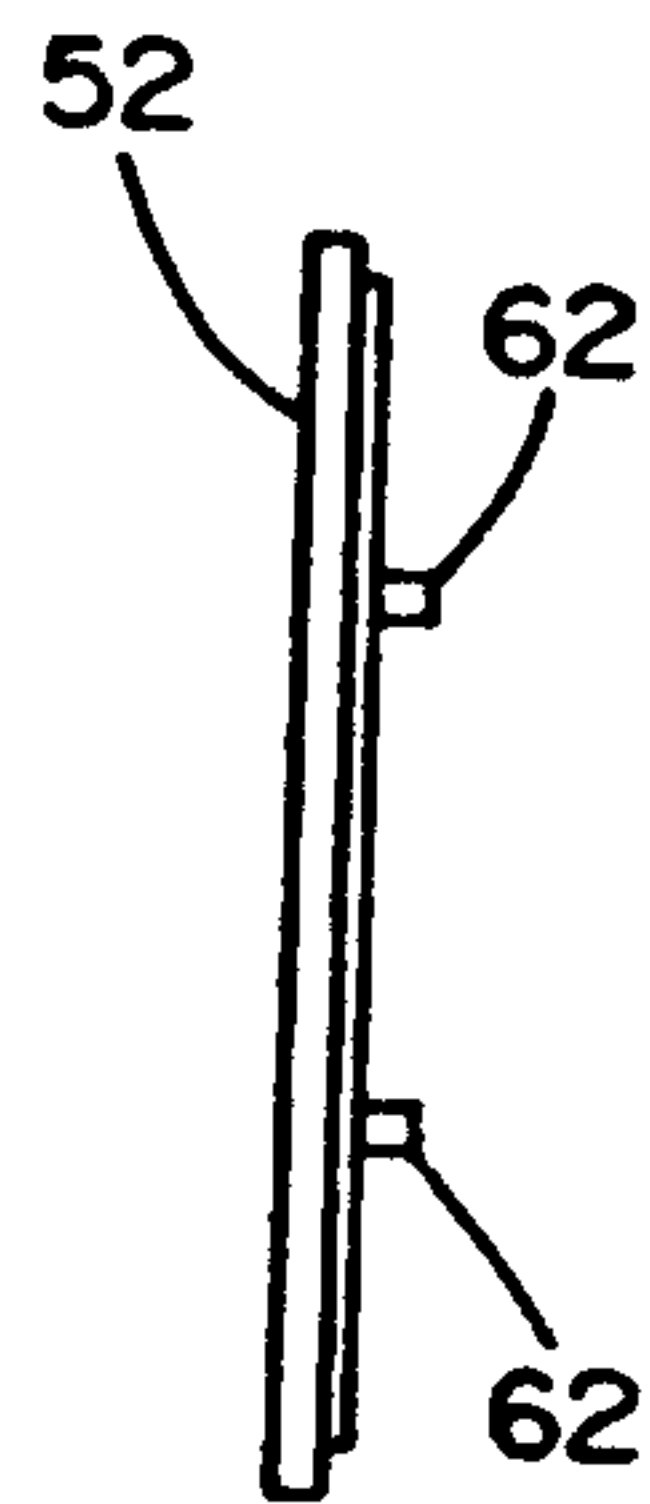


FIG. 8

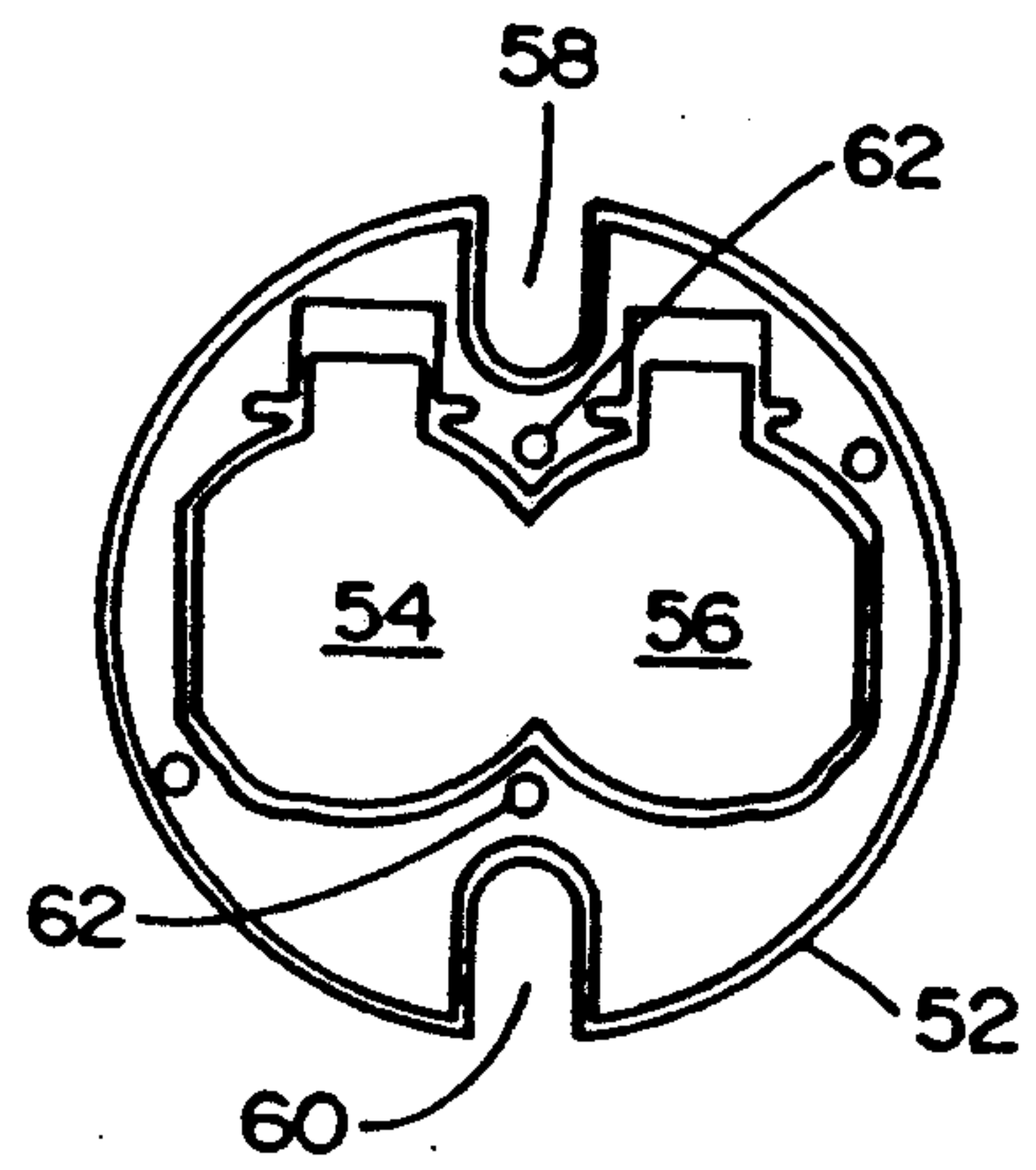


FIG. 9

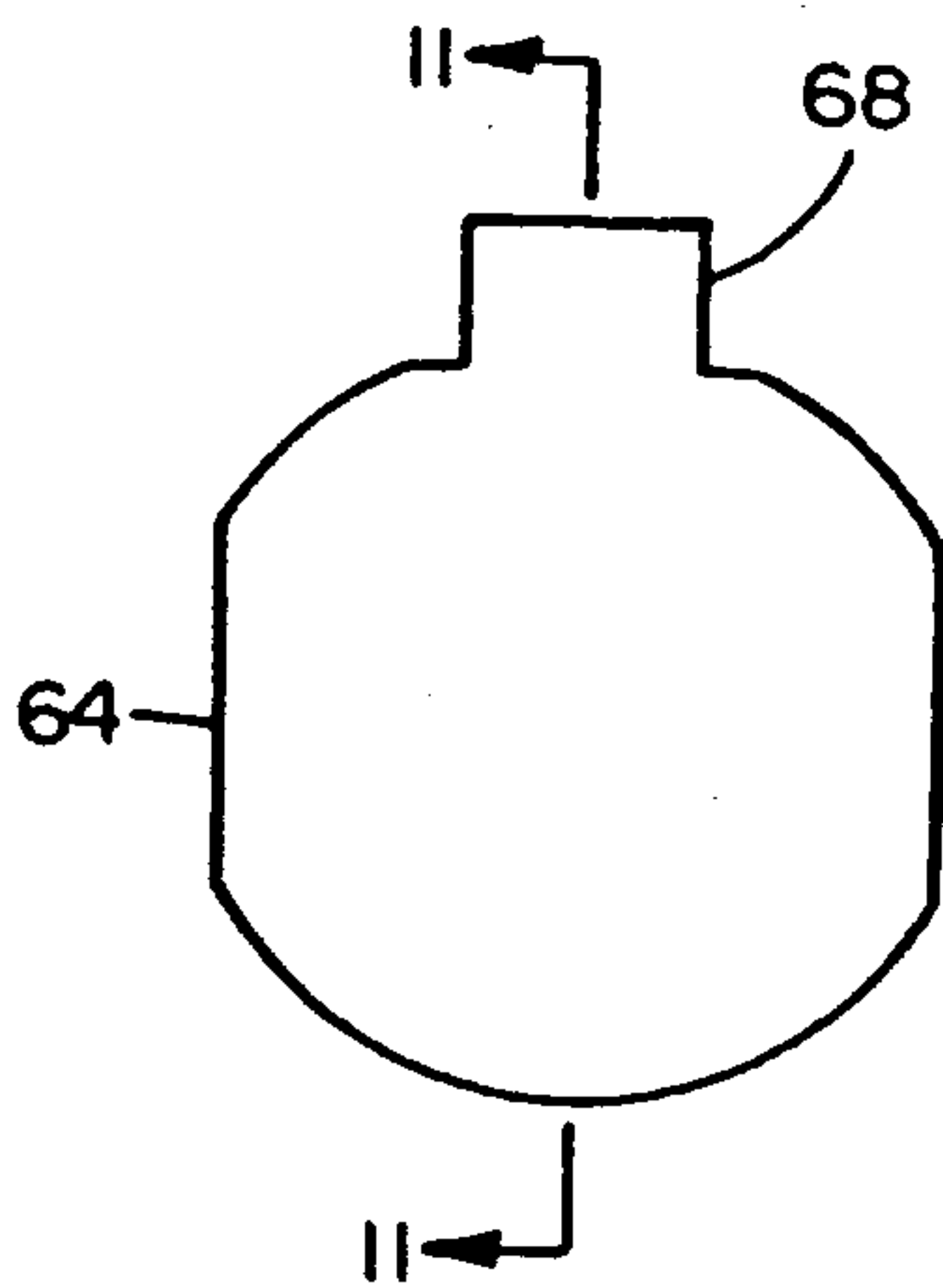


FIG. 10

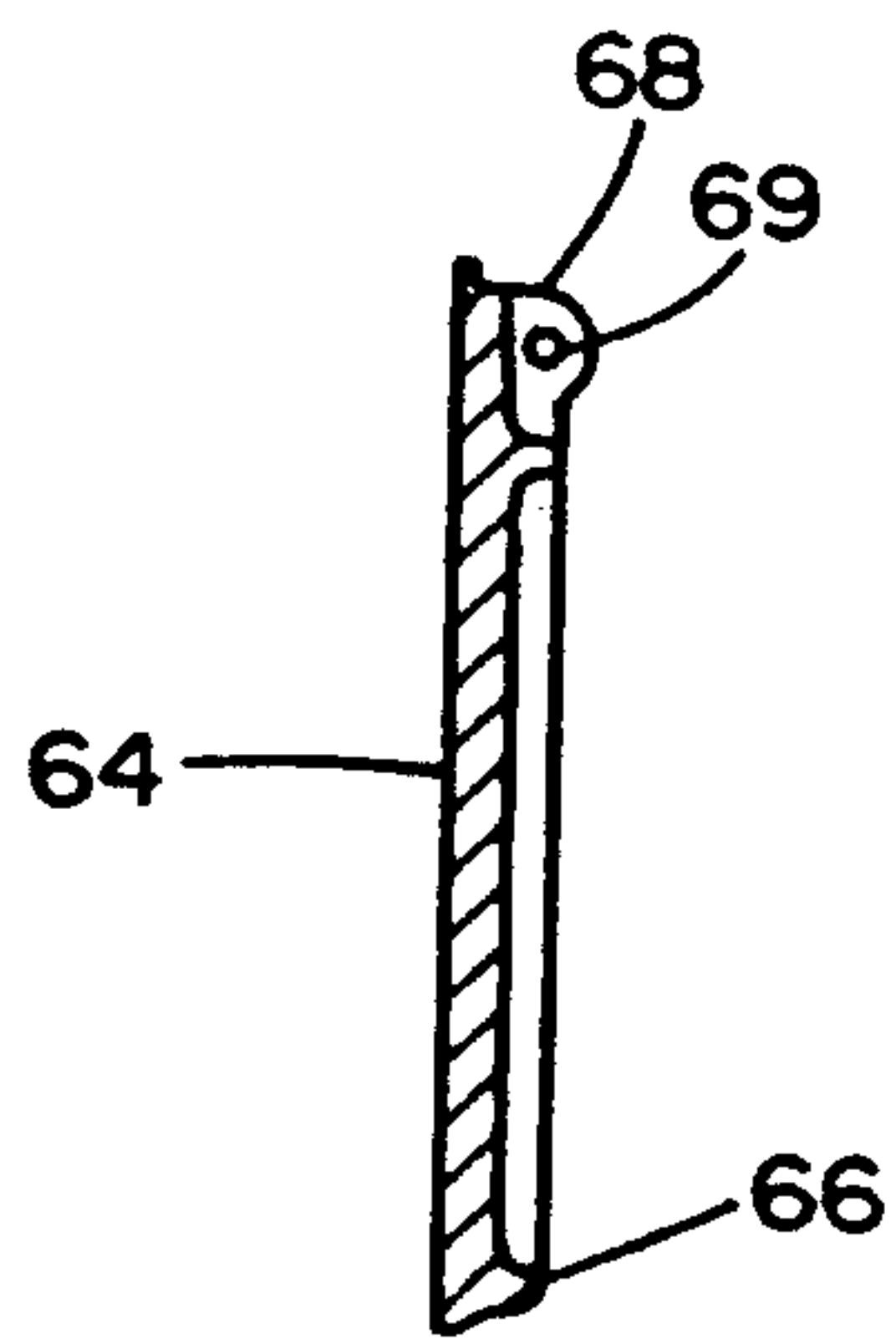


FIG. 11

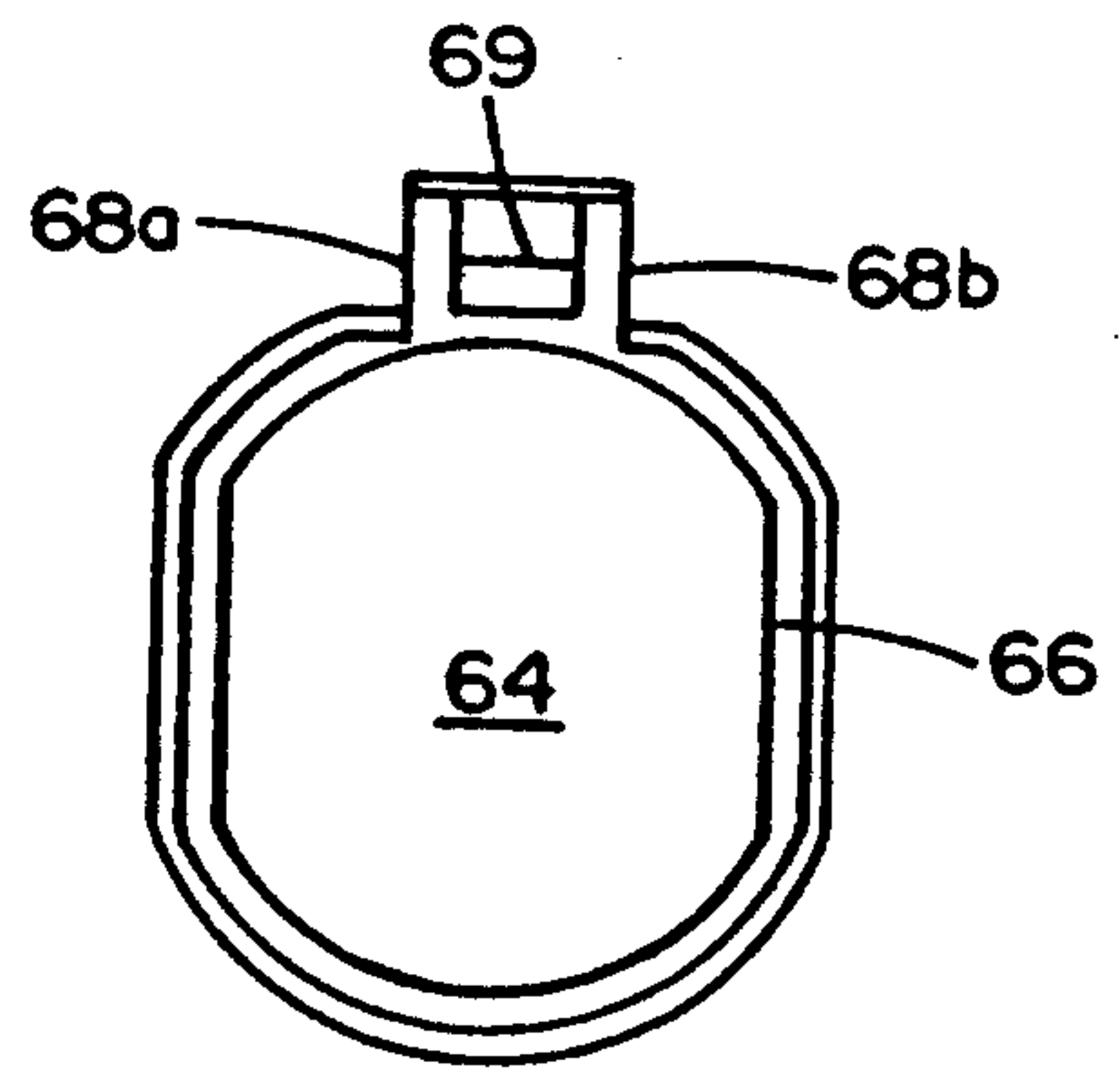


FIG. 12

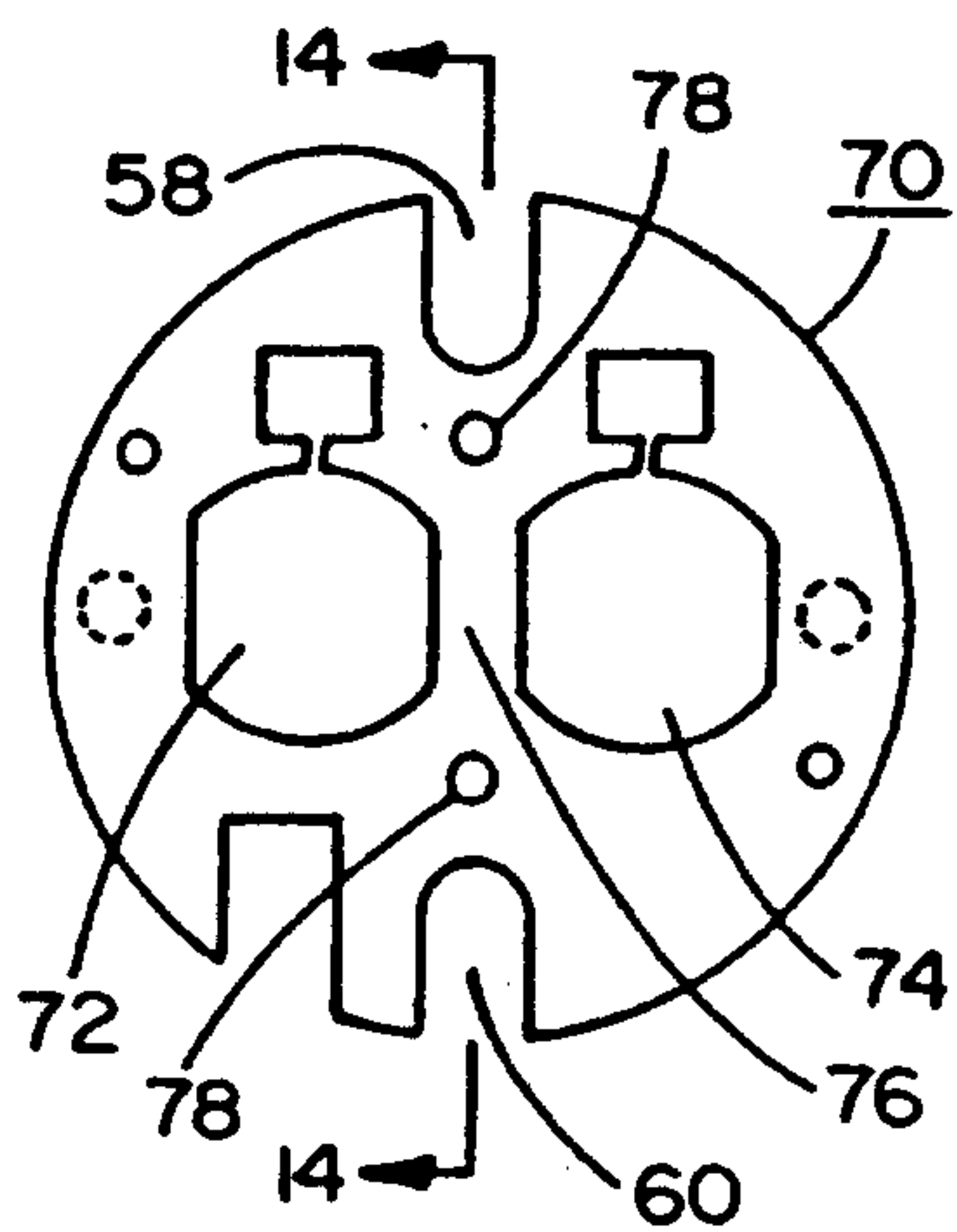


FIG. 13



FIG. 14

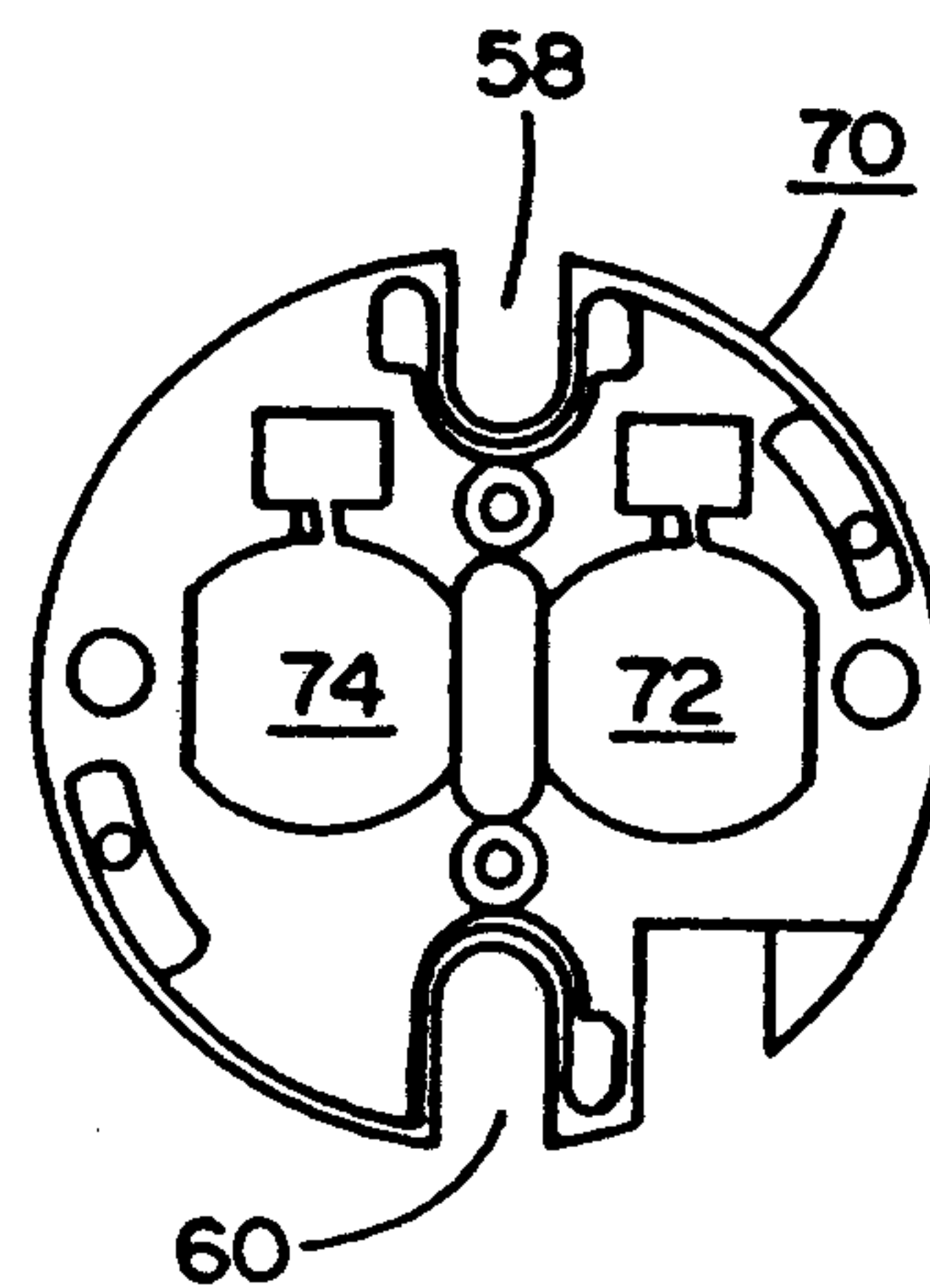


FIG. 15

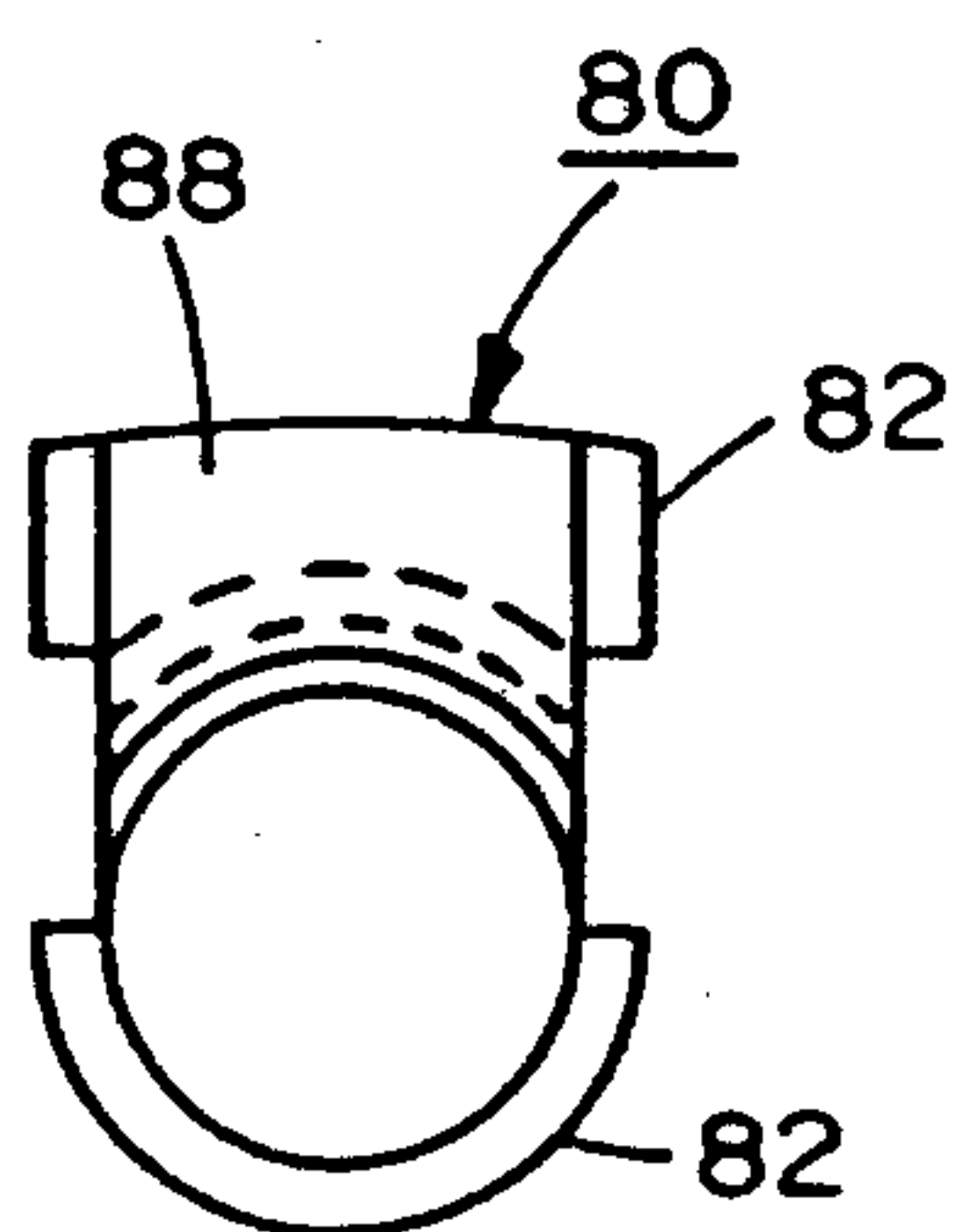


FIG. 16

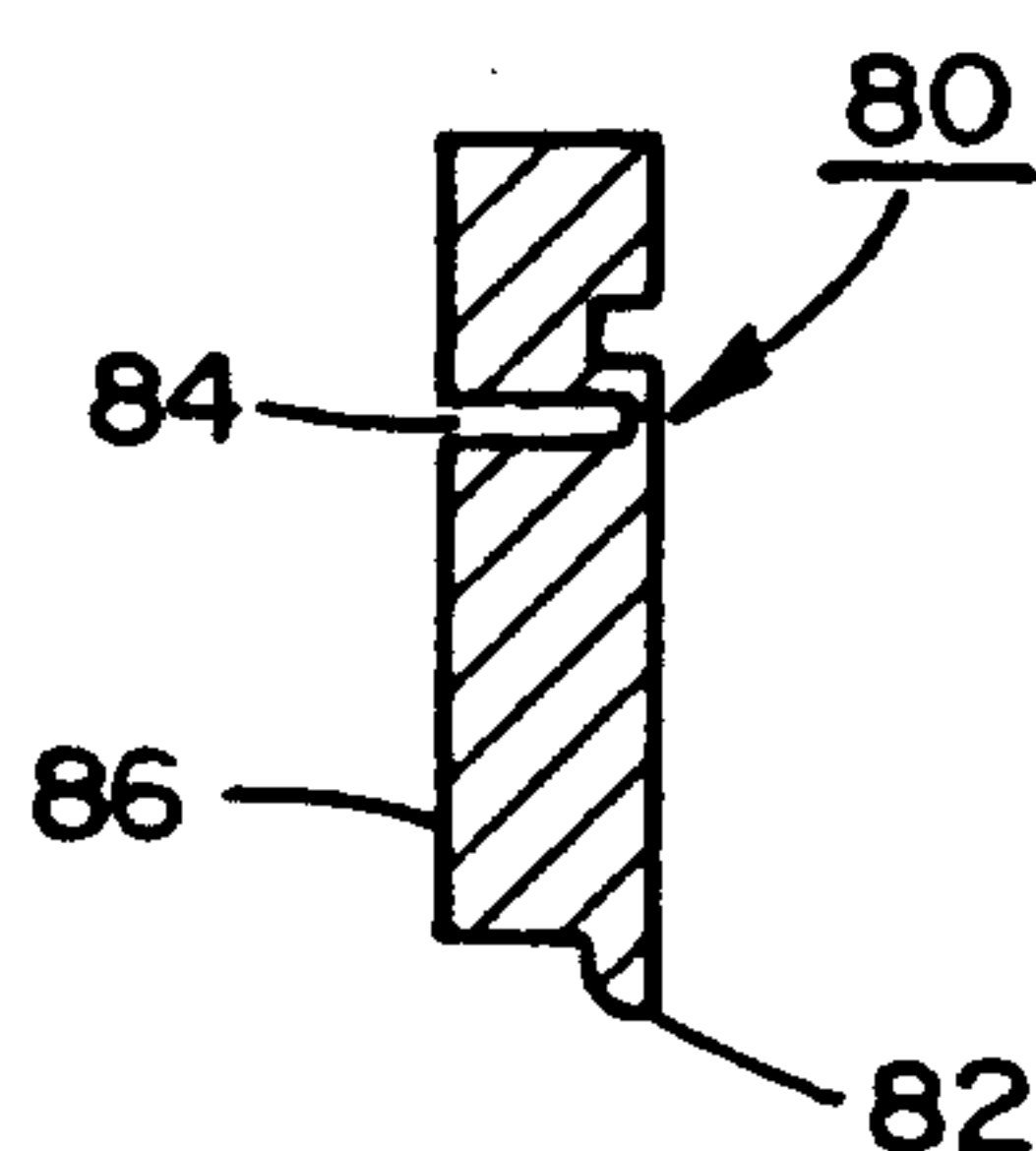


FIG. 18

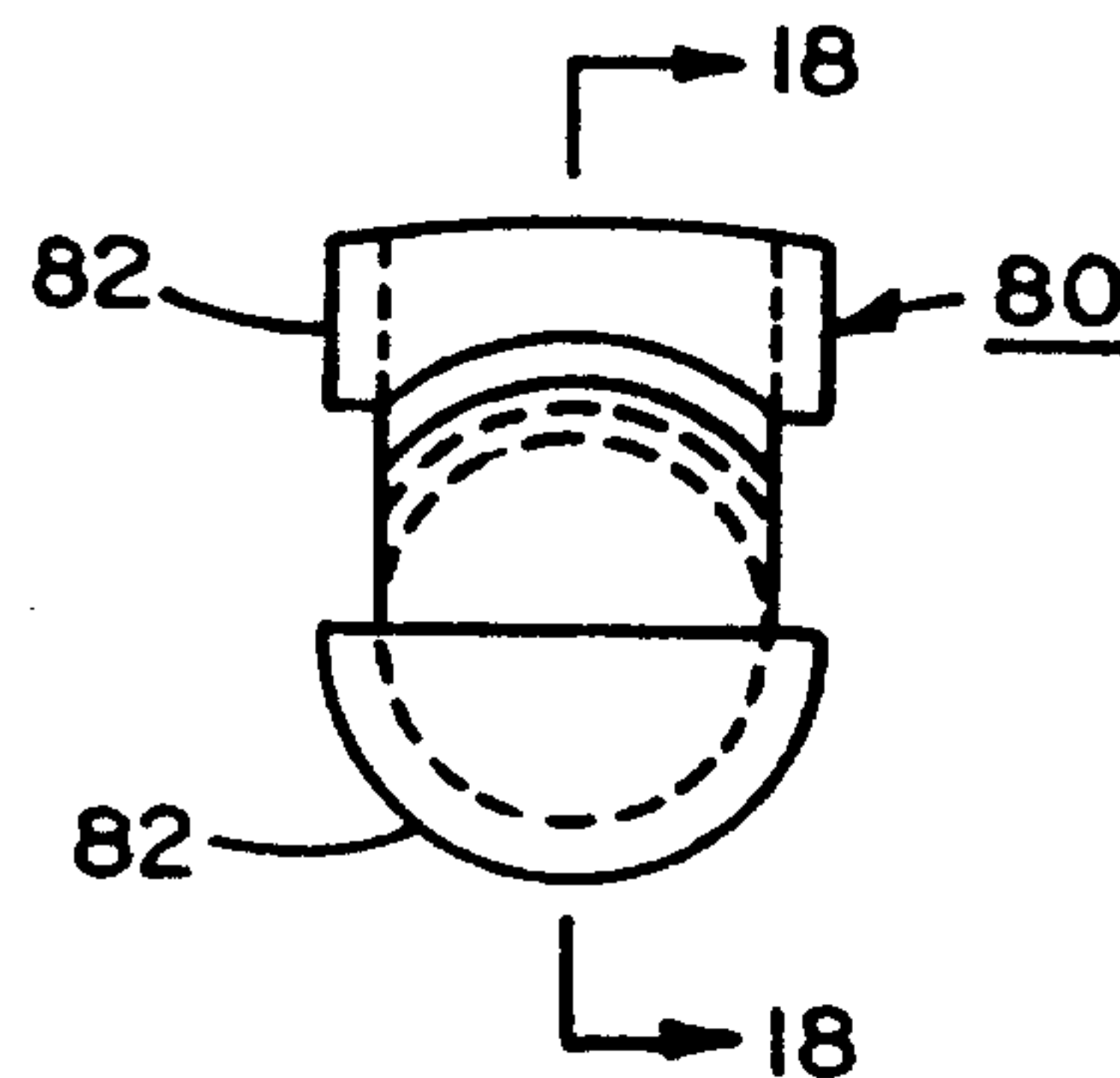


FIG. 17

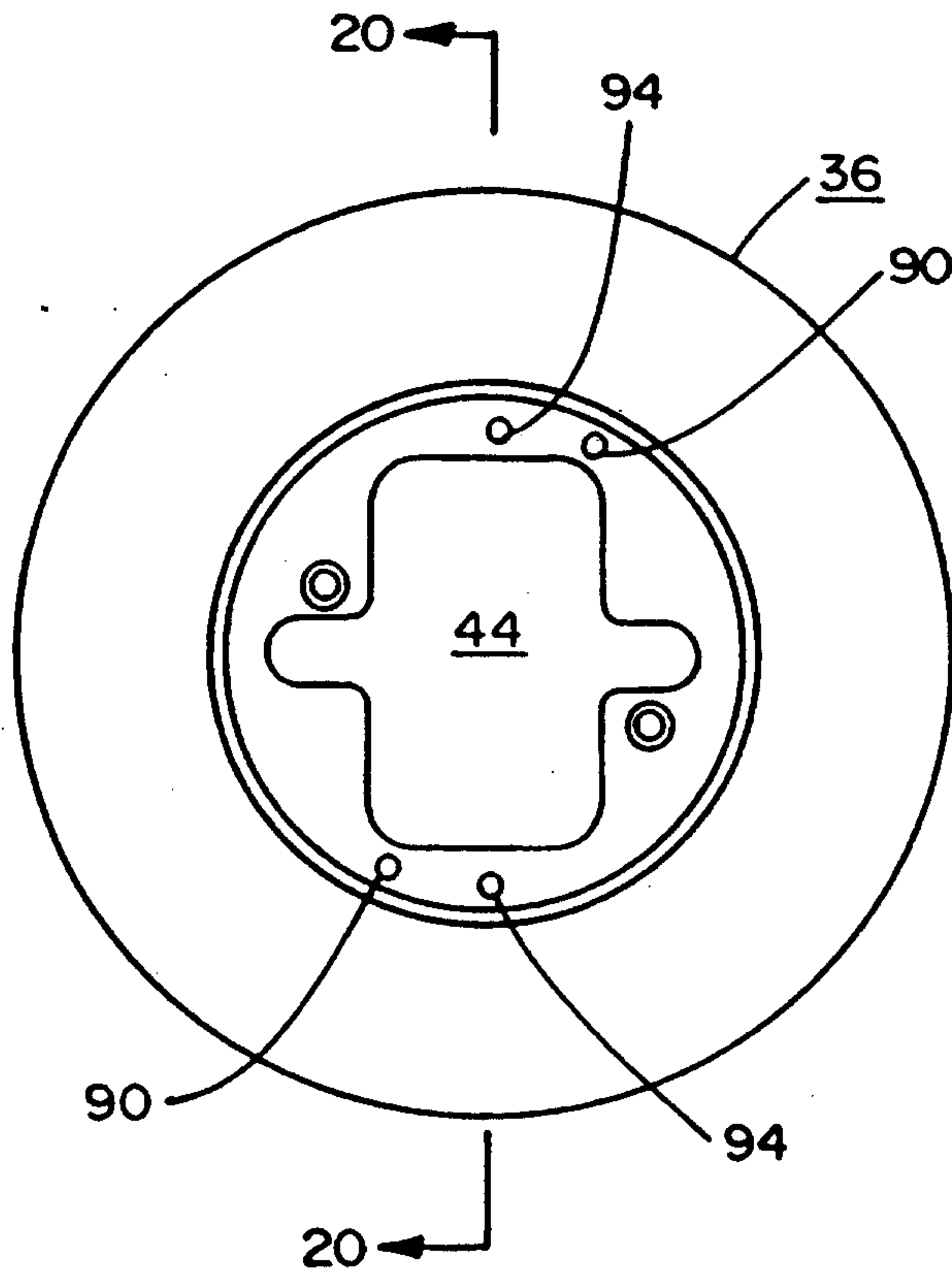


FIG.19

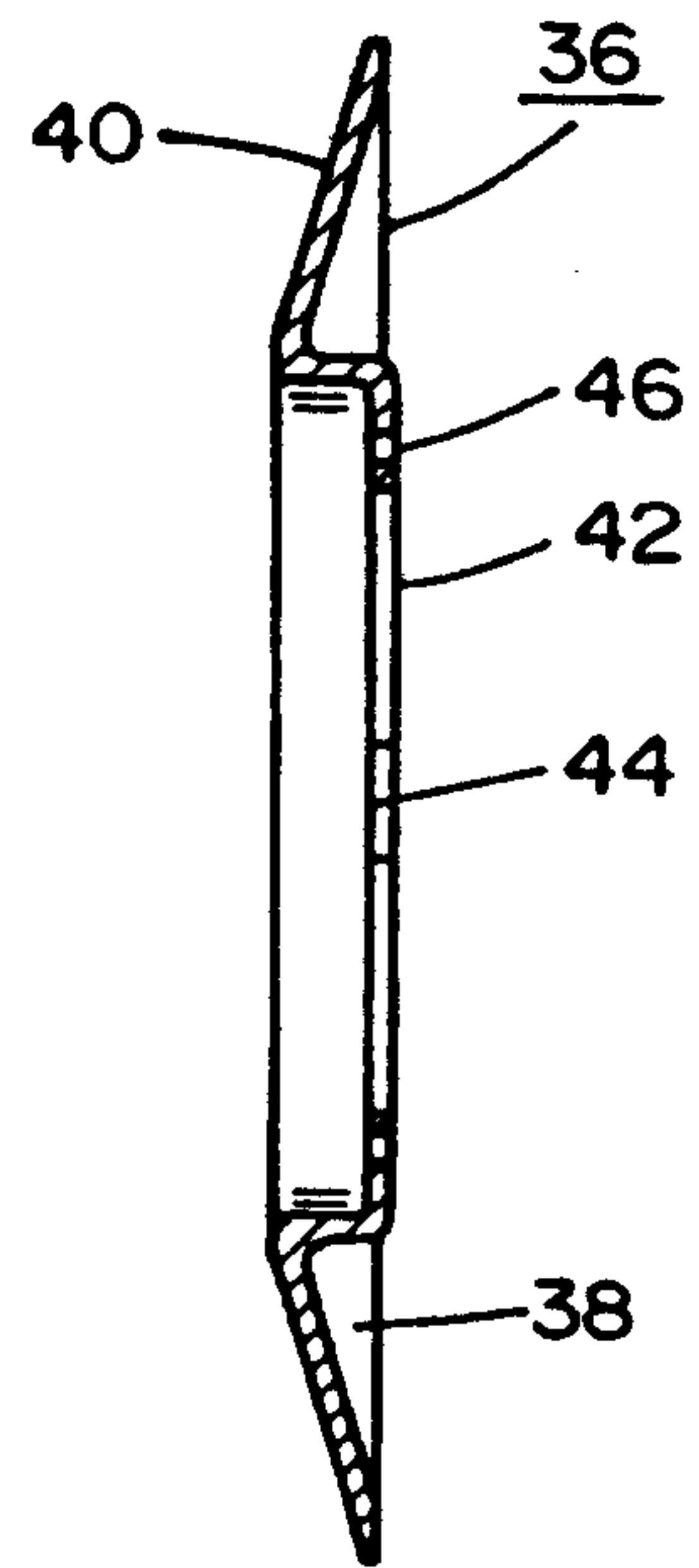


FIG.20

