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(54) **Electrical socket terminal**

Elektrische Anschlussbuchse

Douille terminale électrique

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EP 0 600 420 B1

Description

This invention relates to an electrical socket which is matable with an electrical pin, in a accordance with the preamble of claim 1.

There is shown such an electrical socket terminal in EP-A-352966, the socket being adapted for mating with an electrical pin, where the socket has contact arms for contact with a pin, and an outer spring portion surrounding the contact, where the outer spring portion carries a polarizing rib, as well as a locking lance.

Further more there is shown in US-A- 4,116,524 and 5,167,538 electrical terminals for interconnecting suppression devices where the suppression device is interconnected to an electrical contact. It is believed that neither of these termination sections for the leads of the suppression device which provide an adequate electrical connection, and neither of these electrical terminals show further wire connecting sections for electrically interconnecting insulated cable thereto.

In the publication GB-A-2250645 an electrical connector for use in connecting first and second electrical conductors, optionally with a circuit component interposed between the conductors, comprises an insulating housing containing a one piece stamped and formed electrical terminal. The terminal has a tab receptacle at one end, and a lead connecting portion has a pair of slots for receiving an electrical lead to make connection with the lead wire of the lead. Intermediate the receptacle and the lead connecting portion the terminal has a component lead wire receiving portion having slots each for receiving a respective lead wire of the component, provided in plates upstanding from a base. The base can be severed between the plates by means of tooling inserted through openings in the housing to insert the lead wires of the component into the slots. The severing of the base serves electrically to separate the receptacle and the lead connecting portion from each other to place the component in circuit between the conductors.

It is an object of the invention to provide an electrical terminal similar to that described in EP-A-352966, where the terminal is profiled to receive a lead of a suppression device in electrical engagement.

The invention provides an electrical contact having a front mating section and a rear wire terminating section, wherein the front mating section is box-shaped in configuration and includes a base portion and upstanding side-walls, having a wall extension portion upstanding from each of said side-walls, having an additional wire terminating slot for receiving a lead of a suppresion device in electrical engagement being formed in at least one of said wall extension portions and said wall extension portions each including top cover portion forming a substantial box shape in cross section.

The preferred embodiment of this invention will now be described in more detail with reference to the drawing Figures, whereby;

Figure 1 is a side view of the assembled electrical contact;

Figure 2 is a top view of the terminal shown in Figure 1;

Figure 3 is a side view similar to that of Figure 1 without the outer spring attached;

Figure 4 is a cross-sectional view through lines 4-4 of Figure 1;

Figure 5 is a cross-sectional view through lines 5-5 of Figure 1; and

Figure 6 is a cross-sectional view through lines 6-6 of Figure 1.

With reference first to Figure 1, an electrical terminal is shown generally at 2 including a front contacting section 4 and a wire terminating section 6. As shown best in Figure 3, the inner contact section is shown as a box shaped receptacle at 8 having an overlying outer spring 10 (Figure 1) in surrounding relationship.

As shown best in Figure 3, the inner terminal includes a lower base section 12 which runs the substantial length of the terminal having a hinge section at 13 which carries the wire connection section 6. In the preferred embodiment of the invention the wire connecting section 6 is shown as an insulation displacement type slot, although a wire terminating section such as an F-crimp or similar connection could also be incorporated. Two side walls 14 and 16 upstand from the base portion 12, as best shown in Figure 5. As also shown in Figure 5, a top wall portion 18 extends from the side wall portion 16 and is bent at a right angle relative to the side wall portion to form a substantially closed box. Each of the wall portions 12, and 14-18 extend forwardly and are constricted at 20 to form contact sections 22-28 respectively.

A wire receiving slot section is shown at 30 which is profiled to receive a suppression device in the slot 32. This section 30 is profiled by upstanding wall sections 34 and 36 extending upwardly integral with respective wall sections 14 and 16. This section 30 also includes top cover portions 38 and 40, extending from respective extended wall portions 34 and 36 as best shown in Figures 2 and 6. Along the front edges 42 and 44 of respective wall portions 34 and 36 are located lead-in openings 48 for the slots 32.

With respect now to Figures 1 and 2, the outer spring 10 will be described in greater detail. The outer spring 10 comprises a lower base portion at 52 which lies substantially adjacent to lower base 12 of the inner contact portion and has side wall portions 54 and 56 which lie substantially adjacent to respective side wall portions 14 and 16 of the inner contact. The outer spring member 10 further includes top wall portions 58 and 60 (Figure 2) adjacent to the front end of the terminal which are folded over to lie substantially adjacent to the top wall portion 18 of the inner contact. These top wall cover portions 58 and 60 include integral tabs 62 and 64 which extend from longitudinal seams 66 and 68, respectively.

These tab portions 62 and 64 extend upwardly as shown in Figures 1 and 4 and are either welded or soldered together to fix the top wall portions 58 and 60 to hold them in a closed condition. The outer spring member 4 further includes rear top wall portions 70 and 72 which further include upstanding tab portions at 74 and 76. The top wall sections 78 and 80 which are intermediate the top wall portions 58, 70; 60 and 72 respectively are separated from the side walls and along a rear edge thereby forming two discrete rearwardly facing locking lances, as best shown in Figures 1,2 and 5.

As best shown in Figure 5, the tab portions 62 and 64 define a central polarizing rib where the locking lances 78 and 80 are positioned on opposite sides of the rib. The outer spring is also held to the contact member by way of tab portions 90 and 92 being clinched to the side walls 14 and 16 over an edge 94 formed in an opening 96 (Figure 3).

Claims

1. An electrical contact (2) having a front mating section (4) and a rear wire terminating section (6), wherein the front mating section (4) is box-shaped in configuration and includes a base portion (12) and upstanding side-walls (14,16), characterized in that a wall extension portion (30) upstands from each of said sidewalls (14,16), an additional wire terminating slot (32) for receiving a lead of a suppression device in electrical engagement being formed in at least one of said wall extension portions (30) and said wall extension portions (30) each include top cover portions (38,40), forming a substantial box shape in cross section.

2. The contact of claim 1, characterized in that said additional wire terminating slot (32) is positioned intermediate to said front mating section (4) and rear wire terminating section (6).

3. The contact of either claim 1 or 2, characterized in that the mating contact section (4) is surrounded by an outer spring (10), said outer spring (10) being box shaped.

4. The contact of either claim 1, 2 or 3, characterized in that each extension portion (30) includes a terminating slot (32).

5. The contact of any previous claim, characterized in that said wire terminating slot (32) extends along an axis parallel to a mating direction.

6. The contact of claim 5, characterized in that said axis of said wire terminating slot (32) is laterally offset from the mating axis of the front mating section (4).

7. The contact of any previous claim, characterized in that said electrical contact is bendable into a right angled configuration.

8. The contact of any of claims 5 to 7, characterized in that said wire terminating slot (32) opens in a direction towards said mating contact section (4).

9. The contact of any of claims 6 to 8, characterized in that said contact (2) has a hinged section (13) rearward of said additional wire terminating slot (32).

Patentansprüche

1. Elektrischer Kontakt (2) mit einem vorderen Eingriffsabschnitt (4) und einem hinteren Drahtendabschnitt (6), wobei der vordere Eingriffsabschnitt (4) eine gehäuseförmige Konfiguration aufweist und einen Basisabschnitt (12) und aufrechtstehende Seitenwände (14, 16) umfaßt, dadurch gekennzeichnet, daß der Wandverlängerungsabschnitt (30) aus jeder Seitenwand (14, 16) nach oben heraussteht, wobei ein zusätzlicher Drahtabschlußschlitz (32) für das Aufnehmen einer Leitung einer Unterdrükkungsvorrichtung in elektrischem Eingriff in mindestens einem der Wandverlängerungsabschnitte (30) gebildet wird und die Wandverlängerungsabschnitte (30) jeweils obere Deckelabschnitte (38, 40) umfassen, die im wesentlichen eine Gehäuseform im Querschnitt bilden.

2. Kontakt nach Anspruch 1, dadurch gekennzeichnet, daß der zusätzliche Drahtabschlußschlitz (32) zwischen dem vorderen Eingriffsabschnitt (4) und dem hinteren Drahtendabschnitt (6) angeordnet ist.

3. Kontakt nach entweder Anspruch 1 oder 2, dadurch gekennzeichnet, daß der Eingriffsabschnitt (4) des Kontaktes durch eine äußere Feder (10) umgeben ist, wobei die äußere Feder (10) gehäuseförmig ist.

4. Kontakt nach entweder Anspruch 1, 2 oder 3, dadurch gekennzeichnet, daß jeder Verlängerungsabschnitt (30) einen Abschlußschlitz (32) umfaßt.

5. Kontakt nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, daß sich der Drahtabschlußschlitz (32) längs einer Achse parallel zu einer Eingriffsrichtung erstreckt.

6. Kontakt nach Anspruch 5, dadurch gekennzeichnet, daß die Achse des Drahtabschlußschlitzes (32) seitlich von der Eingriffsachse des vorderen Eingriffsabschnittes (4) versetzt ist.

7. Kontakt nach einem der vorhergehenden Ansprü-

che, dadurch gekennzeichnet, daß der elektrische Kontakt in eine rechtwinklige Konfiguration biegbar ist.

8. Kontakt nach einem der Ansprüche 5 bis 7, dadurch gekennzeichnet, daß sich der Drahtabschlußschlitz (32) in einer Richtung zum Eingriffsabschnitt (4) des Kontaktes hin öffnet.

9. Kontakt nach einem der Ansprüche 6 bis 8, dadurch gekennzeichnet, daß der Kontakt (2) einen gelenkigen Abschnitt (13) hinter dem zusätzlichen Drahtabschlußschlitz (32) aufweist.

Revendications

1. Contact électrique (2) comportant une section d'accouplement avant (4) et une section de terminaison de fil arrière (6), dans lequel la section d'accouplement avant (4) a une configuration en forme de boîte et englobe une partie de base (12) ainsi que des parois latérales verticales (14, 16), caractérisé en ce qu'une partie d'extension de la paroi (30) s'élève à partir de chacune desdites parois latérales (14, 16), une fente de terminaison de fil additionnelle (32) pour recevoir un conducteur d'un dispositif de suppression en engagement électrique étant formée dans au moins une desdites parties d'extension de la paroi (30) et lesdites parties d'extension de la paroi (30) englobant chacune des parties de couverture supérieures (38, 40), formant une section transversale ayant pratiquement la forme d'une boîte.

2. Contact selon la revendication 1, caractérisé en ce que ladite fente de terminaison de fil additionnelle (32) est positionnée entre ladite section d'accouplement avant (4) et ladite section de terminaison de fil arrière (6).

3. Contact selon l'une quelconque des revendications 1 ou 2, caractérisé en ce que la section de contact d'accouplement (4) est entourée par un ressort externe (10), ledit ressort externe (10) ayant la forme d'une boîte.

4. Contact selon l'une quelconque des revendications 1, 2 ou 3, caractérisé en ce que chaque partie d'extension (30) englobe une fente de terminaison (32).

5. Contact selon l'une quelconque des revendications précédentes, caractérisé en ce que ladite fente de terminaison de fil (32) s'étend le long d'un axe parallèle à une direction d'accouplement.

6. Contact selon la revendication 5, caractérisé en ce que ledit axe de ladite fente de terminaison de fil (32) est décalée latéralement de l'axe d'accouplement de la section d'accouplement avant (4).

7. Contact selon l'une quelconque des revendications précédentes, caractérisé en ce que ledit contact électrique peut être replié en une configuration à angle droit.

8. Contact selon l'une quelconque des revendications 5 à 7, caractérisé en ce que ladite fente de terminaison de fil (32) est ouverte en direction de ladite section de contact d'accouplement (4).

9. Contact selon l'une quelconque des revendications 6 à 8, caractérisé en ce que ledit contact (2) comporte une section articulée (13) à l'arrière de ladite fente de terminaison de fil additionnelle (32).

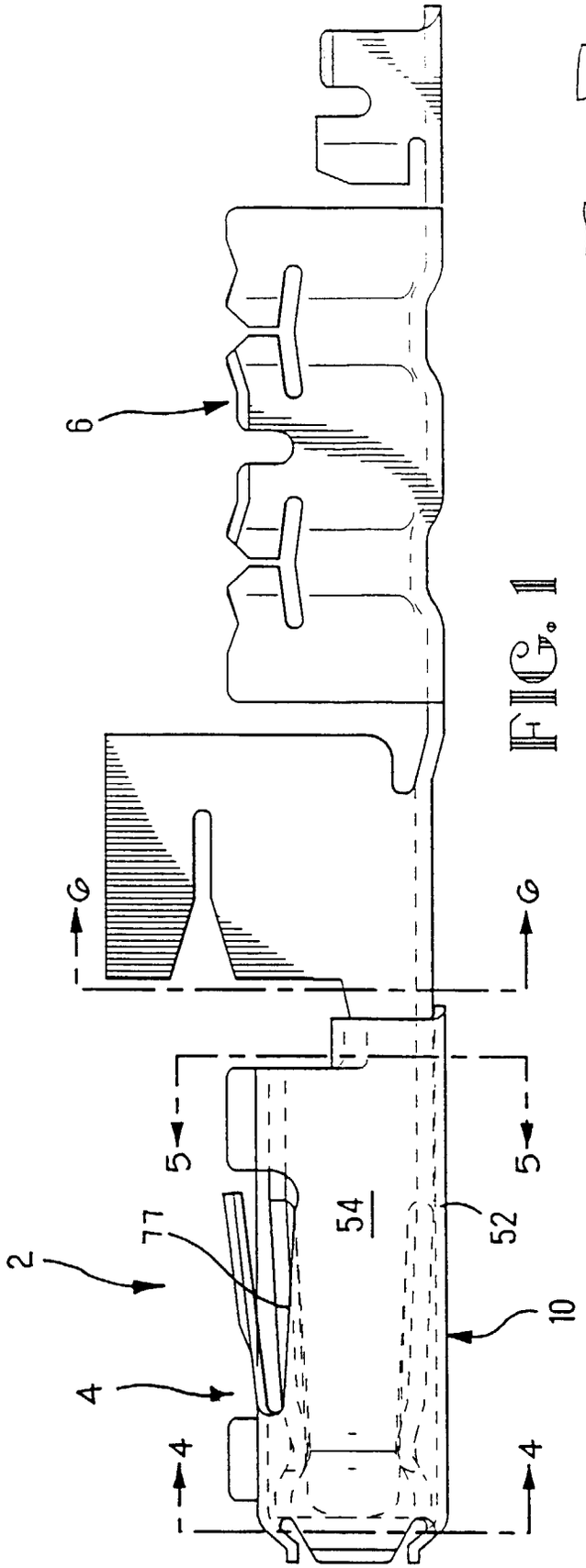
6
6
5
5
2
77
54
52
10
4
4

FIG. 1

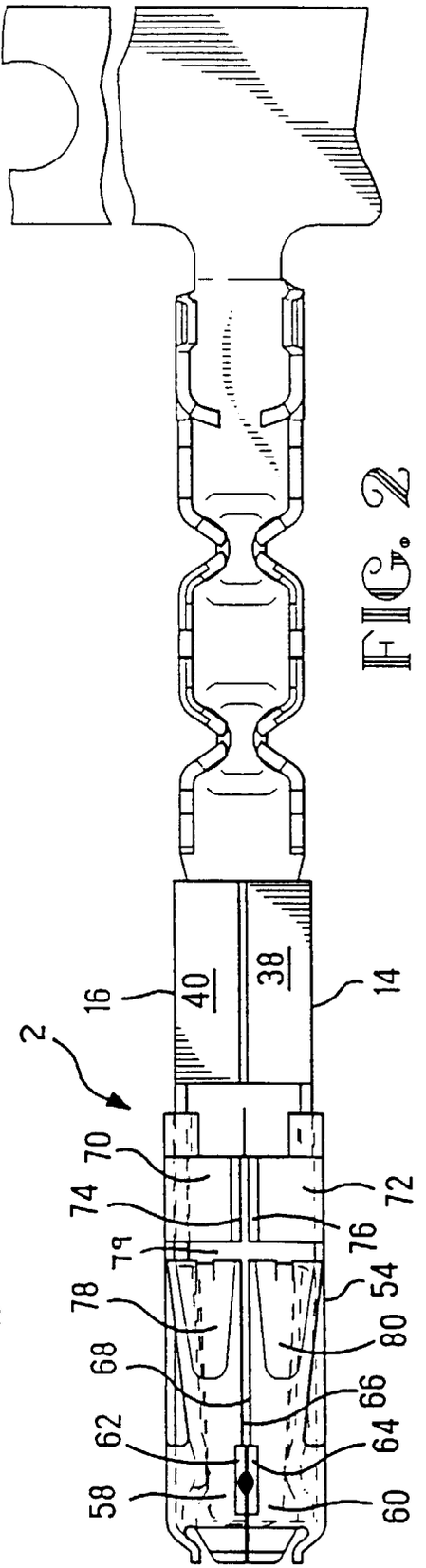
2
16
40
38
14
70
74
72
76
79
78
54
80
68
66
62
64
58
60

FIG. 2

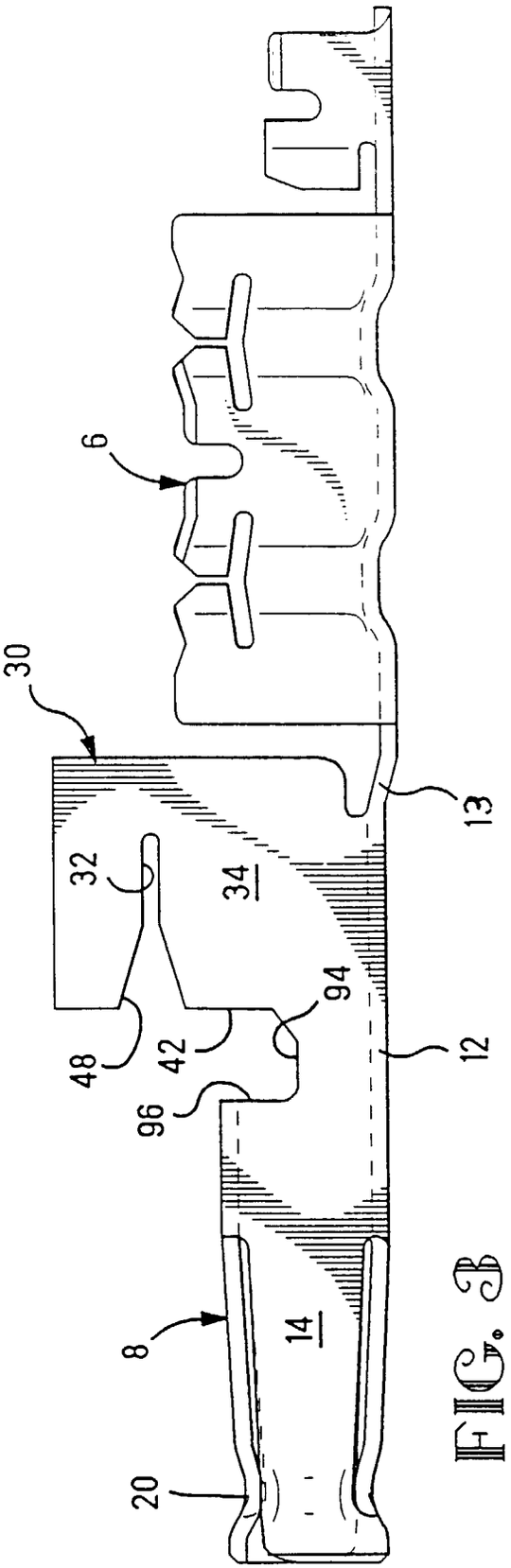

FIG. 3B

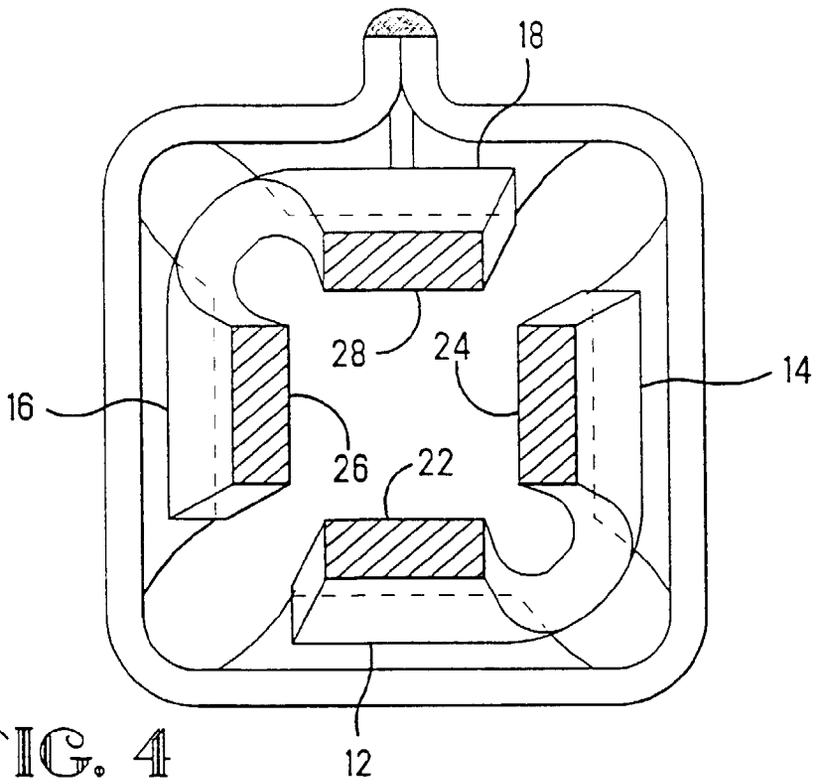

FIG. 4

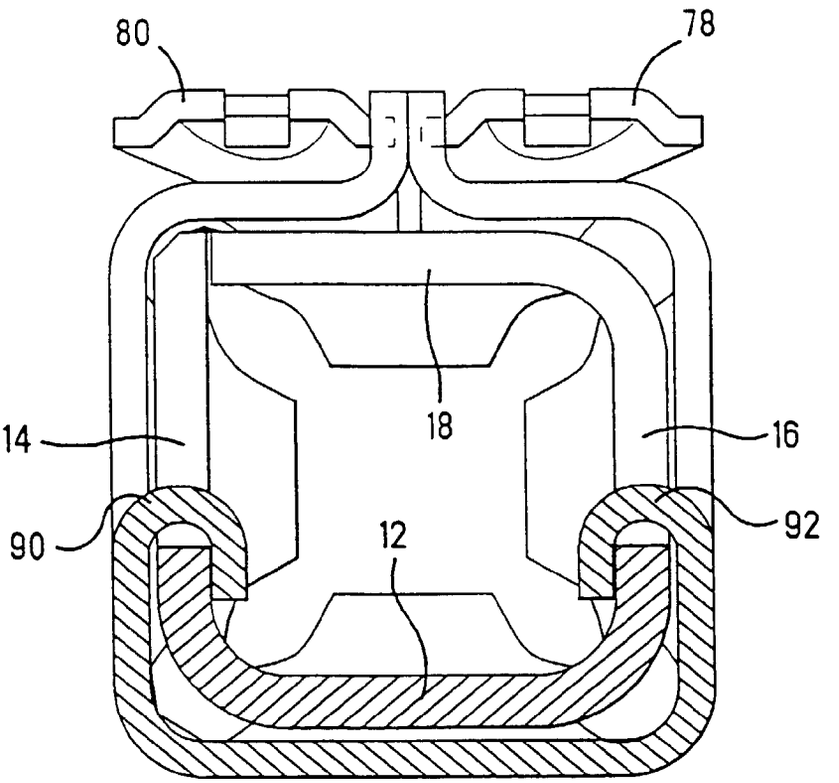

FIG. 5

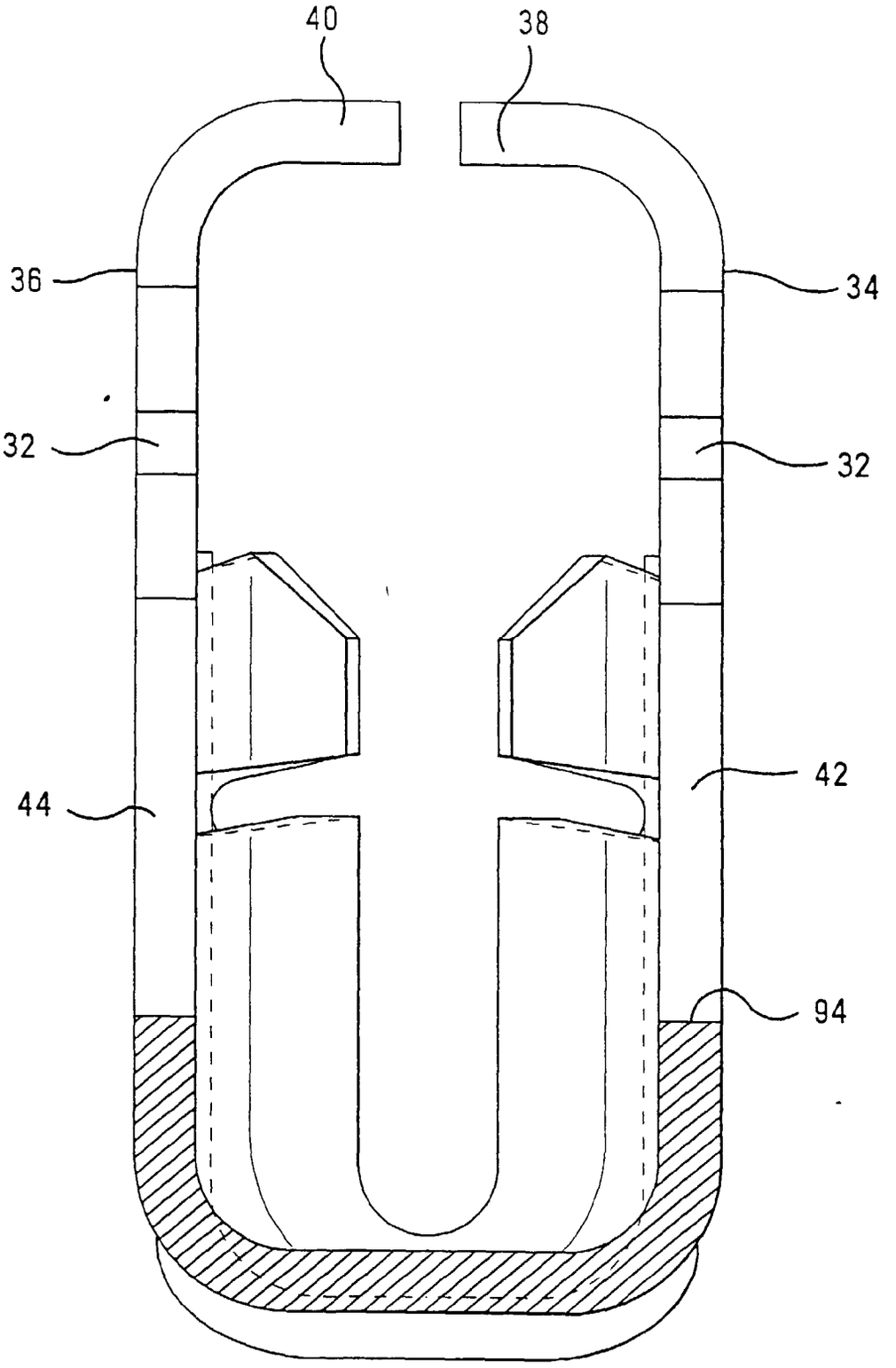

FIG. 6