EP 0045753

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 3: H01R 33/22

A1

(11) International Publication Number: WO 81/02369

(43) International Publication Date: 20 August 1981 (20.08.81)

(21) International Application Number: PCT/SE81/00012

(22) International Filing Date: 21 January 1981 (21.01.81)

(31) Priority Application Number: 8001090-3

(32) Priority Date: 12 February 1980 (12.02.80)

(33) Priority Country: SE

(71) Applicant *(for all designated States except US)*: AB CORIPEN [SE/SE]; Box 67, S-560 13 Hok (SE).

(72) Inventors; and

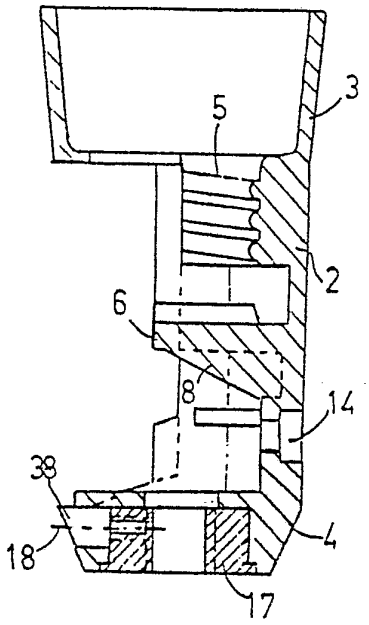
(75) Inventors/Applicants *(for US only)*: TOORELL, Sven [SE/SE]; Morarp, S-560 13 Hok (SE). REMNEMARK, Bruno, Sune, Oskar [SE/SE]; Sandgatan 4, S-568 00 Skillingaryd (SE).

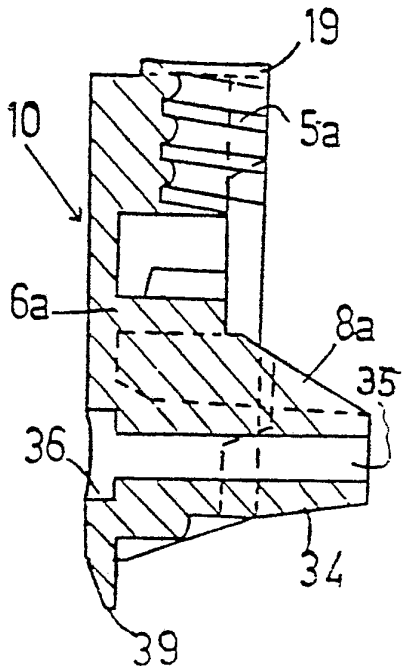
(74) Agent: AHLSTRÖM, Erik; Hemstigen 21, S-552 66 Jönköping (SE).

(81) Designated States: AT (European patent), DE (European patent), DK, FR (European patent), GB (European patent), JP, LU (European patent), NL (European patent), US.

Published
With international search report
In English translation (filed in Swedish)

(54) Title: LAMPHOLDER





(57) Abstract

A lampholder is composed of two parts which at least generally are located on opposite sides of an axial plane with respect to an incandescent lamp inserted in the lampholder. To facilitate manual mounting of electrical contact strips in the lamp holder and assembling of its halves and make possible automation of these two operations while maintaining a satisfactory mechanical rigidity the first part (1) comprises a central portion (2), which substantially forms part of a cylinder, and two annular ends (3, 4) integral therewith, while the second part (10) is comprised of a lid or cover member (10) which substantially forms part of a cylinder and is joined with the central portion of the first part and portions of its annular ends. One half of the thread of the incandescent lamp, which is located on one side of an axial plane, is provided on the lid member (10). This permits cores utilized during the moulding of the halves of the lampholder to be drawn out of the mould, which makes possible automation of the manufacture of the lampholder.

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	**KP**	Democratic People's Republic of Korea
AU	Australia	**LI**	Liechtenstein
BR	Brazil	**LU**	Luxembourg
CF	Central African Republic	**MC**	Monaco
CG	Congo	**MG**	Madagascar
CH	Switzerland	**MW**	Malawi
CM	Cameroon	**NL**	Netherlands
DE	Germany, Federal Republic of	**NO**	Norway
DK	Denmark	**RO**	Romania
FI	Finland	**SE**	Sweden
FR	France	**SN**	Senegal
GA	Gabon	**SU**	Soviet Union
GB	United Kingdom	**TD**	Chad
HU	Hungary	**TG**	Togo
JP	Japan	**US**	United States of America

Lampholder

This invention relates to a lampholder of the kind generally defined in the introductory portion of claim 1.

A lampholder of this general type is previously disclosed in the German patent specification 364 605, according to which the lid member is provided in that portion of the lampholder which is located beneath the bottom of the threaded hole for the incandescent lamp. At the manufacture of the lampholder, which consists of a hardening or setting material by means of moulding or pressing this design necessitates screwing out of the core corresponding to the threaded hole. Thus, the core can not be simply drawn out, in this case.

The lampholder according to the invention constitutes a further development of that lampholder which forms the subject matter of the Swedish patent application 8000531-7.

The primary object of this invention is, like that of the invention according to said patent application, to facilitate the mounting of the electrical conductors in the lampholder and the assembling thereof, and to make possible automation of these operations. This object is attined due to the fact that the lampholder is so constructed as is set forth in the characterizing clause of claim 1. Thanks to the fact that that portion of the thread of the lampholder which is located on one side of an axial plane is made in the inside of the lid member, the cores corresponding to the thread which are utilized at the pressing or moulding of the two parts of the lampholder may be drawn out of their respective moulds. Hereby automation of the manufacture of the lampholder is made possible or facilitated. Thanks to the fact that the first part of the lampholder in the preferred embodiment of the invention is annular in both ends - and not only in one end - the lampholder according to the invention will become stabler and mechanically more solid than the last above mentioned prior lampholder.

BUREAU CMPI WIPO INTERNATIONAL

In a particularly advantageous embodiment of the invention a preferably threaded nipple, through which a pair of electrical conductors may be inserted in the lampholder and by means of which the lampholder may be secured to a tube comprised in a lamp foot or the like, is secured in the other end of the first partof the lampholder, said end having a substantially radially directed recess which in the assembled condition of the lampholder is covered by a projecting tongue comprised in the lid member and through which a preferably radially directed locking screw for the nipple is accessible when the lampholder is dismounted.

Further features and advantages of the lampholder according to the invention will become apparent from the following detailed description and the annexed drawings which diagrammatically and as non-limiting examples illustrate some preferred embodiments of the invention.

Fig. 1 is a plan view of a first, ordinarily larger (longer) part of a lampholder according to a first embodiment of the invention.

Fig. 2 is a vertical sectional view of line II - II in Fig. 1.

Fig. 3 is a transverse sectional view on line III - III in Fig. 1 on a larger scale.

Fig. 4 is a transverse sectional view on line IV - IV in Fig. 1 on a larger scale.

Fig. 5 is a plan view of a second part which ordinarily has the form of a lid and forms the lampholder according to one embodiment of the invention together with the first part shown in Figs. 1 - 4.

Fig. 6 is a vertical sectional view on line VI - VI in Fig. 5.

Fig. 7 is a plan view corresponding to Fig. 1 of the first part of a lampholder according to a second embodiment of the invention.

BUREAU
CHPI
WIPO
INTERNATIO

Fig. 8 is a vertical sectional view on line VIII - VIII in Fig. 7.

Fig. 9 is a cross sectional view on line IX - IX in Fig. 7 on a larger scale.

Fig. 10 is a cross sectional view on line X - X in Fig. 7 on a larger scale.

Fig. 11 is a plan view corresponding to Fig. 5 of a lid member comprised in the lampholder according to the second embodiment of the invention.

Fig. 12 is a vertical sectional view on line XII - XII in Fig. 11.

Fig. 13 is a cross sectional view on line XIII - XIII in Figs. 1 and 7 on a larger scale.

Fig. 14 is a cross sectional view on line XIV - XIV in Figs. 5 and 11 on a larger scale.

Fig. 15 is a cross sectional view on line XV - XV in Figs. 5 and 11 on a larger scale.

Fig. 16 is a side view illustrating a modified part of the lampholder according to Figs. 1 - 6 and 13 - 15.

Fig. 17 illustrates the lampholder part according to Fig. 16 as seen in a plan view.

Fig. 18 is a perspective view of a pair of contact strips and appurtenant electrical conductors associated with the lampholder.

In all embodiments the same reference characters are used throughout to designate same or similar details.

The larger (longer) part of the lampholder according to a first embodiment of the invention illustrated in Fig. 1 - 4 and 13 is generally designated 1 and comprises a central portion 2 which forms part of a cylinder and at one of its two ends changes into an annular collar 3 which is intended to surround part of an electrical (incandescent) lamp inserted in the lampholder. The part 1 also comprises a second annular end 4 which is co-axial with the collar 3 and is integral therewith and with the central portion 2.

BUREAU OMPI WIPO INTERNATIONAL

Next to the collar 3 the central portion 2 is provided with threads 5 on its inside which extend substantially up to the collar but not into the same. This makes possible moulding of the lampholder part 1 in one piece with a sufficient precision to permit an incandescent lamp to be screwed into the lampholder after the lampholder part 1 has been put together with the lid member which is generally designated 10 and is illustrated in Figs. 5, 6, 14 and 15.

The central portion further comprises a shelf 6 which is located substantially in a radial plane with respect to a centre axis for the two annular ends 3, 4 and has the shape of a segment of a circle which is a little larger than a semicircle and thus projects somewhat beyond a diametrical plane. In the shelf 6 two slots 7 are cut out for a pair of contact strips which may be made of sheet brass or the like and may be so designed as shown in Fig. 18.

The strips are comprised of a substantially planar side contact strip 22 and a right-angled, bent, bottom or centre contact strip 23. Both strips have a plurality of lateral recesses located pairwise. The first pair of recesses 26 define a narrower portion by means of which each strip 22, 23 engages its slot 7 in the shelf 6. The slots 7 are preferably so deep that no portion of the contact strips projects outside the shelf defining chord in which the slots 7 are cut out. Those wider portions of the strips which are located inside the shelf 6 prevent by their abutment on the upside of the shelf withdrawal of the strips 22, 23 out of the lampholder. Preferably, the slots have such a width that the contact strips are held therein by a loose friction grip whereby the mounting of the lampholder is facilitated.

As has been indicated above, the two strips 22, 23 have two further lateral recesses located just opposite each

BUREAU OMPI WIPO INTERNATION

other and defining firstly a pair of narrower tongues 28 which are bent and clamped around the stripped end 30 of electrical conductors 31, and secondly a pair of wider tongues 29, which are bent and clamped around the insulation 31 of the conductors 30. In the embodiment now described the two conductors 30 + 31 are comprised in an electrical cable (not shown) which passes through the aperture in the annular end 4 of the lampholder part 1. Those portions of the conductors 30 + 31 which are located next to the contact strips 22, 23 are held separated from each other by a central, triangular partition wall 8 which is made integral with the shelf 6 and interconnects it with the arcuate circumferential wall of the central portion 2.

The part 1 also has four axially extending ribs or edge flanges 11, 11 and 12, 12 which are pairwise located diametrically opposite each other and project beyond an axial or diametrical plane into the other part 10 of the lampholder when the parts are assembled. Each flange 11 which starts at one end of the shelf 6 is separated from the axially adjacent flange by an interspace 13 which is located immediately beneath the shelf 6.

The parts 1, 10 are intended to be screwed together by means of a screw and a nut and therefore there is provided in the circumferential wall of the central portion 2 a hexagonal recess for the nut and a through bore 15 which forms a continuation of the recess 14.

The lampholder composed of the parts 1, 10 is intended to be screwed or threaded on to a tube which is comprised in a lampfoot or the like and through which the electrical cable is extended to the lampholder. To make this possible a threaded nipple 17 is secured in the other, far end 4 with respect to the collar 3. To lock the nipple 17 on to the tube there is provided in a conventional way a locking screw 18 which is merely indicated by its centre line in Fig. 8 and which is accessible from the interior of the

BUREAU OMPI WIPO INTERNATIONAL

half 1 (when the nipple has been positioned in a suitable angular position with respect to the collar 4. In this connection it should be noted that the nipple 17 has been shown in two different angular positions in Figs. 1 and 2, respectively.

The other principal part, which has the form of a lid and accordingly is called the "lid member", of the present embodiment of the lampholder according to the invention is illustrated in Figs. 5, 6, 14 and 15, as stated in the foregoing, and is generally designated 10. The lid member, which according to the above is intended to be screwed together with the first part 1 for forming a complete lampholder externally has the general shape of one half of a circular cylinder which is cut off substantially straight at its upper end which faces the collar and along a three-dimensional arc at its lower end. Internally the lid member 10 has thread grooves 5a at its upper end which are located just opposite to and supplement the thread grooves 5 of the first part 1 for forming a complete thread. The radially inner portion of the lid member wall which surrounds the thread grooves 5a projects upwards axially above the radially outer portion of the same wall for forming a half-circular end flange 19 which engages inside the lower edge of the collar 3 when the lampholder is assembled. The mutually diametrically opposed edges 20 of the lid member project circumferentially with respect to the inner portions of the circumferential wall which radially are located immediately inside these edges 20, and enclose the projecting edge flanges 11 and 12 of the first part 1. Those portions of the edges 20 which are located next to the collar 3 of the part 1 forms axially extending channels 21 for the edge flanges 11 of the part 1 together with those wall portions in which the thread grooves 5a are formed.

BUREAU OMPI WIPO INTERNATION

The lid member 10 also has a shelf 6a which has the shape of a segment of a circle and is smaller than a semi-circle. The shelf 6a is located just opposite the shelf 6 of part 1 and supplements it for forming a complete, circular shelf and also closes the slots 7. Below the shelf 6a there are provided immediately inside the edges 20 a pair of diametrically opposite tongues 33 which project beyond an axial plane and protrude into the inter-spaces 13 of the first part and fill these. Below the shelf 6a there is an insulating, frusto-conical stud 34 which extends generally across the interior of the assembled lampholder and in which a screw hole 35 is provided, the outer end of which is enlarged to accomodate a countersunk screw head. The stud 34 and the shelf 6a are mutually interconnected by a partial partition wall 8a which forms an extension of the partition wall 8 of the first part.

Thanks to the fact that the lampholder according to the invention is so designed as described above and shown in the drawings manual mounting of the contact strips and assembling of the lampholder are facilitated and automation of these operations is made possible. The contact strips 22, 23 which have been secured to the conductors 30 + 31 beforehand are preferably inserted into the part 1 through the aperture in the annular end 4 but may also be introduced through the lid opening. The contact strip 23 may be bent either before its insertion into the lampholder or after its securing in the shelf 6. Thanks to the fact that both ends of the first part of the lampholder have the shape of closed annuli 3 and 4, respectively, the composite lampholder gains in durability and rigidity.

In Figs. 7 - 12 and 13 - 15 of which the three last-mentioned ones also relate to the embodiment described above, as has become evident from the foregoing, a further development of the invention is illustrated.

BUREAU OMPI WIPO INTERNATIONAL

The embodiment according to Figs. 7 - 15 deviates from the one first described primarily in that the locking screw 18 for the nipple 17 has been arranged substantially radially instead of substantially axially with respect to the nipple 17 and secondarily through consequent changes in the design of the two parts 1 and 10. Thus, there is provided in the other annular end 4 of the part 1, which is remote from the collar 3, a substantially radial recess 38 which extends right in to the axial bore for the nipple 17 which now is countersunk, as is apparent from Figs. 7 and 8.

Since the locking screw according to the provisions has bo be inaccessible from the outside when the lampholder is complete, the recess 18 is in this embodiment according to the invention sealed or covered by a tongue 39 which projects axially from the lower edge of the lid member 10 according to Figs. 11 and 12.

In Figs. 16 and 17 a modified holder according to the invention is shown which may be suspended in an electric cable and therefore has no nipple 17. Instead hereof the lampholder has a hollow throat 40 for the cable or flex (not shown) which may be clamped or pressed against the wall of the aperture 39 by means of a radially directed screw 41. Between the annular end 4 of the part 1 and the throat 40 there is a substantially radially projecting plate 42 which is shown to be made in two layers or ledges 43, 44. The ledge 44 which is located between the ledge 43, which is substantially circular as seen in a plan view, and the throat 40, is longish and has the shape of a circle which is concentric with the ledge 43 and from which two diametrically opposite circle segments have been cut away. Between the plate 42 and said other end 4 of the lampholder half 1 there are provided a pair of radially projecting and diametrically located wings 45. The wings 45 and the plate 42 may be considered to carry and center

BUREAU OMPI WIPO INTERNATIO

a globe (not shown) or the like.

The embodiments described above and illustrated in the drawings are of course to be regarded merely as non-limiting examples and may as to their details be modified in several ways within the scope of the following claims. For example the whole or at least part of the collar 3 may belong to the lid member 10 instead of the first part 1 of the lampholder. Furthermore, new embodiments which are also encompassed by the claims may be created by combining details which are taken from different ones of the exemplificatory embodiments described above.

BUREAU OMPI WIPO INTERNATIONAL

Claims

1) Lampholder which is comprised of two individual parts (1, 10) the first of which comprises a central, arcuate portion (2), which substantially forms part of a cylinder, and two annular ends (3, 4) which are integral with said central portion and of which one (3) surrounds an electric bulb threaded into the lampholder, the other part (10) of said lampholder being a lid or cover member (10) which substantially forms part of a cylinder and is united with the central portion (2) of the first part (1) along two opposed, longitudinal edges (20) and together with said central portion forms a substantially cylindrical body, said other part (10) further being united with the annular ends (3, 4) of the first lampholder part (1) along two arcs each of which defines a respective end of the lid member and interconnects a respective pair of the ends of said opposed edges (20), c h a r a c t e r i z e d in that the inside of that portion of the lid member (10) which is located adjacent to said one annular end (3) is provided with threads (5a) which are located just opposite to and cooperate with corresponding threads (5) provided on the inside of that region of the central portion (2) of said one part (1) which is adjacent to said one end (3), for forming a complete, helical thread (5 + 5a).

2) Lampholder according to claim 1, c h a r a c t e r i z e d in that that portion of the lid member which is located adjacent to said one end (3) of said first part (1) has an arcuate flange (19) which extends along the corresponding one of said two arcs and engages into the interior of the corresponding annular end (3) of said first part (1).

BUREAU OMPI WIPO INTERNATIO

3) Lampholder according to claim 1 or 2, c h a r a c t e r i z e d in that that end of the lid member (10) which faces said other annular end (4) of the first part (1) has a projection (39) which covers a recess (18) in the outside of said other annular end (4).

4) Lampholder according to any one of the preceding claims, c h a r a c t e r i z e d in that the lid member (10) and the first part (1) of the lampholder are screwed together by means of a screw extending transversely through the lampholder and surrounded by a tubular, preferably substantially conical, insulating stud (34) which is integral with the lid member (10).

5) Lampholder according to any of the preceding claims, c h a r a c t e r i z e d in that said first part (1) has means for holding a pair of contact strips (22, 23) which are each attached to a stripped end (30) of a conductor (30 + 31) which is introduced through the aperture of the other annular end (4) of said first part (1).

6) Lampholder according to claim 5, c h a r a c t e r i z e d in that the holding means (7) are so dimensioned in relation to the contact strips (22, 23) and adapted thereto, that the holding means hold the contact strips already before the uniting of the two parts (1, 10) of the lampholder with each other.

7) Lampholder according to claim 6, c h a r a c t e r i z e d in that the holding means are comprised of a pair of preferably parallel slots (7) in a shelf (6) which extends transversely with respect to the cylinder axis and is formed on the inside of the first part (1) of the lampholder, said slots having a width which is only insignificantly greater than the thickness of the contact strips (22, 23) inserted therein and such a depth that the contact

BUREAU OMPI WIPO INTERNATIONAL

strips substantially in their entirety are located within the central portion (2) of the first part, inside its two axially extending edges.

8) Lampholder according to any of the preceding claims, c h a r a c t e r i z e d in that a preferably threaded nipple (17), by means of which the lampholder is threadable upon, or attachable to, a tube comprised in a lampfoot or the like, is secured in the aperture of the other annular end (4) of the first part, said end having a recess (38) which preferably extends radially with respect to the aperture of the end and through which a locking screw (18) for the nipple (17) is accessible.

9) Lampholder according to claim 1, c h a r a c t e r i z e d in that at least part of said one annular end (3) belongs to the lid member (10), and in that a preferably threaded nipple (17) through which a pair of electric conductors are insertable in the lampholder (1 + 10) and by means of which the lampholder is attachable to a tube comprised in a lampfoot or the like, is secured in said other one (4) of the two annular ends of the first part (1), the outer surface of said other end having a substantially radial recess (38) which in the assembled condition of the lampholder is covered by a projecting tongue (39) comprised in the lid portion (10) of the lampholder, a substantially radially directed locking screw (18) for the nipple (17) being accessible through said recess when the lampholder is dismounted.

BUREAU OMPI WIPO INTERNATION

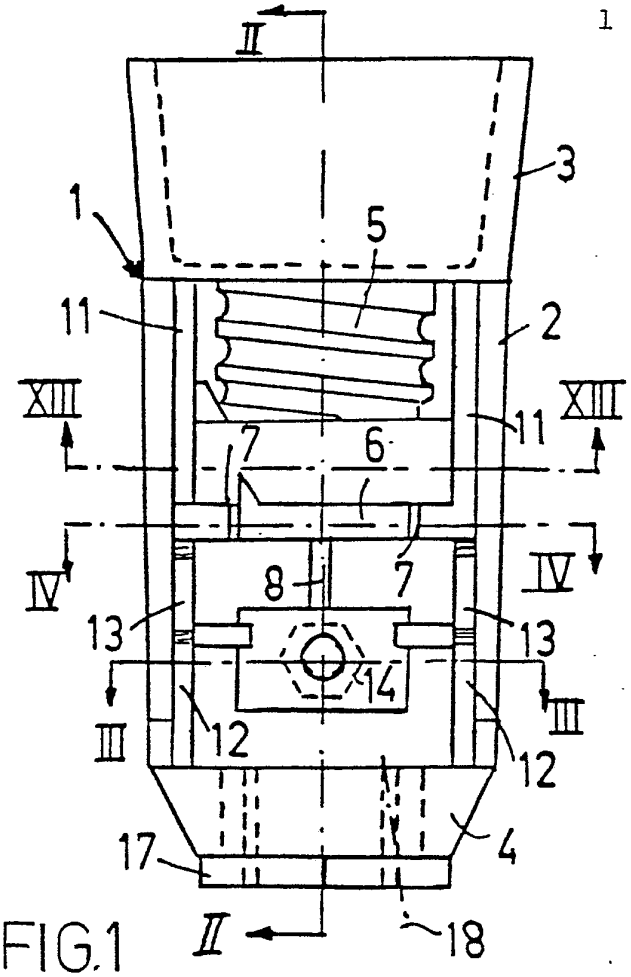


FIG.1

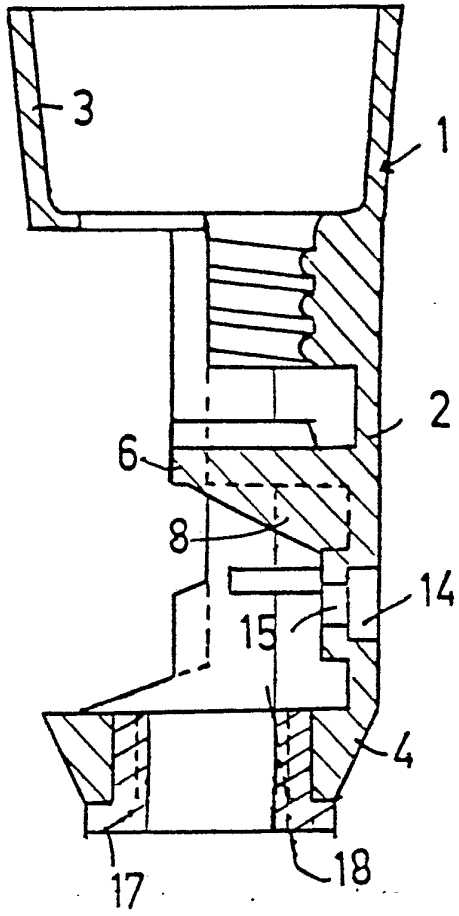


FIG. 2

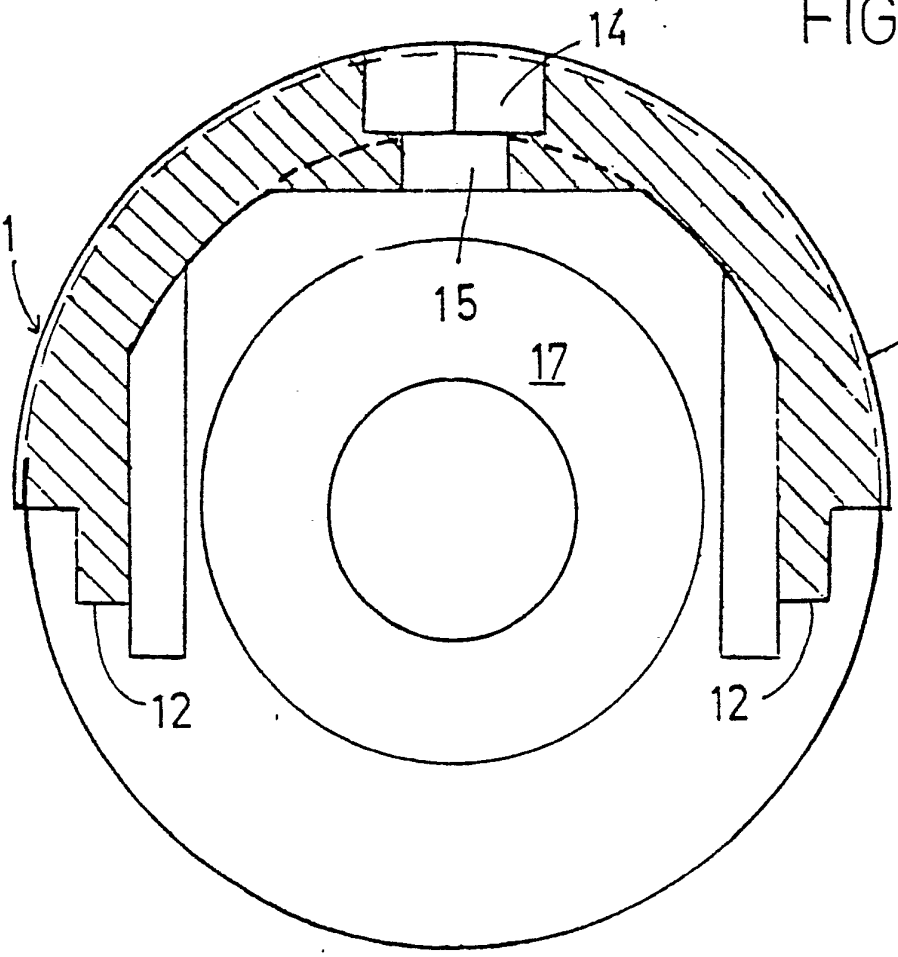


FIG. 3

BUREAU
OMPI
WIPO
INTERNATIONAL

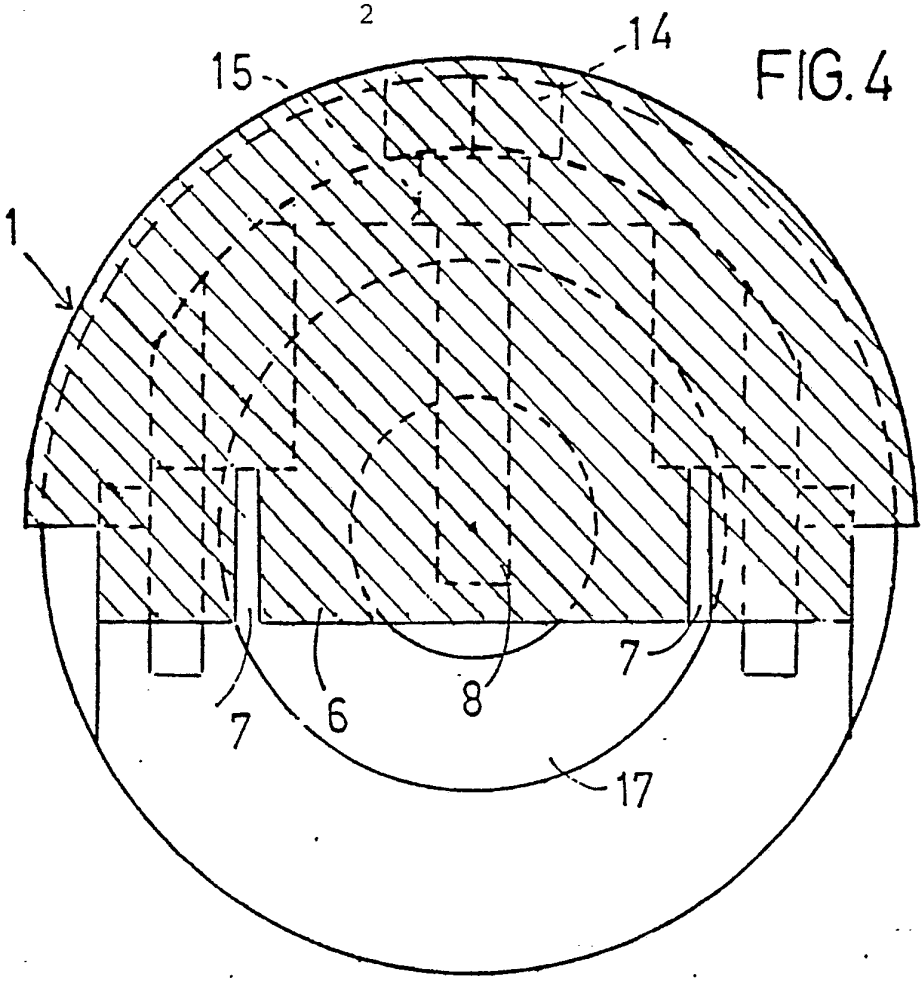


FIG. 4

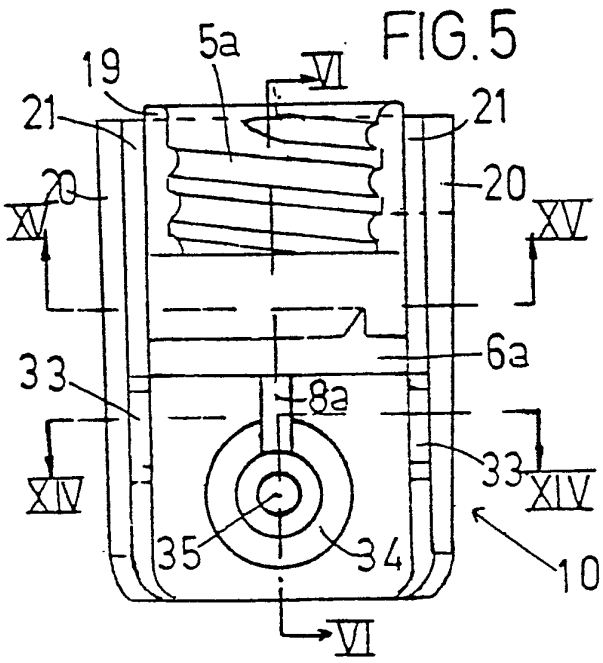


FIG. 5

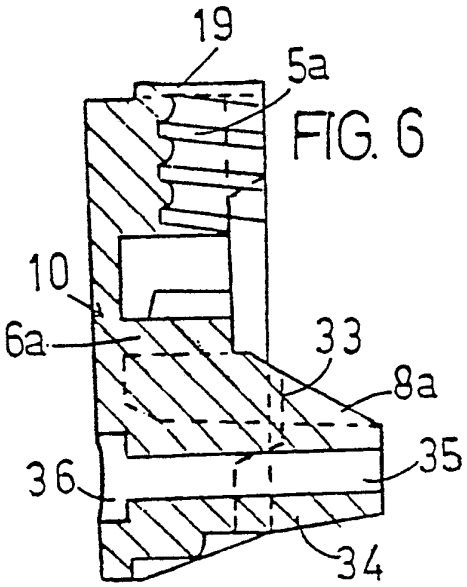


FIG. 6

BUREAU OMPI WIPO INTERNATIONAL

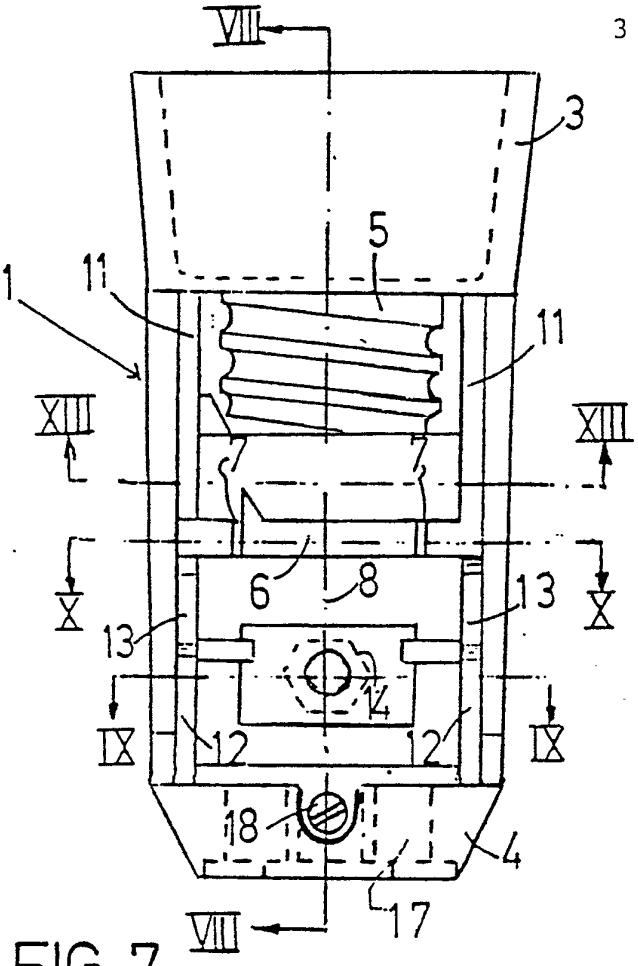


FIG. 7

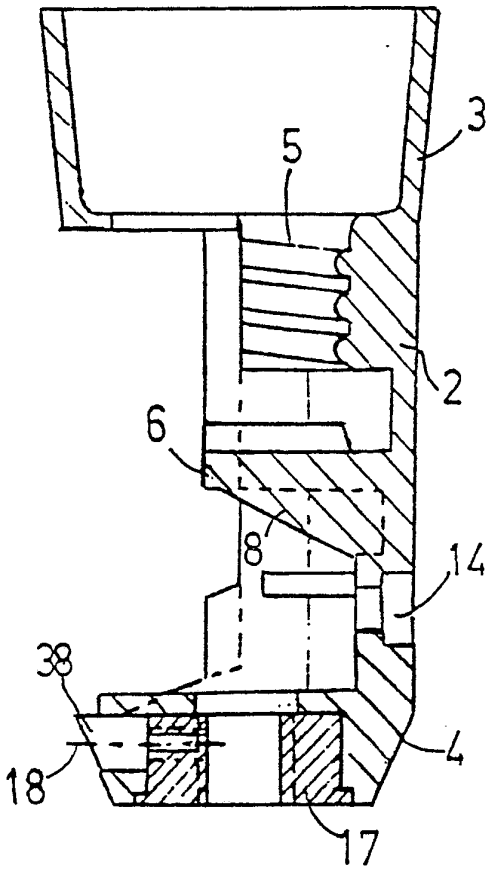


FIG. 8

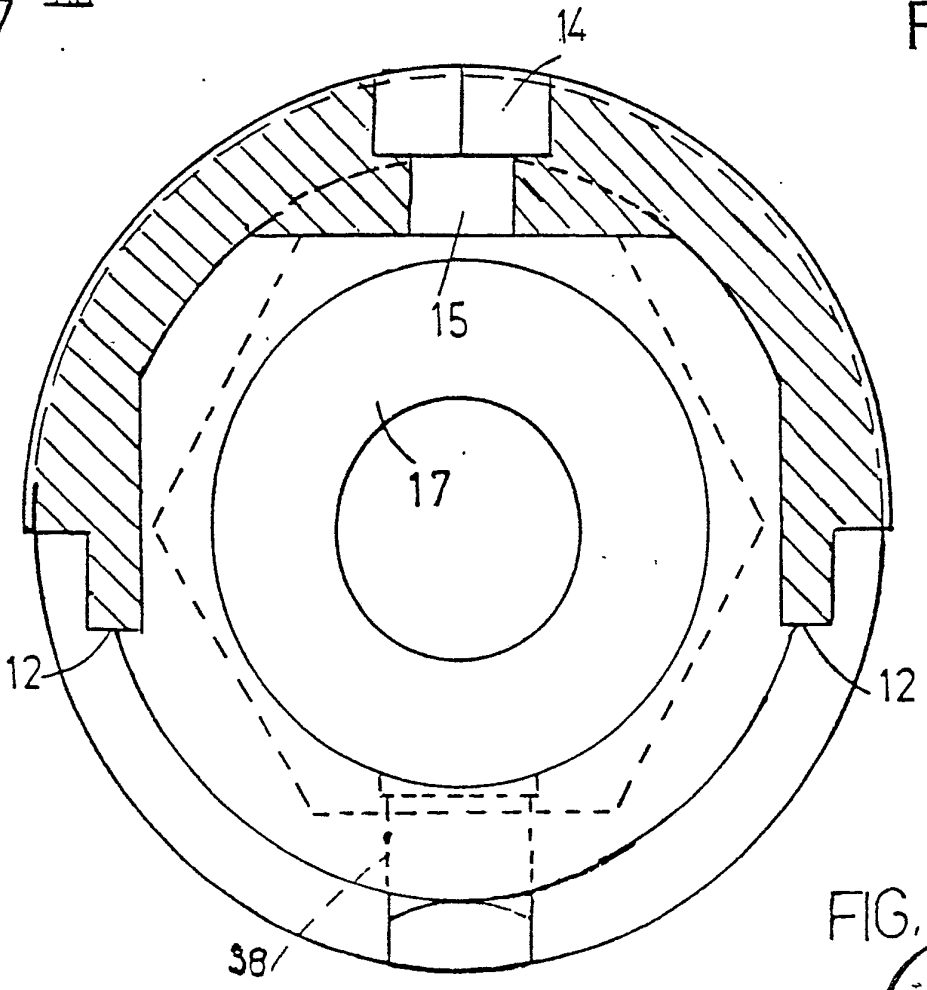


FIG. 9

BUREAU OMPI WIPO INTERNATIONAL

FIG. 10

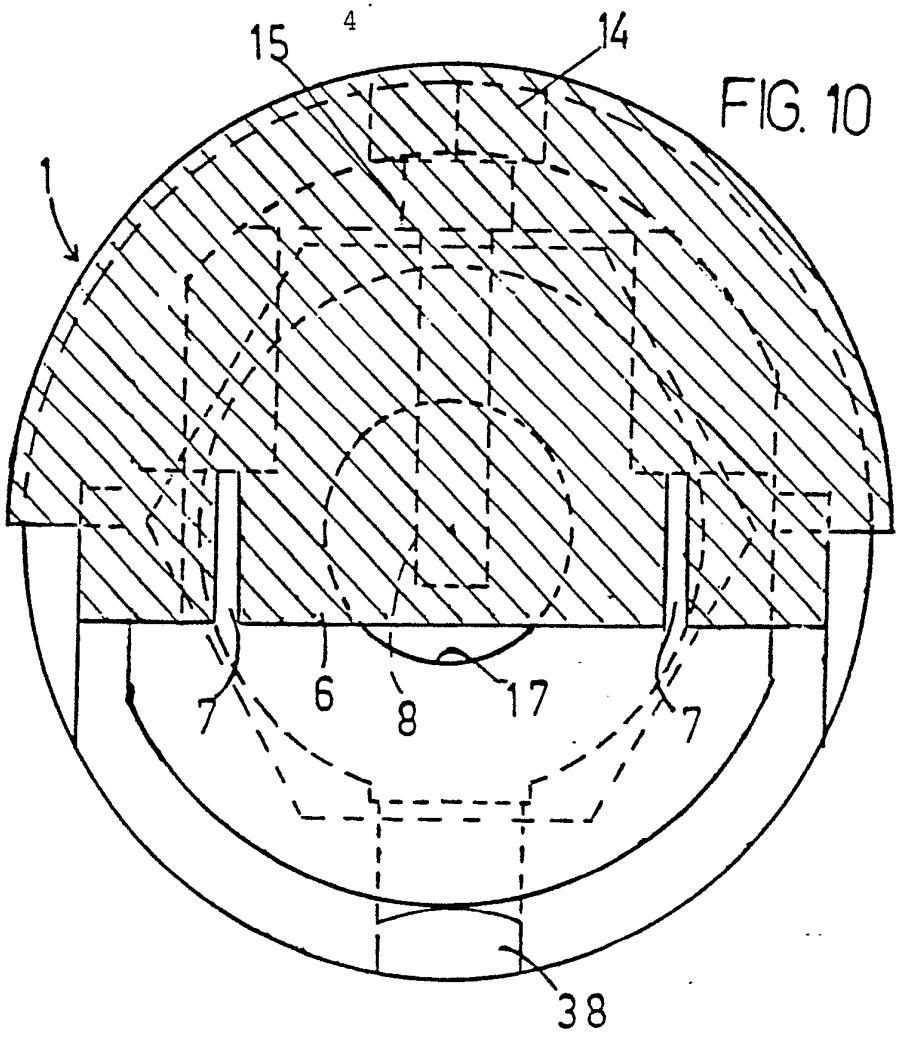


FIG. 11

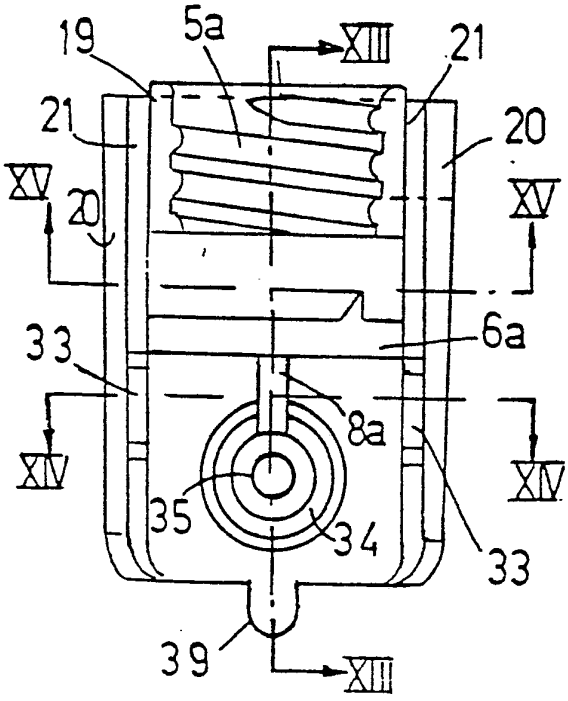
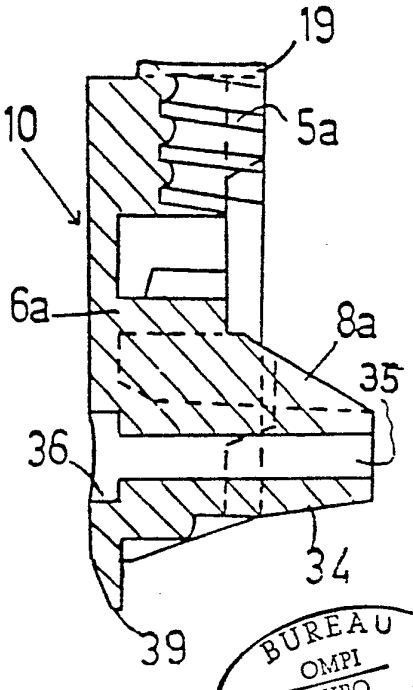
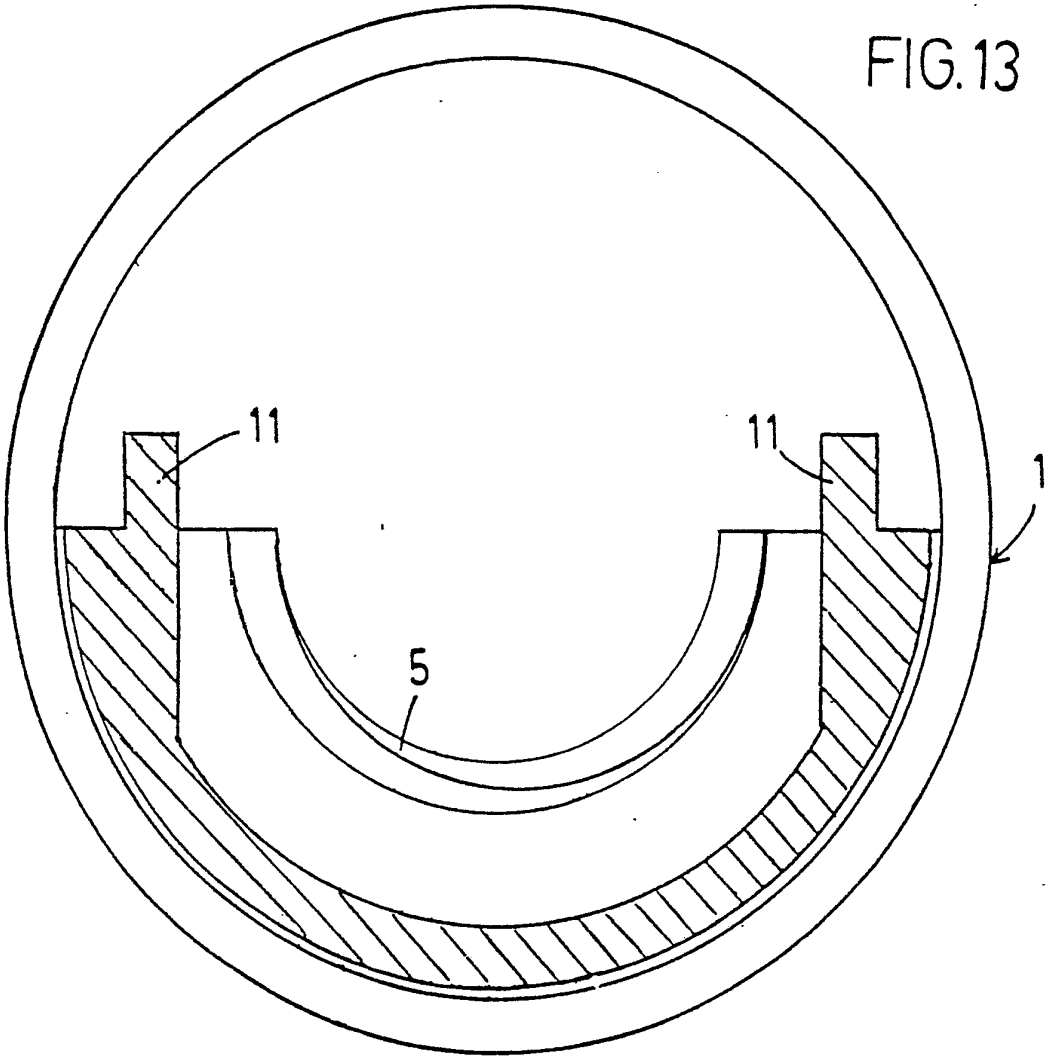


FIG. 12



BUREAU OMPI WIPO INTERNATIONAL

FIG.13



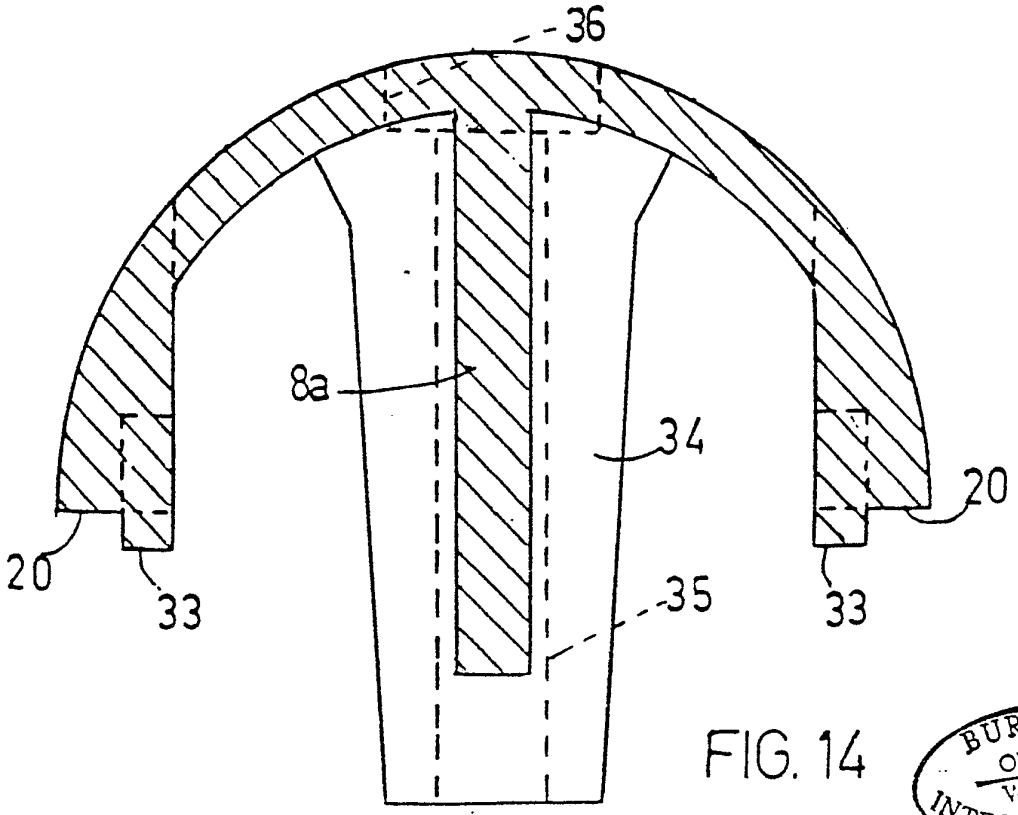


FIG. 14

BUREAU OMPI WIPO INTERNATIONAL

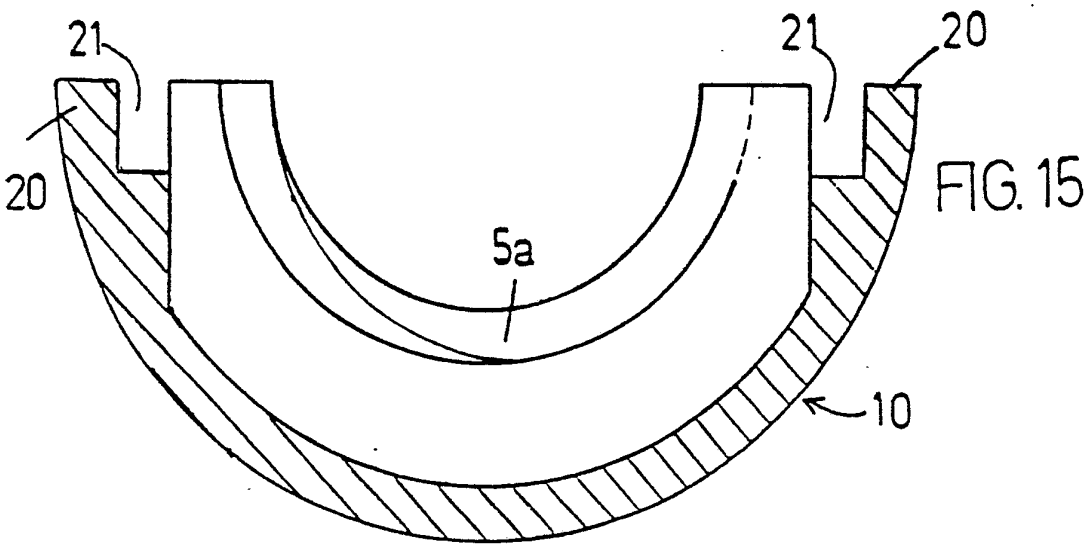


FIG. 15

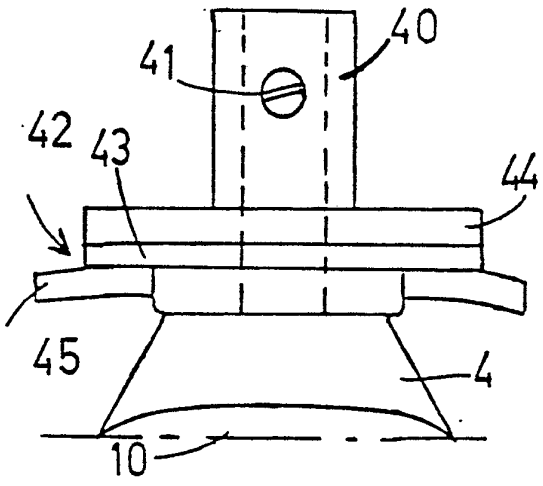


FIG. 16

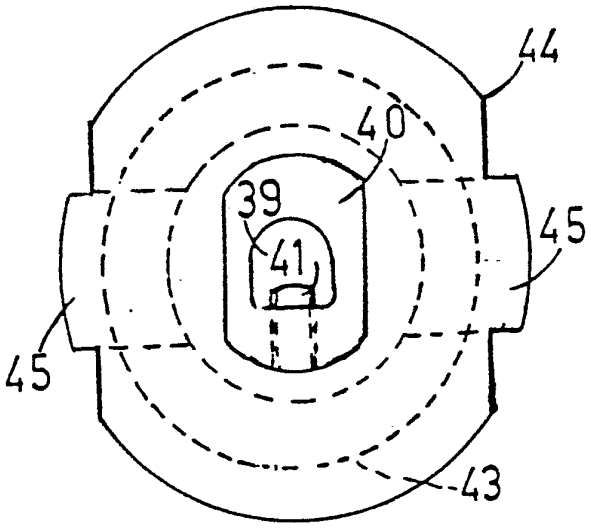


FIG. 17

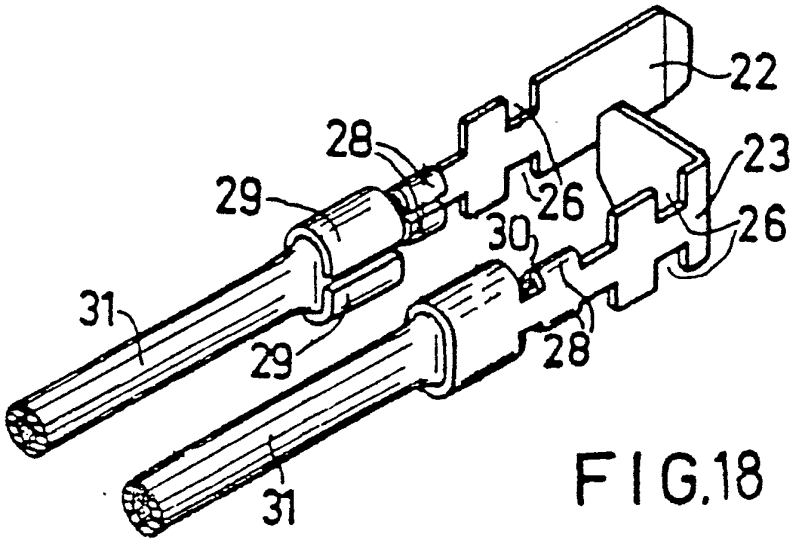


FIG. 18

BUREAU OMPI VIPO INTERNATIONAL

INTERNATIONAL SEARCH REPORT

International Application No PCT/SE81/00012

I. CLASSIFICATION OF SUBJECT MATTER (If several classification symbols apply, indicate all) [3]

According to International Patent Classification (IPC) or to both National Classification and IPC 3

H 01 R 33/22

II. FIELDS SEARCHED

Minimum Documentation Searched [4]

Classification System	Classification Symbols
National Cl	21f:45
IPC 3	H 01 R 00-42
US Cl	200:51.01, 51.14-17; 339:63, 88, 119, 125, 190, 196,../..

Documentation Searched other than Minimum Documentation to the Extent that such Documents are included in the Fields Searched [5]

SE, NO, DK, FI classes as above

III. DOCUMENTS CONSIDERED TO BE RELEVANT [14]

Category *	Citation of Document, [16] with indication, where appropriate, of the relevant passages [17]	Relevant to Claim No. [18]
A	DE, C, 364 605 published 1922, November 29, Junge O	1
L	DE, A, 2 259 860 published 1973, June 14, W A Deutscher Proprietary Ltd	7
L	US, A, 2 360 444 published 1944, October 17, Pollock L	6
L	US, A, 2 620 376 published 1952, December 2, Benander G B	6, 7
L	US, A, 3 609 645 published 1971, September 28, Turner D H	6

* Special categories of cited documents: [15]

"A" document defining the general state of the art

"E" earlier document but published on or after the international filing date

"L" document cited for special reason other than those referred to in the other categories

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but on or after the priority date claimed

"T" later document published on or after the international filing date or priority date and not in conflict with the application, but cited to understand the principle or theory underlying the invention

"X" document of particular relevance

IV. CERTIFICATION

Date of the Actual Completion of the International Search [2]	Date of Mailing of this International Search Report [2]
1981-03-04	1981 -03- 05
International Searching Authority [1]	**Signature of Authorized Officer** [20]
Swedish Patent Office	C-A Lannefors

FURTHER INFORMATION CONTINUED FROM THE SECOND SHEET

II Fields Searched (continuation)

US Cl 339:206-211, 255

V. ☐ OBSERVATIONS WHERE CERTAIN CLAIMS WERE FOUND UNSEARCHABLE [10]

This international search report has not been established in respect of certain claims under Article 17(2) (a) for the following reasons:

1. ☐ Claim numbers ....., because they relate to subject matter [12] not required to be searched by this Authority, namely:

2. ☐ Claim numbers ....., because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out [13], specifically:

VI. ☐ OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING [11]

This International Searching Authority found multiple inventions in this international application as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims of the international application.

2. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims of the international application for which fees were paid, specifically claims:

3. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claim numbers:

Remark on Protest

☐ The additional search fees were accompanied by applicant's protest.

☐ No protest accompanied the payment of additional search fees.