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(54) Chandelier with foldable arms

(57) Chandelier consisting of at least:

- one support (1), and
- several arms (2) which are mounted on the support (1), whereby one or several arms are provided with at least one lamp holder (3);
  characterised in that one or several arms (2) are mounted in a swinging manner on the support (1) and in that a click mechanism is provided for every swingable arm (2), whereby this click mechanism can move between a first position in which a swinging movement of the arm (2) in relation to the support (1) is possible, and a second position in which the click mechanism prevents a swinging movement of the arm (2) in relation to the support (1).

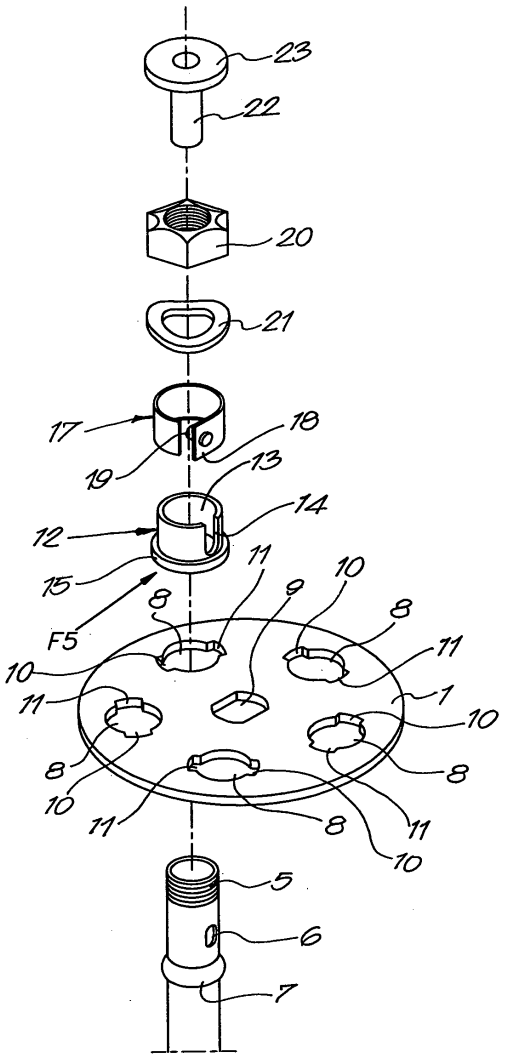

Fig.4

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Description

[0001] The present invention concerns an improved chandelier.

[0002] One disadvantage of the known chandeliers is that they take up a lot of storage space and transport space and that they require relatively large packagings.

[0003] The present invention aims to remedy the above-mentioned and other disadvantages by providing a chandelier whose arms can be folded together so that it can be put in a smaller packaging, so that such a chandelier will take up less space during storage and transport.

[0004] To this end, the invention concerns an improved chandelier consisting of at least:

- a support; and
- several arms which are mounted onto the support, whereby one or more arms are provided with at least one lamp holder, whereby one or more arms are mounted such on the support that they can swing and whereby for each swinging arm is provided a click mechanism, whereby this click mechanism can move between a first position in which a swinging movement of the arm in relation to the support is possible and a second position in which the click mechanism prevents a swinging movement of the arm in relation to the support.

[0005] Such a click mechanism is advantageous in that the click can be easily felt, so that a chandelier which is taken out of the packaging with the arms folded can easily be made ready for use by a user by simply swinging the arms outwards into a position whereby the click system is activated.

[0006] Preferably, the support of every swingable arm has a chamber or a channel into which a part of a swingable arm is put, whereby the click mechanism has a finger which can be moved in relation to the chamber or channel. The part of the swingable arm that is put in the chamber is provided with an opening or a notch, which is intended to catch one far end of the finger in order to prevent a swinging movement of the arm in relation to the support.

[0007] According to an advantageous embodiment, a force is exercised on the finger in order to push it in the opening or notch of the arm. Preferably, this push medium is formed by an open ring which is provided with a lever, onto which the aforementioned finger is applied.

[0008] The aforementioned push or spring medium is preferably provided with a means to pull the finger out of the opening or notch, so that a swinging movement of the arm in relation to the support is possible.

[0009] According to one embodiment, every swingable arm is provided with a means to prevent the detachment of the arm in relation to the support during a swinging movement of the arm. Such a means is for example a nut which is screwed onto the far end of the arm.

[0010] Preferably, the support is provided with a ring which has a groove or an opening in which the finger is put. Such a groove or opening serves to maintain the position of the finger in relation to the support.

[0011] In order to better explain the characteristics of the invention, a preferred embodiment of an improved chandelier according to the invention is described hereafter with reference to the accompanying drawings, in which:

figure 1 is a view in perspective of a chandelier with five swingable arms;
figure 2 represents the part which is indicated by F2 in figure 1 on a larger scale;
figure 3 represents a cross section according to line III-III in figure 2;
figure 4 represents the part which is represented in figure 2, but when disassembled;
figure 5 represents a bottom view of the part which is indicated by F5 in figure 4;
figures 6 and 7 are cross sections according to lines VI-VI and VII-VII;
figure 8 represents a view similar to that of figure 6, but with the finger in a position to allow the swinging movement of the arm; and
figure 9 is a view of a detail of the finger.

[0012] The chandelier of figure 1 consists of a support plate 1 onto which five arms 2 are mounted such that they can swing.

[0013] A swingable arm 2 has a bent form, one far end 2A of which is provided with a lamp holder 3 for an electric lamp 4, while the other far end 2B has an almost hollow cylindrical form. This cylindrical far end 2B is provided with a screw thread 5, as well as with a hole 6 and a ring-shaped projection 7.

[0014] The support plate 1 has several openings 8, 9, whereby the middle opening 9 is for example intended to hang the chandelier onto a ceiling or to mount the chandelier onto a support or the like, while the openings 8 are intended to mount the arms 2. The openings 8 are almost circular with two notches 10, 11 facing each other.

[0015] The mounting of an arm 2 onto the support plate 1 is realised with the following elements:

- a ring 12 with a hollow centre passage 13, whereby the side surface is provided with a groove 14, while a circular plate 15 is designed to support the upper surface 1A, whereby the bottom surface of the plate 15, as represented in figure 5, is provided with two teeth 16 which are designed to be put into the notches 10, 11 of an opening 8, such that the swinging movement of the ring 12 in relation to the support plate 1 is prevented;
- a resilient open ring 17 which is intended to be mounted around the ring 12, whereby said open ring has a lever 18 with a finger 19 pointing inwards;
- a nut 20 which is screwed onto the screw thread 5

of the arm;

- an anti-loosening ring 21 such as a cupped ring to prevent unscrewing of the nut 20, for example during a swinging movement of the arm;
- a bush 22 with a flange 23 which is designed to be put into the cavity of the far end 2B and through which an electrical conductor can be provided to connect the lamp holder 3 to an electric circuit.

[0016] The mounting of the open ring 17 onto the ring 12 can be carried out by simply sliding the finger 19 into the groove 14.

[0017] The finger 19 is movable between two positions, that is:

- a first position, as represented in figures 3 and 6, whereby the far end of the finger 19 is put into the hole 6, such that any swinging movement of the arm 2 in relation to the ring 12 and hence of the support plate 1 is prevented; and
- a second position, as represented in figure 8, whereby the far end of the finger 19 rests on the cylindrical part of the far end 2B, whereby a swinging movement of the arm 2 concerned is possible.

[0018] The resilience of the open ring 17 is used to push the finger 19 onto the cylindrical part 2B or into its hole 6. In order to turn an arm 2, a counter force must be exercised in order to remove the finger 19 from the hole 6. The far end of the finger 19 contains an almost conical part 24 with a rounded tip 25. Such a form is advantageous in that, as a rotating force is exercised on the arm, the cylindrical part of the far end 2B of the arm 2 acts on the conical part 24 of the finger 19 to push the latter out of the hole 6.

[0019] Advantages of the improved chandelier as represented in the figures are:

- the arms are swingable, such that the chandelier can be packed in a smaller packaging;
- the click of the finger 19 in the hole 6 can be felt, so that when rotating the arms 2 from their storage position in the packaging to a position ready for use, the arms will always be blocked in the correct position;
- the arms can move in two directions;
- the system is invisible at the bottom of the support / support plate;
- the system can be unlocked during plant mounting in order to allow for its testing.

Claims

1. Improved chandelier consisting of at least:

   - one support (1), and
   - several arms (2) which are mounted on the support (1), whereby one or several arms are provided with at least one lamp holder (3);

   characterised in that one or several arms (2) are mounted in a swinging manner on the support (1) and **in that** a click mechanism is provided for every swingable arm (2), whereby this click mechanism can move between a first position in which a swinging movement of the arm (2) in relation to the support (1) is possible, and a second position in which the click mechanism prevents a swinging movement of the arm (2) in relation to the support (1).

2. Improved chandelier according to claim 1, **characterised in that** for every swingable arm (2), the support (1) has a chamber or channel (13) into which is put one far end (2B) of a swingable arm (2), whereby the click mechanism contains a finger (19) which can move in relation to the chamber (13), while the far end (2B) of the swingable arm (2) which is put in the chamber (13) is provided with an opening (6) or a notch, which opening (6) is designed to receive one far end of the finger (19) in order to prevent a swinging movement of the arm in relation to the support.

3. Improved chandelier according to claim 2, **characterised in that** it contains a push device (17) in the form of an open resilient ring (12) onto which the finger (19) is applied in order to push the latter in the opening (6) or notch of the arm.

4. Improved chandelier according to claim 3, **characterised in that** the above-mentioned open ring (12) is provided with a lever in order to pull the finger (19) out of the opening (6) or notch, such that a swinging movement of the arm is possible.

5. Improved chandelier according to any one of the preceding claims, **characterised in that** every swingable arm (2) is provided with a means (20, 21) to prevent said arm (2) from loosening in relation to the support (1) during a swinging movement of the arm (2) concerned.

6. Improved chandelier according to claim 4, **characterised in that** the support (1) is provided with a ring (12) which has a groove (14) or an opening into which the finger (19) is put.

7. Improved chandelier according to claim 6, **characterised in that** the ring (12) has a height of less than 2 cm.

8. Improved chandelier according to claim 6 or 7, **characterised in that** the ring (12) is put on the upper side of the support (1) and **in that** said arm (2) with its far end (2B) is applied in the support (1) through the ring (12) via an opening (8).

9. Improved chandelier according to claim 4, **characterised in that** the far end of the finger (19) contains an almost conical part (24) with a rounded tip (25).

10. Improved chandelier according to any one of the preceding claims, **characterised in that** every swingable arm (2) is provided with a projection (7) at its far end (2B).

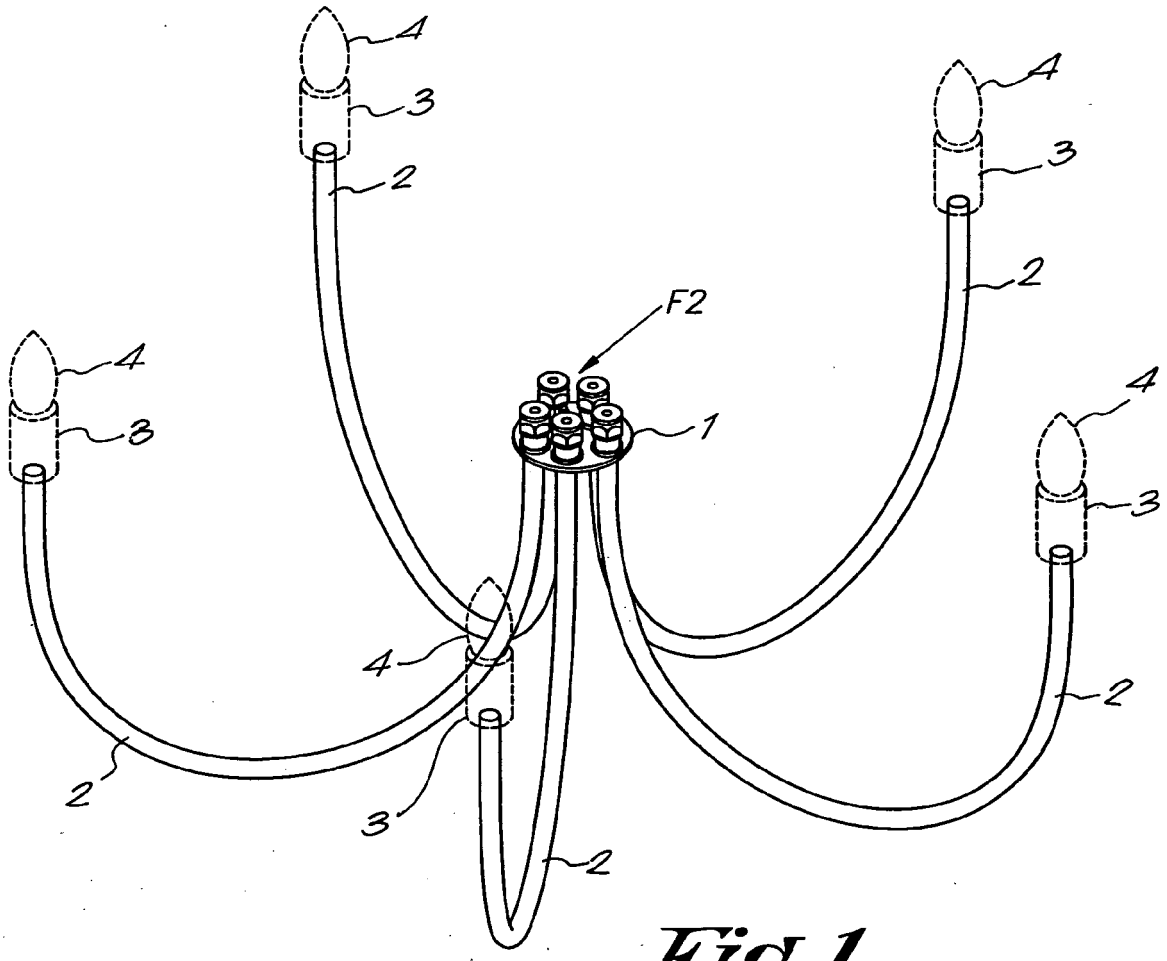
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Fig.1

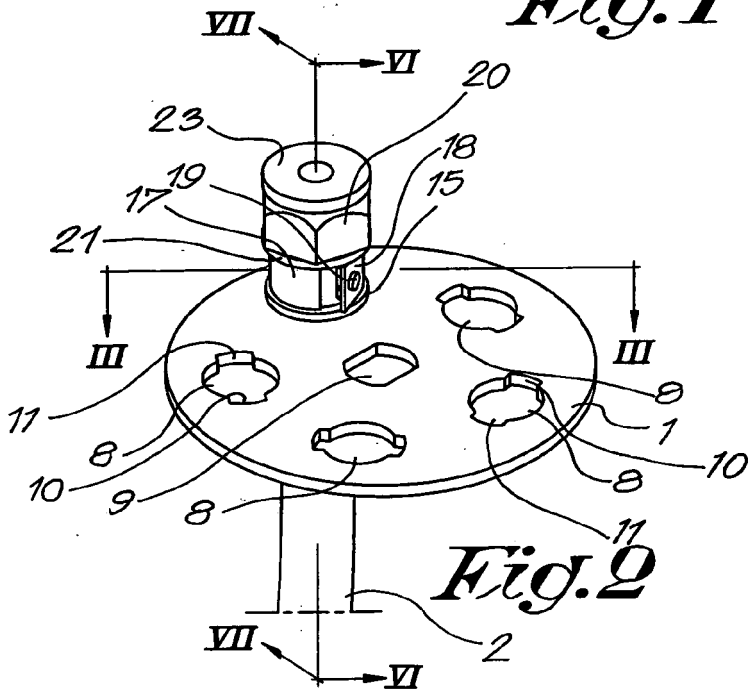
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Fig.2

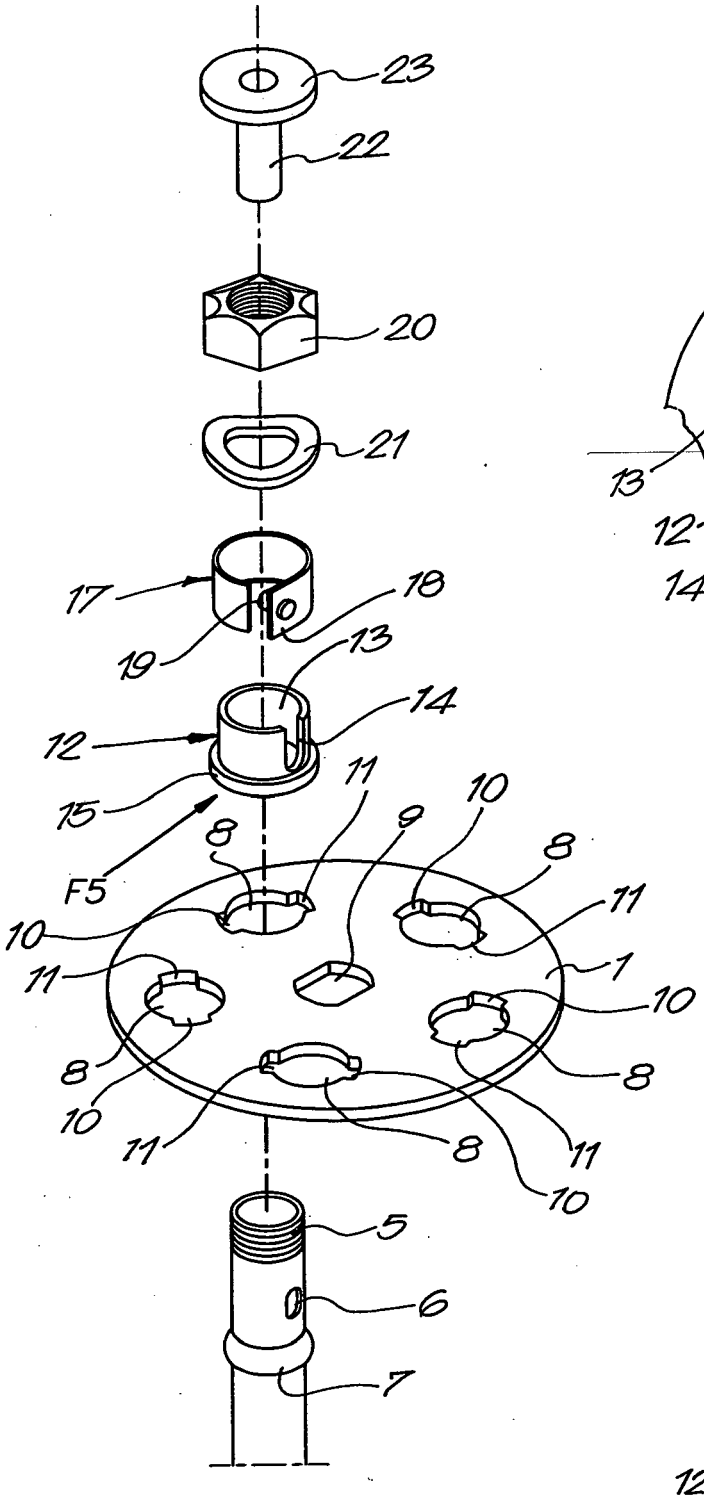

Fig.4

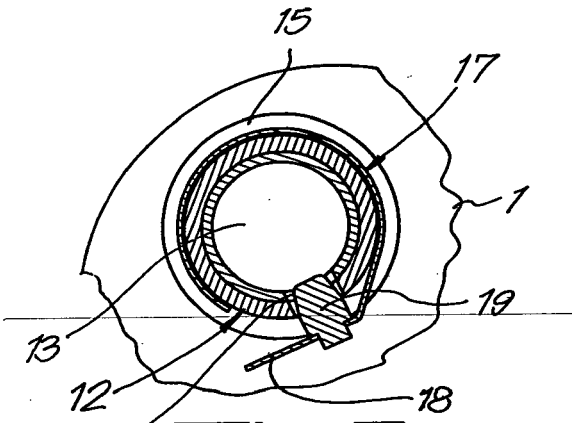

Fig.3

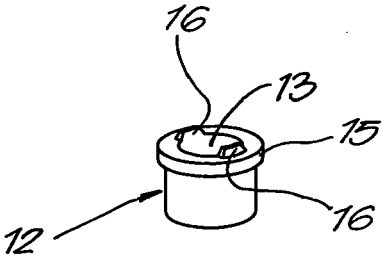

Fig.5

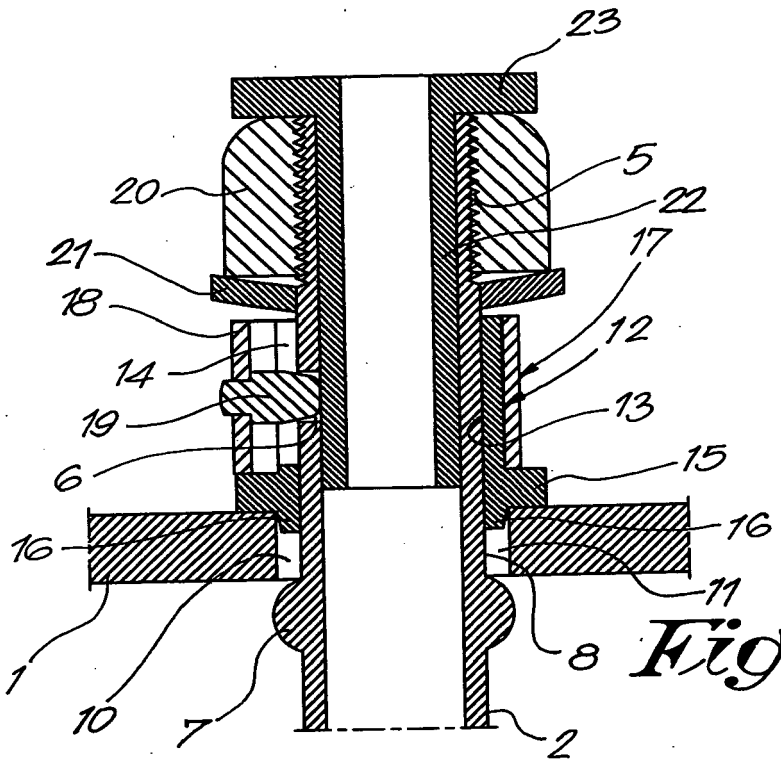
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Fig.6

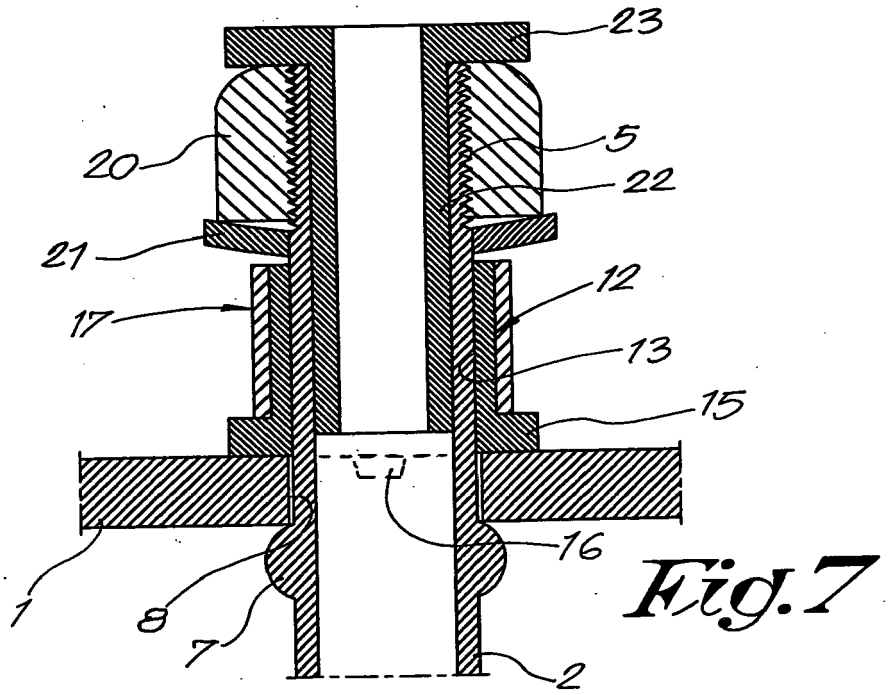
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Fig.7

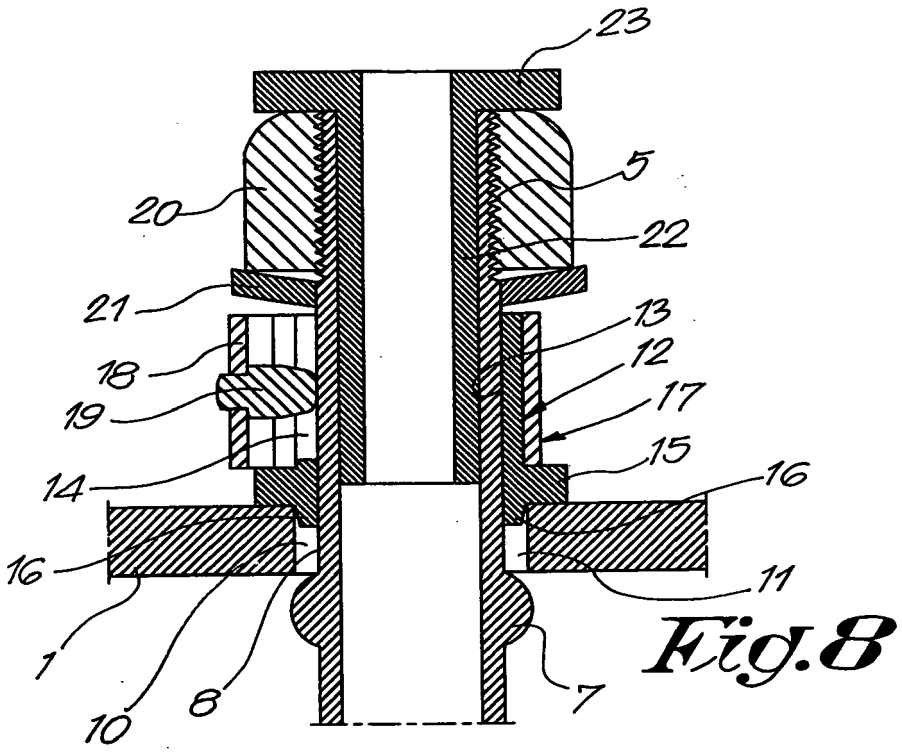

Fig.8

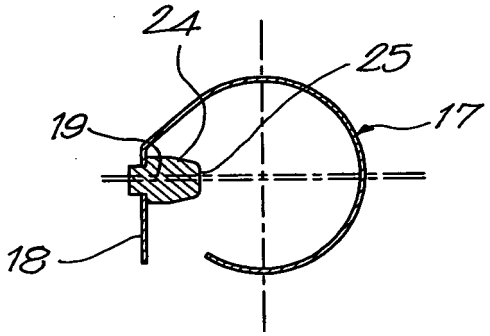

Fig.9

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EUROPEAN SEARCH REPORT

Application Number
EP 04 07 8054

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	16 March 2005	Arsac England, S

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