

(19)



(11)

EP 1 330 175 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:
25.04.2007 Bulletin 2007/17

(51) Int Cl.:
A47L 9/06 *(2006.01)* **A47L 9/24** *(2006.01)*
A47L 9/32 *(2006.01)*

(21) Application number: **01979221.7**

(86) International application number:
PCT/TR2001/000049

(22) Date of filing: **04.10.2001**

(87) International publication number:
WO 2002/028258 (11.04.2002 Gazette 2002/15)

(54) **VACUUM CLEANER**

STAUBSAUGER

ASPIRATEUR

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE TR**
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **06.10.2000 TR 200002923**

(43) Date of publication of application:
30.07.2003 Bulletin 2003/31

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Description

[0001] The present invention relates to a vacuum cleaner according to the preamble of Claim 1 comprising a brush nozzle, placed on the handle.

[0002] The vacuum cleaners comprise a main body; a flexible hose connected to said body, provided with a handle on one end; a tube, one end of which is attached to said handle, and which provides an efficient pick-up and collection of wet and dry dirt particles by attaching various accessories on its other end. Among said accessories, tube nozzle, textile nozzle, brush nozzle, etc. are used. Certain difficulties arise while using said accessories. These accessories are attached to the mouth piece of the tube and/or handle by the user at the moment of use. In fact, said accessories are stored either on the main body or at distant locations, away from the area of cleaning. This leads to loss of time and causes difficulty of usage.

[0003] Some techniques have been developed in order to overcome this disadvantage. A vacuum cleaner according to the preamble of claim 1 is disclosed in the USA Patent No. 3259934. Here the dust brush of the vacuum cleaner is movably placed in a hollow part provided on the handle. There are guide channels extending along the sides of said part and buttons projecting out of the guide channels are placed on the ring supporting the brush. When said buttons are pressed, the brush moves inside the body, and in this manner, said brush is retained within said body on the handle, when it is not in use.

[0004] The object of the present invention is the realization of a vacuum cleaner with a brush nozzle placed on the handle.

[0005] The vacuum cleaner realized in order to attain the above object of the present invention has been illustrated in the attached drawings, wherein:

Figure 1, is the general view of the vacuum cleaner.

Figure 2, is the exploded, three-dimensional view of the handle, the adaptor piece and the brush nozzle.

Figure 3, is the exploded, three-dimensional view of the tube inlet, adaptor piece and the dust brush.

Figure 4, is the three-dimensional, detail view of the handle tube inlet

Figure 5, is the three-dimensional, view of the brush nozzle.

Figure 6, is the three-dimensional, view of the adapter piece.

Figure 7, is the three-dimensional, view of the adapter piece as attached to the handle.

Figure 8, is the three-dimensional, view of the brush

nozzle as attached to the handle.

[0006] The components shown in the drawings have been separately given reference numbers as follows:

- 5 1. Main Body
2. Handle
3. Hose inlet
4. Tube inlet
- 10 5. Front section
6. Intermediate section
7. Back section
8. Hose
9. Tube
- 15 10. Adaptor piece
11. Front claw
12. Back claw
13. Cleaning Head
14. Recess
- 20 15. Locking recess
16. Guide Channel
17. Parking Recess
18. Brush nozzle
- 25 19. Locking projection
20. Bristles
21. End portion
22. Neck portion
23. Apertures
24. Circular stopper
- 30 25. Parking stopper
26. Locking stopper

[0007] The vacuum cleaner comprises a main body (1) wherein the motor unit that realizes the suction operation and the control unit are contained, a handle (2), a hose (8) with a flexible structure which is placed between the main body (1) and the handle (2), a tube (9) attached onto the handle (2) and a cleaning head (13) connected to the tube (9). The handle (2) consists of a hose inlet (3) at one end and a tube inlet (4) at the other end. The vacuum cleaner further contains certain accessories used for cleaning different surfaces, instead of the cleaning head (13) during various cleaning operations, by being attached to the end of the tube (9). One of these accessories is the brush nozzle (18). The brush nozzle (18) according to the invention, may be used by being attached onto the handle (2) and is provided with bristles (20) to perform the cleaning function.

[0008] The vacuum cleaner is also provided with an adaptor piece (10) which protects the bristles (20) of brush nozzle (18) attached onto the handle (2) while the tube (9) is being connected or removed. The tube inlet (4) on the handle (2) consists of three sections; namely the front section (5) to which the tube (9) is connected, the intermediate section (6) to which the adaptor piece (10) is fixed and the back section (7) where the brush nozzle (18) moves.

[0009] Said front section (5) is of a width and structure

that would allow the connection of the tube (9) to be fastened on the handle (2). The back section (7) comprises at least one guide channel (16), a parking stopper (25) and a parking recess (17) at the end of said guide channel (16), a locking stopper (26) and a locking recess (15) adjacent to the inlet portion of the guide channel (16). In the intermediate section (6) a preferably circular stopper (24) takes place. A recess (14) is formed between the back section and the circular stopper (24). The diameter of said recess (14) is equal to that of the front section (5), whereas the diameter of the back section (7) is equal to that of the circular stopper (24) placed in the intermediary section (6).

[0010] The adaptor piece (10) has a hollow cylindrical structure. Its diameter is larger than that of the front section (5) placed at the end of the handle and is provided with preferably four claws on its inner surface. Two of said claws are preferably the front claws (11) and the other two are back claws (12). Furthermore, apertures (23) that will provide flexibility, are formed on the adaptor piece (10) and said front (11) and back claws (12) are placed between said apertures (23). The distance between the front and back claws (11,12) is equal to the width of the circular stopper (24).

[0011] Said brush nozzle (18) consists of an end portion (21) with the bristles (20) and a neck portion (22) at the back. Apertures (23) that will provide flexibility, are formed on the neck portion (22) and locking projections (19) take place on the inner surface of the brush nozzle (18), under the surface left between said apertures (23). The end portion (21) is wider than the neck portion (22), however, the diameter of the neck portion (22) is larger than the diameter of the back section (7) at the inlet of the tube (9), adaptor piece (10) and handle (2).

[0012] During the mounting of the brush nozzle (18) to the handle (2), the surface between the apertures (23) on which the locking projection (19) stands, yields and the locking projection (19) extends over the circular stopper (24) to be placed in the guide channel (16) that is positioned along the surface, at the back section (7), and moves along said channel (16). When it reaches the parking stopper (25) situated at the end of said guide channel (16), the locking projection (19) extends over it (25) and sits into the parking recess (17). In this status, the dust brush (18) is in a passive position.

[0013] When the adaptor piece (10) is intended to be placed on the handle (2), first the surface between the apertures (23) supporting the front claws (11) yields and the front claws (11) pass over the circular stopper (24) and sit into the recess (14). Meanwhile the back claws (12) rest against said circular stopper (24) and at the same time the circular stopper (24) sits into the gap between the front and back claws (11 and 12). In this case, the adaptor piece (10) is fixed on the handle (2). The tube (9) is easily placed into the space formed due to the difference between the diameters of the front section (5) and the adaptor piece (10) and thus the bristles (20) of the brush nozzle (18) in a passive position, which is left

above the adaptor piece (10).

[0014] When the user wants to bring the brush nozzle (18) into an active position, the tube (9) attached to the handle (2) is removed and a force is applied on the brush nozzle (18). Consequently the locking projection (19) in the parking recess (17) extends over the parking stopper (25) and moves in the guide channel (16). As the result of this movement, said brush nozzle (18) rests against the adaptor piece (10) and the locking projection (19) fits into the locking recess (15) by extending over the locking stopper (26), with a turning movement towards the direction of the locking recess (15), made by the user. Thus, the brush nozzle (18) is fixed in the locking recess (15) and is available for use. In this position, as the brush nozzle (18) is longer than the front section (5) placed on the handle, the bristles (20) on the brush nozzle (18) can actively and effectively be used. In this way, said brush nozzle (18) may be attached to the handle (2) and the tube (9) may be removed as required by the user, and thus the brush nozzle (18) is brought to an active position.

Claims

1. A vacuum cleaner comprising a main body (1) wherein the motor unit and the control unit are placed; a hose (8) connected to said main body (1); a handle (2) to facilitate the user's handling, which includes a hose inlet (3) where to the hose (8) is connected and a tube inlet (4); a tube (9) attached to the tube inlet (4); a brush nozzle (18) placed on the handle (2), and an adaptor piece (10) which protects the bristles (20) of the brush nozzle (18) attached onto the handle (2) while the tube (9) is being connected or removed and prevents the brush nozzle (18) from being released off the handle (2) during use,

characterized in that

the tube inlet (4) comprises a front section (5) of a width and structure that would allow the connection of the tube (9), a back section (7) which comprises at least one guide channel (16), a parking stopper (25) and a parking recess (17) at the end of said guide channel (16), a locking stopper (26) and a locking recess (15) adjacent to the inlet portion of the guide channel (16) and an intermediate section (6) with a preferably circular stopper (24) and a recess (14) between said back section (7) and said circular stopper (24).

2. A vacuum cleaner as defined in Claim 1,

characterized with

the adaptor piece (10) of a hollow cylindrical structure, comprising apertures (23) formed on it that will provide flexibility, on its inner surface, between said apertures (23), at least one front claw (11) which passes over the circular stopper (24) and sits into the recess (14) while being mounted onto the handle

and at least one back claw (12) which provides the fixation by resting against the circular stopper (24).

3. A vacuum cleaner as defined in Claim 1 and 2, **characterized with** the brush nozzle (18) comprising an end portion (21) with the bristles (20), a neck portion (22) at the back, apertures (23) formed on it for providing flexibility and at least one locking projection (19) below the surface left between said apertures (23), which sits in the guide channel (16) and moves along it (16) while the brush nozzle (18) is being attached to the handle (2) and when it reaches the parking stopper (25) situated at the end of said guide channel (16), which extends over it (25) and sits into the parking recess (17); which comes out of the parking recess (17) extends over the parking stopper (25) and moves in the guide channel (16) when the user applies a force, to use the brush nozzle (18), and which, upon a turning movement made by the user at the alignment of the locking recess (15), extends over the locking stopper (26) and sits in the locking recess (15).

Patentansprüche

1. Staubsauger, umfassend: einen Hauptkörper (1), in dem die Motoreinheit und die Steuereinheit angeordnet sind; einen Schlauch (8), der mit dem Hauptkörper (1) verbunden ist; einen Griff (2) zum leichteren Handhaben durch einen Benutzer, der einen Schlaucheinlass (3), mit dem der Schlauch (8) verbunden ist, und einen Rohreinlass (4) aufweist; ein Rohr (9), das an dem Rohreinlass (4) befestigt ist; eine Bürstendüse (18), die an dem Griff angeordnet ist, und ein Anpassungselement (10), das die Borsten (20) der Bürstendüse (18) schützt, die an dem Griff (2) befestigt ist, während das Rohr (9) angeschlossen oder entfernt wird, und verhindert, dass die Bürstendüse (18) sich während der Benutzung vom Griff (2) löst, **dadurch gekennzeichnet, dass** der Rohreinlass (4) Folgendes umfasst: einen Vorderabschnitt (5), der eine Breite und Struktur aufweist, die das Anschließen des Rohrs (9) zulässt, einen Hinterabschnitt (7), der wenigstens einen Führungskanal (16) umfasst, einen Parkanschlag (25) und eine Parkvertiefung (17) an dem Ende des Führungskanals (16), einen Sperranschlag (26) und eine Sperrvertiefung (15) benachbart zu dem Einlassabschnitt des Führungskanals (16), und einen mittleren Abschnitt (6) mit einem vorzugsweise kreisförmigen Anschlag (24) und einer Vertiefung (14) zwischen dem Hinterabschnitt (7) und dem kreisförmigen Anschlag (24).

2. Staubsauger nach Anspruch 1,

gekennzeichnet dadurch, dass

das Anpassungselement (10) mit einem hohlen zylinderförmigen Aufbau Folgendes umfasst: Öffnungen (23), die an ausgebildet sind und Flexibilität bereitstellen, an seiner Innenfläche, zwischen den Öffnungen (23) wenigstens eine Vorderklaue (11), die über dem kreisförmigen Anschlag (24) verläuft und in die Vertiefung (14) gleitet, während sie an dem Griff angebracht wird, und wenigstens eine Hinterklaue (12), die eine Fixierung bereitstellt, indem sie an dem kreisförmigen Anschlag (24) anliegt.

3. Staubsauger nach Anspruch 1 und 2,

gekennzeichnet dadurch, dass

die Bürstendüse (18) Folgendes umfasst: einen Endabschnitt (21) mit den Borsten (20), einen Halsabschnitt (22) an der Rückseite, Öffnungen (23), die daran ausgebildet sind, um Flexibilität bereitzustellen, und wenigstens einen Sperrvorsprung (19) unter der Fläche, die zwischen den Öffnungen (23) verbleibt, der in den Führungskanal (16) gleitet und sich darin entlang bewegt (16), während die Bürstendüse (18) an dem Griff (2) angebracht wird und wenn sie den Parkanschlag (25) erreicht, der am Ende des Führungskanals (16) angeordnet ist, und der sich über ihn erstreckt (25) und in die Parkvertiefung (17) gleitet; und der aus der Parkvertiefung (17) austritt und sich über den Parkanschlag (25) erstreckt und sich in dem Führungskanal (16) bewegt, wenn der Benutzer eine Kraft anwendet, um die Bürstendüse (18) zu benutzen, und der bei einer Drehbewegung, die von dem Benutzer bei der Ausrichtung der Sperrvertiefung (15) ausgeführt wird, sich über den Sperranschlag (26) erstreckt und in die Sperrvertiefung (15) gleitet.

Revendications

1. Un aspirateur comprenant un corps principal (1) dans lequel sont placées l'unité de moteur et l'unité de contrôle ; un tuyau (8) lié audit corps principal (1) ; un manche (2) servant à faciliter l'utilisation, qui contient une anse de tuyau (3) où le tuyau (8) est connecté et une anse de tube (4) ; un tube (9) attaché à l'anse de tube (4) ; un embout de brosse (18) placé sur le manche (2), et un adaptateur (10) qui protège les crins (20) de l'embout de brosse (18) attaché sur le manche (2) lorsque le tube (9) est attaché ou détaché et empêche l'embout de brosse (18) d'être libéré du manche (2) pendant l'usage, **caractérisé en ce que** l'anse de tube (4) comprend une section frontale (5) de largeur et de structure convenables pour recevoir la connexion du tube (9), une section arrière (7) contenant au moins un canal de guidage (16), une bonde de parking (25) et un renforcement de parking (17) en finale dudit canal de guidage (16), une bonde de

verrouillage (26) et un renforcement de verrouillage (15) adjacents à la partie d'anse du canal de guidage (16) et une section intermédiaire (6) avec, de préférence, une bonde circulaire (24) et un renforcement (14) entre ladite section arrière (7) et la dite bonde circulaire (24). 5

2. Un aspirateur selon la revendication 1,
caractérisé en ce que
 l'adaptateur (10) de forme creuse et cylindrique, 10
 comprend des ouvertures (23) placées au-dessus, qui produiraient une certaine flexibilité, et au moins un crochet (11) sur sa surface interne, entre lesdites ouvertures (23), qui passe par-dessus la bonde circulaire (24) arrive dans le renforcement (14) lorsqu'il 15
 est monté sur le manche et au moins un crochet arrière (12) qui assurerait la fixation en étant placé contre la bonde circulaire (24).
3. Un aspirateur selon les revendications 1 et 2, 20
caractérisé en ce que
 l'embout de brosse (18) comprend une partie finale (21) avec les crins (20), une partie de col (22) à l'arrière, des ouvertures (23) placées au-dessus pour 25
 assurer la flexibilité et au moins une saillie de verrouillage (19) au-dessous de la surface à gauche entre lesdites ouvertures (23), ladite saillie figurant dans le canal de guidage (16) et bougeant le long de ce dernier (16) lorsque l'embout de brosse (18) 30
 est attaché sur le manche (2) et atteint la bonde de parking (25) située en fin dudit canal de guidage (16), ledit embout s'étant prolongé par-dessus ladite bonde (25) et étant placé dans le renforcement de parking (17) ; pour ensuite arriver à l'extérieur du renforcement de parking (17), s'étendre par-dessus la 35
 bonde de parking (25) et bouger dans le canal de guidage (16) lorsque l'utilisateur applique une force pour utiliser l'embout de brosse (18), le même embout de brosse (18) pouvant être étendu par-dessus la bonde de verrouillage (26) et placé dans le renforcement de parking (15) lors du mouvement circulaire créé par l'utilisateur sur l'axe du renforcement de parking (15). 40
 45
 50
 55

FIGURE 1

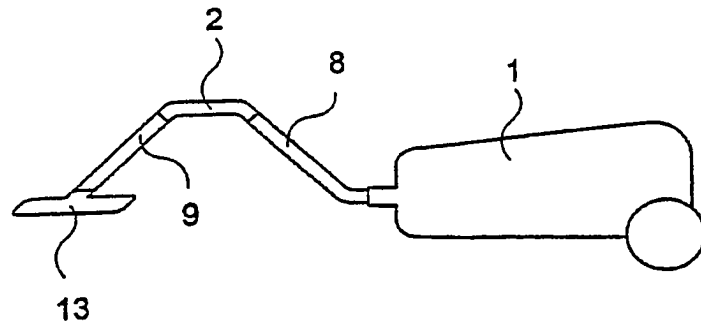


FIGURE 2

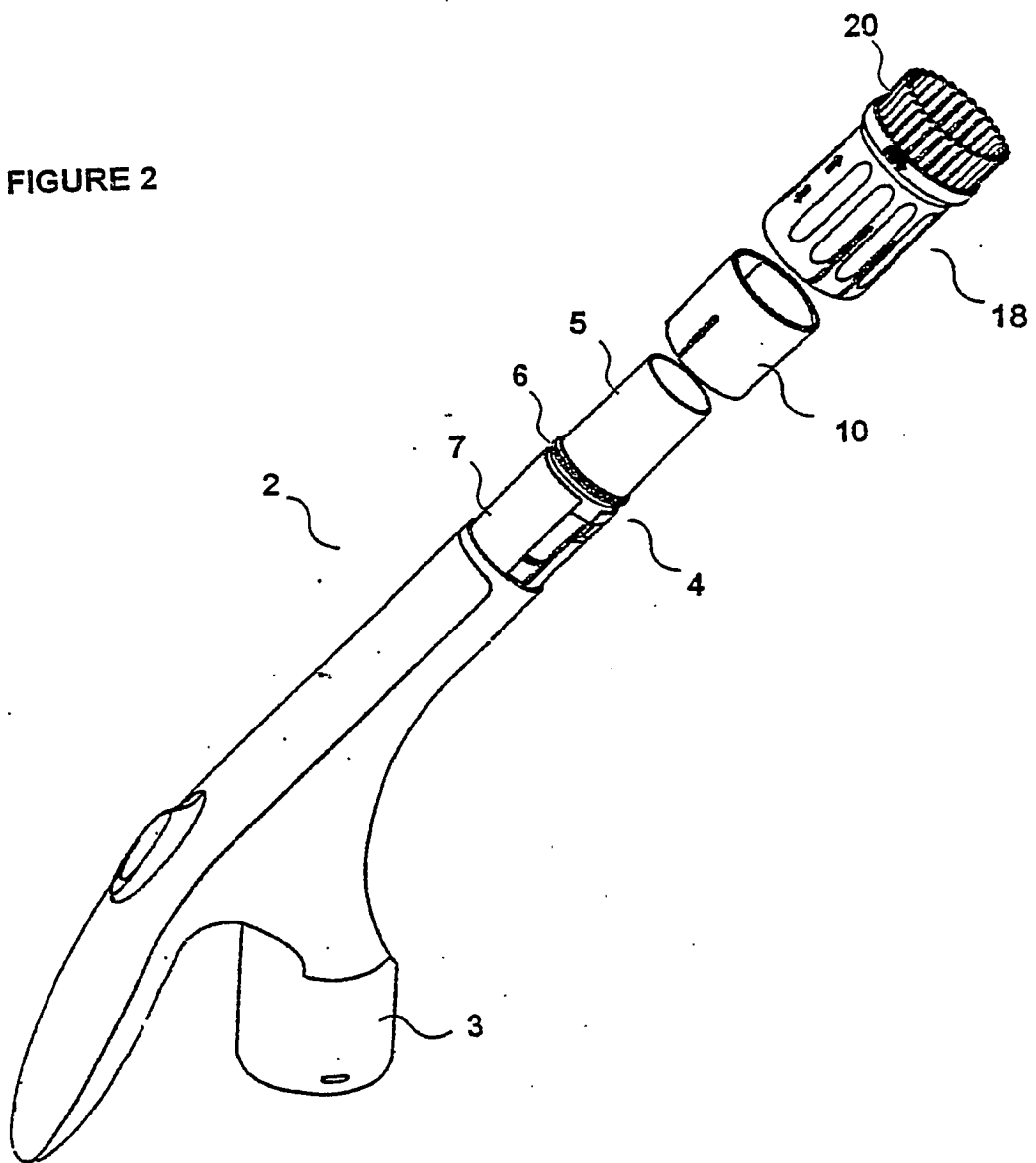


FIGURE 3

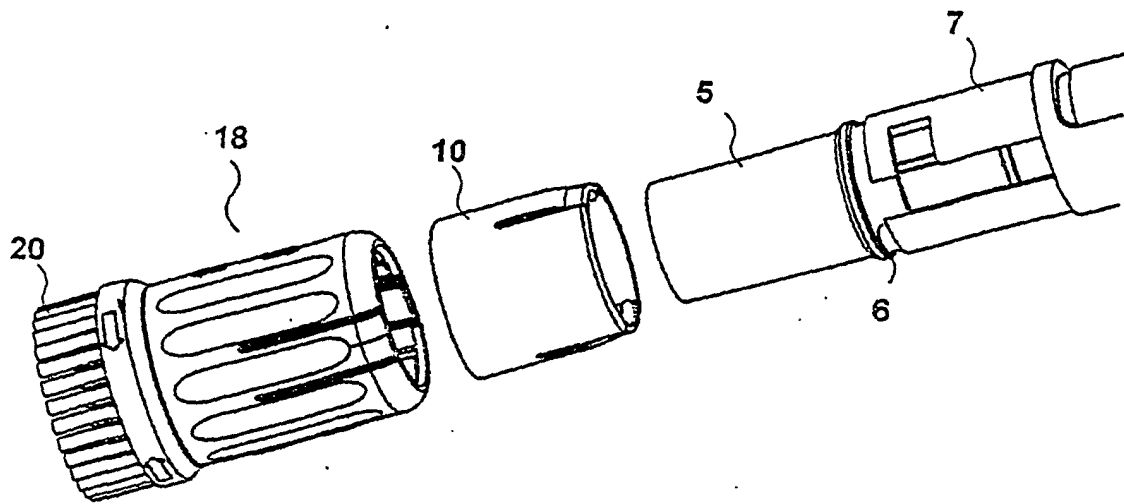


FIGURE 4

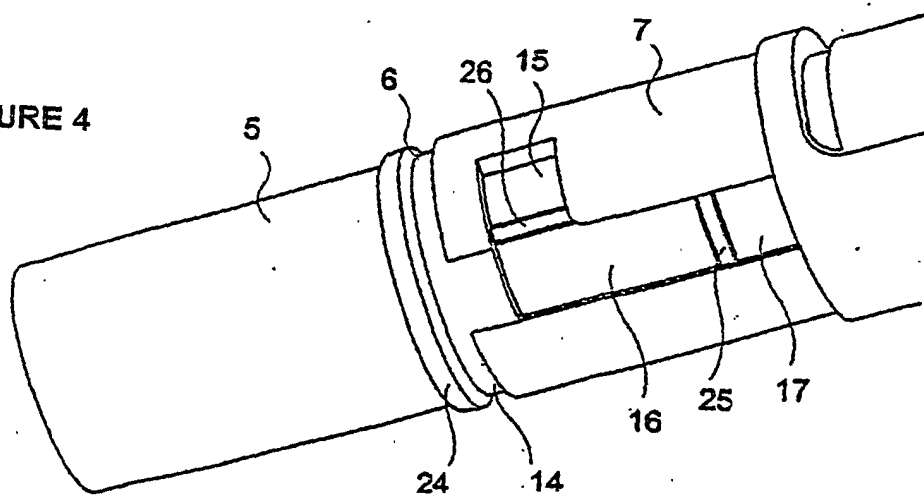


FIGURE 5

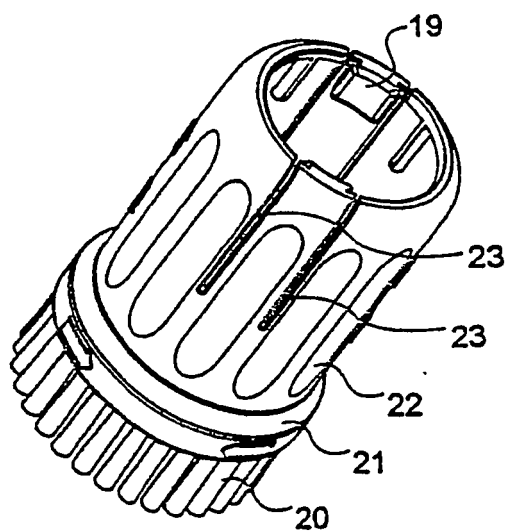


FIGURE 6

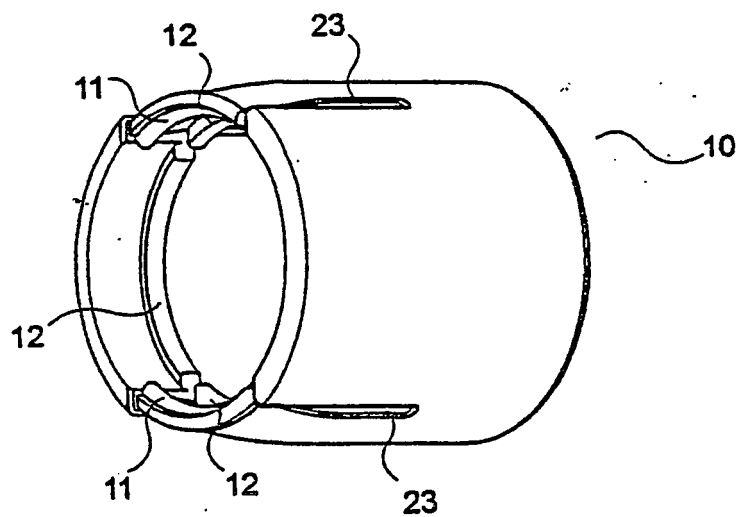


FIGURE 7

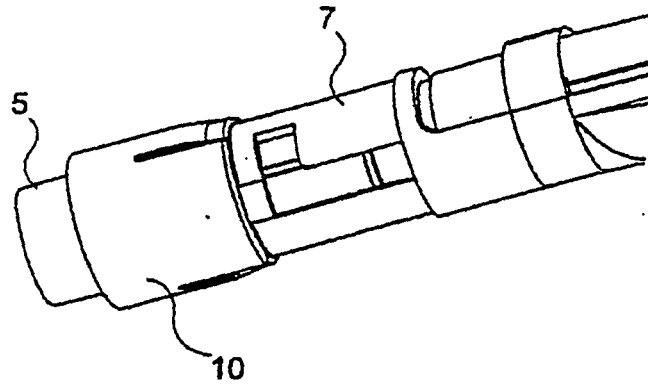


FIGURE 8

