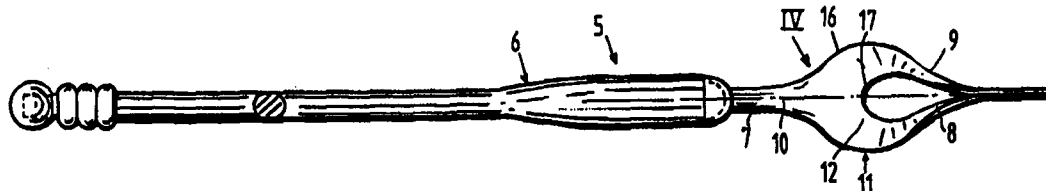




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁶ : A47G 21/02, 21/14, A47J 43/28</p>	<p>A2</p>	<p>(11) International Publication Number: WO 99/34715 (43) International Publication Date: 15 July 1999 (15.07.99)</p>
<p>(21) International Application Number: PCT/BE99/00001 (22) International Filing Date: 5 January 1999 (05.01.99)</p> <p>(30) Priority Data: 9800018 9 January 1998 (09.01.98) BE 9800085 4 February 1998 (04.02.98) BE</p> <p>(71) Applicant (for all designated States except US): TWISTELLO N.V. [NL/NL]; John B. Gorsiraweg 6, Willemstad, Curaçao (AN).</p> <p>(72) Inventor; and (75) Inventor/Applicant (for US only): VANDAMME, Paul [BE/BE]; Pradostraat 16, bus 3, B-1080 Molenbeek (BE).</p> <p>(74) Agent: KONINGS, Lucien, Marie, Cornelis, Joseph; Arnold & Siedsma, Fazantenparklaan 39, B-1150 Brussels (BE).</p>		<p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p>Published <i>In English translation (filed in Dutch). Without international search report and to be republished upon receipt of that report.</i></p>

(54) Title: FLATWARE FOR SPAGHETTI



(57) Abstract

The invention relates to a flatware set for spaghetti. When spaghetti is eaten the spaghetti threads are taken up onto the fork by turning the fork on its axis. In order to improve the spaghetti take-up, the fork (5) has the feature that the at least two teeth (8, 9) extend substantially helically round a central axis of the fork. The fork teeth (8, 9) then pick up the threads of spaghetti better. Despite a helical shape of the teeth (8, 9), it is nevertheless possible to eat conveniently with this fork (5), since this fork (5) is pulled out of the mouth in a helical movement.

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FLATWARE FOR SPAGHETTI

The invention relates to a flatware set for spaghetti.

When spaghetti is eaten the spaghetti threads are taken up onto the fork by turning the fork on its
5 axis. In order to improve the spaghetti take-up, the fork of the flatware set according to the invention has the feature of claim 1. The fork teeth then pick up the threads of spaghetti better. Despite a helical shape of the teeth, it is nevertheless possible to eat conveniently
10 with this fork since this fork is pulled out of the mouth in a helical movement.

The invention also provides a flatware set with at least one spoon specially designed for the spaghetti meal and the like which is characterized as according to
15 claim 6.

The invention further provides a flatware set which as a whole has an attractive appearance due to a high degree of uniformity of the essential flatware elements.

20 Finally, the invention provides a spaghetti server which is simple to manufacture.

The invention will be elucidated in the description following hereinbelow with reference to drawings, in which:

25 Figure 1 shows a holder with diverse flatware elements;

Figure 2 shows a top view of a fork;

Figures 3, 4 and 5 show respectively a bottom view, a side view and a front view to actual size of a
30 metal detail IV of figure 2;

Figure 6 shows a perspective view of detail VI of figure 3;

Figure 7 shows figure 5 on enlarged scale with cross-sections at the positions c, e, g and i of figure 4;

Figures 8-11, 15-19 and 23 show variants of detail VIII of figure 3;

Figure 12 shows a top view of a spoon;

Figure 13 shows a cross-section XIII-XIII of figure 11;

Figure 14 shows a cross-section D through a variant of a fork according to the invention taken at the corresponding position d in figure 4;

Figure 15A shows the combination of cooperating metal elements of fork and spoon;

Figure 20 shows a cross-section through a spoon intended for co-action with the fork end of figure 18;

Figure 22 is a top view of a spoon according to the invention which, as shown in figure 21, is intended for co-action with the fork end of figure 23;

Figure 24 is a side view of the detail of figure 23;

Figure 25 shows a schematic working diagram of figure 21;

Figures 26-28 show views of a spaghetti server; and

Figure 29 shows a cross-section along line XXIX-XXIX of figure 27.

The spaghetti flatware set 1 according to the invention is preferably placed in a holder 2 in which the flatware elements, i.e. a spaghetti server 3 as according to WO 96/18334 or as according to figures 26-29, a plurality, for instance 4, 6, 8 or 12, of spoons 4 and a plurality, for instance 4, 6, 8 or 12, of forks 5, are disposed in a fan shape, which produces a fantail appearance, particularly if these elements are arranged over more than 45°, for instance over an angle of between 60° and 150°, at substantially uniform angular distances.

This flatware set 1 is intended and particularly suitable for eating spaghetti, i.e. thick or thin, solid or hollow threads of pasta, which may or may not be mixed with sauce and/or pieces of meat and/or vegetables.

Holder 1 consists of two shells 24 which are mutually connected for pivoting by means of a hinge 21, which are mutually fastened for instance with press-stud connections 22 and which each have a carrying handle 23.

5 The upper shell 24 has a transparent window 25 and lower shell 24 has recesses or clamps (not shown) for fixedly holding flatware elements 3-5.

Each fork 5 has a, for instance metal, eating element 11 comprising an elongate attachment 7 mounted in 10 an essentially rotation-symmetrical handle 6, a curved shoulder 12 connecting thereto with roundings 16 and having two teeth 8, 9 connecting thereto.

The outer rounding 16 and inner rounding 17 of shoulder 12 give the appearance of circle parts lying one 15 within the other and having centres which are slightly shifted relative to one another. Teeth 8, 9 are bent helically round a central longitudinal axis 10 through substantially 90° from a horizontal plane of figure 3 into a vertical plane of figure 4. At diverse mutually spaced 20 positions a, b, c j the two teeth 8, 9 preferably have their width directions in common planes A, B, C J, so that when this fork 5 is withdrawn helically from the mouth a person always feels between teeth and lips a substantially smooth eating element 11 which is continuous 25 even in transverse direction and preferably substantially flat.

Figure 14 is an example of a cross-section wherein teeth 8, 9 extend in a transverse plane which is preferably smooth, slightly curved and in any case adapted 30 to the mouth.

Tooth 9 has an outwardly curved free end 13, whereby the entrance 16 between teeth 8, 9 is enlarged, while this end 13 also functions as hook, whereby threads of spaghetti are held fast when the fork is in downward 35 directed position. Tooth 8 has a pointed free end 14 with an inner surface 15 which enlarges entrance 16 towards the outside. Pieces of meat and/or vegetables can be pierced

with this pointed end.

In figures 8-10 tooth 9 has the same end 14 as tooth 8.

In figures 9 and 10 a spaghetti-hooking protuberance 15 is arranged at different positions.

Spoon 4 and fork 5 preferably have an identical handle 6 which preferably has the same shape as, but is smaller than the handle 18 of spaghetti server 3. All, for instance wooden, handles 6 and 18 each preferably have a semi-spherical and a spherical end, preferably of metal.

The metal eating part 19 of spoon 4 and the eating part 11 of fork 5 preferably have identically shaped roundings 16. Eating element 19 is spoon-shaped with a round recess 20 in which tooth ends 13, 14 of a fork 5 can be received for rotation.

Fork 5 and spoon 4 are drawn to actual size in figures 2-5, 8-13 and 15-29. The measured size and form of elements and details thereof are used as technical information of the preferred embodiment.

Eating elements 11 and 19 and serving part 33 also function if the embodiments differ from those drawn. The variations preferably remain within the tolerance of $\pm 100\%$, more preferably $\pm 50\%$ and most preferably $\pm 25\%$.

The screw of teeth 8, 9 can optionally already begin on their free ends and may or may not extend over more, or even less, than about 90° of the distance Y or Z. The spiral preferably makes an angle of at least 30° , at least 45° or at least 60° and for instance less than 190° , preferably less than 140° .

Each of the forks with helical teeth 8, 9 shown in figures 2-11 and 14 can be used as spaghetti server if it is large enough to pick up a serving portion of spaghetti. For this purpose its length is for instance between 200 and 700%, preferably between 300 and 600% and more preferably between 400 and 500% of the length shown to scale in the figures. A larger take-up capacity which is suitable for serving is obtained by lengthening the

teeth, wherein teeth 8, 9 are optionally spiralled through considerably more than 90%, and/or by slightly widening the fork, wherein a for instance straight central tooth is optionally added.

5 Spoon 4 has a guide which defines the rotation path of the fork end and which is formed by a recess 20 (figures 12, 13), by a round hole 26, of which the diameter P is just slightly larger than the outer dimension Q of tooth ends 13, 14 (figures 18, 20), or by a ring groove
10 27 (figures 21, 22 and 25). The distance S between the contact points of fork ends 13, 14 is herein slightly smaller than the diameter of the upward protuberance 29 encircled by the ring groove. A trailing guide is hereby created which suppresses or at least reduces grating
15 sounds.

The guide of the spoon and preferably also each tooth end are preferably polished.

A surface treatment increasing smoothness is also effective against noise formation. For this purpose a
20 special lining can be arranged on the spoon at the position of the guide and/or the fork ends 13, 14 can be provided for this purpose with a glass layer by immersion.

The eating elements 11 and 19 of figure 15A cooperate in such manner that the conical guide plate 41
25 of the recess 20 guides the free ends 13, 14 of the teeth 8, 9. The dimensions are such that both ends 13, 14 do not simultaneously touch the bottom 42, unless the fork is pressed into the spoon with such force that the teeth 8, 9 are elastically deformed and the ends 13, 14 do approach
30 each other a little. This deadens possible teeth vibrations and so deadens possible squeak noise.

In the case the guide is an edge hole 26, one or each of the two teeth 8, 9 has at a distance of for instance 5 mm from their free ends an outward protuberance
35 40 which serves as stop.

The spaghetti server 1 of figures 28, 29, comprising handle 32 and non-round spiral 33, is manufactured

from one injected moulded article of sturdy plastic, for instance fibre-reinforced plastic.

The form of the spaghetti-engaging spiral is releasing.

5 The cross-section (figure 29) is for instance half-round with preferably rather sharp edges.

Each of said handles is preferably rotation-symmetrical or at least essentially rotation-symmetrical. These handles can for instance have longitudinal ribs and/or one or more longitudinal recesses, provided with a brand name or an identification mark.

CLAIMS

1. Flatware (1) for spaghetti, comprising at least one fork (5) with at least two teeth (8, 9), **characterized in that** the at least two teeth (8, 9) extend substantially helically round a central axis (10) of the
5 fork (5).

2. Flatware (1) as claimed in claim 1, **characterized in that** the at least two teeth (8, 9) are substantially bent such that the width directions (A-J) of the at least two teeth (8, 9) lie at diverse mutually spaced
10 positions (a-j) in a transverse plane which is adapted to a mouth and which is preferably a substantially smooth continuous plane, while the width directions are preferably substantially aligned.

3. Flatware (1) as claimed in any of the fore-
15 going claims, **characterized in that** at least one of the fork teeth (8, 9) has at least one hooking protuberance (13, 15), wherein at least one of the at least two teeth (8, 9) preferably has an end (13) curving away from the other tooth.

20 4. Flatware (1) as claimed in any of the foregoing claims, **characterized in that** the fork (5) has only two teeth (8, 9) connected to a shoulder (12) and converging into the shoulder with smooth outer edges, wherein the mutual distance between the outer edges of both teeth
25 (8, 9) decreases from a position a to a position f spaced further from the shoulder (12) than position a.

30 5. Flatware (1) as claimed in any of the foregoing claims, **characterized in that** the fork (5) has a handle (6) comprising a substantially cylindrical first part and a substantially cylindrical second part, being thinner than the first part and being further spaced from the fork teeth (8, 9) than said first part, said two parts

being mutually connected by means of a conical part, said handle (6) having a free end connected to said second part being at least partly thicker than said second part.

6. Flatware (1) for spaghetti, comprising at least one spoon (4) and at least one fork (5) with at least two teeth (8, 9), said spoon (4) having at least one round guide (27) defining the rotation path of the fork end, **characterized in that** said guide (27) is constituted by a conical guide part (40) surrounded by a spoon surface (40) and extending from said spoon surface (40) to a greater depth, wherein the angle of inclination (w) enclosed between the wall of said guide part (40) and its axis (41) is greater than 10° , preferably greater than 30° and preferably smaller than 60° , more preferably smaller than 50° , said angle of inclination (w) being smaller than the angle of inclination (y) enclosed by the spoon surface (40) and said axis (41).

7. Flatware (1) as claimed in claim 6, **characterized in that** the spoon has a substantially round recess (20) in which the tooth ends (13, 14) of at least one fork (5) can be received for rotation, wherein the recess (27) is preferably moat-like and wherein an upward protuberance (29) encircled by the recess (27) preferably has a greater diameter (T) at the position of the contact with two fork teeth (8, 9) than the distance (3) between the contact points of the teeth (8, 9).

8. Flatware (1) as claimed in claim 7, **characterized in that** the mutual distance between the engaging points of both teeth (8, 9) of the fork (5) touching the guide (27) of the spoon (4) is at least such, that the two teeth (8, 9) can not touch the bottom (42) of the bottom (42) lying under the guide part (41) of the recess (20) of the spoon without any deformation.

9. Flatware (1) as claimed in any of the foregoing claims, **characterized in that** the fork (5) has only two teeth (8, 9) which are preferably fitted on a shoulder (12) in accordance with an internal rounding of substanti-

ally a semi-circle.

10. Flatware (1) for spaghetti, at least comprising a plurality of forks (5) and a plurality of spoons (4) and a spaghetti server (3), **characterized in that** the
5 forks (5), the spoons (4) and the spaghetti server (3) all have a handle (6, 18) of substantially identical shape which is substantially rotation-symmetrical, wherein the handle (18) of the spaghetti server (3) is preferably longer than the handles (6) of forks (5) and spoons (4).

10 11. Flatware (1) as claimed in any of the foregoing claims, **characterized in that** at least the forks (5) and spoons (4) are arranged in the form of a fan in a holder (2) which is preferably provided with a carrying handle (23).

15 12. Fork (5) for a flatware set (1) as claimed in any of the foregoing claims.

13. Spoon (4) for a flatware set (1) as claimed in any of the foregoing claims.

20 14. Spaghetti server (3) comprising a non-round spiral, **characterized in that** this is manufactured from one piece of plastic, preferably reinforced plastic.

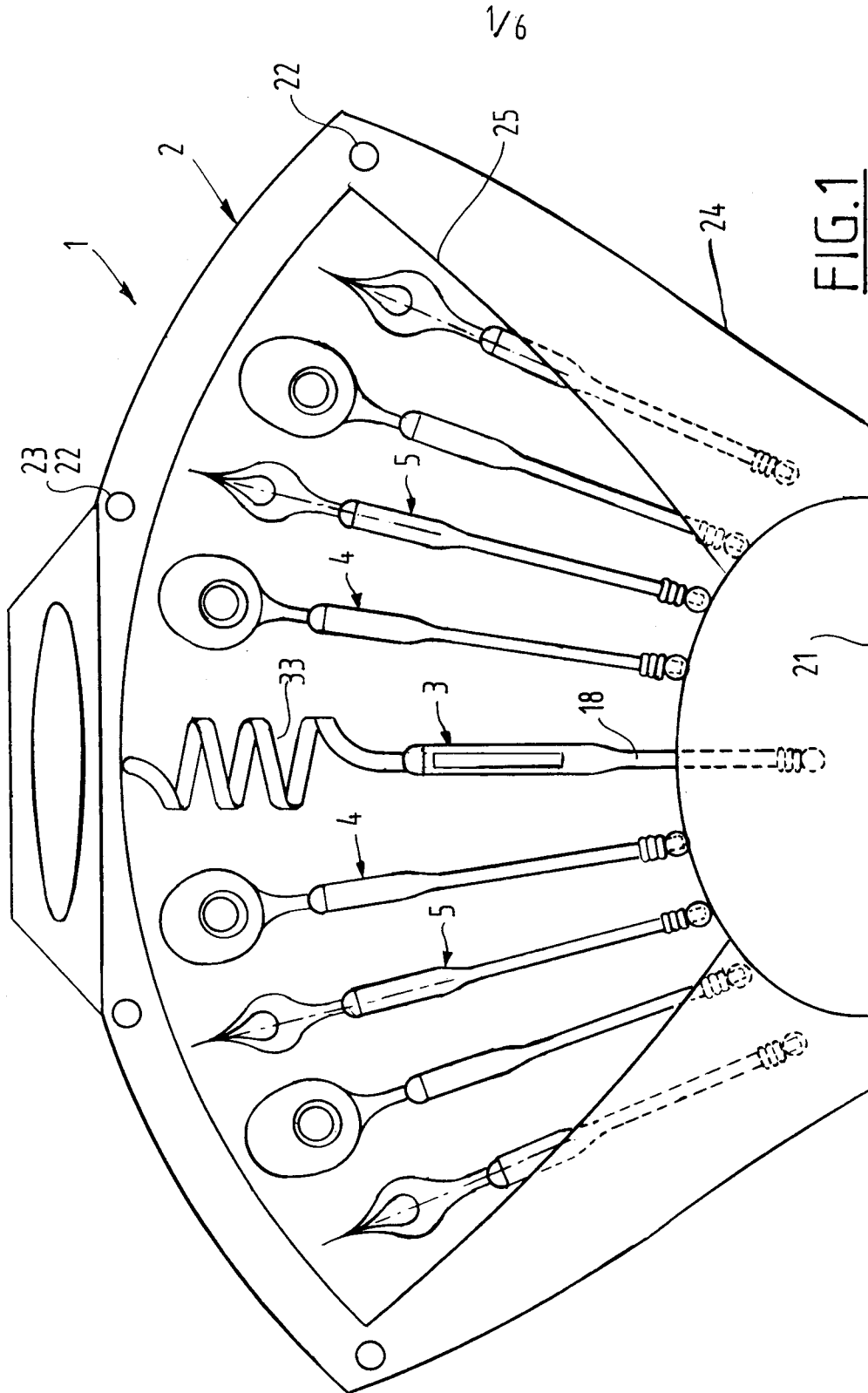




FIG.3

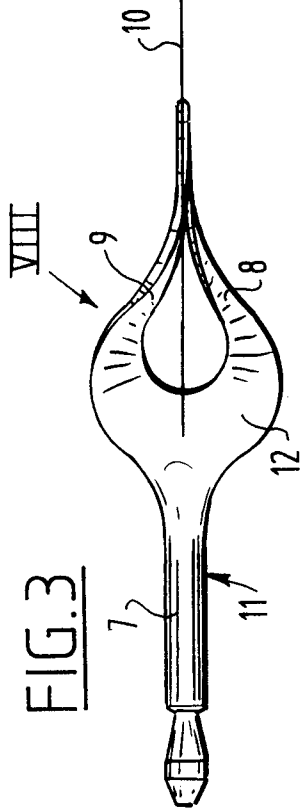


FIG.7

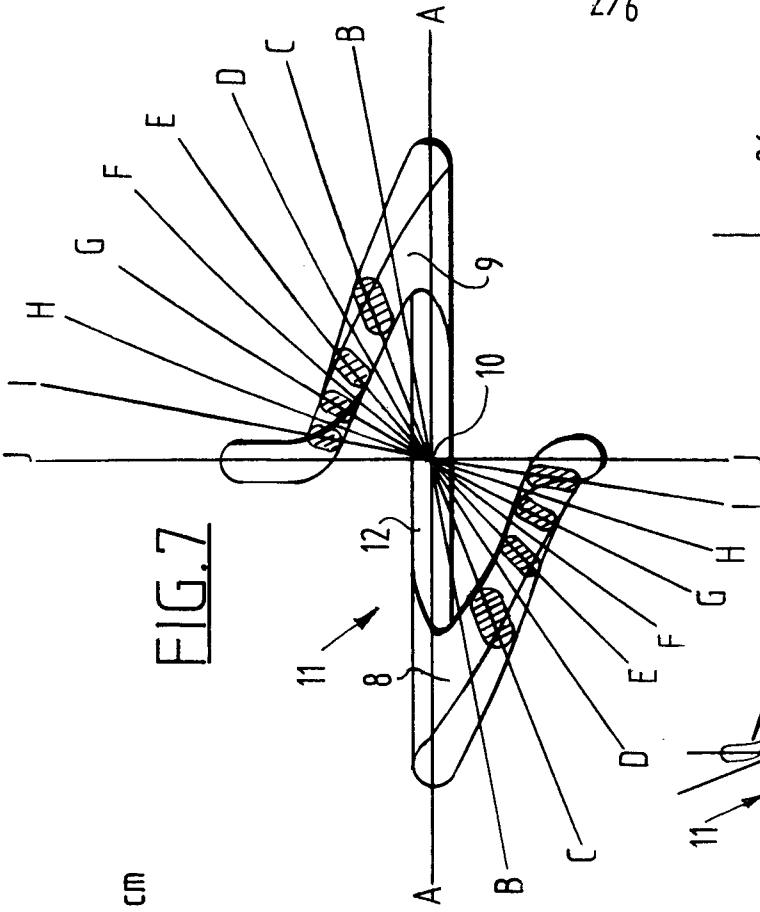


FIG.4

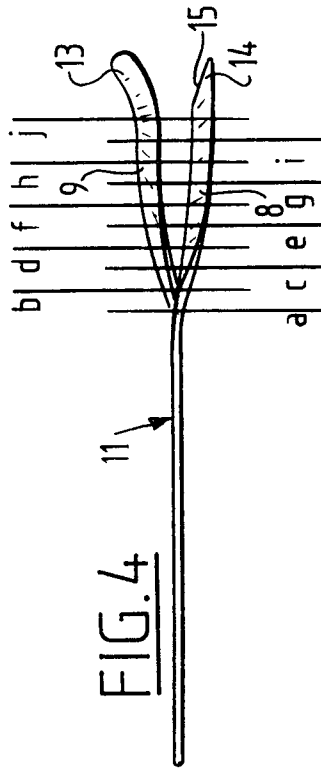


FIG.5

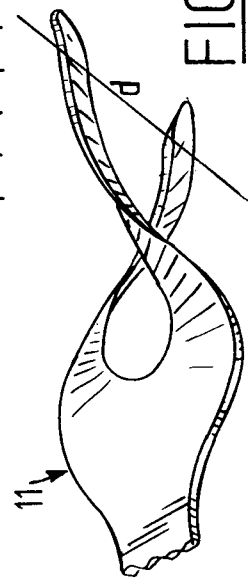
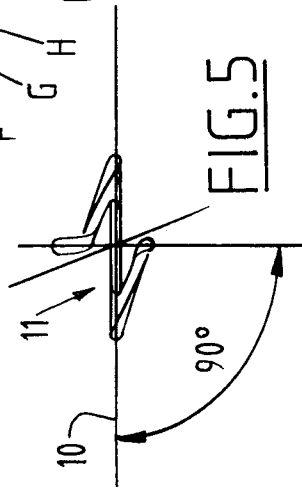
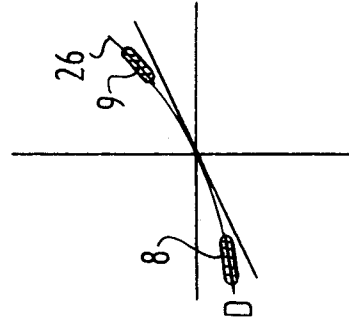


FIG.6

FIG.14



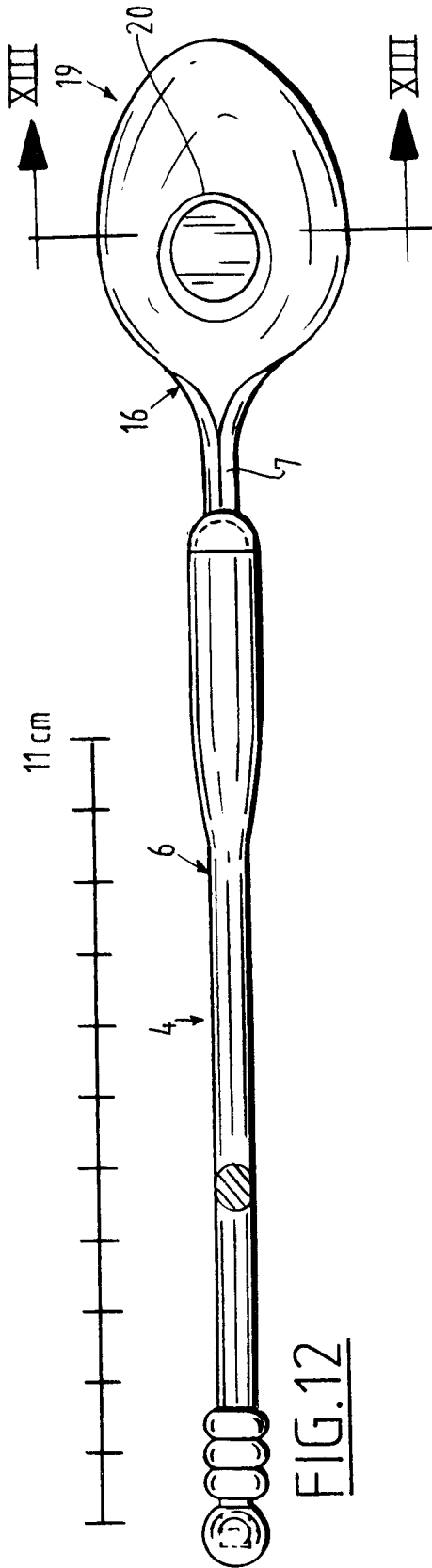


FIG. 12

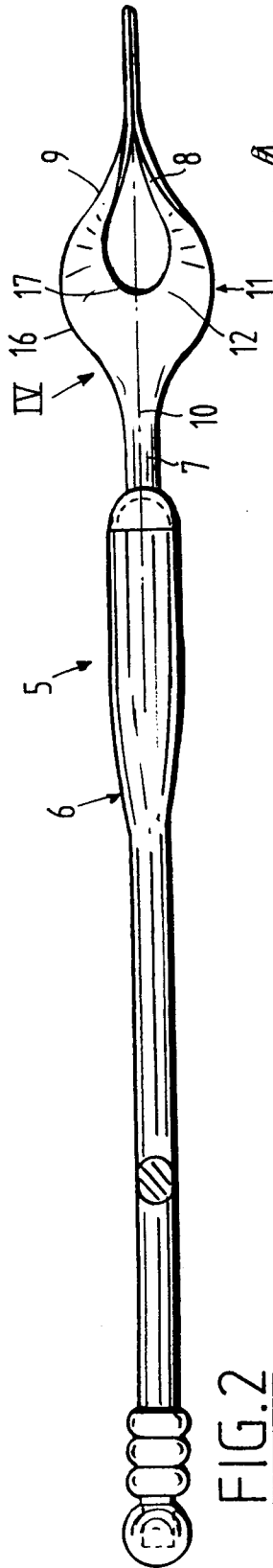


FIG. 2

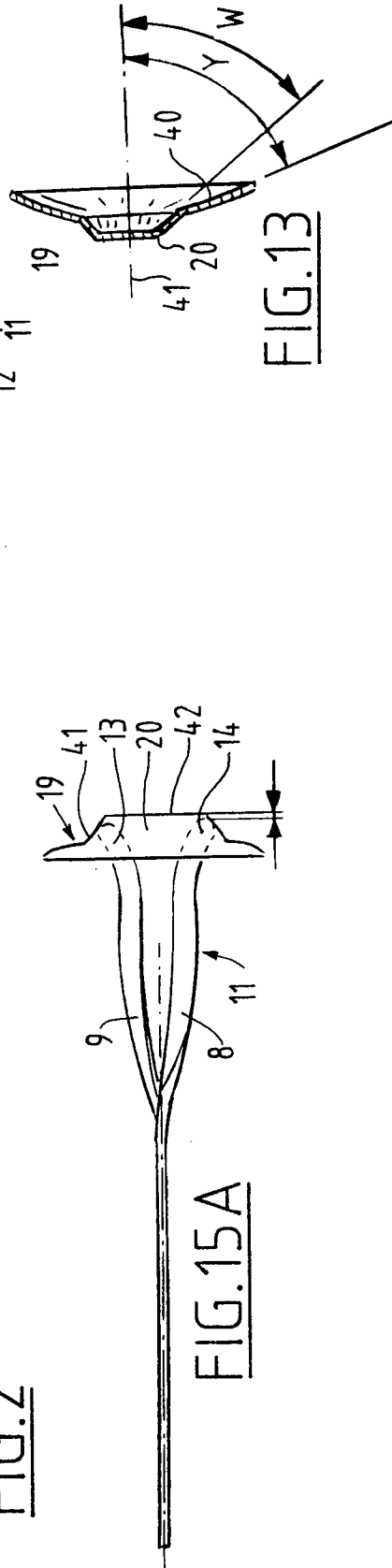


FIG. 15A

FIG. 13

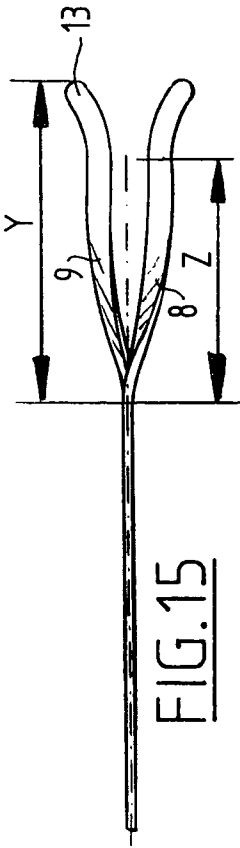


FIG. 15

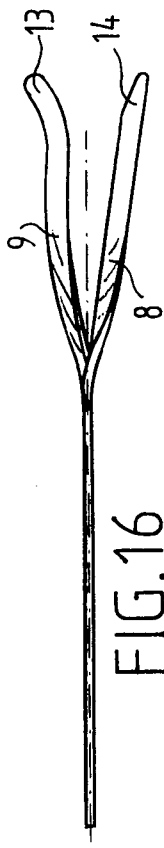


FIG. 16

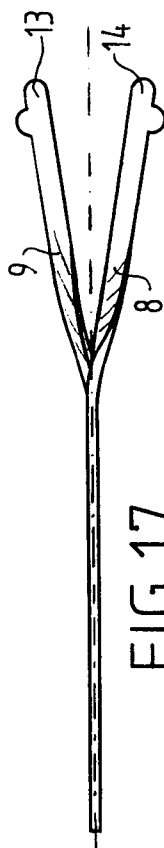


FIG. 17

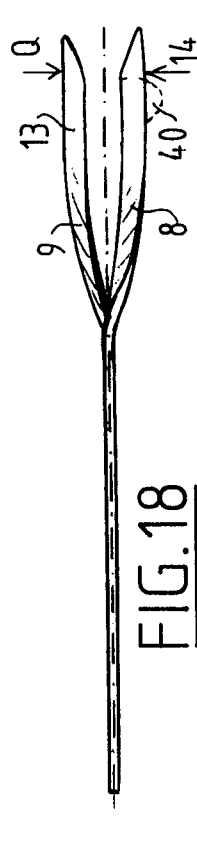


FIG. 18

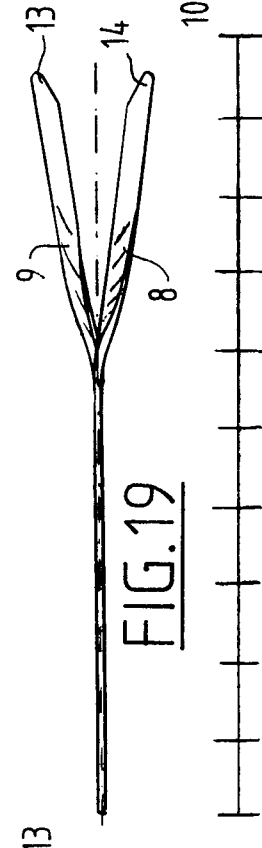


FIG. 19

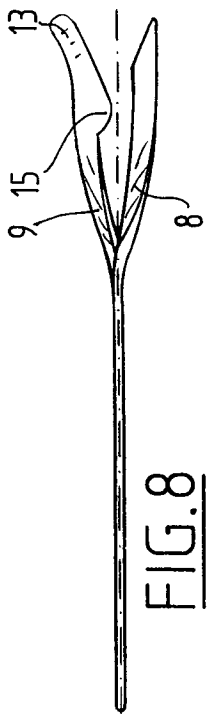


FIG. 8

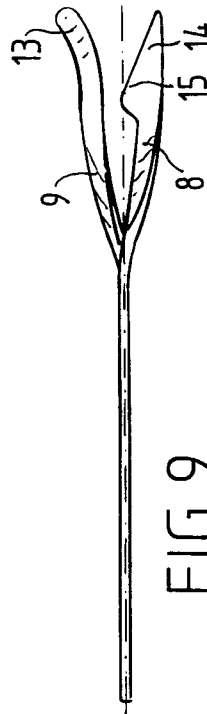


FIG. 9

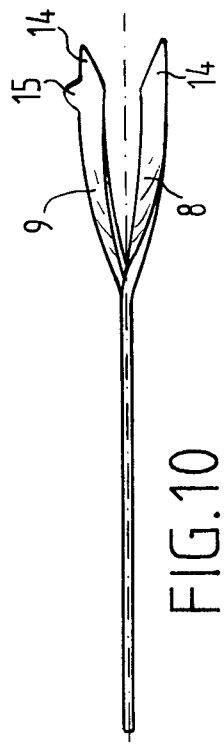


FIG. 10

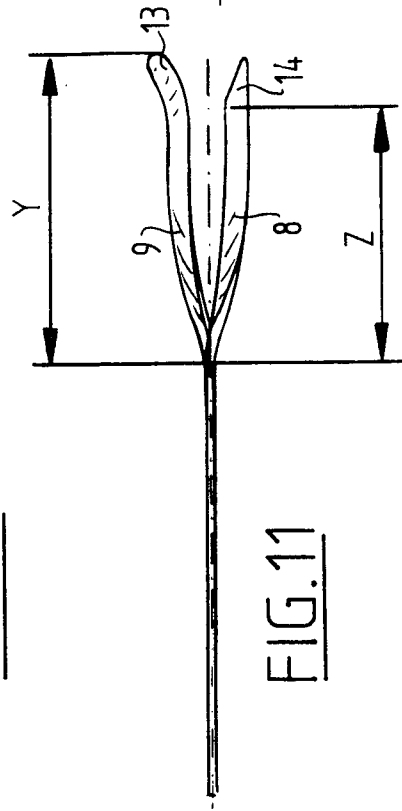


FIG. 11

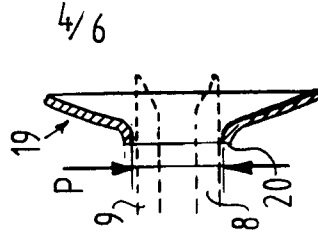


FIG. 20

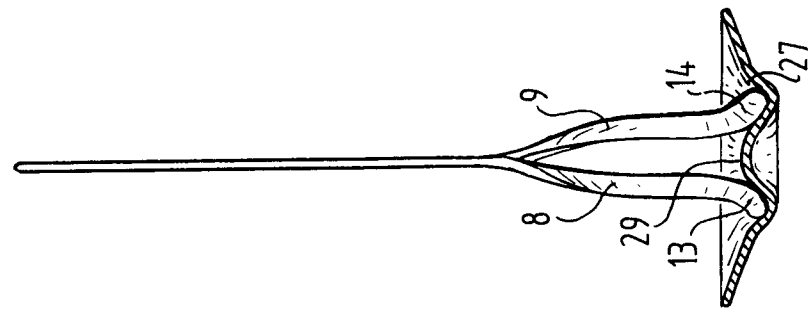


FIG. 21

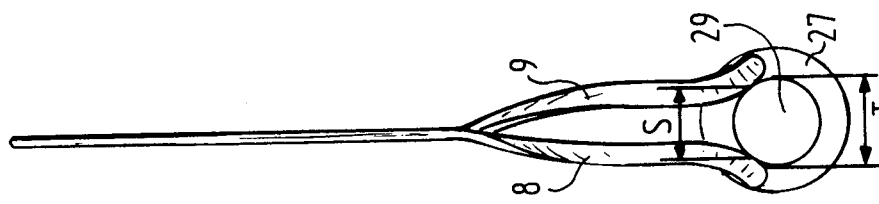


FIG. 25

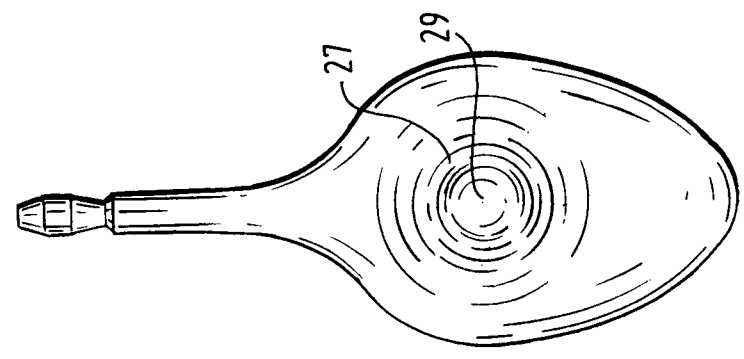


FIG. 22

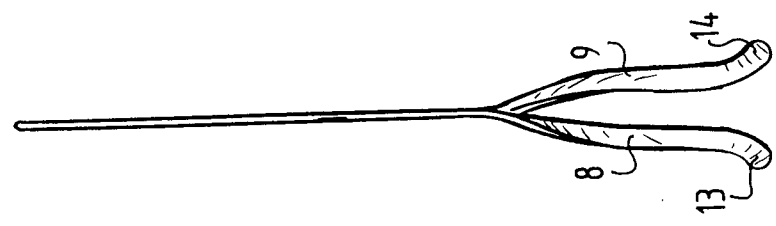


FIG. 23

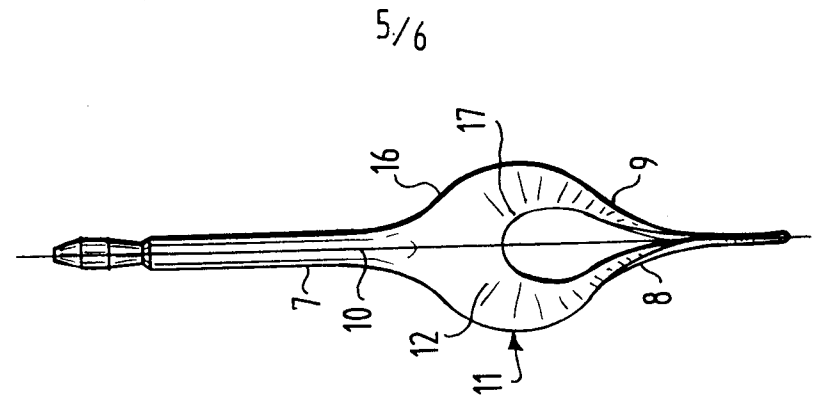


FIG. 24

FIG.28

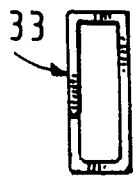


FIG.29

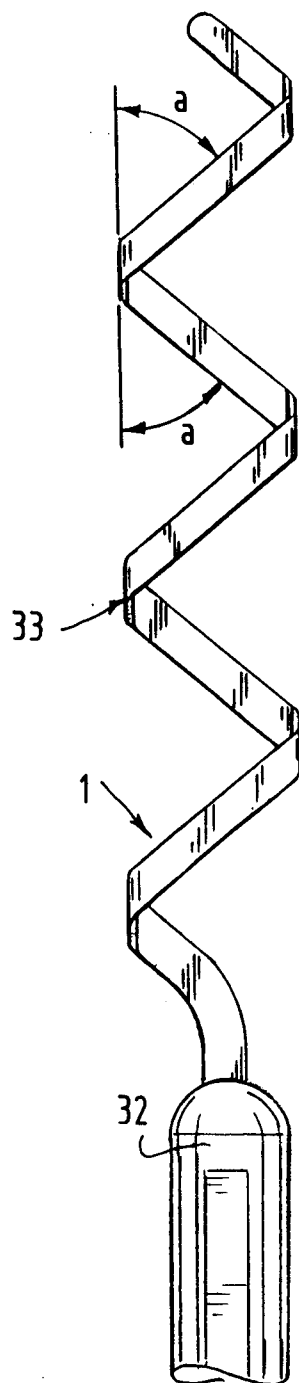


FIG.26

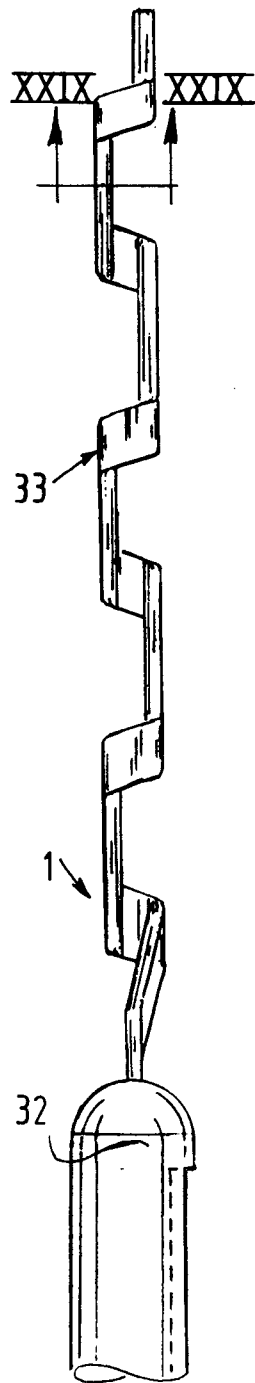


FIG.27

