



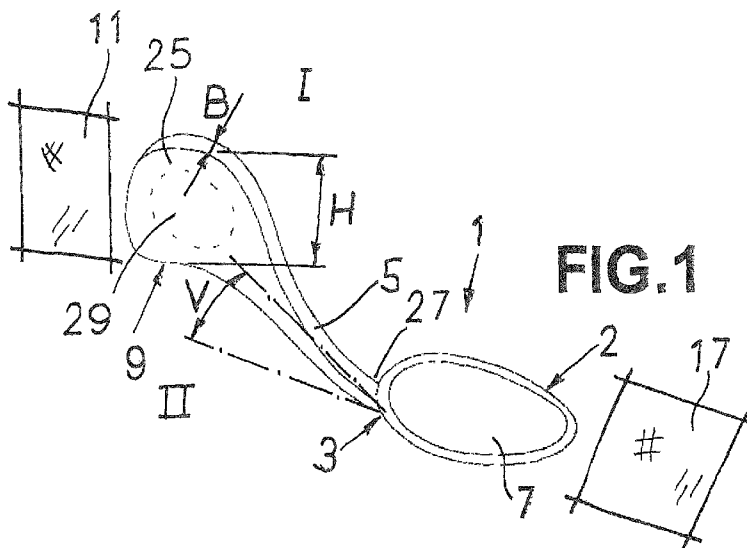
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(54) Title: DEVICE FOR A SET OF CUTLERY



(57) Abstract: The invention concerns a set of cutlery comprising an eating part, which is connected to a handle part and has the purpose of increasing the eating ability of particularly small children, which eat by themselves using the cutlery in question, and forcing to grasp the cutlery by the precision grasp. A device for a set of cutlery in question, which comprises a spoon piece and/or a fork piece having a handle connected to the proper eating part of the piece of the set of cutlery, comprises a handle having particular features. The handle (5, 6) has a grip part (15), which extends from the proper eating part (7) of the piece of the set of cutlery. The width (B) of the handle (5) is 1-10 mm and the handle (5) has a height (H) that exceeds said width (B). It is allowed for the user (19) of the piece of the set of cutlery (2) to grasp, by a so-called precision grasp, around the handle (5) of the piece of the set of cutlery (2) in question, i.e., between the thumb and at least one more finger.

WO 2014/207524 A1

Device for a Set of Cutlery

The present invention concerns a device for a set of cutlery for children and comprising a spoon piece and/or a fork piece having a handle connected to the proper eating part of the piece of the set of cutlery, the handle having a grip part, which allows for the user of the piece of the set of cutlery to grasp, by a so-called precision grasp, around the handle of the piece of the set of cutlery in question, i.e., between the thumb and at least one more finger.

Cutlery for particularly children but also for old people and handicapped is made in a number of different variants and forms. Small children advantageously grasp objects using the so-called pincer grasp, which involves that the object in question is grasped between the thumb and one or more other fingers of the same hand. The ability to get food down varies from child to child when they are allowed to eat by themselves using a suitable cutlery when they have passed the stage when they eat the food directly with their hands.

It is then important that the child can grasp the piece of the cutlery in question, viz., a spoon or a fork, so that the food remains on the proper eating part of the piece of cutlery and is controlled and adjusted by the grip part of the piece of cutlery.

Examples of cutlery comprising particular grip parts are shown in, e.g., US 4563826A where the handle is angled in a special way, US 527115A where the handle forms a double loop, US 1625003A where the handle comprises a finger hole, US 2338980A where the handle forms a grip ring, US 2889624A where the handle is provided with a finger hole, and US 2682705A showing a spoon having a rotatably angled and bent thin handle but which is intended to be grasped by the entire hand.

The fine motor ability of the hand is about the ability to handle items by the hands, i.e., to reach, grasp, manipulate, and drop. It is based on an interaction between fine motor and gross motor functions and involves hands as well
5 as arms and shoulders. At one year of age, children begin to use the precision grasp. Speed, co-ordination, force control, motor memory and motor programmes are component parts of the precision grasp which are developed and refined. The precision
10 grasp is primarily a function of the radial side of the hand, and involves a manipulative handling of an object or tool between the thumb and the fingertips, particularly the index and middle fingers.

The functional position of the hand, the optimal position for work and relaxation, is with the forearm
15 in an intermediate position concerning the pronation and supination, or against the pronation, as well as the wrist somewhat dorsally flexed and intermediate position between radial and ulnar flexion. The thumb is in opposition to the index and middle fingers and the fingers are slightly flexed.
20 The child is, by the precision grasp, forced to hold the piece of cutlery horizontally. Common cutlery known, children can angle and thereby the food may fall off or not come into the mouth.

Thus, the main object of the present invention
25 is to provide a device of the above-mentioned type and which is made to enable an improved eating ability by the piece of the cutlery in question for children and others who utilize the cutlery.

US 5,058,279 A concerns cutlery intended for
30 physically handicapped persons, particularly for persons who have limited wrist mobility. This is realized when reading column 3, lines 3-12, how the piece of cutlery is grasped by persons in question by their entire hand around the cutlery

handle and its sides (5, 3, 6) and by the thumb on the upper side. Then the proper cutlery head (8) is facing the person in question. A piece of cutlery is grasped in accordance with the present US 5,058,279 A, i.e., with the palm of the hand along the side (5) and with the fingers bent around the rear edge (3) and then along the side (6). The thumb assumes a position on top of the upper side (4). The food replenishment part (8) is then facing the person. Said grasp can scarcely be compared to the precision grasp, which is the same as when a pencil or a sewing needle is grasped.

By also JP 2000157401 A, US 2338980 A, US 1619878 A, EP 0694370 A1, US 5075975 A, US 2995265 A, and US 4779344 A, sets of cutlery are known, but neither these have the advantages and technical effects and purposes as are intended according to the present invention.

Said object is achieved by means of a device according to the present invention, which essentially is characterized in that the width of the handle is 1-10 mm, that the handle has a height that is 10-30 mm at the proper grip area of the handle, and that the handle has a depression at the proper grip area, for the formation of a finger grip.

There are several advantages of said set of cutlery in comparison with known cutlery, e.g.:

- the set of cutlery have a multigrip function (they give the possibility to hold the handle in various ways, e.g. precision grasp, key grasp, transverse volar grasp, thumb grasp)
- low weight, which makes the pieces very light
- the spoons are angled in different ways
- they are made in various shapes and colours, which makes the meal an inviting activity.

The present invention is based on the grip part, and thanks to this and its new features, the possibility is opened up that the child who utilizes a piece of the cutlery

in question can grasp the handle in a particular way, which is suitable for the child in question, viz., the precision grasp (the pincer grasp).

The device for a set of cutlery for children and having a handle that allows for the child in question to grasp said cutlery by the precision grasp, i.e., having the cutlery handle situated between the child's thumb and one finger, is formed according to the present invention by cutlery having fixed dimension intervals, which cannot be exceeded or fallen below if the child should be able to utilise the cutlery in question.

Thus, it is important that the following dimension interval is kept;

- * The width of the handle is 1-10 mm,
- * The height of the handle is 10-30 mm at the grip area.
- * The handle has a depression at the grip area, for the formation of a finger grip.

The invention is described below in the form of a number of preferred embodiment examples, reference being made to the drawings, in which

Fig. 1 shows in perspective a spoon obliquely from above,

Fig. 2 shows the spoon held in a particular way at its rear handle portion by the precision grasp,

Fig. 3 shows the spoon from the side,

Fig. 4 shows a further grasped spoon,

Fig. 5 shows a fork having a handle according to the invention,

Fig. 6 shows a spoon having the handle in elevated position,

Figs. 7-12 show design of handles having indentation and grasping of the piece of the set of cutlery,

Figs. 13-16 show pieces of the set of cutlery having holes through the handle and the grasping of the same, and

Figs. 17-18 show pieces of the set of cutlery having handles formed as an animal body and an animal head, respectively.

A device 1 for a set of cutlery 2, comprising a spoon piece 3 and/or a fork piece 4 and having a handle 5, 6 connected to the proper eating part 7, 8 of the piece of the set of cutlery, has the handle 5, 6 arranged in a particular way, and that the grip part 9, 10 thereof is arranged so that its longitudinal mean plane 11, 12 extends essentially perpendicular to said eating part 7, 8 of the piece of the set of cutlery along an essentially mutual vertical longitudinal mean plane 13, 14 through the same. More precisely, the handle 5, 6 has a grip part 9, 10, which preferably extends at an angle V of 30-45° up or down from the proper eating part 7, 8 of the piece of the set of cutlery, as seen from the horizontal longitudinal mean plane 17, 18 of said eating part.

Furthermore, the width B of the handles 5, 6 is 1-10 mm and the handle 5, 6 has a height H that exceeds said width B . Thereby, it is allowed for the user 19 of the piece of the set of cutlery 2 to grasp, by the so-called precision grasp or pincer grasp, around the handle 5, 6 of the piece of the set of cutlery 2 in question, i.e., between the thumb 20 and at least one more finger 21-24. Thereby, a suitable distance between the thumb and a further interacting finger is the same as said width B of the piece of the set of cutlery.

Suitably, the height H of the handle 5, 6 is 10-30 mm at the proper grip area 25, 26 of the handle 5, 6, which increases in height H from the area of a connection 27, 28 between the handle 5, 6 and said eating part 7, 8.

Furthermore, the handle 5, 6 has a grip-improving depression 29, 30 at the proper grip area 25, 26, and that preferably a depression is situated on each side I, II of the handle 5, 6.

5 According to further embodiment examples, a said depression extends entirely through the handle 5, 6 for the formation of a through hole 31, 32. For the purpose of strengthening, the handle connects to the eating part 7 via a tapering joint part 33 connected to the under side of the
10 eating part 7.

The handle 5, 6 has an outer end part 34, 35, which projects for the formation of a tip from said grip area 25, 26 and on which the piece of the set of cutlery 2 in question can be placed on a table 36 or any other suitable
15 underlayer.

Furthermore, the handle 5, 6 has a widened contact surface 37, 38, either at the connection to the eating part 7, 8 or at the outer end part 34, 35 of the handle, whereby said widened contact surface 37, 38 is arranged to
20 allow the piece of the set of cutlery 2 in question to be placed with the handle 5, 6 in raised position on an underlayer 36.

With the purpose of making the set of cutlery 2 more interesting to the users, and then particularly the
25 children, the handle 5, 6 of the piece of the set of cutlery 2 in question may be formed as some suitable fantasy figure 39, 40, e.g. as an animal, for instance snake, wolf, or swan, as partly is shown in the drawings, or as a vehicle not shown or with another easy-grip shape according to the above-mentioned.
30 The design of the figures has to be such that it is allowed to grasp the piece of the set of cutlery in question by means of the precision grasp.

Suitably, the piece of the set of cutlery 2 consists of environmental-friendly plastic material but also metal may be a possibility.

The invention is naturally not limited to the
5 embodiments described above and shown in the accompanying drawings. Modifications are feasible, particularly as for the nature of the different parts, or by using an equivalent technique, without departing from the protection area of the invention, such as this is defined in the claims.

CLAIMS

1. Device (1) for a set of cutlery (2) for
5 children and comprising a spoon piece (3) and/or a fork piece
(4) having a handle (5) connected to the proper eating part (7,
8) of the piece of the set of cutlery, the handle (5, 6) having
a grip part (9, 10), which allows for the user (19) of the
10 piece of the set of cutlery (2) to grasp, by a so-called
precision grasp, around the handle (5, 6) of the piece of the
set of cutlery in question, i.e., between the thumb (20) and at
least one more finger (21-24), **characterized in** that the width
(B) of the handle (5, 6) is 1-10 mm, that the handle (5, 6) has
a height (H) that is 10-30 mm at the proper grip area (25, 26)
15 of the handle (5, 6), and that the handle (5, 6) has a
depression (29, 30) at the proper grip area (25, 26), for the
formation of a finger grip.

2. Device according to claim 1, **characterized in**
20 that the width (B) is 1-5 mm, whereby the user is forced to
grasp the piece of the set of cutlery by the precision grasp.

3. Device according to any one of the above
claims, **characterized in** that the handle (5, 6) increases in
25 height (H) from the area of the connection (27, 28) to said
eating part (7, 8).

4. Device according to any one of the above
claims, **characterized in** that the depression (29, 30) is
30 situated on each side (I, II) of the handle (5, 6), preferably
that the depression extends entirely through the handle (5, 6)
for the formation of a through hole (31, 32).

5. Device according to any one of the above claims, **characterized in** that the handle (5) connects to the eating part (7) via a tapering joint part (33) connected to the under side of the same.

5

6. Device according to any one of the above claims, **characterized in** that the handle (5, 6) has an outer end part (34, 35), which projects for the formation of a tip from said grip area (25, 26).

10

7. Device according to any one of the above claims, **characterized in** that the handle (5, 6) of the piece of the set of cutlery (2) in question is formed as a fantasy figure (39, 40), animal, vehicle, or with another easy-grip shape.

15

8. Device according to any one of the above claims, **characterized in** that the grip part (9, 10) is arranged so that its longitudinal mean plane (11, 12) extends essentially perpendicular to said eating part (7, 8) of the piece of the set of cutlery along an essentially mutual longitudinal mean plane (13, 14) through the same.

20

9. Device according to any one of the above claims, **characterized in** that the grip part (9, 10) extends at an angle (V) of 30-45° up or down from the proper eating part (7, 8) of the piece of the set of cutlery, whereby, in combination with said angle (V) and handle width (B), the eating part (7, 8) more easily gets into position and prevents food from falling off the eating part (7, 8).

30

10. Device according to any one of the above claims, **characterized in** that the handle (5, 6) has a widened

contact surface (37, 38), either at the connection to the eating part (7, 8) or at the outer end part (34, 35) of the handle (5, 6), whereby said widened contact surface (37, 38) is arranged to allow the piece of the set of cutlery (2) in question to be raised with the handle (5, 6) in raised position.

FIG.4

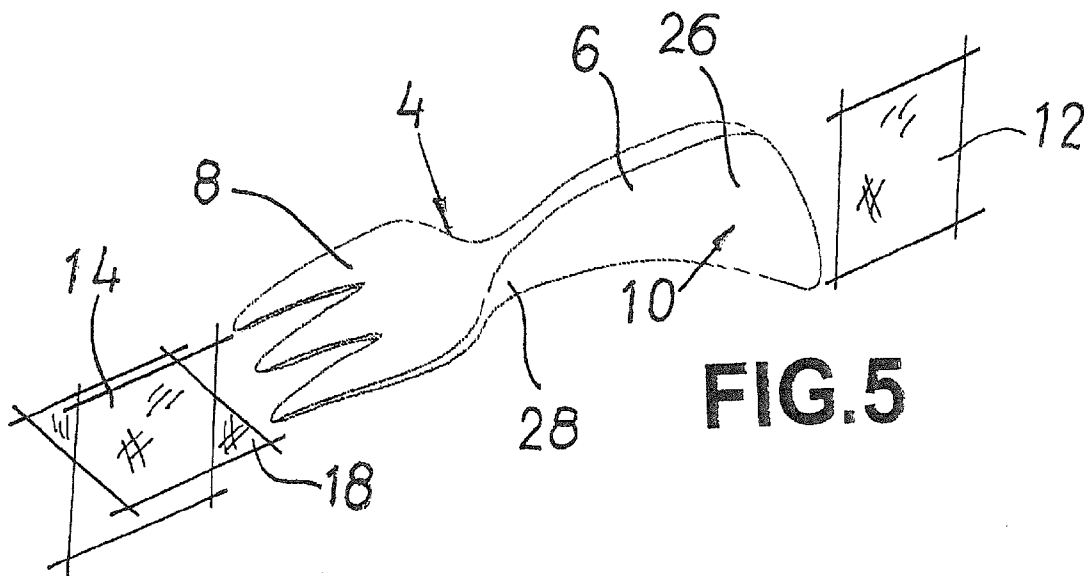
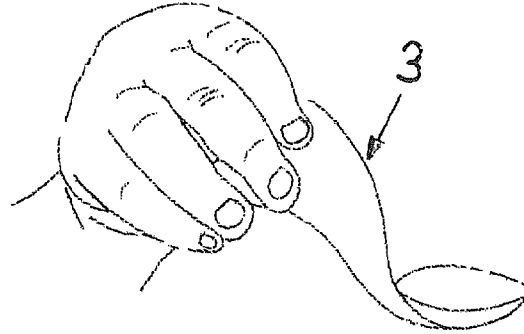


FIG.5

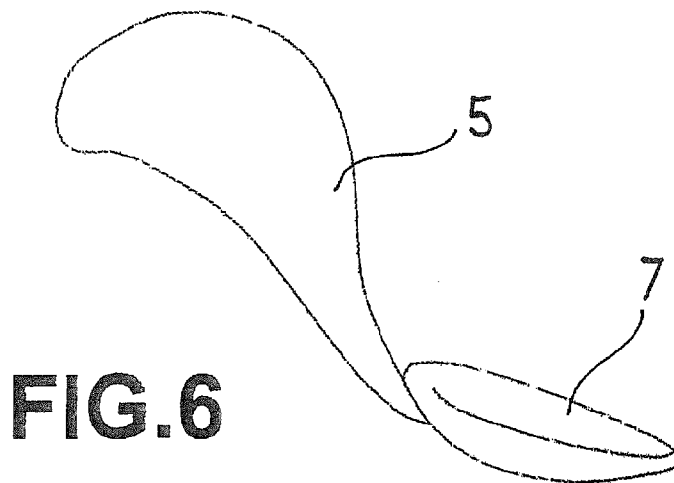
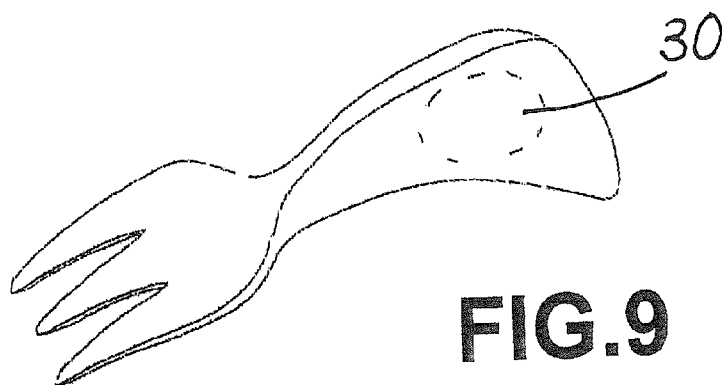
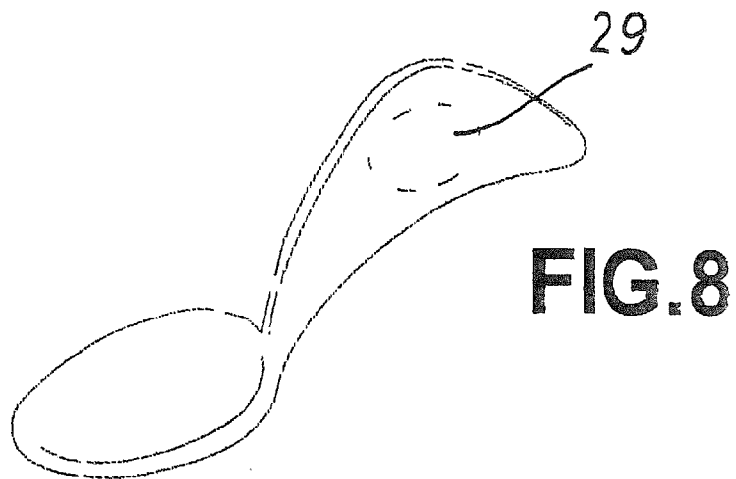
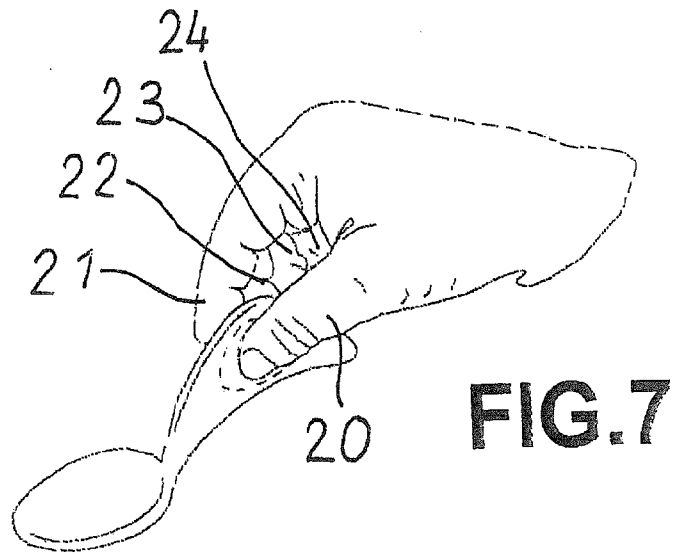
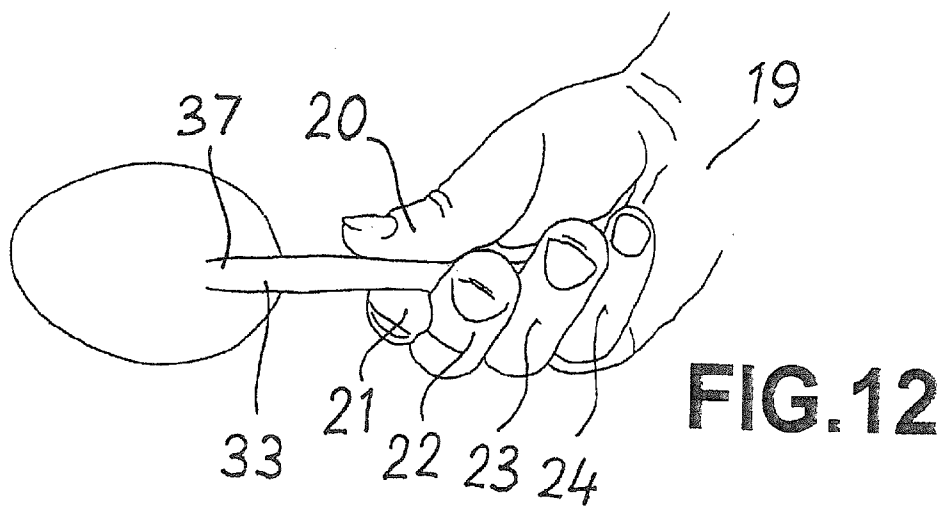
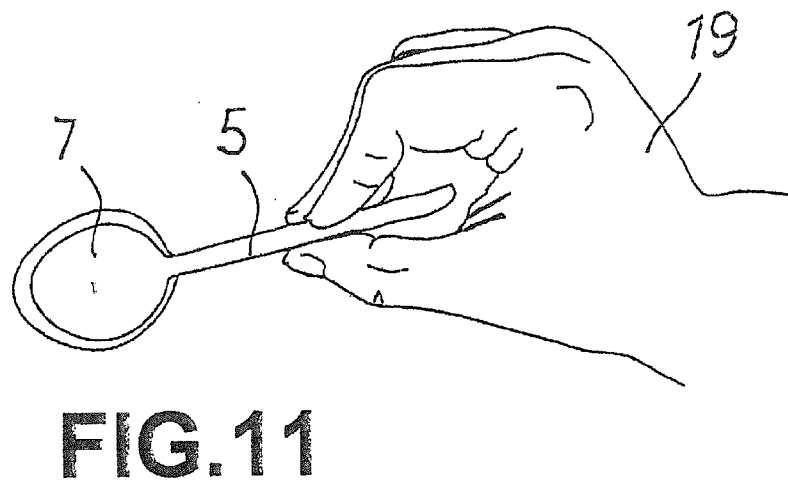
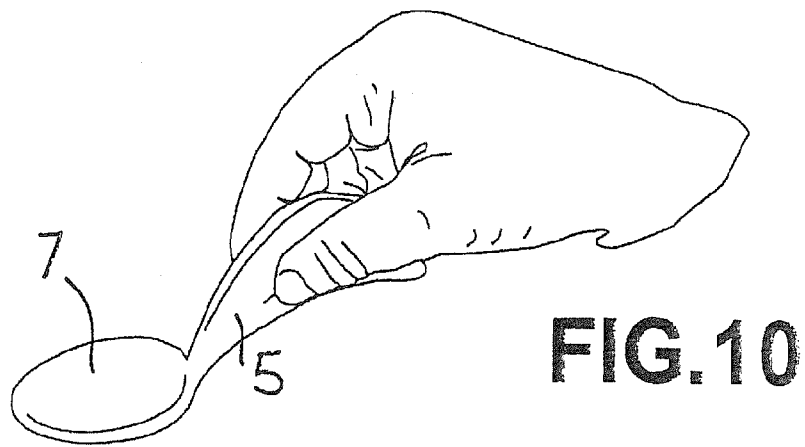


FIG.6





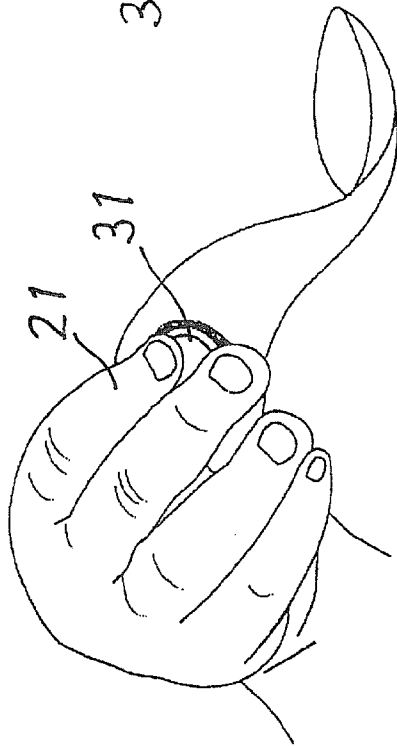


FIG. 13

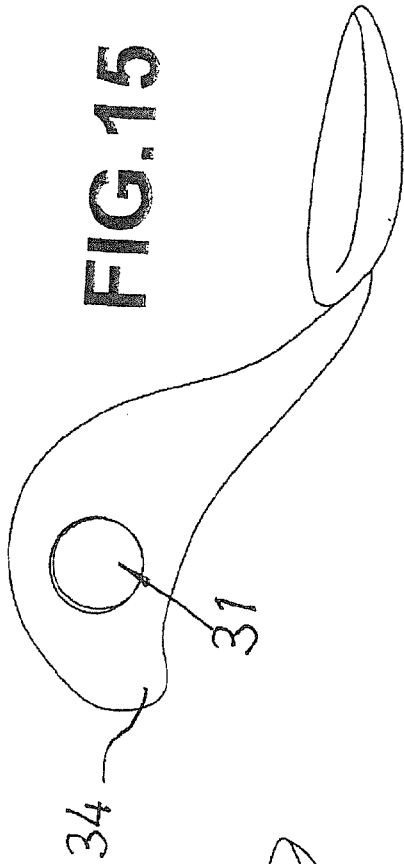


FIG. 15

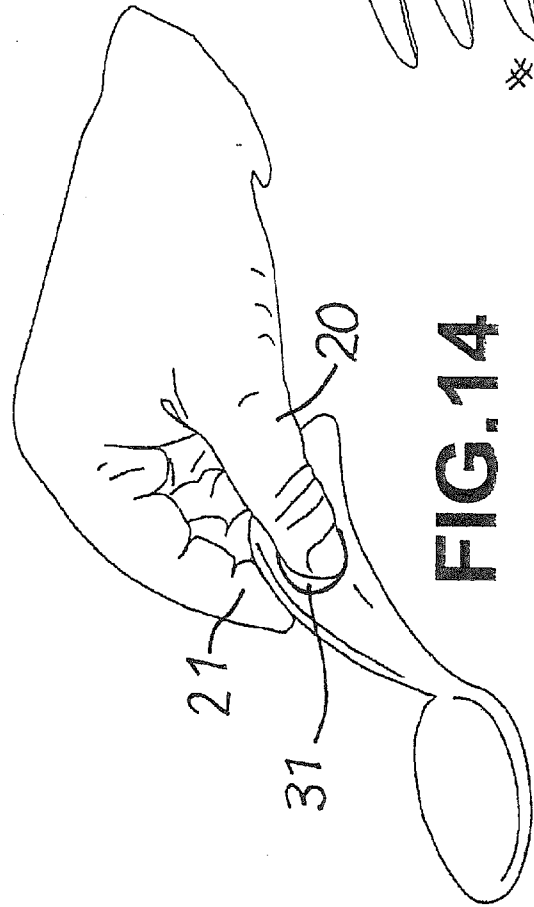


FIG. 14

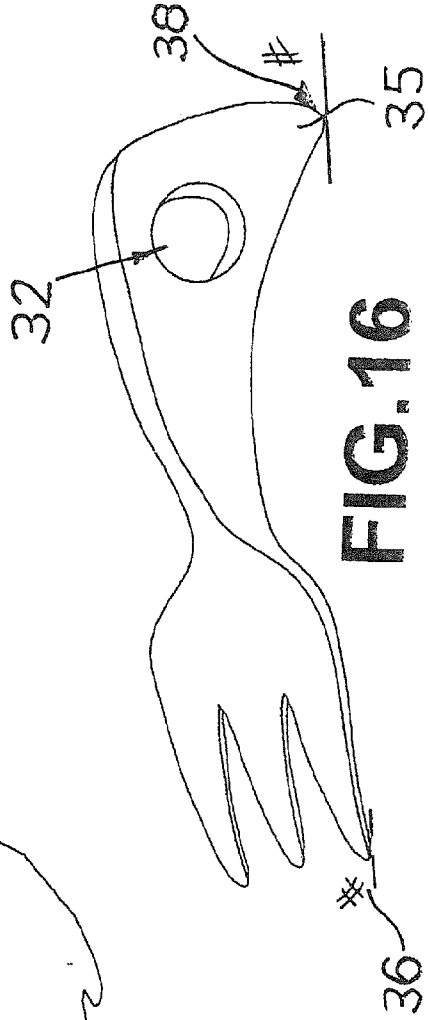


FIG. 16

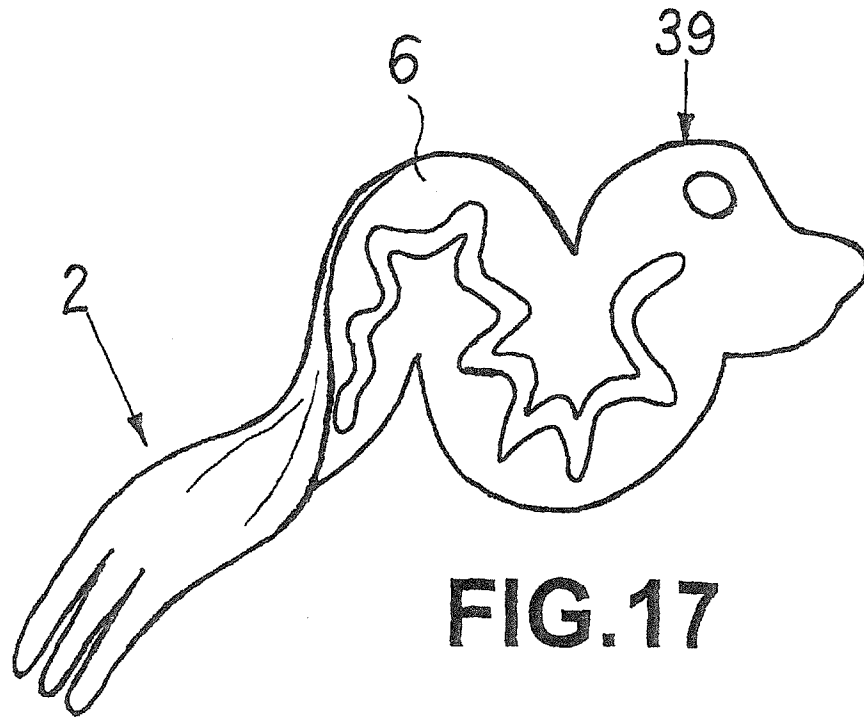


FIG. 17

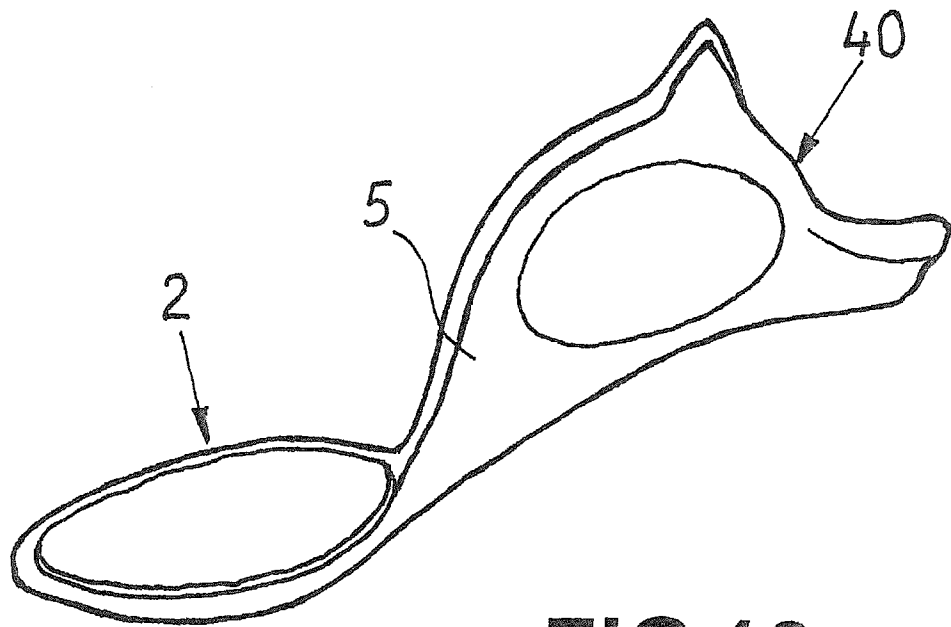


FIG. 18

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2014/001078

A. CLASSIFICATION OF SUBJECT MATTER
INV. A47G21/02
ADD.
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
A47G B25G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 1 625 003 A (WALKER MARGARET W) 19 April 1927 (1927-04-19) cited in the application page 1, line 20 - line 61; figures -----	1-10
X	CZ 5 597 U1 (POLYPLAST [CZ]) 12 March 1997 (1997-03-12) the whole document -----	1-10
X	PT 7 150 U (JOSE MARIA MARTINS [PT]) 12 December 1982 (1982-12-12) the whole document -----	1-10
X	US 2007/084064 A1 (FITE FRANCIS B IV [US] ET AL FITE IV FRANCIS BARTOW [US] ET AL) 19 April 2007 (2007-04-19) paragraph [0044] - paragraph [0061]; figures 1-7 ----- -/--	1,2,7,8

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published 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
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 17 September 2014	Date of mailing of the international search report 24/09/2014
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Vistisen, Lars
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INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2014/001078

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 2000 157401 A (TOMIKAWA TAKESHI) 13 June 2000 (2000-06-13) cited in the application the whole document	1-10
A	----- DE 38 05 997 A1 (WESTPHAL PATRICK A [DE]; WEHRMEISTER MARK [DE]) 8 September 1988 (1988-09-08) column 4, line 9 - column 5, line 16; figures	1
A	----- US 983 736 A (MACONOCHIE JEAN WEBB [GB]) 7 February 1911 (1911-02-07) page 1, line 9 - line 65; figures	1
A	----- US 2 889 624 A (MCDONALD FREDERICK H) 9 June 1959 (1959-06-09) cited in the application column 2, line 12 - line 71; figures -----	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2014/001078

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 1625003	A	19-04-1927	NONE

CZ 5597	U1	12-03-1997	NONE

PT 7150	U	12-12-1982	NONE

US 2007084064	A1	19-04-2007	JP 2009512503 A 26-03-2009
			US 2007084064 A1 19-04-2007
			WO 2007048055 A2 26-04-2007

JP 2000157401	A	13-06-2000	NONE

DE 3805997	A1	08-09-1988	NONE

US 983736	A	07-02-1911	NONE

US 2889624	A	09-06-1959	NONE
