

PATENT ATTORNEYS' CANDIDATE EXAMINATION – MECHANICS
APRIL, 2017

I. Information Provided by Inventor

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Proposed invention: Device for real-time measuring the amount of human milk passed to a baby during breast feeding.

Closest Prior Art: WO 01/54488 (abstract and drawings enclosed)

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Drawings

Fig. 1 is a schematic longitudinal cross-sectional view of a real-time measuring device according to one embodiment of the invention;

Fig. 2 is a schematic front view of the real-time measuring device of Fig. 1;

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Fig. 3A is an enlarged schematic longitudinal cross-sectional view of a measuring device in accordance with an alternative embodiment of the invention; and

Fig. 3B is a schematic perspective view of a measuring unit mounted in the duct of Fig. 3A.

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Elements of the real-time measuring device shown Figs. 1 and 2:

- a cap 1 made of silicone;
- a duct 2 in the cap 1;
- a flowmeter 3 measuring the volume of milk passing through the duct.

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Elements of the real time measuring device shown in Figs. 3A and 3B:

- a cap 10 similar to the cap 1;
- a duct 20 in the cap 10;
- a measuring unit 30 including a tube 32 and a sensor 33 mounted to the tube by means of two hook-like structures 36.

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II Task No. 1: Drafting a Patent Application

Please draft a patent application including:

- (a) Two sets of claims, one - in the US style and one - in the EP style, each set including at least two independent claims and at least three dependent claims
- 35 **(45% + 10% bonus for explanation as to which of the two sets, as is or with some formal changes, you would recommend to use when filing the patent application at the Israel Patent Office);**

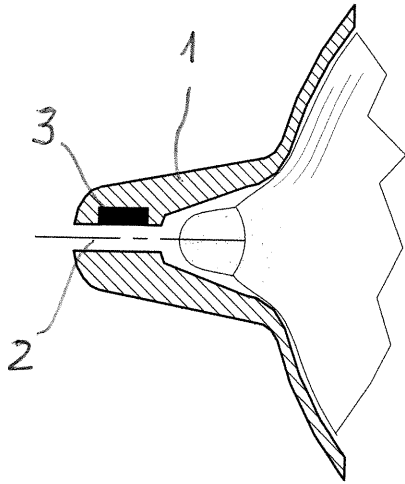


FIG. 1

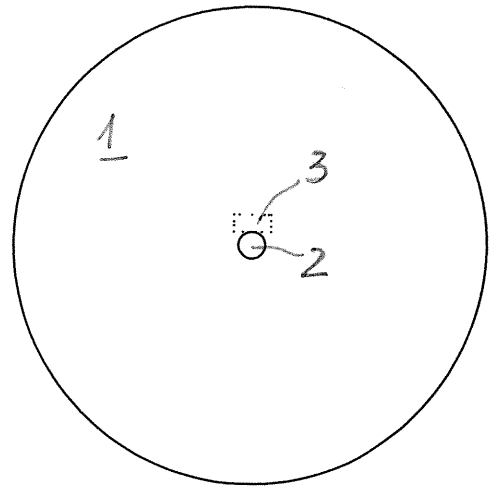


FIG. 2

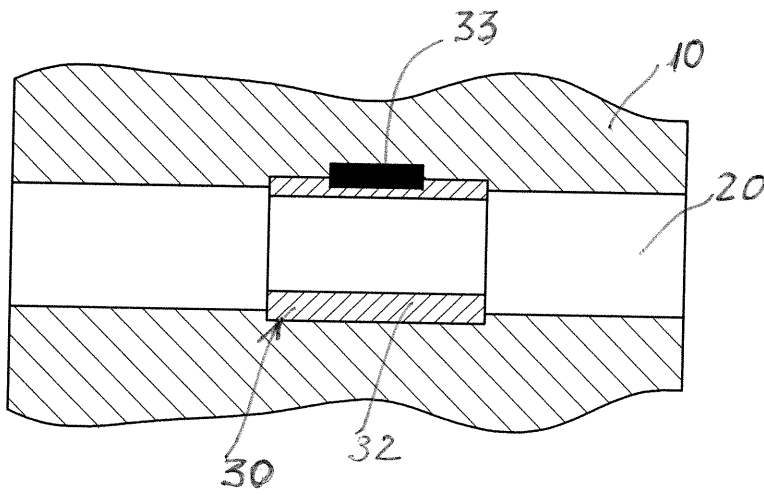


FIG. 3A

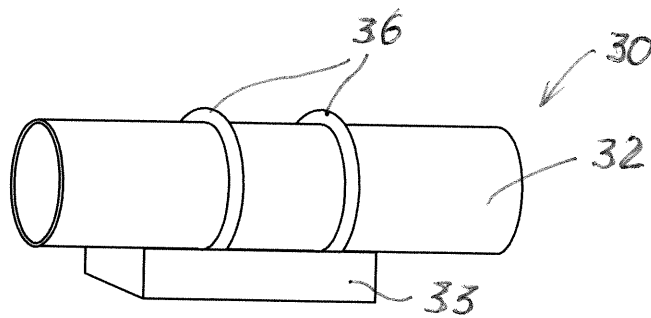


FIG. 3B

(b) All remaining standard sections, which any patent specification should have, including Detailed Description of the device shown in the above listed drawings (20%);

5 (c) Optional features of the device, which you can think of and which are not shown in the above listed drawings:

- features, which the above listed components of the device may have,
- possible additional components of the device, and
- possible alternative embodiments of the device. (15%)

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III. Task No. 2: Novelty Analysis (20%)

Imagine that during examination of the application drafted by you in accordance with task II above, an Office Action was issued, citing US Patent No. XXX as destroying novelty of the independent claims of the application.

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US XXX discloses a real-time measuring device shown in the enclosed drawings and described as follows:

20 *FIG. 1 illustrates a block diagram of the logical steps in the method of monitoring the milk volume wherein there is a micro measurement volume sensor (1) connected to an interpretation unit (2). The micro measurement volume sensor (1) contains a mechanical rotating unit (3) connected to a rotation sensor (4). The rotation sensor (4) is connected to the interpretation unit (2) and this interpretation unit contains a rotation counter (5) which passes data to a translator to volumetric units (6) and the results are*
25 *displayed on the data display monitor (7). Thus the volume of milk which flows past the mechanical rotating unit (3) is expressed as a measured volume on the data display monitor (7).*

30 *FIG. 2 illustrates a profile of the device according to the invention when adapted for use on the woman's breast. A flexible elastic nipple cover (8) is designed like a nipple with holes (9) above the real nipple and is placed on the woman's breast above and around the nipple. At the bottom of said cover in the space between the nipple and the elastic cover's holes there is a micro measurement volume sensor (1) for measuring the*
35 *volume of the milk which flows through. This micro measurement volume sensor is connected to an interpretation unit (2) for counting and translating into volumetric units; and the data is then displayed on a data display monitor (7).*

40 *FIG. 3 is the same as FIG. 2 but shows an expanded and detailed view especially of the micro measurement volume sensor (1). In the micro measurement volume sensor the milk flows through special passages (13) to a propeller (not seen in this figure) and causes the rotation of said propeller which in turn causes the rotation of a disk (11), attached to the propeller's axis, having an optic channel (12). This optic channel is*
45 *connected on both sides to optic fibers (17a) (17b) where one optic fiber (17a) constantly illuminates and the other optic fiber (17b) receives the light pulses caused by the rotation of the disk (11).*

Please:

- see whether the independent claims drafted by you are novel over the device disclosed in the above cited publication or whether they need to be amended to become novel over the cited publication; and
- provide explanations regarding features distinguishing the independent claims, as originally drafted by you or as amended if necessary, over the disclosure of the cited publication.

Passing grade: 70%

Task No. 1, item (a) – min. 25%

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



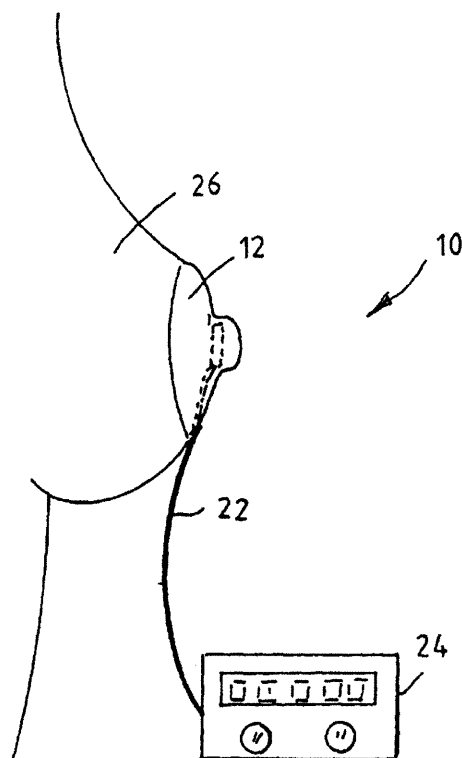
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(10) International Publication Number
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- (71) Applicant (*for all designated States except US*): VASLOV TRADERS (PROPRIETARY) LIMITED [ZA/ZA]; 356 Pretoria Avenue, Ferndale, 2194 Randburg (ZA).
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- Published:
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: APPARATUS FOR DETERMINING THE AMOUNT OF MILK BREAST-FED TO A BABY



(57) Abstract: An apparatus for determining the amount of human milk supplied to a feeding baby during a breast-feeding session is disclosed and claimed. The apparatus comprises a feeding cap (12) adapted to be mounted on the nipple region of a breast (26) of a mother. The cap (12) defines an outlet (20) through which milk passes to the feeding baby. A flowmeter (14) is provided to measure the amount of milk passing through the outlet (20).

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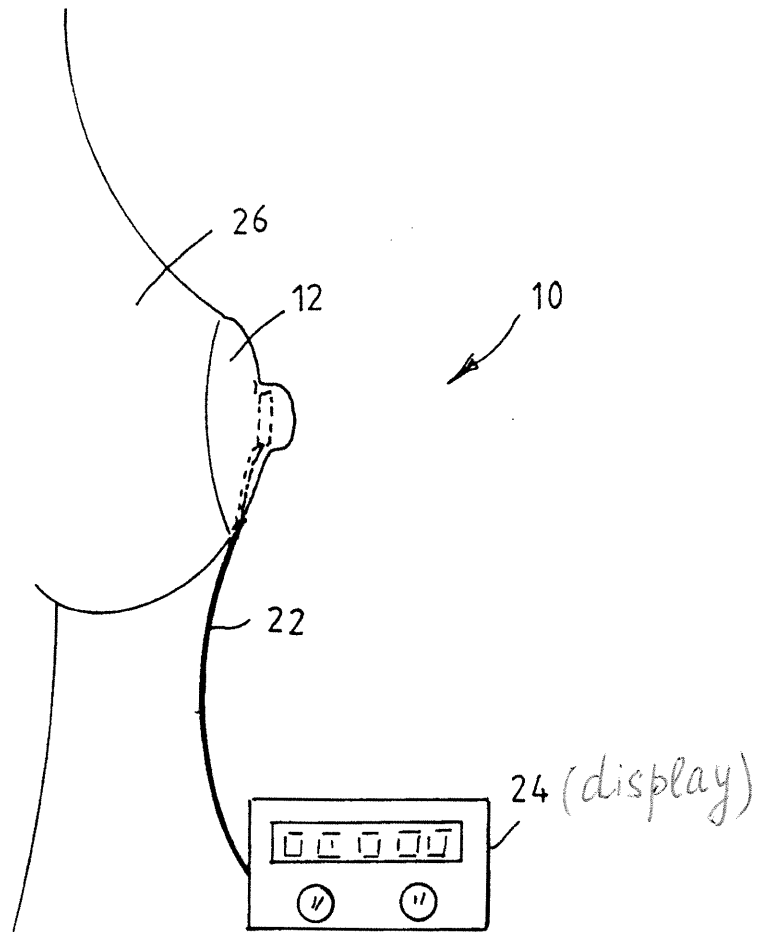


FIGURE 1

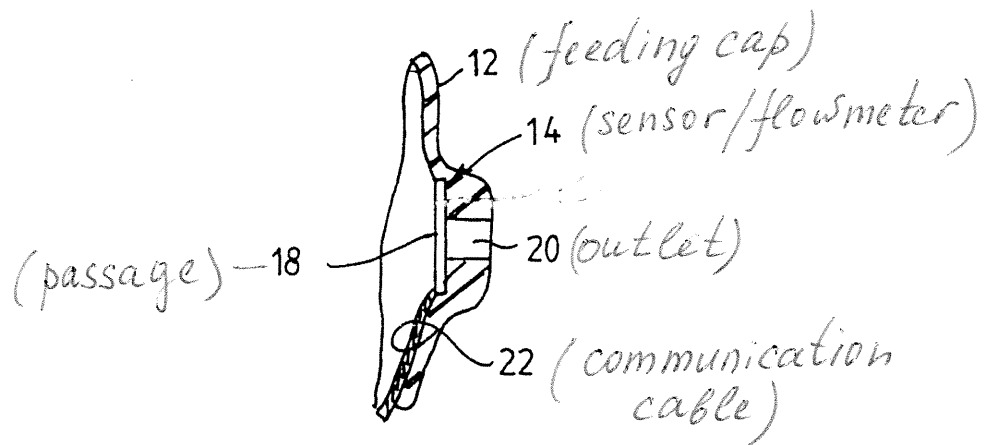


FIGURE 2

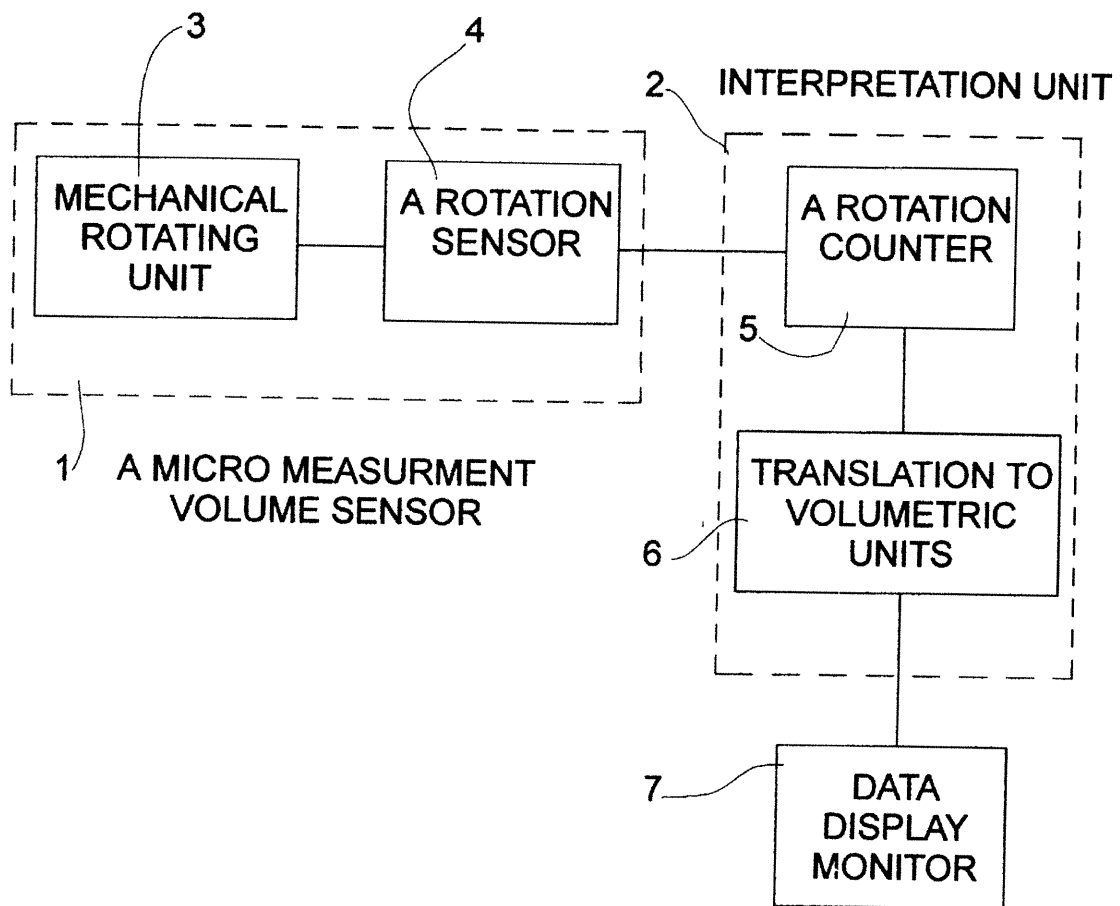


Fig. 1

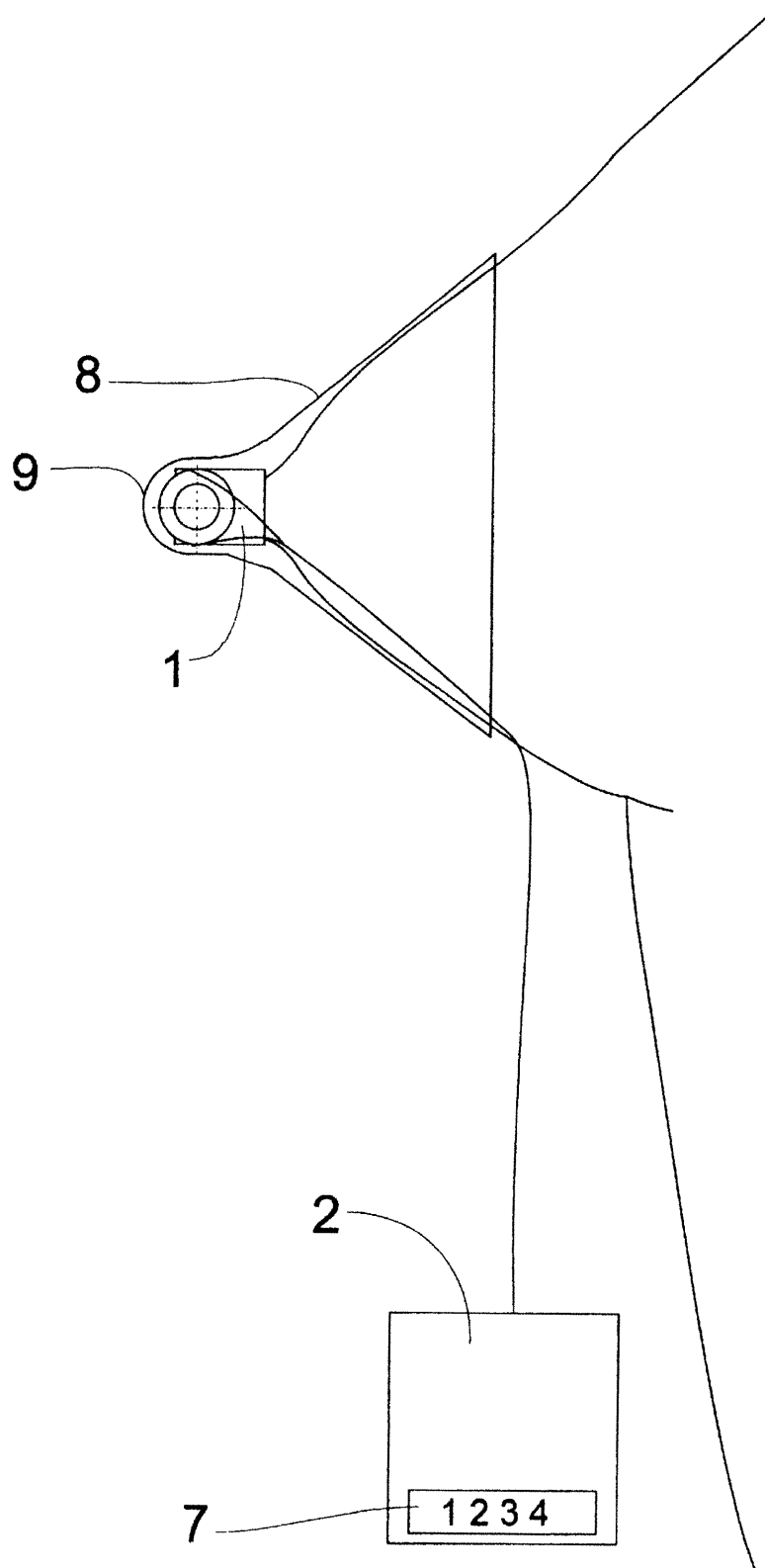


Fig. 2

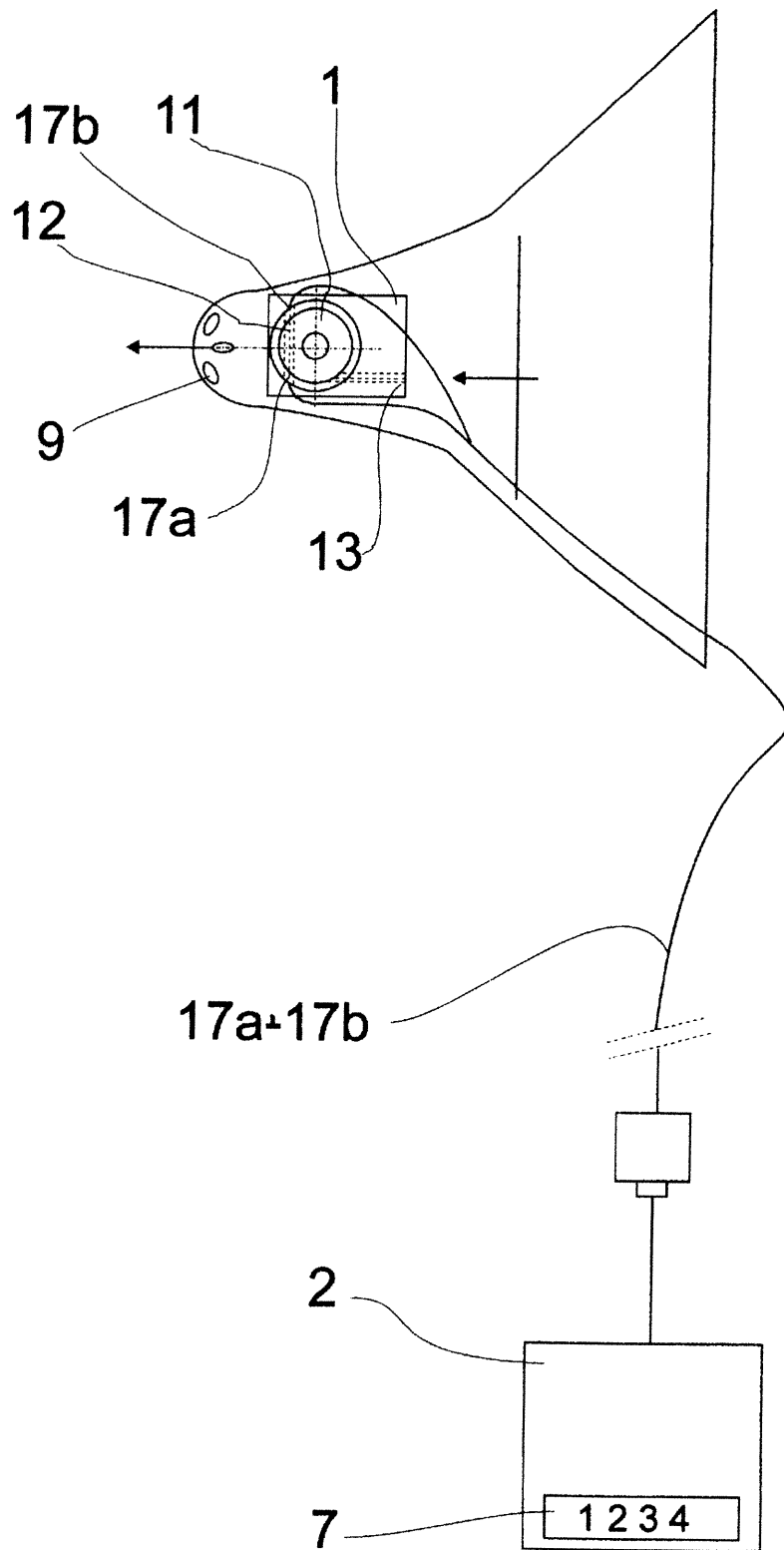


Fig. 3