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(54) **Shower head and insertable capsule or soluble tablet**

(57) The present invention relates to a shower head (1) with a chamber that is adapted to receive a capsule or a soluble tablet (24). According to the invention, the shower head (1) comprises at least two chambers (5a, 5b,5c,5d), each of the at least two chamber being adapted to receive a capsule or a soluble tablet (24), each chamber being arranged between the water connection (2) and the nozzle (3), and each chamber (5a,5b,5c,5d) being adapted to be selectively purged by clean water in order to dissolve a substance contained in the capsule or to dissolve the soluble tablet, and to mix the substance with clean water directed from the water connection through the chamber (5a,5b,5c,5d) to the nozzle (3).
According to the invention, at least one opening through which water coming from the water connection (2) may enter the chamber (5'), is alternatively adapted to selectively be aligned with one of at least two different segments (26a,26b,26c,26d) of the capsule or soluble tablet (24).
The invention also relates to a capsule or soluble tablet (24) for the use in a shower head (1), the capsule or soluble tablet (24) containing a soluble substance. According to the invention, the capsule or soluble tablet (24) comprises at least two different substances that are contained separately in the capsule or soluble tablet (24).

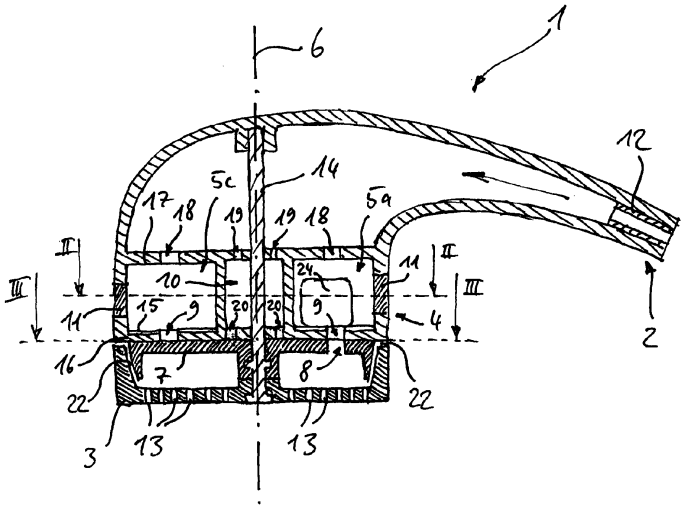

Fig 1

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Description

[0001] The invention relates to a shower head according to the preamble of independent claim 1 and the invention also relates to a capsule or soluble tablet for the use in a shower head according to the preamble of independent claim 13.

[0002] It is known from the state of the art that a shower head can be provided with a chamber into which a capsule or soluble tablet can be inserted. Such capsules or tablets contain a washing detergent such as, for example, shower gel. When a person is having a shower, clean and fresh water can be directed through the chamber to the nozzle of the shower head such that the washing detergent of the capsule or tablet is dissolved by the clean water stream through the chamber. Such shower heads known from the state of the art are practical because the user does not have to open and close, for example, a shower gel and then a shampoo bottle and no shelf or rack for various bottles is needed in the shower.

[0003] US 5 957 387 discloses a shower head with a cylindrical nozzle ring for a clean water supply and a cylindrical nozzle head being arranged inside of the cylindrical nozzle ring and being connected to the chamber into which a washing tablet can be inserted. The cylindrical nozzle head can be rotated by the user in order to choose whether the clean water coming from the water connection of the shower head is directed to the cylindrical nozzle ring or into the chamber for dissolving and mixing with the washing detergent of the inserted tablet. If the clean water coming from the water supply of the shower head is directed into the chamber for dissolving the tablet, the water-detergent-mixture leaves the shower head through holes in the cylindrical nozzle head. By the degree of rotation which the cylindrical nozzle head is rotated by the user, the user can control the amount of water which is directed through the cylindrical nozzle ring leaving the shower head as clean water and the amount of water which is directed through the chamber in order to dissolve the tablet which is inserted into the chamber of the nozzle head.

[0004] A similar shower head is disclosed in US 4 009 831. Water enters the shower head coming from a water connection and is lead to a nozzle where it leaves the shower head through small nozzle holes in the nozzle. The shower head also comprises a chamber into which a washing detergent can be filled. The shower head further comprises a rotating mechanism which serves to open or close small holes in the chamber leading to the nozzle area of the shower head. If the rotating mechanism is in an open position such that the small openings in the chamber are opened, clean water from the water connection can enter the chamber, mixes with the washing detergent and enters the nozzle area through the small openings. The clean water coming directly from the water connection and the water-detergent-mixture from the chamber leave the shower head through the same nozzle. Only fresh and clean water leaves the shower head if the rotation mechanism is in a closed position.

[0005] While the shower heads known from the state of the art provide a comfortable shower experience to the user, the user cannot choose from a variety of different washing detergents but has to decide which washing detergent is filled into the chamber of the shower head before having a shower. It is therefore also not possible for the user to selectively choose between, for example, a shower gel and a shampoo.

[0006] It is therefore an object of the present invention to provide a possibility to the user to choose between several different washing detergents or washing substances when using a shower head with a chamber into which a washing detergent can be inserted. It is also an object of the present invention to provide an enhanced shower head.

[0007] The object of the present invention is achieved by the features of independent claim 1 or independent claim 13.

[0008] According to the present invention, a shower head comprises at least two chambers, each of the at least two chamber being adapted to receive a capsule or a soluble tablet, each chamber being arranged along the water flow path between the water connection and the nozzle, and each chamber being adapted to be selectively purged by clean water in order to dissolve a substance contained in a capsule or to dissolve the soluble tablet and to mix the substance with clean water directed from the water connection through the chamber to the nozzle.

[0009] Such a shower head according to the invention can be filled, for example, with a shower gel capsule which is inserted into a first chamber, and a shampoo which is inserted into a second chamber. A person having a shower can therefore choose between shower gel and shampoo in a comfortable manner. The shower itself can be kept clean and no extra space for storing shower gel or shampoo bottles is needed.

[0010] Advantageous embodiments of a shower head according to the present invention are subject to dependent claims 2-12.

[0011] According to an embodiment of the present invention, the shower head comprises at least three chambers. Thus, at least three different substances in the form of a capsule or a soluble tablet can be inserted into the shower head such that the user can choose, for example, between a shower gel, a shampoo, or a conditioner.

[0012] According to a particularly preferred embodiment of the present invention, the shower head comprises four chambers. Thus, a person having a shower can choose between, for example a shower gel in a first washing step, a shampoo in a second washing step, a conditioner in a third washing step and a moisturizer in a fourth washing step. Instead of providing a moisturizer, it is also possible to provide a sanitizer for cleaning the shower and the shower head. It is also possible, for example, to provide two or more different shampoos or shower gels.

[0013] According to yet another embodiment of the

present invention, the shower head further comprises means to control the amount of water that is directed through each chamber. It is therefore possible for the user to choose the dilution of the washing detergent contained in the capsule or soluble tablet by setting the quantity of water in the mixing chamber.

[0014] In yet another preferred embodiment of the present invention, the shower head comprises a chamber portion with a substantially circular cross section, the chamber portion having an axis in direction of the water flow, and the chambers being arranged around the axis of the chamber portion. This arrangement offers the benefit that the water flow coming from the water connection of the shower head can selectively be provided to each of the chambers in an optimal way.

[0015] In another advantageous embodiment, the shower head comprises a mixture control member, the mixture control member being rotatable around the axis of the chamber portion and the mixture control member having at least one opening being alignable with an opening of at least one of the chambers, the overlap of the at least one opening in the mixture control member and the opening in the at least one chamber being adjustable through a rotation of the mixture control member. This offers a very inexpensive and easy possibility to choose the chamber through which water is to be directed.

[0016] It is of great advantage if the dimension of one or more of the at least one opening in the mixture control member and/or one or more of the openings in the at least one chamber, in a circumferential direction around the axis of the mixture control member, is bigger than the dimension in a radial direction. This offers a very easy, precise regulation of the amount of water which is directed into or respectively through one chamber.

[0017] If the mixture control member forms part of the nozzle, a very compact design of the shower head can be achieved.

[0018] In another advantageous embodiment of the present invention, the shower head further comprises a channel between the water connection and the nozzle, the channel being adapted to direct clean water from the water connection to the nozzle. Thus, clean and fresh water can be supplied by the shower head even if all chambers of the shower head are filled with soluble capsules or washing substances.

[0019] If the shower head comprises means to control the amount of water that is directed through the channel, the user can control the mixture ratio between fresh water and water which is directed through a chamber mixing with a washing detergent.

[0020] In yet another advantageous embodiment of the present invention, the shower head comprises a closeable opening through which a capsule or soluble table is insertable into each of the chambers. This can be achieved, for example, with an unscrewable portion of the shower head.

[0021] In yet another embodiment of the present invention, a chamber portion of the shower head comprises one closeable opening for each chamber, a capsule or soluble tablet being insertable into each chamber through the respective closeable opening of the chamber portion. According to that embodiment, the chambers of the shower head can be easily and individually refilled.

[0022] The object of the present invention is also achieved by the features of independent claim 13.

[0023] According to the present invention, the capsule or soluble tablet for the use in a shower head comprises at least two different substances that are contained separately in the capsule or in the soluble tablet. This offers the possibility of using existing shower heads known from the state of the art while offering to the user the benefit of providing for example a shower gel in a first washing step and a shampoo in a second washing step.

[0024] Advantageous embodiments of a capsule or soluble tablet according to the invention are subject to dependent claims 14-17.

[0025] According to an embodiment of the present invention, difference substances are contained in different layers of the capsule or soluble tablet. The outer or first layer of the capsule is dissolved by clean water in a first washing step. If the first layer is completely dissolved, the second or any following washing step automatically starts if the preceding layer is completely dissolved by clean water. This has the advantage that the user does not have to operate the shower head in order to switch to the next washing step which is especially advantageous for very short or disabled persons.

[0026] In yet another embodiment of the capsule or soluble tablet according to the invention, different substances are contained in different segments of the capsule or soluble tablet. This offers the possibility of rotating the capsule or soluble tablet using a respective shower head mechanism such that only the desired segment of the capsule or soluble tablet is exposed to the water flow such that only the substance in the chosen segment of the capsule is dissolved by clean water.

[0027] Preferably, the different substances of the capsule or soluble tablet are taken from a variety of shampoos, shower gels, conditioners, moisturizers, and/or sanitizers.

[0028] If the capsule or soluble tablet contains at least three different substances, the user can be successively provided, for example, with shower gel, shampoo and conditioner.

[0029] The object of the present invention is also achieved by the features of independent claim 18.

[0030] A shower head comprises a water connection, a nozzle, and a chamber, the chamber being adapted to receive a capsule or a soluble tablet, and the chamber being arranged along the water flow path between the water connection and the nozzle. According to the invention, at least one opening through which water coming from the water connection may enter the chamber, is adapted to selectively be aligned with one of at least two different segments of the capsule or soluble tablet. Thus, the water flow through the chamber can be directed onto

a segment of the capsule or soluble tablet, such that only the washing detergent of the respective segment is dissolved by and mixed with the water. The capsule or soluble tablet therefore comprises two or more different segments, each of the segments containing a different washing detergent, for example, shower gel or shampoo.

[0031] Preferred embodiments of the invention are hereinafter described in more detail by means of drawings. It is shown:

Figure 1 a cross section of a first embodiment of a shower head according to the invention,

Figure 2 a cross section of the shower head shown in Figure 1 along the intersecting line II-II,

Figure 3 a cross section of the shower head shown in Figure 1 along the intersecting line III-III,

Figure 4 an embodiment of a capsule or soluble tablet according to the invention

Figure 5 a second embodiment of a capsule or soluble tablet according to the invention,

Figure 6 another embodiment of a capsule or soluble tablet according to the invention,

Figure 7 a cross section of a second embodiment of a shower head according to the invention,

Figure 8 a cross section of the shower head shown in Figure 7 along the intersecting line VIII-VIII, and

Figure 9 a cross section of the shower head shown in Figure 7 along the intersecting line IX-IX.

[0032] Hereinafter same reference signs relate to same parts.

[0033] Figure 1 and the cross sections shown in Figures 2 and 3 show an embodiment of a shower head 1 according to the invention. The water connection 2 of the shower head 1 is connected to a water pipe or hose which is not shown. The water connection 2 of the shower head 1 comprises a reducing piece 12 to reduce the amount of water entering the shower head 1 in order to save water. The shower head 1 itself further comprises a chamber portion 4 and a nozzle 3. The nozzle 3 and a mixture control member 7 are connected to a shaft 14 which is pivotably supported in the shower head 1. Chamber portion 4, mixture control member 7 and nozzle 3 are substantially circular and have a mutual axis 6 which also builds the axis of shaft 14. The chamber portion 4 of the channel head 1 is defined in between an upper wall 17 and a lower or base wall 16. The chamber portion 4 comprises four chambers 5a, 5b, 5c and 5d which are circularly arranged around the axis 6. Each chamber 5a to 5d is adapted to receive a capsule or a soluble tablet 24 containing a washing detergent such as, for example, a shower gel, shampoo, conditioner, moisturizer or a sanitizer. Such a capsule or tablet may be inserted into each chamber through a respective closeable opening in the outer shell of the shower head 1. The closeable openings 11 can be, for example, flaps. Water coming from the water connection 2 may enter a chamber 5a to 5d of the chamber portion 4 through an opening 18 in the upper wall 17. The upper wall 17 therefore shows an opening 18 for each chamber 5a to 5d. Clean water which is directed into one of the chambers 5a to 5d may dissolve a washing detergent which is contained in an inserted capsule or soluble tablet and may then leave the respective chamber 5a to 5d through a respective opening 9 in the lower wall 16 of the chamber portion 4. Water and dissolved detergent then leave the shower head 1 through small nozzle holes 13 in the nozzle 3. Grooves 15 in the base wall 16 of the chamber portion 4 intersect with the openings 9 in the base wall 16 to assure that the openings 9 are not closed by a capsule 24 which is inserted into one of the chambers 5a to 5d. The mixture control member 7 is substantially disk-shaped and abuts the base wall 16 of the chamber portion 4 from underneath such that the openings 9 in the base wall 16 are closed by the mixture control member 7. However, an opening 8 in the mixture control member 7 can be aligned with one of the openings 9 through a rotation of the mixture control member 7 such that water can flow from the water connection through the respective chamber, in the shown case chamber 5a, to the nozzle 3 of the shower head 1. As shown in Figure 3, the opening 8 in the mixture control member 7 is a slot running in a circular direction around the axis 6 or the shaft 14, respectively. The dimension of the slot in a radial direction of the mixture control member 7 continuously decreases from a first big end of the slot to a second small end. The user can therefore completely open or completely close the opening 9 of one chamber 5a to 5d by rotating the mixture control member 7 together with the nozzle 3 around the axis 6 within an angle range of about 60°. The direction of rotation is indicated in Figure 3 with reference sign 23. As shown in Figure 1, the big end of opening 8 in the mixture control member 7 is aligned with the opening 9 of chamber 5a such that the opening 9 of chamber 5a is completely opened. Starting from the position of the mixture control member 7 as shown in Figures 1 and 3, the mixture control member 7 may be rotated by the user an angle of 90° in the clockwise direction in order to completely close the opening 9 in chamber 5a and at the same time to completely open the opening 9 of chamber 5d. The chamber portion 4 further comprises an inner channel 10 through which clean water may be directed from the water connection 2 directly to the nozzle 3. Water coming from the water connection 2 may enter the channel 10 through holes 19 in the upper wall 17 of the chamber portion 4 and leave the channel 10 through holes 20 in the base wall 16 of the chamber portion 4. The holes 20 may also

be opened or closed by aligning or not aligning channel openings 21 of the mixture control member 7. As shown in Figures 2 and 3, the holes 20 of the channel 10 are completely closed by the mixture control member 7 if, for example, the opening 9 of chamber 5a is completely opened. By rotating the mixture control member 7, an angle of approximately 60° in the clockwise direction, the opening 9 of chamber 5a is fully closed whereas at the same time the holes 20 of the channel 10 are fully opened such that only clean water coming from the water connection 2 is directed through the channel 10 to the nozzle 3. The user can therefore pre-select one of the chambers 5a to 5d by rotating the mixture control member 7 an angle of 90°, 180°, or 270°, respectively and then precisely regulate the mixture ratio between clean water which is directed through the channel 10 and the water which is directed through one of the chambers 5a to 5d in order to dissolve a washing detergent of one of the inserted capsules or tablets. The precise regulation is achieved by rotating the mixture control member 7 within an angle range of about 60°. The shower head may also comprise a second mixture control member to regulate the water flow through channel 10 independently from the regulation of the flow through one of the chambers 5a to 5d. The water or water-detergent mixture is further mixed with air led into the nozzle 3 via air mixing channel 22 such that a very soft water flow with a reduced water quantity per volume is achieved. This is a further means to reduce the required amount of water. Contrary to the shown shower head, the chambers 5a to 5d may be torque proof connected with the nozzle (3), such that the nozzle head (3) itself constitutes the mixing control member similar to the embodiment shown in figures 7 to 9.

[0034] Figure 4 shows an embodiment of a capsule or soluble tablet 24 according to the invention. The capsule or soluble tablet 24 has a soluble (tablet) or non-soluble (capsule) outer skin 27. The capsule or soluble tablet 24 comprises 4 disk-shaped different layers 25a to 25d, the different layers 25a to 25d lying upon another. For example, a first layer 25 may contain a shower gel, a second layer 25b may contain a shampoo, a third layer 25c may contain a conditioner, and a fourth layer 25d may contain a moisturizer. If the capsule or soluble tablet 24 is inserted into a shower head which is adapted to receive a capsule or soluble tablet, the water flow in the shower head may be directed onto the capsule or soluble tablet 24 such that the different layers 25a to 25d are dissolved by clean water one after another. Therefore, four different washing steps are provided to the user or a person having a shower.

[0035] The different layers 25a to 25c of the tablet 24 shown in Figure 5 are arranged like the layers of an onion such that the first layer 25a may be dissolved by clean water in a first washing step and then the inner layers 25b and 25c are dissolved by the clean water one after another.

[0036] The different substances like shower gel, shampoo, conditioner, moisturizer or sanitizer of the tablet 24 shown in Figure 6 are contained in different segments 26a to 26d of the tablet 24. The tablet 24 may be inserted into a shower head which is adapted to receive a soluble tablet such that the water flow 28 is directed onto only one segment 26a to 26d of the tablet 24 in order to dissolve the substance contained in the respective segment 26a to 26d. By rotating the tablet 24 in direction 29 by means of an adaption mechanism, a user may select one of the different segments 26a to 26d in order to let the clean water dissolve the substance contained in the respective segment 26a to 26d.

[0037] Figure 7 and the cross sections shown in Figures 8 and 9 show a second embodiment of a shower head 1 according to the invention. The water connection 2 of the shower head 1 is connected to a water pipe or hose which is not shown. The water connection 2 of the shower head 1 comprises a reducing piece 12 to reduce the amount of water entering the shower head 1. The shower head 1 itself further comprises a nozzle 3' and a chamber 5' which is torque proof connected to the nozzle 3'. The nozzle 3' is connected to a shaft 14 which is pivotably supported in the shower head 1. Nozzle 3' and chamber 5' are substantially circular and have an axis 6 which also builds the axis of shaft 14. The nozzle 3' and the outer wall 35 of the chamber 5' are made from one piece. A capsule or soluble tablet 24 can be inserted into the chamber 5' from below through an opening in the nozzle 3' that is closed with a cap (30). The capsule or soluble tablet 24 is held concentric to axis 6 by shaft 14 which extends from above into the center of the capsule 24. As shown in figure 9, the inserted capsule 24 comprises three sectors 26a, 26b and 26c, each of said sectors containing a different washing detergent, as for example, shower gel, shampoo and conditioner. The upper portion of chamber wall 35 comprises three openings 31. Each of the openings is arranged directly above one of the different segments 26a to 26c of the capsule 24. The upper portion of chamber wall 35 abuts a base wall 33 of the shower head body from below such that the openings 31 in the chamber wall 35 are closed by the base wall 33 of the shower head body. The base wall 33 however also comprises an opening 32 which can be aligned with one of the openings 31 of the chamber wall 35 by rotating chamber 5' together with nozzle 3'. The amount of water which is led through the chamber 5' is controlled by the overlap of openings 31 and 32. The water is directed through openings 31 and 32 onto one of the different segments 26a to 26c such that only the washing detergent contained in the respective segment is dissolved be the water stream. The water-detergent-mixture leaves the chamber 5' through a hole 34 in the lower portion of the chamber wall 35 and enters the nozzle chamber 36 from where it leaves the nozzle 3' through nozzle holes 13. Nozzle chamber 36 is a cylindrical ring around the chamber 5'. The shower head 1 may also comprise a separate clean water channel, air mixture means as well as further mixture control means as described for the shower head embodiment shown in fig-

ures 1 to 3. Basically all constructional details of the shower head according to figures 1 to 3 may also be adapted for the shower head embodiment of figures 7 to 9.

Claims

1. Shower head (1), with a water connection (2), a nozzle (3), and a chamber (5a, 5b, 5c, 5d), the chamber (5a, 5b, 5c, 5d) being adapted to receive a capsule or a soluble tablet (24), and the chamber (5a, 5b, 5c, 5d) being arranged along the water flow path between the water connection (2) and the nozzle (3), **characterized in that** the shower head (1) comprises at least two chambers (5a, 5b, 5c, 5d), each of the at least two chambers (5a, 5b, 5c, 5d) being adapted to receive a capsule or a soluble tablet (24), each chamber (5a, 5b, 5c, 5d) being arranged along the water flow path between the water connection (2) and the nozzle (3), and each chamber (5a, 5b, 5c, 5d) being adapted to be selectively purged by clean water in order to dissolve a substance contained in the capsule or to dissolve the soluble tablet, and to mix the substance with clean water directed from the water connection (2) through the chamber (5a, 5b, 5c, 5d) to the nozzle (3).

2. Shower head (1) according to claim 1, comprising at least three chambers (5a, 5b, 5c, 5d).

3. Shower head (1) according to claim 2, comprising four chambers (5a, 5b, 5c, 5d).

4. Shower head (1) according to any one of claims 1 to 3, further comprising means to control the amount of water that is directed through each chamber (5a, 5b, 5c, 5d).

5. Shower head (1) according to any one of claims 1 to 4, comprising a chamber portion (4) with a substantially circular cross section, the chamber portion (4) having an axis (6) in direction of the water flow, and the chambers (5a, 5b, 5c, 5d) being arranged around the axis (6) of the chamber portion (4).

6. Shower head (1) according to claim 5, comprising a mixture control member (7), the mixture control member (7) being rotatable around the axis (6) of the chamber portion (4), and the mixture control member (7) having at least one opening (8) being alignable with an opening (9) of at least one of the chambers (5a, 5b, 5c, 5d), the overlap of the at least one opening (8) in the mixture control member (7) and the opening (9) in the at least one chamber (5a, 5b, 5c, 5d) being adjustable through a rotation of the mixture control member (7).

7. Shower head (1) according to claim 6, **characterized in that** the dimension of one or more of the at least one openings (8) in the mixture control member (7) and/or one or more of the openings (9) in the at least one chamber (5a, 5b, 5c, 5d), in a circumferential direction around the axis (6) of the mixture control member (7), is bigger than the dimension in a radial direction.

8. Shower head (1) according to any one of claims 6 or 7, **characterized in that** the mixture control member (7) forms part of the nozzle (3).

9. Shower head (1) according to any one of claims 1 to 8, further comprising a channel (10) between the water connection (2) and the nozzle (3), the channel (10) being adapted to direct clean water from the water connection (2) to the nozzle (3).

10. Shower head (1) according to claim 9, further comprising means to control the amount of water that is directed through the channel (10).

11. Shower head (1) according to any one of claims 1 to 10, comprising a closable opening (11) through which a capsule or a soluble tablet (24) is insertable into each of the chambers (5a, 5b, 5c, 5d).

12. Shower head (1) according to any one of claims 5 to 10, **characterized in that** the chamber portion (4) comprises one closable opening (11) for each chamber (5a, 5b, 5c, 5d), a capsule or a soluble tablet (24) being insertable into each chamber (5a, 5b, 5c, 5d) through the respective closable opening (11) of the chamber portion (4).

13. Capsule or soluble tablet (24) for the use in a shower head (1), the capsule or soluble tablet (24) containing a soluble substance, **characterized in that** the capsule or soluble tablet (24) comprises at least two different substances that are contained separately in the capsule or soluble tablet (24).

14. Capsule or soluble tablet (24) according to claim 13, **characterized in that** the different substances are contained in different layers (25a, 25b, 25c, 25d) of the capsule or soluble tablet (24).

15. Capsule or soluble tablet (24) according to claim 13, **characterized in that** the different substances are contained in different segments (26a, 26b, 26c, 26d) of the capsule or soluble tablet (24).

16. Capsule or soluble tablet (24) according to any one of claims 13 to 15, **characterized in that** the different substances are taken from a variety of shampoos, shower gels, conditioners, moisturizers and/or sanitizers.

17. Capsule or soluble tablet (24) according to any one of claims 13 to 16, containing at least three different substances.

18. Shower head (1), with a water connection (2), a nozzle (3'), and a chamber (5'), the chamber (5') being adapted to receive a capsule or a soluble tablet (24), and the chamber (5') being arranged along the water flow path between the water connection (2) and the nozzle (3'), **characterized in that** at least one opening (31, 32), through which water coming from the water connection (2) may enter the chamber (5'), is adapted to selectively be aligned with one of at least two different segments (26a, 26b, 26c, 26d) of the capsule or soluble tablet (24).

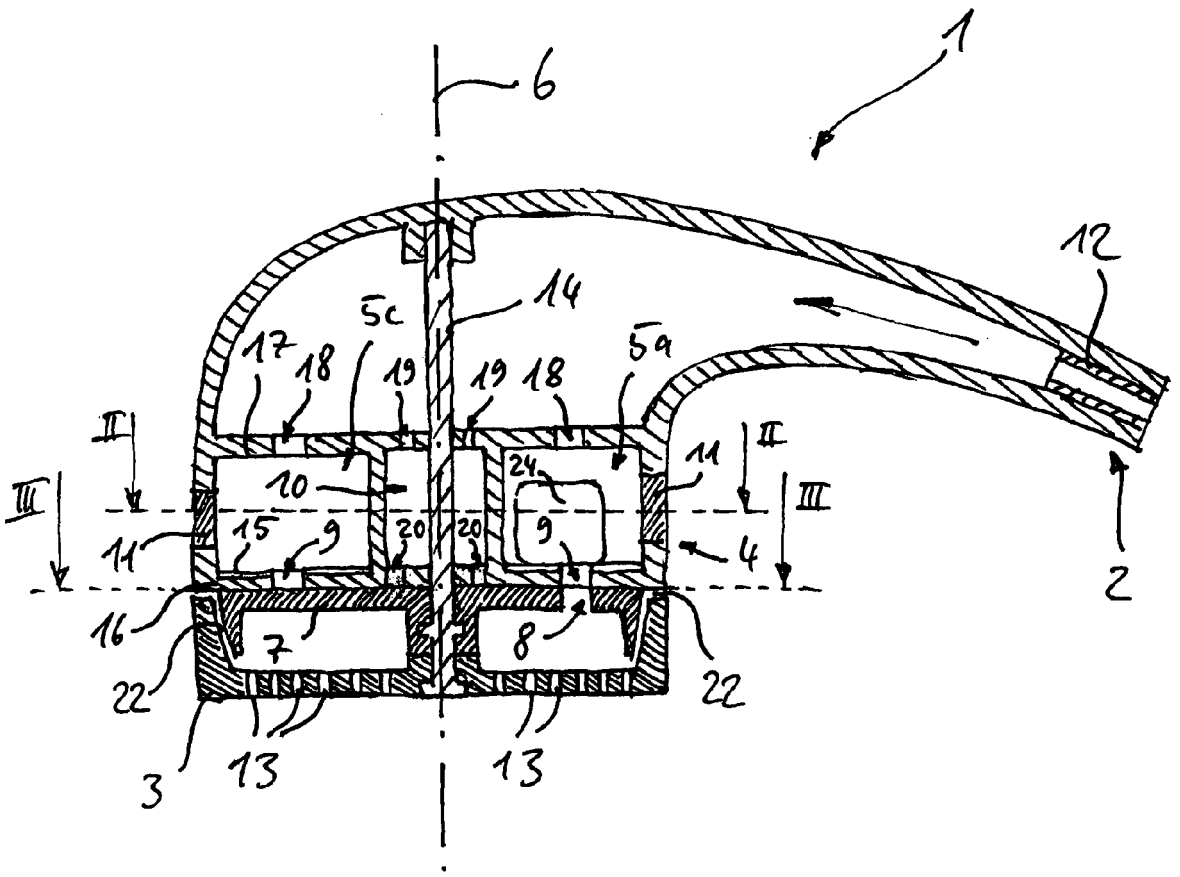
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Fig 1

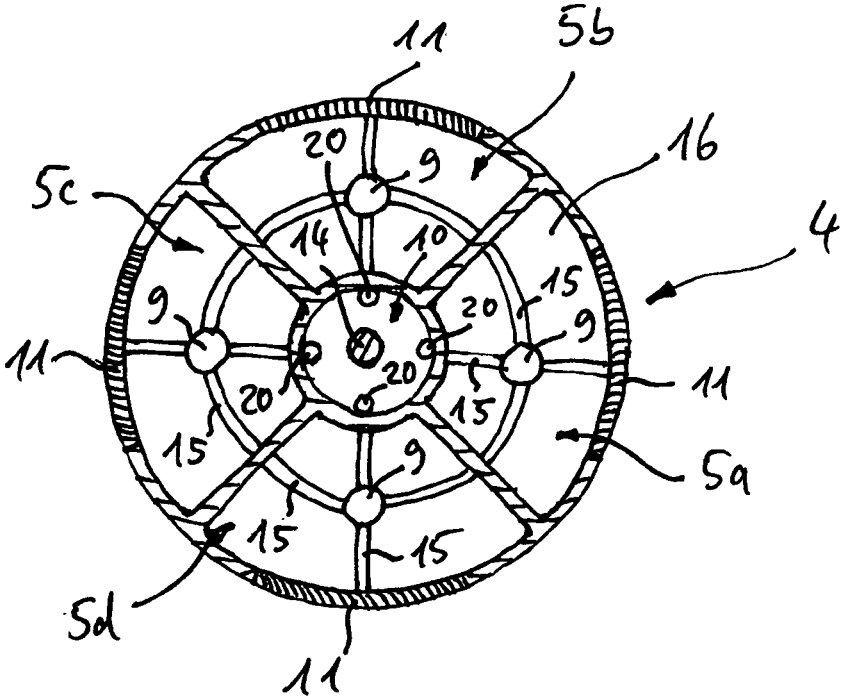
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Fig 2

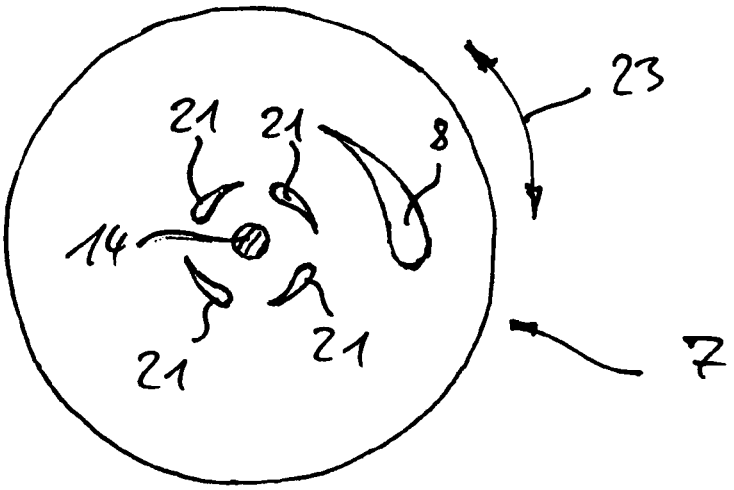
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Fig 3

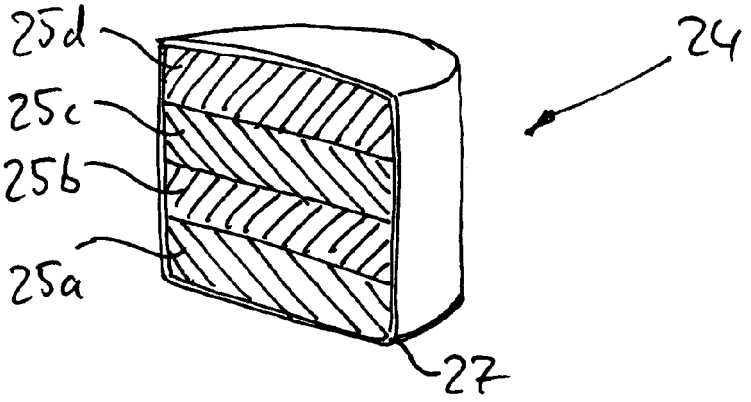

Fig 4

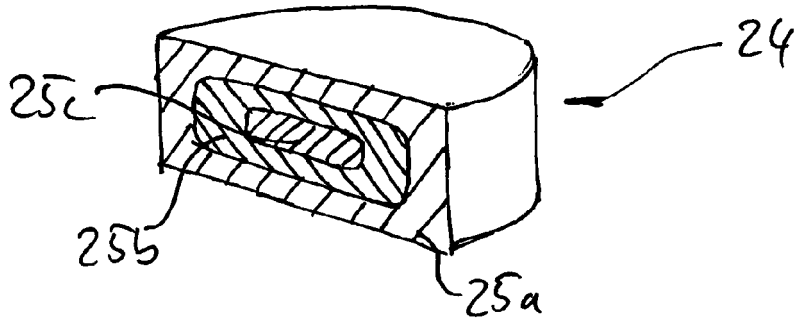

Fig 5

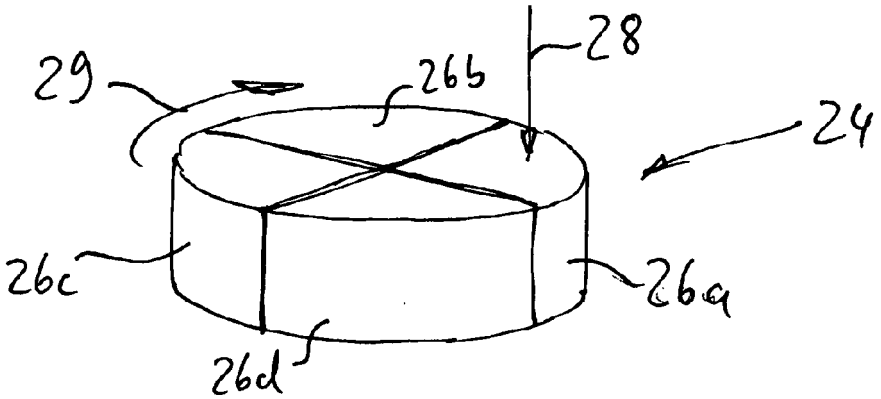

Fig 6

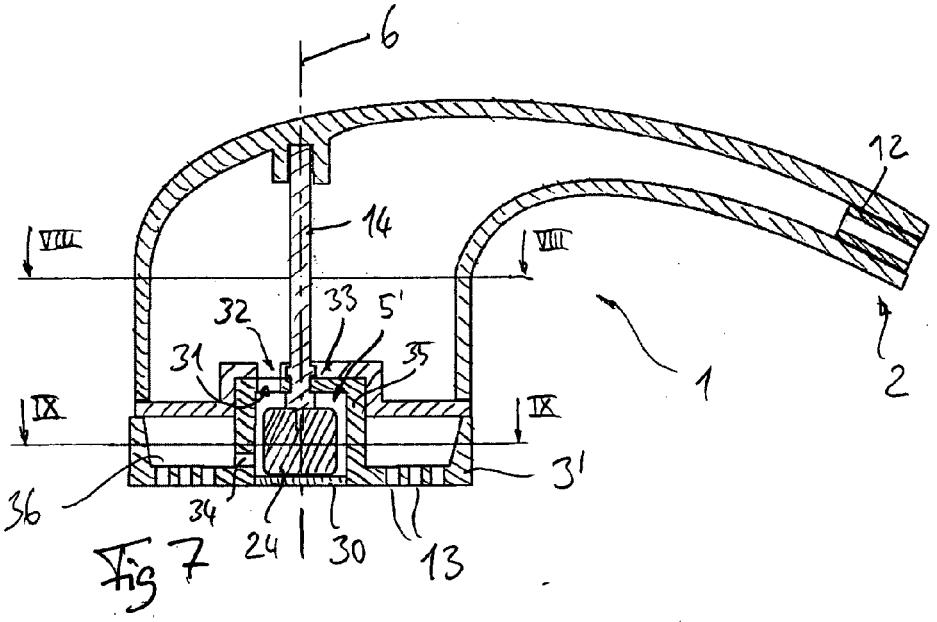

Fig 7

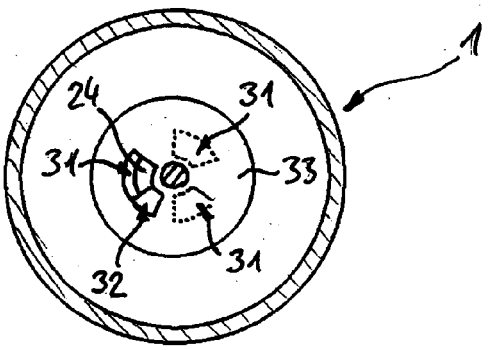

Fig 8

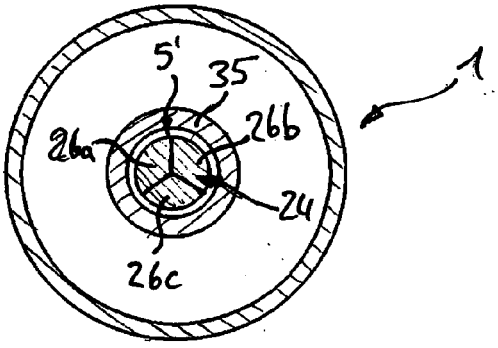

Fig 9

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EUROPEAN SEARCH REPORT

Application Number
EP 10 00 0176

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DE 10 2007 014041 A1 (PACKCT S R L [IT]) 27 September 2007 (2007-09-27) * paragraph [0038] - paragraph [0049]; claims 1,12-18 *	1-12,18	INV. E03C1/046 B05B1/16
X	JP 2000 079357 A (MYM CORP) 21 March 2000 (2000-03-21)	1,4,9-12	
A	* abstract; figures *	5,6,18	
A	WO 2008/037869 A1 (GUEMRIRENE FARIDA [FR]; RICCI GERARD [FR]) 3 April 2008 (2008-04-03) * abstract; claims; figure 1 *	1	

TECHNICAL FIELDS SEARCHED (IPC)

E03C
A47K
B05B
B01F
A61K

~~The present search report has been drawn up for all claims~~

Place of search	Date of completion of the search	Examiner
Munich	24 June 2010	Isailovski, Marko

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

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Application Number
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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

"see additional sheet(s)"

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

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LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 10 00 0176

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-12, 18

A shower head comprising at least two chambers for receiving a capsule or a soluble tablet.

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2. claims: 13-17

Capsule or soluble tablet for use in a shower head, the capsule or soluble tablet comprises at least two different substances contained separately in the capsule or soluble tablet.

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 10 00 0176

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

24-06-2010

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 5957387 A **[0003]**
- US 4009831 A **[0004]**