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(54) Toilet brush

(57) A toilet brush incorporates a toilet block. The toilet brush may comprise a brush proper provided with bristles and with a handle integral with or coupled to the brush proper so that a user may hold the handle to use the brush to clean the interior of a lavatory bowl without getting their hand wet. The brush proper may have a cage adapted to serve as a container for a toilet block.

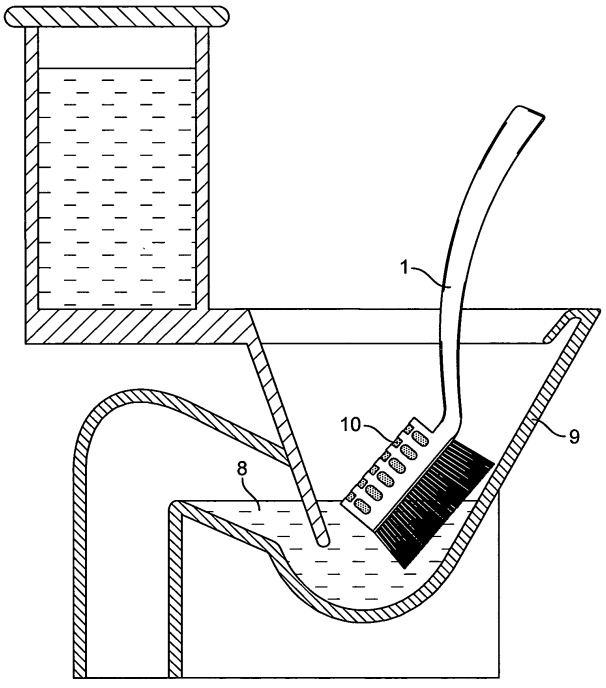

FIG. 2

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Description

[0001] This disclosure relates to toilet brushes, that is: brushes intended for cleaning the inside of a lavatory or water-cistern bowl.

[0002] Such brushes are to be found in virtually every household, usually mounted on a stand or in a container, alongside the lavatory bowl.

[0003] Whether the lavatory operates on a flush-down, siphon or other basis, water supplied to the bowl after use of the lavatory by the operating mechanism, for example by pulling a chain, pressing a button or rotating a lever, may alone not remove all visible traces of a motion passed by a user. Use of the toilet brush leaves the bowl looking clean for another user.

[0004] However, in the interests of hygiene, to avoid the spread of disease and to prevent limescale from building up within the bowl in hard water areas, lavatory bowls should be cleaned more frequently or more thoroughly than just by brushing away any visible deposit. As an aid for this purpose, and to provide a perfumed atmosphere, a number of toilet blocks have been developed that are intended to be suspended within the lavatory bowl, where water supplied by a flushing mechanism will pass over and around the block to dissolve it bit by bit. For a similar purpose, other toilet blocks have been developed that are intended to be permanently suspended in water in the water cistern tank, emptied and refilled on each flush. Such blocks typically colour the water, so that a user can tell by the fading colour when a new block is required. These two types of block work by steady dissolution into water when exposed to water, on each flush in the case of the first type of block, and constantly in the case of the second type of block. As a result, both types of block tend to have relatively short lives. The in-cistern blocks of the second type suffer from the further fault that when the lavatory is in frequent use, and so is likely to need a more thorough cleaning, the concentration of cleaner provided by the block in each flush will be small, while, conversely, when the lavatory is used infrequently, and so needs little cleaning, the concentration in each flush may be very high, and may even result in creation of excess foam coming over the side of the lavatory bowl.

[0005] As will become clear from the description that follows, the present disclosure adopts a quite different approach.

[0006] In accordance with one aspect of the present disclosure, there is provided: a toilet brush comprising a brush proper provided with bristles; a handle integral with or coupled to the brush proper so that a user may hold the handle to use the brush to clean the interior of a lavatory bowl without getting their hand wet; the brush proper further comprising a cage adapted to serve as a container for a toilet block.

[0007] In a second and alternative aspect of this disclosure, there is provided a toilet brush incorporating a toilet block.

[0008] In preferred embodiments according to this second aspect, the toilet block is preferably mounted within a cage integrally formed with the brush.

[0009] The toilet block may comprise a proprietary toilet block sold for in-bowl or in-cistern use as described above, and the cage may be shaped and sized to receive such proprietary block. In an alternative arrangement, the brush may be disposable, a block being sealed within the brush, but exposed to water through a cage-like wall of the brush. The brush is used in the normal way until the block is completely used up, and then discarded.

[0010] However, in the presently preferred arrangement, the container defined by the cage is generally cylindrical, and replacement cylindrical blocks are adapted to be loaded into the cage from one axial end thereof with the help of a loading device, avoiding the need for manual handling of the blocks. The said one axial end of the cage is preferably provided with an opening at least partially closed by a plurality of flexible fingers past which the block may be pushed on loading, but which serve to resist removal of the loaded block.

[0011] In all of the above arrangements, the block is only exposed to water, and so only dissolves when actually being used to clean the interior of a lavatory bowl. A cleaning agent in the block and fragrance in the block are applied when and where required rather than being wasted by being dissolved either on each flush or continuously. The length of time the brush is in use on each occasion will generally correspond to extent of cleaning required, so that the concentration of dissolved block in water within the toilet bowl will roughly correspond to the thoroughness of cleaning required on each use.

[0012] A number of embodiments are described in more detail hereinbelow with reference to the accompanying drawings, in which:

Fig. 1 is a side elevational view of a first embodiment of toilet brush;
Fig. 2 shows the brush of Fig. 1, loaded with a toilet block, in use cleaning a lavatory bowl;
Fig. 3 schematically indicates the result;
Fig. 4 shows a later stage in use of the brush;
Fig. 5 is a side elevational view of an alternative embodiment of toilet brush;
Fig. 6 is an end view of the brush of Fig. 5 as seen in the direction of the arrow "A" in Fig. 5; and
Fig. 7 is a schematic view, partly in section, illustrating how the brush of Figs. 5 and 6 may be loaded with a suitable toilet block.

[0013] Referring first to Figs. 1 to 4, a toilet brush 1 comprises a handle 2 extending from a brush 3 proper. Brush 3 proper is formed in two portions that clip together, namely a bristle portion 4 and a back portion 5. As can be seen from Fig. 1, back portion 5, with which handle 2 is suitably integrally moulded from plastics material such as polypropylene or nylon, is of cage-like form with a plurality of through openings 6. Thus, the interior of back portion 5 defines together with bristle portion 4 a contain-

er 7, which is shaped and sized to receive a proprietary toilet block. The two portions 4 and 5 of the brush proper are simply separated, a block inserted into the container and the two portions clipped back together. Immersion of the brush in water 8 in a lavatory bowl 9, as shown in Fig. 2, will then cause a loaded block 10 to begin dissolving. Using a conventional proprietary coloured and fragranced block, and giving the brush a good swirl results in release of dye 11 into the water, fragrance into the air and the creation of a top layer of rich thick foam 12 at the water line, as indicated in Fig. 3. If the brush is then brushed around the upper part 13 of the lavatory bowl 9 above the water line, as shown in Fig. 4, this will leave a thin film 14 (Fig. 3) of cleaning agent from the block. Flushing the bowl will clear all this away. If desired, the brush may be re-immersed in the fresh water in the bowl to add a degree of colour and to leave a lingering fragrance.

[0014] In practice, a proprietary toilet block used in this way will last considerably longer than if mounted in bowl or in cistern in conventional fashion. The lavatory bowl is thus kept clean with less environmental impact on the sewage system.

[0015] In an alternative embodiment, a disposable brush has a toilet block 9 sealed into it during manufacture. The toilet block slowly dissolves when exposed to water through openings similar to openings 6 of the first embodiment, and is used in exactly the same way as the brush of the first embodiment until the internal sealed block is exhausted, whereupon the brush is discarded.

[0016] Turning now to Figs. 5 to 7, in this third embodiment of toilet brush, brush 3 proper is formed as a single piece. Access to cage-like container 7, which is here of generally cylindrical form, as best shown in Fig. 6, is provided at one axial end 15 of the container. Axial end 15 is here shown partially closed by a plurality of fingers 16 integrally moulded with container 7. Although the fingers 16 are here shown only partially closing end 15, it will be understood that more extensive fingers could substantially completely close end 15. The fingers are preferably angled in a direction axially inwardly of container 7 so that their tips 17 are axially inward of their roots 18. The fingers have a degree of flexibility. It will be readily understood that, with this arrangement, the fingers 16 readily flex to allow insertion of a cylindrical toilet block into the container, but resist retraction of the block in the reverse direction. Thus, once a cylindrical toilet block has been loaded into the brush, it will tend to remain in place until it has dissolved sufficiently to readily pass the fingers 16.

[0017] Fig. 7 shows how a replacement cylindrical toilet block 10 may be inserted into container 7 without manually touching the block. This is generally to be preferred since proprietary blocks often contain chemicals harmful to the skin unless washed off. In this Figure, the toilet block 10 and mechanism for loading it into the brush are shown in longitudinal section to best illustrate the structure. An outer tube 19 contains the block 10, leaving a section 20 of the tube at one end empty. A plunger 21 inserted into section 20 is used to push the block into container 7 past fingers 16. Plunger 21 may be formed, as shown, from a tube 22 with its ends 23 crimped inwardly. In a preferred arrangement, either the inside of outer tube 19 or the outer surface of plunger 21, or both, is (are) given a friction-reducing coating, for example of Teflon® PTFE. Sliding nylon parts tend to be self lubricating, so that if both tube 19 and plunger 21 are formed of nylon, no friction-reducing coating may be required. In a specific arrangement, replacement cylindrical toilet blocks 10 may be supplied in disposable cylindrical packaging serving as the outer tube 19.

[0018] A preferred cylindrical toilet block with a weight of 20 g may be made from the following ingredients:

15 g "Harpic® super-active" block
2.5 g "Sainsbury's® Blue In-cistern" block
2.5 g "Sainsbury's® Green In-cistern" block

The respective weights of the three blocks are grated and mixed together. The mixture may readily be moulded into a coherent mass under light pressure and rolled to produce a cylindrical block. The resultant cylindrical block, when used in the manner described in a toilet brush as shown in Figs. 5 and 6, produces an attractive aquamarine colour in the toilet bowl as well as cleaning it.

Claims

1. A toilet brush comprising a brush proper (3) provided with bristles (4) and a handle (2) integral with or coupled to the brush proper so that a user may hold the handle to use the brush to clean the interior of a lavatory bowl without getting their hand wet, the toilet brush being **characterised in that** the brush proper (3) further comprises a cage (5) adapted to serve as a container (7) for a toilet block (10).

2. A toilet brush according to Claim 1, further **characterised in that** the cage (5) is integrally formed with the brush.

3. A toilet brush according to Claim 1 or Claim 2, further **characterised in that** the toilet block (10) comprises a proprietary toilet block sold for in-bowl or in-cistern use, and the cage (5) is shaped and sized to receive such proprietary block.

4. A toilet brush (1) incorporating a toilet block (10).

5. A toilet brush according to Claim 4, further **characterised in that** the toilet block (10) is mounted within a cage (5) integrally formed with the brush.

6. A toilet brush according to Claim 4, further **characterised in that** the brush is disposable, a toilet block

(10) being sealed within the brush, but exposed to water through a cage-like wall (5) of the brush, the brush being discarded when the toilet block is exhausted.

7. A toilet brush according to any of Claims 2, 4 or 5, further **characterised in that** the cage (5) defines a container (7) of generally cylindrical form for said toilet block (10), and wherein replacement cylindrical blocks are adapted to be loaded into the cage from one axial end (15) thereof.

8. A toilet brush according to Claim 7, further **characterised in that** the said one axial end (15) of the cage (5) is provided with an opening at least partially closed by a plurality of flexible fingers (16) past which the block may be pushed on loading, but which serve to resist removal of the loaded block.

9. The combination of a toilet brush according to Claim 2 and a replacement toilet block (10) of generally cylindrical form mounted in a loading device (19, 20, 21), the cage (5) defining a container (7) of generally cylindrical form for said toilet block, the cylindrical toilet block being adapted to be loaded into the cage from one axial end (15) thereof with the help of the loading device, avoiding the need for manual handling of the block.

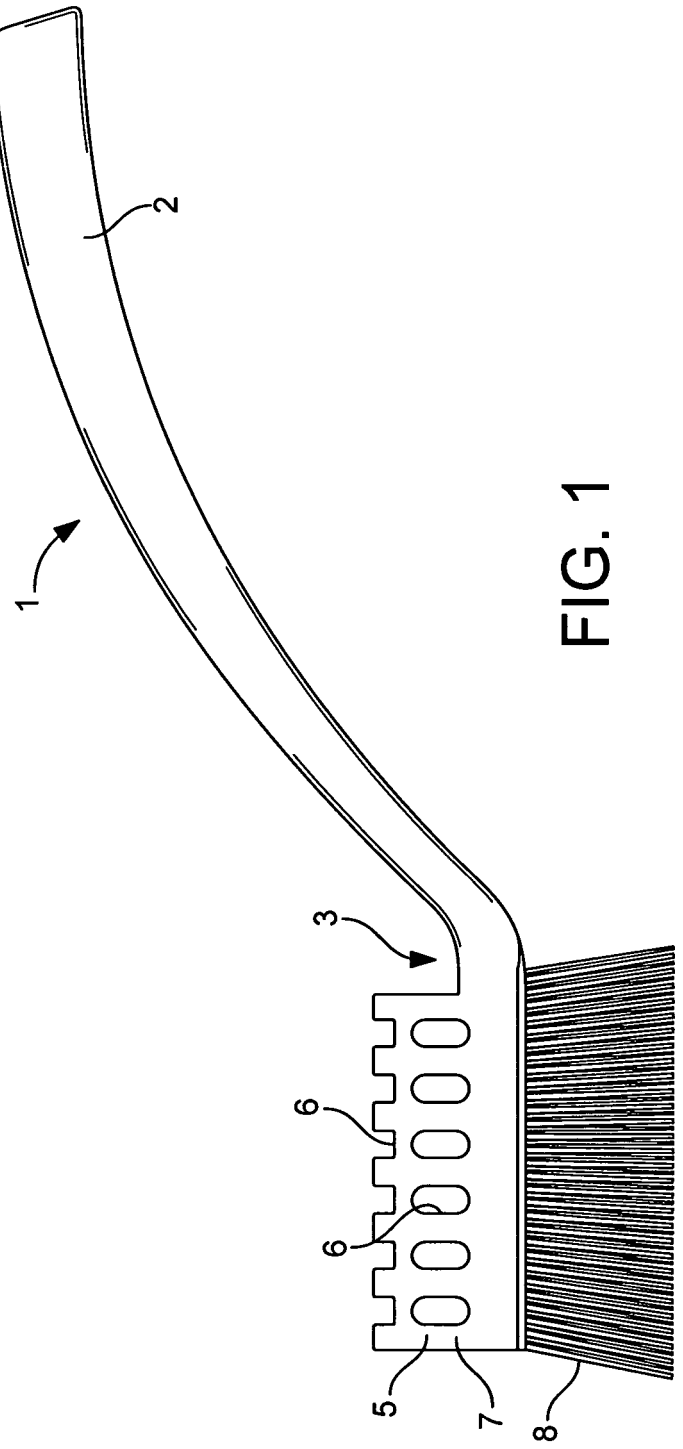

FIG. 1

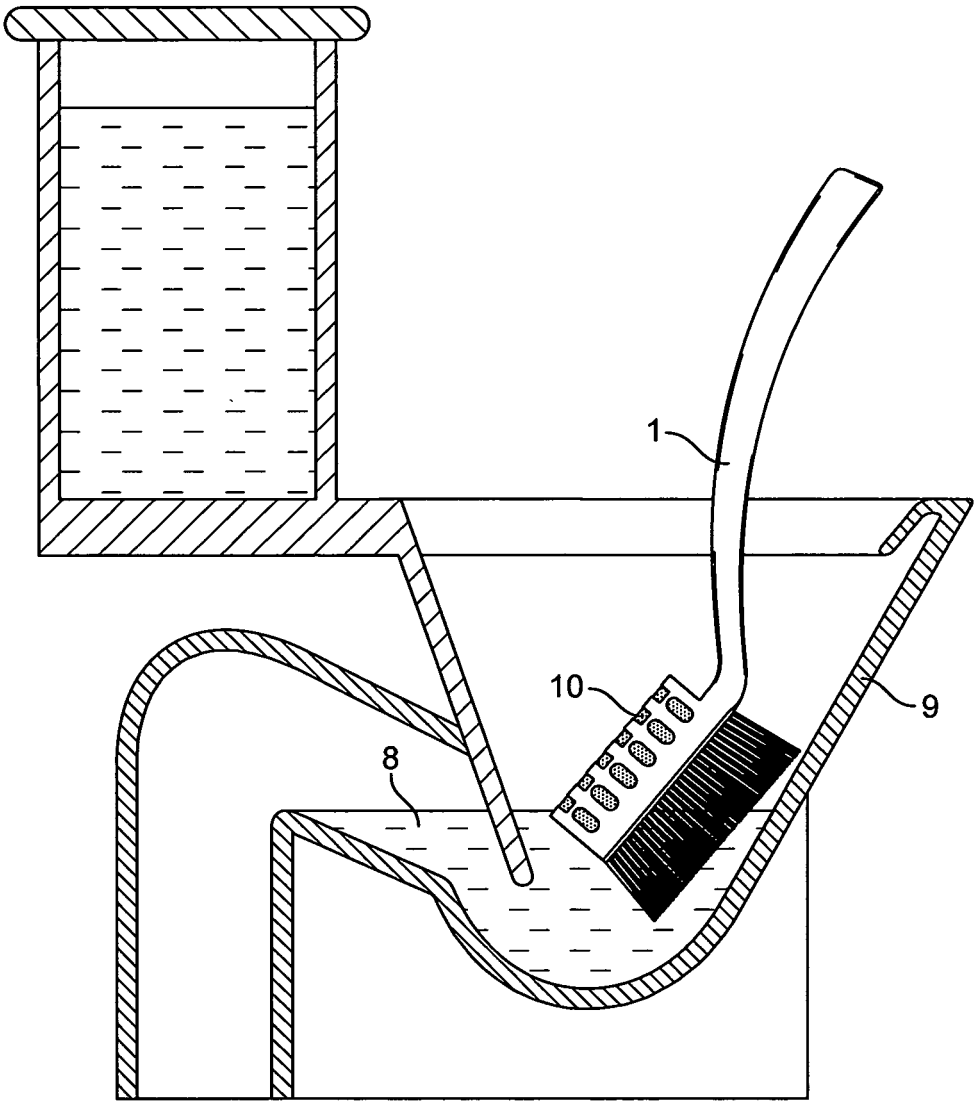

FIG. 2

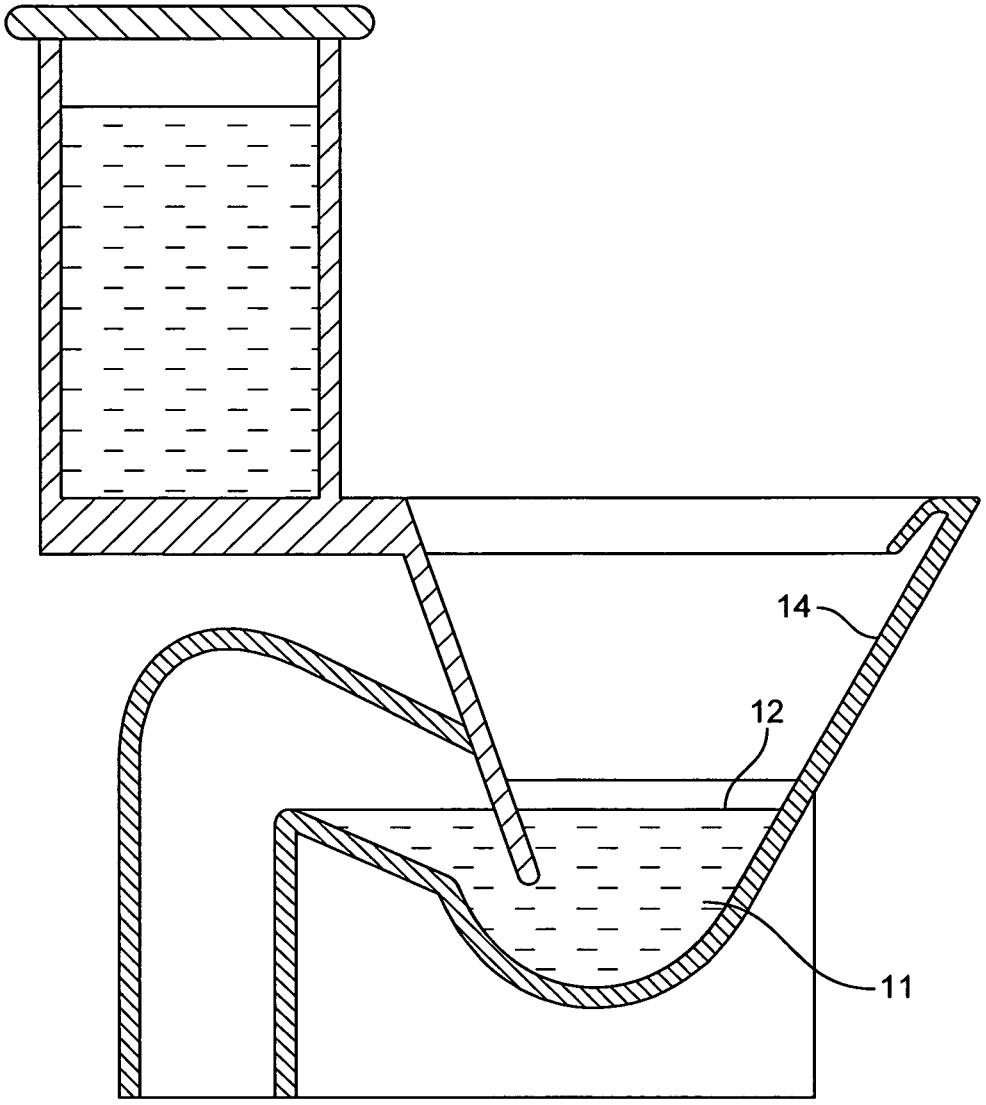

FIG. 3

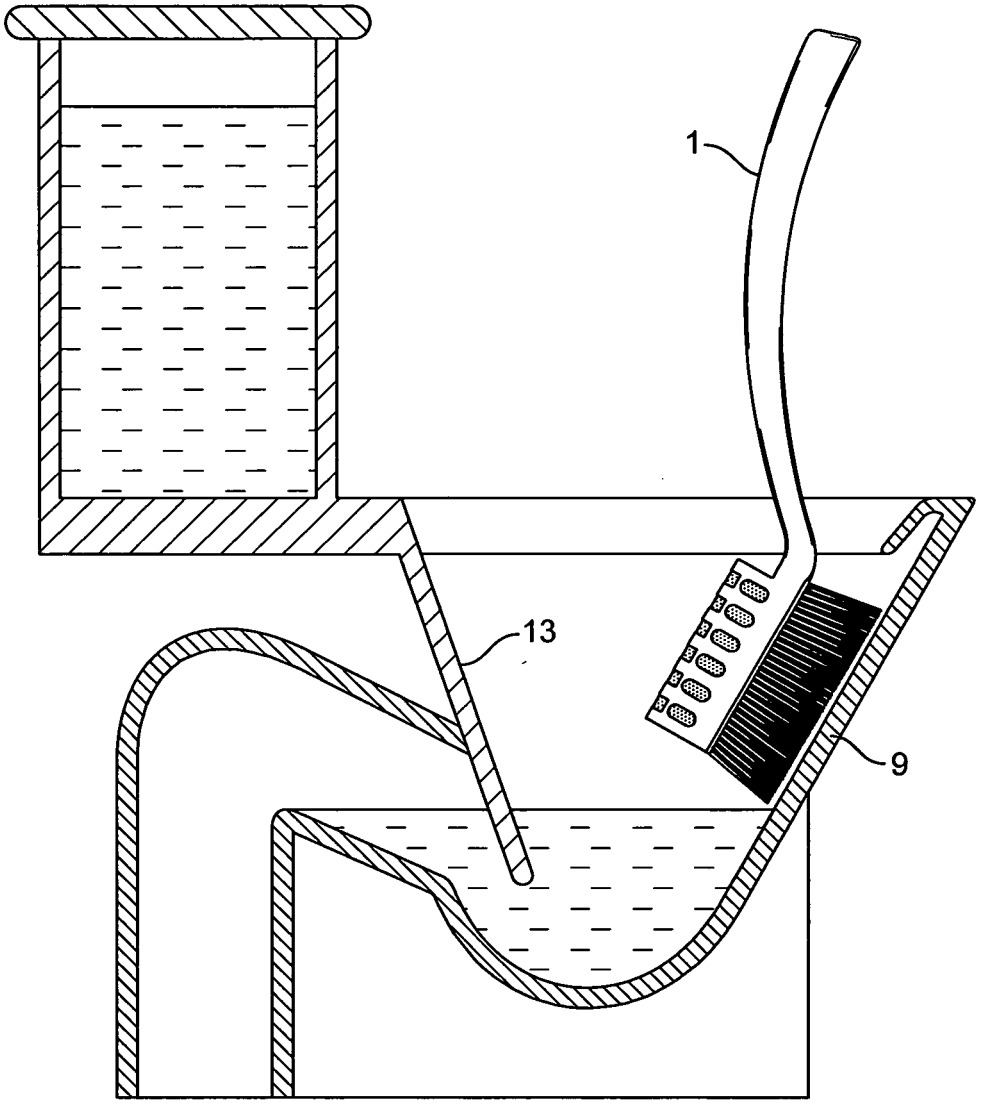

FIG. 4

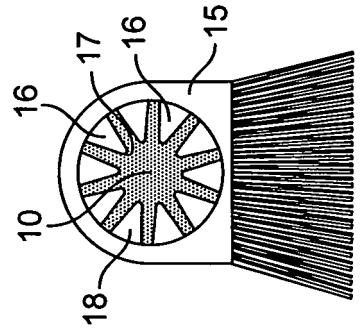

FIG. 6

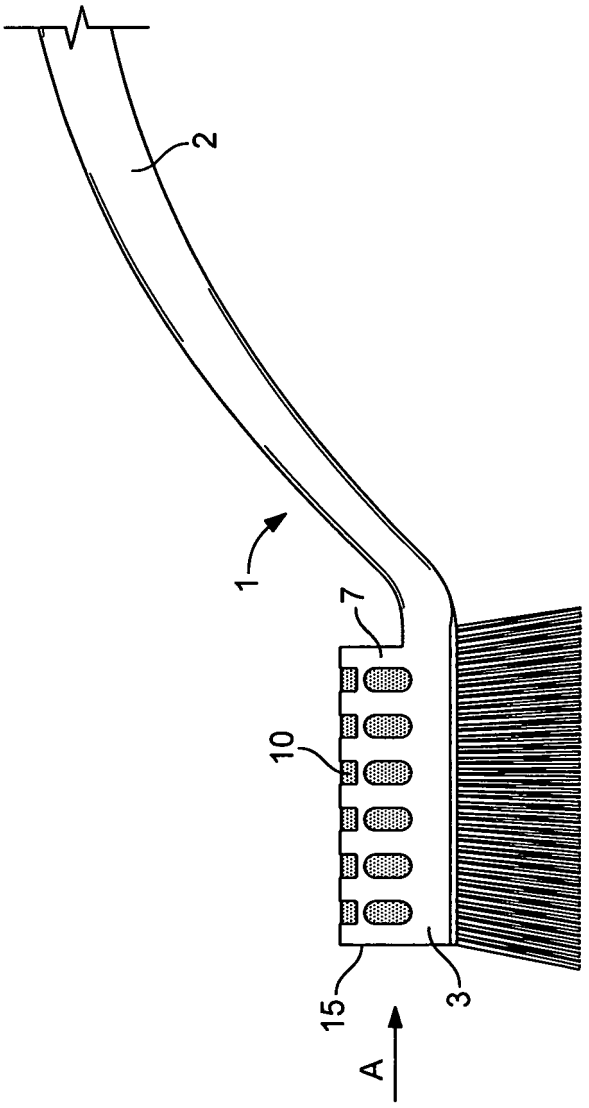

FIG. 5

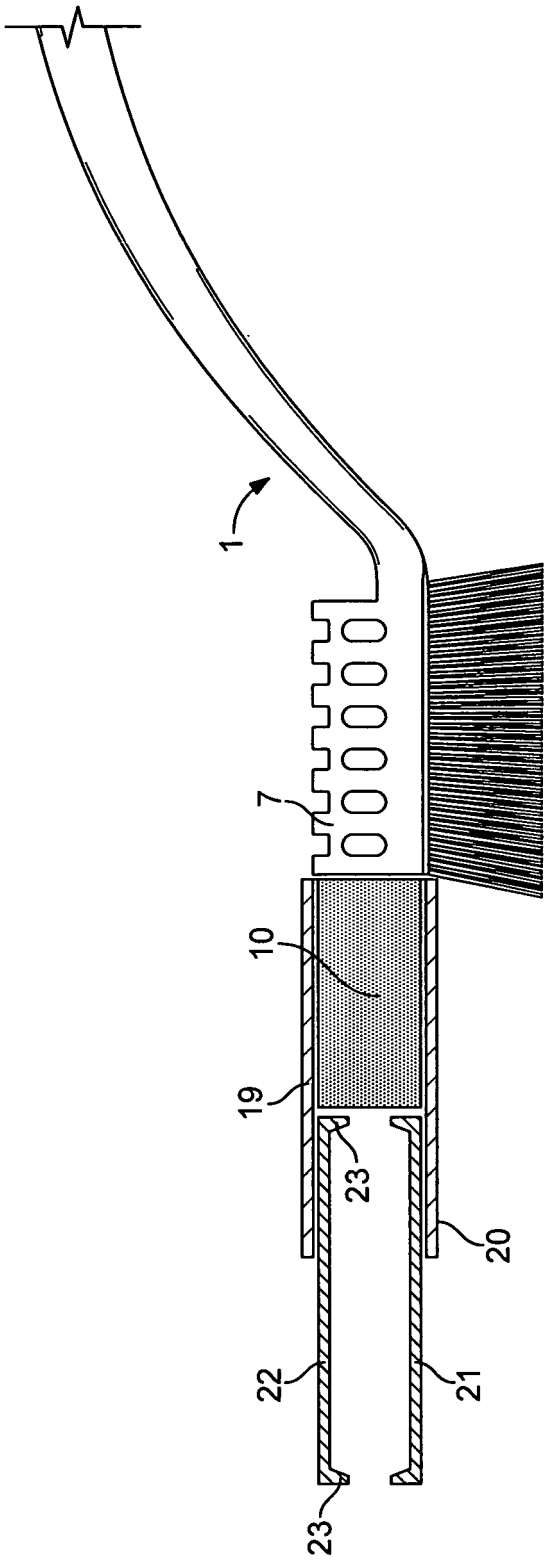

FIG. 7