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(54) **FULLY DISPOSABLE TOILET BOWL BRUSH**

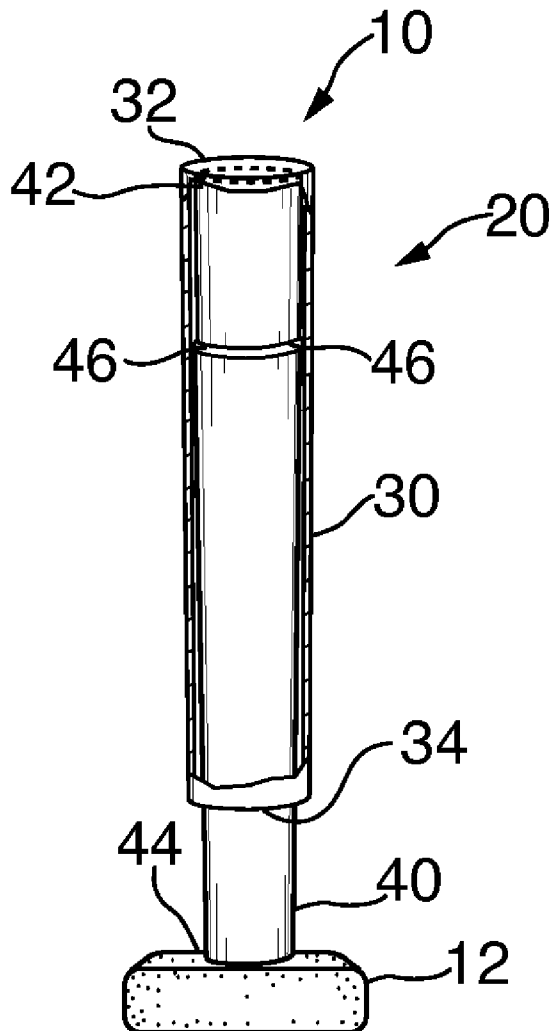
(57) **ABSTRACT**

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A fully disposable cleaning device for cleaning a toilet comprising of a hollow elongated outer member with an inner member that is telescopically slidable from a stored position to an extended position within the outer member to form a handle. The outer member component of the handle formed for grasping by a user. The outer and inner member have first and second ends with a cleaning head being secured to the second end of the inner member. The cleaning head is made of a resilient material that is in a compacted when the handle is in a stored position for economic efficiencies in packaging, shipping and storage. When the handle is manipulated from the stored position to the extended position, the cleaning head is exposed and ready for use. The cleaning head may be comprised of an absorbent material that is fully expandable when moistened. The cleaning head is infused with cleaning and disinfecting chemicals for cleaning the toilet. The handle may be made of a plant based biodegradable material or plastic.

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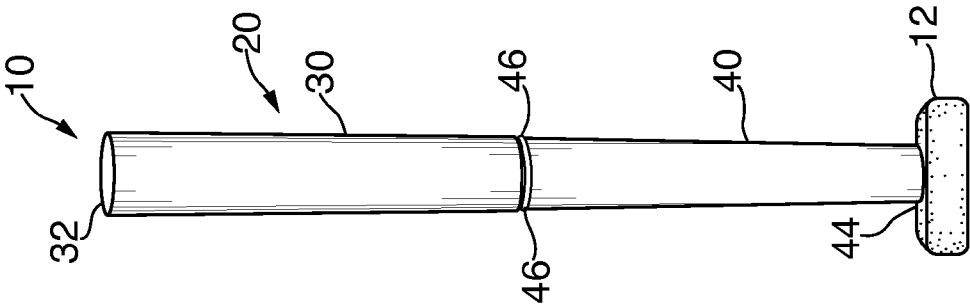


FIG. 1

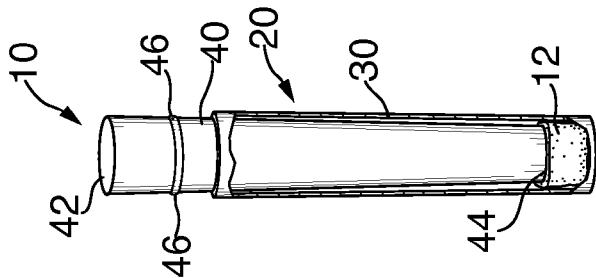


FIG. 2

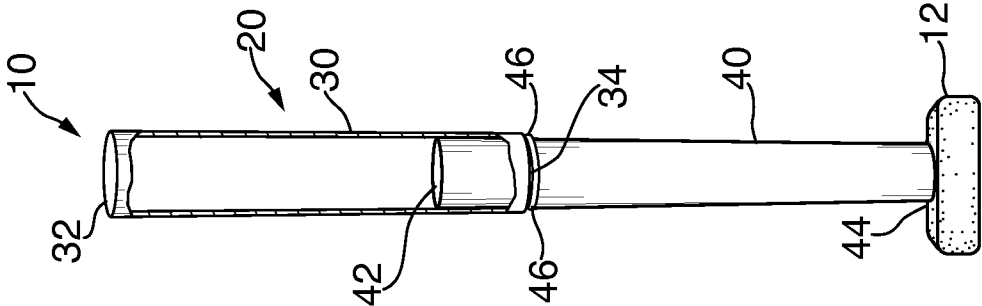


FIG. 4

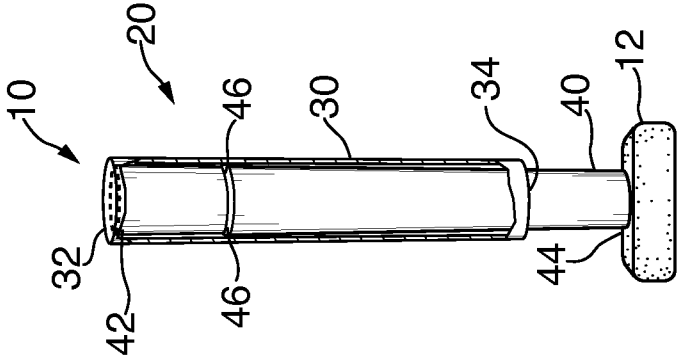


FIG. 3

**FULLY DISPOSABLE TOILET BOWL BRUSH**

## FIELD OF THE INVENTION

[0001] The present invention relates to a fully disposable cleaning device for cleaning a toilet bowl with an extendable handle and a cleaning head secured to one end.

## BACKGROUND OF THE INVENTION

[0002] The traditional toilet bowl brush provided in the prior art is stored next to the toilet in a storage case. At the conclusion of the cleaning process, a user typically places a wet toilet bowl brush in the storage case and does not take the time to clean and sanitize the brush or storage case. The brush and storage case often becomes unsightly and pose a hygiene problem during storage and fertile ground for growth of bacteria and germs.

[0003] Other embodiments in the prior art consists of a disposable cleaning head that is detachable from the handle and often come with a storage case for the handle and cleaning heads. For example, U.S. Pat. No. 7,032,270 to Vitantonio issued Apr. 25, 2006 describes such a toilet cleaning apparatus having a cleaning head which is detachable from the handle portion and comes with a caddy for storing both the handle and unused cleaning heads. Although these types cleaning devices reduce the unsanitary storage problem for the cleaning head, still there exists an unsanitary storage issue of the permanent handle and often a storage container. Again, the user would typically not take the time to sanitize these devices at the conclusion of the cleaning process, and often these devices become unsightly and pose a hygiene problem during storage and a fertile ground for growth of bacteria and germs.

[0004] U.S. Pat. No. 6,880,197 to Katz issued Apr. 19, 2005 describes a fully disposable toilet cleaning device with an extendable handle in which the both the handle and brush head are disposable and designed for limited use. The device includes a handle and a telescoping arm which extends from the handle with a cleaning head secured to one end of the arm. The cleaning head is stored within the handle during shipping and storage and exposed during operation. In operation, this toilet cleaning device, in its preferred embodiment, requires the user to grip the cleaning head to extend the arm from the handle and to expose the cleaning head. With the cleaning head infused with a cleaning agent, the user would have to come in contact with the cleaning agent to expose the cleaning head. This mode of operation would potentially be messy for the user and potentially pose health risks with chemicals being exposed to the user's skin.

[0005] It is the principal object of the present invention to provide an economical fully disposable toilet bowl cleaning device with an extendable handle from which a cleaning head may be exposed from the handle without requiring the user to touch the cleaning head. Another object of the present invention is to provide a fully disposable toilet cleaning device that does not require storage after use and thus, more sanitary than conventional toilet brushes and other toilet cleaning devices. It is also an object of the present invention to provide an economical fully disposable toilet cleaning device wherein the cleaning head is comprised of a resilient material and when in a stored position, can nest within the handle in a compacted position and thus, have less bulk to maximize economic efficiencies for packaging, shipping and storage.

## SUMMARY OF THE INVENTION

[0006] The present invention provides a low cost fully disposable toilet cleaning device with an extendable handle comprised of a tubular shaped outer and inner member with first and second ends. The inner member is telescopically slidable within the outer member. A cleaning head is secured to the second end of the inner member and in the preferred embodiment, a cleaning agent is infused within the cleaning head that is activated when rinsed with water. The cleaning head may be made of plant based biodegradable material, foam rubber, nylon, polyester or any other resilient material used for cleaning. The cleaning head may be comprised of an absorbent material that is fully expandable when moistened. The handle may be made of a plant based biodegradable material or plastic. The cleaning head is compacted and nested within the handle during a stored position to minimize space and provide economical means for packaging, shipping and storage. A first urging means is provided wherein the first end portion of the inner member extends from the outer member in a stored position wherein a force is applied by a user to the inner member to urge the cleaning head to an intermediate position and fully exposing the cleaning head and partially extending the second end of the inner member from the outer member. From the intermediate position, a second urging means is provided wherein the second end of the inner member is partially extended for manipulation by the user, to cause movement of the inner member from an intermediate position to a fully extended position and ready for use. The cleaning head is fully exposed from a stored position without the user having to touch the cleaning head. After use, the cleaning device may be disposed of in a trash receptacle.

## BRIEF DESCRIPTION OF THE DRAWINGS

[0007] These and other objects and advantages of the invention will become apparent upon reading the following detailed description and upon referring to the drawings in which:

[0008] FIG. 1 is an elevational view of a toilet cleaning device in accordance with the present invention, shown in an extended position;

[0009] FIG. 2 is a sectional view of the toilet cleaning device of FIG. 1, shown in stored position;

[0010] FIG. 3 is a sectional view of the toilet cleaning device of FIG. 1, shown in an intermediate position; and

[0011] FIG. 4 is a sectional view of the toilet cleaning device of FIG. 1, shown in an extended position.

## DETAILED DESCRIPTION OF THE DRAWINGS

[0012] With reference to FIGS. 1, 2, 3 & 4 a disposable toilet cleaning device 10 includes a handle 20 comprising an inner member 40 with first and second ends 42, 44 that is telescopically slidable within an outer member 30. The outer member 30 is generally hollow and tubular shape with first and second open ends 32, 34. The outer member 30 tapers from the first open end 32 to the second open end 34 wherein the first open end 32 being slightly larger in diameter than the second open end 34. The inner member 40 is also tapered generally along the same lines of the outer member 30. The outer diameter of the inner member 40 being slightly less than the inner diameter of the outer member 30, such that the inner member 40 is flushly held with the body of the outer member 30 but relative longitudinal movement of the inner member 40

within the outer member 30 is permitted. The outer diameter of the first end 42 of the inner member 40 being larger than the second open end 34 of the outer member 30 such that the first end 42 of the inner member 40 cannot be withdrawn fully through the second open end 34 of the outer member 30. The inner member 40 comprises a locking ridge 46 that acts as a stop by bearing against the top edge of the second open end 34 of the outer member 30 when the handle 20 is in an extended position as shown in FIG. 4. An expandable cleaning head 12 is secured to the second end 44 of the inner member 40. The cleaning head 12 nest within the outer member 30 in a compacted position when the handle 20 is in a stored position as shown in FIG. 2. In operation, the inner member 40 at the first end 42 partially extends from the outer member 30 at a predetermined distance for a user to urge the cleaning head 12 opposite the second open end 34 of the outer member 30 and expose the cleaning head 12 to an intermediate position as shown in FIG. 3. In the intermediate position, the first open end 32 of the outer member 30 and the first end 42 of the inner member 40 are approximately equal distance as measured longitudinally. From the intermediate position, the user would grasp the exposed portion of the inner member 40 near the second end 44 directly above the cleaning head 12 and urge the inner member 40 a predetermined distance so that the locking ridge 46 of the inner member 40 is engaged within the edge the outer member 30 to form an extended position as shown in FIG. 1 and FIG. 4. In this extended position, the inner member 40 is locked in both directions longitudinally with the cleaning head 12 fully exposed and ready for use.

[0013] The outer and inner member 30,40 forming the handle 20 may be made of a biodegradable plant based product or plastic. The cleaning head 12 may be made of a plant based biodegradable material, plastic, foam rubber, nylon, polyester or any other resilient material used for cleaning. The cleaning head 12 may be comprised of an absorbent material that is fully expandable when moistened. A cleaning agent is infused within the cleaning head that is activated when the cleaning head is exposed to water.

[0014] Those skilled in the art should appreciate that they can readily use the present invention as a basis for designing or modifying other processes and structure for carrying out the same purposes and/or achieving the same advantages of the embodiments introduced herein. Those skilled in the art should also realize that such equivalent constructions do not depart from the spirit and scope of the present invention.

What is claimed is:

1. A device for cleaning a toilet comprising: a handle, said handle comprising an elongated substantially hollow outer member having an open first end opposite an open second end, said ends defining a longitudinal axis therebetween, said first end adapted for manually grasping by a user; an elongated inner member having opposite first and second ends defining a longitudinal axis therebetween; said inner member having a cleaning head secured to said second end; said inner

member and said outer member slidable between a stored position, an intermediate position, and an extended position; said first end of said inner member partially extending from said open first end of said outer member and said cleaning head having a compacted position disposed substantially within said outer member when said inner member is in said stored position; said second end of said inner member partially extending from said open second end of said outer member and said first end of said inner member is disposed substantially within said outer member and said cleaning head is in an exposed position when said inner member is in said intermediate position; said cleaning head fully extending from said second open end of said outer member when said inner member is in said extended position wherein said cleaning head being in said exposed position for cleaning said toilet; a first urging means wherein said first end of said inner member partially extending from said open first end of said outer member for urging said inner member from said stored position to said intermediate position, and a second urging means for urging said inner member from said intermediate position to said extended position.

2. The cleaning device as claimed in claim 1 wherein the outer diameter of said inner member being slightly less than the inner diameter of said outer member to provide a flush but moveable fit of said inner member with respect to said outer member.

3. The cleaning device as claimed in claim 1 wherein outer member tapering from said open first end to said open second end.

4. The cleaning device as claimed in claim 1 wherein said inner member tapering from said first end to said second end.

5. The cleaning device as claimed in claim 1 wherein cross sectional area of said first end of said inner member is slightly larger than cross sectional area of said second open end of said outer member preventing said inner member from being urged past said second open end of said outer member.

6. The cleaning device as claimed in claim 1 wherein said inner member includes a locking ridge disposed near said first end and extending generally outward to act as a stop when said inner member is in a said extended position.

7. The cleaning device as claimed in claim 1 wherein said handle is biodegradable.

8. The cleaning device as claimed in claim 1 wherein said cleaning head is infused with a cleaning agent for cleaning said toilet.

9. The cleaning device as claimed in claim 1 wherein said cleaning head is comprised of a resilient material for expanding from said compacted position to an expanded position when in said exposed position.

10. The cleaning device as claimed in claim 1 wherein said cleaning head is comprised of an absorbent material and when in said exposed position, fully expands from said compacted position to said expanded position when moistened.

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