



US 20040034911A1

(19) **United States**

(12) **Patent Application Publication**  
**Day**

(10) **Pub. No.: US 2004/0034911 A1**

(43) **Pub. Date: Feb. 26, 2004**

(54) **PREVENTING ADHERENCE OF AN EXUDATE ON A TOILET BOWL SURFACE**

**Publication Classification**

(76) Inventor: **Arie Day, Moshav Shtulim (IL)**

(51) **Int. Cl.<sup>7</sup> ..... E03D 11/00**

(52) **U.S. Cl. .... 4/420**

Correspondence Address:

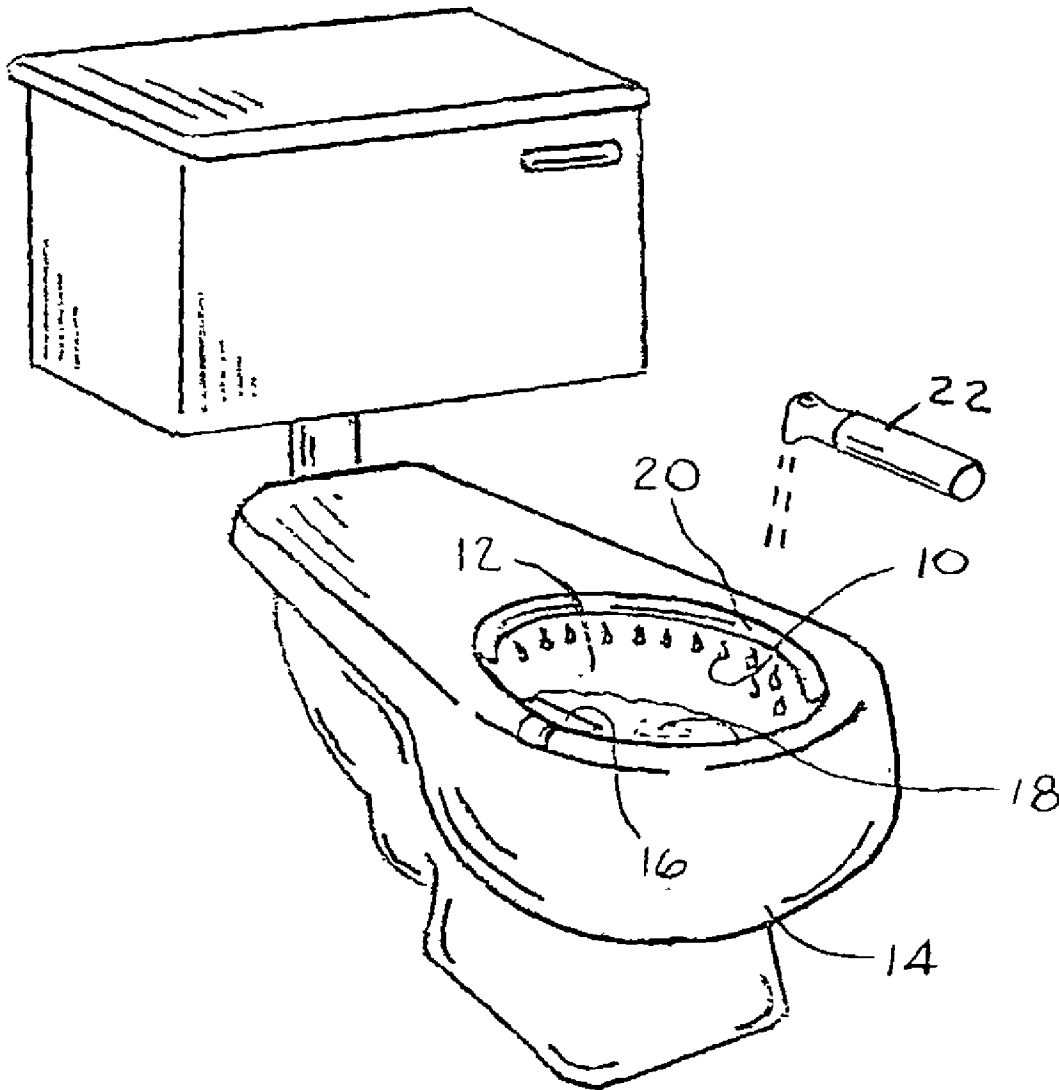
**DEKEL PATENT LTD., DAVID KLEIN  
BEIT HAROF'IM  
18 MENUHA VENAHALA STREET, ROOM 27  
REHOVOT 76209 (IL)**

(57) **ABSTRACT**

(21) Appl. No.: **10/224,470**

A method for preventing adherence of an exudate on a toilet bowl surface, the method including applying an anti-adherent agent on a surface of a toilet bowl, the anti-adherent agent being adapted to generally prevent an exudate from remaining on a toilet bowl surface.

(22) Filed: **Aug. 21, 2002**



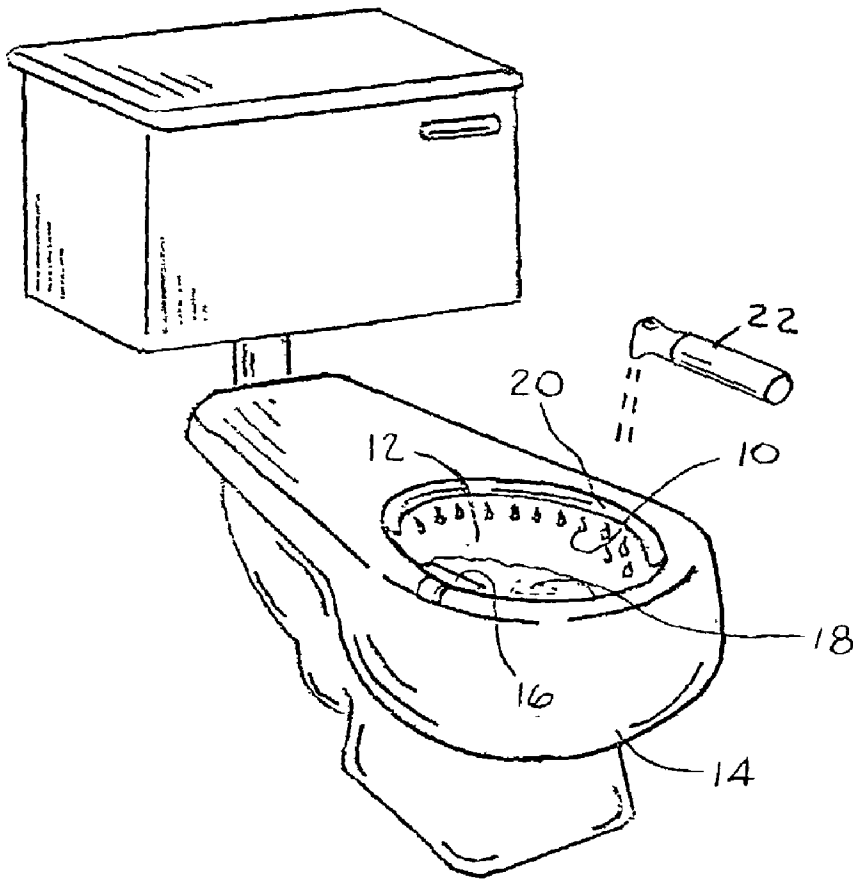


FIG. 1

## PREVENTING ADHERENCE OF AN EXUDATE ON A TOILET BOWL SURFACE

### FIELD OF THE INVENTION

[0001] The present invention relates generally to methods for maintaining toilet bowls clean, and in particular to apparatus and methods for preventing adherence of exudates on toilet bowl surfaces.

### BACKGROUND OF THE INVENTION

[0002] One well-recognized source of germs in modern households is the toilet. Consumers spend considerable time and money in cleaning and sanitizing toilets. Not only is this difficult task unpleasant for many people, it also does not protect against proliferation of germs between cleanings.

[0003] One alternative to continual cleaning of the toilet is the use of in-tank articles that dispense a sanitizing agent into the toilet tank. These articles employ a chemical or combination of chemicals that release a sanitizing agent when in contact with water. These articles have the advantage of providing continuous cleaning and sanitizing of the toilet, at least while the sanitizing agent remains in the tank.

[0004] There are numerous compositions known in the art which can be compressed or tableted, providing a tablet, block or similar article which may be placed in the tank of a toilet and dispense cleaning active over a period of time.

[0005] Despite the large amount of products available for cleaning toilet bowls, a problem still exists in maintaining the surface of the toilet bowl clean. Fecal matter and other exudates often adhere or cling to the surface of the bowl after flushing, even with the use of in-tank toilet cleaners.

### SUMMARY OF THE INVENTION

[0006] The present invention seeks to provide novel apparatus and methods for preventing adherence of exudates on toilet bowl surfaces. In the present invention, an anti-adherent agent, such as a lubricant or surfactant, may be dispensed on the surface of the toilet bowl prior to, during or even after depositing exudates in the toilet bowl. The anti-adherent agent generally prevents fecal matter and other exudates from remaining on the bowl surface after flushing. The exudates may be washed away from the bowl surface with the flushing water, leaving substantially no residue. After each flush, the anti-adhering agent may be dispensed once again on the bowl surface.

[0007] There is thus provided in accordance with a preferred embodiment of the present invention a method for preventing adherence of an exudate on a toilet bowl surface, the method including applying an anti-adherent agent on a surface of a toilet bowl, the anti-adherent agent being adapted to generally prevent an exudate from remaining on a toilet bowl surface. The anti-adherent agent may be applied prior to, during or after depositing an exudate in the bowl. The anti-adherent agent generally prevents the exudate from remaining on the surface of the bowl after flushing. The anti-adherent agent may be reapplied on the surface after the flushing.

[0008] There is also provided in accordance with a preferred embodiment of the present invention an article for preventing adherence of an exudate on a toilet bowl surface

including an anti-adherent agent applied on a surface of a toilet bowl, the anti-adherent agent adapted to generally prevent an exudate from remaining on a toilet bowl surface.

[0009] In accordance with a preferred embodiment of the present invention the anti-adherent agent includes at least one of a hydrophobic substance, lubricant, a cleaning agent, a bleach, a surfactant, and a disinfectant.

[0010] Further in accordance with a preferred embodiment of the present invention the anti-adherent agent includes at least one of a tablet and a block placeable in the bowl.

[0011] Still further in accordance with a preferred embodiment of the present invention the anti-adherent agent includes a drop-in product placeable in a flushing liquid in the bowl.

[0012] Additionally in accordance with a preferred embodiment of the present invention a dispensing device is provided for dispensing the anti-adherent agent on to the surface.

### BRIEF DESCRIPTION OF THE DRAWINGS

[0013] The present invention will be understood and appreciated more fully from the following detailed description taken in conjunction with the appended drawing in which:

[0014] **FIG. 1** is a simplified pictorial illustration of an article and method for preventing adherence of an exudate on a toilet bowl surface, in accordance with a preferred embodiment of the present invention.

### DETAILED DESCRIPTION OF THE PRESENT INVENTION

[0015] Reference is now made to **FIG. 1**, which illustrates an article for preventing adherence of an exudate on a toilet bowl surface, in accordance with a preferred embodiment of the present invention.

[0016] The article may comprise an anti-adherent agent **10** applied on a surface **12** of a toilet bowl **14**. (A toilet seat is not shown for clarity.) The anti-adherent agent **10** may generally prevent an exudate from remaining on the toilet bowl surface **12**. The anti-adherent agent **10** may comprise, without limitation, a lubricant (e.g., a mineral oil, baby oil, vegetable or fruit oil, for example), a cleaning agent, a bleach, hydrophobic substance, a surfactant (e.g., a detergent, a soap or a dishwashing liquid, for example), or a disinfectant, or any combination thereof.

[0017] The anti-adherent agent may comprise, without limitation, a tablet or block **16** placeable in toilet bowl **14**. Additionally or alternatively, the anti-adherent agent may comprise, without limitation, a drop-in product **18** placeable in a flushing liquid in toilet bowl **14**.

[0018] The anti-adherent agent may be applied prior to depositing an exudate in the toilet bowl **14**. In such a case, the anti-adherent agent may pre-coat the surface **12** so as to prevent exudates from adhering thereto. Alternatively, the anti-adherent agent may be applied during or after depositing an exudate in the toilet bowl **14**. In such a case, the anti-adherent agent may break down the adherence of exudates on surface **12** so that the exudates may be flushed away without leaving residual matter or marks.

[0019] A dispensing device **20** may be provided for dispensing the anti-adherent agent **10** on to the surface **12** of toilet bowl **14**. For example, a ring-shaped dispensing device **20** may be placed around at least a portion of the bowl **14**, such as inside and beneath the lip of bowl **14**. Dispensing device **20** includes therein the anti-adherent agent **10**, and may dispense the anti-adherent agent **10** manually or automatically. For example, the weight of a person (not shown) sitting on bowl **14** may trigger dispensing of anti-adherent agent **10** from dispensing device **20**. As another example, dispensing device **20** may meter a portion of anti-adherent agent **10** at predetermined intervals. As yet another example, dispensing device **20** may comprise any kind of spray **22** that sprays anti-adherent agent **10** on surface **12**.

[0020] It will be appreciated by persons skilled in the art that the present invention is not limited by what has been particularly shown and described hereinabove. Rather the scope of the present invention includes both combinations and subcombinations of the features described hereinabove as well as modifications and variations thereof which would occur to a person of skill in the art upon reading the foregoing description and which are not in the prior art.

What is claimed is:

1. A method for preventing adherence of an exudate on a toilet bowl surface, the method comprising:

applying an anti-adherent agent on a surface of a toilet bowl, said anti-adherent agent being adapted to generally prevent an exudate from remaining on a toilet bowl surface.

2. The method according to claim 1, wherein said anti-adherent agent is applied prior to depositing an exudate in said bowl.

3. The method according to claim 1, wherein said anti-adherent agent is applied during depositing an exudate in said bowl.

4. The method according to claim 1, wherein said anti-adherent agent is applied after depositing an exudate in said bowl.

5. The method according to claim 1, further comprising flushing said exudate from said bowl with a flushing liquid, wherein said anti-adherent agent generally prevents said exudate from remaining on said surface of said bowl after flushing.

6. The method according to claim 5, further comprising re-applying said anti-adherent agent on said surface after said flushing.

7. The method according to claim 1, applying said anti-adherent agent comprises applying at least one of a hydrophobic substance, a lubricant, a cleaning agent, a bleach, a surfactant, and a disinfectant.

8. An article for preventing adherence of an exudate on a toilet bowl surface comprising:

an anti-adherent agent applied on a surface of a toilet bowl, said anti-adherent agent adapted to generally prevent an exudate from remaining on a toilet bowl surface.

9. The article according to claim 8, wherein said anti-adherent agent comprises at least one of a hydrophobic substance, a lubricant, a cleaning agent, a bleach, a surfactant, and a disinfectant.

10. The article according to claim 8, wherein said anti-adherent agent comprises at least one of a tablet and a block placeable in said bowl.

11. The article according to claim 8, wherein said anti-adherent agent comprises a drop-in product adapted to be placed in a flushing liquid in said bowl.

12. The article according to claim 8, further comprising a dispensing device for dispensing said anti-adherent agent on to said surface.

\* \* \* \* \*