RETRACTABLE TOILET SEAT HANDLE

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Abstract:

A toilet seat handle for lifting and lowering a toilet seat is provided. When not in use, the handle retracts to a position inside the toilet seat. When the toilet seat needs to be lifted of lowered, the handle is released and extended from inside the toilet seat. The handle is then used for lifting and lowering of the toilet seat. Because of the retractable nature of the handle, the handle is not exposed from the toilet seat except when lifting and lowering the seat.
FIG. 8

800 Toilet seat in a lowered position

802 Contact release mechanism to unlock locking mechanism

804 Springs uncompress

806 Handle is extended to protrude from outer periphery of toilet seat

808 Use handle to lift the toilet seat

810 Retract handle into toilet seat

812 Handle is locked into retracted position
FIG. 9

114

104
RETRACTABLE TOILET SEAT HANDLE

BACKGROUND OF THE INVENTION

[0001] The present invention generally relates to toilets and more specifically to a retractable toilet seat handle to lift and lower a toilet seat.

[0002] Toilet seats, by the nature of their use, may become very unsanitary. For example, a toilet may become infected with germs as more and more people use the toilet. In addition, splatter from the use of the toilet may contaminate the toilet seat further creating unsanitary conditions.

[0003] The use of a toilet often requires the lifting and lowering of the toilet seat. Thus, the seat must be contacted and manually grabbed to raise and lower the seat. Users of the toilet that need to raise and lower the seat may become susceptible to contracting germs from the seat because the entire lid is exposed to splatter and/or germs during the uses of the toilet. Handles may be provided to facilitate lifting and lowering the toilet seat. However, the handles are also exposed to splatter and germs and thus, do not provide a sanitary solution for lifting and lowering the seat.

BRIEF SUMMARY OF THE INVENTION

[0004] A toilet seat handle for lifting and lowering a toilet seat is provided according to one embodiment of the invention. When not in use, the handle retracts to a position inside the toilet seat. When the toilet seat needs to be lifted or lowered, the handle is released and extended from inside the toilet seat. The handle is then used for lifting and lowering of the toilet seat. Because of the retractable nature of the handle, the handle is not exposed from the toilet seat except when lifting and lowering the seat.

[0005] A further understanding of the nature and advantages of the invention herein may be realized by reference of the remaining portions in the specifications and the attached drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] FIG. 1 illustrates a toilet seat handle system including a retractable handle according to one embodiment;

[0007] FIG. 2 illustrates a side view of toilet seat handle system with the retractable handle in a retracted position;

[0008] FIG. 3 illustrates a front view of toilet seat handle system with the retractable handle in a retracted position;

[0009] FIG. 4 illustrates a top view of toilet seat handle system with the retractable handle in a retracted position;

[0010] FIG. 5 illustrates a side view of toilet seat handle system with the retractable handle in an extended position;

[0011] FIG. 6 illustrates a front view of toilet seat handle system with the retractable handle in an extended position;

[0012] FIG. 7 illustrates a top view of toilet seat handle system with the retractable handle in an extended position;

[0013] FIG. 8 illustrates a flowchart of a method for lifting and lowering a toilet seat; and

[0014] FIG. 9 illustrates an embodiment of a toilet seat handle.

DETAILED DESCRIPTION OF THE INVENTION

[0015] FIG. 1 illustrates a toilet seat handle system 100 according to one embodiment. Toilet seat handle system 100 is shown with a toilet seat handle 104 in an extended position with handle 104 located in a toilet seat cover 102. Toilet seat handle system 100 also includes a release mechanism 106, a locking mechanism 108, and an extending mechanism 110. As shown, the handle 104 is insertable into an inner cavity 112 of toilet seat 102.

[0016] Handle 104 may be a planar member shaped to fit into inner cavity 112. In one embodiment, handle 104 is a substantially rigid planar member comprising a handle part that is designed to protrude from toilet seat 102 when handle 104 is released. The handle part may be shaped in a polygonal manner where the handle part may be gripped.

[0017] Additionally, handle 104 includes a base part that locks handle 104 in a retracted position when handle 104 does not protrude from toilet seat 102. As shown, the base part of the handle may be a U-shaped base where a center portion is free to receive locking mechanism 108. It will be understood that a person skilled in the art will appreciate other shapes for handle 104.

[0018] Locking mechanism 106 may be any device capable of locking handle 104 in a retracted position. Also, locking mechanism 108 may be capable of locking handle 104 in the extended position when handle 104 protrudes from toilet seat 102. In one embodiment, locking mechanism 108 is designed to fit in the center part of the U-shaped base part of handle 104. As handle 104 is retracted into the inner cavity of toilet seat 102, locking mechanism 108 locks the handle in place. In one embodiment, locking mechanism 102 is a block that pivots to lock handle 104 in the retracted position.

[0019] Release mechanism 106 includes any mechanism capable of unlocking handle 104 from its retracted position. In one embodiment, release mechanism 106 is a button that includes a stem that contacts locking mechanism 108. When the button is depressed while handle 104 is in the locked retracted position, the button stem contacts locking mechanism 108 and unlocks the handle, thereby releasing handle 104 into the extended position. In one embodiment, the button stem contacts locking mechanism 108 causing locking mechanism 108 to pivot and release handle 104 from its locked position.

[0020] Extending mechanism 110 may be any mechanism capable of extending handle 104 from the retracted position to the extended position. For example, extending mechanism 104 is one or more springs 110. In one embodiment, two springs that contact the two ends of the U-shaped base of handle 104 are included. As handle 104 is retracted into inner cavity 112, springs 110 are compressed into a loaded position. Once handle 104 is unlocked, the springs are free to uncompress and push handle 104 into the extended position where handle 104 protrudes from toilet seat 102.

[0021] FIGS. 2-4 illustrate toilet seat handle system 100 in a retracted position according to one embodiment. When in the retracted position, the entire handle 104 is retracted in toilet seat 102. As shown in FIG. 2, extending mechanism 110 is in a compressed position. Additionally, locking mechanism 108 has locked handle 104 in its retracted
position. Release mechanism 106 is also in a protruding position when handle 104 is locked in the retractable position. As shown, the button is slightly raised above the top surface of toilet seat 102. This allows a user to depress button 106 to release handle 104. Although button 106 is shown in a raised position, it will be understood that button 106 may be flush with the top surface of toilet seat 102 or below the surface of toilet seat 102. Locking mechanism 108 is also in its locked position.

[0022] FIG. 3 illustrates one embodiment of locking handle 104 in a retracted position. As shown, handle 104 includes a notch 113 in the U-shaped portion of the base. As handle 104 is retracted into seat 102, locking mechanism 108 pivots to lock handle 104 when notch 113 reaches locking mechanism 108. A portion of locking mechanism 108 protrudes into notch 113 to lock handle 104 in the retracted position.

[0023] FIG. 4 illustrates a top view of toilet seat handle system 100. As shown, locking mechanism 108 has its flat surface flush with notch 113 of the inner slot of the U-shaped base part of handle 104. As shown, notch 113 is positioned where locking mechanism 108 pivots and locks handle 104 in a retracted position.

[0024] FIGS. 5-7 show handle system 100 in an extended position. FIG. 5 shows a side view of handle system 100. As shown, button 106 has been depressed and subsequently unlocked locking mechanism 108. When locking mechanism 108 unlocks handle 102, the compressed springs of release mechanism 110 are free to release into an uncompressed state. Thus, the springs extend handle 102 into an extended position where handle 102 protrudes from inner cavity 112.

[0025] FIG. 6 illustrates a front view of handle system 100. As shown, locking mechanism 108 is in an unlocked position. Also, locking mechanism 108 has been released from its locked position inside of notch 113. Thus, handle 104 was freed from the locking position and extending mechanism 108 extended handle 104 from inner cavity 112.

[0026] FIG. 7 illustrates a top view of handle system 100 according to one embodiment. As shown, a slot portion of the U-shaped base has been extended where button 106 is shown at the end of a slot. Also, locking mechanism 108 is shown flush with the inner sides of the U-shaped portion of handle 104. Notch 113 is also free of locking mechanism 108.

[0027] FIG. 8 illustrates a simplified flowchart for a method of lifting and lowering a toilet seat according to one embodiment. In step 800, toilet seat 102 may be a lowered or raised position. For discussion purposes, it is assumed that toilet seat 102 is in a lowered position. Toilet seat handle 104 is in a retracted position inside inner cavity 112 of toilet seat 102. Thus, handle 104 is protected from germs, splatter, etc. because handle 104 is inside toilet seat 102. Also, locking mechanism 108 is in a position so handle 104 is locked and springs 110 are in a compressed state.

[0028] In step 802, when it is desired to lift toilet seat 102, release mechanism 106 is contacted and locking mechanism 108 is unlocked. Thus, handle 104 is free to be extended from toilet seat 102. Springs 110 then uncompress from their compressed state because handle 104 is unlocked (step 804). As springs 110 uncompress, handle 104 is extended from inner cavity 112 to protrude from an outer periphery of toilet seat 102 (step 806). Handle 104 may be used to lift toilet seat 102 to a raised position (step 808).

[0029] In step 810, once in a raised position, handle 104 may be retracted into toilet seat 102. For example, in one embodiment, handle 104 is pushed back into toilet seat 102. When handle 104 is completely pushed into cavity 112, locking mechanism 108 locks the retracted handle 104 in the retracted position (step 812). In one embodiment, locking mechanism 108 protrudes into notch 113 of handle 104. Additionally, release mechanism 106 may be set to an active position where release mechanism 106 is able to release handle 104 when contacted. Once handle 104 no longer protrudes from an outer periphery of toilet seat 102, handle 104 is in the locked position. Also, springs 110 are compressed into a compressed nature when handle 104 is pushed into cavity 112.

[0030] A person skilled in the art will appreciate other ways a retracting handle 104. For example, release mechanism 106 may be pressed and cause handle 104 to be automatically retracted into toilet seat 102.

[0031] FIG. 9 illustrates another embodiment of handle 104. Handle 104 includes a sliding mechanism 114 that is used to slide handle 104 in and out of seat 102. In this case, a sliding mechanism 114 is attached to handle 104 and protrudes through the top of seat 102. When a user desires to retract handle 104, sliding mechanism 114 is pushed back and handle 104 is retracted into inner cavity 112. When a user desires to release handle 104 from the inside of inner cavity 112, sliding mechanism 114 is pushed forward and handle 104 is release from inner cavity 114. Handle 104 then protrudes from seat 102.

[0032] Accordingly, a retractable toilet seat handle is provided by embodiments of the invention. Because handle 104 is retracted inside the toilet seat while not in use, handle 104 is protected from germs and splatter. Thus, a sanitary handle is provided.

[0033] The above description is illustrative but not restrictive. Many variations of the invention will become apparent to those skilled in the art upon review of the disclosure. The scope of the invention should, therefore, be determined not with reference to the above description, but instead should be determined with reference to the pending claims along with their full scope or equivalents.

What is claimed is:
1. A toilet seat handle for a toilet lid, the toilet seat handle comprising:
   a retractable member shaped to fit inside an inner cavity of the toilet lid;
   a mechanism configured to release the retractable member from the toilet lid, wherein the released retractable member protrudes from an outer periphery of the toilet lid;
2. The toilet seat handle of claim 1, wherein the retractable member is planar shaped;
3. The toilet seat handle of claim 1, wherein the retractable member is substantially rigid;
4. The toilet seat handle of claim 1, wherein the retractable member comprises a plastic material.
5. The toilet seat handle of claim 1, wherein the mechanism comprises locking mechanism, wherein the locking mechanism locks the retracted member in a locked position.

6. The toilet seat handle of claim 5, wherein the locking mechanism comprises a block.

7. The toilet seat handle of claim 6, wherein the retracted member comprises a notch, wherein the block protrudes in the notch when the retracted member is in a locked position.

8. The toilet seat handle of claim 1, wherein the mechanism comprises a unlocking mechanism, wherein the unlocking mechanism unlocks the retracted member from a retracted, locked position.

9. The toilet seat handle of claim 8, wherein the unlocking mechanism comprises a button.

10. The toilet seat handle of claim 1, wherein the mechanism comprises a release mechanism, wherein the release mechanism extends the retracted member from the inner cavity.

11. The toilet seat handle of claim 10, wherein the release mechanism comprises one or more springs.

12. A toilet seat handle for a toilet lid, the toilet seat handle comprising:

   a retracted member shaped to fit inside an inner cavity of the toilet lid;

   a locking mechanism to lock the retracted member in a retracted position inside the inner cavity; and

   an unlocking mechanism to unlock the retracted member from the locked retracted position,

   wherein the retracted member is released from the inner cavity when unlocked by the unlocking mechanism causing the retracted member to protrude from an outer periphery of the toilet lid.

13. The toilet seat handle of claim 12, wherein the locking mechanism comprises a block.

14. The toilet seat handle of claim 13, wherein the retracted member comprises a notch, wherein the block protrudes in the notch when the retracted member is in a locked position.

15. The toilet seat handle of claim 12, wherein the release mechanism is configured to extend the retracted member from the inner cavity.

16. The toilet seat handle of claim 12, wherein the release mechanism comprises one or more springs.

17. The toilet seat handle of claim 12, wherein the retracted member is planar shaped.

18. The toilet seat handle of claim 12, wherein the retracted member is substantially rigid.

19. The toilet seat handle of claim 12, wherein the retracted member comprises a plastic material.

20. The toilet seat handle for a toilet lid, the toilet seat handle comprising:

   a retracted member shaped to fit inside an inner cavity of the toilet lid, wherein the retracted member is retracted to a position inside the inner cavity;

   a block configured to lock the retracted member when the retracted member is retracted inside the inner cavity;

   a button configured to unlock the retracted retracted member when the button is contacted; and

   one or more springs, wherein the one or more springs are compressed when the retracted member is retracted inside the inner cavity and when the retracted retracted member is unlocked, the one or more springs uncompress and extend the retracted retracted member from the position inside the inner cavity, wherein the released retracted member protrudes from an outer periphery of the toilet lid.

21. A toilet seat handle for a toilet lid, the handle comprising:

   a retracted member shaped to fit inside an inner cavity of the toilet lid; and

   a sliding member coupled to the retracted member, wherein the sliding member protrudes from the toilet lid,

   wherein the sliding member is usable to retract and release the retracted member from the inner cavity.

22. The handle of claim 21, wherein the sliding member protrudes from the top of the toilet seat.