Aug. 22, 1961 S. LEPTRONE 2,996,731

LOCKING DEVICE FOR TOILET SEAT COVERS

Filed April 6, 1959

Fig. 1.

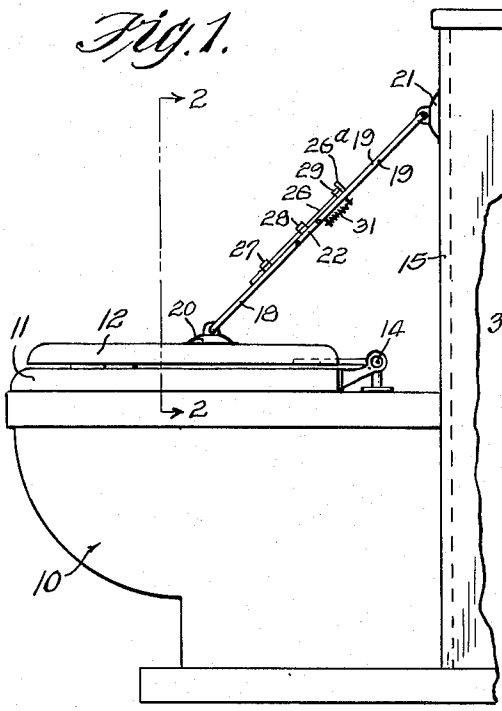


Fig. 5.

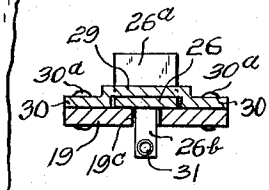


Fig. 2.

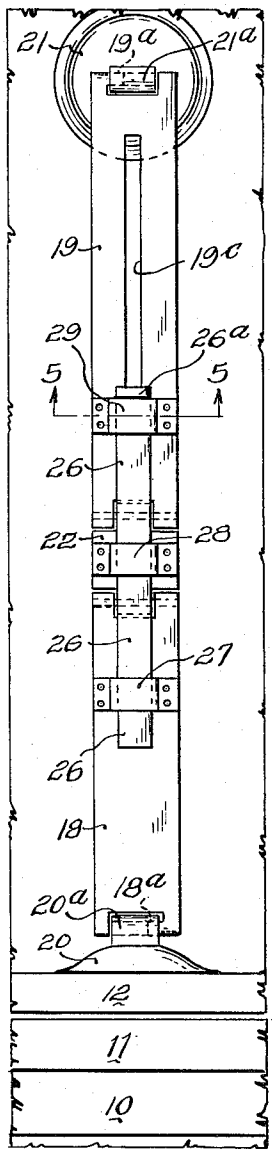


Fig. 4.

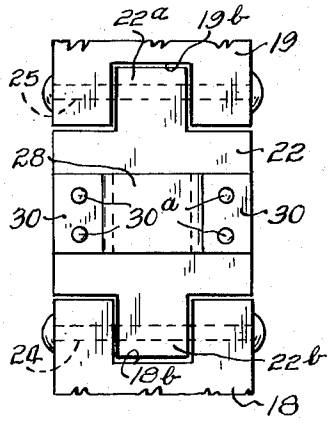


Fig. 3.

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LOCKING DEVICE FOR TOILET SEAT COVERS

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The present invention relates to a locking device which may be attached to toilets to prevent raising of the toilet seat cover by a child so young as to be unable to comprehend the proper use of the toilet.

The principal object of the present invention is to provide a device which can be readily attached to the conventional pivoted toilet seat cover and front wall of the water tank of a commode and which is operative to block the cover in its seat covering position until released by the actuation of a key member so that children of such young age that they are unable to understand the operation of the key cannot open the cover and gain access to the toilet bowl, which situation frequently results in such children throwing articles into the bowl or playing in the water therein which is highly undesirable from a health and sanitation viewpoint.

Another object of the invention is the provision of a toilet seat cover locking device of the character described comprising two rigid bar members arranged end to end and having means to attach the outer ends thereof to the toilet seat cover and the adjacent vertical wall of the water tank for the toilet respectively, the inner adjacent ends of the bars being pivotally connected to a link at spaced points to provide a double hinge connection between the bars, and key means to lock the bars and link in a rigid, preferably aligned, position to provide a strut for blocking raising of the seat cover, the key being operative to release the bars and link to permit pivotal movement thereof so that the seat cover can be raised, the spaced pivots for the bars on the link providing a self-adjusting hinge to accommodate varying positions of the hinge pivot for the seat covers of toilets having different spacing of the seat cover hinge and water tank walls.

A further object of the invention is the provision of a device of the character mentioned which can be attached and detached from the seat cover and water tank of a toilet without altering the construction of the toilet so that the device can be readily applied to any of many different toilets and can be removed after the child or children having access to the toilet have become trained to the proper use thereof.

Other objects and advantages of the invention will be apparent from the following description of a preferred embodiment of the invention, reference being made to the accompanying drawings wherein

FIG. 1 is a side elevational view of a toilet having a device embodying the invention attached thereto, a portion of the toilet being shown broken away;

FIG. 2 is a view taken substantially along line 2—2 of FIG. 1 but on a larger scale;

FIG. 3 is a fragmentary side elevational view of the toilet with the seat in the raised position;

FIG. 4 is a fragmentary view of a part of the cover locking device as shown in FIG. 2, but on a larger scale; and

FIG. 5 is a sectional view taken on line 5—5 of FIG. 2, but on a larger scale.

Referring to the drawings, a conventional toilet is shown including a bowl 10, a seat 11, a seat cover 12, and a water tank 13. The seat and its cover are attached to a hinge 14 so that they may be raised individually beyond a vertical line, as is usual. Cover 12 not only overlies seat 11 but also forms a cover for the open top of the bowl, as is well known.

The seat cover locking device comprises two rigid bar

members 18 and 19, which may be formed of suitable material, such as aluminum, each having means to attach the outer ends thereof to seat cover 12 and the front wall 15 of water tank 13. Preferably, these means comprise rubber suction cups 20 and 21 pivotally attached to bars, 18 and 19, the cups having lugs 20*a* and 21*a* provided with openings therethrough which receive supporting fingers 18*a* and 19*a* respectively, formed by L-shape cut-away portions in the end portions of the respective bars. Suction cups 20 and 21 are of the well known type, being formed of rubber or like material and having a circular concave face, such as shown at 21*b*, which may be pressed to a smooth surface and retained there by atmospheric pressure due to the expulsion of air from the recessed face by the compression of the cup, as is well known.

The inner ends of bars 18 and 19 are pivotally connected to a cross-shape rigid link 22, and in the form shown, the link includes neck portions 22*a* and 22*b* which extend into notches 18*b* and 19*b* formed in bars 18 and 19, respectively, as best seen in FIG. 4. The notched end portions of bars 18 and 19 and the neck portions 22*a* and 22*b* of the link are drilled transversely to receive pivot pins 24 and 25 so that bars pivot freely with respect to the link and the pivoted ends of the bars are spaced to provide a double hinge structure. Any other suitable hinge construction detail could be employed, however.

Means are provided for locking bars 18, 19 and link 22 in an aligned, rigid position for forming a strut, and in the form shown, this is accomplished by a flat slide bolt or key 26 which is somewhat narrower than bars 18 and 19, and the upper end of which is provided with an out-turned portion 26*a* which serves as a handle by which the key can be moved longitudinally of the bars. Key 26 slides in guides 27, 28 and 29 located on bar 18, link 22 and bar 19, respectively, which guides each comprise an inverted channel shape metal member having out-turned flanges 30 which are riveted to the bar 18, link 22 and bar 19, respectively, by rivets 30*a*. The guide openings are in alignment when the bars and link are aligned so that key 26 may be moved therethrough and maintain the bars and link rigidly aligned as shown in FIGS. 1 and 2.

Preferably key 26 is automatically moved to its locking position and for this purpose a lug 26*b* having an eye therethrough is formed on key 26 near handle 26*a* but projecting from the opposite side thereof and extending through a longitudinal slot 19*c* formed in bar 19. A tension spring 31 is attached at one end to the eye in lug 26*b* and the opposite end is attached in an eye formed in a lug 19*d* attached to the rearward side of bar 19, as viewed in FIG. 2. Slot 19*d* is of such length that spring 31 may slide key 26 through guides 27 and 28 when the bars 18, 19 and link 22 are moved into alignment, as shown in FIGS. 1 and 2. Handle 26*a* engages guide 29 to limit movement of the key by the spring.

In use, the device is applied to the toilet by securing suction cup 20 to seat cover 12 and suction cup 21 to wall 15 of the water tank so that when the cover is in its seat covering position, bars 18, 19 and link 22 are in alignment as shown in FIGS. 1 and 2. Spring 31 then moves key 26 downwardly through guides 27, 28 and 29 so that the bars and link are locked in alignment and form a strut which prevents a young child from raising the cover.

To open toilet seat cover 12, it is only necessary for a person to place a finger beneath handle 26*a* and slide key 26 upwardly thereby removing the key from guides 27 and 28 so that the bars can pivot relative to the link and permit raising of the seat cover as shown in FIG. 3. When finger 26*a* is released, spring 31 urges key 26 downwardly, as viewed in FIG. 3, and the lower end of the key abuts link 22 which is now at an angular position

relative to the travel of the key and forms a stop for the key. When seat cover **12** is moved to its lowered position, bars **18**, **19** and link **22** are once again aligned and spring **31** moves key **26** through guides **27** and **28** to the locking position thereby automatically locking the bars in rigid alignment to block opening of the seat cover.

Link **22** provides a double hinge for bars **18** and **19** which permits locking devices of a single design to be used on toilets having different relative locations of the hinge structure for the toilet seat and cover and the front wall of the water tank, so that one production model will operate on many different makes of toilets.

It will be appreciated that the procedure for unlocking the seat cover lock device is sufficiently complicated to forestall operation by children so young as to be untrained to the proper use of toilets, but children having proper training and understanding can easily operate the device.

It will also be apparent that when the need for locking a toilet seat cover against unnecessary opening is passed, the locking device can be readily removed from the toilet and no evidence of its attachment will remain.

Although but one form of the invention has been described in detail, it will be understood that other forms, modifications and adaptations thereof could be made, all falling within the scope of the invention as defined in the appended claims.

I claim:

1. A toilet seat locking device comprising in combination, two rigid bars arranged end to end, means on opposite outer ends of said bars for detachably connecting said outer ends of said bars to the top surface of a toilet seat cover and a front wall of a water tank of a toilet, respectively, a link member intermediate the adjacent ends of said bars, means pivotally attaching said adjacent ends of said bars to said link at spaced locations, an elongated key member carried by one of said bars and extending longitudinally thereof, guide means on said bars and said link member to guide said key for movement longitudinally of said bars to extend said key from the surface of said one bar over said link and along the surface of the other of said bars to thereby maintain said bars and link in alignment, and means to bias said key for said longitudinal movement.

2. A toilet seat locking device comprising in combination, two rigid flat bars arranged end to end, means on opposite outer ends of said bars for detachably connecting the outer ends of said bars to a top surface of a toilet seat cover and a front wall of a water tank of a toilet, respectively, a flat link member intermediate the inner adjacent ends of said bars, means pivotally attaching said adjacent ends of said bars to opposite ends of said link to substantially space the inner ends of said bars, an elongated key member carried by one of said bars and extending longitudinally thereof, guide means on said bars and link member to guide said key for movement longitudinally of said bars to extend said key from the surface of said one bar over said link and along the surface of the other of said bars to thereby maintain said bars and link in alignment, and means to bias said key for said longitudinal movement.

3. A toilet seat locking device comprising in combination, two rigid flat bars arranged end to end, means on opposite outer ends of said bars for detachably connecting the outer ends of said bars to a top surface of a toilet seat cover and a front wall of a water tank of a toilet, respectively, a flat link member intermediate the inner adjacent ends of said bars, means pivotally attaching said adjacent ends of said bars to opposite ends of said link member, respectively, an elongated key member carried by one of said bars and extending longitudinally thereof, means to guide said key for movement longitudinally of said bars to extend said key from the surface of said one bar over said link and along the surface of the other of said bars to thereby maintain said bars and link in alignment, said one bar having a longitudinal slot therethrough, said key member having a part projecting through said slot, means to bias said key for said longitudinal movement and comprising a spring extending along the side of said bar opposite said key and attached to said part of said key, and a handle on said key to move said key in opposition to said spring and out of coextension with said link and other bar.

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