Oct. 26, 1954 H. G. PAULUS 2,692,394

LAVATORY ATTACHMENT

Filed Feb. 18, 1949

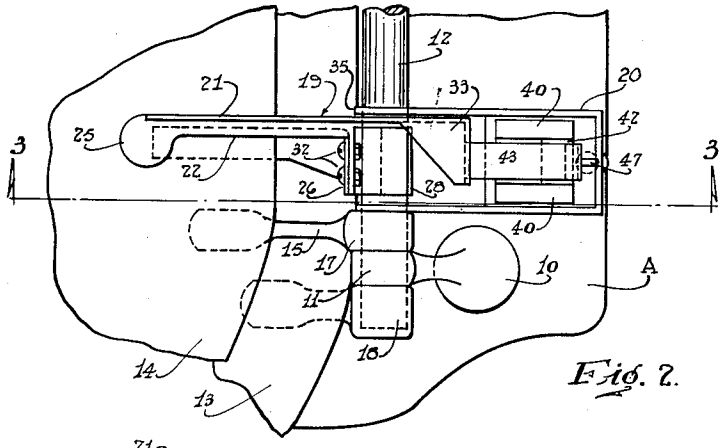


Fig. 2.

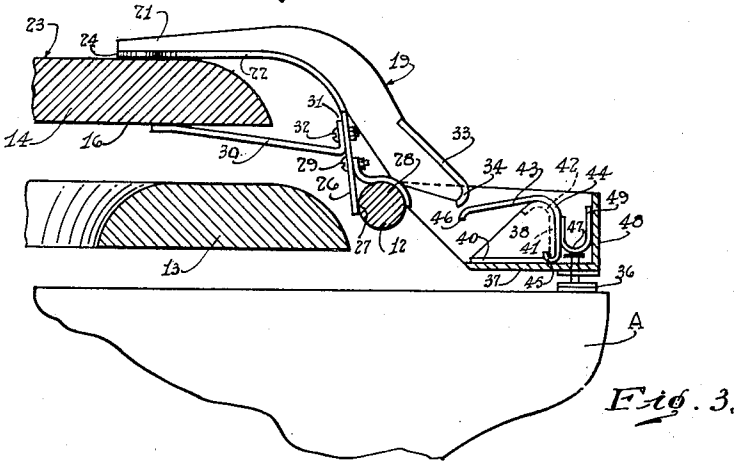


Fig. 3.

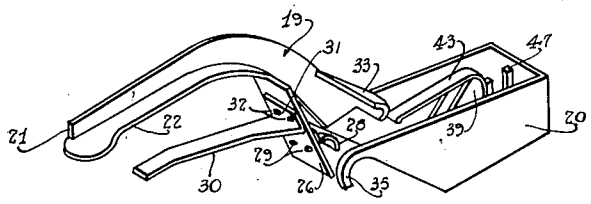


Fig. 1

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LAVATORY ATTACHMENT

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3 Claims. (Cl. 4—234)

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This invention relates to lavatory attachments and more particularly to a toilet seat cover retainer.

An object of my invention is to provide a device which may be attached to the cover of a toilet bowl to make it impossible for small children to raise the cover from its closed position.

Another object of the invention is the provision of a braking means to decrease the impact resulting from careless or accidental dropping of a toilet seat cover from its open position.

Still another purpose of my invention is to provide a means which may be attached to a baby toilet seat adapter whereby it is impossible for the seat and its folded arms and back rests to be raised by small children.

A further object of my present invention is to produce a movement retarding device which is simple and economical to manufacture and which may be readily attached and removed from a conventional toilet fixture already installed and without the necessity of structural alteration of the latter.

Still other objects and advantages will become apparent from the following description of the present invention illustrated in the accompanying drawing in which:

Figure 1 is a perspective view of an unattached retaining device embodying my present invention.

Figure 2 is a top plan view of the device attached to the rear of a toilet seat cover in lieu of the usual hinge.

Figure 3 is a vertical sectional view taken on line 3—3 of Fig. 2.

Similar reference characters in the several figures represent similar parts.

It is a common occurrence in household lavatories for small children to throw various articles into the toilet bowl. These uncontrollable acts by children too young to understand frequently result in the water discharge line being obstructed or stopped up causing inconvenience and damage due to overflowing water. On the other hand, valuable or irreplaceable objects thrown into the toilet bowl by children are often damaged by the water or completely lost down the discharge pipe.

Various latches and locking means heretofore presented in answer to this problem have proven unfeasible due to the inconvenience in their operation and a tendency to sometimes forget to operate the mechanism in a prescribed manner.

The device which I have shown in Fig. 1 is an automatic retainer which is a completely independent unit from the standard hardware fittings used to hingedly connect the seat and cover

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to a toilet bowl. The invention embodies cooperating spring elements which serve to require a predetermined force in order to open a toilet cover and thus prevents small children from opening such covers before they have reached the stage of understanding and personal discretion.

The conventional mounting for a seat and cover on toilet bowls is shown in Figs. 2 and 3. To the extension shelf A at the rear of the bowl, are fixed a pair of adapter fixtures 10 having upwardly and forwardly extending bearing collars 11. These bearing collars support a transverse pivot shaft 12 to which a seat 13 and cover 14 are pivotally connected. A pair of pivot arms 15 connected to the bottom surface 16 of the cover have on one end thereof bearing collars 17 which embrace the shaft 12 (Fig. 2). A similar bearing arrangement, such as terminal cup brackets 18, are usually provided to join the seat 13 to the pivot shaft.

The device embodying my present invention embraces the transverse shaft 12 and is located between the pivot arms 15 of the cover. It consists primarily of two separate units, namely a movable retaining arm 19 and a fixed housing 20. The forward end of the curved retaining arm is formed with a perpendicular flange member 21 and a horizontal flange 22. The horizontal flange 22 fits above the upper surface 23 of the seat cover 14 and is separated therefrom by a pad 24 which is attached beneath a circular enlargement 25 at the extremity of flanges 21 and 22.

In order to rotatably attach the retaining arm 19 to the pivot shaft, a projecting plate 26 is formed at the rearward end of the flange 22 and lies tangent to the forward edge of the shaft, as indicated at 27, in Fig. 3. An S-clamp 28 is attached to the rear face of the projecting plate by a pair of bolts 29 and cooperates with the free end of the plate to rotatably secure the retaining arm to the shaft.

A flat spring 30 has an upwardly extending flange 31 which is secured to the plate 26 by a second pair of bolts 32. This spring presses against the bottom surface 16 of the seat cover and causes the arm 19 to follow the cover when it is lowered into its closed position.

The rearward portion of the cover restraining arm is formed with a laterally projecting finger 33 which is curved at its lower transverse end, as shown at 34. Since this projection is integral with the arm 19, the curved end 34 follows an arcuate path about the axis of the pivot shaft 12 when the seat cover is raised and lowered.

The housing assembly 20 remains stationary during the operation of the device and is sup-

ported at its forward end by the horizontal shaft 12 over which the arcuate lips 35 pass. The housing is provided with an additional rest bearing against the bowl shelf A in the form of an adjustable screw 36 which penetrates the bottom 37 of the housing. This adjustable feature of the rear bearing point allows the device to be adapted to the various makes of toilet bowls now in use.

The interior of housing 20 contains a small support bracket 38 which has side walls 39 each having an outwardly extending support flange 40. Connecting the rear edges of side walls 39 is a vertical end wall 41 which has a forwardly projecting arcuate lip 42 at the upper end thereof. This end wall and lip afford a bearing surface for the support of a cantilever spring member 43. A bent portion 44 of the spring embraces the outer surface of the lip and end wall of the support member 38 and is anchored thereto by a bent tip 45 which passes through a transverse slot at the base of the end wall. The free end 46 of the cantilever spring is curved as shown in Fig. 3 in order to cooperate with the curved end 34 of projection 33 and thus allow this opposing element to ultimately pass with the continued movement of the retaining arm. The stiff wide spring 43 offers considerable resistance to the raising of the seat cover due to its initial opposition to movement of the projecting finger 33. From Fig. 3, it will be apparent that continued raising of the cover will finally cause the spring 43 to slip past the arm projection at which point the cover may be freely raised to its normal open position.

The return movement of the projecting finger causes the spring 43 to pivot about the anchor point where the bent tip 45 passes through the transverse slot. Resistance to this pivotal movement is provided by a U-spring 47 placed between the vertical section of spring 43 and the rear wall 48 of the housing and connected at its ends thereto by small key projections 49 which rest in apertures provided in the oppositely disposed surfaces 44 and 48. The degree of resistance to the pivotal movement of spring 43 may be predetermined by the rigidity of the spring 47 selected for a given toilet fixture, or a shim may be inserted between the spring 47 and the wall 48 to increase the spring tension if so desired. When the seat cover is almost closed, the spring 43 slips by the lateral projection 33 on the retaining arm thereby releasing the cover and returning it to its normal position on its supporting bracket 38.

In the operation of my device, as shown in Figs. 1 and 3, the retainer arm and housing units are placed on the horizontal supporting shaft at the top of a toilet bowl, with the forward end of the arm and the holding spring 30 embracing the opposite surfaces of the cover as shown in Fig. 3. As the seat cover is raised the retainer arm rotates about the supporting shaft 12. This movement is opposed by the force of the fixed spring member 43 contacting the projecting finger 33 on the arm. Continued raising of the cover causes the spring to eventually slip past the projecting finger whereby the cover may be freely raised to its normal open position.

In the closing of the seat cover 14 its lower surface 16 presses on the holding spring 30 causing the arm 19 to follow the cover in its return movement. This closing movement is retarded by the slight resistance of the small spring 47 to the pivoting action of spring 43 about its secured end 45. When the cover is almost closed the spring 43 slips by the projection on arm 19 and returns

to its original position under the influence of spring 47. This slight opposition to the closing movement of the elements affords sufficient braking action to prevent annoying or damaging impact of the cover with the toilet seat 13.

From the foregoing description of my present invention it will be seen that I have devised a simple structure which is readily adaptable to the various types of toilet bowls now installed in lavatories, and which will retard the opening movement of the toilet seat cover to such a degree as to make it impossible for small children to raise the cover. This is effective to prevent the clogging of the plumbing system or the loss of valuable articles due to the impulsive habit of small children of throwing objects into the lavatory bowl.

My device further affords a means for impeding the rapid motion of a toilet seat cover when thoughtlessly or unintentionally dropped from its open position. This feature obviates unpleasant noise and prevents unnecessary damage to the elements of the lavatory unit.

While a preferred form of the invention has been shown and described, it will be understood that variation in details of form may be made without departure from the invention as defined in the appended claims.

I claim:

1. In combination with a hinged toilet seat cover and a bearing shaft therefor, a device for restraining the pivotal movement of the cover comprising an arm pivotally secured to the shaft and connected at its forward end to the cover and having at its rear end a projection offset from axis of the shaft, a stationary housing straddling said arm, a bracket within the housing, a spring arm pivotally secured at one end to said bracket and having its opposite end cooperating with said projection to yieldingly resist pivotal movement of the cover and resilient means for opposing pivotal movement of said spring arm.

2. In combination, a member pivotally mounted on a bearing shaft therefor, a device for restraining the pivotal movement of the member comprising an arm pivotally secured to the shaft, means connecting the forward end of said arm to the member, said arm having at its rear end a projection offset from the axis of the shaft, a bracket, a spring arm pivotally secured at one end to said bracket, and having its opposite end cooperating with said projection to yieldingly resist pivotal movement of said member about said shaft and resilient means for opposing pivotal movement of said spring arm.

3. The device of claim 2 in which said means for connecting said arm to said member comprises a flanged extension of said arm engaging said member, a plate connected thereto and a spring connected to said plate and engaging said member, and cooperating with said flanged extension to maintain said arm in connection with said member.

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