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RETAINER FOR SANITARY TOILET SEAT COVERS

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2 Sheets-Sheet 1

Fig. 1.

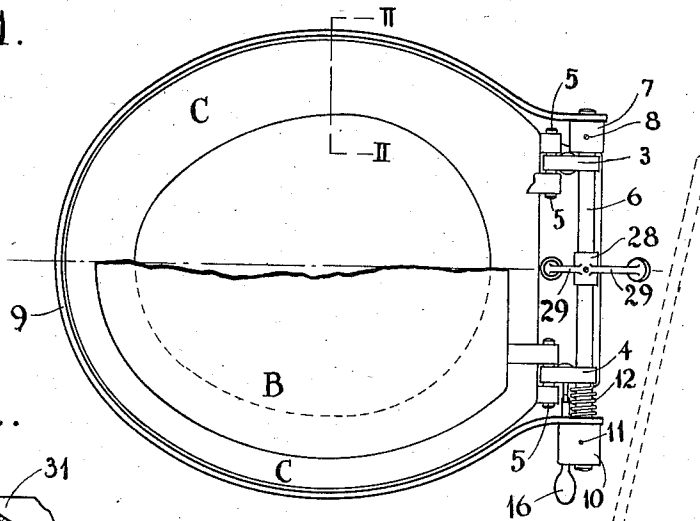


Fig. 2.

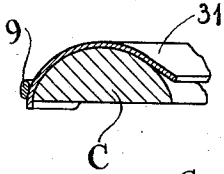


Fig. 3.

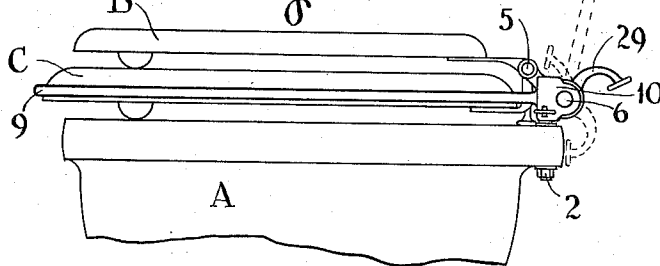


Fig. 4.

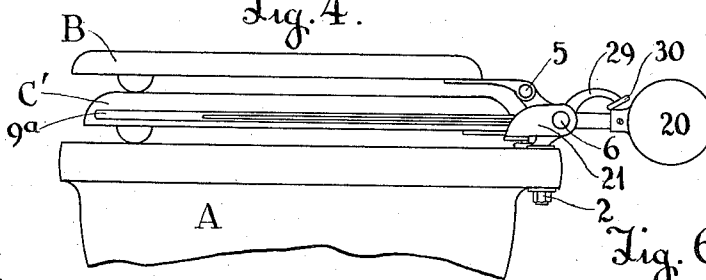


Fig. 5.

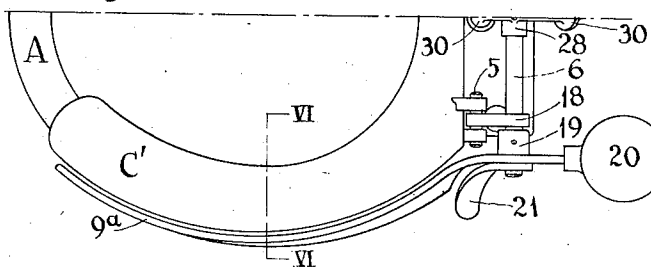
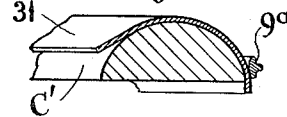


Fig. 6.



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RETAINER FOR SANITARY TOILET SEAT
COVERS

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7 Claims. (Cl. 4—242)

This invention relates to a retainer for sanitary toilet seat covers, the principal object of the invention being to provide a device of this character which will effectively clamp a single paper cover in position on the seat and prevent the adherence of the cover to the body of the user, said device being readily releasable thereby to permit the cover to be changed.

A further object of the invention is to provide a device of the character set forth in which the parts of the device are so disposed that they do not come into contact with the body of the user.

Further objects and advantages of the invention will appear as the description proceeds.

In the drawings accompanying this specification,

Fig. 1 is a plan view of a water closet bowl, showing the same with the wooden cover broken away so as to disclose one half of the seat with one form of the improved retainer applied thereto;

Fig. 2 is a fragmentary sectional view taken approximately on the line II—II of Fig. 1, and illustrating the manner in which a paper cover is retained on the seat;

Fig. 3 is a broken away side view of a water closet bowl with its wooden seat and cover in place and showing the retainer applied thereto, the broken lines illustrating the raised position of the retainer;

Fig. 4 is a view similar to Fig. 3, but illustrating the retainer applied to a wooden seat of the type in which the front portion is omitted and showing a modified form of means for operating the retainer;

Fig. 5 is a half plan view of the arrangement illustrated in Fig. 4;

Fig. 6 is a fragmentary sectional view taken approximately on line VI—VI of Fig. 5 and illustrating the cross-sectional form of the retainer strap;

Fig. 7 is a plan view of a bowl having a seat of the type shown in Figs. 4 and 5, the wooden cover being omitted, and illustrating a further modified form of operating means for the retainer;

Fig. 8 is a side view of the bowl shown in Fig. 7, the lower portion of the bowl being broken away;

Fig. 9 is an enlarged detail sectional view taken approximately on line IX—IX of Fig. 10, illustrating the latch mechanism shown in Figs. 1 and 3 for maintaining the retainer in operative position;

Fig. 10 is a sectional view taken approximately on line X—X of Fig. 9;

Fig. 11 is an enlarged detail, partly sectional plan view of the form of latch and its supporting bracket shown in Figs. 7 and 8;

Fig. 12 is a partly sectional end view of the latch and bracket shown in Fig. 11; and

Fig. 13 is a broken away side view of said latch and bracket.

Referring to the drawings, the water closet bowl and its hinged wooden cover are designated A and B wherever they appear, and the form of wooden seat shown in Figs. 1 to 3 is designated C, while that form shown in Figs. 4 to 8 is designated C'. All of these parts are of usual construction.

Secured in the flange of the water closet bowl are a pair of posts 1, details of which are shown in Figs 9 and 10, each of said posts having a flange or bead 1^a which rests on the top surface of the bowl, the posts being threaded at their lower ends for engagement with nuts 2 below the flange of the bowl, as indicated in Fig. 3. Each of the posts 1 carries at its upper end a bracket, 3 and 4 respectively, each of said brackets having a pair of perforations, one of which forms a bearing for the pintle 5 on which the wooden seat and its cover are mounted for swinging movement toward and from the bowl in the usual manner, the other perforation forming a bearing for a rock shaft 6 on which the retainer and its operating mechanism are mounted as hereinafter described.

The shaft 6 mounted in the bearings of the brackets 3 and 4 projects at both ends beyond said brackets, and on one end of the shaft a collar 7 is secured by any suitable means, such for instance as a pin 8 extending diametrically through the shaft and collar, as indicated in Figs. 1 and 7.

The retainer illustrated in Figs. 1 to 3, comprises a band or strap 9, preferably of metal, in encircling relation to the seat C and of such size that it will snugly engage the edge of the seat below the top surface thereof, so that in the normal position of the strap its top edge will not be in contact with the body of the user. The free ends of the strap 9 are secured on the opposite ends of the shaft 6 for movement therewith so that rocking of the shaft will swing the strap in an angular path toward and away from the seat.

On that end of the shaft 6 opposite from the collar 7 is secured a housing 10, which, like the collar 7, may be fixed for rocking movement with the shaft by means of a diametrically extending

pin 11. Between the housing 10 and the bracket 4, a coil spring 12 encircles the shaft 6, one end of said spring being anchored in the bracket 4 and the other end in the shaft 6, the tension 5 of the spring being such that it will rock the shaft so as to carry the retainer 9 to the position shown in broken lines in Fig. 3.

The post carrying the bracket 4 is provided with a laterally extending hook-shaped lug 13, 10 best seen in Fig. 9, which extends parallel with the shaft 6 toward the inner end of the housing 10. The said housing 10 is provided with a recess disposed parallel with the shaft 6 and in said recess is disposed a plunger latch 14, 15 normally maintained in projected position by a spring 15 disposed between the end of the plunger and the endwall of the recess in the housing. The end of the hook lug 13 and the projected end of the plunger are so formed that 20 the said projected end will engage the under face of the hook as shown clearly in Fig. 9 so as to lock the shaft 6 against rocking movement and thereby maintain the strap 9 in engagement with the edge of seat A. On the 25 other hand, the outer edges or faces of the hook and plunger are so bevelled that upon movement of the retaining strap from the inoperative position shown in broken lines in Fig. 3 to the operative position shown in full lines, the contacting 30 outer faces of the plunger and hook will exert a cam action on the plunger thereby forcing it into its recess against the tension of the spring 15 until the shouldered lip of the plunger passes beneath the end of the hook.

35 For releasing the plunger from engagement with the hook, a bell-crank lever 16 is pivotally mounted as at 17 (Fig. 9) in a slot formed in the housing 10, the longer arm of the lever extending a short distance beyond the end of the housing. 40 The housing is further provided with a diametrically extending recess in communication with the recess in which the plunger operates and with the slot in which the lever 16 is mounted. That portion of the plunger which crosses the 45 said diametrically extending recess is provided with a diametrically extending opening into which the short arm of the lever 16 extends, so that upon depression of the outer end of the lever the plunger will be forced inward against 50 the tension of spring 15, thus releasing itself from the hook 13, whereupon the shaft 6 will be rotated under the tension of spring 12 thereby carrying the retaining strap 9 into the broken line position shown in Fig. 3.

55 In the form shown in Figs. 4 and 5 the wooden seat C' is of the type that is cut out at the front of the closet. Consequently the retainer strap 9^a is made up of two arcuate members, one at each side of the seat. Because of the 60 necessity for greater rigidity in strap members of this type they are preferably provided with a longitudinally extending rib as shown in cross section in Fig. 6.

In the retainer-operating means shown in 65 Figs. 4 and 5, the spring and latch mechanism is dispensed with, and a counter-balancing weight 20 utilized in place thereof. The supporting posts are identical with those hereinbefore described, except that the bearing 70 brackets 18 on the two posts are duplicates, one of the other, as are also the collars 19 secured on the ends of the shaft 6, the strap members 9^a being secured on opposite ends of said shaft in juxtaposition to said collars re- 75 spectively. One of the strap-forming members

9^a extends a short distance back of the shaft 6 and carries at its free end the weight 20, and an operating handle 21 is secured on the end of shaft 6 in position to be conveniently operated 5 by the hand or foot of the operator. In this form of the device, in order to raise the retaining strap members out of engagement with the seat it is necessary only to give the handle 21 a lift sufficient to disengage the retaining members from the seat, whereupon the counterbalancing 10 weight 20 will act to rotate the shaft and thus carry the retainer to vertical position as illustrated by broken lines in the form shown in Fig. 3.

In Figs. 7 and 8, is shown still another form of 15 operating means which, unlike those hereinbefore described, is applicable only to the type of seat in connection with which the retainer is made up of two side members. In this form, the post and shaft arrangement is the same as 20 in the forms already described. The device differs from that of Figs. 1 to 3, in that the housing 22 secured on the end of shaft 6 is provided with perforated ears or lugs 23 between which a rearwardly extending arm 9^b formed 25 integral with the retainer member 9^a is pivoted as indicated at 24. The housing 22 is provided with a recess extending inward from the side thereof adjacent the arm 9^b, in which recess is disposed a coil spring 25 exerting its tension on 30 the arm 9^b thereby to maintain the retainer member 9^a in snug engagement with the edge of seat C'. For locking the parts in the position shown in the drawings, the bracket 4^a is provided with a laterally extending lug 26 similar to the 35 lug 13 shown in Fig. 9. The lug 26, however, engages the top surface of the retainer member 9^a and thus prevents rotation of the shaft 7 thereby maintaining the retainer member in engagement with the seat. A coil spring 27 40 encircles the shaft 6 and is anchored at one end in the shaft and at its other end in bracket 4^a whereby, upon release of the retainer member from the lug 26 the shaft will be rotated and thus carry the retainer members to vertical posi- 45 tion as above described. This release is accomplished by exerting a sidewise push on the lever arm 9^b thereby compressing spring 25 and rocking the retainer member on its pivot so that the retainer is released from the retaining 50 lug 26 and will move upward as the shaft 6 rotates under the tension of spring 27.

In all forms of the device herein shown a double stop member is provided for preventing over-rotation of the shaft in either direction. 55 This stop member comprises a collar 28 secured to the shaft 6 by a diametrically extending pin, said collar having a pair of arms 29 so curved that when the shaft has rotated to the proper point in one direction or the other one of said 60 arms will contact with the flange of the toilet bowl and thus prevent further rotation of the shaft. The arms 29 are provided with flanges 30 at their free ends and each of said flanges is preferably provided with a facing pad of rubber 65 or other soft material for cushioning the shock of contact with the bowl.

It is believed that the operation of the retainer will be readily understood from the foregoing description. With the retainer in raised position 70 shown in broken lines in Fig. 3, a sanitary paper cover 31, Figs. 2 and 6, which may be any one of the numerous types now on the market, is placed in position on top of the wooden seat. The retainer is then operated to bring it to the retain- 75

ing position shown in full lines in the drawings, in which position the retainer will securely clamp the paper cover around the edge of the seat and so retain it firmly in place while in use. After use, the retainer is operated to release the paper cover and the latter is removed from the seat and a new one substituted. It will thus be seen that I have provided a device so located and constructed that no part thereof comes in contact with the body of the user, and which efficiently holds a single paper cover in place and prevents the clinging of parts of the paper cover to the body of the user upon rising from the toilet seat.

Having thus described my invention what I claim is:

1. The combination with a water closet seat and a removable sanitary cover thereon, of a pivotally mounted member in encircling engagement with the edge of the seat below the top surface thereof thereby to retain the cover in position on said seat, means for holding said retaining member in said position, and means automatically operative upon release of said holding means to swing said retaining member on its pivot thereby to release said cover.

2. The combination with a water closet seat and a removable sanitary cover thereon, of a pivotally mounted member in encircling engagement with the edge of the seat below the top surface thereof thereby to retain the cover in position on said seat, means for holding said retaining member in said position, means automatically operative upon release of said holding means to swing said retaining member on its pivot thereby to release said cover and means for limiting the swinging movement of said retaining member.

3. The combination with a water closet seat and a removable sanitary cover thereon, of a pivotally mounted member in encircling engagement with the edge of the seat below the top surface thereof thereby to retain the cover in position on said seat, latch mechanism for holding the retaining member in said position, and tension means acting on said retaining member and effective on the release of said latch mechanism to swing the retaining member on its pivot away from said seat.

4. The combination with a water closet seat and a removable sanitary cover thereon, of a pivotally mounted member in encircling engagement with the edge of the seat below the top surface thereof thereby to retain the cover in position on said seat, latch mechanism including a fixed latch member secured on the water closet

and a spring-actuated latch member movable with the retaining member and cooperating with the fixed member for holding the retaining member in position on said seat, manually operable means for disengaging said latch members, and tension means acting on the pivot of said retaining member and effective on the disengagement of the latch members to swing the retaining member away from the seat.

5. The combination with a water closet seat and a removable sanitary cover thereon, of a pivotally mounted member in encircling engagement with the edge of the seat below the top surface thereof thereby to retain the cover in position on said seat, latch mechanism including a fixed latch member secured on the water closet and a spring-actuated latch member movable with the retaining member into engagement with said fixed member for holding the retaining member in position on said seat, a manually operable lever in engagement with said movable latch member for moving it against the tension of its spring out of engagement with the fixed latch member, and tension means acting on the pivot of said retaining member and effective on the disengagement of the latch members to swing the retaining member away from the seat.

6. The combination with a water closet seat and a removable sanitary cover thereon, of means for retaining said cover on said seat, said means comprising a shaft mounted for rotation on the water closet, a retaining member secured on said shaft for swinging movement relative to the seat and adapted to engage the edge of the seat below the top surface thereof, tension means operative on the shaft to rotate the same thereby to swing the retaining member away from said seat, and means for holding the retaining member in engagement with the seat against the action of said tension means.

7. The combination with a water closet seat and a removable sanitary cover thereon, of means for retaining said cover on said seat, said means comprising a shaft mounted for rotation on the water closet, a pair of retaining members secured on said shaft for swinging movement relative to the seat and adapted to engage the seat along its opposite side edges below the top surface of the seat, means operative to rotate the shaft thereby to swing said retaining members away from the seat, and means cooperating with one of said retaining members for holding the shaft against rotation.

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