United States Patent

Blount

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[45] **June 20, 1972**

[54] HINGED COVER CONSTRUCTION FOR A WATER CLOSET

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[73] Assignee: **New Century Products, Inc.**, Middletown, Ohio

[22] Filed: **Jan. 22, 1971**

[21] Appl. No.: **108,844**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 887,129, Dec. 22, 1969, abandoned.

[52] **U.S. Cl.** **4/236**, 4/235

[51] **Int. Cl.** **A47k 13/12**

[58] **Field of Search** 4/235, 236, 240

[56] **References Cited**

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Primary Examiner—Robert I. Smith
Attorney—Pearce & Schaeperklaus

[57] **ABSTRACT**

A hinged cover construction for a water closet in which stationary brackets mounted adjacent the bowl are provided with tracks extending between the tank and the bowl, hinge supports move on the tracks toward and away from the tank between a normal position adjacent the tank and an advanced position spaced from the tank and can be held in both positions. A lower cover and an upper cover are pivotally mounted on the hinge supports. A resilient cushion is mounted on the lower cover. The covers swing between a lowered position in which the bottom cover is supported on an upper edge of the bowl and the upper cover rests on the cushion and a raised position in which the covers lean against the tank in stable position when the hinge supporting brackets are in advanced position. Slots in the tracks permit removal of the hinge supports and covers from the bowl. Lock slide members are provided on the hinge supporting brackets for selective engagement with lock slots on the tracks to hold the hinge support in either the normal position or the advanced position.

6 Claims, 23 Drawing Figures

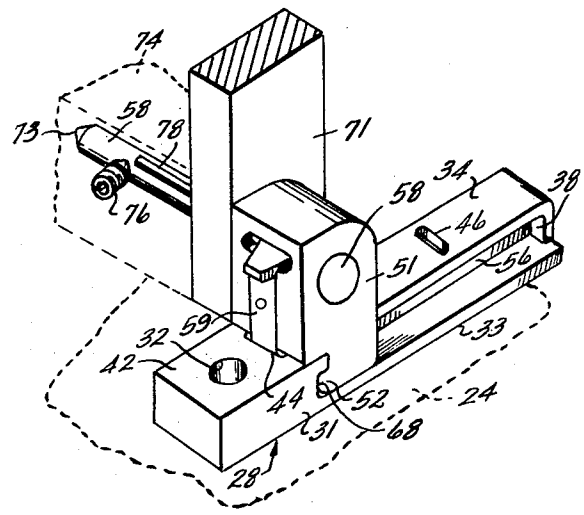

Fig 1

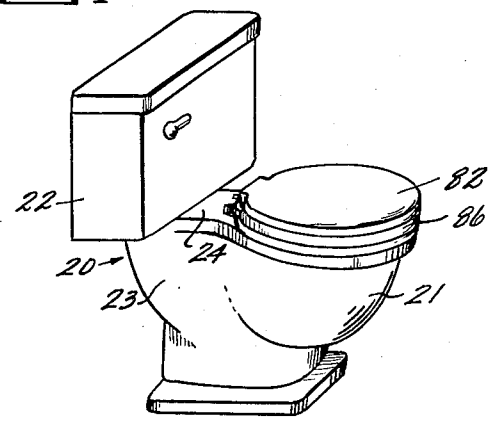

Fig 2

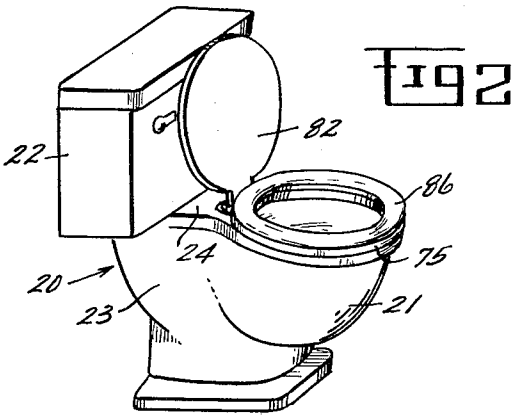

Fig 3

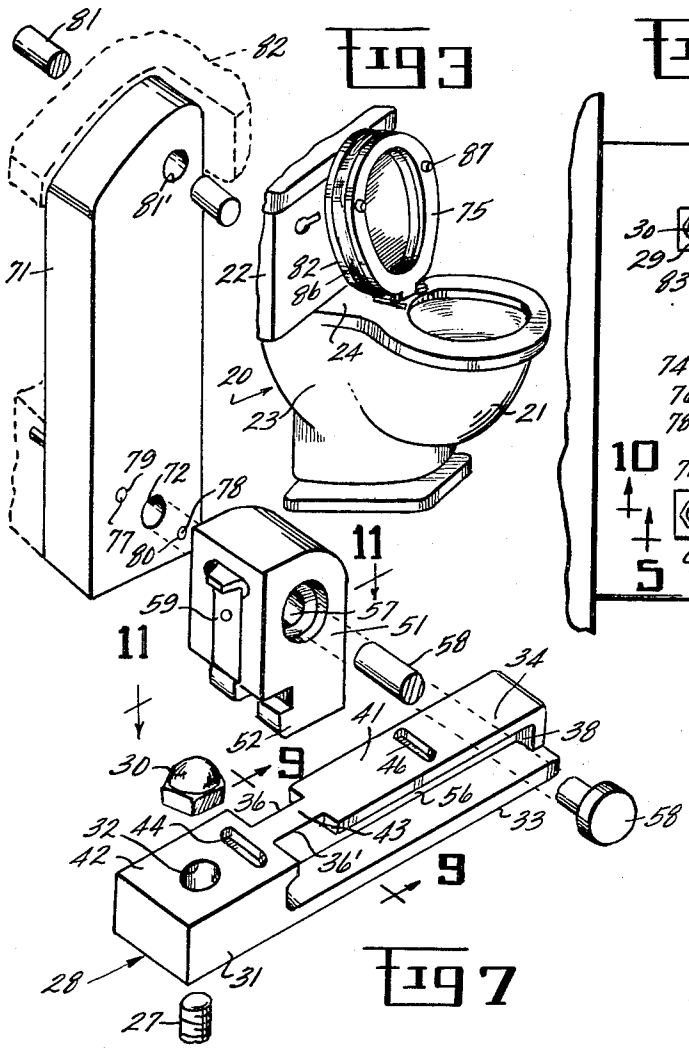

Fig 4

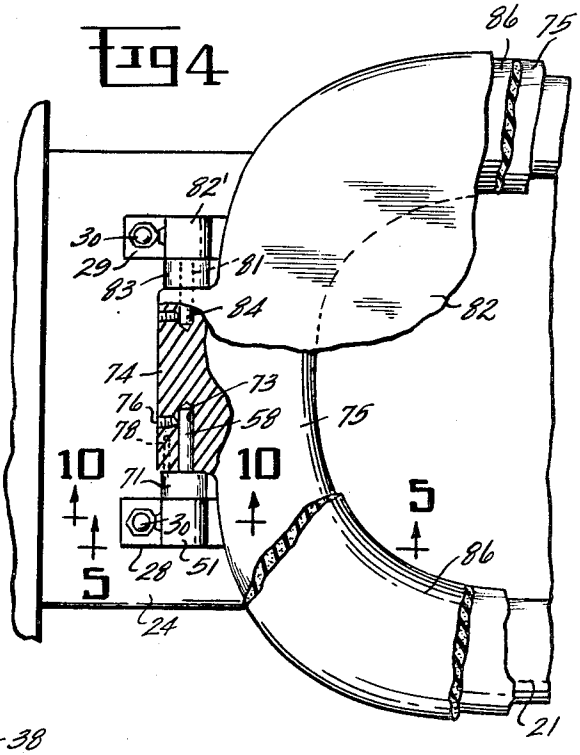

Fig 7

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FIG 9

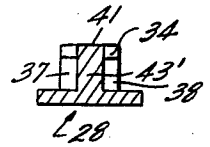

FIG 8

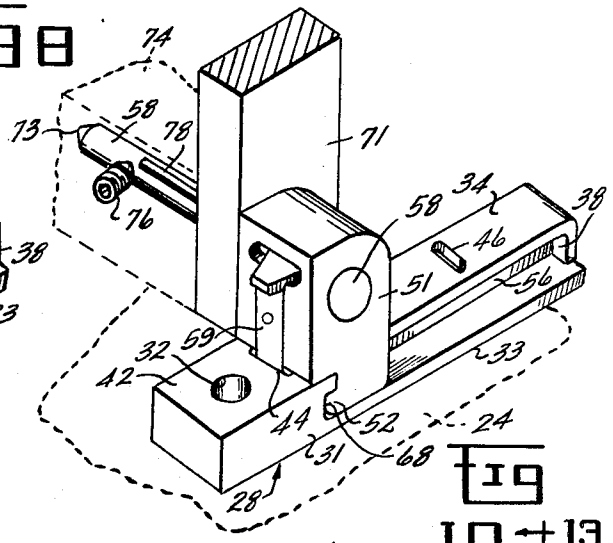

FIG 12

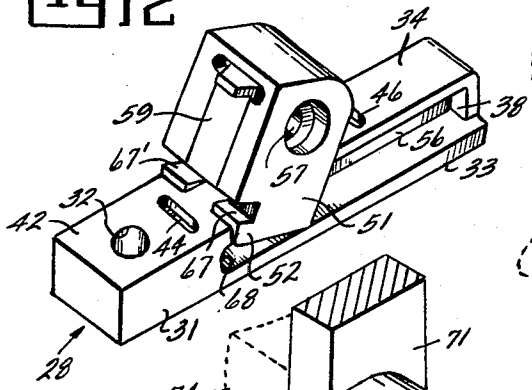

FIG 8a

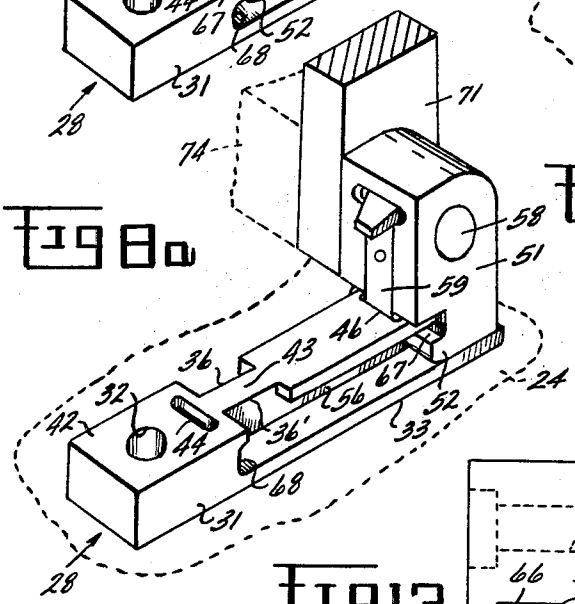

FIG 10 ← 13

FIG 11

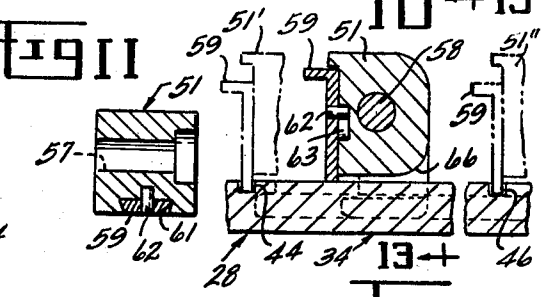

FIG 13

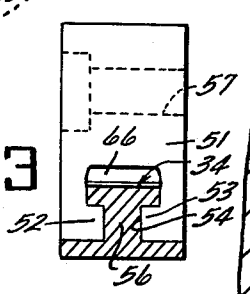

FIG 16

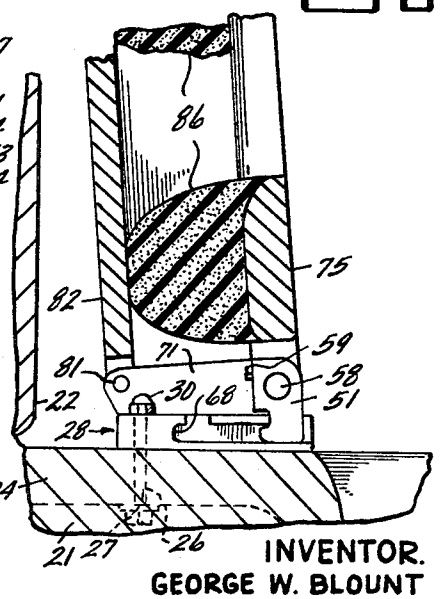

FIG 15

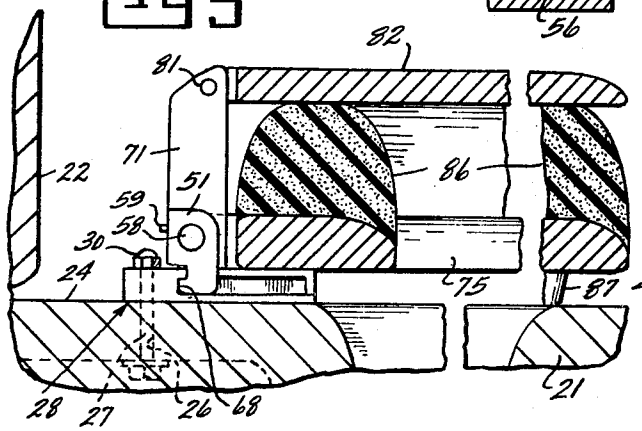

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FIG 14

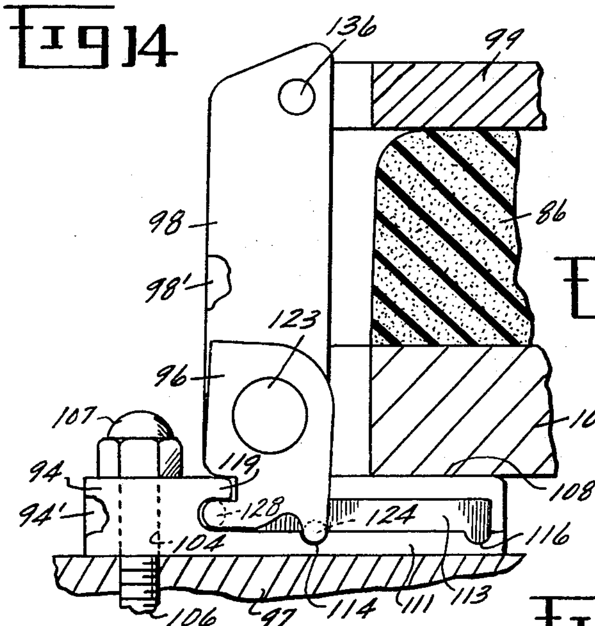


FIG 15

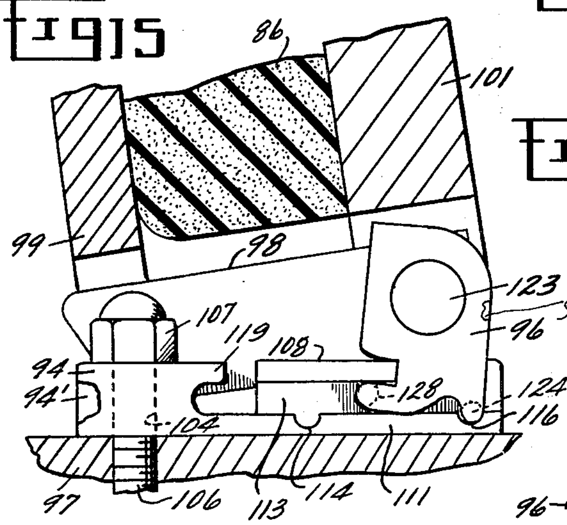


FIG 16

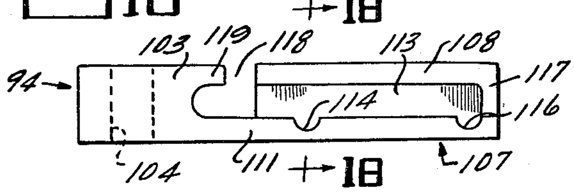


FIG 17

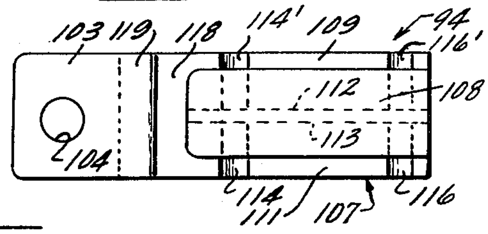


FIG 18

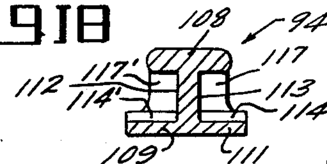


FIG 19

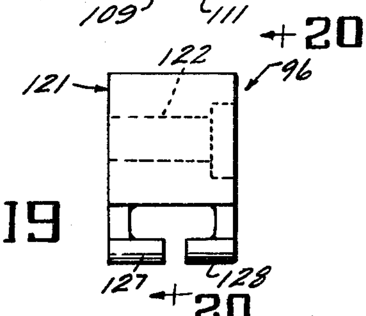


FIG 20

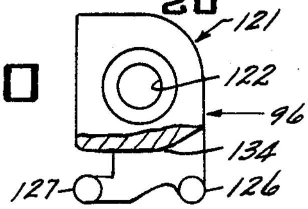


FIG 21

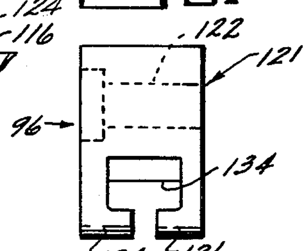
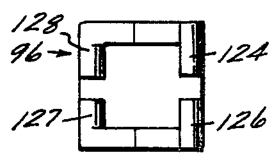


FIG 22



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HINGED COVER CONSTRUCTION FOR A WATER CLOSET

This is a continuation-in-part of my co-pending application Ser. No. 887,129, filed Dec. 22, 1969 and now U.S. Pat. No. 3,613,129.

This invention relates to a cover construction for a water closet or the like.

An object of this invention is to provide a cushioned seat for a water closet.

A further object of this invention is to provide a hinge construction for covers of a water closet which permits upward swinging of the covers to a stable position free of the bowl of the water closet and which permits ready removal of the covers from the water closet.

Briefly, this invention provides a water closet cover construction in which a resilient pad or rubber-like material is mounted on a bottom cover therefor. Covers of the water closet are hinged on pivots which can be moved away from the tank thereof to a position at which the covers lean against the tank in stable position. The pivots are mounted on sliding frames which can be moved to a position adjacent the tank when the covers are in a lowered or normal position.

The above and other objects and features of the invention will be apparent to those skilled in the art to which this invention pertains from the following detailed description and the drawings in which:

FIG. 1 is a perspective view of a water closet provided with covers and cover supports constructed in accordance with an embodiment of this invention, the covers being shown in lowered position;

FIG. 2 is a perspective view of the water closet shown in FIG. 1 with an upper cover thereof in raised position;

FIG. 3 is a perspective view of the water closet shown in FIGS. 1 and 2 with upper and lower covers both in raised position;

FIG. 4 is a fragmentary plan view on an enlarged scale of the water closet with both covers in lowered position, parts being broken away to reveal structural details;

FIG. 5 is a view in section taken on the line 5—5 in FIG. 4, hinge brackets and covers being in normal position;

FIG. 6 is a view in section taken on the same line as FIG. 5 but showing both covers in raised position, the hinge brackets being in advanced position;

FIG. 7 is a fragmentary exploded view showing one of a pair of hinge supporting bracket assemblies of the water closet illustrated in FIGS. 1–6 inclusive, portions of the covers being shown in dot-dash lines in association therewith;

FIG. 8 is a fragmentary perspective view of the hinge supporting bracket assembly shown in FIG. 7 in assembled relation in normal position, a fragmentary portion of the water closet and of the lower cover being shown in association therewith in dashed lines;

FIG. 8A is a fragmentary perspective view similar to FIG. 8 but showing the hinge supports in advanced position, details of shafts and pins thereof being omitted;

FIG. 9 is a view in section taken on the line 9—9 in FIG. 7;

FIG. 10 is a fragmentary view in section taken on the line 10—10 in FIG. 4, a hinge bracket being shown in an intermediate position in full lines and in locked positions in dot-dash lines and in double-dot-dash lines;

FIG. 11 is a view in section of the hinge bracket shown in FIG. 10 taken on the line 11—11 in FIG. 7;

FIG. 12 is a perspective view of one of the track members and one of the hinge supporting brackets showing the manner of removal of the bracket from the track member;

FIG. 13 is a view in section taken on an enlarged scale on the line 13—13 in FIG. 10;

FIG. 14 is a view partly in section and partly in side elevation showing a cover and supporting hinge arrangement assembly constructed in accordance with another embodiment of this invention in normal position, fragmentary portions of associated parts being shown in association therewith;

FIG. 15 is a view partly in section and partly in side elevation showing the assembly illustrated in FIG. 14 in advanced position;

FIG. 16 is a view in side elevation of a track member forming a portion of the assembly illustrated in FIGS. 14 and 15;

FIG. 17 is a top plan view of the track member shown in FIG. 16;

FIG. 18 is a view in section taken on the line 18—18 in FIG. 16;

FIG. 19 is a view in end elevation of a sliding bracket forming a portion of the hinge arrangement illustrated in FIGS. 14 and 15;

FIG. 20 is a view in section taken on the line 20—20 in FIG. 19;

FIG. 21 is another view in end elevation of the sliding bracket illustrated in FIG. 18; and

FIG. 22 is a bottom plan view of the sliding bracket illustrated in FIGS. 19 to 21.

In the following detailed description and the drawings, like reference characters indicate like parts.

In FIGS. 1–3 inclusive is shown a water closet 20 which includes a bowl 21 and a tank 22 mounted on a rearward extension 23 of the bowl in usual fashion. An upper face 24 of the extension 23 is horizontal and is provided with upright bores 26 (FIGS. 5 and 6) of usual form in which bolts 27 are received. Stationary rail members 28 and 29 are mounted on the upper face 24 of the extension 23 at the bores 26. Acorn nuts 30 on the bolts 27 hold the rail members in position. The rail members 28 and 29 are identical in construction, and only the member 28 and brackets supported thereon will be described in detail. As shown in FIG. 7, the rail member 28 includes a body 31 having an upright opening 32 therein which receives one of the bolts 27 and an extension portion 33 which extends normally to the upright opening and carries a T-shaped track 34. Slots 36 and 36′ are provided in the cross bar of the track 34 at an outer end thereof. Upright stops 37 and 38 (FIG. 9) are provided at an inner end of the track 34. An upper face 41 (FIG. 7) of the cross bar portion of the track 31 is coplanar with an upper face 42 of the body 31 and with an upper face 43 of the upright portion 43′ of the track at the slots 36 and 36′. The portion 43′ forms a bridge between the body face 42 and the track face 43.

A sliding hinge bracket 51 (FIGS. 10 and 13) is slideably mounted on the track 34. The bracket 51 includes angle shaped flange guides 52 and 53 (FIG. 13) which embrace the track 34. A slot 54 is provided between the flange guides 52 and 53 in which an upright stem portion 56 (FIG. 8) of the track 34 is received. A transverse counterbored bore 57 (FIG. 13) in the bracket 51 receives a short pivot pin 58 to support the pivot pin 58 as shown in FIG. 7. A lock slide member 59, which is of dove tail shape in section as shown in FIG. 11, is received in and reciprocates in an upright dove tail slot 61 in the bracket 51. A pin 62 mounted in the lock slide member 59 is received in an upright socket slot 63 for limiting the movement of the lock slide member 59. The bracket 51 slides along the track 34 as shown in FIG. 6 between a normal locked position shown at 51′ in dot dash lines in FIG. 6 in which the lower end of the lock slide member 59 is received in a lock socket 44 in the rail member 28 and an advanced position shown at 51″ in double-dot-dash lines at which the lower end of the lock slide member is received in a lock socket 46 in the rail member 28.

The bracket 51 is cut away above the slot 54 as shown at 66 in FIGS. 13 and 10 so that the bracket 51 can be tilted out of the track through the slots 36 and 36′ as shown in FIG. 12. When the bracket 51 is in the normal locked position as shown in FIG. 5, ends 67 and 67′ (FIG. 12) of the angle shaped flange guides are received in sockets 68, one of which is shown in FIG. 5 at one end of the track 34 adjacent the slots 36 and 36′ to prevent inadvertent tilting out of the track.

A swinging bracket 71 (FIG. 7) is pivotally mounted on the pivot pin 58. The pivot pin 58 extends through a transverse bore 72 in the bracket 71. The pin 58 extends beyond the

bracket 71 into a socket 73 (FIG. 4) in an extension 74 of an annular lower cover 75. A set screw 76 holds the pin 58 in position in the socket 73. Positioning pins 77 and 78 (FIG. 7) are mounted in sockets 79 and 80, respectively, in the swinging bracket 71 on opposite sides of the bore 72. The positioning pins 77 and 78 extend parallel to the axis of the bore 72 and into the extension 74 of the lower cover 75 so that the bracket 71 swings with the lower cover 75. An end portion of an elongated pivot pin 81 is mounted in a transverse bore 81' in the swinging bracket 71 which is spaced from and parallel to the bore 72. An upper cover 82 is pivotally mounted on the pivot pin 81. As shown in FIG. 4, a second sliding bracket 82' slides along a track on the rail member 29, and a second swinging bracket 83 is swingably mounted thereon with a second short pivot pin 84 being mounted in the second sliding bracket 82' and pivotally supporting the second swinging bracket 83. An opposite end portion of the pivot pin 81 is mounted in the second swinging bracket. Other members are associated with the second sliding bracket and the second swinging bracket which are similar to like members already described with relation to the brackets 51 and 71.

An annular resilient seat pad 86 of foam rubber or the like or other soft cushion material is mounted on the lower cover 75. Resilient bumper members 87 (FIGS. 3 and 5) mounted on the underside of the lower cover 75 can rest on the top of the walls of the bowl 21 when the bottom cover is in lowered or normal position as shown in FIG. 5. The covers 75 and 82 are spaced much further than in cover constructions which have no such resilient pad. The upper cover 82 can be swung upwardly to lean against the tank 22 as shown in FIG. 2 when the sliding brackets 51 and 82' are in normal position and is supported in stable leaning position. However, when both the covers are to be swung upwardly and out of normal position, the brackets 51 and 82' are moved to the FIG. 8A position at which both the upper cover 82 and the lower cover 75 can be swung upwardly to lean against the tank 22 as shown in FIG. 3 in stable leaning position. When it is desired to remove the assembly of covers 82 and 75, the sliding brackets 51 and 82' are slid to the slots 36 and 36' and are tilted, as shown in FIG. 12, to be removed from the tracks together with the covers 82 and 75.

In FIGS. 14 and 15 are shown rail members 94 and 94' and sliding hinge brackets 96 and 96' embodying another form of the invention. The rail member 94' is similar to the rail member 94 and the sliding hinge bracket 96' is similar to the sliding hinge bracket 96, and only the rail member 94 and the sliding hinge bracket 96 will be described in detail. The rail member 94 and the sliding hinge bracket 96 and associated with a water closet bowl 97, swinging hinge brackets 98 and 98', an upper cover 99 and a lower cover 101 and associated members which are similar in construction to like parts of the device described earlier.

As shown in FIGS. 16 through 18, the rail member 94 includes a body 103 having an upright opening 104 therein for receiving a bolt 106 (FIGS. 14 and 15) and an extension portion 107 (FIGS. 16 and 17) extending normally to the upright opening 104 and including a T-shaped track 108 and transversely extending base flanges 109 and 111 on opposite sides of a lower portion of the track 108, grooves or slots 112 and 113 (FIG. 18) being formed between the cross bar of the T-shaped track 108 and the base flanges 109 and 111. Transverse stop slots 114—114' and 116—116' are formed in the upper faces of the base flanges 109 and 111 as shown in FIGS. 16 and 17. The T-shaped track 108 extends between stop flanges 117 and 117' and a slot 118 with the outer end of the track 108 adjoining but spaced from a hook portion 119 of the body 103.

The sliding hinge bracket 96 (FIGS. 19–22) includes an upper body portion 121 through which a counterbored bore 122 (FIG. 19) is formed. The bore 122 receives a short pivot pin 123 (FIGS. 14 and 15) similar to the short pivot pin already described. A lower portion of the sliding hinge bracket 96 carries spaced coaxial inner pin members 124 and 126 (FIG. 22) and spaced coaxial outer pin members 127 and 128. The pin members 126 and 127 can be received in the slot 112 and the pin members 124 and 128 can be received in the slot 113. The inner pin members 124 and 126 are received in the stop slot portions 114 and 114' respectively when the sliding hinge bracket is in a normal position as shown in FIG. 14, and the inner pins 124 and 126 are received in the stop slot portions 116 and 116' respectively when the sliding hinge bracket 96 is in an advanced position as shown in FIG. 15. When the sliding hinge bracket 96 is in normal position, the outer pins 127 and 128 are received under the hook portion 119. Weight of the covers 99 and 101 and associated elements holds the sliding hinge bracket 96 in these positions until the sliding hinge bracket 96 is swung sufficiently to free the inner pins from the stop slots. A slot 134 (FIG. 21) between the pin members 124, 126, 127, and 128 and the upper body portion 121 of the sliding hinge bracket 96 receives the cross bar portion of the T-shaped track 108. Sufficient space is provided in the slot 134 so that the sliding hinge member 96 can be tilted out of the track 108 at the slot 118 in a manner similar to that described in connection with the other form of device.

The rail members 94 and 94' (FIGS. 14 and 15) and the sliding hinge brackets 96 and 96' support the lower cover 101 for swinging about the axis of the short pivot pin 123 and another similar short pivot pin (not shown) associated with the rail member 94' and the sliding hinge bracket 96'. The swinging hinge brackets 98 and 98' swing with the lower cover 101 and carry an elongated pivot pin 136 on which the upper cover 99 is pivotally mounted. The sliding hinge brackets lock in the normal and extended positions as the inner pins 124 and 126 thereof are received in the slots 114—114' and 116—116' respectively.

The hinge constructions illustrated in the drawings and described above are subject to structural modification without departing from the spirit and scope of the appended claims.

Having described my invention, what I claim as new and desire to secure by letters patent is:

1. A cover construction for a water closet which includes a bowl and a tank mounted adjacent the bowl, said construction comprising tracks mounted adjacent the bowl and extending between the tank and the bowl, sliding brackets mounted on the tracks and capable of being slid toward and away from the tank, pivot means supported by the sliding brackets, a cover swingably mounted on the pivot means, there being a slot in each track, the sliding brackets being removable from the tracks through the slots, and stop means for holding the sliding brackets in at least one position against longitudinal movement in both directions on the tracks.

2. A cover construction in accordance with claim 1 wherein the stop means for each sliding bracket includes a stop slot in the track associated therewith and a lug on the sliding bracket engageable with the stop slot for holding the sliding bracket in the selected position.

3. A cover construction as in claim 2 wherein the sliding bracket includes a pivot pin portion which is slideable along the track and the sliding bracket is swingable about the axis of the pivot pin portion between a locked position in which the lug is in engagement with the stop slot and a released position in which the lug is free of the stop slot.

4. A cover construction as in claim 2 in which the stop slot is below the lug and the weight of the cover holds the lug in the stop slot.

5. A cover construction as in claim 2 wherein the lug is slideable up and down between a locked lowered position in engagement with the stop slot and a raised released position.

6. A cover construction in accordance with claim 1 wherein the stop means for each sliding bracket includes a stop slot in the track associated therewith adjacent the tank end of said track, a lug on the sliding bracket engageable with the stop slot, the bracket removal slot in said track is adjacent but spaced from the tank end of said track, and means is provided on said track at the tank end thereof for overlying a portion of the sliding bracket to hold the sliding bracket on the track when the lug is in engagement with the stop slot.

* * * * *