March 6, 1934. S. G. ZUCKERMAN 1,950,016

TOILET SEAT

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Fig. 1.

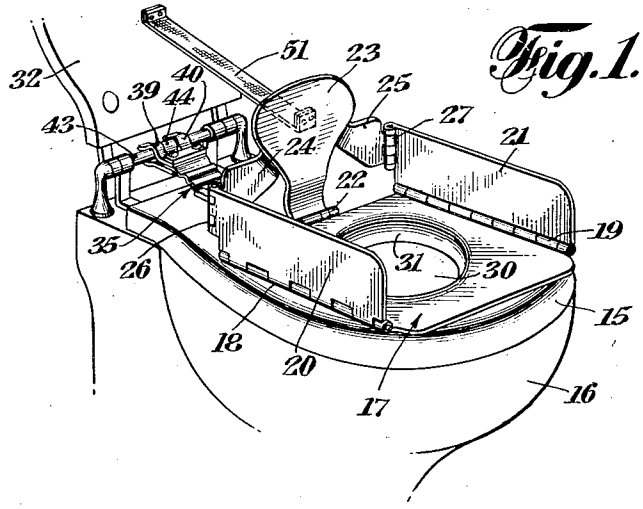
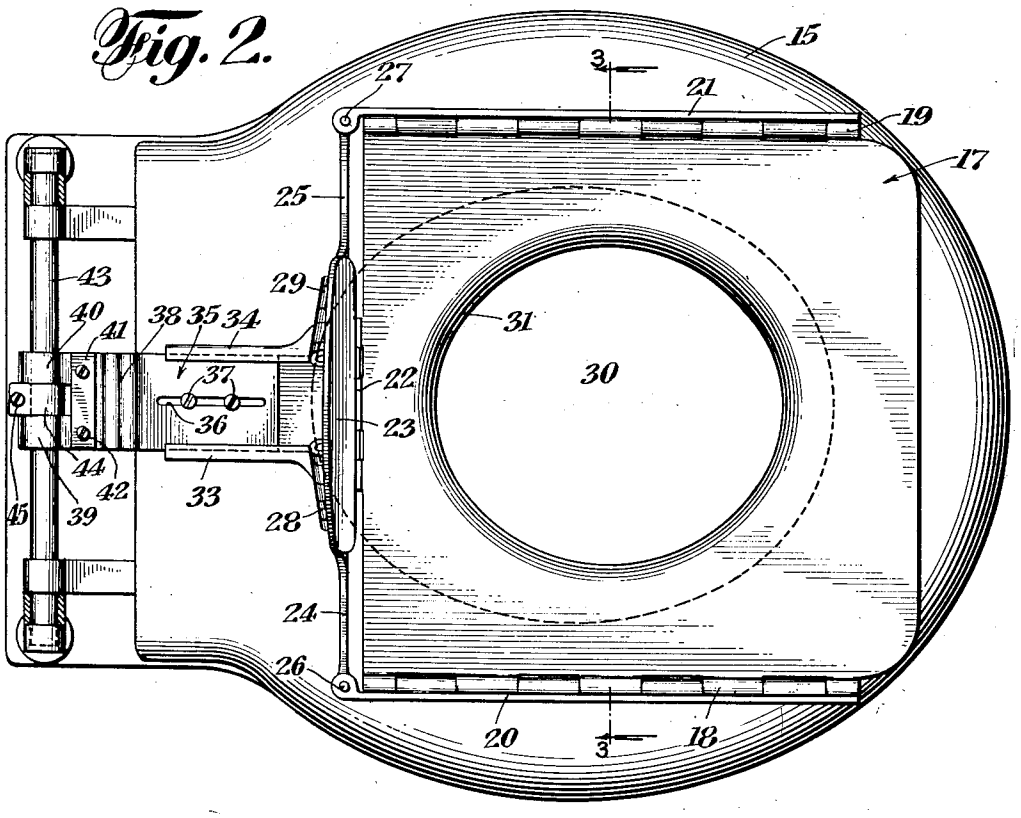


Fig. 2.



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Fig. 3.

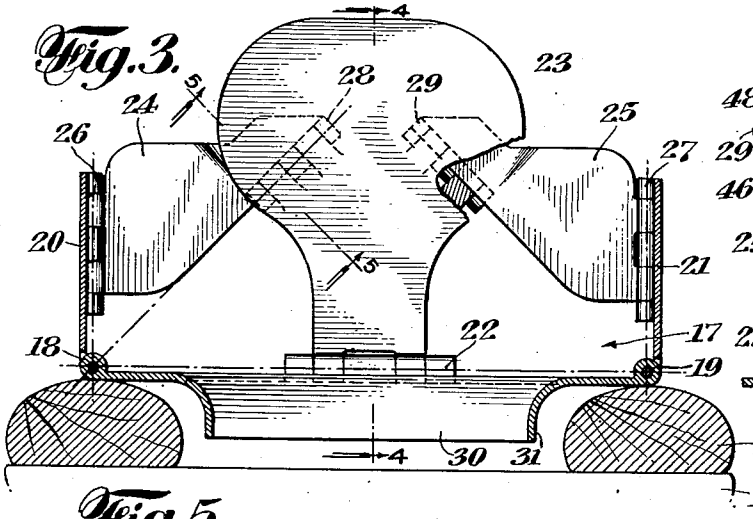


Fig. 4.

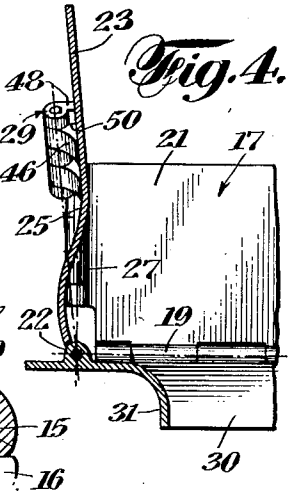


Fig. 5.

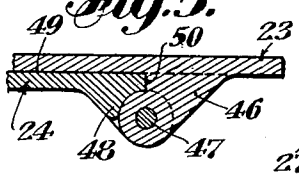


Fig. 6.

Fig. 7.

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TOILET SEAT

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Fig. 8.

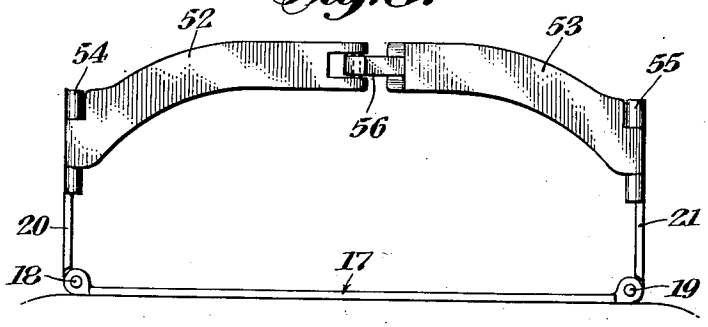


Fig. 9.

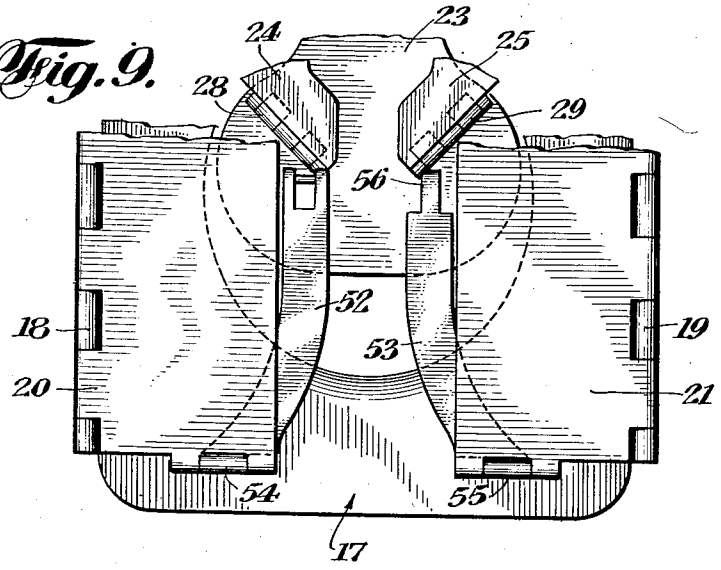
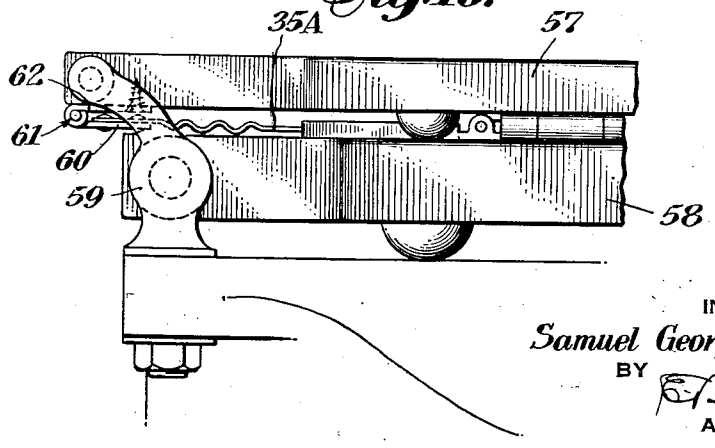


Fig. 10.



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Patented Mar. 6, 1934

1,950,016

UNITED STATES PATENT OFFICE

1,950,016

TOILET SEAT

Samuel George Zuckerman, Brooklyn, N. Y., assignor to Eveready Seat Corporation, New York, N. Y.

Application March 14, 1932, Serial No. 598,740

12 Claims. (Cl. 4—239)

This invention relates to toilet seats for infants, and particularly of the type adapted for attachment to bowls provided with adult seats. The main object of this invention is to enable an appliance of this kind to be fitted into place in such manner that it will adequately serve its function when in its operative position, and that can be readily removed to an inoperative position either almost completely out of sight when the bowl is not in use, or conveniently out of the way when it is being used by an adult.

Another object of my invention is to provide a device of this character with simple adjusting means to permit it to be operatively fitted to bowls of different designs and variously sized fittings, and to further enable it to be easily and quickly secured into place by a person not possessed of any special mechanical skill. It is still another object to provide constructions for appliances of this class, of either permanent, built-in or detachable designs, of sturdy and light-weight structure, and of low manufacturing cost.

A further object of this invention is to provide a safe, sanitary, and comfortable toilet seat for infants, and one which overlies the adult seat and at the same time serves as a protective housing therefor.

For the accomplishment of the aforesaid objects, the device constituting my invention is of a collapsible construction, certain cooperatively hinged parts serving, in their upright positions, as side and back walls,—and when collapsed, assuming a substantially horizontal position overlying the regular adult seat, the protruding elements, such as the hinges, disappearing into the opening in the said adult seat. The parts are so arranged, that when the seat is folded into its collapsed position and the lid closed thereover, the space consumed by the combined thickness of the parts is no greater than the usual space between lid and seat. The design is such that the moving of any one of the walls will cause a corresponding movement of the others, to bring the device into either its operative or inoperative positions, making it extremely easy to manipulate. Other features, advantages and objects will appear from the drawings, and the description hereinafter given.

Referring to the drawings,

Figure 1 is a perspective of the infants' toilet seat shown in its open position over an adult seat.

Figure 2 is a plan view, showing the infants' seat open as in Figure 1.

Figure 3 is a front to rear section taken along line 3—3 of Figure 2.

Figure 4 is a fragmentary side section along line 4—4 of Figure 3.

Figure 5 is a section along line 5—5 of Figure 3 showing the hinged construction at the rear of the back walls.

Figure 6 is a plan view of the device in its collapsed or closed position.

Figure 7 is side sectional view along line 7—7 of Figure 6, indicating by dot-dash lines the upright position of the infants' seat.

Figure 8 is a front view of a modification, showing a front guard consisting of two interlocking arms.

Figure 9 is a fragmentary plan view showing the position of the arms when the device is in its collapsed position, and

Figure 10 is a fragmentary side view showing a modified form of connection between the collapsible seat and the fittings on a different variety of bowl than that shown in Figure 1.

In the drawings the adult or large seat 15, resting upon the bowl 16, has surmounted thereon the infant's or small seat 17, to the side edges of which are connected, by the hinges 18 and 19 the side walls 20 and 21 respectively, and to the rear edge of which is connected, by the hinge 22, the back rest 23. The rear walls 24 and 25 are each hinged to one of said side walls and said back rest,—the hinges 26 and 27 effecting the connections to the side walls, and the hinges 28 and 29 to the back rest. This arrangement enables the parts constituting the seat to coact with each other in such manner, that if any one of the walls or the back rest were inwardly moved from the position shown in Figure 1, all the other parts would fold inwardly and downwardly to the collapsed or inoperative position shown in Figures 6 and 7. It will be noted that in the collapsed position, the walls 24 and 25 overlie the seat 17, the side walls 20 and 21 are resting in facing relation upon said sides, and the back rest is positioned over and extends into the opening 30. To effect perfect cooperation and the desired coordination between the parts, the hinges are so designed that the axes of hinges 18, 22, 26 and 28, and those of the hinges 19, 22, 27 and 29, intersect at one point, as is clearly shown in Figures 3 and 4.

The opening 30 in the small seat 17 contains the annular wall 31 which is integral with the seat 17 and extends downwardly through the opening in the large seat when the small seat is down in place. This wall serves as a housing

or protective element for the adult seat 15, thereby preventing the soiling of the latter seat when the bowl is being used by an infant. As the periphery of the opening 30 is formed by the smooth, curved juncture of the seat proper and the said annular wall, there is no sharp edge contacting with the child, thereby making for greater comfort. The back rest 23 is bent forwardly (in its upright position), so that in its collapsed position it will extend downwardly into the opening 30,—the bend therein being sufficiently great to permit the hinges 28 and 29 to completely enter said opening. (See Figure 7). The rear walls 24 and 25 have the portions adjacent the back rest bent rearwardly near the hinges 28 and 29, and made adaptable to the curvature in the said back rest. The lid 32 can therefore be completely closed to its horizontal position without any interference from upwardly protruding elements, said lid being separated from the large seat by three thicknesses, namely that of the small seat 17, the side walls 20 and 21 and the rear walls 24 and 25 thereover; and as these parts can be made of "Bakelite" or similar material, the total space consumed by the said three thicknesses can be relatively small.

The seat 17 contains an extension at the rear thereof which rests upon the rear portion of the large seat, as shown in the drawings,—or over the rear extension of the bowl in cases where the large seat is shorter. This small seat extension contains the grooved walls 33 and 34 adapted to slidably receive the flat, horizontally disposed tongue 35, the slotted aperture 36 of which is adapted to coact with the screws 37 for longitudinal adjustment of said tongue with respect to the small seat assembly. Coextensive with said tongue, and either integral therewith or a separate part thereof, is the flexible corrugated portion 38, the rear end of which is held secured between the two sets of spring clamps 39 and 40, these clamps being held in fixed relation to each other and being secured to said tongue member by the transverse connecting bar 41 and the screws 42 therein. It is understood that the said clamps 39 and 40 may be formed from a single piece of metal having a transverse body portion connected to and integral with the clamping elements.

In securing this device into place, the said spring clamps are slipped over the transverse fitting or rod 43 at the center thereof, a rod of this type being commonly used for pivotally connecting the large seat and lid thereto. In the center of said rod and between said spring clamps 39 and 40, is the member 44, which is immovably held in place by the screw 45. This member 44 serves as a stop or abutment to prevent lateral movement along rod 43 of the tongue and small seat assembly.

It will be noted that the spring clips 39 and 40 are adaptable for attachment to fittings of different sizes within the commonly used dimensional limitations, as the resiliency of these spring members will enable these clamps to yieldably adjust themselves. To provide for variations in the distance between the rod 43 and the small seat assembly, the slot 36 is provided as hereinbefore set forth, so that by a simple manipulation of the screws 37, the required longitudinal adjustment can easily be made. The entire assembly of seat and holding means can be readily removed by exerting a forward pull to remove the spring clamps 39 and 40 from their yieldable engagement with the rod 43. It will thus be observed that both the operation of assembling the device and of detaching same requires no special mechanical skill, the only tool required being a screw-driver.

The corrugated portion 38 constitutes an additional adjusting means to take up the variations in the height of rod 43 above the bowl prevailing in different makes of toilet appliances of this class. Should the seat 17 fail to rest flush along the entire surface of the large seat, that is, should seat 17 be somewhat tilted due to the differences in level between the axis of rod 43 and the upper surface of the large seat 15, the corrugated portion 38, being flexible and readily subject to bending, will yield sufficiently under the weight of a seated child to permit a complete peripheral contacting of the small seat with the large seat.

It will be noted that the entire small seat assembly can be raised to an upright position against the lid 32 and out of the way, as indicated in Figure 7. When it is so raised, it will automatically collapse as soon as the back rest 23 contacts with the lid 32, as the continued rearward movement of the small seat 17 while the back rest is stationary is equivalent to the inward movement of a part of the seat assembly, as hereinbefore explained.

It should be further noted that the hinges 28 and 29 are at the rear of the back rest, so that there is no possibility of the child coming into contact therewith. Neither can there be any pinching of the child's back between hinges, as could be the case if the hinges were exposed and the child's flesh caught between the complementary parts of a hinge in the process of being closed. In my design, a flat smooth surface is presented to the infant's back, making for comfort and safety. By referring to Figure 4, it will be seen that the back rest 23 is slightly tilted rearwardly, permitting not only a comfortable position for the child, but also preventing the possibility of a self-collapse of the assembly, as the inclination beyond the vertical or neutral position tends to keep the parts in their open or operative position, there being no possibility of a gravitational inward pull.

Note should be taken of the construction of hinges 28 and 29, shown in detail in Figure 5. The back rest 23 has the extensions 46 at the rear thereof which support the hinge pin 47 upon which are rotatably mounted the complementary hinge members 48 forming a part of the rear wall 24. The hinge is held in place and against further movement beyond the position shown in Figure 5, by the contacting of the surfaces at 49 and at 50,—the walls of the extensions 46 along 50 serving as an abutment for the corresponding walls of the elements 48. This insures a more rigid and a lasting construction.

The flexible member or strap 51 may be employed as an added element, one end thereof being attached to the lid 32 and the other end to the rear of the back rest 23. When the entire assembly is in its collapsed position, and the lid closed thereover, a raising of the lid will bring the said strap 51 into tension and simultaneously raise the back rest, thereby unfolding the entire assembly and bringing it into its operative position. Similarly, when the small seat assembly is raised and is in collapsed position against the lid 32, a downward movement of the small seat proper 17 to its operative position will result in a rearward pull of the strap

51 upon the back rest 23, thereby automatically unfolding the entire assembly. Of course, the length of the strap 51 has to be specially adapted for the purpose. Being positioned over the centrally disposed back rest, the strap, being flexible, will fold up upon a collapse of the device, and rest in the space within the opening 30, and between the rear of the back rest and lid, as indicated in Figure 6.

To provide a front guard as an additional safety precaution, the interlocking arms 52 and 53 are employed. These are hinged at 54 and 55, and are detachably interlocked by the hook and bar arrangement shown at 56, or in some other suitable manner. When the device is collapsed, the arms 52 and 53 assume the position shown in Figure 9, a portion thereof underlying the side walls 20 and 21 in the space between these walls and the large seat, and the remaining portions extending rearwardly and horizontally over the opening 30. In place of these arms an ordinary belt and buckle arrangement can be employed, suitably attached to the sides 20 and 21.

In Figure 10 is shown a modified form of the attaching means for securing the small seat assembly to toilet bowl fittings that do not have a part equivalent to the rod 43. The lid 57 and large seat 58 are separately attached to the bracket 59 as shown. The tongue member 35A is in this design attached to the free and lower arm 60 of the hinge 61, the upper arm 62 being fastened to the middle of the lid 57. The other adjustments are made as in the first design illustrated. It will be noted that here also the attachment is very readily effected, no other tools being necessary than a screw-driver.

The exposed portions of the hinges on the small seat assembly can all be made of the same material as the seat, such as "Bakelite" or the like,—so that no metal is exposed to the child's touch. Should the hinges be metallic, only small portions thereof will be so exposed,—and these would not directly contact with the child, and would be sufficiently removed for adequate safety.

My invention is not limited to the specific forms and embodiments herein described, as other mechanical forms can be employed within the scope of appended claims.

What I claim is:

1. In a toilet seat, the combination of a seat proper and a plurality of cooperatively hinged parts comprising two side walls, a back rest, and two rear walls, said parts normally forming the side and back walls of said seat, the assembly comprising said parts being simultaneously collapsible into a position overlying said seat proper.

2. In a toilet seat, the combination of a seat proper and a plurality of coacting parts comprising two side walls, a back rest, and two rear walls, hinged means cooperatively connecting said walls, back rest and seat proper, means to limit the outward movement of said parts to a predetermined open position, all of said parts being simultaneously foldable inwardly into a collapsed closed position by a downward manipulation of any one of the parts.

3. In a toilet seat, the combination of a seat proper and a plurality of coacting parts comprising two side walls, a back rest, and two rear walls, hinged means cooperatively connecting said walls, back rest and seat proper, means to limit the outward movement of said parts to a predetermined open position, said parts being foldable inwardly into a collapsed closed position, the relation of the parts in said collapsed position being such that said rear walls overlie said seat proper, said side walls rest in facing relation upon said rear walls, and said back rest is positioned over the opening in said seat proper.

4. In a toilet appliance of the class described, the combination of a seat and a plurality of coacting parts normally forming the side and back walls of said seat, hinged means cooperatively connecting said walls and seat, and adjacent walls to each other the relation of said parts and seat being such that a movement of any one of said parts with respect to said seat will cause a simultaneous corresponding movement of the rest of said parts.

5. In a toilet seat, the combination of a seat proper and a plurality of coacting parts comprising two side walls, a back rest, and two rear walls, hinged means cooperatively connecting said seat proper to said side walls and said back rest, and each of said rear walls to said back rest and one of said side walls, means on said hinged means to limit the outward movement of said parts to a predetermined position, said parts being foldable inwardly into a collapsed closed position by a downward manipulation of any one of said parts.

6. In a toilet seat, the combination of a seat proper and a plurality of coacting parts comprising two side walls, a back rest, and two rear walls, hinged means cooperatively connecting said seat proper to said side walls and said back rest, and each of said rear walls to said back rest and one of said side walls, said means comprising a plurality of similarly arranged hinges on both sides of the longitudinal center line of said seat, the axes of all the hinges on each side of said center line intersecting at one point.

7. In a toilet appliance adapted to overlie a seat permanently associated with a toilet bowl, the combination of a pivotally mounted seat and a plurality of cooperatively hinged parts comprising the side walls, rear walls, and a back rest thereof, said parts being foldable inwardly into a collapsed position over said pivotally mounted seat, said back rest containing a forwardly bent portion adapted to enter the hole in said latter seat when said parts are in their collapsed position.

8. In a toilet appliance adapted to overlie a seat permanently associated with a toilet bowl, the combination of a pivotally mounted seat and a plurality of cooperatively hinged parts comprising two side walls, a back rest and two rear walls, the hinged connections between said back rest and said rear walls being on the rear surface of said back rest, the said rear walls having rearwardly bent portions extending to the rear of said back rest for attachment to said hinged connections, the exposed surface of said rear walls being substantially flush with the front surface of said back rest; said parts being foldable inwardly into a collapsed position over said pivotally mounted seat.

9. In a toilet appliance adapted to overlie a seat permanently associated with a toilet bowl, the combination of a pivotally mounted seat and a plurality of cooperatively hinged parts comprising two side walls, a back rest and two rear walls, the hinged connections between said back rest and said rear walls being on the rear surface of said back rest, said parts being foldable inwardly into a collapsed position over said pivotally mounted seat; said latter seat containing a central opening having an annular wall adapted to extend into said first-mentioned seat and sub-

stantially concentric therewith; said back rest having a bent portion thereon carrying the said hinged connections and adapted upon a collapse of said parts, to enter said central opening a sufficient amount to bring said hinged connections within said opening.

10. In a toilet appliance, a toilet bowl having permanently associated therewith a pivotally connected lid and seat, in combination with a detachable auxiliary toilet seat comprising a seat proper and a plurality of cooperatively hinged parts forming the side and rear walls of said seat and the back rest thereof, the said parts being foldable inwardly into a collapsed position wherein said rear walls overlie said seat proper, said side walls rest in facing relation upon said rear walls, and said back rest overlies and extends into the opening in said seat proper a sufficient distance to bring its uppermost part below the upper surface of said side walls so that when said lid is closed it will rest flush upon said upper surface.

11. In a toilet appliance, the combination of a bowl, a main toilet seat, a lid, pivotal fittings for said seat and lid, and an auxiliary toilet seat adapted to overlie said main seat and comprising a seat proper and a plurality of cooperatively hinged walls foldable into a collapsed position over said seat proper; a plurality of clamps detachably secured to a suitable portion of said fittings; abutting means engageable with said clamps to hold them against lateral movement; a connecting member detachably secured to said clamps, said member having a flexible middle portion thereon adapted for bending along a transverse horizontal axis; grooved means attached to the rear of said seat proper for slidably receiving the forward portion of said connecting member; a longitudinal slot in said member; securing means engageable with said slot for holding said member in fixed relation to said grooved means.

12. In a toilet seat, the combination of a seat proper and a plurality of cooperatively hinged parts normally forming the side and back walls of said seat, said parts being foldable into a collapsed position overlying said seat proper; and a front rail consisting of a pair of interlocking arms each being hinged to one of said side walls, said arms being adapted to underlie said side walls when said parts are in their collapsed position.

SAMUEL GEORGE ZUCKERMAN.