Feb. 4, 1947. W. J. DUNN ET AL 2,415,237

CHILD'S TOILET SEAT

Filed Aug. 14, 1944 2 Sheets-Sheet 1

Fig. 1.

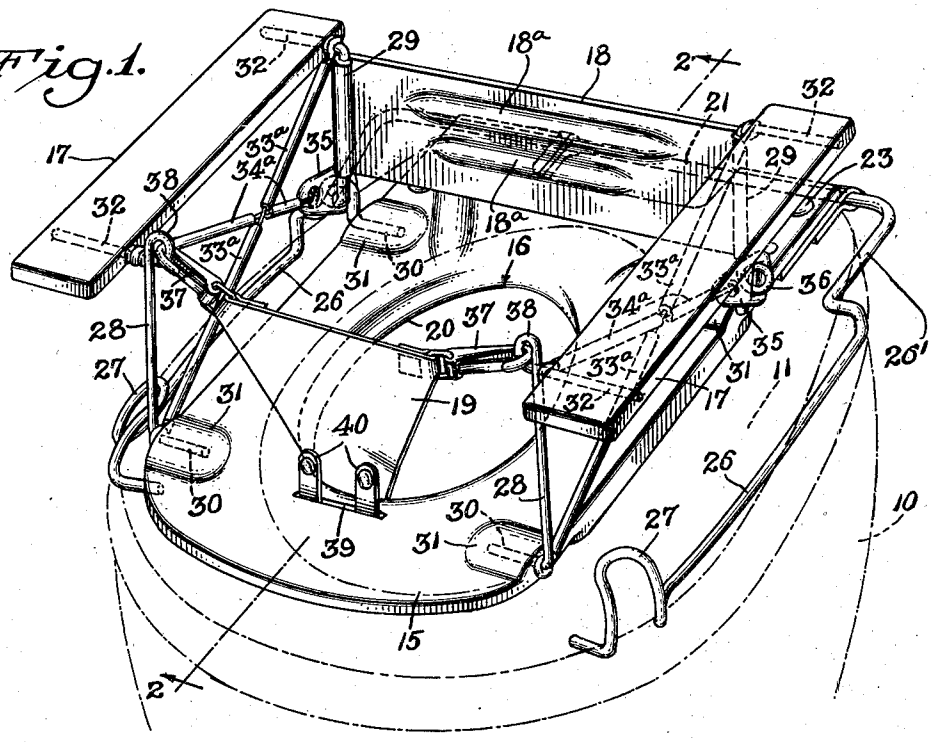


Fig. 2.

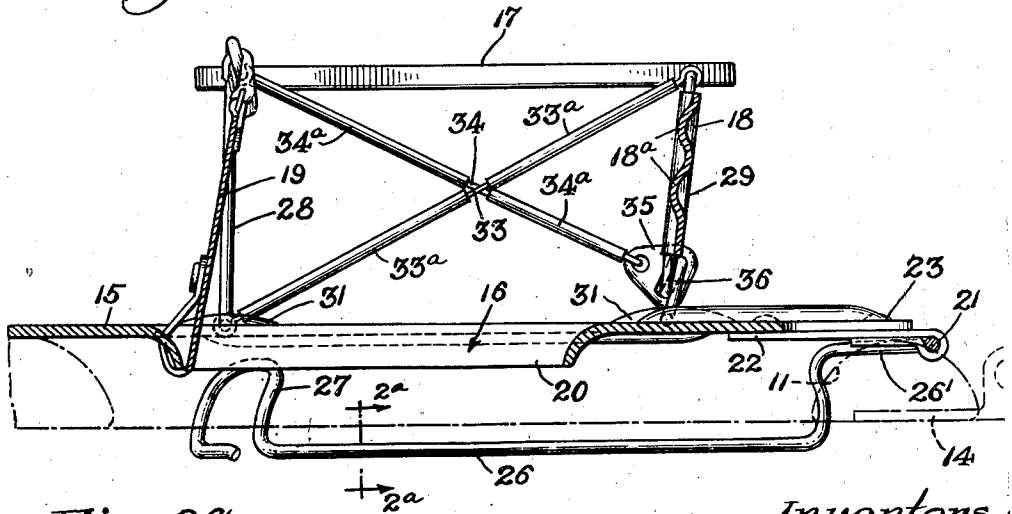


Fig. 2a



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Fig. 3.

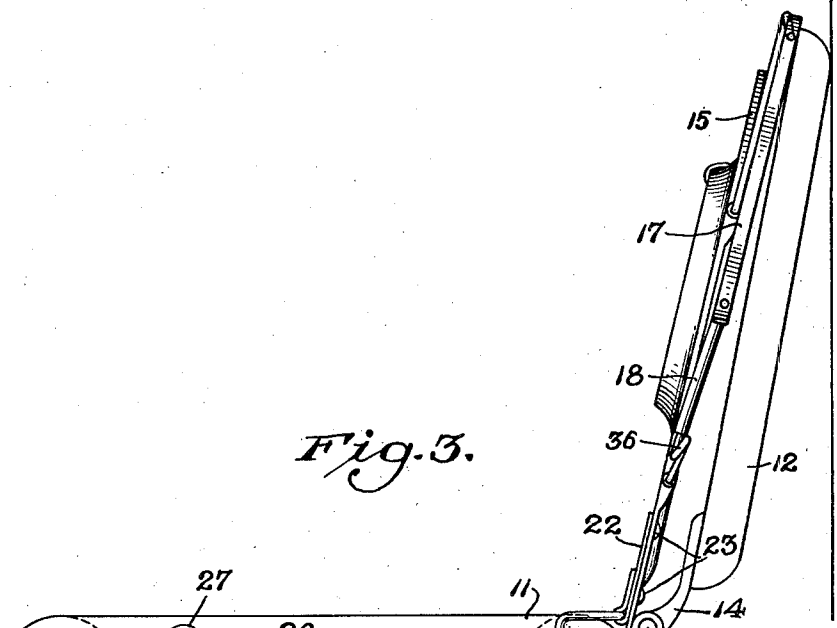
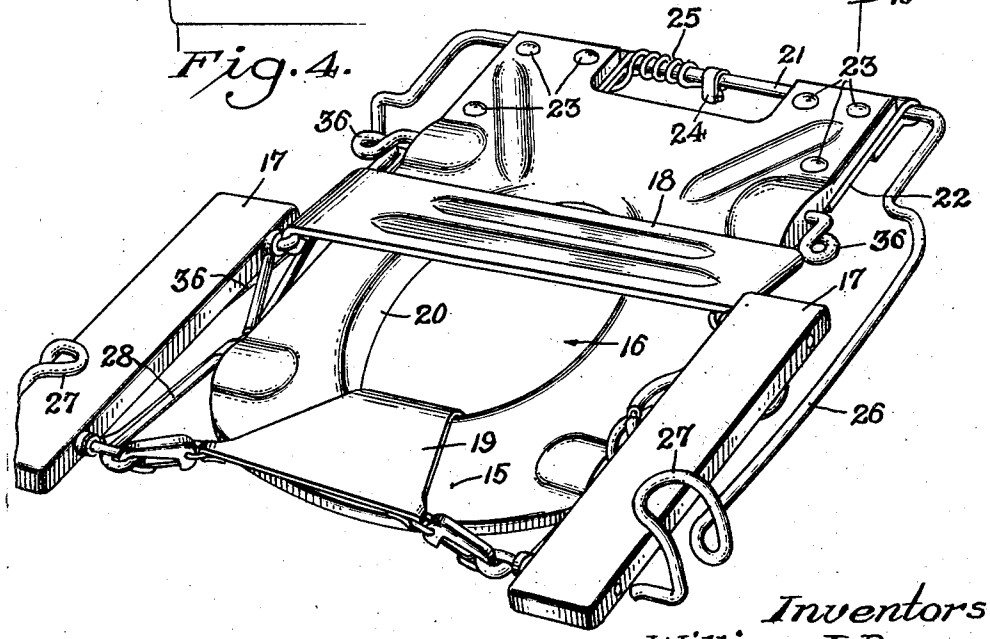


Fig. 4.



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CHILD'S TOILET SEAT

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10 Claims. (Cl. 4—239)

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The present invention pertains to toilet seats for children.

One general object of the invention is to provide a novel toilet seat for children adapted to be installed as an auxiliary on ordinary toilet bowl assemblies for adults and which embodies the two more or less antithetical attributes of affording full and secure lateral support for the child when in use, yet which can, when not in use, be collapsed into a form of so little bulk that when hinged between the ordinary adult toilet seat and lid it can simply be swung up out of the way like a second or inner lid in exposing the regular adult seat for use.

More specifically stated, if an ordinary toilet seat for adults is equipped simply with an overlying seat ring having a suitably small aperture for toileting a child, constant attention to the child is required during its use of the same, especially in the case of very small children, because of the danger of their toppling over. Such an arrangement is neither convenient nor conducive to good toileting habits. On the other hand, a child's toilet seat with permanently erected arm and back rests is so bulky that it must be completely removed after each use, a nuisance in itself, and, moreover, it ordinarily lies around the bathroom floor where it is a constant source of exasperation and barked shins. What we aim to do is to provide a child's toilet seat adapted to be hinged in an ordinary installation between seat and lid and which may be left there more or less permanently, being taken off only when going on trips, etc., by reason of the fact that it embodies a novel correlation of the seat base and collapsible arm rests so that it is but the work of a moment either to erect the rests to secure the child against falling or to collapse such rests into flat configuration so that the auxiliary seat can be swung up with the lid to clear the regular seat.

Another object of the invention is to provide a child's toilet seat of the general character outlined above which is easy to maintain in a clean, sanitary and odorless condition, which will not mar and damage a regular toilet seat to which it may be applied, which is of such small bulk that it may be easily packaged and carried on trips, and which is economical to manufacture.

Still another object is to provide a child's toilet seat embodying a novel seat plate and attachment arrangement for detachably installing the same on an ordinary toilet and which is of desirable and improved construction quite aside

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from whether or not it be equipped with arm or back rests.

Further objects and advantages of the invention will become apparent as the following description proceeds, taken in connection with the accompanying drawings in which:

Figure 1 is a perspective view of a child's toilet seat embodying the present invention, and showing the same in erected condition ready for use in place on an ordinary toilet.

Fig. 2 is a vertical sectional view taken substantially along the line 2—2 in Fig. 1.

Fig. 2a is an enlarged detail sectional view through one of the attachment arms, taken substantially along the line 2a—2a in Fig. 2.

Fig. 3 is a side elevational view showing the auxiliary child's toilet seat collapsed and swung upward into an out of the way position while still remaining attached to the conventional toilet installation.

Fig. 4 is a perspective view of the child's toilet seat shown in Fig. 1 but with the parts collapsed for storage or carrying.

While the invention is susceptible of various modifications and alternative constructions, we have shown in the drawings and will herein describe in detail the preferred embodiment, but it is to be understood that we do not thereby intend to limit the invention to the specific form disclosed, but intend to cover all modifications and alternative constructions falling within the spirit and scope of the invention as expressed in the appended claims.

Referring more particularly to the exemplary embodiment of the invention illustrated in the drawings, it will be seen upon reference to the same that the child's toilet seat there shown is adapted to be removably installed as an auxiliary device or attachment in a conventional adult's toilet. As is customary, the latter may include a bowl 10 having a generally oval or ring-shaped seat 11 as well as a lid 12 hinged on it at their rear edges by hinges 14. In brief, the attachment embodying the present invention affords a seat plate 15 with a generally central aperture 16 of suitably small dimensions for toileting a child, as well as arm rests 17, a back rest 18 and a front guard 19. The elements of the child's seat shown can, however, be readily collapsed into such a thin, flat configuration that it is adapted to be sandwiched between the conventional seat and lid when the lid is closed or swung up against the lid when the latter is opened (Fig. 3) to expose the regular seat 11 for unobstructed use. Complete and safe support for a child is thus assured,

and yet the necessity is avoided of repeatedly installing and removing a bulky and clumsy device with permanently erected arm and back rests.

The base plate 15, the back rest 18 and arm rests 17 are all desirably made of molded plastic material, preferably a transparent one, the element of transparency serving not only to enhance the appearance but also aiding in inspecting the same for cleanliness. Molded plastic material is strong enough in even thin cross-section to afford a sturdy structure which is of small thickness when collapsed. Moreover, such plastic material lends itself readily to fashioning of the desired smoothly contoured shapes, is unaffected by either water or the acid content of urine, is easily cleaned and has a pleasing appearance without requiring painting or other special finish. The smooth surface of the plastic material protects the child against injury as well as preventing scraping or marring of the regular toilet seat 11.

In the instant embodiment the seat plate 15 is of generally rectangular shape with smoothly rounded front corners. The aperture 16 in the seat plate is bordered by a downturned integral flange 20 of smoothly curved contour and which is sufficiently shallow in depth that it does not add materially to the thickness of the assembly.

At its rear edge the seat plate 15 is hinged to a transverse supporting member or bar 21 to swing vertically. For that purpose sheet metal hinge plates 22 doubled upon themselves about the bar are riveted as indicated at 23 (Fig. 4) to the seat plate. A torsion spring 25 encircling the rod 21 yieldably urges the seat plate 15 to swing in an upward direction about the bar. One end of this spring is hooked to a tab 24 fixed to the bar and the other is anchored to the underside of the seat plate.

To detachably secure the hinge bar 21 (and, thereby, the seat plate 15 attached to the same) to the regular toilet seat 11 a pair of resilient arms 26 are arranged to embrace and grip the latter. In the present instance these arms are formed as simple integral extensions of the rod 21, the arms and rod being fashioned as a single generally U-shaped piece from a length of suitably springy steel rod or the like. The arms 26 are offset downwardly beneath the plane of the hinge bar 21 so that they will underlie the lateral side edge portions of the regular toilet seat 11 (see Fig. 2). At their forward ends the arms 26 are doubled and bent into more or less C-shaped form to embrace the adjacent side edges of the regular seat as indicated at 27. The shaped ends 27 of the arms 26 thus extend upward in respective loops overlying the edge of the regular seat and thence down underneath the latter so as to grip the same firmly. It will be observed, however, that these looped portions 27 of the arms 26 do not extend far enough over the top of the regular seat to interfere with its use. To snap the device in place on the seat 11 it is necessary merely to spread the resilient arms 26 apart, rest the seat plate 15 on the seat 11 with the arms 26 below the latter, and release the arms to grip the opposite edges of the seat 11. Since the looped ends 27 of the arms are located to grip the seat 11 at points forward of the latter's point of maximum transverse width, the child's seat is restrained against slipping rearwardly.

Marring of the toilet seat 11 is avoided by covering the arms 26 with plastic tubing 27a (Fig. 2a) into which they are inserted. Such tubing is dimensioned to be stretched tight and if transparent is hardly noticeable. It also protects the metal arms 27 against corrosion or discoloration.

The arm rests 17 are shown herein as thin, rectangular bars of molded plastic with smoothly rounded corners. They extend along opposite sides of the base plate 15, being displaced slightly in a lateral direction from the edges of the base plate to clear the latter when lowered (see Fig. 4). Suitable linkages are provided for supporting the arm rests in the elevated position of Figs. 1 and 2, and which are collapsible to swing the arm rests forward into the alternatively available lowered position of Figs. 3 and 4. Swinging of the linkages forward rather than rearward aids in clearing the collapsed structure from the rear edge pivot for the seat plate 15 so that the latter can readily be swung upward to the position of Fig. 3.

In the illustrated embodiment each of the arm rests 17 is supported by a front link 28 and a rear link 29 pivoted, respectively, at their upper and lower ends to the corresponding arm rest and to the base plate for swinging the arm rests generally fore and aft of the base plate. Each such link has an inturned lower end journaled in a corresponding bore 30 (Fig. 1) extending inwardly from the side edges of the base plate 15 within one of the four bosses 31 provided thereon, while the upper end of each link is bent outwardly and journaled in a corresponding transverse bore 32 opening from the inner edge of the arm rest associated therewith. Upsetting the inserted ends of the links serves to retain them in place.

To hold the swingable arm rest supporting linkages against collapsing rearwardly from the erected position of Figs. 1 and 2, flexible steel wire ties 33 are provided. These ties are covered with protective flexible tubing 33a preferably made of plastic, and are anchored to the respective lower and upper ends of the front and rear links. Similarly, a second set of flexible ties 34, also made of wire and covered with protective plastic tubing 34a, serves to hold the arm rest linkages releasably against forward collapsing movement. For this purpose the ties 34 are anchored at their forward ends to the upper ends of the front links 28, whereas apertured plastic tabs 35 are fixed to the lower ends of such ties. Laterally projecting loops 36 in the lower portions of the rear links 29 are projected through the apertures in the tabs 35 to secure the same in place.

The back rest 18 is shown in this instance as comprising a thin, rectangular sheet of molded plastic having longitudinal reenforcing flutes 18a. Its ends are curled about the rear links 29 so that it is carried by the latter and moved into upright or lowered position coincidentally with the elevation or lowering of the arm rests.

A front support is desirably provided, preferably in the form of a splash guard, such as that shown, for the use of small boys. Such splash guard 19 comprises a more or less triangularly shaped piece of cloth having its upper corners detachably secured by spring clips 37 (Fig. 1) to loops 38 bent in the upper portions of the front links 28. The lower end of the splash guard is led down through the central aperture 16 in the base plate 15 and up through a slot 39 in the latter, being secured by snaps 40.

The mode of installing and erecting or collapsing the child's toilet seat shown will, in general, be clear from the foregoing. By way of recapitulation it may be observed that in order to install the same on the conventional toilet

seat 11 it is necessary merely to put the seat plate 15 in place and snap the arms 26 to the edges of the main seat. To condition the device for use of a child the arm rests 17 are swung upward to the elevated position in Figs. 1 and 2 and the tabs 35 engaged with the loops 36, whereupon the arm rests 17 and back rest 18, as well as the splash guard 19, are all securely held in position. After use, it is merely necessary to disengage the tabs 35 from the loops 36 and let the arm rest supporting linkages collapse forwardly. Thereupon the flattened assembly can be swung upward to the position of Fig. 3 where it is completely out of the way and yet ready for subsequent use whenever required. When the device is removed from the ordinary toilet seat for storage or travel, it is necessary merely to disengage the spring arms 26 from the seat 11 and snap the loops 27 over the outer edges of the arm rests 17, as shown in Fig. 4. It will thus be seen that the spring arms 26 serve the additional purpose of holding the assembly in flat, collapsed condition to make the carrying of the same easy.

We claim as our invention:

1. A child's toilet seat adapted for detachable mounting in an ordinary toilet assembly including the usual toilet bowl with generally ring shaped seat for adults and overlying lid independently hinged thereon, said child's toilet seat comprising, in combination, a generally centrally apertured thin seat plate dimensioned to overlie and rest upon the adult seat, means for detachably hinging said base plate at its rear edge on the assembly in such position as to swing up away from the adult seat and clear the latter, a pair of arm rests disposed at opposite sides of said base plate, linkage means connecting said arm rests to said base plate to swing in a fore and aft direction relative to the latter from an elevated position for said arm rests to a lowered position therefor in which they are substantially coplanar with said base plate, and a triangularly shaped fabric front splash guard arranged with its upper corners secured adjacent the fore portions of said arm rests to move therewith and its lower end detachably secured to said base plate.

2. A child's toilet seat adapted for detachable mounting in an ordinary toilet assembly including the usual toilet bowl with generally ring shaped seat for adults and overlying lid independently hinged thereon, said child's toilet seat comprising, in combination, a generally centrally apertured thin flat seat plate dimensioned to overlie and rest upon the adult seat, a generally U-shaped resilient metal rod disposed with the base portion of the U extending transversely along the rear edge of said seat plate and with the arms of the U projecting forwardly at opposite sides of said seat plate, means for hingedly connecting said seat plate at its rear edge to the base portion of said U, the forward end portions and rear portions of said arms being shaped for gripping engagement with the side edge portions of the adult seat, a pair of arm rests disposed at opposite sides of said base plate, and linkage means connecting said arm rests to said base plate to swing forwardly from an elevated position to a lowered position substantially coplanar with said base plate and clear of said hinging means to leave the latter unobstructed.

3. A child's toilet seat adapted for detachable mounting on an ordinary generally ring shaped toilet seat for adults and comprising, in combination, a generally centrally apertured seat plate

dimensioned to overlie and rest upon the adult seat, a generally U-shaped resilient metal rod disposed with the base of the U extending transversely along the rear edge of said seat plate and with the arms of the U projecting forwardly at opposite sides of said seat plate, means for hingedly connecting said seat plate at its lower edges to the base portion of said U, and the forward end portions of said arms being shaped for gripping engagement with the side edge portions of the adult seat.

4. A child's toilet seat adapted for detachable mounting on an ordinary generally ring shaped toilet seat for adults and comprising, in combination, a generally centrally apertured seat plate dimensioned to overlie and rest upon the adult seat, a generally U-shaped resilient metal rod disposed with the base of the U extending transversely along the rear edge of said seat plate and with the arms of the U offset downwardly from said base portion to overlie the adult seat, said arms being disposed to project forwardly with reference to the base portion of the U, means for hingedly connecting said seat plate at its rear edge to the base portion of said U, and the forward end portion of each of said arms being doubled upon itself and bent transversely in C-shape to engage the adjacent edge of the adult seat.

5. A child's toilet seat adapted for detachable mounting on an ordinary generally ring shaped toilet seat for adults and comprising, in combination, a generally centrally apertured seat plate dimensioned to overlie and rest upon the adult seat, a supporting member extending transversely of the rear end of said seat plate, means pivotally connecting said seat plate to said member, and a pair of laterally spaced resilient arms projecting forwardly from said member presenting opposed end portions shaped for gripping engagement with opposite side edges of the adult seat under the urging of said arms as the latter are forced apart upon engagement of said end portions with said seat edges.

6. A child's toilet seat adapted for detachable mounting in an ordinary toilet assembly including the usual toilet bowl with generally ring shaped seat for adults hinged thereon, said child's toilet seat comprising, in combination, a generally centrally apertured thin flat seat plate dimensioned to overlie and rest upon the adult seat, a pair of arm rests disposed at opposite sides of said base plate, linkage means pivotally connected respectively to said base plate and to said arm rests for supporting the same alternatively either in a raised position or in a lowered position in which they lie substantially in the plane of said seat plate, a generally U-shaped resilient metal rod disposed with the base of the U extending transversely along the rear edge of said seat plate and with the arms of the U projecting forwardly at opposite sides of said seat plate, means for hingedly connecting said seat plate at its rear edge to the base portion of said U, and the forward end portions of said arms being shaped for alternative gripping engagement with either the side edge portions of the adult seat or with said arm rests, whereby the seat plate may be clamped thereby to the adult seat or alternatively conditioned for transport when removed from the regular toilet seat by engaging said forward end portions of said arms with the lowered arm rests.

7. A child's toilet seat adapted to be mounted on an ordinary generally ring shaped toilet seat for adults and comprising, in combination, a thin

seat plate generally centrally apertured and dimensioned to overlie and rest upon the adult seat, a resilient metal clamp rod at each side of the child's toilet seat, each of said rods having a portion bent transversely in C-shape to embrace and grip an adjacent portion of the adult seat, and means for hingedly connecting said seat plate adjacent its rear edge to said clamping rods to swing upwardly with reference thereto.

8. A child's toilet seat adapted to be mounted on an ordinary generally ring shaped toilet seat for adults and comprising, in combination, a thin seat plate generally centrally apertured and dimensioned to overlie and rest upon the adult seat, a metal rod extending along the rear edge of said seat plate with the latter pivoted on said rod to swing vertically about the same, a resilient metal clamp rod at each end of said metal rod and disposed at opposite sides of the child's toilet seat and each said clamp rod having a portion doubled upon itself and bent transversely in C-shape for gripping engagement with an adjacent portion of the adult seat at opposite sides thereof.

9. A child's toilet seat adapted by its thinness when collapsed to be interposed simply as an extra leaf between the hinged seat and cover of an ordinary toilet seat assembly for adults and without interfering with the normal positioning of such lid and seat, said child's toilet seat comprising, in combination, a generally centrally apertured thin flat seat plate dimensioned to overlie and rest upon said adult seat, means for detachably connecting said seat plate to said assembly for upward swinging of said plate about a pivotal axis adjacent that of said adult seat and lid and as a separate leaf interposed between the same, a pair of thin flat arm rests, pairs of supporting links for each of said arm rests pivoted to said seat plate and to respective ones of said arm rests to swing forwardly from generally upright positions in which said arm rests are held above the level of said seat plate by said links to a forwardly collapsed position in which said arm rests and said links all lie alongside opposite side

edges of said seat plate substantially coplanar with said seat plate, a back rest extending between the rearward ones of said links, and means for securing said back rest to said rearward links in position to lie to the rear thereof a distance sufficient to permit such links to swing downward below the top face of said seat plate when collapsed and with said back rest overlying said seat plate in contact therewith, whereby the total thickness of the collapsed seat assembly is simply that of the seat plate and back rest in face to face contact.

10. A child's toilet seat adapted to be mounted on an ordinary generally ring shaped toilet seat for adults and comprising, in combination, a thin seat plate generally centrally apertured and dimensioned to overlie and rest upon the adult seat, a metal rod constituting a combined hinge pivot for said seat plate and a means for gripping an adjacent portion of the adult seat, said gripping portion of said rod comprising a portion bent transversely in C-shape to embrace and grip an adjacent portion of the adult seat, and means for hingedly connecting said seat plate adjacent its rear edge to said hinge pivot portion of said metal rod to swing upwardly with reference thereto.

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