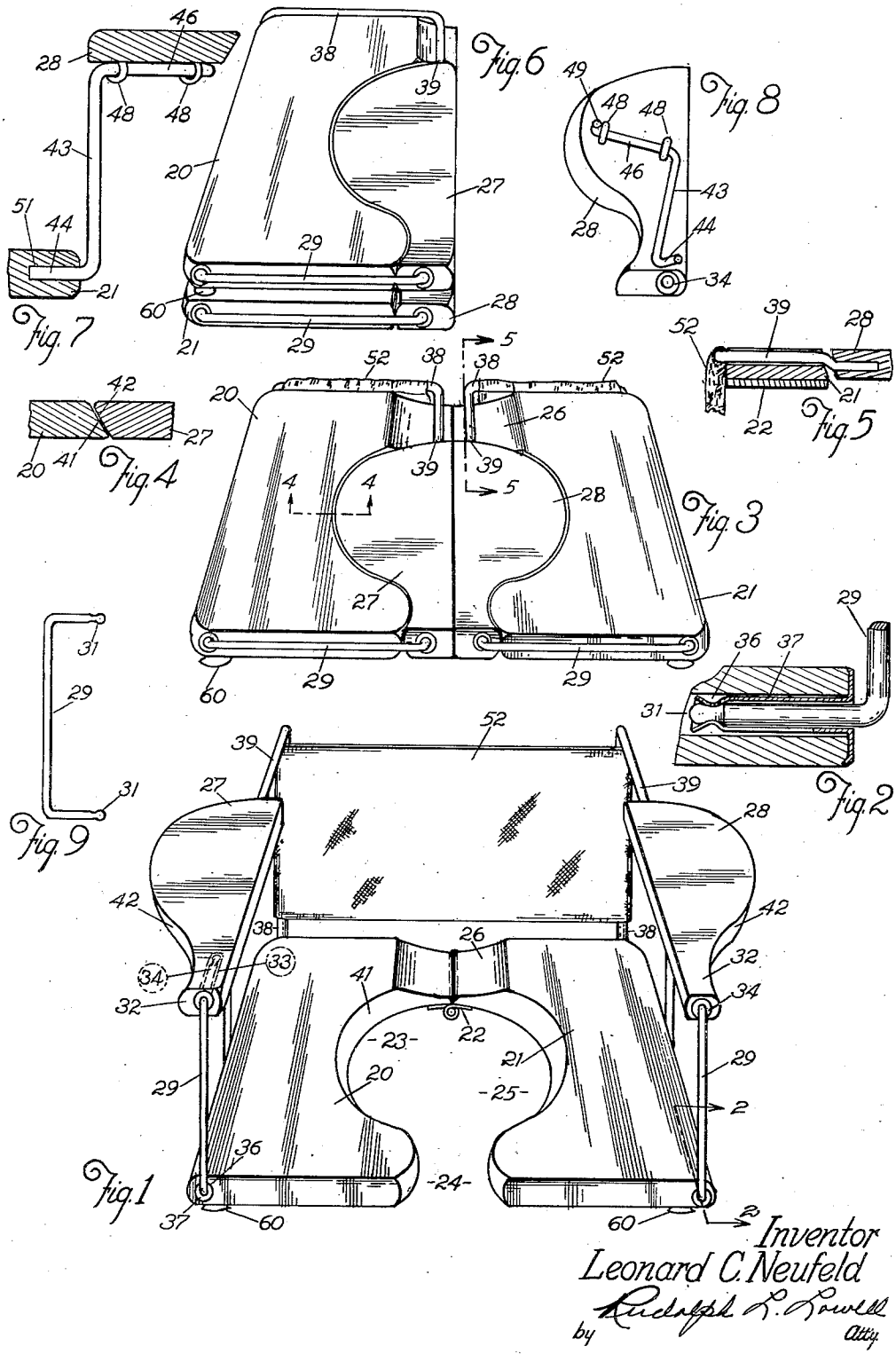
Nov. 12, 1946. L. C. NEUFELD 2,411,137

CHILD'S TOILET SEAT

Filed July 2, 1945 2 Sheets-Sheet 1



Nov. 12, 1946. L. C. NEUFELD 2,411,137

CHILD'S TOILET SEAT

Filed July 2, 1945 2 Sheets-Sheet 2

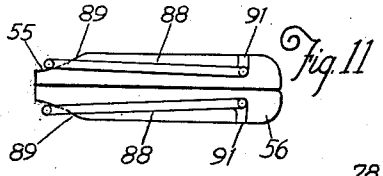


Fig. 11

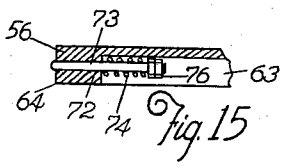


Fig. 15

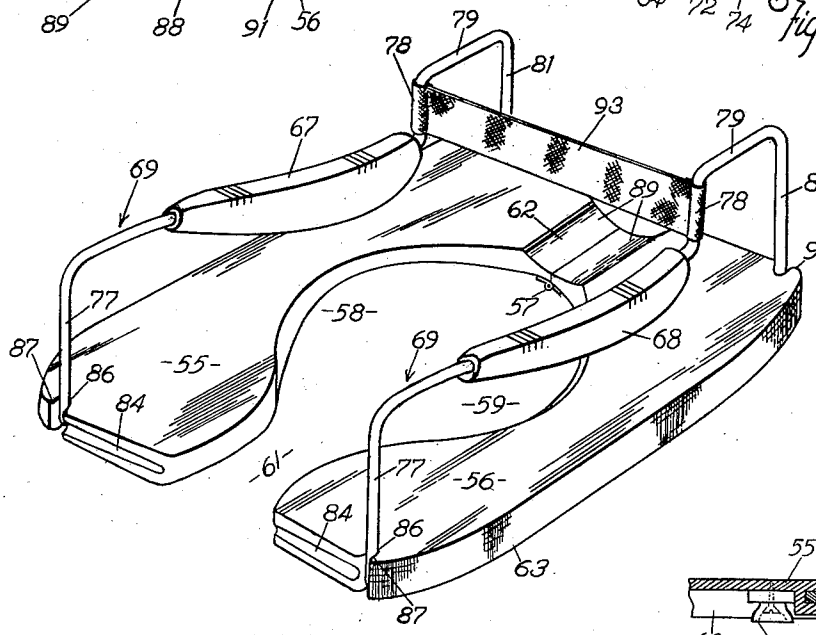


Fig. 10

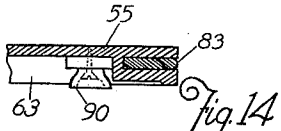


Fig. 14

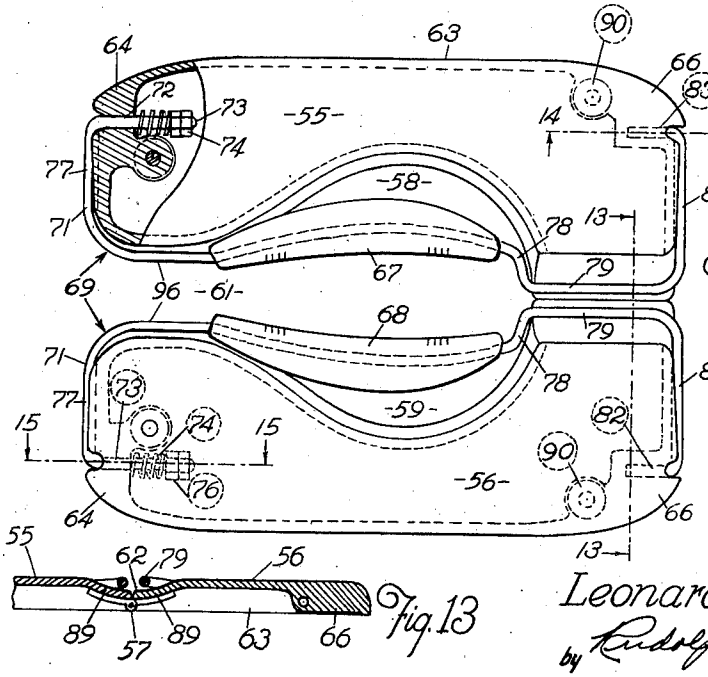


Fig. 12

Fig. 13

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CHILD'S TOILET SEAT

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Application July 2, 1945, Serial No. 602,779

9 Claims. (Cl. 155—31)

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This invention relates generally to foldable toilet seats for children and in particular to a portable toilet seat of this type which is adapted to be positioned on a toilet seat of standard design.

Foldable toilet seats of portable type are well-known and are generally satisfactory. However, these seats are usually of a construction such that in a folded position considerable space is required for their storage. This is particularly objectionable, when traveling with a child, since the folded seat constitutes an additional package, ordinarily too large to be accommodated within a usual traveling bag or grip. A further objection is found in the fact that appreciable time is generally required to set up and fold many of the presently used toilet seats for children.

It is an object of this invention, therefore, to provide an improved foldable toilet seat for a child.

A further object of this invention is to provide a child's toilet seat which in a folded position occupies only a space required to accommodate a two piece folded seat member therefor.

Another object of this invention is to provide a child's seat in which the arm rests are foldable within the dimensional confines of the seat member.

Yet another object of this invention is to provide a child's seat which is of a simple design, easily and quickly manipulated to folded and extended positions, and foldable into a small compact package adapted to be carried within a usual sized traveling bag.

A particular feature of this invention is found in the provision of a child's seat having a seat member formed of two sections hinged together for movement to a folded position and having mating cut-away portions in their inner sides adapted to form a seat opening when the sections are extended. A pair of arm rests are movably supported on the sections for movement to an open position, and for movement to a folded position within the dimensional confines of the cut away portions, so that the seat, when folded, forms a package of a size defined by the folded seat sections.

Further objects, features and advantages of this invention will become apparent from the following description when taken in connection with the accompanying drawings in which:

Fig. 1 is a front perspective view of a child's toilet seat of this invention shown in open position;

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Fig. 2 is a fragmentary sectional view taken on the line 2—2 in Fig. 1;

Fig. 3 is a perspective view of the seat in Fig. 1 shown in a partially folded position;

Fig. 4 is a fragmentary sectional view as seen along the line 4—4 in Fig. 3;

Fig. 5 is a detail sectional view taken on the line 5—5 in Fig. 3;

Fig. 6 is a perspective view showing the seat of Fig. 1 in a completely folded position with the fabric back rest removed;

Fig. 7 is a sectional detail view showing the assembly in the seat of a supporting member for an arm rest;

Fig. 8 is a bottom perspective view of an arm rest showing its relative assembly with a supporting member therefor;

Fig. 9 is a detail elevational view of another supporting member for the arm rest;

Fig. 10 is a perspective view of a modified form of a toilet seat of this invention shown in an open position;

Fig. 11 is a reduced rear elevational view of the seat shown in Fig. 10 in a folded position;

Fig. 12 is a plan view of the seat in Fig. 10 shown in a partially folded position, with certain parts being broken away and the fabric back rest being removed for the purpose of clarity;

Fig. 13 is a sectional view taken on the line 13—13 in Fig. 12;

Fig. 14 is a fragmentary sectional view taken on the line 14—14 in Fig. 12; and

Fig. 15 is a detail sectional view as seen on the line 15—15 in Fig. 12.

With reference to the drawings the child's folded toilet seat of this invention is shown in Fig. 1 as being comprised of a seat member including a pair of symmetrical half-sections 20 and 21 pivotally connected together adjacent their rear ends by a hinge 22 for movement to an extended position, shown in Figs. 1 and 3, and to a folded position in a back to back relation as shown in Fig. 6. The inner adjacent sides of the seat sections 20 and 21 have mating cut-away portions 23 and 25 which when the sections 20 and 21 are in their extended position, form a seat opening adapted to register with the opening in a usual toilet seat when the child's seat of this invention is placed thereon. The seat opening is closed at the rear end and is formed at its forward end with a neck portion 24 which is open to the front end of the seat member.

As best shown in Fig. 1 the hinge 22 is secured to the bottom side of the inner rear ends of the

seat sections 20 and 21, while the top sides of these sections, above the hinge 22, are sloped inwardly and downwardly toward each other to form a recess or depression 26 between the rear end of the seat opening and the rear end of the seat member for a purpose which will appear later.

The seat sections 20 and 21 are provided with foldable arm rests 27 and 28, respectively, which are of a shape corresponding to the cut-away portions 23 and 25, respectively. When the seat member is composed of wood it is contemplated that the arm rests be formed from the blank resulting from the cutting out of the seat opening, in a manner which is believed to be obvious from a consideration of Fig. 3. The arm rests 27 and 28 are thus adapted to be received within the dimensional confines of the cut-away portions 23 and 25 so as to be positioned completely within the seat opening.

The arm rests are movably supported on the seat sections for movement to a folded position within the seat opening, and to an open position at opposite sides of the seat member and spaced upwardly from the seat member by means including a front pair of oppositely arranged rod members 29 of a substantially U-shape and formed with ball members 31 at the free ends thereof (Figs. 1, 2 and 9). The forward portions 32 of the arm rests 27 and 28 have longitudinally extended openings 33 therein adapted to receive spring or snap socket members 34 of a usual construction.

Similarly the front ends of the seat sections 20 and 21, adjacent the outer sides thereof, have longitudinal openings 36 for receiving snap socket members 37. The legs of a U member 29 are received within a corresponding pair of sockets 34 and 37, with the members 29 being releasably held in assembly position with the arm rests and the seat sections by the snap action of the sockets 34 and 37 on the ball members 31.

A rear pair of supporting members 38, of a substantially U-shape, have their leg members pivoted in the rear ends of the seat sections 20 and 21, and in the rear ends of the arm rests 27 and 28, in a manner similar in all respects to the pivoted assembly of the front rod members 29 with the forward portions of the arm rests and the front ends of the seat sections. A further description of the rear rod members 38 is thus believed to be unnecessary.

It is thus seen that the arm rests 27 and 28 are pivotally supported between an associated pair of legs of the front and rear rod members 29 and 38, and that the base or leg connecting portions of the rod members 29 and 38 are pivotally movable in planes transversely of the seat sections 20 and 21, to folded positions adjacent the ends of the seat sections, and to open positions substantially normal to the plane of the seat member. The base portions of the U rod members 29 and 38 are of a length such that when the rod members are folded, the arm rests are located within the confines of the seat opening.

With the arm rests thus located the front portions 32 thereof are within the neck portion 24 of the seat opening, with their forward ends, as shown in Fig. 1, substantially flush with the front ends of the seat sections 20 and 21. The front rod members 29 are thus within the plane of the seat member. The upper legs 39 of the rear rod members 38 are located within the depression 26 (Fig. 3) at the rear end of the seat member so that the rod members 38, in a folded position of the arm rests, are also within the plane of the seat sections 20 and 21.

In order to facilitate the reception of the arm rests within the seat opening it is contemplated that the edge 41 of the seat opening (Figs. 1 and 4) and the outer edge 42 of the arm rests 27 and 28 be reversely chamfered for mating engagement. The arm rests are thus held against falling partially through the seat opening, in a folded position, and are maintained against excessive pivotal movement on the rod members 29 and 38.

The arm rests 27 and 28 are releasably held in their open position by brace rods 43. Since the assemblies of the brace rods 43 with the arm rests 27 and 28 are the same only the assembly of the brace rod 43 with the arm rest 28 will be referred to in detail in the following description.

The rod 43 is formed with oppositely extended lateral portions 44 and 46 at the ends thereof, with the portion 46 being of a somewhat greater length than the portion 44 (Figs. 7 and 8). The lateral portion 46 is pivotally supported within a pair of U-bearings 48 secured to the bottom side of the arm rest 28 and arranged so that the axis of the portion 46 is inclined relative to a transverse plane of the arm rest. Retention of the portion 46 against excessive axial movement is accomplished by the contact engagement of the straight or intermediate portion of the rod 43 with one of the bearings 48 and the contact engagement of the bent free end 49 of the lateral portion 46 with the other of the bearings 48. It is seen, therefore, that the intermediate portion of the brace member 43 is pivotally movable within the bearings 48 in a plane inclined to the longitudinal axis of the arm rest 28 to a folded position against the bottom side of the arm rest.

The lateral portion 44 of the rod member 43 is loosely receivable within a transverse opening 51 formed in the outer side of the seat section 21 at a position such that the intermediate portion of the rod member 43 is in a substantially upright position (Fig. 7). Since the arm rest 28 is held against longitudinal movement by its relative assembly with a pair of associated members 29 and 38, the reception of the lateral portion 44 of the brace member 43 within the opening 51 positively supports the arm rest 28 in a plane parallel with and spaced above the upper surface of the seat section 21, and holds the members 29 and 38 against pivotal movement. The portion 44 is readily movable into and out of the opening 51 in the seat section 21 by the loose support of the lateral portion 46 within the bearings 48, the spring action in the rod 43, and the pivotal movement of the arm rest 28 on a corresponding pair of members 29 and 38.

A back rest 52 for the toilet seat is composed of a single piece of a fabric material extended between the rear pair of rod members 38 and held in position by looping its ends about the base portion of the members 38 and then sewing or otherwise securing such ends to the body portion of the fabric material.

In the operation of the seat assume it to be in an open position shown in Fig. 1. To fold the seat the lateral portions 44 of the brace members 43 are removed from the openings 51 and the members 43 folded against the bottom sides of the arm rests 27 and 28. The arm rests are then pivotally moved within the seat opening to their folded position shown in Fig. 3, so that the rod members 29 and 38 and the arm rests are substantially within the plane of the seat sections 20 and 21. On pivotal movement of the sections 20 and

21 to their folded position shown in Fig. 6 their corresponding arm rests and rod members 31, 38 and 43 are movable therewith as a unit while retained in their positions substantially within the dimensional confines of a corresponding seat section.

Since the rod or brace members 43, in a folded position of the seat sections 20 and 21 are positioned adjacent each other the complete toilet seat is confined within a space adapted to accommodate the folded seat member. The fabric back seat rest 52 may be positioned between the folded seat sections or to one side of a seat section. The toilet seat in the folded position thus forms a compact package requiring substantially no more space for storage than would be required by folding the seat member along its longitudinal axis. Suction cups 60 are secured to the bottom corners of the seat member to hold the seat in position on a usual toilet seat.

The modified form of the invention shown in Fig. 10 is illustrated with a seat member molded from a suitable plastic material and comprised of a pair of symmetrical half-sections 55 and 56 pivoted adjacent the rear ends of their bottom sides by a hinge 57. The inner sides of the seat sections are formed with mating cut-away portions 58 and 59 which, in an extended position of the seat sections, form a seat opening closed at its rear end, and having a neck portion 61 at its forward end open to the front side of the seat member. Oppositely arranged from the hinge 57 and formed in the top sides of the seat sections 55 and 56, between the rear ends of the seat opening and the seat member, is a depression 62.

As best appears in Figs. 12 and 13 the seat sections are of a substantially hollow or shell construction having smooth top or seat surfaces, and bottom sides provided with a marginal rim 63 and longitudinally spaced solid boss portions 64 and 66. Arm rests 67 and 68 corresponding to the seat sections 55 and 56, respectively, are of a somewhat banana shape having a width substantially equal to the thickness of the seat section and defined by straight side portions, while the top and bottom sides of the arm rests are of an arcuate contour, with the top side being concave and the bottom side convex, as viewed in Fig. 10. It is seen, therefore, that the length and shape of the arm rests 67 and 68 are such as to provide for the reception of the arm rests, when folded, within the dimensional confines of corresponding cut-away portions 58 and 59.

The arm rests are movably supported for movement to an open or upright position, and to a folded position within the seat opening, by rod members 69 of an irregular shape, extended longitudinally through the arm rests and having forward extensions 71 of a substantially U-shape (Figs. 10 and 12). The oppositely arranged front boss portions 64 of the seat sections are formed with longitudinal openings 72 adapted to loosely receive the legs 73 of the extensions 71, with such legs having their free ends threaded and projected rearwardly from the rear sides of the boss portions 64. The legs 73 are yieldably maintained within the boss portions 64 by springs 74 mounted thereon and held in compression between a boss portion 64 and a nut 76 threaded on the free end of a leg 73. It is thus seen that the legs 73 are movable in a forward direction against the pressure of the springs 74, and movable in a rearward direction by the springs 74 to a position defined by the engagement of the base portion 77 of a U extension 71 with the front side of corresponding seat sections 55 and 56.

The portions of the rod members 69 extended from the rear ends of the arm rests have, as viewed in Fig. 10, upright sections 78 adjacent the rear ends of the arm rests, longitudinal sections 79, and then upright sections 81 with bent lower ends 82, as shown in Fig. 12, adapted to be loosely received within longitudinal openings 83 in the oppositely arranged rear boss portions 66 in the seat sections 55 and 56. The rods 69 thus have their ends 73 and 82 pivoted in coaxial alignment at opposite ends of corresponding seat sections for pivotal movement transversely of the seat sections, with the arm rests 67 and 68 being movable as a unit with their rod supports to an upright open position and to a folded position within the seat opening.

In order to yieldably hold the arm rests 67 and 68 in their folded and open positions the front sides of the seat sections 55 and 56 are formed with transverse grooves 84 (Fig. 10) open at their inner ends to the neck 61 of the seat opening, and terminating at their outer ends in upright grooves or recesses 86. The outer walls 87 of the recesses 86 are projected forwardly from the front side of the seat sections and constitute stops for limiting the outward pivotal movement of the rod member 69 as will appear later.

The rear sides of the seat sections 55 and 56 are similarly formed with transverse grooves 88 (Fig. 11) open at their inner ends to the walls 89 of the depression 62 and terminating at their outer ends in upright recesses or grooves 91 having their outer walls 92, as shown in Fig. 10, projected rearwardly from the rear sides of the seat sections 55 and 56. From a consideration of Figs. 10 and 12 it is seen that the upright grooves 86 and 91 are formed in the boss portions 64 and 66, respectively, and in the plane of the rod member ends 73 and 82. The grooves 84 and 86 at the front side of the seat sections 55 and 56 are adapted to loosely receive the base portions 77 of the front U extensions 71, while the grooves 88 and 91 in the rear sides of the seat sections are adapted to loosely receive the upright sections 81 of the rear extensions of the rod members 69.

In the operation of the modified form of the invention assume the toilet seat to be in its open position shown in Fig. 10. In this position the base portions 77 of the front U extensions 71 have their lower ends within the grooves 86 so as to be supported by the side walls of the grooves 86 against pivotal movement out of an upright position. Similarly the upright sections 81 of the rear extensions are within the grooves 91 and retained in an upright position by the side walls of the grooves 91. However, since the pressure on the arm rests 67 and 68, when the seat is in use, is generally in an outward direction, or toward the sides of the seat member, the stop members 87 and 92 assure the arm rests being held in their open position even though the rod members 69 may be moved longitudinally of their corresponding seat sections.

The rod members 69 are retained within the grooves 86 and 91 by a normal spring tension within the rod members, and by the action of the spring 74 acting on the front U extensions 71. The arm rests 67 and 68 are thus yieldably but positively held in their open or upright position. A back rest 93 of a fabric material is connected between the upright sections 78 forming part of the rear extensions of the rod members 69.

To fold the toilet seat the base portions 77 of the front extensions 71 and the upright sections 81 of the rear extensions, are sprung outwardly from their respective upright grooves 86 and 91, respectively, whereby the rod members 69 are pivotally movable transversely of the seat sections about their corresponding co-axially aligned pivoted ends 73 and 82. A rod member 69 and a corresponding arm rest 67 and 68 are then moved as a unit inwardly of the toilet seat until the base portion 77 of the front U extension 71 is located in the groove 84 and the upright section 81 of the rear extension is located in the groove 88, as illustrated in Fig. 12. The sections 77 and 81 of a rod member 69 enter their corresponding grooves 84 and 88 with a somewhat snap action due to the normal tension in a rod member 69 and the action of the springs 74. The rod member 69, and in turn the arm rests 67 and 68, are thus releasably locked in a folded position substantially within the plane of their corresponding seat sections 55 and 56.

As shown in Figs. 11 and 12 the sections 78 of the rear extensions of the rod members 69 are received within the seat opening, the sections 79 within the depression 62, and the sections 81 within the grooves 88. The base portions 77 of the front U extensions 71 are located in the grooves 84, while the legs 96 of the front U extensions are positioned within the neck portion 61 of the seat opening. Since the arm rests 67 and 68 are of a width substantially equal to the thickness of the seat sections 55 and 56 each complete arm and rod assembly, in a folded position, is arranged substantially within the dimensional confines of a corresponding seat section.

With the arm rests 67 and 68 in their folded positions, the seat sections 55 and 56 are pivoted on the hinge 57 to their folded position in a back to back relation as shown in Fig. 11. The fabric back rest 93 may be positioned between the folded seat sections 55 and 56 or outwardly to one side thereof. Suction cups 90, carried in the base portions, 64 and 66, act to hold the seat in position on a usual toilet seat.

From a consideration of the above description it is seen that the invention provides a child's foldable toilet seat of portable type in which the seat member is comprised of a pair of symmetrical half sections hingedly connected together for movement from a folded position in a back to back relation, to an extended position. Arm rests corresponding to the seat sections are movably supported thereon for movement to an upright position and to a folded position located in the seat opening and within the dimensional confines of the seat half sections. The supporting means for the arm rests are of a construction adapted to also be received within the dimensions of the seat sections so that the complete seat when folded, occupies no more space than would normally be occupied by folding the seat member along its longitudinal axis.

Although the invention has been described with respect to several embodiments thereof it is to be understood that it is not to be so limited since changes and modifications can be made therein which are within the full intended scope of the invention as defined by the appended claims.

I claim:

1. A child's foldable toilet seat including a seat comprised of a pair of sections connected together for movement from a folded position to an extended position, with said sections having mating cut-away portions adapted to form a seat opening when said sections are in an extended position, a pair of arm rests corresponding to said sections, and means movably supporting said arm rests for movement to one position spaced upwardly above a corresponding section, when the sections are in said extended position, and for movement to a second position substantially within the dimensional confines of said cut-away portions.

2. A child's foldable toilet seat including a seat member comprised of a pair of hingedly connected symmetrical half-sections foldable against each other to a closed position, and in an open position having a seat opening therebetween, a pair of arm rests corresponding to said half-sections and of a construction adapted to be received in said seat opening within the dimensional confines of a corresponding half-section, and means movably supporting the arm rests on said half sections for movement to one position spaced upwardly from a corresponding half-section, and for movement to a second position within said opening, with the arm rests in said second position being movable with the half-sections to their folded position.

3. A child's foldable toilet seat comprising a pair of seat sections hingedly connected for movement from an extended position to a closed position, said sections having mating cut-away portions to form a seat opening therebetween in an extended position, a pair of foldable arm rests corresponding to said seat sections and extended longitudinally thereof, arm rest supporting means on each seat section pivoted at opposite ends of a seat section for pivotal movement laterally of said seat section to a first position extended upwardly from the top side of the seat section, and to a second position substantially within the plane of the seat section, said arm rests being movable with said supporting means and adapted to be received within a corresponding cut-away portion when said supporting means are in said second position.

4. A child's foldable toilet seat comprising a pair of seat sections hingedly connected for movement from an extended position to a folded position, said seat sections having mating cut-away portions therein adapted to form a seat opening between said seat sections in an extended position, a pair of foldable arm rests corresponding to said seat sections, with an arm rest being constructed relative to a corresponding cut-away portion so as to be receivable within the dimensional confines thereof, and supporting means for an arm rest movably supported on a corresponding seat section for movement to a first position to support said arm rests above the top side of said seat sections, and for movement to a second position to fold the arm rests within said cut-away portions.

5. A child's foldable toilet seat comprising a pair of seat sections hingedly connected for movement from a folded position to an extended position, said sections having mating cut-away portions in their inner sides adapted to form a seat opening between said sections in said extended position, a pair of foldable arm rests corresponding to said sections, with an arm rest being of a shape adapted to be received in a folded position within a corresponding cut-away portion, means pivotally supporting each of said arm rests for movement from a folded position, to an open position spaced upwardly from its corresponding seat section, including a pair of rod members having lateral projections at oppo-

site ends thereof, with an arm rest being movably supported between the projections at one end of said rod members, and the projections at the opposite end of said rod members, being pivoted at opposite ends of a corresponding seat section adjacent the outer side thereof, means for releasably locking said arm rests in their open position, and a fabric back rest connected between the supporting means for said arm rests.

6. A child's foldable toilet seat including a foldable seat member comprised of a pair of seat sections hingedly connected for movement from a folded position to an extended position, said seat sections having cut-away portions in their inner sides adapted to form a seat opening in said seat member when the seat sections are in said extended position, a pair of foldable arm rests pivotally supported adjacent the outer sides of said seat sections for movement to an open position, and to a folded position within the dimensional confines of said cut-away portions, and means for releasably holding said arm rests in their open position.

7. A child's foldable toilet seat including a foldable seat member comprised of a pair of sections hingedly connected for movement from a folded position to an extended position, said seat sections having cut-away portions in their inner sides adapted to form an opening in said seat member when the seat sections are in said extended position, a pair of arm rests adapted to be received within said cut-away portions, means pivotally supporting said arm rests for pivotal movement to an open position substantially above the outer sides of said seat sections, and to a folded position within said cut-away portions, with an arm rest in a folded position being movable with its corresponding seat section, and a flexible back rest connected between said supporting means adjacent the rear ends of said arm rests.

8. A child's foldable toilet seat comprising a pair of seat sections hingedly connected for movement from a folded position to an extended position, said sections having cut-away portions in their inner sides adapted to form a seat opening in said extended position, a pair of foldable arm rests, with said arm rests having a shape

such that in a folded position they are receivable in said cut-away portions and within the dimensional confines of said seat sections, means movably supporting said arm rests for movement from said folded position to an open position including a forward pair of oppositely arranged supporting members pivoted between the forward ends of said arm rests and the front ends of said seat sections adjacent the outer side of said seat sections, a rear pair of oppositely arranged supporting members pivoted between the rear ends of said arm rests and the rear ends of said seat sections adjacent the outer sides of said seat sections, foldable means for holding said arm rests in their open position, and a fabric back rest connected between said rear pair of supporting members.

9. A child's foldable toilet seat comprising a pair of seat sections hingedly connected for movement from a folded position to an extended position and having cut-away portions on their inner sides adapted to form a seat opening in the extended position of said sections, a pair of arm rests adapted to be received within said cut-away portions, means pivotally supporting said arm rests for movement to a folded position within said cut-away portions and to an open position including a front pair of oppositely arranged rod members connected at one end with said arm rests and movably supported at their other end in the forward sides of said seat sections for pivotal movement laterally of said seat sections and for movement longitudinally of said seat sections, a rear pair of oppositely arranged rod members connected at one end with said arm rests and pivoted at their other end in the rear sides of said seat sections for pivotal movement laterally of said seat sections, and for movement longitudinally of said seat sections, said sections having upright grooves at the pivoted ends of said front and rear members adapted to receive said rod members therein to hold said arm rests in their open position, with said rod members being movable longitudinally of the seat sections into and out of said grooves, and a fabric back rest connected between said rear rod members.

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