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3,341,864

PORTABLE TOILET FOR ATTACHMENT TO A WHEELCHAIR

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2 Sheets-Sheet 1

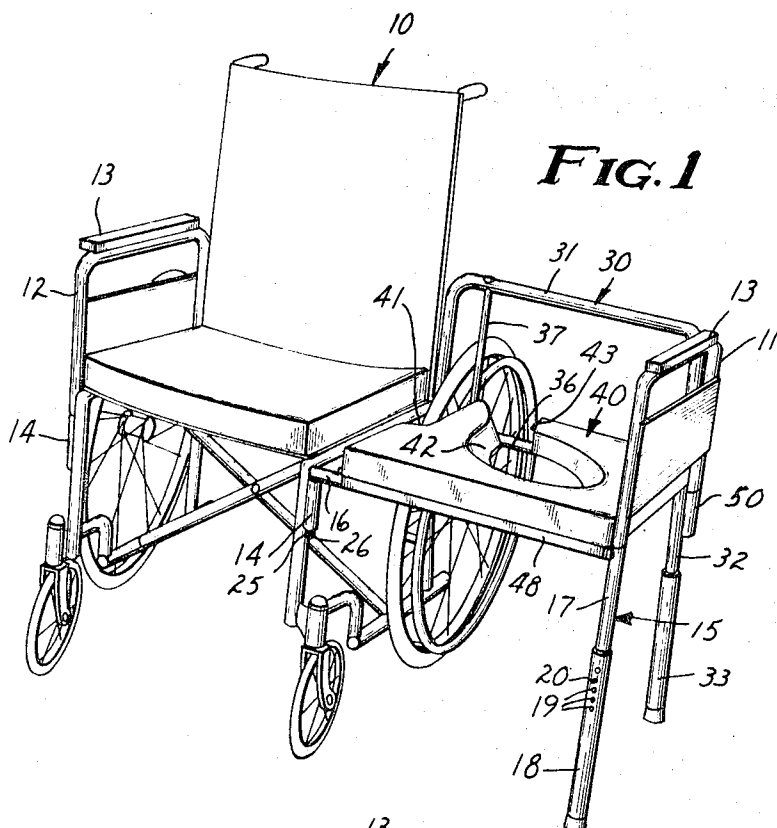


FIG. 1

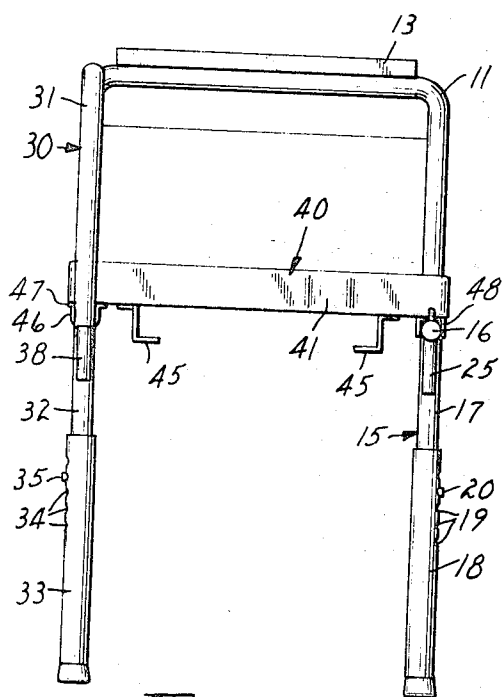


FIG. 2

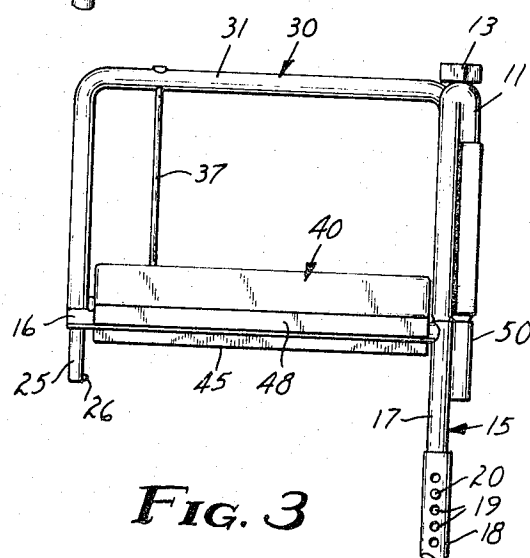


FIG. 3

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2 Sheets-Sheet 2

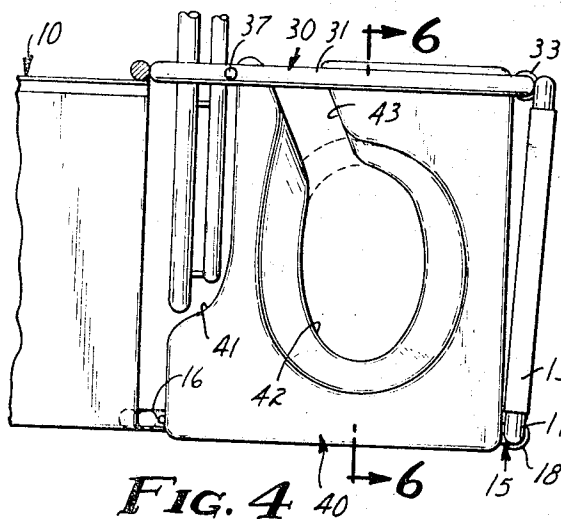


FIG. 4

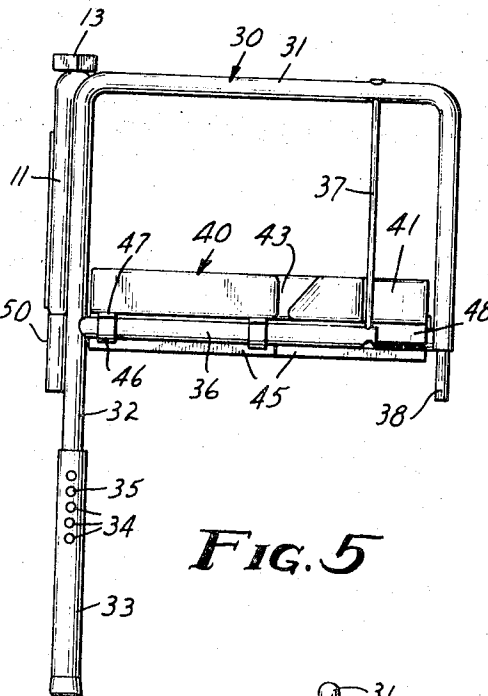


FIG. 5

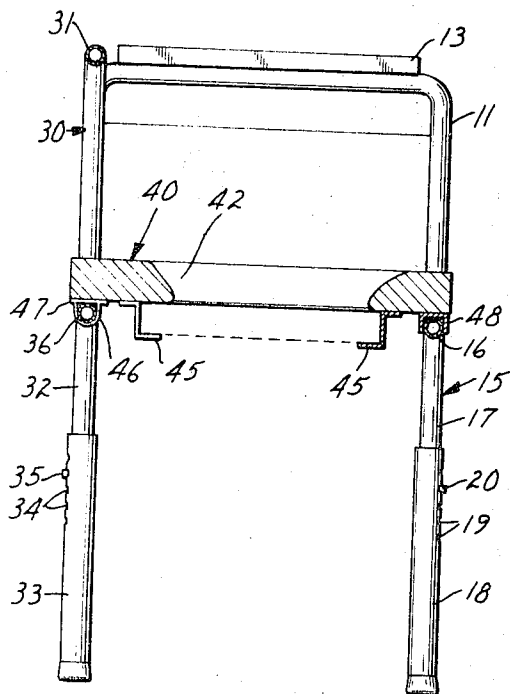


FIG. 6

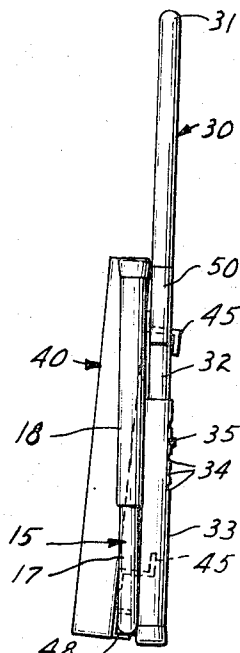


FIG. 7

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PORTABLE TOILET FOR ATTACHMENT TO A WHEELCHAIR

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6 Claims. (Cl. 4—134)

This invention pertains to a portable toilet and more specifically to a toilet which is attachable to a wheelchair for use by invalid persons.

Invalid persons who are restricted to a wheelchair generally have great difficulty moving from the wheelchair to a toilet and back again. This generally requires the help of another person and is particularly distasteful while the invalid is traveling or otherwise away from home.

In the present invention a portable toilet is provided which folds easily into a small compact unit that may be transported easily with the invalid person's wheelchair. The unit is easily unfolded and attached to the wheelchair by the invalid person himself. This is accomplished by simply removing one of the arms of the wheelchair and placing one end of the portable toilet in the empty sockets. The removed wheelchair arm is then placed at the outer edge of the toilet for use as a support by the invalid person.

When the portable toilet is fixedly attached to the wheelchair, it is at approximately the same height as the seat of the wheelchair so that the invalid person can simply slide sideways from the wheel chair seat to the toilet seat without rising to a standing position. The toilet seat is constructed so that a disposable waste bag or the like is easily attached thereunder and has a radial opening in communication with the central opening so the invalid person can clean himself without rising. When the task is finished the invalid can simply refold the toilet seat and store it with no need for another person's help. The present invention, therefore, makes a somewhat distasteful and sometimes embarrassing task relatively simple.

It is an object of the present invention to provide a new and improved portable toilet for attachment to wheelchairs and the like.

It is a further object of the present invention to provide a portable toilet which is easily assembled and disassembled by an invalid person.

It is a further object of the present invention to provide a portable toilet for use by invalid persons without the help of another person.

These and other objects of this invention will become apparent to those skilled in the art upon consideration of the accompanying specification, claims, and drawings.

Referring to the drawings, wherein like characters indicate like parts throughout the figures:

FIG. 1 is a view in perspective of the present invention attached to a wheelchair;

FIG. 2 is a view in side elevation of the present invention as seen from the left in FIG. 1 with the wheelchair removed;

FIG. 3 is view in front elevation of the present invention with the wheelchair removed;

FIG. 4 is a view in top plan of the present invention;

FIG. 5 is a view in rear elevation of the present invention with the wheelchair removed;

FIG. 6 is a sectional view as seen from the line 6—6 in FIG. 4; and

FIG. 7 is a view of the present invention in the folded position.

In the figures the numeral 10 generally designates a wheelchair having removable arms 11 and 12. The arms 11 and 12 are inverted substantially U-shaped pieces of metal having an arm rest 13 along the upper horizontal portion thereof. The two lower ends of each of the arms

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11 and 12 have a somewhat reduced cross-section which is adapted to fit into a pair of tubular sockets 14 which are fixedly attached in a vertical position to the legs of the wheelchair 10. The arms 11 and 12 are removable from the wheelchair 10 by simply raising them out of the sockets 14. In the figures the arm 11 of the wheelchair 10 is illustrated in a removed position as will be explained presently.

A front frame member generally designated 15, which is substantially L-shaped, has one arm forming a horizontal portion 16 and the other arm extending downwardly from the outer end thereof to form a leg 17. The leg 17 has a tubular extension 18 fitted coaxially thereover and in sliding engagement therewith. The tubular extension 18 has a plurality of holes 19 near the upper end thereof and spaced longitudinally therealong. The leg 17 has a spring loaded pin 20 therein which is adapted for engagement in one of the holes 19 to substantially prevent the extension 18 from sliding on the leg 17. Thus, by pushing the spring loaded pin 20 into the leg 17 the extension 18 can be slid vertically up or down the leg 17 into engagement with a different hole 19 and, thereby, vary the length thereof.

The end of the horizontal portion 16 opposite the leg 17 has a vertically downwardly extending pin 25 fixedly attached thereto. The pin 25 is adapted to slide easily into the socket 14 on the wheelchair 10. Also, the pin 25 has a small spring loaded pin 26 adjacent the lower end thereof and extending radially outwardly therefrom. The length of the pin 25 is such that the horizontal portion 16 of the frame 15 rests on the upper end of the socket 14 while the spring loaded pin 26 is slightly below the lower end of the socket 14. The spring loaded pin 26 is a safety precaution to prevent the toilet from becoming disconnected while an invalid person is sliding from the wheelchair 10.

The back or rear frame member generally designated 30 consists of an inverted substantially U-shaped portion 31, which forms a back rest for the toilet with the outermost end of the frame 30 extending downwardly to form a leg 32. An extension 33 having a plurality of longitudinally spaced holes 34 therein is slidably mounted on the lower end of the leg 32 similar to the extension 18 on leg 17. The leg 32 also has a spring mounted pin 35 extending radially outwardly therefrom for cooperation with one of the holes 34 to prevent relative movement between the leg 32 and extension 33. One end of a horizontal bar 36 is fixedly attached between the leg 32 and the back rest 31 so as to be approximately the same height as the horizontal bar 16 of the front frame member 15. The other end of the bar 36 is maintained horizontal by vertical support rod 37 one end of which is fixedly attached to the back rest 31 and the other end which is fixedly attached to the bar 36. The horizontal bar 36 is somewhat shorter than the horizontal portion of the back rest 31 or the horizontal bar 16. Thus, there is an opening between the free end of the bar 36 and the inner end of the back rest 31, which is the end nearest the wheelchair. This opening is provided to accommodate the large rear wheel of the wheelchair 10. The inner end of the back rest 31 extends downwardly in a substantially vertical pin 38, which is similar to pin 25 except for the spring loaded pin 26 therein. The pin 38 is adapted to fit into the socket 14 on the rear leg of the wheelchair 10 behind the large rear wheel.

A seat generally designated 40, which may be constructed of wood, plastic, or the like, is substantially rectangular shaped and adapted to lie across the horizontal bars 16 and 36, the inner rear corner of the seat 40 has a notch 41 cut therefrom so that the length of the rear edge is approximately equal to the length of the bar 36 while the length of the front edge is approximately equal to the length of the bar 16. The notch 41 in the seat 40 allows the seat 40 to be placed adjacent the wheelchair 10 on the horizontal bars 16 and 36 without interfering

with the rear wheel of the wheelchair 10. The seat 40 has a centrally located opening 42 therethrough and a radial opening 43 in communication with opening 42 and extending rearwardly to the rear edge of the seat 40. The radial opening 43 allows the invalid to clean himself without rising from the seat 40. The underside of the seat 40 has a pair of brackets 45 fixedly attached adjacent the opening 42 and adapted to receive a pan slidably thereon or some disposable container. It should be understood that the brackets 45 are illustrated for simplicity and many other devices might be devised for attaching disposable containers or the like to the underside of the seat 40.

The seat 40 is rotatably attached to the bar 36 by means of a pair of U-shaped members 46. The U-shaped members partially encircle the bar 36 and have their open ends fixedly attached to the underside of the seat 40 by some convenient means, which may be a plate 47 attached to the undersurface of the seat 40 by screws or the like with the free ends of the U-shaped members 46 welded thereto. While a rotatable connection is preferred, for purposes which will be explained presently, it should be understood that this connection could be fixed or that stops might be used which will prevent horizontal movement of the seat while allowing free vertical movement. A channel-shaped piece of material 48 is affixed to the underside of the seat 40 along the front edge thereof parallel to the bar 16. The channel 48 is adapted to receive the bar 16 therein to substantially prevent horizontal movement of the seat 40 relative to the bar 16 while allowing vertical movement thereof. The channel 48 may be constructed of a plastic or hard rubber if desired so that it will provide a gripping action on the bar 16 and will maintain the front frame member 15 attached to the seat 40 even in the folded position.

To assemble the present apparatus on the wheelchair 10 the arm 11 is removed from the sockets 14 and the pin 25 is placed in the front socket 14 so that the front frame member 15 extends outwardly to the side of the wheelchair 10. The pin 38 is placed in the rear socket 14 so the rear frame member 30 extends outwardly from the side of the chair 10 approximately parallel to the front frame member 15. The seat 40, the rear edge of which is rotatably attached to bar 36, is brought down so that the channel 48 grips the horizontal bar 16 of the front frame member 15. The upper end of the leg 17 of the front frame member 15 is hollow and has substantially the same inner diameter as the socket 14. A socket 50 is attached to the leg 32 of the rear frame member 30 approximately parallel to the leg and so that its upper edge is in a plane with the upper edge of the leg 17. One end of the arm 11 of the wheelchair 10 is placed in the socket 50 and the other end is placed in the opening in the upper end of the leg 17. Thus, the arm 11 acts as a support to aid the invalid person in moving from the wheelchair 10 to the seat 40.

To disassemble the present apparatus the invalid person simply moves back to the wheelchair seat after which he depresses the spring loaded pin 26 in the pin 25 allowing the entire assembly to be lifted clear of the socket 14. The arm 11 is then removed from the assembly and placed in the sockets 14 of the wheelchair 10 and the front frame member 15 is rotated so that the leg 17 is substantially parallel with the seat 40. The seat 40 may then be rotated about the horizontal bar 36 until it is substantially parallel with the rear frame member 30. At this time the entire assembly is folded into a neat package as illustrated in FIG. 7 and may be easily stored on the wheelchair or in some convenient location.

Thus, I have disclosed a portable toilet for use by an invalid person with a wheelchair or the like. This port-

able toilet is easily assembled or disassembled by the invalid person without the help of another person and may be easily used by the invalid person without the help of another person. The present device greatly simplifies a task which is otherwise difficult and in some instances embarrassing and allows an otherwise dependent invalid person to be independent.

While I have shown and described a specific embodiment of this invention, further modifications and improvements will occur to those skilled in the art. I desire it to be understood, therefore, that this invention is not limited to the particular form shown and I intend in the appended claims to cover all modifications which do not depart from the spirit and scope of this invention.

What is claimed is:

1. A portable toilet for use by invalid persons with a wheelchair having removable arms comprising:

- (a) front and back frame members each having a leg at one end thereof and means at the other end for attaching said frame members to one side of the wheelchair upon removal of an arm therefrom; and
- (b) a toilet seat having a radial opening in communication with the central opening and means thereon for attaching said seat to said frame members in substantially horizontal position approximately at the same height as the wheelchair seat.

2. The portable toilet set forth in claim 1 having in addition a back rest fixedly attached to the back frame member.

3. The portable toilet set forth in claim 1 wherein the leg on each of the frame members is adjustable in vertical height.

4. The portable toilet set forth in claim 1 wherein the seat has means thereunder for attaching a waste receptacle thereto.

5. A portable toilet for use by invalid persons with a wheelchair having removable arms comprising:

- (a) a front frame member including a substantially horizontal portion with a leg depending from one end and pin means at the other end adapted to replace one end of a removable arm in the wheelchair, said front frame member having socket means at the leg end for receiving one end of said removable arm;
- (b) a back frame member including a substantially horizontal portion with a leg depending from one end and a back rest fixedly attached thereto above said horizontal portion, said back frame member having pin means at the end opposite said end adapted to replace the other end of said removable arm in said wheelchair, said back frame member having socket means at the leg end for receiving the other end of said removable arm; and
- (c) a toilet seat having a radial opening in communication with the central opening and means thereon for attaching said seat to said horizontal portions of said frame member.

6. The portable toilet set forth in claim 1 wherein the frame members have means at the leg ends for receiving the wheelchair arm in upright supporting position.

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