

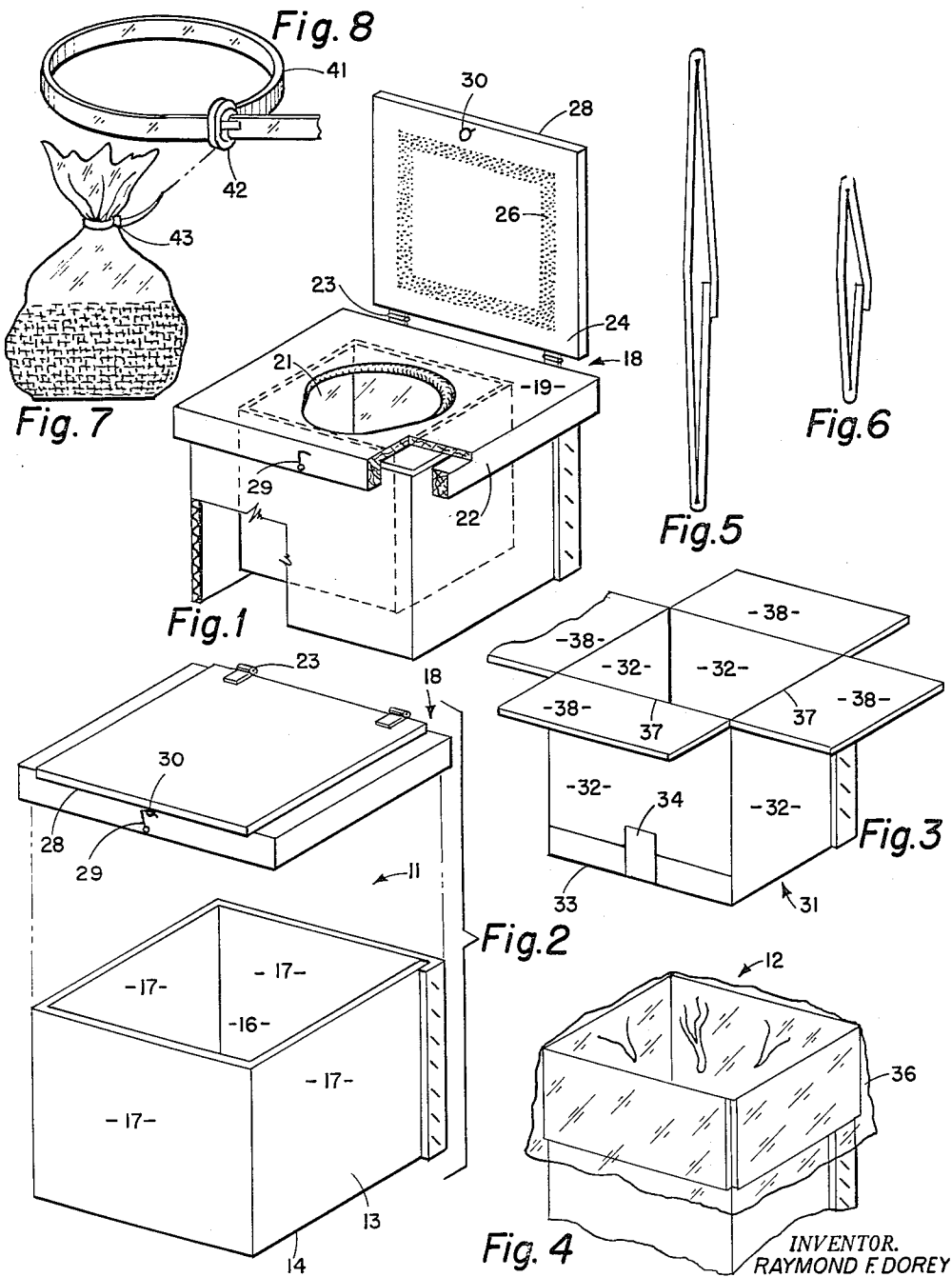
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COMBINED TOILET AND WATER STORAGE SYSTEM

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COMBINED TOILET AND WATER STORAGE SYSTEM

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1 Claim. (Cl. 4-137)

My invention relates to a combined toilet and water storage system particularly for use in fallout shelters. However, the invention has broader application for use in disaster areas, construction and hunting camps, mining and lumbering operations and other uses which will suggest themselves.

One of the deterrents to the construction of fallout shelters by the general public is the cost of the structure and the appurtenances that must be employed in connection therewith to provide at least reasonably comfortable quarters for a family should disaster conditions arise. One of the problems in connection with fallout shelters, devastated areas and other conditions which may be encountered is the provision of sanitary facilities such as toilets, the disposal of waste materials and the supply of drinking water.

An object of my invention is to provide a combined toilet and water storage system which is inexpensive to manufacture but adequately serves its purpose for the relatively short periods contemplated as being necessary in case of nuclear attack.

Another object of my invention is to provide a combined toilet and water storage system in which the elements thereof are inexpensive to manufacture, may be shipped in a flat pack in knocked down condition and easily erected at the site of use.

My invention further contemplates a combined toilet and water storage system which is inexpensive to manufacture, may be shipped in a knocked down condition, is convenient to use, may be employed both for the storage of drinking water and converted readily for toilet use.

Other objects and advantages of this invention will be particularly set forth in the claim and will be apparent from the following description, when taken in connection with the accompanying drawings, in which:

FIG. 1 is a perspective view of the combined toilet and water storage system of my invention with parts broken away more clearly to illustrate the structure thereof;

FIG. 2 is a view showing the sleeve-like member for reception of the toilet seat with the toilet seat shown in exploded relation with respect to the sleeve;

FIG. 3 is a perspective view of the box adapted to be used in connection with the toilet structure of FIGS. 1 and 2;

FIG. 4 is a view showing the box-like structure of FIG. 3 with a flexible moisture-impervious material applied thereto;

FIG. 5 is a view showing how the sleeve-like member of FIG. 2 may be arranged flat for shipment;

FIG. 6 is a similar view showing how the box-like structure of FIG. 3 may be flattened for shipment;

FIG. 7 is a view of the flexible bag shown in FIG. 4 with a sealing element applied adjacent the mouth thereof; and

FIG. 8 is a perspective view showing the sealing element or ring which is applied to the bag of FIG. 7.

Referring now to the drawings, I have shown in FIG. 2 a toilet structure generally indicated by the numeral 11 and in FIG. 4 a structure, generally indicated by the numeral 12, for insertion within the structure 11 of FIG. 2 to form a combined toilet and water storage system shown in assembled relation in FIG. 1.

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The structure generally indicated by the numeral 11 comprises a sleeve 13 having an open bottom 14 and an open top 16. The sleeve comprises side walls 17 which are made preferably of single wall double-faced corrugated paper board. This material is one of the least expensive available for use and has the distinct advantage that when pressure is applied along the top edge with the bottom edge resting on the floor and with the flutes running vertical very substantial weights may be sustained because the side walls 17 are in compression.

The toilet seat, generally indicated by the numeral 18, (FIGS. 1 and 2) comprises an upper wall 19 or a planar surface having a toilet opening 21 therein. The edges of the top wall have depending therefrom a rectangular frame 22, the inside cross-sectional area of which corresponds to the outside dimensions of the sleeve 13. As illustrated in FIG. 1, the depending lip or frame 22 extends over the side wall 17 of the sleeve 13 so as to anchor the toilet seat with respect to the sleeve.

Hinges 23 are provided at the rear edges of the toilet seat which carry a cover 24. By this means the cover may be lifted rearward (FIG. 1) with relation to the seat to enable use of the toilet. The underside of the seat has a rectangular framing 25 of adhesive material which will adhere to the top 19 of the toilet seat for the purpose of forming a seal. The adhesive material 26 could be of the type which forms a releasable bond with any surface with which it makes contact such as certain forms of polyvinyl.

The forward edge 28 of the cover 24, when the cover is closed as shown in FIG. 2, protrudes slightly over the forward edge of the toilet seat for the purpose of receiving a keeper 30. The hook 29 may be applied to the seat while the keeper 30 is attached to the underside of the cover. It is desirable that in moving the hook into locking position with its keeper that a slight cam action occur to assist in enabling the adhesive material 26 to form a tight seal with relation to the top wall 19 of the toilet seat. While wood may be employed for the seat and its cover and metal hinges be used, it is of course obvious that other materials may be employed if desired. For example, the seat and its cover may be made of relatively heavy "Masonite" and the hinges may be made of plastic materials.

The receptacle to be used in connection with the toilet structure described above comprises a box generally indicated by the numeral 31 (FIG. 3) having side walls 32 and a bottom wall 33. The bottom wall is formed by flaps which are sealed with relation to each other by a sealing strap 34 which extends completely beneath the box and up the side walls at the opposite sides of the box.

For use with the box or receptacle 31, I have provided a moisture impervious bag 36 which may be a polyethylene film. I have found 4 mm. polyethylene of sufficient strength so that when sealed it is vapor and moisture proof.

The bag 36 has a closed bottom and its height is somewhat greater than the height of the side walls 32 of the box-like structure 31 so that the bag may be dropped in the box and the upper portions thereof rolled over the side walls 32 as shown in FIG. 4.

Integral with the upper edges of the box and hinged with respect thereto as by scorings 37, are flaps 38. These flaps normally extend outwardly with respect to the side walls 32 of the box, somewhat as indicated in FIG. 3. Some pressure is required to push them against the side walls 32 of the box. The pliant film is thus overlapped with respect to the side walls and flaps 38 of the box. The spring-like tendency of the flaps 38 to move upwardly assists in holding the upper portions of the moisture impervious bag 36 in the position shown in FIG. 4.

The horizontal cross-sectional area of the box-shaped

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structure 31 is somewhat smaller than the cross-sectional area of the sleeve 13. This enables the sleeve to be lifted, together with the toilet seat and its cover, over the box-like structure 31 with the parts as shown in FIG. 4 so that the toilet, when assembled appears as shown in FIG. 1.

One of the advantages of the structure of my invention lies in the fact that a number of boxes 31 and their moisture impervious bags 36 may be supplied with one toilet assembly as illustrated in FIG. 2. All of these bags may be filled with water suitable for drinking purposes.

Assemblies as shown in FIG. 4 may be provided with lids if desired although this is not essential. After the water in one of the units shown in FIG. 4 has been partially consumed the toilet assembly may be superimposed over it and the combined assembly be used as a toilet, the cover 24 being closed and tightly sealed as described above after each use thereof.

Chemicals of known composition which minimize odors and destroy bacteria may be used in the conventional manner. When a sufficient accumulation of waste has been deposited in the bag the toilet seat assembly may be removed from the structure of FIG. 4. A flexible loop 41 is provided which has a slip lock 42 which may be slid along the loop 41 and the mouth of the bag tightly closed as indicated at 43. The loop 41 and its slide member 42 per se are not part of the present invention. They are a known product freely sliding in one direction but automatically locking against movement in the opposite direction. By moving the slide in tight relation with the mouth of the bag, an effective seal may be provided. The

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flaps 38 may then be closed and sealed by a sealing strip similar to the sealing strip 34. The box may then be stored in the shelter until it can be disposed of.

While I have shown and described the preferred form of mechanism of my invention it will be apparent that various modifications and changes may be made therein, particularly in the form and relation of parts, without departing from the spirit of my invention as set forth in the appended claim.

I claim:

A portable and demountable toilet comprising in combination, a toilet seat; a sleeve having top and bottom openings, the margins of said top opening receiving the seat; an inner container having closure flaps fitting within the sleeve and an open mouthed bag impervious to moisture supported within the container by the upper edges thereof, said container being closable to form a storage package enclosing said bag after sealing.

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