United States Patent [19]

Johns

[11] **3,755,830**

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[54] **PORTABLE BATHTUB**

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[52] **U.S. Cl.** **4/177**, 5/312, 248/167, 248/188, 248/188.1

[51] **Int. Cl.** **A47k 3/06**

[58] **Field of Search** ..... 4/173, 177, 185 L, 4/185 S; 248/167, 188, 188.1; 211/178 R; 5/312

[56] **References Cited**

UNITED STATES PATENTS

3,327,982	6/1967	Kramer	5/312 X
3,557,392	11/1971	Schmidt	4/177
3,174,629	3/1965	Gelberg et al.	211/178 R
1,451,437	4/1923	Bernier	4/177

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[57] **ABSTRACT**

A portable bathtub having a frame portion, a liner portion, and leg portions which facilitate use of the bathtub on a carrier surface such as on a stretcher. The frame includes a horizontally disposed, open center member made up of a plurality of telescoping portions. The dimensions of the open center of the frame are larger than the carrier surface. The legs are pivotally attached to the frame, and at least two of the legs are contoured so that upon selected rotation thereof the bottom support end can be located in different lateral positions whereby upon positioning the legs inwardly the tub can be supported on a stretcher and upon positioning the legs outwardly the frame can be lowered below the carrier surface with the liner thereof draped over the carrier surface and the frame and leg portions hanging down the sides, whereby to provide a flush surface on the carrier for easy movement of patients onto the carrier surface.

3 Claims, 4 Drawing Figures

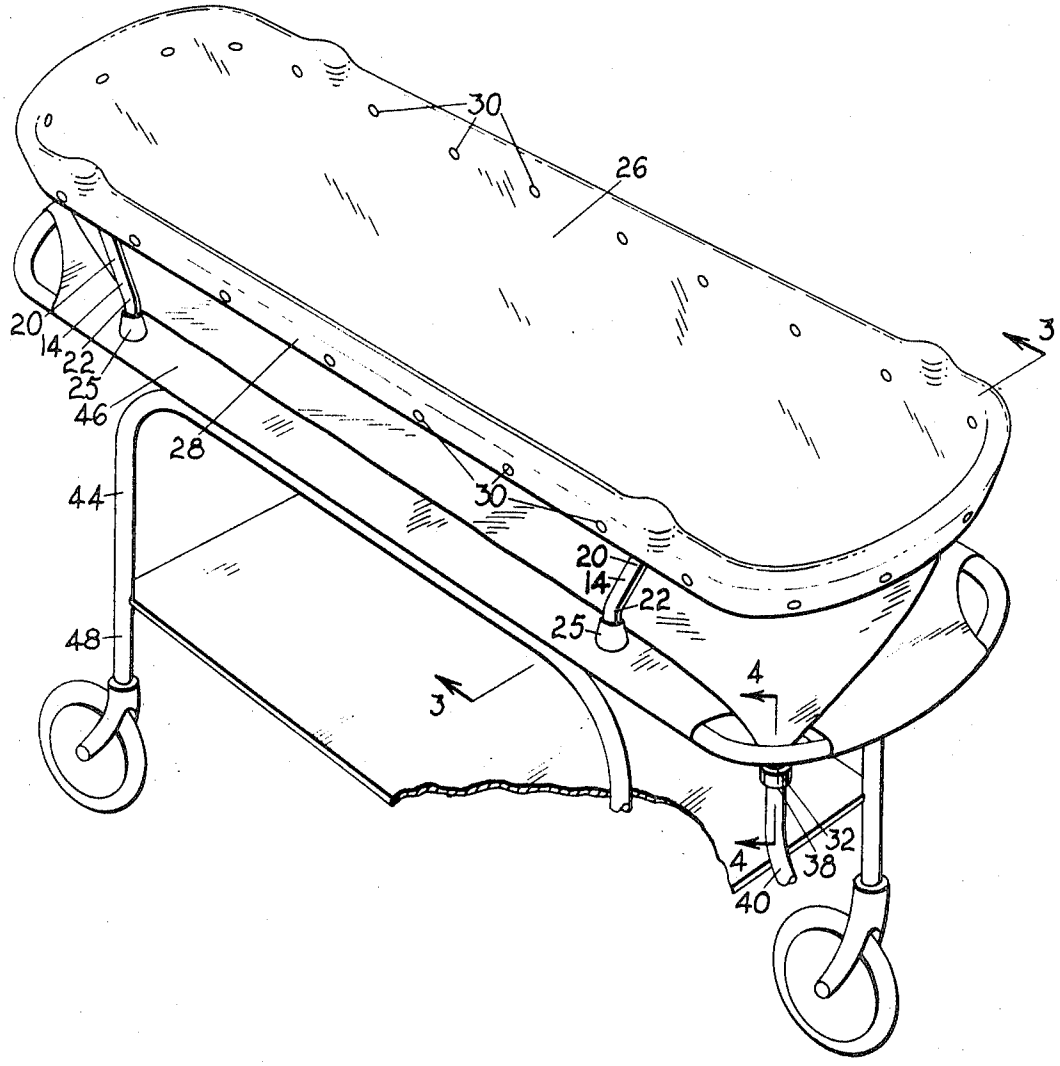

FIG. 1

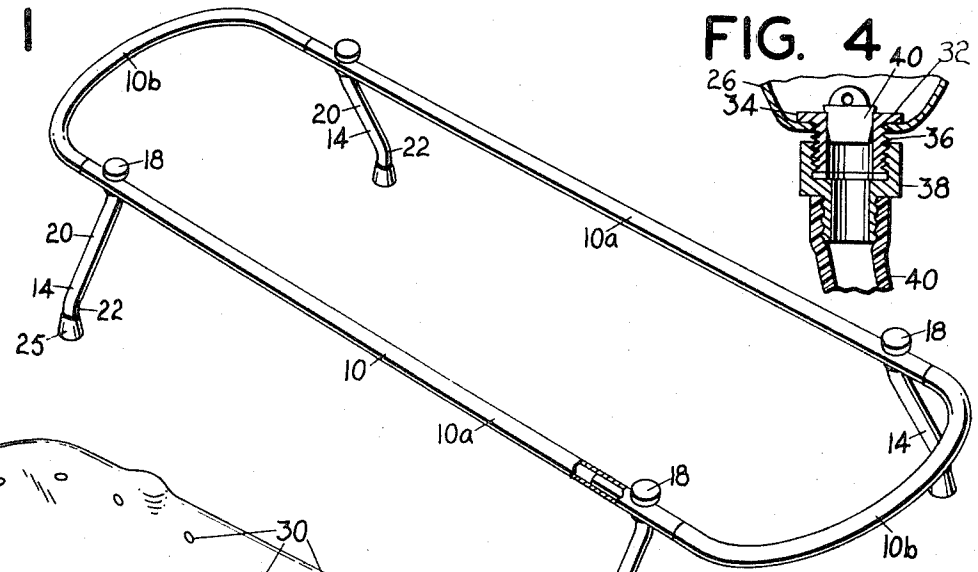

FIG. 4

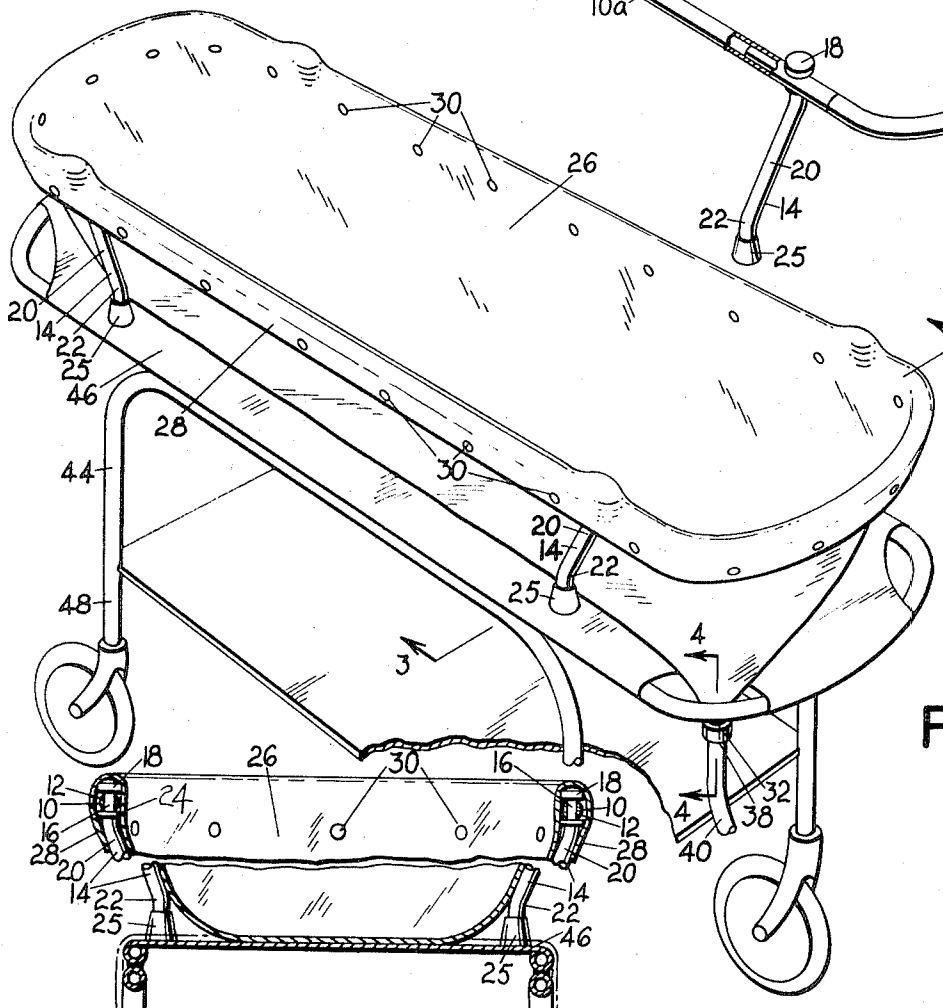

FIG. 2

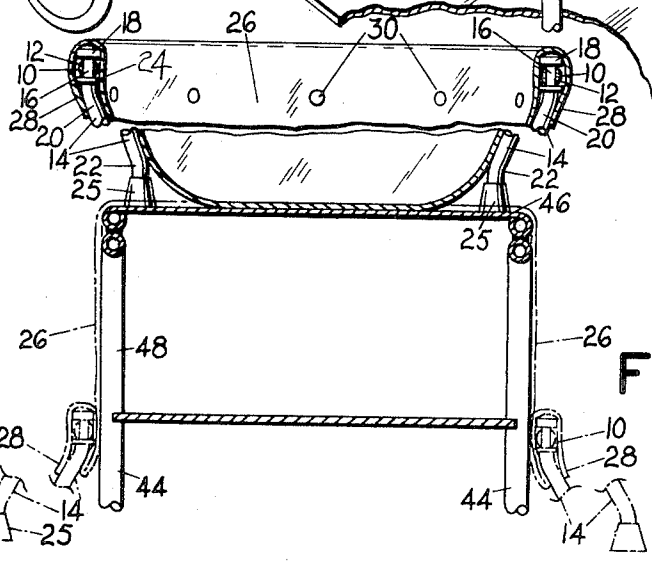

FIG. 3

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PORTABLE BATHTUB

BACKGROUND OF THE INVENTION

This invention relates to a new and novel portable bathtub.

Portable bathtubs have heretofore been devised for bathing persons in bed or the like. For example, U.S. Pat. Nos. 755,747, 1,451,437 and 3,373,451 relate to such devices. The structures shown in these listed patents are not entirely satisfactory, however, because no provision is provided for readily placing a person therein or too of providing a structure which permits it to be conveniently and safely supported on a carrier such as a wheeled stretcher. An urgent need thus exists for a portable bathtub structure which has versatile use in hospitals, rest homes and the like where patients are bedfast or otherwise have difficulty in bathing in a conventional tub or shower.

SUMMARY OF THE INVENTION

According to the present invention and forming a primary objective thereof, a portable bathtub is provided having a novel structure which facilitates its convenient use with patients who otherwise find it difficult to bathe.

More particularly, an object of the invention is to provide a portable bathtub having a novel frame and flexible liner which can be supported either on the top of a carrier surface such as a conventional wheeled stretcher by leg means thereon or be draped over the stretcher surface by the liner with the frame and legs hanging down alongside the stretcher, whereby a patient can be moved directly from the bed onto the stretcher for bathing. Such object is accomplished by an enlarged dimension of the frame relative to the carrier surface and by a pivotal attachment of at least two of the legs which are contoured so that when pivoted toward a center position, the frame of the bathtub is supported on the top of the carrier surface but when rotated away from center the said frame and legs can hang down alongside the carrier to allow the liner to lie flat on the carrier surface similar to a sheet.

Another object of the present invention is to provide a novel frame structure which is constructed of several pieces for compactness in shipping and storage. The frame also has a novel assembly with the supporting legs and in its assembled condition is capable of use on substantially any width of stretcher.

Still another object of the present invention is to provide a novel flexible tub liner for support on a frame, including a novel drain facilitating connection to existing drain means.

The invention will be better understood and additional objects and advantages will become apparent from the following description taken in connection with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a frame and supporting leg structure of the present portable bathtub;

FIG. 2 is a perspective view of the tub fully assembled with liner and supported on a carrier;

FIG. 3 is a cross sectional view taken on the line 3—3 of FIG. 2 and showing in phantom lines a lowered position of the tub with the liner draped over the carrier; and

FIG. 4 is an enlarged sectional view taken on the line 4—4 of FIG. 1.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

Referring in particular to the drawings, the portable bathtub of the present invention comprises an open center frame **10** preferably made up of a pair of tubular side pieces **10*a*** and tubular U-shaped end pieces **10*b***. The ends of the side pieces **10*a*** have telescoping engagement with the arms of the end pieces **10*b*** for assembly. Although no particular telescoping arrangement is important, the drawings show the end pieces telescoped within the side pieces **10*a***, it only being desired that the length of telescoping relationship be sufficient to provide a rigid longitudinal connection.

Each of the frame pieces **10*a*** and **10*b*** has vertical apertures **12** for receiving legs **14**. These legs have an upper spindle portion **16** adapted to extend up through the apertures **12**. Since the legs extend through both the apertures in the side pieces **10*a*** and end pieces **10*b***, the respective frame pieces **10*a*** and **10*b*** are held together thereby. The spindles **16** have a pivotal connection in the apertures so that the legs can be rotatably adjusted for a purpose to be described. A portion of the leg spindle **16** projects above the frame and has an end cap **18** thereon.

Each of the legs has an angled portion **20** which vertically offsets the bottom support end **22** of the leg from the spindle portion **16** for a purpose to be described hereinafter. Preferably, each leg has a leg holding band or washer **24** at the lower end of the spindle **16**. The lower ends of the legs have end cups **25** in a usual manner.

A flexible waterproof liner **26** is carried inside the frame **10** and has a portion **28** which extends over the top of the frame. Mating snap members **30** are provided on the body portion **26** of the liner and on the portion **28** so that the latter upon being folded over the frame can be connected to the body portion of the liner for holding the latter on the frame.

One end of the liner **26** has a drain fitting **32**, best seen in FIG. **4**, comprising a top flange **34** having a watertight secured connection to the liner. A projecting threaded portion **36** of the fitting extends down through a suitable aperture in the liner, and this projection is constructed for threaded connection with a female hose fitting **38** of a conventional drain hose **40**. A stopper **42** is provided to plug the fitting **32** when the tub is in use.

The present bathtub is versatile and convenient in its usage. To assemble the tub, the frame parts are fitted together in their telescoping relation and the legs inserted to hold the frame portions together. End caps **18** and **25** are also applied. The liner is then placed inside the frame **10** with the portion **28** extending down over the outside of the frame and connected to the body of the liner by the snaps **30**. The drain hose is brought up through the hand holds and threadedly connected to the drain fitting **32**. With the stopper **42** in place, the tub can be filled by any suitable means, and upon completion of the treatment for the patient, the stopper is removed and the tub drained.

One important feature of the present portable bathtub is that it can be used on a conventional wheel type stretcher. Such a stretcher is shown in FIG. **2** and is designated by the numeral **44**. As is well known, such

stretchers have a top surface **46** supported by a wheeled frame **48.** By using the present bathtub structure on a stretcher **44,** the facilities of a bath or other treatment can be taken directly to the patient if necessary. Furthermore, a bedfast patient can be placed in the tub with ease. That is, in this latter regard, wheeled stretchers are usually of the same height as a bed, or too the bed may be vertically adjustable, so that a patient can be slid directly from the bed onto the stretcher or vice versa. In applicant's bathtub structure, the inner dimensions of the frame **10,** both in its length and width, are greater than the stretcher surface and the contour of the legs is such that when turned inwardly they engage the stretcher surface and support the tube on the said stretcher surface. When the legs are turned outwardly, however, the frame and legs hang down from the liner below the stretcher surface, the liner being draped over the stretcher surface as shown in phantom in FIG. **3.** With the stretcher placed up against the side of the bed, and the tub lowered, a patient can be slid over onto the stretcher on top of the liner. Thereupon, the frame **10** is lifted and the legs turned inward for engaging the top of the stretcher. The tub can then be filled or the patient treated as necessary, assuming of course that stopper **42** has been put in place. After treatment, the liquid is removed by taking out the stopper. The frame is lowered by rotating the legs again to their outward position to hang down alongside the stretcher. The patient can then be slid back into bed.

The structure of the present bathtub has many other features in its construction and use. For example, the frame and liner arrangement make it such that the full weight of the patient is on the supporting surface, not on the tub, so that should one or more of the legs accidentally be displaced from the top surface of a stretcher the patient would remain on the stretcher, there possibly at worst being only a partial loss of water from the tub. Another feature is that the present tub can be placed on the floor for ready access to a patient who can get out of bed. Also, the tub can be disassembled for easy cleaning and also for convenient shipment and storage. The liner **26** is constructed of any suitable material which is durable, is resistant to disinfectants or other cleansing chemicals ordinarily used in hospitals or rest homes. The present bathtub can also be used conveniently to bathe a patient in a bed. Such is accomplished by first removing the four legs, then sliding the frame with the liner therein under a patient, and then lifting the frame and reinserting the legs.

It is to be understood, that the form of my invention herein shown and descibed is to be taken as a preferred example of the same and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of my invention or the scope of the subjoined claims. For example, it may not be necessary that all the legs **14** be pivotal since by suitable contouring of at least two of the legs, it may be possible to lower the frame down by turning such two legs outwardly. With all the legs being pivotal, however, the present frame can be supported on practically all existing wheeled stretchers and also can be laid flat thereon with the legs extending down alongside the stretcher. Although the device of the invention is termed a bathtub, it is to be understood that it may have any other use which requires a wet treatment or the like.

Having thus described my invention, I claim:

1. A portable bathtub comprising an open center horizontal frame, a flexible liner member mounted on said frame arranged to form a receptacle to receive a person, and a plurality of support legs connected to said frame in depending relation and having bottom support ends, said legs being pivotally attached on a vertical axis to said frame at their upper ends, said legs being angled from their connection with the frame and the bottom support ends being adjusted in a lateral position relative to the frame upon selected rotative positioning of the legs.

2. The portable bathtub of claim **1** wherein said frame is composed of telescoping sections facilitating compactness in shipment and storage, said telescoping sections having apertures for receiving the vertical pivot attachment of said legs, said apertures being provided in said sections at telescoping portions thereof whereby the vertical pivot attachments of said legs serve to connect said sections together.

3. The portable bathtub of claim **1** in combination with a supporting surface, said frame having an interior dimension greater than said supporting surface, said legs being selectively angled such that in an inwardly turned position they are capable of being seated on said supporting surface and in an outwardly turned position they are capable of moving down below said supporting surface with the frame so as to hang with said frame from said liner.

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