United States Patent [19]

Samuel et al.

[11] **3,896,809**

[45] **July 29, 1975**

[54] **SUPPORT FOR A CONTINUOUS DRAIN UNIT CONNECTED WITH A CATHETER**

[76] Inventors: **Carl A. Samuel; Euphemia Samuel,** both of 5404 Broadway, Live Oak, Calif. 95953

[22] Filed: **Sept. 24, 1973**

[21] Appl. No.: **400,210**

[52] **U.S. Cl.** ..... **128/275;** 4/110; 297/188; 297/DIG. 4; 248/95; 248/311; 248/316 D

[51] **Int. Cl.²** **A61F 5/44**

[58] **Field of Search** ..... 128/295, 275, 294; 297/188, 191, 194, DIG. 4; 248/79, 89, 316 D, 311, 74 R, 95; 4/110

[56] **References Cited**

UNITED STATES PATENTS

2,959,386	11/1960	Garth	248/95
3,090,968	5/1963	Buono	4/110
3,251,069	5/1966	Clark	4/110
3,529,598	9/1970	Waldman	128/275
3,653,624	4/1972	Abel	248/312
3,709,556	1/1973	Allard	297/188

Primary Examiner—Richard A. Gaudet
Assistant Examiner—Lee S. Cohen
Attorney, Agent, or Firm—Townsend and Townsend

[57] **ABSTRACT**

A hanger for supporting a continuous drain unit including a relatively long drainage tube connected at one end with a bag or receptacle, and at the other end with a catheter connected with a patient seated on a chair. The hanger is adapted to support the tube and receptacle on the back of the chair with the tube and receptacle at levels that will insure against injury to such patient due to inadequate drainage from the catheter to the receptacle and which will support the long tube and the receptacle in a position behind the chair and spaced above the floor with the tube compactly arranged to prevent accidental interruption of drainage from distortion of the tube by kinking or localized pressure against the tube, such as from the wheels of a wheel chair when the patient is seated in such chair, or by a heavy object falling on the tube.

3 Claims, 6 Drawing Figures

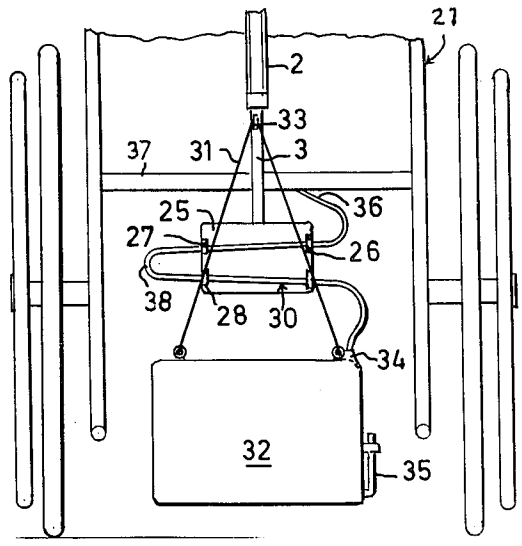


FIG.1

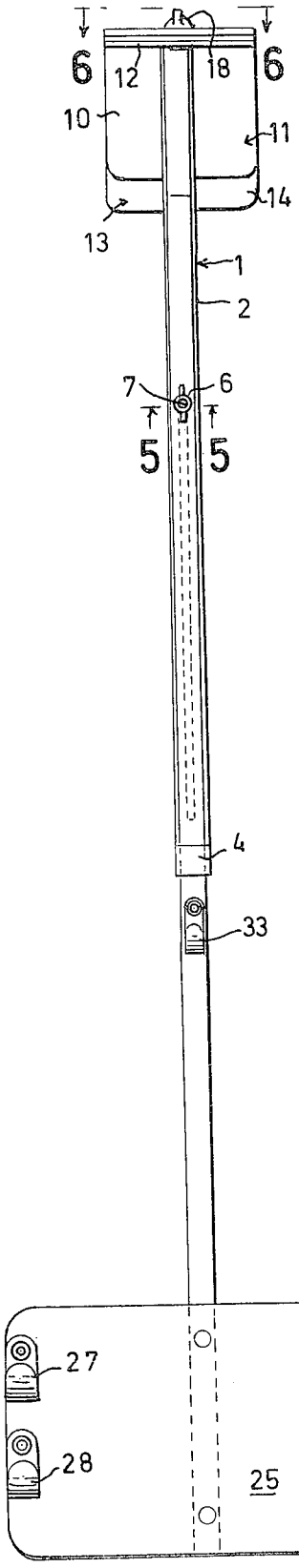


FIG.2

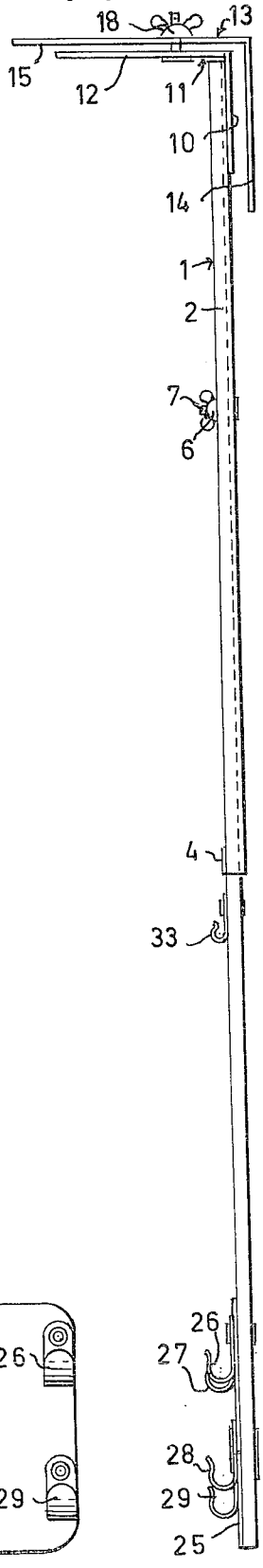


FIG.3

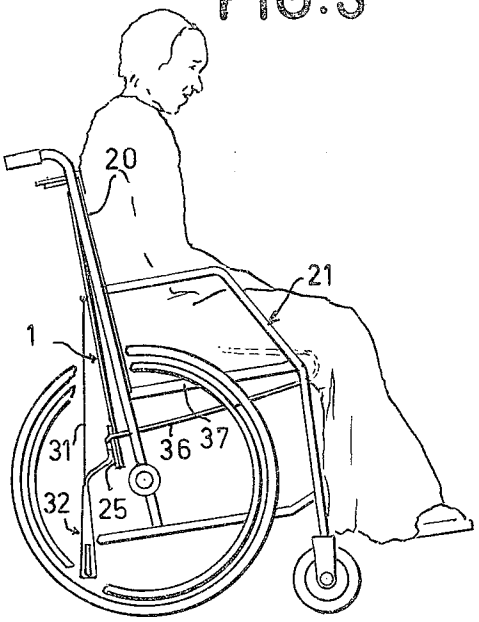


FIG.4

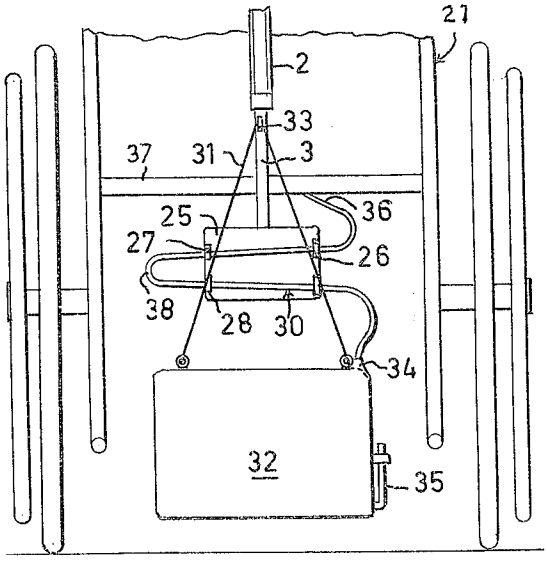


FIG.5

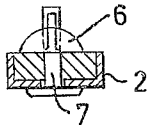
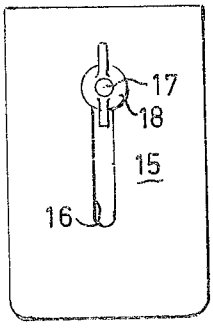


FIG.6



SUPPORT FOR A CONTINUOUS DRAIN UNIT CONNECTED WITH A CATHETER

SUMMARY

Patients suffering from what is pathologically described as incontinence, or the inability to control the natural evacuation of urine, are normally fitted with catheters, such as for example a Foley catheter which is connected by a tube with a drainage bag. These tubes are normally approximately three-eighths of an inch in diameter and four feet in length to provide for continuous drainage when the patient is in bed.

When the patient is moved to a wheel chair or other chair, the tube is disconnected from the catheter and then re-connected when the patient is seated, and the same procedure is followed in returning the patient to the bed.

Heretofore, no provision has been made for properly supporting the four foot length of tube and the drainage bag from the chair to insure continuous, unimpeded drainage of urine. As a result, there is imminent danger from infection due to back up of urine in the bladder from kinked tubing, or due to a restriction from pressure of a wheel of the wheel chair, or from many other accidental occurrences that have occurred in the past.

One of the objects of the present invention is the provision of a hanger for the tube and bag of a continuous drainage system of the type for bed patients that is adapted to be quickly and compactly supported on the chair in which the patient may be seated, with the bag, and the drainage tube connecting it with a catheter in the patient, in a position to insure continuous, uninterrupted drainage, and in which position the tube is safely supported against kinking and accidental distortion that might in any way impede free drainage.

Another object of the invention is the provision of a hanger on which the relatively long drainage tube and receptacle in a continuous drainage system may be supported during removal of the patient from a bed to a chair, and vice versa, and which hanger is adapted to be quickly suspended from the back of such chair with the tube and receptacle supported thereon in continuous drainage relative to the catheter connected with the patient when the latter is seated in the chair.

An added object of the invention is the combination of a wheel chair and a continuous drainage unit in which the latter is supported safely out of danger against interruption of drainage and substantially out of sight, when the unit is connected with a patient seated in the chair and connected with the drainage unit by a catheter.

Other objects and advantages will appear in the description and drawings.

DESCRIPTION OF DRAWINGS

FIG. 1 is a rear view of the hanger, separate from a chair and from the continuous drain unit.

FIG. 2 is a side elevational view of FIG. 1.

FIG. 3 is a highly reduced side elevational view of the continuous drain unit supported by the hanger on the back of a wheel chair having a patient seated thereon, with part of the wheel broken away to not confuse the showing of the unit.

FIG. 4 is an enlarged, fragmentary rear view of the lower portion of the chair of FIG. 3 with the hanger and continuous drain unit shown thereon.

FIG. 5 is an enlarged, cross-sectional view at line 5—5 of FIG. 1.

FIG. 6 is an enlarged, top plan view of the upper end of the hanger as seen from line 6—6 of FIG. 1.

DETAILED DESCRIPTION

The continuous drain unit itself is conventional. The hanger for said unit comprises a vertically elongated member generally designated 1, having an upper portion 2 and a lower portion. The upper portion may be of channel shape in horizontal cross-sectional contour (FIG. 5) with the lower portion being a strip 3 slidably fitted between the sides of the channel for longitudinal movement of the channel and strip relative to each other so the member 1 may be extended or retracted to suit conditions, as will later be explained. A retainer piece 4 may be secured to the sides of the channel 2 adjacent the lower end and extend across strip 3, to stabilize the two strips in any degree of extension or retraction of the member. In FIGS. 1, 2 the member 1 is at its minimum extension.

The bottom of channel 2 is formed with a slot extending longitudinally thereof, and a releasable clasping nut 6, such as a wing nut, is on a bolt 7 that extends through slot and an opening in strip 3. A head on bolt 7 engages the bottom of channel 2 while the nut 6 engages the strip 3 for releasably locking the upper and lower portions of member 1 at the desirable degree of extension.

Hereafter, the words "rear," "rearwardly," "forward," "forwardly" and words of similar meaning will be used with reference to the back of a chair. The hanger of this invention is suspended from the upper edge or portion of the back of the chair in a position behind or adjacent the rear side of the back.

The upper end portion of channel 2 is secured to the depending leg 10 of an angle plate generally designated 11. The other leg 12 of the angle plate 11 extends horizontally from the upper edge of leg 10 across the upper end of channel 2 and the open side of the channel 2 faces away from leg 10.

Angle plate 11 provides one portion of a clamp, the other portion being a similar angle plate 13, having a vertically extending leg 14 that is in opposed relation to the side of leg 10 that faces away from channel 2, while the other leg 15 of angle plate 13 extends over and in opposed relation to leg 12 of angle plate 11.

Leg 15 is formed with a slot 16 (FIG. 6) centrally between its lateral free edges that extends away from the juncture between legs 14, 15.

A clamping bolt 17 extends through slot 16 and an opening in leg 12 and the legs 12, 15 may be clamped together between a head on bolt 17 below leg 12 and wing nut 18 with the back 20 of a chair, generally designated 21 between the legs 10, 14. The legs 12, 15 will extend rearwardly while leg 14 will be flat against the forward surface of the back 20 and the member 1 will extend downwardly behind back 20.

A plate 25 is centrally rigidly secured against the rear side of the lower end portion of the strip 3 of the member 1, so as to face rearwardly away from the chair 21. Said plate 25 is generally rectangular having vertical lateral free edges.

Upwardly opening spring clips 26, 27, 28, 29 rigidly secured on plate 25 project rearwardly therefrom, each being adapted to yieldably grip the flexible, plastic drainage tube 30 (FIG. 4) of a continuous drainage unit.

Clips **26, 27** are respectively along one of the two opposite lateral or vertical free edges of plate **25,** with clip **27** at a slightly lower elevation than clip **26** when the hanger is suspended from the back of a chair. Clip **28** is spaced below clip **27,** and along the same edge of plate **25** as clip **27,** while clip **29** is at a still lower level than clip **28** and along the same edge as clip **26.**

The outside diameter of tube **30** is normally three-eighths of an inch, and of sufficient rigidity that the tube may be readily sprung through the open side of each clip into the clip to be frictionally held by the clip, each clip being a flat annularly extending spring band adapted to extend partially around the tube with one free end bent outwardly to facilitate springing the tube through the open side of the clip.

The receptacle of a continuous drainage unit is normally a somewhat flattened bag **32** having an upper edge or side provided with a cord **31** connected at the ends with the upper side of the bag at spaced points along the latter to provide a loop for suspending the bag from a point above the latter.

An upwardly opening hook **33** is secured on strip **2** at a point spaced above plate **25** a sufficient distance to suspend the bag **32** therefrom in a position below said plate, the hanging loop **31** also being of a length to so position the bag when the latter is suspended from the hook.

Bag **32** has a fitting **34** at one end of its upper edge for one end of the drainage tube **31,** and a discharge fitting **35** at the lower portion of the bag is adapted to be swung from an upright position to a downwardly extending position to withdraw urine from the bag without disconnecting the tube **30** from the catheter or from the bag.

As already mentioned the tube **30** is relatively long to provide for constant drainage when the patient is in bed.

Upon moving the patient from the bed to a chair **21,** which may be a wheel chair or an ordinary chair, the tube **30** may be disconnected from the catheter and the bag **32** hung from hook **33** and the tube **30** reconnected with the catheter and the length of the tube between the catheter and the bag secured by the clips **26 – 29** in the form of a return bend with one portion **36** (FIG. 3) extending from the catheter across the forward edge of seat **37** and then rearwardly and downwardly to clip **26.** From clip **26** the tube extends slightly downwardly across the rear face of plate **25** to clip **27,** and to a return bend **38** and downwardly to clip **28,** and downwardly across the plate **25** to clip **29,** and from clip **29** downwardly to fitting **34** on bag **32.**

By this arrangement the continuous discharge unit and the chair and patient on the latter are positioned relative to each other to be moved as a unit to different positions, particularly if the chair is a wheel chair. The extra length of tubing and bag are supported above the floor and close to the chair at the rear side of the latter in a position where the tube is safe from being stepped on or run over by the wheels of the chair. Also, the tube cannot become accidentally kinked through shifting it around, and it is supported in an inconspicuous position.

We claim:

1. In combination with a chair having a seat elevated above a floor and a back extending upwardly from one edge of said seat:

a. a continuous, flexible drainage tube having a catheter at one end for fitting on a person seated on said seat;

b. a receptacle connected with the other end of said drainage tube;

c. a portion of said tube between said catheter and said receptacle being flexed to form horizontally extending lengths one above the other connected at one of their ends by a return bend and the other end of the upper length connected with said catheter with the other end of the lower length connected with said receptacle;

d. means removably supported on the back of said chair supporting said drainage tube including the lengths of said portion thereof extending downwardly from said seat to said receptacle and supporting said receptacle in a position rearwardly of said seat and below the level thereof.

2. The combination as defined in claim **1** in which:

e. said chair is a conventional wheel chair having a pair of main wheels supporting it for movement over the floor;

f. said receptacle and said portion of said tube being supported by said last mentioned means between said main wheels and the entire length of said tube being supported on said chair above the floor.

3. A hanger for supporting a continuous drainage unit that includes the drain-receiving receptacle and a continuous drain tube connecting said receptacle with a catheter fitted on a person seated in a chair having a seat and back, comprising:

a. a vertically extending receptacle and tubesupporting member;

b. tube supporting means on said member at its lower end for supporting horizontally extending lengths of said continuous drain tube intermediate said receptacle and said catheter in position spaced one above the other and connected at one of their ends by a return bend with each of said lengths included downwardly in a down-stream direction for continuous drainage of urine therethrough in said direction;

c. receptacle supporting means on said member for releasably supporting said receptacle in a position below the lowermost of said lengths;

d. member supporting means for removably supporting said member on said chair in a position in which said tube supporting means is spaced below the level of the seat on said chair, whereby continuous drainage from said catheter to said receptacle will be effected when said lengths and bag are supported on said member in said respective positions and the catheter is fitted on a person seated in said chair;

e. said vertically extending member comprising an upper portion and a lower portion in longitudinal alignment connected for movement of said lower portion to different adjusted positions projecting downwardly from said upper portion, and means for releasably securing said lower portion to said upper portion in each adjusted position;

f. said bag supporting means and said tube supporting means being secured on said lower portion whereby their positions relative to each other will remain the same in each of said adjusted positions.

* * * * *