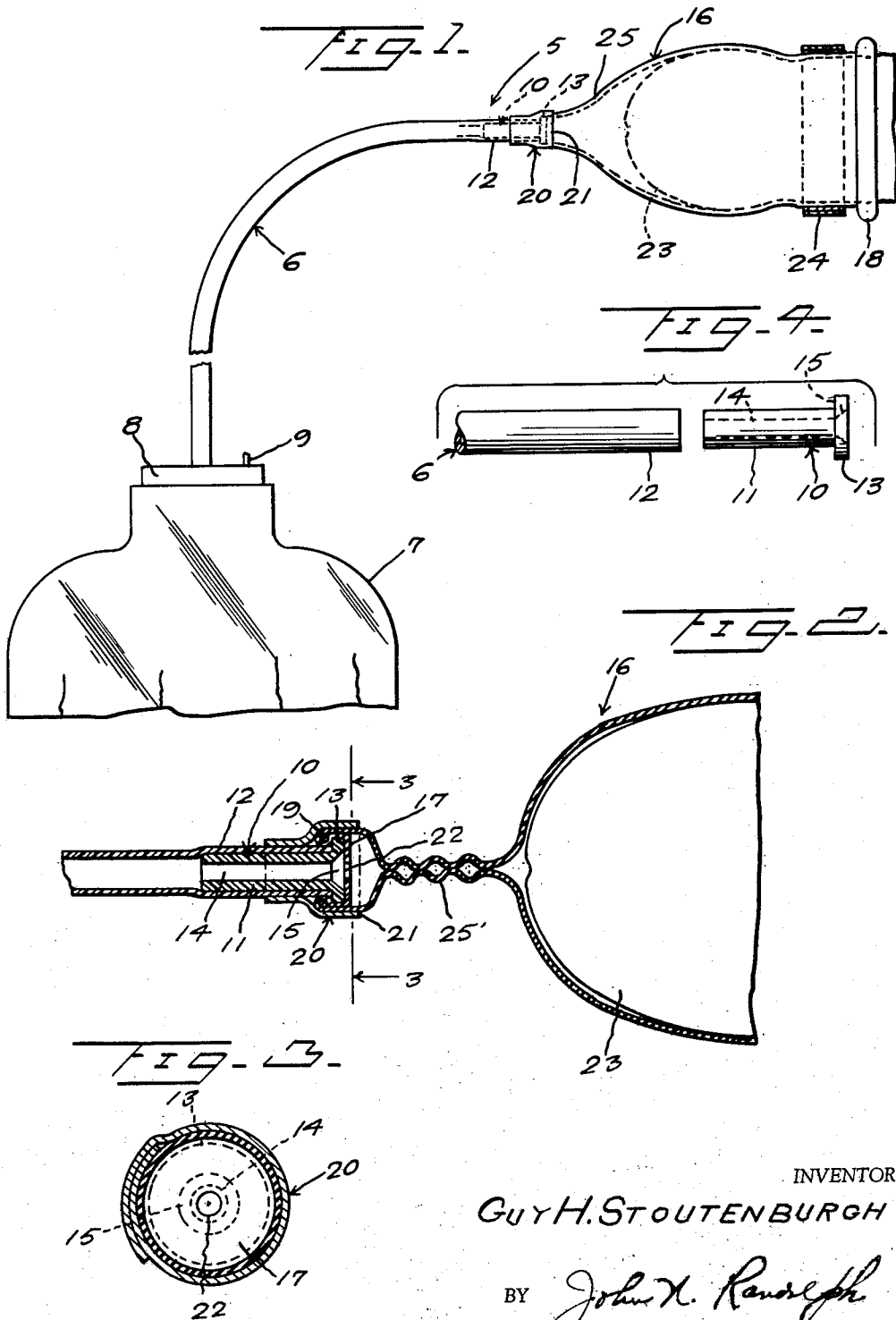


June 23, 1964

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MALE BLADDER EVACUATION DEVICE

3,138,160

Filed Dec. 7, 1962



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3,138,160

MALE BLADDER EVACUATION DEVICE

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Filed Dec. 7, 1962, Ser. No. 242,992

2 Claims. (Cl. 128—295)

This invention relates to a device or apparatus for use by male persons lacking urinary control and has for its primary object to provide such a device which will be leakproof, which can be utilized without discomfort to the wearer and without the possibility of causing injury.

Male paraplegics constitute one group of persons who are urinary incontinents and who face a critical problem in accomplishing the most routine phases of personal hygiene associated with urinary evacuation, due to being especially susceptible to infection. Where internal catheters are utilized for bladder drainage there is considerable risk of infection even though the changing of the catheters is accomplished by trained personnel with sterilized equipment, as is essential. Where an evacuating apparatus is employed, such devices as are now known are incapable of protecting the user against injury or infection. This is especially true due to the fact that the sensory nerves of such wearers do not function and circulation in the lower portion of the body is considerably reduced so that such body portions are particularly sensitive to injury and infection and lack the capabilities of readily healing.

Accordingly, it is a primary object of the present invention to provide a device or apparatus which may be conveniently used by male incontinents either ambulatory, sitting, in bed, or elsewhere under conditions such that a receptacle can be readily concealed.

Further objects of the invention are to provide a device or apparatus which can be worn with safety, comfort and assurance while the user is sleeping in any position and which will provide positive leakproof drainage, which is very sanitary yet may be economically utilized, and which is so constructed that a part thereof which engages the person of the wearer is readily disposable and readily replaceable.

Various other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawing, illustrating a presently preferred embodiment thereof, and wherein:

FIGURE 1 is a fragmentary elevational view of the device in an applied position;

FIGURE 2 is an enlarged fragmentary longitudinal sectional view of a part of the apparatus;

FIGURE 3 is an enlarged cross sectional view through a part of the apparatus, taken substantially along a plane as indicated by the line 3—3 of FIGURE 2, and

FIGURE 4 is a fragmentary exploded elevational view of parts of the apparatus.

Referring more specifically to the drawing, the evacuation device in its entirety and comprising the invention is designated generally 5 and includes a flexible tube 6 which may be of any desired length and which is preferably formed of a plastic material but which may be formed of rubber or other liquid-proof materials. The device 5 includes a receptacle 7, such as a jar, having a readily removable closure 8 through which an end, not shown, of the tube 6 extends to discharge into the receptacle 7. The closure 8 is provided with a port 9 for venting the receptacle 7.

An adapter member 10, preferably formed of a rigid plastic material, includes a tubular stem 11 which is disposed in the other end 12 of the tube 6 and which is preferably of an external size to expand the tube end 12, as seen in FIGURE 2, to insure a tight fitting en-

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gagement. The adapter 10 has a flanged end or head 13 which is disposed immediately beyond the tube end 12. The bore 14 of the adapter 10 extends completely there-through and has a flared or funnel-shaped end 15 disposed in the head 13.

An elongated, thin sheath of an elastomer material, designated generally 16, includes an end 17 and an open opposite rolled or beaded end 18. The sheath 16 is initially reversed relative to its position of FIGURES 1 and 2 so as to extend along the tube 6 from the adapter 10, with the end 17 thereof stretched across the adapter head 13. A binding element 19, such as a rubber ring or band, engages tightly around a portion of the sheath 16 and around the tube end 12 and adapter portion 11, immediately behind the head 13, so that the sheath 16 is held stretched across the funnel end 15 of the bore 14. The sheath is then reversed over the binding 19 to extend outwardly from the adapter head 13, as seen in FIGURES 1 and 2, and a strip of adhesive tape 20 engages snugly around the folded part of the sheath 16 which embraces the adapter 10. As seen in FIGURE 2, an outer edge 21 of the tape 20 protrudes beyond the sheath portion 17. Said sheath portion 17 is then punctured with any suitable tool or instrument, not shown, to provide an opening 22 therein which aligns with the bore 14.

The other open end 18 of the sheath 16 is applied over the male organ 23 and is secured thereto by a strip of elastic adhesive tape 24 which is wound about the sheath near its rolled or beaded end 18, to insure leakproof connection between the sheath and the organ and to position the sheath relative to the organ so that the extremity of the organ will be spaced from the adapter 10.

As seen in FIGURES 1 and 2, the adapter 10 is of small cross section as compared to the cross sectional size of the sheath 16 and is very light in weight so that said adapter and the tube end 12, supported thereby, may be readily supported by the unoccupied sheath portion 25.

The sheath 16 is formed of a very thin, elastic and limber material which is very strong and not readily subject to rupture. When the sheath is initially applied, the unoccupied portion 25 thereof constitutes an air chamber in which air keeps the portion 25 partially inflated, as seen in FIGURE 1. This sheath portion 25 will readily provide a cushion to prevent the organ 23 from coming into contact with any part of the adapter 10 or tube 6 and so that it will be engaged only by the sheath 16.

After voiding has occurred, the air previously within the sheath portion 25 will have been forced through the tube 6 into the receptacle 7, passing with the liquid through the opening 22 and bore 14 to the tube 6.

Atmospheric pressure will then cause the unoccupied sheath portion 25 to collapse and assume an accordion-like or shriveled configuration 25', as seen in FIGURE 2, and which will be maintained, except when voiding is occurring. The sheath portion 25' will likewise effectively function as a cushion between the extremity of the organ and the adapter 10 to prevent contact of the organ with any part of the device 5 other than the portion of the sheath 16 in which it is encased. The overlying edge 21 of the tape 20 will assist in accomplishing this result.

Due to the limber and flexible characteristics of the sheath 16, movement of the body of the user will cause no discomfort and will not interfere with the drainage function of the device, so that the device may be effectively utilized while sleeping in bed in any position or while the user is ambulatory, sitting or otherwise disposed, so long as the receptacle 7 can be conveniently concealed.

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Any suitable healing or antiseptic ointment may be used to coat the interior of the sheath 16 or directly on the organ 23, and since the organ is incapable of contacting any part of the apparatus 5 except that part of the sheath 16 in which it is encased, no injury can result from the use of the device 5 since no rubbing, concentrated pressure or friction can occur which could produce sores.

It will be obvious that the sheath 16 can be readily replaced for hygienic reasons and that used sheaths are readily disposable.

Various modifications and changes are contemplated and may be resorted to, without departing from the function or scope of the invention as hereinafter defined by the appended claims.

I claim as my invention:

1. An evacuation device comprising an elongated sheath of an elastomer material having an open end adapted to receive and encase a male organ and an opposite end provided with a restricted drainage opening, a flexible drainage tube having an inlet end and an outlet end, a rigid tubular adapter having one end disposed in and secured to said inlet end of the drainage tube, a binding element secured around a part of said opposite end of the sheath and around said adapter adjacent the other end of the adapter for holding another part of said opposite end of the sheath extended across the last mentioned end of the adapter, said drainage opening being disposed in said last mentioned part of the sheath and being positioned in registration with the bore of the

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adapter, a strip of tape engaging around a part of said opposite end of the sheath, which is folded back over the binding element, and around the adapter and combining with the binding element for anchoring the sheath to the adapter, a storage receptacle into which the outlet end of the drainage tube discharges, and a strip of elastic tape encircling and adhered to said sheath adjacent its open end providing a leakproof seal between the open end of the sheath and the organ and the sole connection of the evacuation device to the body of the user.

2. An evacuation device as in claim 1, said sheath being very thin, elastic and limber and of a length to provide a portion of substantial length between the sheath part occupied by the organ and said opposite end and which is adapted to initially contain air to provide an air cushion for maintaining the organ out of contact with said adapter prior to evacuation, and which is collapsed by atmospheric pressure, after evacuation, into an accordion-like or shiveled configuration between the organ and adapter to maintain the organ out of contact with the adapter.

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