

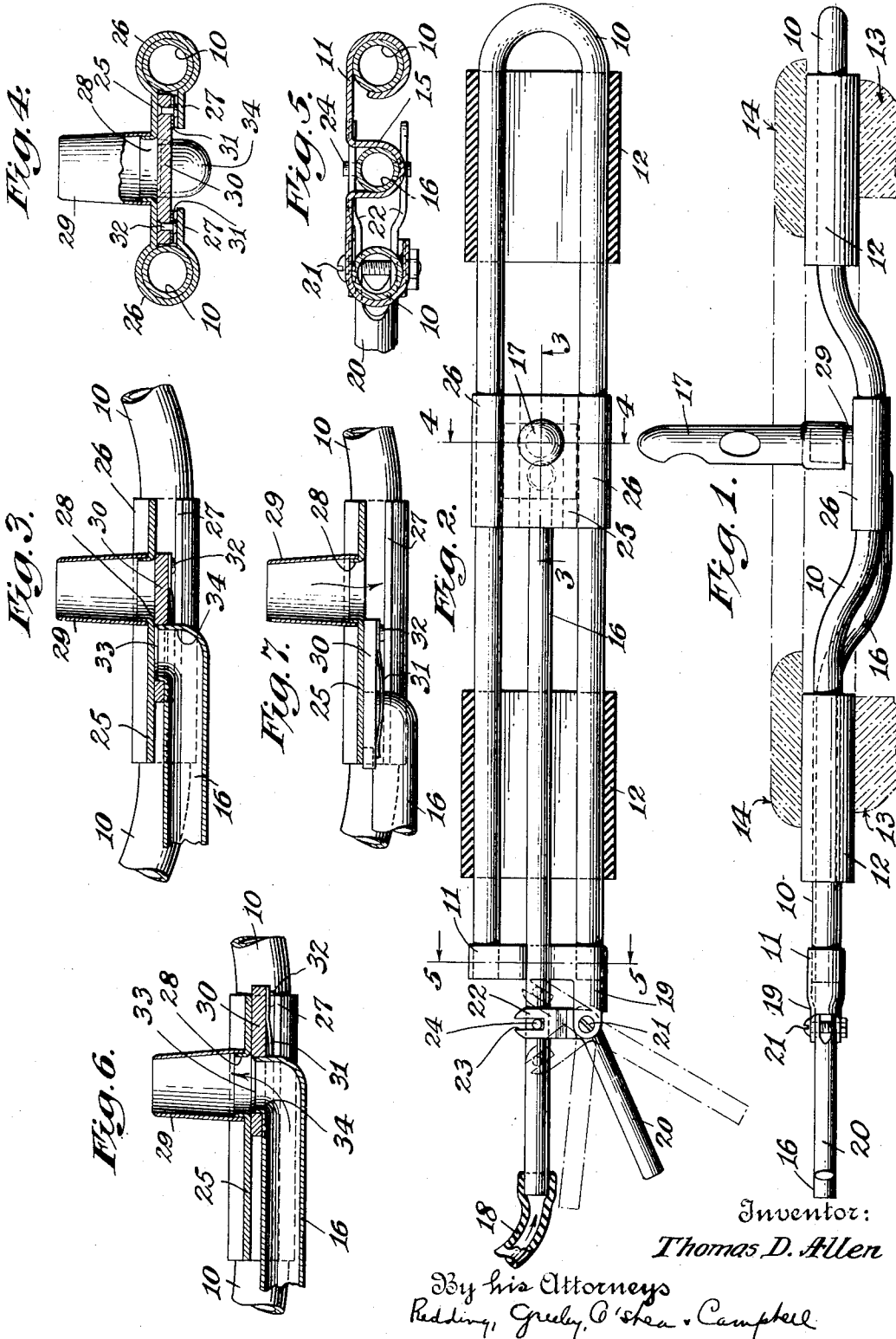
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IRRIGATING DEVICE

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UNITED STATES PATENT OFFICE

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IRRIGATING DEVICE

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The present invention relates to irrigating devices for use in irrigating the lower intestinal passages and embodies, more specifically, an improved mounting for a colon tube which facilitates the thorough and safe irrigating operation described above.

While a considerable number of devices have been provided in recent years to facilitate colonic irrigation, none has fully answered the requirements for efficient and safe operation in such capacity and requires the supervision of a skilled attendant. These devices, when used without careful supervision, have frequently resulted in injury and it is an object of the present invention to provide a device of the above character which facilitates the successive irrigating operations through a colon tube, the mechanism being conveniently operated by the user and utilized in connection with a water bag or other reservoir suspended at a suitable height and supplying its fluid to the device through a flexible tube. The specific source of pressure, of course, forms no part of the present invention.

A further object of the invention is to provide a device of the above character which is of sanitary construction and adapted to be cleaned readily.

A further object of the invention is to provide, in combination with a colon tube, a mechanism which is adapted, under proper manual operation, to supply fluid to the tube under pressure and alternately remove the fluid pressure to permit a reversal of flow through the tube. In this connection a further object of the invention is to provide a mechanism whereby the reversal of fluid flow occurs only through the tube and not through any portion of the fluid supply system.

A further object of the invention is to provide a device of the above character wherein a variation in the rapidity of flow of the fluid supply to the colon tube may be effected.

A further object of the invention is to provide a mechanism of the above character which is simple to operate and which may be conveniently used in connection with any toilet bowl.

Further objects, not specifically enumer-

ated above, will be apparent as the invention is described in greater detail in connection with the accompanying drawing, wherein:

Figure 1 is a view in front elevation, showing an irrigating device constructed in accordance with the present invention, applied to a toilet bowl and seated in the proper manner.

Figure 2 is a plan view of the device shown in Figure 1, the cushioning sleeves at the ends thereof being shown in section in the interest of clearness.

Figure 3 is a view in section, taken on line 3—3 of Figure 2, and looking in the direction of the arrows.

Figure 4 is a view in section, taken on line 4—4 of Figure 2, and looking in the direction of the arrows.

Figure 5 is a view in section, taken on line 5—5 of Figure 2, and looking in the direction of the arrows.

Figure 6 is a view, similar to Figure 3, showing the valve mechanism in the open position at which time fluid is introduced into the colon tube.

Figure 7 is a view similar to Figures 3 and 6 showing the valve moved to the discharge position at which time a reversal of flow in the colon tube takes place.

Referring to the above drawing, a frame 10 is shown as formed as a U, the open end of which carries a transverse brace 11 which is secured about the ends of the frame. In the interest of the reduction of weight and ease of operation, it is preferred to make the frame of hollow tubing, as shown in Figure 5 and the ends thereof receive sleeves 12 of cushioning material, such as rubber, in order that the frame may be securely held between a toilet bowl 13 and a seat 14, as shown in Figure 1, without abrading the surface of these elements.

Intermediate the ends of the bracket 11, and offset guide portion 15 is formed to receive slidably a hollow tube 16 which supplies fluid to a colon tube 17. Fluid may be supplied to the tube 16 by means of a hose 18 or other device and the tube 16 is adapted to slide axially in a manner which will be

readily apparent upon describing the control element hereinafter referred to.

Upon the bracket 11, is formed an extension 19 to which a manually operated lever 20 is hinged at 21. The lever is preferably formed with a tube engaging portion comprising bifurcations 22 in each of which are formed spaced parallel grooves 23. Grooves 23 engage pins 24 which are formed on the tube 16 and the lever 20 is thus adapted to slide the tube 16 axially into the positions indicated in dot and dash lines in Figure 2.

Axial movement of the tube 16 effects the control of the irrigating operation by means of a valve construction comprising a valve plate 25 having tubular portions 26 formed therein and spaced friction surfaces 27 which are parallel to the plate 25. These portions 27 are formed by reentrant portions of the plate 25 when formed in the manner described above. Upon the upper surface of the plate 25, a cylindrical web 28 is formed to receive a tapered fitting 29 upon which the colon tube 17 is secured. The tapered fitting is thus adapted to receive tubes of varying sizes and provide a nice fit therewith.

Under the plate 25, a slide member 30 is received, the sides of the member being provided with friction shoes 31 which may be secured to the member by means of rivets 32 and are adapted to press against the friction surfaces 27 in order that the slide member 30 may be forced snugly against the valve plate 25. The slide member 30 is formed with an aperture 33 in which is received the extremity 34 of the tube 16, such extremity being formed as an L, as clearly shown in Figures 3 and 6. It will thus be seen that axial movement of the tube 16 from one extreme position as shown in Figure 6, to the other extreme position as shown in Figure 7 will provide for the introduction of fluid under pressure into the colon tube, the gradual reduction of such pressure and rate of flow into the tube, the complete shutting off of such flow (as shown in Figure 3), and the gradual opening of the colon tube to the discharge position at which time a reversal of flow takes place therethrough. The irrigating operation is thus conveniently controlled by the lever 20 which is operated by the person using the device and the successive irrigating operations are thus readily effected. In order that there may be no binding of the tube 16, it is preferred that it may be made of smaller diameter than the tubing 10, as shown in Figures 1 and 2.

The device is preferably provided with a surface which may be readily cleansed and it will thus be seen that it is easy to use and entirely safe and sanitary. Graduation of the fluid flow, as well as the discharge through the tube is conveniently effected and such discharge does not take place through the sup-

ply tubing 16, but occurs directly through the catheter tube and into the bowl 13.

While the invention has been described with specific reference to the accompanying drawing, it is not to be limited, save as defined in the appended claims.

I claim as my invention:

1. A portable fixture comprising a colon tube, a relatively stationary supporting frame, an axially movable fluid supply tube carried by the frame and means to connect the axially movable tube to the colon tube comprising apertured means on the frame to support the colon tube, an apertured plate slidable on the last named means and carried by the slidable tube, and means to actuate the axially moving tube.

2. A portable fixture comprising a colon tube, a relatively stationary supporting frame, an axially movable fluid supply tube carried by the frame and means to connect the axially movable tube to the colon tube comprising apertured means on the frame to support the colon tube, a tapered member over the aperture to receive the colon tube, an apertured plate slidable on the last named means and carried by the slidable tube, and means to actuate the axially moving tube.

3. A portable fixture comprising a colon tube, a relatively stationary supporting frame, an axially movable fluid supply tube carried by the frame and means to connect the axially movable tube to the colon tube comprising apertured means on the frame to support the colon tube, friction surfaces formed on the last named means and spaced therefrom, an apertured plate slidable on the last named means carried by the slidable tube and slidable between the friction surfaces and the apertured means, and means to actuate the axially moving tube.

4. A portable fixture comprising a colon tube, a relatively stationary supporting frame, an axially movable fluid supply tube carried by the frame and means to connect the axially movable tube to the colon tube comprising apertured means on the frame to support the colon tube, friction surfaces formed on the last named means and spaced therefrom, an apertured plate slidable on the last named means carried by the slidable tube and slidable between the friction surfaces and the apertured means, means to urge the plate against the apertured means, and means to actuate the axially moving tube.

5. A portable fixture comprising a colon tube, a relatively stationary supporting frame, an axially movable fluid supply tube carried by the frame and means to connect the axially movable tube to the colon tube comprising, apertured means on the frame to support the colon tube, friction surfaces formed on the last named means and spaced therefrom, an apertured plate slidable on the last named means carried by the slidable tube

and slidable between the friction surfaces and the apertured means, said plate having a portion adapted to overlies the aperture of the apertured means to prevent fluid flow through the tube, and means to actuate the axially moving tube.

6. In combination with a colon tube, a supporting frame, an axially movable tube carried by the frame, apertured means on the frame to support the colon tube, friction surfaces formed on the last named means and spaced therefrom, an apertured plate slidable on the last named means carried by the slidable tube and slidable between the friction surfaces and the apertured means, and spring friction shoes between the plate and friction surfaces to urge the plate against the apertured means.

7. An irrigating device adapted to be mounted on a toilet bowl comprising a colon tube, a supporting frame, an axially movable fluid supply tube carried by the frame, said tube being of smaller diameter than the thickness of the frame, and means to connect the axially movable tube to the colon tube upon movement of the tube in one direction.

8. An irrigating device adapted to be mounted on a toilet bowl comprising a colon tube, a U-shaped supporting frame, a bracket carried by the open end of the frame, a fluid supply tube slidable axially in the bracket, means to connect the last named tube upon movement of the tube in one direction with the colon tube, and means on the frame to move the tube axially.

9. An irrigating device adapted to be mounted on a toilet bowl comprising a colon tube, a U-shaped supporting frame, a bracket carried by the open end of the frame, a fluid supply tube slidable axially in the bracket, means to connect the last named tube upon

movement of the tube in one direction with the colon tube, and a lever on the frame and engaging the tube to move the same axially.

10. An irrigating device adapted to be mounted on a toilet bowl comprising a colon tube, a U-shaped supporting frame, a bracket carried by the open end of the frame, a fluid supply tube slidable axially in the bracket, a valve plate mounted between the arms of the frame, means thereon to mount a colon tube, a slidable apertured plate mounted beneath the valve plate and carried by the tube, and means on the frame to move the tube axially, movement of the tube controlling the valve.

11. An irrigating device adapted to be mounted on a toilet bowl, comprising a frame having a depressed portion intermediate its ends, cushioning means upon the ends of the frame to rest on the bowl, a colon tube mounting plate on the depressed portion of the frame, a valve plate cooperating with the tube mounting plate, an axially movable tube carried by the frame and mounted on the valve plate, and means on the frame to move the tube axially, movement of the tube controlling the valve.

12. An irrigating device adapted to be mounted between a toilet bowl and seat comprising a frame having a depressed portion intermediate its ends, cushioning means upon the ends of the frame to be received between the bowl and seat, a colon tube mounting plate on the depressed portion of the frame, a valve plate cooperating with the tube mounting plate, an axially movable tube carried by the frame and mounted on the valve plate, and means on the frame to move the tube axially, movement of the tube controlling the valve.

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