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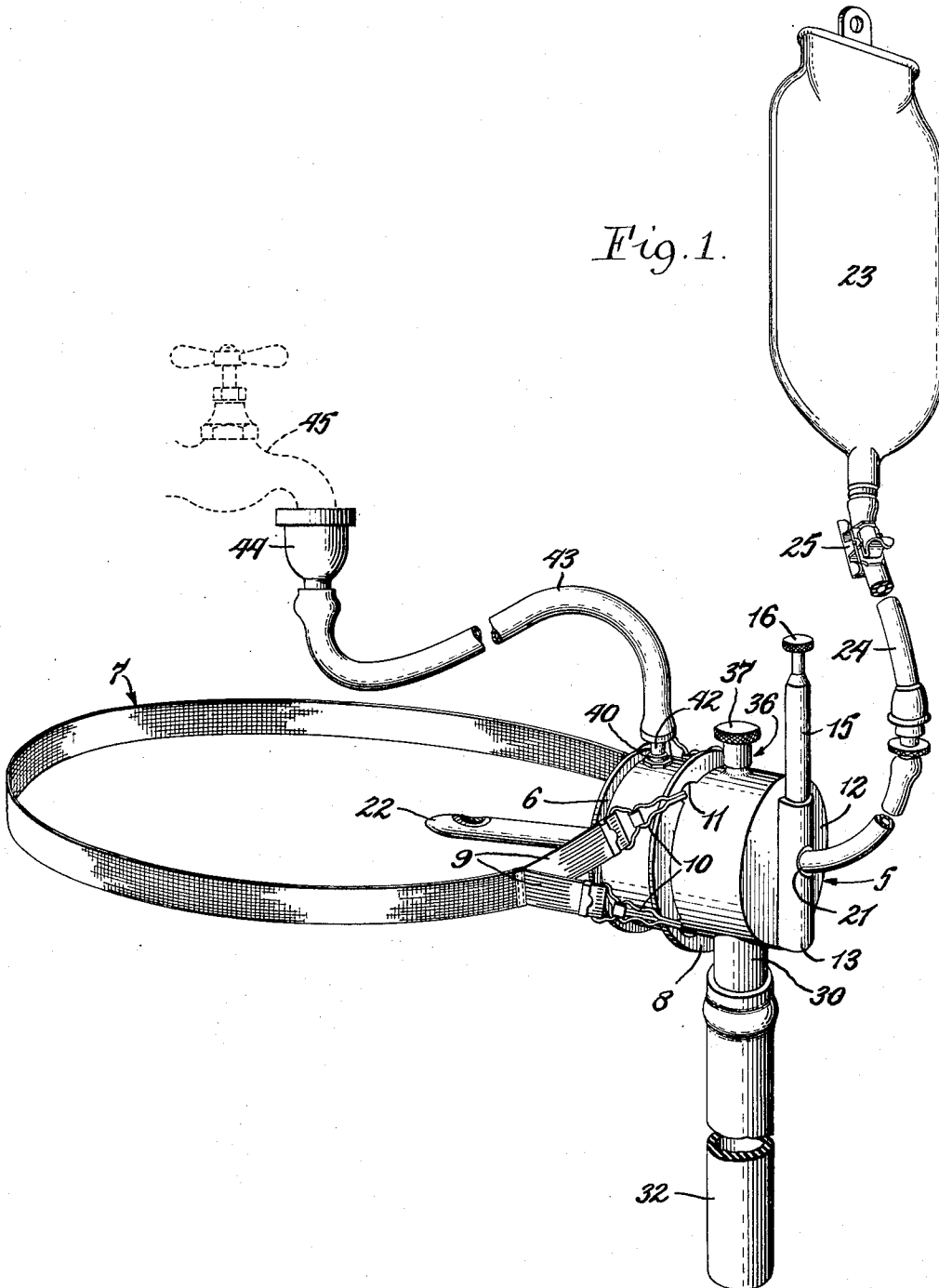
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COLOSTOMY IRRIGATOR

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2 Sheets-Sheet 1

Fig. 1.



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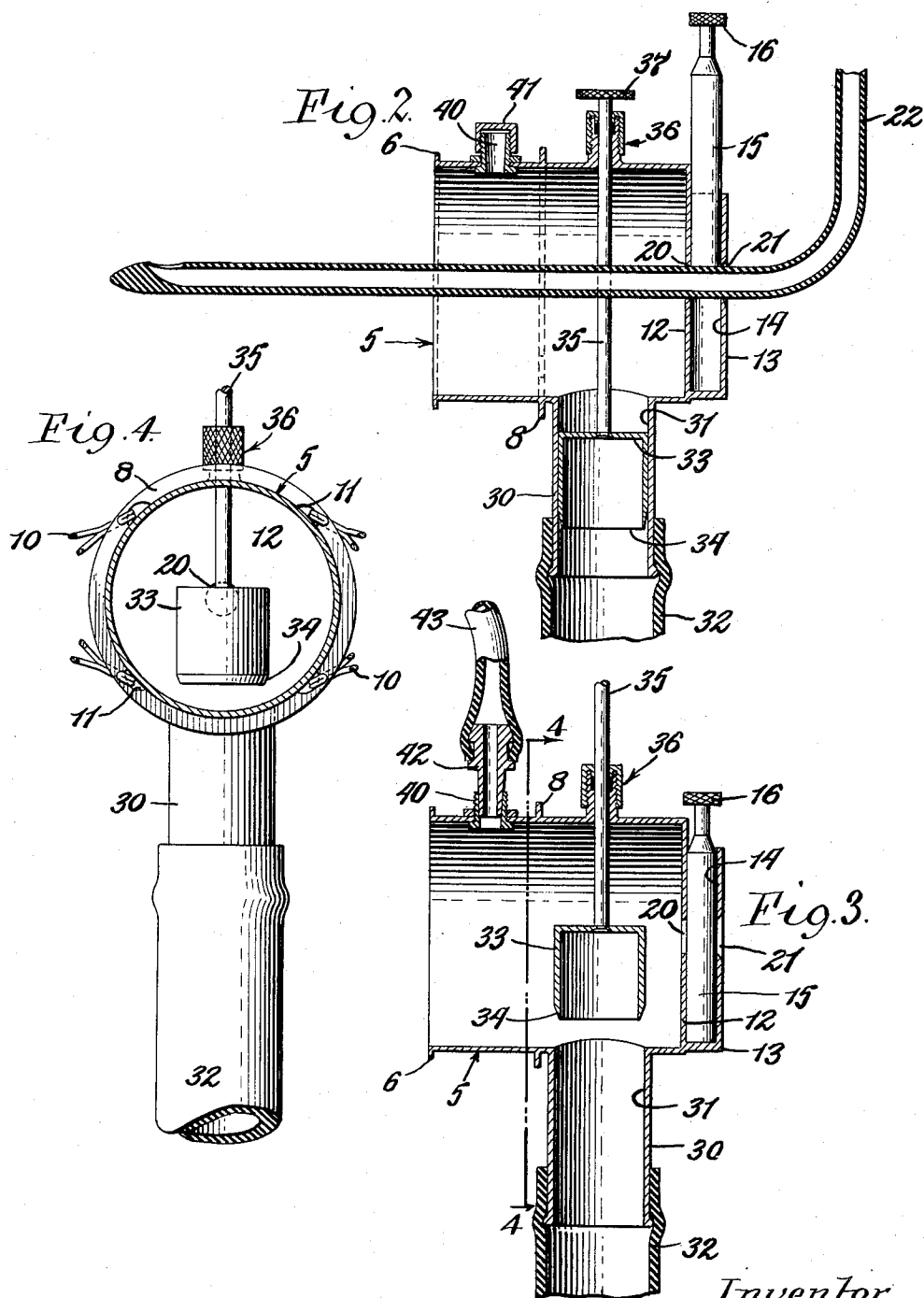
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UNITED STATES PATENT OFFICE

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COLOSTOMY IRRIGATOR

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13 Claims. (Cl. 128—283)

This invention relates to a colostomy irrigator and more particularly to the type comprising a cup tightly held against the body of the user and through which an inflow catheter is inserted into the colon, the return flow being expelled into the cup from which it is discharged through a flexible outflow tube to a receptacle or into the bowl of a water closet.

One of the principal objects of the invention is to provide such apparatus the use of which makes evacuation through a colostomy a simple and satisfactory procedure, all leakage of fecal fluid being prevented and the colonic contents being conveyed to the water closet unseen by the user.

Another object of the invention is to provide such apparatus which is so valved that the irrigating fluid can be retained in the colon for any desired period of time, this avoiding the necessity of repeated irrigations.

Another object of the invention is to provide such apparatus which will operate satisfactorily under all conditions and, in particular, in which provision is made for breaking up any unusually large fecal masses in the cup thereby to avoid any danger of stoppage of the flexible outflow tube.

Another object is to provide such apparatus which can be readily flushed before being removed from the body of the user thereby to render the apparatus sanitary and odorless both in use and in removal.

Another object is to provide such apparatus which is readily kept in a clean and sanitary condition, is convenient to apply, use and remove and can be produced at low cost.

In the accompanying drawings:

Fig. 1 is a perspective view of a colostomy irrigator embodying my invention and showing the manner in which the inflow catheter is inserted and the manner in which a connection is made with a water faucet for the purpose of flushing the apparatus before removal from the body of the user.

Fig. 2 is a vertical central section through the cup applied to the body of the user and showing the inflow catheter inserted and the position of the parts during irrigation.

Fig. 3 is a view similar to Fig. 2 showing the position of the parts during the discharge of the fecal fluid and during the operation of flushing the apparatus.

Fig. 4 is a vertical section taken on line 4—4, Fig. 3.

The irrigator comprises a relatively deep cup 5 which is provided with an outwardly flanged relatively wide rim 6, this rim fitting against the body

of the user. In order to provide an airtight seal with the abdominal wall, a belt 7 is provided, this belt attaching to an external rim or flange 8 around the center of the cup 5. The belt can be made of elastic material, two extensions 9 being secured to each end of the belt and each extension carrying a hook 10 arranged to enter openings 11 provided in the rim or flange 8 of the cup. It will be seen that when applied, the belt 7 securely holds the rim of the cup 5 against the body of the user.

The front wall 12 of the cup is formed to provide a forwardly projecting boss 13, this boss extending vertically along the centerline of the front wall 12 and being provided with a vertical bore 14 leading from its upper end to a point short of the bottom of the boss. This bore receives a cylindrical valve stem 15 which is closely fitted in the bore 14 but is free to be raised by a knob 16 at its upper end and is also free to fall by gravity to the bottom of the bore 14 as illustrated in Fig. 3.

The front wall 12 of the cup is provided with a central port 20 leading from the bore 14 to the interior of the cup and the boss 13 is provided with an external port 21 leading to the bore 14 thereof and in line with the port 20. The ports 20 and 21 are of such size as to receive an inflow catheter 22, the valve 15 being raised to permit the insertion of the catheter 22 through the ports 21 and 20 into the colon. The irrigating fluid may be supplied to the catheter from a douche bag 23 suspended at a suitable height, the outlet from the bag being connected to the external end of the catheter by a flexible tube 24 and this tube being provided with the usual valve 25 for controlling the flow of irrigating fluid into the catheter.

The contents of the cup 5 are discharged through a metal outflow tube 30 provided centrally in the bottom wall of the cup forwardly of its external flange 8. This outflow tube is provided with an accurate bore 31 and discharges into a soft rubber tube 32 which conveys the fecal matter to a suitable receptacle or to a water closet bowl. The outflow from the cup is controlled by a valve comprising an inverted cup-shaped head 33 which is arranged to enter and snugly fit the bore 31 of the metal outflow tube 30 and the lower edge of this head being externally beveled, as indicated at 34, to insure its free entry into the bore 31 from the interior of the cup 5. The inverted cup-shaped head 33 is suspended from a rod 35 which passes upwardly through a guide boss and stuffing box 36 provided in the upper

wall of the cup 5 and at its upper end is provided with a knob 37. It will readily be seen that by this knob 37, the valve head 33 can be moved up and down to open and close the outflow from the cup 5 and also to break up any large fecal masses retained within the cup. The valve head 33 is retained at any elevation by the pressure of the packing in the stuffing box 36 around its stem 35, the valve thereby requiring intentional manipulation for its operation.

After the irrigation has been effected, it is highly desirable to flush the cup and its outflow before removing the apparatus from the body of the user so as to render the removal sanitary and odorless. For this purpose the cup is provided in its upper wall with a threaded nipple 40 leading to the interior of the cup. This nipple can be closed by a cap 41 as illustrated in Fig. 2. The bore of the nipple 40 is preferably tapered to tightly receive the tapered end of a fitting 42 secured to the end of a flexible water tube 43. The other end of this tube is secured to a cup-shaped rubber fitting 44 which is readily fitted to the discharge of a domestic water faucet 45. Upon raising the valve head 33 and turning the faucet 45 on, it will be seen that the cup 5 and its outflow line are rapidly and thoroughly flushed.

In operation, the belt 7 is passed around the back of the user and the cup placed against the abdomen, the hooks 10 of the belt being caught in the openings 11 of the central flange or rim 8 of the cup. The tension of the belt is sufficient to provide an air tight seal between the relatively wide flange 6 of the cup 5 and the abdominal wall. The user then raises the valve stem 15 by means of the knob 16 and passes the inflow catheter 22 through the registering ports 21 and 20 and into the colon. Until the inflow catheter is withdrawn it serves to hold the valve stem 15 in an elevated position.

If it is desired to retain the irrigating fluid in the colon for a length of time, the user can close the outflow valve by pressing down on the knob 37 and thereby moving the inverted cup-shaped valve head 33 into the accurately fitting bore 31 of the metal outflow tube, this preventing the escape of fluid from the cup 5. The user then opens the valve 35 in the tube 24 leading from the elevated douche bag 23 to the inflow catheter 22, the irrigating liquid in this bag thereby flowing through the catheter and into the colon. After the required amount of irrigating liquid has been so introduced, the valve 35 is closed and the user withdraws the inflow catheter through the ports 20 and 21. Since the valve stem 15 drops by gravity, the withdrawal of the catheter is immediately followed by the dropping of the valve stem 15 to the bottom of its bore 14 thereby immediately cutting off the escape of liquid through the ports 20 and 21. The catheter can thereby be directly withdrawn without escape of liquid from the cup 5.

When the discharge of the fecal liquid is required, the operator lifts the knob 37 thereby raising the valve head 33 from the bore of the metal outlet tube 30 into the cup 5. This permits a flow from the cup 5 through the metal outflow tube 30 and rubber outflow tube 32 into a receptacle or water closet bowl. If large fecal masses are retained in the cup 5, these can be reduced to pass through the outflow by moving the valve head 33 up and down.

After the irrigation has been completed, the user turns on the water faucet 45 this water

under relatively high pressure flowing through the tube 43 and nipple 40 into the cup 5 and thence past the open valve 33 through the outflow tube, thereby to thoroughly flush these parts and render the removal of the apparatus sanitary and odorless.

From the foregoing it will be seen that the present invention provides an irrigator which makes fecal evacuation through a colostomy a simple and satisfactory procedure, the irrigation being readily effected without danger of the leakage of fecal fluid or odor and the discharge to the receptacle being unseen. It will further be seen that adequate provision is made when large fecal masses are encountered and that the apparatus can be quickly and thoroughly flushed so as to render its removal sanitary and odorless.

I claim as my invention:

1. In a colostomy irrigator including a cup having a rim adapted to be applied to the body of the user and said cup being provided in its wall opposite its rim with a port adapted slidably to receive an inflow catheter for insertion into said colostomy and an outflow tube leading from said cup, a vertical valve stem carried by said wall and dropping by gravity to a position closing said port, said valve stem being raised to permit the insertion of said catheter into said port and being supported in an elevated position by said inserted catheter whereby the withdrawal of said catheter permits said valve stem to drop to a position closing said port.

2. A colostomy irrigator, comprising a cup having a rim adapted to be applied to the body of the user and said cup being provided in its wall opposite its rim with a port adapted to receive an inflow catheter, a rigid outflow tube extending outwardly from said cup and provided with a bore leading to the interior of the cup, a valve head fitted in said bore and withdrawable to a position within said cup, means for manually moving said valve head from its position within said bore to its position within said cup and vice versa and a flexible outflow tube connected with said rigid outflow tube.

3. A colostomy irrigator, comprising a cup having a rim adapted to be applied to the body of the user and said cup being provided in its wall opposite its rim with a port adapted to receive an inflow catheter, a rigid outflow tube extending outwardly from said cup and provided with a bore leading to the interior of the cup, a valve head fitted in said bore and withdrawable to a position within said cup, a valve stem connected with said valve head and extending through a slideway provided in the wall of said cup opposite said rigid outflow tube to permit manual movement of said valve head to open and closed positions and a flexible outflow tube connected with said rigid outflow tube.

4. A colostomy irrigator, comprising a cup having a rim adapted to be applied to the body of the user and said cup being provided in its wall opposite its rim with a port adapted to receive an inflow catheter, a rigid outflow tube extending outwardly from said cup and provided with a bore leading to the interior of the cup, a valve head fitted in said bore and withdrawable to a position within said cup, a valve stem connected with said valve head and extending through a slideway provided in the wall of said cup opposite said rigid outflow tube to permit manual movement of said valve head to open and closed positions, a stuffing box provided at said slide-

way and having a packing exerting sufficient pressure to hold said valve stem in any set position and a flexible outflow tube connected with said rigid outflow tube.

5. A colostomy irrigator, comprising a cup having a rim adapted to be applied to the body of the user and said cup being provided in its wall opposite its rim with a port adapted to receive an inflow catheter, a rigid outflow tube extending outwardly from said cup and provided with a bore leading to the interior of the cup, a valve head of cup-shaped form fitted in said bore and withdrawable to a position within said cup, the rim of said cup-shaped valve head in said last position opposing said bore and being relatively thin, means for manually withdrawing said valve head from its position within said bore to its position within said cup and vice versa and a flexible outflow tube connected with said rigid outflow tube.

6. A colostomy irrigator, comprising a cup having a rim adapted to be applied to the body of the user and said cup being provided in its wall opposite its rim with a port adapted to receive an inflow catheter, a vertical valve stem carried by said wall and dropping by gravity to a position closing said port, said valve stem being raised to permit the insertion of said catheter into said port and being supported in an elevated position by said inserted catheter whereby the withdrawal of said catheter permits said valve stem to drop to a position closing said port, a rigid outflow tube extending outwardly from said cup and provided with a bore leading to the interior of the cup, a valve head fitted in said bore and withdrawable to a position within said cup, means for manually moving said valve head from its position within said bore to its position within said cup and vice versa and a flexible outflow tube connected with said rigid outflow tube.

7. A colostomy irrigator, comprising a cup having a rim adapted to be applied to the body of the user and said cup being provided in its wall opposite its rim with a vertical bore open at its upper end, said wall also being provided with a port leading from the interior of said cup to said bore and with a second port registering with said first port and leading from said bore to the exterior of said wall and said ports being adapted to receive an inflow catheter, a valve stem in said bore and being supported in an elevated position by said inserted catheter whereby the withdrawal of said catheter permits said valve stem to drop to a position closing both of said ports, a rigid outflow tube extending outwardly from said cup and provided with a bore leading to the interior of the cup, a valve head fitted in said bore and withdrawable to a position within said cup, a valve stem connected with said valve head and extending through a slideway provided in the wall of said cup opposite said rigid outflow tube to permit manual movement of said valve head to open and closed positions and a flexible outflow tube connected with said rigid outflow tube.

8. A colostomy irrigator, comprising a cup having a rim adapted to be applied to the body of the user and said cup being provided in its wall opposite its rim with a port adapted slidably to receive an inflow catheter for insertion into said colostomy, valve means normally closing said port, comprising a vertical valve stem carried by said wall and dropping by gravity to a position closing said port, said valve stem being

raised to permit the insertion of said catheter into said port and being supported in an elevated position by said catheter whereby the withdrawal of said catheter permits said valve stem to drop to a position closing said port, an outflow tube leading from said cup and a nipple provided in a wall of said cup and leading to the interior thereof, said nipple being adapted to be connected to a water pressure line for flushing said cup and outflow tube before being removed by the user.

9. A colostomy irrigator, comprising a cup having a rim adapted to be applied to the body of the user and said cup being provided in its wall opposite its rim with a port adapted to receive an inflow catheter, a rigid outflow tube extending outwardly from said cup and provided with a bore leading to the interior of the cup, a valve head fitted in said bore and withdrawable to a position within said cup, means for manually moving said valve head from its position within said bore to its position within said cup and vice versa, a flexible outflow tube connected with said rigid outflow tube and a nipple provided in a wall of said cup and leading to the interior thereof, said nipple being adapted to be connected to a water pressure line for flushing said cup and outflow tube before being removed by the user.

10. A colostomy irrigator, comprising a cup having a rim adapted to be applied to the body of the user and said cup being provided in its wall opposite its rim with a port adapted slidably to receive an inflow catheter for insertion into said colostomy, valve means normally closing said port, comprising a vertical valve stem carried by said wall and dropping by gravity to a position closing said port, said valve stem being raised to permit the insertion of said catheter into said port and being supported in an elevated position by said catheter whereby the withdrawal of said catheter permits said valve stem to drop to a position closing said port, an outflow tube leading from said cup, manually operable valve means in said outflow tube and a nipple provided in a wall of said cup and leading to the interior thereof, said nipple being adapted to be connected to a water pressure line for flushing said cup and outflow tube before being removed by the user.

11. A colostomy irrigator, comprising a cup having a rim adapted to be applied to the body of the user and said cup being provided in its wall opposite its rim with a vertical bore open at its upper end, said wall also being provided with a port leading from the interior of said cup to said bore and with a second port registering with said first port and leading from said bore to the exterior of said wall and said ports being adapted to receive an inflow catheter, a valve stem in said bore and being supported in an elevated position by said inserted catheter whereby the withdrawal of said catheter permits said valve stem to drop to a position closing both of said ports, a rigid outflow tube extending outwardly from said cup and provided with a bore leading to the interior of the cup, a valve head fitted in said bore and withdrawable to a position within said cup, a valve stem connected with said valve head and extending through a slideway provided in the wall of said cup opposite said rigid outflow tube to permit manual movement of said valve head to open and closed positions, a flexible outflow tube con-

5 nected with said rigid outflow tube and a nipple provided in a wall of said cup and leading to the interior thereof, said nipple being adapted to be connected to a water pressure line for flushing said cup and outflow tube before being removed by the user.

10 12. In a colostomy irrigator including a cup having a rim adapted to be applied to the body of the user and said cup being provided in its wall opposite its rim with a port adapted slid-
15 10 ingly to receive an inflow catheter for insertion into said colostomy and an outflow tube leading from said cup, valve means normally closing said port and supported in an open position by said inserted catheter whereby the withdrawal of said catheter closes said valve means, comprising means provid-
20 15 ing a vertical bore open at its upper end in said wall, said wall being provided with a second port registering with said first port and leading from said bore to the exterior of said wall and said
25 20 first port leading from the interior of said cup to said bore, said ports being adapted to receive said catheter, and a valve stem in said bore and being supported in an elevated position by said
25 25 inserted catheter whereby the withdrawal of said catheter permits said valve stem to drop to a position closing both of said ports.

13. In a colostomy irrigator including a cup having a rim adapted to be applied to the body of the user and said cup being provided in its wall opposite its rim with a port adapted slid-
5 5 ingly to receive an inflow catheter for insertion into said colostomy and an outflow tube leading from said cup, valve means normally closing said port and supported in an open position by said
10 10 inserted catheter whereby the withdrawal of said catheter closes said valve means, comprising an external boss provided centrally on said wall of
15 15 said cup, said boss being provided with a vertical bore open at its top and closed at its bottom, said boss also being provided with a port registering with said first port and leading from said
20 20 bore to the exterior of said boss and said first port leading from the interior of said cup to said bore, said ports being adapted to snugly and slid-
25 25 ingly receive said catheter, and a freely movable valve stem in said bore and provided with a knob at its upper end, said valve stem being supported in an elevated position by said
25 25 inserted catheter whereby the withdrawal of said catheter permits said valve stem to drop to a position closing both of said ports.

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