June 8, 1926. 1,588,033

A. KLAIBER

MEDICAL APPARATUS FOR THE TREATMENT OF THE INTESTINES

Filed Sept. 4, 1924 3 Sheets-Sheet 1

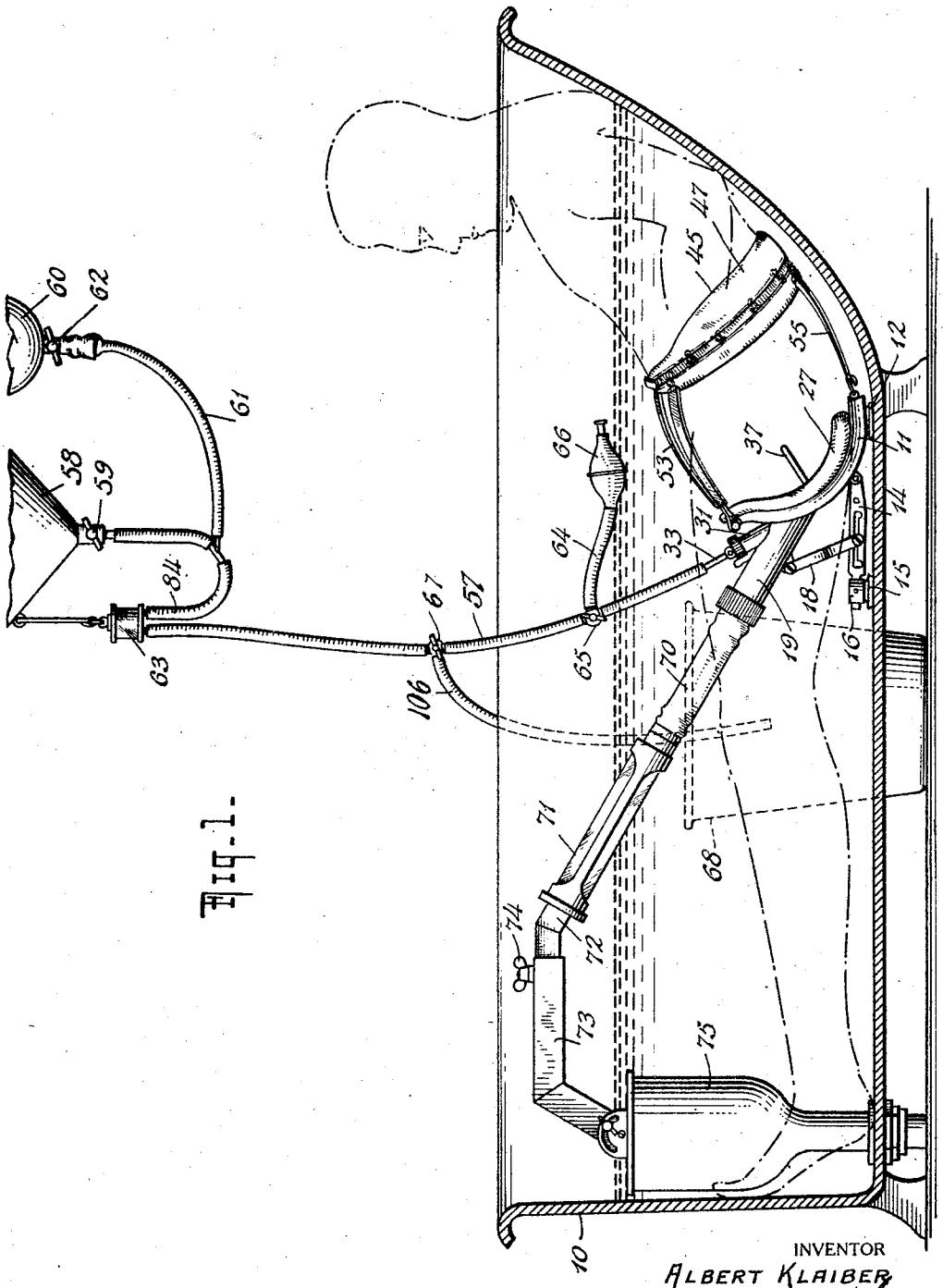


Fig. 1.

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Fig. 2.

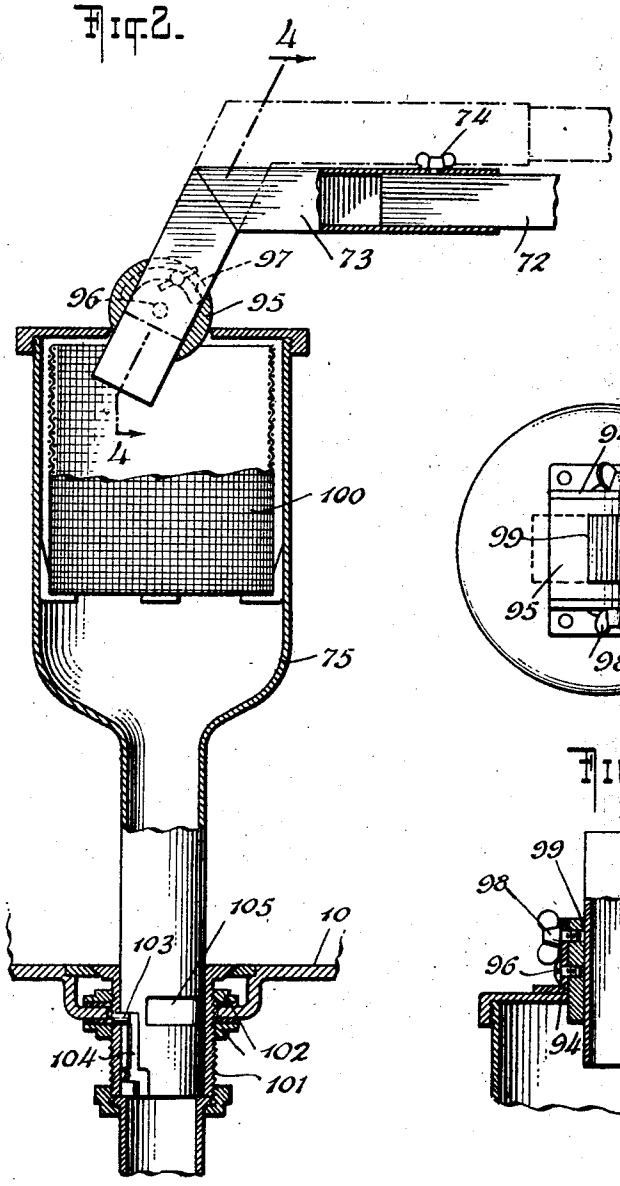


Fig. 3.

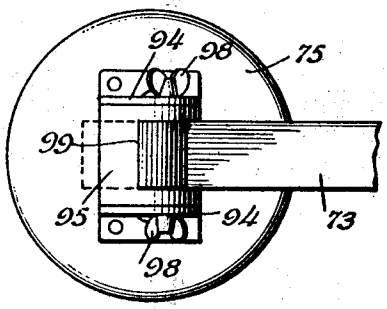
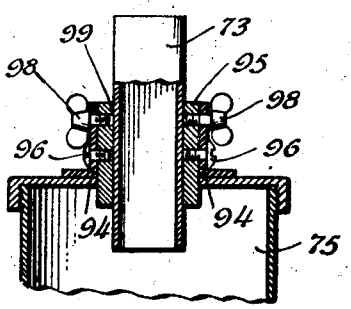


Fig. 4.



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Fig. 5.

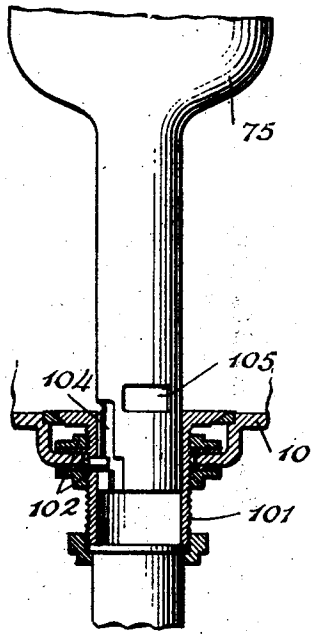


Fig. 7.

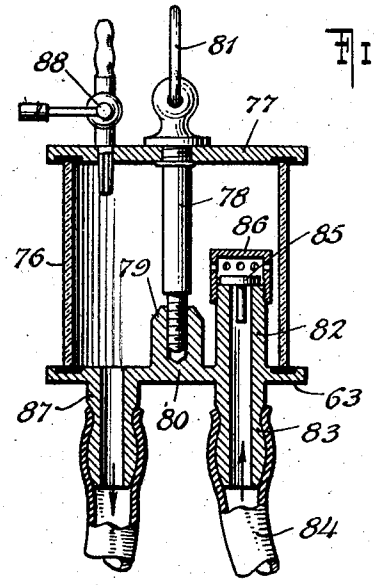
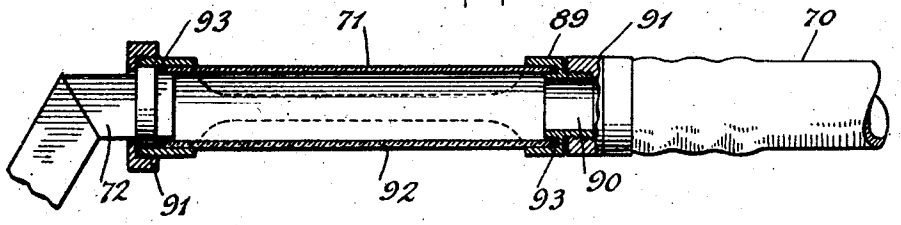


Fig. 6.



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Patented June 8, 1926. 1,588,033

UNITED STATES PATENT OFFICE.

ALBERT KLAIBER, OF BROOKLYN, NEW YORK.

MEDICAL APPARATUS FOR THE TREATMENT OF THE INTESTINES.

Application filed September 4, 1924. Serial No. 735,744.

This invention relates generally to improvements in medical apparatus, and has particular reference to an apparatus employed for the subaqueous irrigation of the intestines.

The invention is designed as an improvement upon the apparatus disclosed in the Brosch et al. United States Patent No. 1,093,251, dated April 14, 1914. In the use of the apparatus shown in said patent, difficulty has been experienced in adjusting the saddle and associated parts to different patients owing to variations in body conformations which, in some instances, cause considerable discomfort during the course of a treatment. Also, it has been found difficult to maintain the highest degree of sanitation while the apparatus of said patent is in use. Furthermore, actual experience and practice has shown that the most efficient results are obtained when the patient is reclining in the bath with the legs straightened out and the upper portion of the body free so that deep and regular breathing may take place. In this connection, when the apparatus of said patent is employed, difficulty is experienced in maintaining the correct position of the saddle on the bottom of the tub and the shoulder straps used to retain the saddle in proper position relative to the body have been found to obstruct proper breathing.

An object of the present invention is to overcome the difficulties above referred to by providing an improved apparatus which is constructed in such manner that the same may be readily adjusted in operative position to eliminate all discomfort to the patient.

A further object is to avoid danger of infection to patients by preventing matter discharged from the intestines from accumulating in the medicament supply tank, which matter might otherwise be injected into subsequent patients taking the treatment.

A further object is the provision of a drainage apparatus which will permit of observations being made during the course of a treatment and wherein provision is made for accumulating discharged matter which may be examined and tested following a treatment.

A further object is to so construct the drainage apparatus that the parts thereof will always be in proper position regardless of the build of the patient and the position he assumes upon entering the tub.

A still further object is to mount the drain receptacle in the tub in such manner that the water in the tub may be drained therefrom at the conclusion of a treatment by a manipulation of said receptacle.

The above and other objects will appear more clearly from the following detail description when taken in connection with the accompanying drawings, which illustrate a preferred embodiment of the inventive idea.

In the drawings:—

Figure 1 is a side elevation, partly in section, showing the apparatus in use.

Figure 2 is a side elevation, partly broken away and shown in section, of the drainage receptacle and associated parts.

Figure 3 is a top plan view of the receptacle.

Figure 4 is a section on the line 4—4 of Figure 2.

Figure 5 is a sectional view illustrating the receptacle in position to permit the drainage of the water from the tub.

Figure 6 is a longitudinal section through the sight tube forming a part of the apparatus; and

Figure 7 is a vertical longitudinal section through a check valve structure employed in connection with the invention.

The apparatus is particularly designed for use in substantially the same manner as set forth in the above mentioned patent. That is, the treatment with the apparatus involves the seating of the patient within a bath tub 10, or other suitable receptacle with water therein to about the level of the chest and at blood temperature. This is done for the purpose of creating an exterior pressure upon the body of the patient which will, at least in part, counteract the pressure of the fluid injected into the body, thereby avoiding much discomfiture to the patient which often-times occurs when administering enemas in the customary manner.

The apparatus forming a part of the present invention is shown as comprising a saddle including a body 11. This saddle and its associated parts are fully shown and described in my co-pending application Ser. No. 735,743 filed on an even date herewith and reference is hereby made to said

application for a complete disclosure of this portion of the apparatus. Briefly, the saddle includes suction cups 12 or the like secured to the bottom thereof and engageable with the bottom of the tub to prevent slipping of the saddle when in use. An arm 14 is pivoted to the saddle and also carries a suction cup 15 mounted in a casing 16 pivoted to the free end of said arm. A link 18 is pivoted to the duct 19 forming a part of the saddle and is adjustably connected to the arm 14 as fully described in the above mentioned application.

An inflatable pad 27 is mounted upon the saddle body 11 to form a cushion for the patient. An extension 31 projecting from the duct 19 has mounted therein a feed tube 33 to one end of which is connected the anal tube 37 extending from said saddle.

A waist-encircling belt 45 including a flexible cover 47 is utilized to support the saddle in proper position, the belt being connected to said saddle by the straps 53 and 55.

The medicinal compound or compounds used in effecting a treatment are fed to the tube 33 through a flexible hose 57 one end of which is attached to said tube while the other end is connected to a tank 58 containing the compound, said tank being suspended above the tub 10 in any suitable manner. A valve 59 is used to control the flow of the fluid from the tank into said hose.

It sometimes becomes desirable to inject a second medicinal compound of a different nature than that contained in the tank 58. For this purpose a second tank 60 is employed having a branch connection 61 with the hose 57. A valve 62 of any suitable construction may be used to regulate the flow of fluid from the tank 60.

Interposed in the hose 57 is a check valve structure 63 suspended from the tank 58 and utilized to prevent back pressure, sometimes occasioned by actions of the patient when attempting to emit a discharge from the intestines, from forcing any of the waste into either of the tanks 58 or 60 which might otherwise contaminate said tanks and cause infections to subsequent patients. The detail construction of this check valve structure will presently be described.

A branch 64 is also connected to the hose 57 through a two-way valve 65 of any well known construction. Said branch carries an air bulb 66 which is utilized for the injection of air into the hose 57 and through the tubes 33 and 37 should the end of the latter tube in the anus become obstructed by discharge from the intestines. When employing this means for clearing the tube 37 the flow of medicine is shut off and the valve 65 turned to close the upper portion of the hose 57.

At any time during the treatment or at its conclusion, it may be desirable to test the compound remaining in the intestines which may be discharged, through suitable action by the patient, into another branch 106 communicating with said hose through the valve 67 which, in this instance, is turned to close the portion of the hose above said valve. The branch 106 may empty into a suitable receptacle 68 shown in dotted lines in Figure 1.

When the treatment is concluded, the duct 19 may be flushed out and the parts of the patient in the region of the anus cleansed by the injection of a flow of water through the valved pipe 69 extending from and communicating with the interior of said duct.

The check valve structure 63 will now be described in detail. The wall 76 of the casing of this structure is made of transparent material, such as glass, to permit of observing the level of the liquid in the casing. The top 77 of the casing is removable and held in place by a rod 78 the lower end of which is threaded into a boss 79 formed on the bottom 80. A ring 81 carried by the upper end of said rod may be utilized to suspend the casing from a suitable support, such as the tank 58. Preferably formed integral with the bottom 80 is a valve seat 82 extending upwardly into the casing. A nipple 83 depends from the bottom 80 in direct alignment with the valve seat 82 and has connected thereto a short hose 84 joining the tanks 58 and 60 with casing 63. A check valve 85 is mounted on the valve seat 82 for normally closing said seat and is enclosed by an apertured cap 86 threaded upon the upper end of said seat. When the medicament is fed from either of the tanks 58 or 60, the same flows through the hose 84, and the pressure thereof lifts the valve 85, thereby permitting the liquid to enter the casing 63. From thence, said liquid will flow downwardly through the outlet 87 into the hose 57 to the anal tube 37. During the feeding of the medicament an air valve 88 is kept closed and this valve may be opened to permit of all the liquid being drained from the casing 63 at the termination of a treatment. From the foregoing description, it will be obvious that should any back pressure in the hose 57 occur for any reason, which pressure would be sufficient to overcome that of the fluid flowing from either of the tanks 58 or 60, the valve 85 will immediately close and prevent any foreign matter from entering said tanks.

The drainage apparatus including certain of the novel features of the invention will now be described. This apparatus includes a flexible tube 70 which is connected at one end to the duct 19 and at its other end to a sight tube 71. As shown in detail in Figure 6, this latter tube includes a metal

casing 89, the end 90 of which is reduced and screw threaded to receive a coupling 91 used for joining the adjacent end of the hose 70 to said tube. The opposite end of the casing receives another coupling 91 which connects one end of a pipe 72 to the casing. A glass cylinder 92 is mounted within the casing 89 and has interposed between its ends and the adjacent portions of the casing and pipe 72 the gaskets 93 which prevent end play of the cylinder within the casing. With this construction it will be apparent that observations may be made of the contents of the intestines as they are discharged through the sight tube.

The pipe 72 telescopes within an adjacent end of another pipe 73 and is adjustable therein to vary the effective length of said pipes in accordance with the height of a patient and his position within the tub. A set screw 74 may be employed, if desired, to secure the pipes 72 and 73 in their adjusted positions. One end of the pipe 73 is extended downwardly and pivotally and slidably connected in the top of a drainage receptacle 75 mounted in the drain opening of the tub 10. For this purpose, the top of the receptacle has mounted thereon the oppositely disposed plates 94 between which is rotatably supported a bearing member 95 pivotally held in position by means of screws 96 extending through the plates 94, and into the ends of said member. Arcuate slots 97 are formed in the plates 94 and each receives a wing nut 98. The nut 98 at the left of Figure 4 is used to secure the member 95 in any of its adjusted positions while the nut at the right of said figure is engaged with the pipe 73 to fasten said pipe in a vertically adjusted position within the opening 99 in the member 95. Thus it is possible to raise and lower the pipe 73 so as to position a portion of the sight tube 71 above the level of the water in the tub and to also pivotally move said pipe in a vertical plane so that the tubes 70 and 71 will be maintained in substantial alinement with the duct 19.

Removably mounted within the receptacle 75 is a perforated container 100 utilized to catch the discharge from the intestines if it is desired to make an examination or test after the treatment has been concluded. This container may be removed, if desired, and the discharge permitted to flow directly through the drain opening in the tub 10.

For the purpose of mounting the lower end of the receptacle in the drain opening of the tub a bushing 101 is mounted in said opening and secured in position by the rings 102. Said bushing carries a pin 103 engageable in a double bayonet slot 104 formed in the lower end of the receptacle 75. Said lower end is also provided with a discharge opening 105 which is located below the bottom of the tub and within the bushing 101 when the parts are in the position shown in Figure 2, thus preventing the escape of water from the tub. To drain the tub, the receptacle 75 may be given a slight rotation to disengage the pin 103 from the upper end of the slot 104 whereupon said receptacle may be lifted to locate the opening 105 above the bottom of he tub, as shown in Figure 5.

By the use of the present apparatus, it is possible to inject into the intestines and circulate therethrough as much as six gallons of a compound and this has been repeatedly done without the slightest discomfort to the patient. Furthermore, from the foregoing description it will be obvious that the present apparatus is highly sanitary and most efficient in eliminating all possibility of infection.

What is claimed is:—

1. In a medical apparatus for the subaqueous treatment of the intestines, the combination with a tub in which the patient is seated and which is provided with a drain opening, and medicament feeding means within said tub; of a drainage apparatus connected to said means and including a waste receiving receptacle having an outlet capable of connection with the drain opening in the tub and normally preventing the escape of water from the tub through said opening, and means associated with the outlet of said receptacle and operable to permit said water to discharge through said drain opening.

2. In a medical apparatus for the subaqueous treatment of the intestines; the combination with a tub in which the patient is seated, and medicament feeding means located within said tub; of a drainage apparatus connected to said means and including a waste receiving receptacle mounted within said tub and connected to the drain opening therein, and cooperating means in said drain opening and said receptacle permitting movement of said receptacle to discharge water in said tub through said drain opening.

3. In a medical apparatus for the treatment of the intestines, medicament feeding means, a waste receiving receptacle, a discharge pipe including sections having longitudinal movements relative to each other pivotally connected to said receptacle and movable in a vertical plane relative thereto, and a flexible connection between said pipe and said feeding means.

4. In a medical apparatus for the treatment of the intestines, medicament feeding means, a waste receiving receptacle, a discharge pipe including sections having longitudinal movements relative to each other and pivotally connected to said receptacle and movable in a vertical plane relative

thereto, a sight tube connected to said pipe, and a flexible connection joining said sight tube with said feeding means.

5. In a medical apparatus for the subaqueous treatment of the intestines, the combination with a tub in which the patient is seated, and medicament feeding means located within said tub; of a drainage apparatus connected to said means and including a waste receiving receptacle mounted within said tub and connected to the drain opening therein, and cooperating means in said drain opening and said receptacle permitting initial rotary and subsequent vertical movement of said receptacle to discharge water in said tub through said drain opening.

In testimony whereof I have affixed my signature.

ALBERT KLAIBER.