

March 6, 1934.

G. E. MILLER

1,949,575

IRRIGATOR

Filed Dec. 17, 1931

2 Sheets-Sheet 1

Fig. 1.

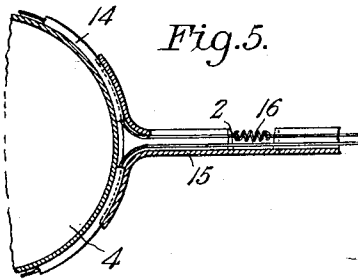


Fig. 5.

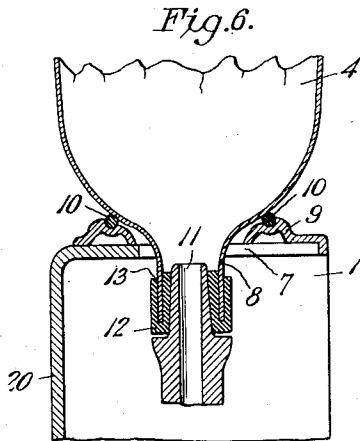


Fig. 6.

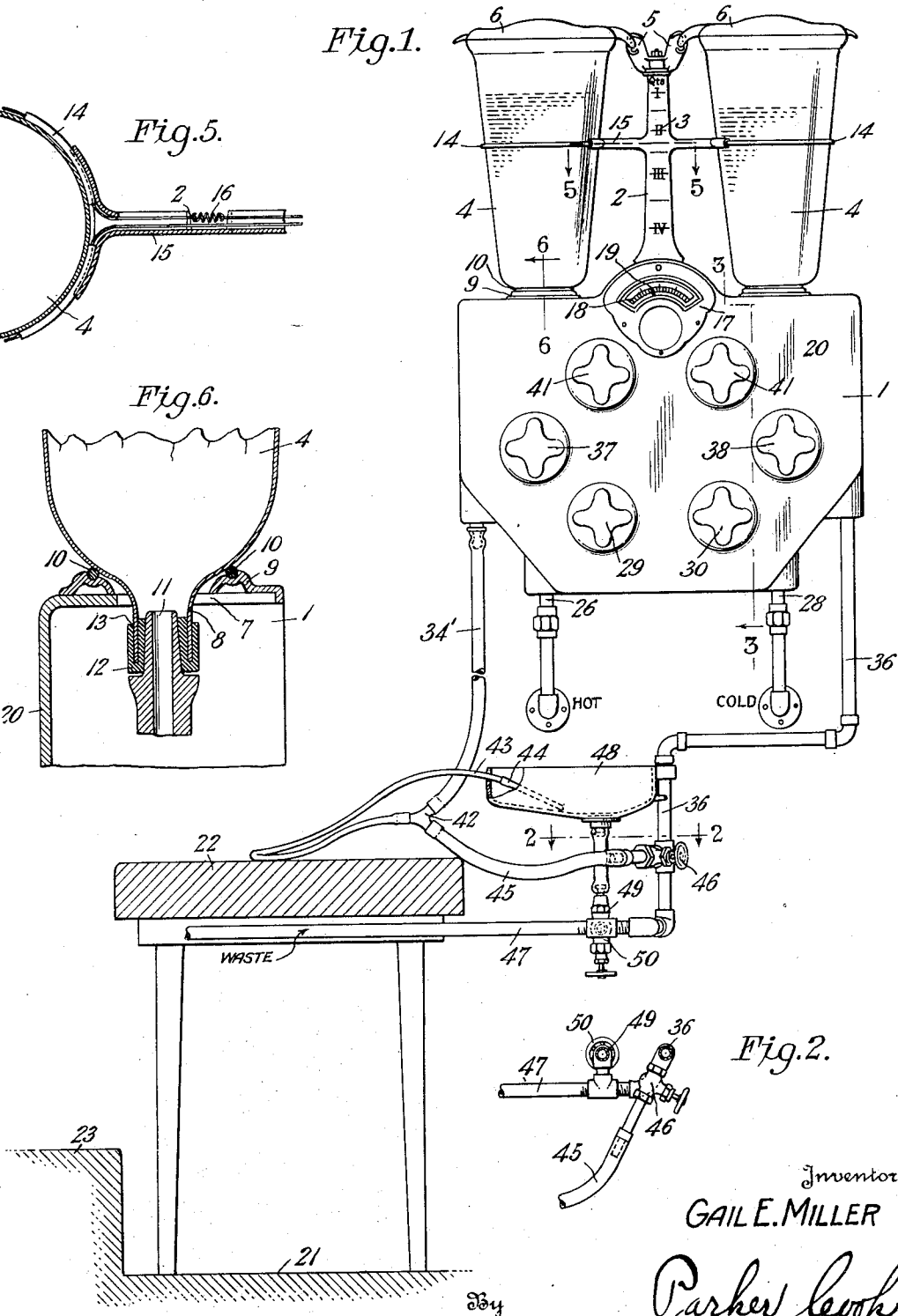


Fig. 2.

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2 Sheets-Sheet 2

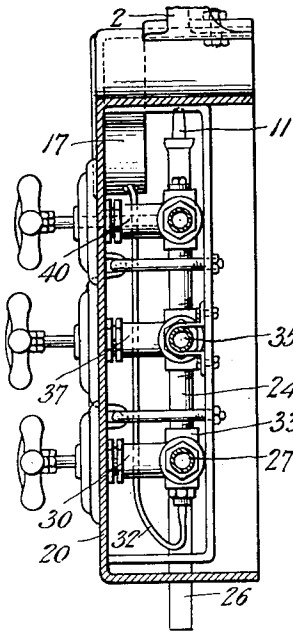


Fig. 3.

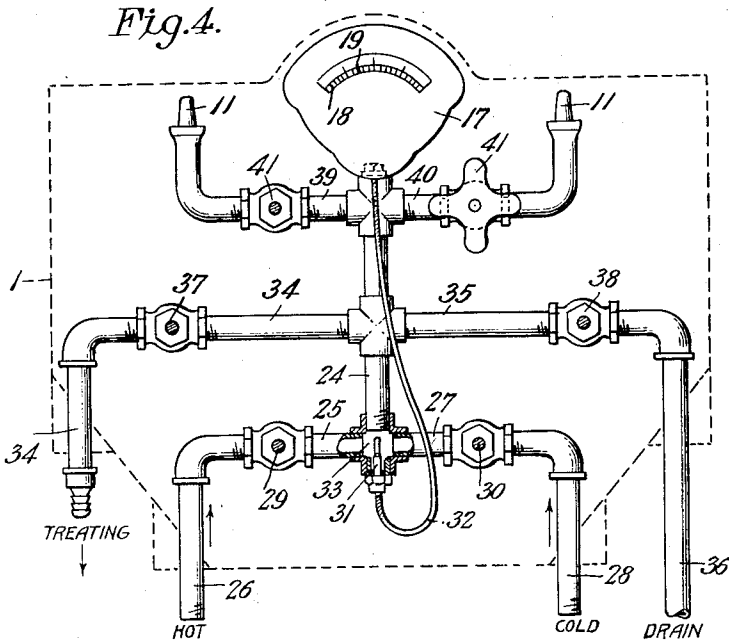


Fig. 4.

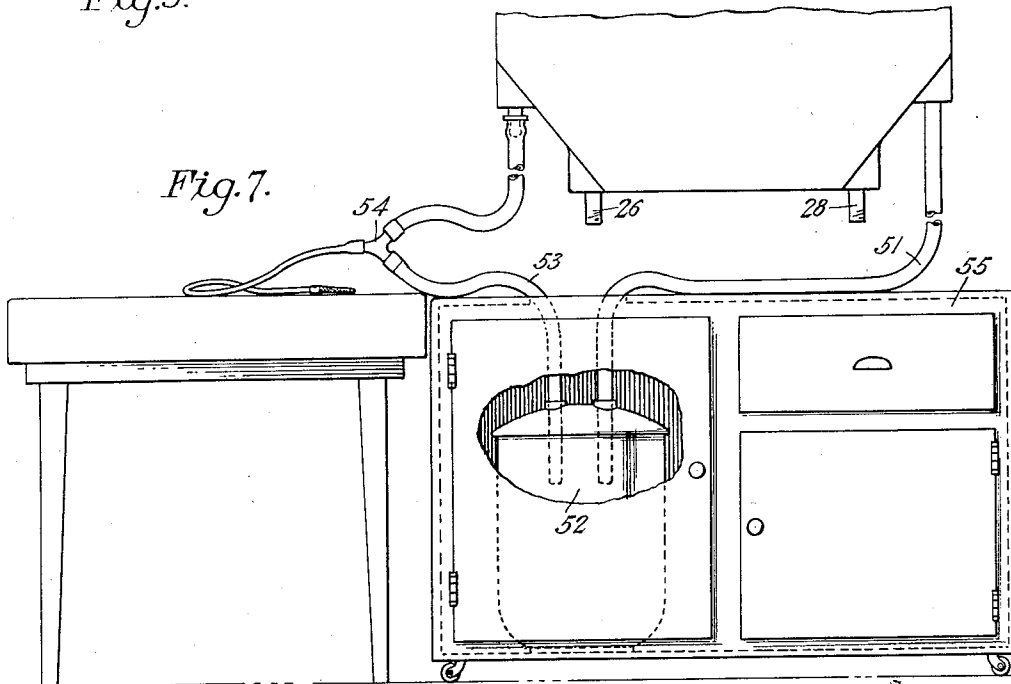


Fig. 7.

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UNITED STATES PATENT OFFICE

1,949,575

IRRIGATOR

Gail E. Miller, Lima, Ohio, assignor of one-half
to William F. Cremean, Toledo, Ohio

Application December 17, 1931, Serial No. 581,756

1 Claim. (Cl. 128—227)

My invention relates to new and useful improvements in irrigators, and has for an object to provide an irrigator which is especially useful for the treatment of colon disorders, such as colitis and other large bowel disorders.

Another object of the invention is to provide a colon irrigator, wherein hot and cold water may be turned on until the desired temperature is obtained, after which the water may be led up into the receptacle or receptacles for holding the fluid, in which receptacle there will also be placed the soap, glycerin, or other materials which are to be used in the treatment of the patient.

Still another object of the invention is to provide an irrigator, wherein certain valves may be opened or closed to cause some of the liquid to be entrained to provide a vacuum and suction in the treating pipe to remove gas and waste materials from the colon.

Still another object of the invention is to provide an irrigator wherein the flow of liquid to the patient is generally by gravity but, where desired, additional pressure may be applied to thus overcome any back pressure or gas in the colon.

Still another object of the invention is to provide a cabinet or stand to contain the special arrangement of piping and valves, the cabinet also supporting the jars or containers in which the chemicals or soaps are poured and into which the water will be supplied.

Still another object of the invention is to provide a unitary form of cabinet which is provided with a mast to help support the jars, and to further provide a thermometer in connection with the piping system, which thermometer may be built into the cabinet, so that the water at the desired temperature may be fed into the jars.

Still another object of the invention is to provide a cabinet containing a special piping arrangement and valves, on which cabinet there will be a calibrated mast, so that the doctor can, at any moment, see how much of the liquid has been conveyed to the patient.

The present invention is a continuation in part of an application filed by me on June 6, 1931, Serial No. 542,618, for Irrigators.

With these and other objects in view, the invention consists in certain new and novel arrangements and combination of parts, as will be hereinafter more fully described and pointed out in the claim.

Referring now to the drawings showing a preferred embodiment,

Fig. 1 is a face view showing the cabinet as connected to the hot and cold water supply, a

table also being shown in section and a drain bowl being broken away for the sake of clearness;

Fig. 2 is a detail sectional view taken on the line 2—2 of Fig. 1;

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 1;

Fig. 4 is an enlarged detail view of the piping and valve arrangement;

Fig. 5 is an enlarged sectional view taken on the line 5—5 of Fig. 1;

Fig. 6 is an enlarged sectional view taken on the line 6—6 of Fig. 1;

Fig. 7 is a fragmentary face view, with parts being broken away for the sake of clearness, of a slight modification, that is, showing a movable closet for containing a slop jar to be used where ordinary toilet facilities are not present.

Referring now more particularly to the several views, there is shown a cabinet 1 for housing the piping and the valves. This cabinet is preferably made of porcelain, as porcelain will withstand the action of any acids and also makes a neat looking and sanitary receptacle for the various pipes and valves, containers, etc.

The cabinet is provided at its top with a centrally located mast 2, which is calibrated and has the Roman numeral 3 thereon to designate the quantity or number of quarts and pints to be fed from the jars or containers 4. It will be noticed that the numerals read down the mast rather than up thereof, as the doctor or operator will want to know the amount of liquid discharged from the container rather than the amount of liquid fed into the container. In the drawings I have shown two containers 4, so that one may be held as a reserve container, but I do not wish to be limited to the number that might be used.

The mast 2 is provided with oppositely disposed wings 5 at its top, so that respective lids 6 can be hinged thereto and placed down over the jars to keep out any dust or other impurities.

The chemicals, soaps, or other ingredients to be used will be placed in the jars, while the water enters from the bottom of the jars, as will be shortly described, so that these ingredients will be thoroughly mixed by the agitation of the in-rushing water. This manner of feeding the water to the bottom of the jars or containers is also shown in the co-pending application above-mentioned.

In Fig. 6, there is shown a fragmentary portion of the cabinet 1, and there may also be seen the opening 7 in the top thereof through which will pass the neck 8 of one of the aforementioned con-

ainers 4. About the opening, there may be seen the escutcheon 9, which escutcheon is provided with a rubber gasket 10 to cushion and support its container 4, while the neck of the bottle 8, it will be seen, fits over a pipe nipple 11, there being interposed, however, a rubber nipple 12 which is provided with a peripheral slot 13, so that the neck of the bottle may fit down within this slot and thus be tightly sealed with regard to the nipple 11.

By forming a connection of this kind, a water-tight seal is made, and it is also easy to readily disconnect or remove the jars from the nipples, so that the jars may be washed or cleaned. It will be understood from Figs. 1 and 4 that there will be two such openings 7 and a description of the one is a description of the other.

Referring for the moment to Fig. 5, there is shown the manner of tying the jars to the mast, which consists in running a small wire through the two rubber rings 14, these rubber rings being adjacent the arms 15 of the mast. The one wire is continuous except for the small interposed spring 16, so that the rubber rings 14 will also be continuously under tension when the jars are in place to thus springingly hold the jars with relation to the mast.

Now located on the front of the cabinet and centrally thereof, there is a thermometer similar to a Boyce motormeter, although any other desired similar type of thermometer might be used and I do not claim the special type of thermometer shown. It is simply illustrated as a conventional form of thermometer of the easy reading type. This form of thermometer constitutes a casing 17 with the graduations 18 thereon and a pointer 19 which is to be actuated back and forth along the scale, depending upon the temperature of the water.

In Fig. 3, there is shown the operable hook-up between the thermometer above-mentioned and the hot and cold water pipes, which will also be hereinafter mentioned.

Through the face 20 of the cabinet 1, there are seen the several handles of the valves which control the flow in the piping, which will now be described. It will be understood first, however, that this casing may be attached in any desired manner to the wall in the doctor's office or hospital, where the hot and cold water may be conveniently piped to the cabinet and the drain may be piped to the water closet.

Near the lower part of Fig. 1, I have diagrammatically shown a floor 21 on which rests the table 22 and there may be seen a step 23, so that the patient can easily seat himself on the table from this step 23.

The form of piping of the irrigator is somewhat similar to that shown in the parental application, but in the present instance I have simplified the same and arranged the piping and the valves within the cabinet, while the handles are on the outside thereof. By arranging the valves this way, there is provided, in reality, a form of control board, so that the different handles are readily distinguishable and conveniently located for the operator.

Referring now to Figs. 1 and 4 and to the piping within the cabinet, there is shown what I term the main vertical feed pipe 24 into which extends the branch 25 which is designed to be connected to a hot water supply 26. Also connected to this main feed pipe 24 is the branch 27, which is designed to be connected with the cold water supply 28. As also may be seen, there is

a valve 29 in the branch 25 for controlling the hot water and a valve 30 in the branch 27 for controlling the cold water.

In the bottom of the main feed pipe 24, there will be seen the thermometer control unit 31, which is connected by the cable 32 to the arm 19 in the thermometer.

Of course, where the pipes 24, 25 and 27 meet, there is the four-way union 33 and it is in the bottom of this union that the thermometer control unit 31 afore-mentioned is positioned.

Also connected to the pipe 24 are the further branch pipes 34 and 35, one of which I term the treating pipe while the other is connected to the drain 36.

There may be seen the valve 37 in the pipe 34 to turn on or off the treating pipe and likewise there may be seen the valve 38 for shutting off the drain.

Finally, at the top of the main feed pipe 24 are the two branch arms 39 and 40, on the respective ends of which are the heretofore-mentioned nipples 11, while fitted over these nipples are the heretofore-mentioned jars or containers 4. There may also be seen the two valves 41 to turn on or off the flow to the respective jars. The handles for all of these valves mentioned are on the outside or face 20 of the cabinet 1, so that these valves may be conveniently operated to cause the irrigator to function as desired.

To the end of the treating pipe 34 there is fastened preferably a rubber hose connection 34' which, in turn extends to a Y connection 42, to the end of which is connected a further rubber tubing 43, on which will be placed the desired form of nozzle 44. To the remaining branch of the Y is connected the pipe 45, which extends over to the valve 46, which valve is in the drain line 36 heretofore mentioned. The drain line 36 then extends preferably inwardly, as at 47, and will terminate in a water closet (not shown). It will be noticed that the drain valve 46 which is connected with the drain pipe 45 is located below the level of the table T which is intended to assist the vacuum in the Y when the treating pipe and Y are by-passed, as will be shortly described.

There is further shown the small drain pan 48 which also connects, as at 49, to the drain pipe 47 and there is a small valve 50 in the drain line 47, as shown in Fig. 1.

It will be understood that although I have shown a Y connection 42 in the main treating pipe, other forms of three-way branch connections might be used here, just so a vacuum or suction can be created in the pipe 43 with its nozzle 44 thereon.

In Fig. 7, I have shown how the irrigator might be used, wherein ordinary toilet facilities were not present, that is, the drain pipe 51 would extend to a slop jar 52, and what might be termed the drain pipe 53 from the Y connection 54 of the main treating pipe would drain to the jar afore-mentioned. The jar might be placed in a portable cabinet 55 that could be moved around from place to place, and by having the jar closed in, any disagreeable odors will not escape into the room.

Having set out the structure, there follows a preferred manner of using the apparatus.

First, the chemicals, soaps, glycerine, or desired ingredients will be placed within the jars 4, (it being understood that all of the valves are closed). The first valve to be opened will be the valve 38 in the drain, after which the valves 29 and 30 will be opened and regulated to allow a

mixture of hot and cold water to enter into the main feed pipe 24 and pass out of the branch 35 into the drain.

Also, as shown in the co-pending application, should the solution become exhausted from one jar or container, it is but the matter of a moment to open the other controlling valve 41 and continue the treatment without any interruption. 80

From the foregoing, it will be seen that I have provided an irrigator that is very simple in its construction and wherein the various valves and pipes may be built into the cabinet which supports the jars, and which cabinet may, in turn, be quickly fastened to the wall convenient to a hot and cold water supply. 85

Thus, the irrigator might be said to consist of a single unit, that is, a cabinet on which the jars or containers are supported and the cabinet being provided with the necessary valves, with the exception of several valves that will be in the drain pipe directly beneath the cabinet. 90

By thus forming what might be termed a unitary structure, the valves are convenient for manipulation, the amount of liquid fed to the patient may be readily seen, the temperature of the water can be regulated to a nicety, and the patient may be treated in the most skillful manner. 95

Finally, by proper manipulation of the valves, the whole piping system, jars and other parts may be flushed or washed without in any way disrupting the apparatus, and by providing the portable stand beneath the cabinet the irrigator may be used in places where ordinary toilet facilities are not present. 100 105

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

A cabinet having a piping system therein consisting of a main vertical feed pipe and two branch arms at its upper extremity, jars connected with said arms, two further pipes one of which is adapted to be connected with a drain and the other of which is adapted to be connected to a treating pipe, two further branch arms at the lower extremity of the main pipe, the one adapted to be connected to a cold water supply and the other adapted to be connected to a hot water supply, a valve for each arm, a flexible treating pipe having a three-way connection therein, a connection between the drain and one of the arms of the three-way connection, a further flexible pipe with a nozzle thereon connected to the remaining branch of the three-way connection whereby a closing of the treating pipe valve and an opening of the drain pipe valve will cause the liquid to by-pass the flexible treating pipe and cause a suction therein rather than a flow. 110 115 120 125 130

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It will be remembered that the thermotic part of the thermometer 31 extends up into this connection 33 between the hot and cold water supply, so that after the desired adjustments have been made with the two valves 29 and 30 and the thermometer registers the desired temperature of the water, either one of the valves 41 will be opened to allow the water to pass up into the selected jar, the valve 38, of course, having been closed. After the jar has been filled with the water at the desired temperature, the valves 29 and 30 will be closed and the valve 41 will likewise be closed. The water, in filling up the jar, will have agitated the chemicals or soap (not shown) within the jar, so that after but a relatively short period of time, these parts are in solution. 10 15

To treat the patient, the nozzle 44 will be inserted in the patient and the valve 37 opened, thus allowing the solution in the jars or containers 4 to feed down by gravity through the pipe 34' and its connection 43 and in the nozzle 44. It will be understood, of course, that the valve 46 at the end of the pipe 45 will be closed. 20 25

After the irrigation is finished, the nozzle will be placed over in the drip pan 48, while a little more solution may be allowed to pass through the treating tube to cleanse the same. Also, the drain valve 46 may be opened, if desired, and a little of the water can completely pass through the several branches of the Y to thus clean the Y and its connections. 30

Sometimes the flow of water through the nozzle might be stopped by back pressure or gas in the colon and the obstruction can oftentimes be removed by not only opening the valve 37 but also by opening the valves 29 and 30 to thus augment slightly the gravity pressure from the container. 35 40

Again, if this method is not found desirable, sometimes the pressure obstruction can be removed or relieved by opening the drain pipe 38 and the valve 46, so that the water in passing down this drain pipe will cause the air, gases, etc., to be entrained through the Y and the nozzle or, in other words, create a vacuum or suction in the Y and its pipe and nozzle to thus pull the gas or other obstruction from the colon. It will also be seen that the Y or any other similar three-way connection is not as apt to become obstructed or contaminated as where the old methods are used. 45 50

Furthermore, the treating apparatus, that is, the nozzle and its Y connection, may be easily detached from the several parts and quickly sterilized, thus cutting down the possibility of any germs or bacteria being passed to the next patient. 55 60

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