Oct. 25, 1932. A. H. MATLOWSKY 1,884,786

IRRIGATOR

Filed Nov. 29, 1930

Fig. 1.

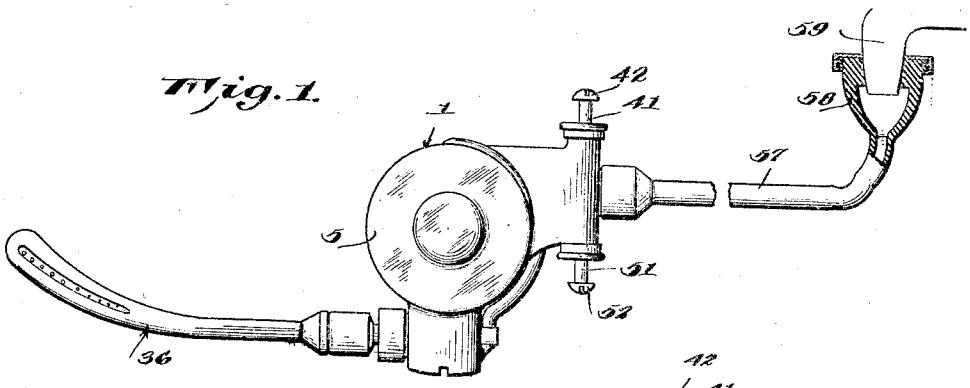


Fig. 2.

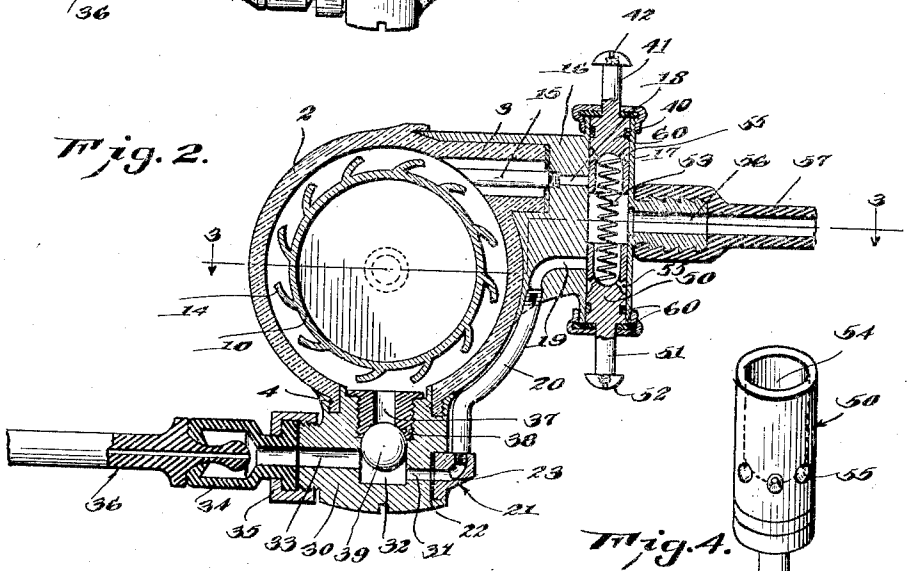


Fig. 4.

Fig. 3.

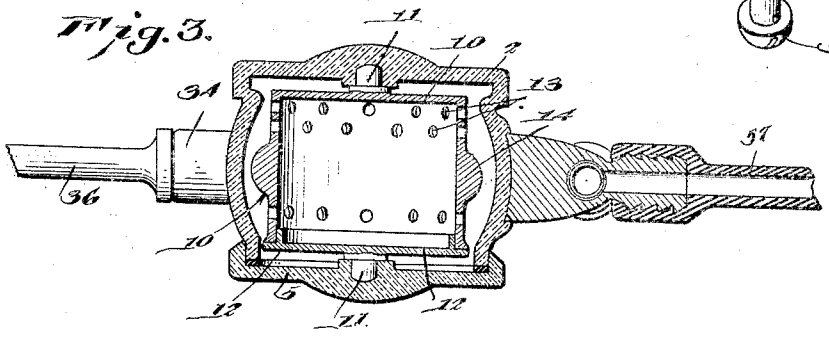
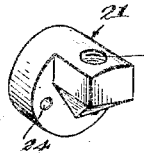


Fig. 5.



WITNESS
C. Howard Mayn

INVENTOR
A. H. Matlowsky,
BY Munn & Co.
ATTORNEY

Patented Oct. 25, 1932 1,884,786

UNITED STATES PATENT OFFICE

ABRAHAM H. MATLOWSKY, OF PEDRO MIGUEL, CANAL ZONE

IRRIGATOR

Application filed November 29, 1930. Serial No. 499,103.

This invention relates to irrigators or douches and more particularly to those used for sanitary and medicinal purposes.

A primary object of the invention is to so construct a device of this character that it may be used at will to supply solutions of different character according to the treatment desired to be given.

Another object of the invention is to construct an irrigator having a medicament container provided with means for furnishing a solution of desired strength and which may be either brought into use or thrown out at the will of the user and alternated with a solution of a different character such as pure water and which alternation may be accomplished without interfering with the position of the discharge nozzle, after it has once been placed in the desired location.

Another object of the invention is to so construct a device of this character that it will be efficient and safe in application accomplishing positive results as a germ destroyer and as a flushing device.

In carrying out these objects, the invention is susceptible of a wide range of modification without departing from the spirit or sacrificing any of the advantages of the claimed invention; there being shown in the drawing for illustrative purposes a preferred and practical form, in which:

Figure 1 is a side elevation of an irrigator constructed in accordance with this invention, parts being broken out and in section;

Fig. 2 is a longitudinal section through the body of the body of the irrigator;

Fig. 3 is a horizontal section taken on the line 3—3 of Fig. 1;

Fig. 4 is a perspective view of one of the plungers used in the device; and

Fig. 5 is a detail perspective view of the connector for uniting one of the supply pipes with the device.

In the embodiment illustrated the irrigator 1 embodying this invention comprises an outer cylindrical casing 2 constructed of any suitable material, preferably of glass, and which has extending tangentially therefrom a tubular neck or connecting member 3 for uniting it with the valve carrying casting presently to be described. This cylinder 2 also has an exteriorly threaded sleeve-like member at its lower portion here shown arranged in a plane at right angles to the neck 3 and to which is designed to be connected the casting to which the discharge hose is attached.

This cylinder 2 is preferably provided with a removable cover member 5 having a gasket to insure its water tight connection with the cylinder and this cover together with the opposed end wall of the cylinder forms bearings for the journals 11 of a rotary container or mixing member in which the medicament is designed to be placed as will be hereinafter more fully described. This hollow rotor 10 may be composed of any suitable material, it being made cylindrical in form and of a size to fit within the casing 2. This container 10 has a removable end member 12 shown clearly in Fig. 3 which is preferably arranged opposite the removable cover member 5 of the casing 2 so that access may be obtained to the interior for inserting or removing the medicament and for cleaning purposes. The side walls of this container 10 are preferably apertured as shown at 13 to permit the medicament to pass out into the casing 2 from which it is discharged as will be presently described. On the periphery of the cylinder 10 are a plurality of curved blades 14 which form cup-like members adapting the rotor to operate in the manner of a turbine, the actuating fluid being discharged against the blades or cups through a pipe 15 located in the neck member 3 as shown in Fig. 2.

Mounted on the cylinder 2 and fixedly secured thereto is a casting 16 which has a plunger or valve cylinder 17 arranged transversely thereof and opening from one side wall of which are two inlets 18 and 19 spaced a suitable distance apart, one of which, 18, opening into the pipe 15 which leads to the interior of the cylinder 2. The other channel 19 connects with a pipe 20 which discharges into a channel 31 formed in a casting 30 which is detachably mounted on the sleeve 4 of the casing 2 as shown clearly in Fig. 2. The connection between the pipe 20 and the channel 31 is made by means of a removable

plug 21 which is shown in detail in Fig. 5 and which has a gasket 22 arranged between it and the casting 30 to insure water tight connection therewith. Extending through this plug is a channel 23 which affords communication between the pipe 20 and the channel 31.

This plug 21 may be secured in position by any suitable means, fastener openings being shown at 24 to receive screws for properly securing it after the pipe 20 has been assembled.

The casting or fitting 30 has a chamber 32 into which the channel 31 discharges and from which leads an outlet passage 33 designed to communicate with a hollow nipple or connector 34 here shown connected with the casting by means of a cap 35. The discharge nozzle 36 extends into the hollow connector or nipple 34 and carries the liquid supplied to the chamber 32 to the place of deposit. It is of course understood that any form of nozzle may be substituted for the one shown according to the purposes for which the irrigator is to be used.

Opening through the upper wall of the chamber 32 is a valve controlled passage 37 which has removably mounted therein a valve seat carrying member 38 here shown in the form of a screw nipple or sleeve (see Fig. 2). The valve 39 is shown in the form of a ball valve which normally drops by gravity into the chamber 32 leaving the passage 37 open but which is seated when liquid is supplied under pressure through the pipe 20.

Mounted in the valve cylinder 17 are two plungers 40 and 50 which are constructed exactly alike, a detail of one of them being shown in Fig. 4. These plungers operate in opposite ends of the cylinder 17 and have reduced necks 41 and 51 extending through the cylinder cap and at their terminals are equipped with heads 42 and 52 which assist in the manipulation of the plungers. Arranged in the cylinder 17 between these plungers is a coiled spring 53 which exerts its tension to hold the plungers normally in outward position as shown in Fig. 2. These plungers have sockets 54 formed in their inner ends to receive the ends of the coiled spring and opening through the side wall thereof at the bottom of the socket are a plurality of inclined discharge openings 55. These openings 55 are designed when the plunger is depressed to bring the interior of the socket member thereof into register with the inlet 56 which opens through the outer side wall of the cylinder 17 midway the length thereof as shown clearly in Fig. 2 and with which is securely attached the supply hose 57. This hose 57 at its outer end is equipped with a connector 58 for uniting the hose with a faucet shown at 59.

Plungers 40 and 50 are equipped with the usual packing glands or gaskets 60 so that there will be no leakage past the plungers during their reciprocatory action.

When plunger 40 is depressed against the tension of the spring 53 the apertures 55 therein will register with the passage 18 in the fitting or casting 16 with which is connected the pipe 15. When this connection is made between the passage 18 and the interior of the plunger socket, said socket will also be brought into communication with the inlet 56 so that water will flow through the hose 57 into the cylinder 17 through the socket in plunger 40, out through one of the openings 55 therein into the passage 18, through pipe 15 in contact with the rotor 10 and thereby operate to turn said rotor for thoroughly mixing the contents thereof. It is of course understood that the medicament placed in the rotor may be of any suitable or desired character and will be fed through the openings 13 into the cylinder 2 where it commingles with the water admitted through pipe 15 and passes down through the nipple 37 opening the valve 39 and then passing out through the channel 33 into the nozzle 36 and is discharged.

The inward pressure exerted on the plunger 40 will operate to open the passage as above described and to hold the plunger 50 seated so that the pipe 20 will be cut off from the supply 56.

When the plunger 50 is depressed by pressure exerted on the head 52 plunger 40 will be held seated cutting off communication with the cylinder 2 and opening communication between the inlet 56 and the pipe 20 so that the water fed through pipe or hose 57 will pass down into the chamber 32 and force the valve 39 outward against its seat allowing the fresh water to pass into the nozzle 36 and be used as a douche or irrigator.

The passage 31 in the casting or fitting 30 is arranged in a plane below that 33 so that when the fresh water is permitted to pass through pipe 20 into chamber 32 the pressure thereof will be spent incident to the pushing up of the ball valve 39 sufficiently to by pass the water to the higher elevation. It is of course understood that the plunger valves may be regulated to control the amount of water fed therethrough.

It is of course understood that this irrigator may be connected up for use for many purposes, the nozzle 36 being changeable and the material carried by the rotor and designed to be mixed with the water fed into the cylinder 2 being of course variable to meet the needs or requirements of the user.

While the cylinder 2 is shown made of glass obviously it may be made of any other suitable material, glass being preferable so that the interior working of the parts may be seen, that is, especially of the rotor 10.

When both of said valves 40 and 50 controlling the inlets 18 and 20 are closed the ball valve 39 drops by gravity on the bottom

of chamber 32 and closes inlet 31, this also occurs when inlet 18 which discharges into cylinder 2 is opened and the liquid flowing through the channel 37 into chamber 32 holds valve 39 to close inlet 31 so that medicated liquid only will pass to the nozzle 36.

Without further description it is thought that the features and advantages of the invention will be readily apparent to those skilled in the art, and it will, of course, be understood that changes in the form, proportion and minor details of construction may be resorted to, without departing from the spirit of the invention or its scope as claimed.

I claim:

1. An irrigator comprising a chamber provided with inlets opening at right angles to each other and an outlet, a substance container communicating with one of said inlets, a cylinder communicating with the other inlet and with the container, plungers mounted in said cylinder to control the communication between the cylinder and said chamber and container, said cylinder having a fluid inlet and a valve arranged in said chamber to close either of said inlets according to the plunger which is actuated to control its corresponding cylinder outlet.

2. An irrigator comprising a chamber having a plurality of inlets and an outlet, a container connected with one of said inlets and having a turbine-like rotor mounted therein, said rotor being hollow to receive a substance to be distributed and provided with apertures for the passage outward therefrom of said substance, and manually controlled means for supplying fluid to said container and to the other inlet of said chamber.

3. An irrigator comprising a chamber having a plurality of inlets and an outlet, a container connected with one of said inlets and having a turbine like rotor mounted therein, said rotor being hollow to receive a substance to be distributed and provided with apertures for the passage outwardly of said substance, and means for supplying fluid to said container and to the other inlet of said chamber.

4. An irrigator comprising a chamber having a plurality of inlets and an outlet, a casing connected with one of said inlets of said chamber, a container mounted within said casing, said container being hollow to hold a medicament, an inlet for said casing, said container having a turbine-like rotor mounted thereon and operable by the incoming material from said last named inlet whereby the medicament in said container is mixed with the material admitted through the inlet of said casing, an automatically operable valve for controlling the discharge from said casing into said chamber, and means for supplying fluid to the inlet of said container and the other inlet of said chamber.

5. An irrigator comprising a casing, a substance container mounted in said casing, a casting carried by said casing and having a passage between them, said casting further having a chamber, an inlet and an outlet, a pair of inlets associated with said casing, one of said inlets opening directly to said casing, the other of said inlets forming communication with the inlet of said casting, a ball valve to close said passage when fluid is flowing through said chamber from the inlet of said casting, a second casting arranged adjacent said container and having a cylinder therein, spring projecting plungers mounted in said cylinder and provided with means whereby they may be compressed against the tension of the spring, means for admitting fluid to said cylinder between said plungers, passages leading from said cylinder and communicating with said inlets to said casing and chamber and controlled by said plungers whereby one or the other may be opened by depression of the plunger.

ABRAHAM H. MATLOWSKY.