Feb. 19, 1935. C. C. SPICHER 1,992,132

AUTOMATIC IRRIGATOR

Filed Jan. 22, 1934

Fig. 2.

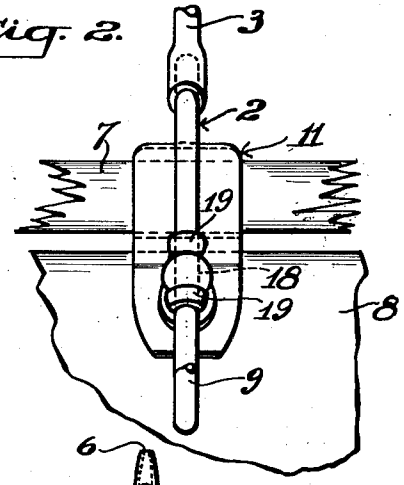


Fig. 3.

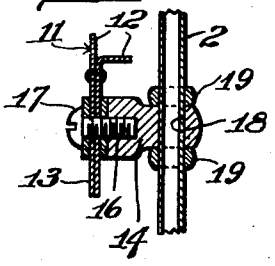
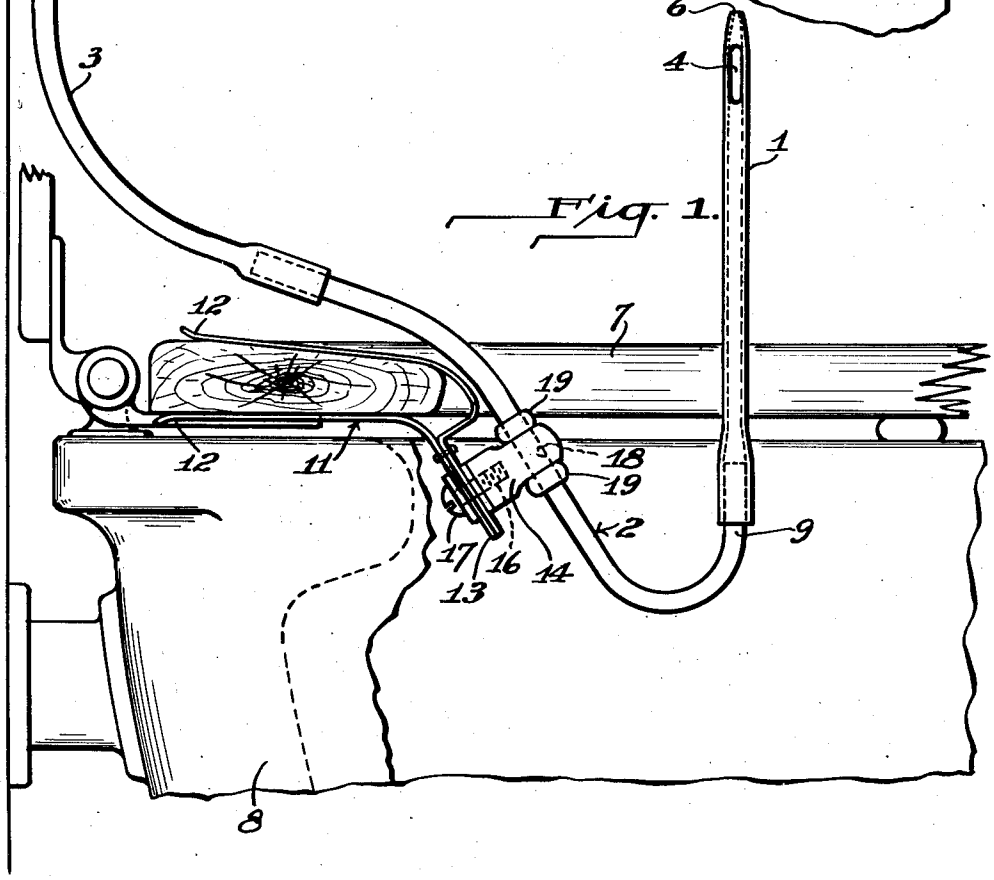


Fig. 1.



WITNESS

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Patented Feb. 19, 1935

1,992,132

UNITED STATES PATENT OFFICE

1,992,132

AUTOMATIC IRRIGATOR

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Application January 22, 1934, Serial No. 707,696

4 Claims. (Cl. 128—227)

This invention relates to colon irrigators, and more particularly to the type of irrigator known as automatic.

Colon irrigation therapy has been practiced with various means and methods, the enema and siphon tube method being the best known. However, these methods are painful, inefficient and frequently harmful. A further disadvantage is that everything about the induced bowel movement is highly artificial or unnatural, whereby the treatment is not conducive to future normal movements but tends to become habit-forming.

The most modern development in colon irrigation is the use of a short tube of small diameter which is inserted only a few inches into the rectum, treating liquid being injected through the tube into the colon continuously, or intermittently at will. When the liquid strikes the first obstruction in the colon it causes a peristaltic wave to pass down the colon and force obstructing matter and the treating liquid out of the rectum on the outside of the tube which is too small to block the passage. The colon is then relaxed and the treating liquid flows against the next obstruction. This cycle is repeated until the entire colon has been emptied. Because this method causes the bowel to empty itself in a natural manner, and because the movements occur without removing the tube, thus allowing the normal peristaltic wave to complete its cycle without interruption, this type of irrigation is generally known as automatic.

However, even automatic irrigation has its drawbacks. Due to the very large quantity of treating liquid used and to the intermittent bowel movements, it is necessary that during the entire treatment the patient sit or lie on a receptacle which can be flushed frequently, such as a toilet. Consequently, combination toilet and reclining tables have been developed on which the patient can lie during treatment, but these devices are large and expensive and not suitable for home use.

On the other hand, automatic irrigators intended for use in connection with ordinary home toilets are impracticable. The types that fasten to toilet seats require the use of screws or the like, and sometimes alteration of the seats themselves, so that it is not convenient or feasible to use the irrigators away from home on toilet seats which have not previously been prepared to receive them. What is more important, such irrigators are uncomfortable and unsatisfactory devices to sit on. Those that do not fasten to toilet seats must be held in the hand throughout the treatment. This is unsanitary, and it becomes very tiresome and uncomfortable because such treatments generally last at least a half hour. The result is that the treatment is not as efficient as it should be, because the patient is not fully at ease in mind and body.

It is an object of this invention to provide an automatic irrigator which can be quickly and easily attached to and detached from any toilet seat without altering the seat and without the use of additional fastening equipment.

Further objects are to provide such an irrigator which is efficient and pleasant to use, which does not make the patient uncomfortable or tired, and which requires no attention nor handling during the treatment.

Still further objects are to provide an irrigator which is compact, light weight, sturdy, flexible, inexpensive, simple in construction and operation, and easy to sterilize.

The preferred embodiment of the invention is illustrated in the accompanying drawing, of which Fig. 1 is a side view of an automatic irrigator clamped on a toilet seat shown in section; Fig. 2 a front view of the irrigator with its catheter removed; and Fig. 3 a vertical section through the connection between the tube and clamping member of the irrigator.

In the practice of automatic colon irrigation in the home, a patient sits upon a toilet seat and inserts a short tube of small diameter a few inches into the rectum. Treating liquid, such as water or a medicated solution, is then continuously supplied to the rectal tube through a suitable supply tube. In the embodiment of the invention illustrated in Fig. 1 of the drawing these tubes are shown to comprise an upright catheter 1, and a rigid tube 2 whose inner end is joined to the lower end of the catheter, a flexible tube 3 extending from the outer end of the rigid tube to a suitable elevated liquid supply source, not shown, such as a rubber bag whose discharge is controlled by the customary type of valve in tube 3.

The catheter is flexible in order to give the patient no pain and to allow him a limited amount of movement relative to the rigid tube. Accordingly, it is made of rubber, rubber-covered flexible metal tubing, or the like. The catheter projects upward above the seat only a few inches, preferably between five and six. It is desirable to provide its upper end portion with a longitudinal slot 4, in addition to the customary outlet 6, to aid in flushing out the colon.

The rigid tube 2 is made of copper or other rust-proof metal, and extends from above the

rear portion of a toilet seat 7 inward, or forward, and downward a short distance into the toilet bowl 8. The inner end 9 of this tube is turned upward into substantially a vertical line at a point directly below the normal position of the rectum of a patient seated on the toilet seat. It is desirable from the standpoint of comfort and general efficiency of the irrigator that this upturned end of the tube not extend high enough to actually touch the patient. The lower end of the catheter is joined to the upturned end of tube 2 in the usual manner by stretching the catheter thereover. Flexible tube 3 is connected to the outer end of rigid tube 2 in a like manner.

In order to relieve the patient of the unpleasant and tiring task of holding rigid tube 2 throughout the treatment, the tube is detachably fastened to the rear portion of the toilet seat by a clamp 11 permanently connected to the tube. Although the clamp may take various forms as long as it depends on no more than a clamping action to hold it in place, the one-piece spring clamp or clip shown in the drawing is preferred. This clamp is readily put in place by merely slipping its spaced tongues 12, at least one of which is resilient, over the top and bottom surfaces of the seat which is then securely gripped between them. To facilitate application of the clamp to the seat, the free or outer ends of spring tongues 12 are curved away from each other. If desired, a rubber sheath can be disposed on the upper tongue to eliminate any possibility of its marring the seat.

As is shown in Fig. 1, the inner ends of the tongues 12 are fastened together face to face to form a rigid portion 13 of the clamp, this portion being disposed substantially parallel to the adjacent inclined central portion of the rigid tube. It is to this rigid portion of the clamp that tube 2 is permanently connected, whereby catheter 1 is supported in position without the aid of the patient or an attendant.

It is a feature of this invention that rigid tube 2 is not rigidly connected to clamp 11, but is mounted for movement relative thereto so as to permit catheter 1 to occupy various positions relative to the toilet seat and the position of the patient thereon. The reason for this adjustability arises in part from the fact that an immovable irrigator first requires the patient to so position himself as to bring the rectum directly above the upturned end of the rigid tube, any variation from this position making it uncomfortable for the patient and difficult, if not impossible, to insert the catheter. After that the patient must remain in the same position throughout the long treatment no matter how tired or cramped he becomes. He can not shift about on the seat to more comfortable positions, because such an unadjustable irrigator can not move with him.

A joint or connection which substantially eliminates fatigue and discomfort of this nature during colon irrigation by allowing the patient to move about on the toilet seat at will to rest himself, is most clearly shown in Fig. 3. As there shown, a swivel member 14 is provided at one end with a threaded axial bore 16 in which is disposed a screw 17 passed through an opening in rigid portion 13 of the spring clamp. The inner end of the screw abuts tightly against the closed end of the bore, a slight clearance being left between the head of the screw and rigid portion 13 which permits the swivel member to pivot on the clamp. If desired, this connection may be a pin or stud riveted so as to provide for the movement described.

The opposite end of the swivel member is provided with a transverse bore 18 in which the inclined portion of the rigid tube is rotatably disposed. The tube is prevented from moving axially of the bore preferably by collars 19 brazed or peened on the tube at both sides of the swivel member.

The double swivel thus formed permits the catheter and upturned end 9 of the rigid tube to tilt sideways, to swing in a lateral arc, and to remain substantially upright regardless of the position of the remainder of the rigid tube. Consequently, the rigid tube is adapted to assume enough different positions to allow a patient to shift about on the toilet seat without causing him pain or interfering with the efficacy of the treatment. At the same time, the tube's upturned portion 9 being rigid, the catheter is positively held thereby in the rectum throughout the treatment and can not be forced out by the bowel movements. This eliminates the necessity of reinserting the catheter after each movement, or of holding it in the hand to prevent it from being ejected.

An automatic irrigator constructed in accordance with this invention takes from colon irrigation therapy the unpleasantness, pain, fatigue and possible harm heretofore present in varying degrees. It is an inexpensive device of compact form which can conveniently be carried about by the traveler and attached to any toilet seat, in hotels or elsewhere. Due to its simple construction it can readily be sterilized. Likewise, there are no loose parts to misplace and nothing to adjust or to get out of order.

A particular advantage of this type of irrigator is that by requiring no attention from the patient during treatment, and by making it possible for him to relax and remain at ease, the induced bowel movements are the most natural possible with artificial stimulus. Consequently, the treatments tend to encourage normal movements rather than to become a necessary substitute therefor. Also, it provides a gymnastic exercise for the muscular structure of the bowel, tending to strengthen the muscle by exercise, and thereby becoming a curative measure not obtained by any other known method.

According to the provisions of the patent statutes, I have explained the principle and construction of my invention, and have illustrated and described what I now consider to represent its best embodiment. However, I desire to have it understood that, within the scope of the appended claims, the invention may be practiced otherwise than as specifically illustrated and described.

I claim:

1. A colon irrigator comprising a clamp adapted to be attached to a toilet seat, a swivel member pivotally mounted on said clamp, a rigid tube connected to the swivel member for unrestricted turning on its longitudinal axis, whereby the tube is attached to the clamp by a double swivel connection, means holding the tube against axial movement relative to said swivel member, said tube extending inwardly and outwardly from said seat with its inner end turned upwardly, and a flexible catheter projecting upwardly from said upturned end, the opposite end of said tube being adapted to be connected to a liquid supply source.

2. A colon irrigator comprising a clamp adapted to be attached to a toilet seat, a swivel member pivotally mounted on said clamp and provided

with a transverse bore, a rigid tube rotatably disposed in said bore and extending inwardly and downwardly from said seat with its inner end turned upwardly, means holding the tube against movement axially of said bore, and a flexible catheter projecting upwardly from said upturned end, the opposite end of said tube being adapted to be connected to a liquid supply source.

3. A colon irrigator comprising a spring clip adapted to be detachably clamped on a toilet seat and having an extension projecting inwardly and downwardly therefrom, a swivel member pivotally mounted on said extension and provided at its upper end with a transverse bore, a rigid tube rotatably disposed in said bore and extending inwardly and downwardly from said seat with its inner end turned upwardly, a collar attached to the tube at each side of said swivel member to prevent the tube from moving axially of said bore, and a flexible catheter projecting upwardly from said upturned end of the tube, the opposite end of said tube being adapted to be connected to a liquid supply source.

4. A colon irrigator comprising means adapted to be attached to a toilet seat or the like, a swivel member pivotally mounted on said means, a rigid tube pivotally connected to said swivel member for turning on an axis at an angle to the axis on which the swivel member pivots relative to said attachment means, and means normally holding the tube against axial movement relative to said swivel member, one end of said tube being adapted to be connected to a catheter and the opposite end of the tube being adapted to be connected to a liquid supply source.

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