E. D. SNODGRASS.

ATTACHMENT FOR BATH COCKS.

APPLICATION FILED JULY 21, 1909.

973,143.

Patented Oct. 18, 1910.

2 SHEETS—SHEET 1.

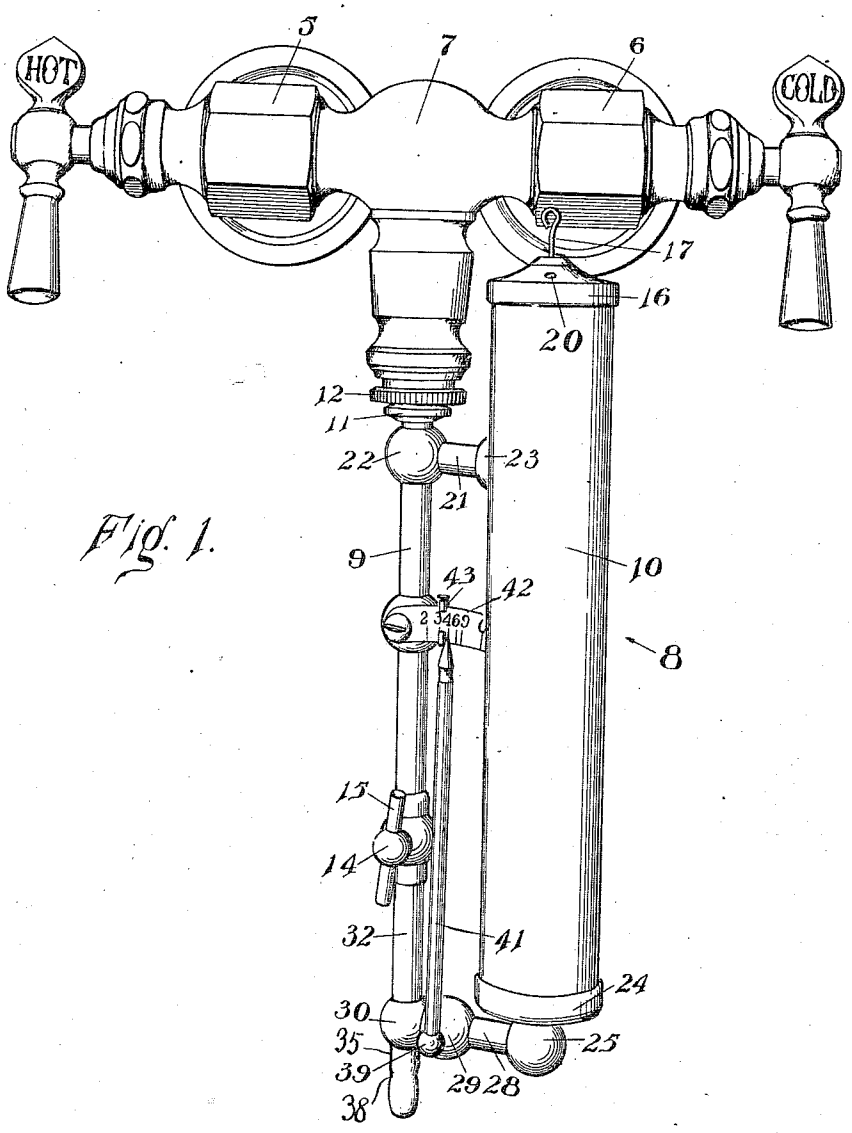

Fig. 1.

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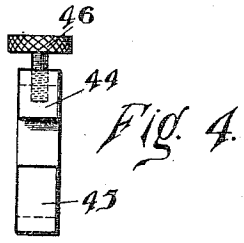

Fig. 4.

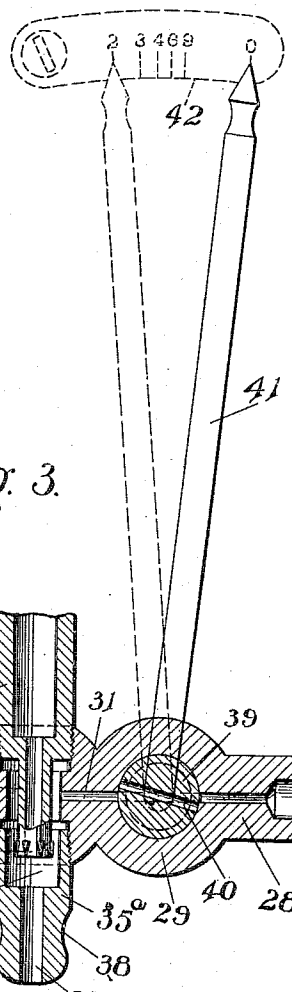

Fig. 3.

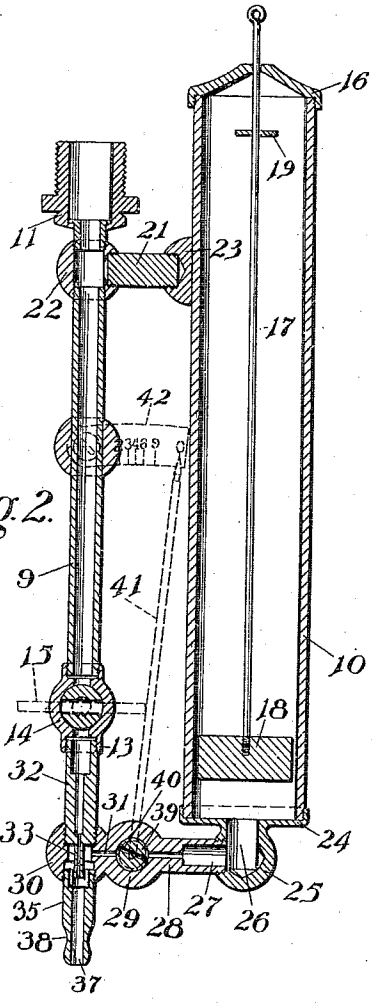

Fig. 2.

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UNITED STATES PATENT OFFICE.

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ATTACHMENT FOR BATH-COCKS.

973,143. Specification of Letters Patent. Patented Oct. 18, 1910.

Application filed July 21, 1909. Serial No. 508,749.

To all whom it may concern:

Be it known that I, EDMUN D. SNODGRASS, a citizen of the United States, residing at Tillamook, in the county of Tillamook, State of Oregon, have invented certain new and useful Improvements in Attachments for Bath-Cocks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in attachments for bath tub cocks and more particularly to that type of cock adapted to deliver hot and cold water separately and in a mixed state.

It is well known that in irrigating the vagina and other parts of the generative system fountain syringes containing an admixture of water and chemicals are usually employed. This method has many disadvantages chief among which is that the strength of the admixture is frequently guessed at with the result that too strong a solution is often used and furthermore the difficulty in maintaining the admixture at a certain temperature during the operation, is extremely difficult, due to the fact that the water soon loses its heat when placed in a syringe with the result that the parts are more or less chilled by the time the syringe is empty. Another disadvantage resides in the trouble to douche the parts with clear water after the chemical has been used since it can be seen that the syringe has again to be filled with water which necessitates the person changing position and occupies a considerable length of time.

The present invention aims to remedy these defects by providing a construction which may be readily applied to most forms of bath tub cocks, through which a mixture of hot and cold water is delivered, now in use, and when so applied is adapted to deliver through the nozzle an admixture of chemical and water, the latter flowing from the cock and the former through the reservoir.

Another object is the provision of a means for predetermining the strength of the admixture.

A further object is the provision of a means for indicating to the operator when the reservoir has been emptied of its contents.

With these and other objects in view as will more fully hereinafter appear, the present invention consists in certain novel details of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings and more particularly pointed out in the appended claims; it being understood that various changes in the form, proportion, size and minor details of the device may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings forming part of the specification Figure 1 is a front elevation of the device and showing it applied to the cock of a bath tub. Fig. 2 is a longitudinal sectional view of the device. Fig. 3 is a detailed longitudinal section of the connection between the nozzle and the reservoir, showing a modification in the construction of the nose of the lower nozzle section and also in the construction of the nipple. Fig. 4 is a detailed side elevation of the adjustable stop for the indicator arm.

Similar numerals of reference are employed to designate corresponding parts throughout.

The hot water valve is designated by the numeral 5 and the cold water valve by the numeral 6. These valves are connected together by means of the usual T shaped cock 7, the outlet of which is interiorly screw threaded. Since these parts are of well known construction a detailed description of the same need not be given.

The attachment is designated in general by the numeral 8 and consists of two parts. One of these is designated by the numeral 9 and will subsequently be termed a nozzle and the other by the numeral 10 and will subsequently be termed a reservoir. The nozzle 9 is preferably formed of an elongated piece of metallic tubing provided at its upper end with a hollow screw plug 11 having a knurled edge 12, which serves as a grip while turning the screw plug into the threaded outlet of the cock. The lower end of the nozzle is provided with a valve 14, into one side of the casing of which it is threaded. The opposite side of the valve is provided with a threaded opening 13, the function of which will appear later. The outer end of the valve stem has the usual handle 15, by means of which the valve may be turned so as to control the passage of water from the cock 7 through the nozzle.

The reservoir 10 is cylindrical in contour and of greater length and diameter than the nozzle 9. The upper end of the reservoir is exteriorly screw threaded for the reception of a cap 16, and the cap is centrally provided with an orifice to receive a rod 17. The rod 17 corresponds approximately to the length of the reservoir and at its lower end is provided with a float 18.

By referring now to Fig. 2, it will be seen that the upper end portion of the rod is provided with a transverse pin 19. This member is located below the cap 16 and limits the upward movement of the rod caused by the liquid raising the float 18. Formed in the cap 16 is an inlet opening 20 through which the chemical to be used is admitted to the reservoir. Thus it will be seen when the reservoir is filled with the chemical that the float 18, by virtue of the pin 19, will not rise to the cap 16 and thus extend the major portion of the rod 17 but will raise the rod a small distance sufficiently far to notify the operator that the reservoir is not empty. When the reservoir is emptied of its contents however, the float will descend and the upper end of the rod will bear on the cap 16 which will indicate that the reservoir is empty. The reservoir is arranged parallel with the nozzle and is held spaced from the latter by means of a connecting rod 21, the opposite terminals of which are threaded or otherwise secured in a sleeve 22 surrounding the upper end portion of the nozzle and rigidly secured thereto, and in a teat 23 fixedly secured to the outer face of the reservoir.

The lower end portion of the reservoir 10 is exteriorly screw threaded for the reception of a cap 24, the central portion of the outer face of which is provided with an enlarged boss or head 25. The boss or head 25 is provided with an outlet opening 26 extending to a point adjacent its lower end and in alinement with a central opening formed in the lower cap 24, the whole constituting an outlet for the reservoir.

Formed in the boss or head 25 and on that side of the latter adjacent the nozzle is an interiorly threaded opening 27, the axis of which is at right angles to the opening 26, the said opening communicating with the opening 26. Threaded into the opening 27 is one end of a tubular section or duct 28, the intermediate portion of which is enlarged as shown at 29 and constitutes a valve casing, the axis of the bore of which is at right angles to the axis of the opening 27 and bisects the latter. The free end of the tubular section 28 terminates in an enlargement 30 constituting a valve casing, the axis of the bore or opening of which is at right angles to the axis of the valve casing 29. Communication is established between the valve casings 29 and 30 by means of a passage 31, which is in alinement with the inner end of the section 28 and of less diameter than the opening of the latter. The bore or opening of the outer valve casing 30 is interiorly screw threaded and connection between this casing is established by means of a tubular section 32, the upper end of which is threaded into the lower threaded opening 13 of the valve casing 14. The lower end portion of the section 32 is reduced in diameter as shown at 33 and forms an elongated nose having a longitudinal bore extending throughout its length and communicating with and having a bore of less diameter than the bore of the section 32. That portion of the section 32 located directly above the nose 33 is exteriorly screw threaded and fits the upper end of the threaded opening of the outer valve casing 30. When the parts are in this position, the lower end of the nose 33 will extend to a point adjacent the lower end of the bore of the outer casing 30 and its upper end will be disposed above the plane of the passage 31 connecting the valve casings so that liquid flowing through the said passage will enter an annular chamber formed by the nose and wall of the bore of the outer valve casing 30.

By referring now to Figs. 2 and 3 it will be seen that threaded into the lower end of the bore of the upper valve casing 30 is one end of a nipple 35. As shown in Fig. 2 the nose 33 discharges directly into the upper portion of the bore 37 of the nipple, the diameter of the nose being less than that of the bore of the nipple so that an annular passage is formed by the bore of the nipple around the discharge end of the nose. In the modification shown in Fig. 3 the nose 33^a of the nozzle section 32^a is provided at its lower end with a series of outstanding frets 34 and the nipple 35^a is formed with a chamber 36 in its upper end, forming in effect an enlargement of the upper portion of its bore, the fretted end of the nose being located in said chamber 36 and spaced from the wall thereof. It will be understood that medicament discharged from the reservoir through the valve duct 28 to the nozzle and its nipple will, by the construction of the nose of the nozzle and the nipple shown and herein described, be caused to become commingled with the water flowing through the nozzle. The nipple has its lower end rounded to facilitate the application of one end of a suitable flexible tube thereto and is provided near its lower end with an annular concaved portion 38 to receive and firmly hold one end of said flexible tube.

Rotatably mounted in the bore of the valve casing 29 formed at the intermediate portion of the tubular section 28 is a cylindrical plug 39 having at its intermediate portion a transverse opening 40 correspond-

ing in diameter to the passage 31 and which is adapted, by rotating the plug, to be brought into and out of registration with said passage. Fixedly secured in the outer end of the plug 39 is the lower end of an indicator arm 41, the upper end of which extends to a point in alinement with the intermediate portion of the reservoir 10. Further connection between the intermediate portion of the nozzle and casing is established by means of an indicator 42. This member is preferably formed of an oblong piece of sheet metal, one end of which is fixedly secured to the intermediate portion of the nozzle 9 and the opposite end to the intermediate portion of the reservoir 10. The indicator 42 is located to the rear of the upper extremity of the indicator hand 41 and is provided with suitable indicia to represent the strength of the solution running through the nozzle, as will be presently described.

It might here be stated, that the handle 15 of the valve at the lower end portion of the nozzle will when turned to a horizontal position bear on the indicator hand 41 and force the latter to one end of the indicator 42 so that it will be impossible to move the indicator until the handle 15 is in a vertical position.

Having now described the construction of the device its operation will be given. By referring now to Fig. 1 it will be seen that the numerals on the face of the indicator extend in the order of their value from left to right, that is to say, that the lowest numeral 2 is on that end of the indicator adjacent to the nozzle 9. The next numeral is 3, then 4 which is followed by 6, the latter being followed by 9 and at the end of the indicator remote from the numeral 2 is zero. The plug 39 is so arranged in the valve casing 29 that its opening 40 will be out of alinement with the opening 27 and passage 31 when the indicator hand 41 attached to the plug is turned and over lies zero at one end of the indicator. This will be the position of the parts just prior to using the device. The next step will be to fill the reservoir 10 through the opening 20, with the chemical to be employed; this done the valve 14 is opened and the hot and cold water valves turned to permit water to flow through the nozzle. The hot and cold water valves are regulated until water of the required temperature is obtained. As before stated, when the indicator hand is at zero the passage 31 communicating with the nozzle is out of communication with the reservoir. It will be seen now by referring to Fig. 3 that when the indicator hand is turned to the opposite side of the indicator and over-lies the numeral 2 that the axis of the passage 40 will be in alinement with the axes of the passage 31 and opening 27, whereby the contents of the reservoir will flow through the alining openings and into the chamber 36. It will be observed that water flowing through the nose 33 and into the chamber 36 and thence through the bore 37 of the nipple will, by virtue of the spaces between the teeth 34 and also by the space between the end of the teeth and wall of the chamber, act as a siphon on the contents of the reservoir, whereby the liquid flowing from the latter will be drawn down from the passage 31 and into the lower end of the chamber 36 where it will mix with the water and emerge in a mixed state through the bore 37 of the nipple. It will be further observed when the indicator hand is moved farther to the zero end of the indicator and over lies the figure 3 that the opening 40 in the plug 39 will not be in exact alinement with the passage 31 and opening 27, thus permitting a less quantity of liquid to flow from the reservoir and mix with the water in the nozzle in a given time. As the indicator hand is moved farther to the zero end of the indicator and over-lies the last figure, which is 9, a relatively small amount of chemical will mix with the water in the nozzle, thus reducing the strength of the solution to a minimum. In order to appreciate the utility of the device let it be supposed that a mixture of carbolic acid and water is to be used and the solution in the reservoir consists of one dram of carbolic acid made up to four ounces by the addition of water. By moving the indicator hand to that end of the indicator remote from zero the mixture will be permitted to flow from the reservoir as before described and when the float shows that the reservoir is empty, it will be found that approximately four quarts of water plus the contents of the reservoir flow through the nipple, or in other words, the bore of the nose 33 is so proportioned that approximately four quarts of liquid will flow into the chamber by the time that four ounces of liquid will flow into the chamber through the passage 31.

In order to provide a means for limiting the movement of the indicator arm when the device is to be used in the manner before described, a clamp or stop 43 is employed. This member is preferably formed of a single piece of metal and at its opposite ends is provided with over-hanging portions 44 and 45 extending toward the center of the body portion and terminating at points substantially intermediate the center and opposite ends of the body portion. These over-hanging portions 44 and 45 are provided with transverse grooves and the space between the opposed faces of the grooves correspond approximately to the width of the indicator 42 so that when the stop or clamp is astride the indicator as shown in Fig. 1, the space between the over-hanging portions 44 and 45 will form

an opening through which the marks on the indicator may be seen. Threaded into the over-hanging portion 44 at the upper end of the stop is a set screw 46, the inner terminal of which is adapted to bind on the upper edge of the indicator and lock the stop thereto. With this construction it is obvious that the stop may be adjusted abreast of any numeral on the indicator so that when the arm is moved from zero its upper end will contact with the lower over-hanging portion 45 and further movement of the arm will be prevented. This will be found very advantageous when a solution of a certain strength is invariably used, since it can be seen after the reservoir has been filled in the manner before described and the stop set and locked adjacent the numeral which indicates the strength of the solution desired, that the danger of using a stronger solution than desired, will be positively prevented.

Thus it can be seen that I have provided a device which is exceedingly simple in structure and comparatively inexpensive to manufacture, embodying few parts and these so arranged that the danger of derangement will be reduced to a minimum.

What is claimed as new, is:—

1. A device of the class described comprising a nozzle, a reservoir for medicament, a duct connecting said reservoir to said nozzle and having a valve, means to indicate the position of said valve, a valve in the said nozzle between the in-take end thereof and the said duct and means to indicate the condition of the said reservoir as to its being full or empty.

2. In a device of the class described, a tubular section having a passage and further provided at its outer end with a passage of greater diameter than the first-named passage and disposed at right angles thereto, a nozzle having its lower end threaded into the last-named passage and provided with an elongated hollow nose spaced from the wall of the passage, a tubular nipple threaded into the opposite end of the passage and spaced from the nose and a reservoir connected at one end to the inner end of the said tubular section.

In testimony whereof, I affix my signature, in presence of two witnesses.

EDMUN D. SNODGRASS.

Witnesses:
A. W. SEVERANCE,
C. H. WOOLFE.