Oct. 10, 1950 E. R. MELLINGER ET AL 2,525,419

SYRINGE

Filed Feb. 21, 1949 2 Sheets-Sheet 1

Fig. 1

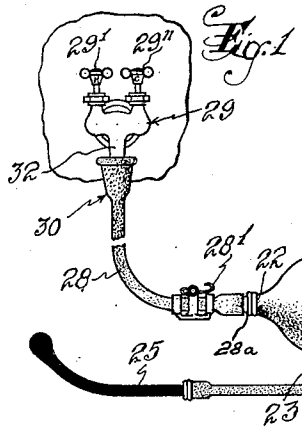


Fig. 2

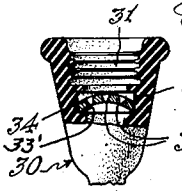


Fig. 3

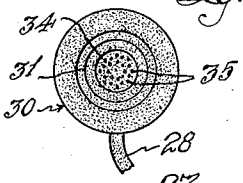
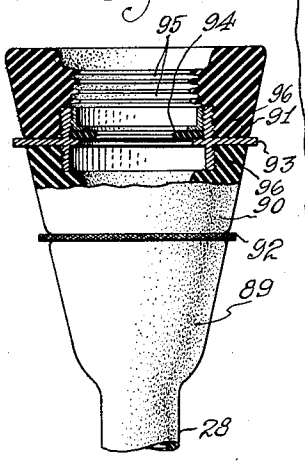


Fig. 15



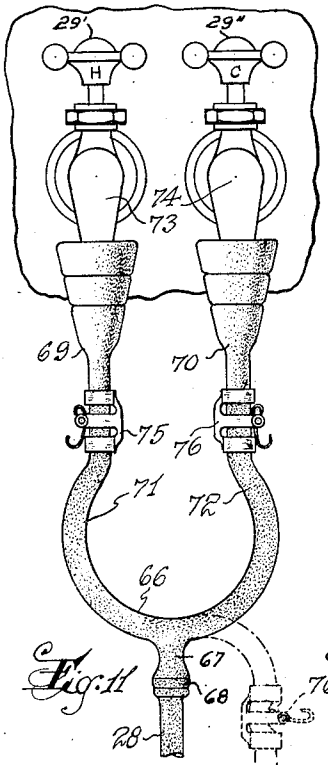
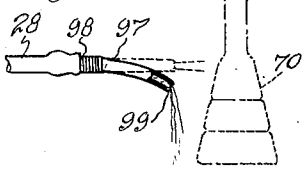


Fig. 11

Fig. 16



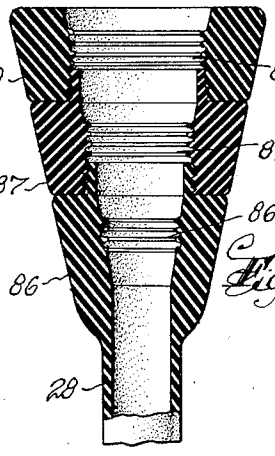


Fig. 14

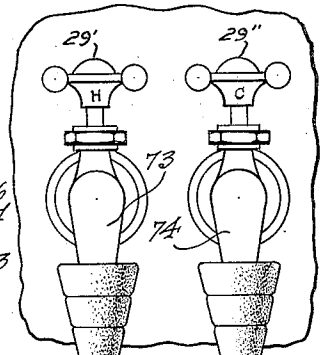


Fig. 12

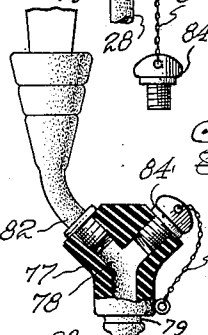


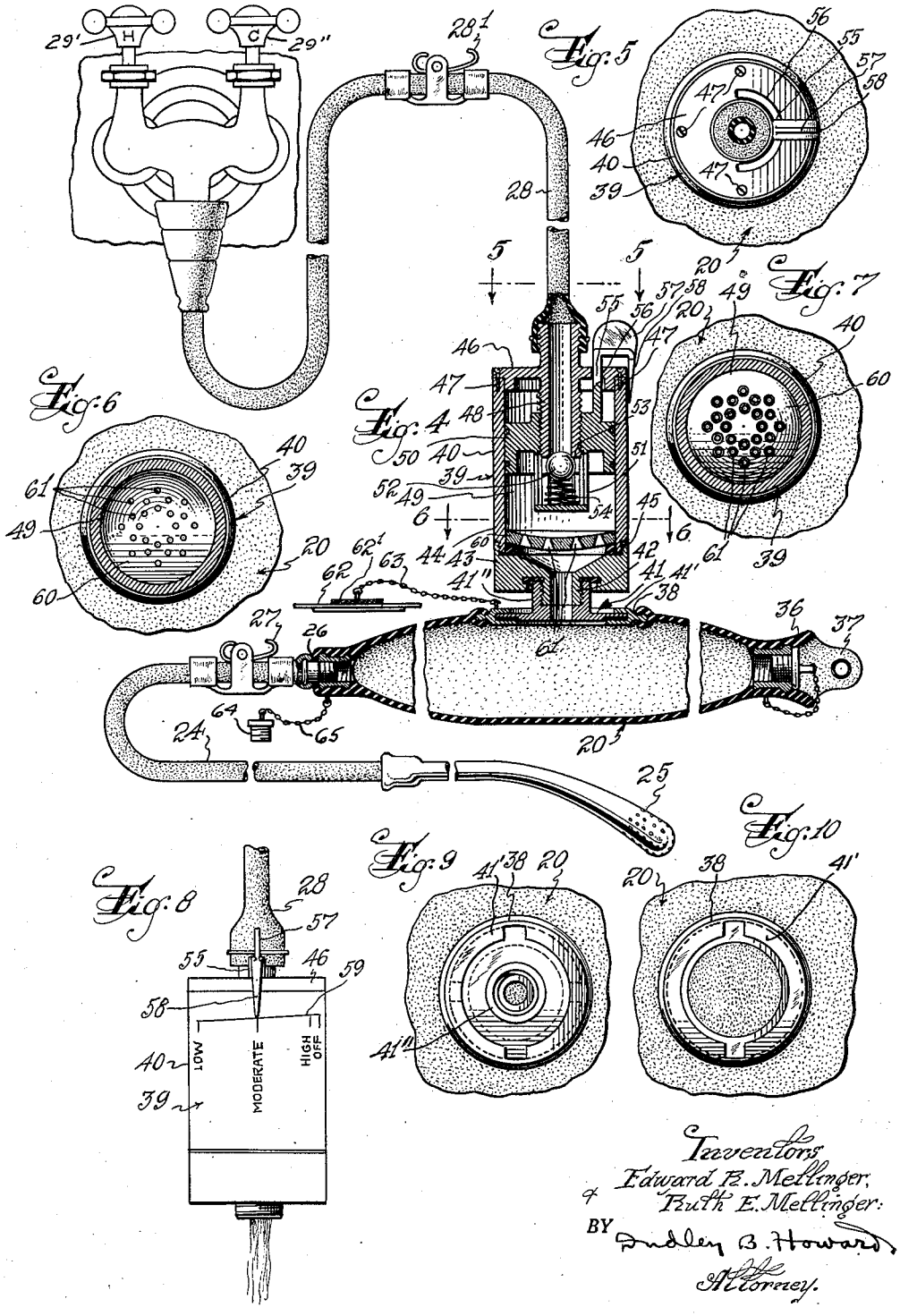
Fig. 13

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SYRINGE

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SYRINGE

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Application February 21, 1949, Serial No. 77,492

16 Claims. (Cl. 128—229)

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The invention relates to syringes of the douche bag type, and has particular reference to apparatus of this kind which is adapted to be connected to a bathtub faucet or the like in order that pressure of the water supply system may be utilized to create the desired jet velocity at the applicator nozzle of the syringe instead of having to produce a pressure head by suspending the mixing bag and its liquid contents at a high level above the nozzle.

As is well known, syringes depend upon jet velocity and the force created thereby to penetrate certain cavities of the human body which may require irrigation by plain water or therapeutic treatment by antiseptics or medicaments carried in solution by water. For various treatments which may be administered by a syringe there usually are a variety of water temperature and velocity requirements. Prior to our invention, syringes of the faucet-pressure douche bag type were notably deficient in that it was impracticable for the user to pre-condition the apparatus for a selected potential jet energy value as well as temperature with such accuracy that the user could be assured of having the desired jet velocity and temperature at the instant of initial nozzle discharge.

It, therefore, is our primary object to provide a syringe of the type mentioned which has simple and easily operable means by which it may be conditioned for pre-selected jet velocity and temperature. More specifically, since velocity of a fluid in motion is a function of pressure, we have undertaken to predetermine jet velocity by manipulation of the water pressure in the supply conduit leading from the bathtub faucet to the mixing bag of the syringe. The specific means utilized for pressure conditioning also permits temperature regulation.

A further object of the invention is to provide a syringe possessing the advantages just mentioned which is extremely simple in construction, inexpensive in cost to manufacture, comprises very few parts, and is so compact in form that it may be packed conveniently in a small space in a travelling bag.

A still further object is the provision of an all-purpose syringe which not only is capable of use under faucet-pressure conditions but is equally well adapted to be used in the alternative manner with the filled bag suspended from a hook to obtain a pressure head through altitude whenever a faucet connection is impracticable. This feature includes means whereby the bag itself may be used interchangeably as either

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a hot water bottle or as an ice bag after disconnection of the supply and discharge conduits.

Another object is to provide the syringe with a special form of faucet connector which may be applied to faucet nozzles or spouts of different sizes such as may be encountered when travelling. This connector is adapted also to be readjusted to fit a home faucet tightly again after the connector has become so worn by continued use as to be in danger of being blown loose from the faucet spout by the water pressure and thereby endangering the user or at least causing great inconvenience.

Further objects and advantages of the invention will become apparent as the following specific description is read in connection with the accompanying drawings, in which:

Fig. 1 is a fragmentary small scale side elevation of a simplified form of the syringe, showing the same connected to the common spout of a bathtub faucet of standard mixing type;

Fig. 2 is a side view of the faucet connector for the syringe, showing the same partly in section;

Fig. 3 is a plan view of the faucet connector;

Fig. 4 is a fragmentary side elevation, partly in section, of a modified form of the syringe as a whole, showing an improved construction of pressure conditioner;

Fig. 5 is a fragmentary horizontal section on line 5—5 in Fig. 4;

Fig. 6 is a similar view on line 6—6 in Fig. 4;

Fig. 7 is a view similar to Fig. 6, showing the compensator screen in inverted position;

Fig. 8 is a detail elevation of the coupling plug alone, showing the supply tube broken away;

Fig. 9 is a fragmentary plan view of the mixing bag, showing the male member of the quick-attachable fastening means for the top filling opening in position after the coupling plug has been disconnected from the said male member;

Fig. 10 is a similar view but showing the male member of the fastening means removed;

Fig. 11 is a fragmentary front elevation of a duplex form of connector, showing the same in full lines as applied to separate hot and cold water faucets, the dangling, in operative, shut-off condition of one connector when not needed for a mixing faucet being shown in broken lines;

Fig. 12 is a similar view of a modified form of duplex connector in use with separate hot and cold water faucets;

Fig. 13 is a similar view of the modified connector, showing the condition of the same when in use with a mixing faucet;

Fig. 14 is a large scale vertical cross-sectional

view of a modified form of connector having separable sections of different internal diameters;

Fig. 15 is a side elevation, partly in section, of a further modified form of sectionalized connector having replaceable internal faucet-fitting ring; and

Fig. 16 is a fragmentary side elevation of a special pressure-testing coupler plug for the supply conduit.

Referring now to the drawings, in which like reference characters indicate corresponding parts in the several views, a simplified embodiment of our inventive idea is illustrated in Figs. 1 to 3, inclusive. The syringe shown therein includes a mixing bag 20 which preferably is made of relatively thin, pliable, waterproof material, such as rubber or rubber substitutes. Bag 20 may be given any suitable form, but we prefer to have it horizontally flat and oval in plan view so that it will be body-conforming in all of its applications as a hot water bottle or ice bag. The bag is shown as being provided with two separate inlets 21 and 22. Inlet 21 is provided in one of the flat walls (the bottom one in Fig. 1) and inlet 22 is located in the edge of bag 20 and preferably at the narrower or end portion thereof. A removable closure 23 is provided for inlet 21, which is intentionally larger than inlet 22 to permit greater ease in the introduction of antiseptics or medicaments to the bag, or to admit crushed ice when the bag is to be used as an ice bag. A discharge conduit 24, which in accordance with the usual practice is in the form of a flexible tube of rubber or like material, has an applicator nozzle 25 of suitable shape and material (preferably hard rubber or plastic) detachably secured to one end, such as by a screw-threaded connection (not shown). Only one form of applicator nozzle is shown in the drawing, but it is to be understood that other appropriate types of applicator may be applied interchangeably to the conduit. The opposite or inner end of conduit 24 is detachably secured in similar manner to outlet 26 provided in the edge portion of bag 20 preferably at the end thereof opposite to inlet 22. Discharge conduit 24 requires means by which the flow of liquid therethrough may be shut off at will, so we have shown a shut-off clasp 27 of well known type applied externally to the compressible tube which constitutes the said conduit. A supply conduit 28, which preferably includes a soft rubber tube like that employed in the construction of discharge conduit 24 and which is provided with a shut-off clasp 28', is adapted to connect bag 20 to a water faucet such as the standard cold and hot water mixing faucet indicated by numeral 29.

The term "conduit" has been chosen to designate any suitable fluid conducting or channeling means of appropriate length and has particular reference to the supply end of the apparatus. The reason for this broad term should become more clearly apparent when considering the modified form of apparatus disclosed in Figs. 4 to 10 inclusive, wherein a chamber of considerably larger diameter than the rubber tubing forms part of the conduit and is intended to be embraced in the meaning of that term.

One end of supply conduit 28 is shown connected to inlet 22 of bag 20 by coupling member 28*a*. This is a detachable, preferably screw-threaded connection (not shown). The opposite end of conduit 28 includes a faucet connector 30, which preferably is of the usual conical shape and made of the same material as the tubular portion of the conduit. Inwardly with respect to the pliable internal flanges or ribs 31, which engage the common spout 32 of a mixing faucet and insure a fluid-tight connection, connector 30 is provided with an enlarged chamber 33 in which is mounted a floating pressure-conditioning member 34 that is adapted to rest on annular seat 33' (Fig. 2). By "floating" is meant constructed and mounted so as to slide freely and thus be easily removable from its seat. Member 34 preferably is in the form of a concavo-convex disc having a plurality of tapering perforations 35, which perforations are disposed with their larger end opening through the convex face of said member. Member 34 is shown in a position with its concave side lowermost, wherein maximum restriction of water flow and pressure increase may be expected, but is reversible in position to minimize the said effect. In the use of this simplified form of pressure conditioning means, the determination of the degree of pressure, as adjusted by manipulation of the hot and cold water valves 29' and 29'' of faucet 29, must be judged by the user's sense perception at the time of testing the water temperature. The manner in which this is done should become apparent from the following description of the operation of the simplified form of the syringe as disclosed in Figs. 1 to 3.

Assuming that the apparatus is connected up precisely as shown, shut-off clasp 27 should first be closed to prevent accidental premature discharge of fluid through nozzle 25. Then, conduit 28 should be disconnected from inlet 22 of bag 20. If plain water is to be used for a simple irrigation, such as an enema, the bag may remain in the horizontally resting position shown. However, if an antiseptic solution or a medicament is to be used, the bag should be tilted so that inlet 22 is at a higher level than outlet 26. If the concentrated antiseptic or medicament cannot be introduced through inlet 22, bag 20 should be turned over to place inlet 21 on top, in which case closure 23 will have to be removed. After the desired material has been poured into the bag through inlet 21, closure 23 must be replaced in said inlet. While bag 20 is supported in a position which will insure against loss of the antiseptic or other charge through inlet 22, the free end of conduit 28 may be permitted to dangle beneath the water faucet, which usually will cause it to be directed toward the bathtub drainage outlet (not shown), as is quite desirable. Now, the hot and cold water valves 29' and 29'' may be opened and adjusted until the water pouring from the free end of conduit 28 has the correct temperature, as judged by sticking a finger (or thermometer) in the stream. At the same time, the pressure may be judged by the sensible force of impact against the finger and the appearance caused by aeration. At first, the user will have to make practice plain water tests including actual discharge through nozzle 25 to determine what pressure as sensed at the end of the dangling supply conduit will produce the desired jet velocity at the nozzle. With practice, it should be possible to judge pressure with sufficient accuracy. Assuming that, in a particular operation, the pressure and temperature have been adjudged to be correct, adjustment of valves 29' and 29'' should be discontinued and shut-off clasp 28' should be closed to stop flow through the free end of conduit 28. At this juncture, the water pressure and temperature have been con-

ditioned for a contemplated douche treatment. A preliminary potential energy condition has been set up in conduit 28 behind shut-off clasp 28', which condition bears a definite relation to the potential energy condition which will be produced a moment later in discharge conduit 24 behind shut-off clasp 27. Now, conduit 28 may be reconnected to bag inlet 22 and shut-off clasp 28' may be re-opened. This action will cause water under appropriate pressure to enter bag 20 for mixing with the antiseptic or medicament, or for immediate use by way of applicator nozzle 25 in a plain water irrigation. If the antiseptic or medicament be in solid form, considerable shaking and kneading of bag 20 will be required to dissolve it properly in the water, whereas, if it be in liquid form the mixing should take less time. The bag is so thin that undissolved particles may be felt and the time when the solution is ready for use may be determined. Promptly after this has been accomplished, the syringe should be put to use. When shut-off clasp 27 is opened, the nozzle jet velocity should be correct for the intended treatment, due to the pre-conditioning of pressure first in supply conduit 28 and later attainment of the desired potential energy condition in discharge conduit 24 prior to release of the fluid through nozzle 25.

Turning now to the modification disclosed in Figs. 4 to 10, the simple faucet connector-housed pressure conditioner has been supplanted by a slightly more complex device but one which is productive of far more accurate pressure conditioning, which does not have to be judged by sense perception.

Mixing bag 20 has been modified somewhat. Inlet 22 has been provided with a skirt 36 to serve as a funnel whenever it becomes desirable to pour liquid into the bag through said inlet. To permit hook suspension of bag 20 under appropriate conditions, a perforated tab 37 is formed to project from skirt 36. The second inlet has been re-located in the top flat wall centrally thereof for convenience and is designated by numeral 38. Further structural details of inlet 38 will be described presently. Outlet 26 and appurtenances are unchanged.

The principal changes are in the supply conduit structure. The faucet connector is of a modified form and has been re-designated 39. Omission of any internal pressure conditioning means is the only structural feature of connector 39 that need be mentioned at this point. Complete details of the modified connector will be described hereinafter. The tubular part of conduit 28 remains the same and the shut-off clasp 28' has been retained although its usual function may be performed by means to be described presently. The end of conduit 28 which is to be coupled detachably to bag 20 now includes an enlarged portion or casing 40 which will be termed a coupling member because it serves to couple conduit 28 to inlet 38. A screw connection (not shown) might be employed, but for reasons which will appear presently it is preferred to couple coupling member 40 to bag inlet 38 by means of the relatively flat quick-attachable fastening means 41, which includes female member 41' fitted permanently in bag inlet 38 and male member 41'' which is removably attached, as by screw threads, to nipple 42 provided centrally on the lower end or base portion 43 of said coupling member 40. Although some other shape may be adopted for coupling member 40, it is preferred to make it cylindrical, as shown, whereby it is made convenient to detachably connect base 43 to the tubular side wall portion 44 by screw-threaded means as at 45. A cover 46 for coupling member 40 surmounts wall 44 and is secured detachably thereto by suitable means, such as screws 47. A centrally disposed sleeve 48 projects downward from cover 46 into the interior chamber 49 of coupling member 40 but terminates short of the bottom thereof. Sleeve 48 is externally screwthreaded for engagement with a piston-like horizontal partition 50 which is free to be rotated about sleeve 48 as an axis and which will be caused to move axially in chamber 49 when thus rotated. Partition 50 incidentally serves to seal chamber 49 against leakage of water from the main lower part of the latter to the part above the said partition for a purpose which will appear presently, but its primary function is to support a cage 51 in which a valve member 52 is mounted. Valve member 52 preferably is in the form of a ball and is adapted to cooperate with valve seat 53 provided in the lower end of sleeve 48. A valve spring 54 is provided in cage 51 beneath valve member 52 and tends to urge said member into closing engagement with seat 53. Therefore, rotation of partition 50 and consequently cage 51, which is integral therewith, will cause adjustment of the tension of valve spring 54. In order to permit rotative adjustment of partition 50 from the exterior of coupling member 40, an operating arm 55 is provided on the top of partition 50 and projects exteriorly through an arcuate slot 56 in cover 46. The upper, free end of arm 55 preferably is bent radially and provided with a finger-piece 57. A pointer 58 projects downward from arm 55 for cooperation with an indicating scale 59 delineated on the outer peripheral face of wall 44, as shown in Fig. 8. Since adjustment of partition 50 and cage 51 will regulate the spring tension which must be overcome by water pressure to permit the ball valve to open, scale 59 preferably is provided with markings that represent particular settings of spring tension which, from experimental tests, have been found to produce water pressure values capable of generating the nozzle jet velocities generally suitable for the usual irrigational and therapeutic treatments. These settings, which may be termed cardinal point settings, should be few in number and for convenience of selection may be designated as "Low," "Moderate" and "High." A fourth setting marked "Off" represents such a high tension valve condition that the water flow in supply conduit 28 may be shut off effectively by adjusting pointer 58 to this setting instead of having to resort to shut-off clasp 28'. Clasp 28' has been retained for use whenever it may be more accessible to the user in connection with a particular treatment.

It is quite likely that the jet velocity corresponding to one or more of the cardinal point settings of the factory-produced syringes may not exactly suit every individual user. For instance, the "High" setting may create jet velocity a shade too high for a particular user in a treatment which requires a definitely high velocity. To meet such contingencies, auxiliary pressure conditioning means of a compensating nature has been provided for use when needed to modify the regular cardinal point settings applied to the primary valve tension pressure conditioner. The "compensator" as it will be called is in the form of a perforate member 60 similar to conditioner 34 used in the simplified embodiment of our

syringe (Fig. 2). Member 60 has tapered perforations 61 disposed in the same manner with relation to the concavo-convex faces. Compensator 60 is adapted to be seated removably in the bottom of chamber 49 in coupling member 40. In Fig. 4, a compensator is shown in position with the larger ends of its perforations lowermost, in which arrangement the standard cardinal point setting pressure will be modified subtractively. By inverting the compensator, the correction will be additive. It should be apparent that it is possible with a single compensator to decrease or increase the pressure conditioned by the valve tension conditioner slightly to accommodate the jet velocity more closely to individual needs. It is proposed to supply a plurality of compensators having varying numbers of perforations of different sizes and shapes with each syringe marketed in order to afford means for almost any degree of compensation.

As shown in Fig. 4, an imperforate closure 62 has been provided to take the place of male member 41'' of the quick-attachable fastening 41 of coupling member 40 when said male member has been disengaged from female member 41', in converting bag 20 into a hot water bottle or an ice bag. Closure 62 may be permanently attached to member 41', as by flexible member 63, to prevent loss while not needed for use in its intended capacity. This closure is very thin so that no uncomfortable protrusions will be presented when in use in closing engagement with fastening member 41'. A shallow knurled head 62' of relatively large diameter is formed on the exterior face of closure 62 to facilitate manual rotation. For the same purpose of conversion, a temporary closure 64 for bag outlet 26 may be attached permanently by flexible member 65 to said outlet. Closure 64 may be used to replace the threaded end of discharge conduit 24 in converting to a hot water bottle or ice bag.

The operation of the modified form of syringe differs from that for the simplified embodiment of Figs. 1 to 3 chiefly in the pre-setting of the pressure conditioning means in relation to adjustment of the hot and cold water valves 29' and 29'' of faucet 29. Assuming that bag 20 is already prepared for introduction of water under a predetermined pressure through inlet 38, coupling member 40, while unconnected with said bag inlet, should be held so that nipple 42 thereof and attached male fastening member 41'' are directed toward the bathtub drainage outlet. Then, supposing that moderate nozzle velocity is desired, pointer 58 should be moved to the marking "Moderate" on dial scale 59. After this, faucet valves 29' and 29'' may be adjusted until the water pressure in supply conduit 28 is sufficiently high to open the valve of the primary pressure conditioner. Thereafter, the two valves should be adjusted relative to each other until the temperature of the water jet issuing from the coupling plug has been sensed to be suitable. If only slight adjustment of pointer 58 from "Moderate" toward "High" serves to shut off the water flow, it will be known that both pressure and temperature have been properly conditioned. For safety, the pointer should be turned further toward "High," but it need not be turned to "Off" except when pressure is being conditioned at "High." Leaving the faucet valves in their adjusted conditions, coupling member may now be engaged with the bag inlet and tightened by a quarter-turn of fastening device 41. Pointer 58 must now be turned to "Moderate" to re-open the conditioner valve. The syringe will now be ready for use unless an antiseptic or medicament is being used, in which event the required mixing operation must be performed by shaking and kneading the bag.

The manner in which a compensator is used when required to modify the pressure conditioned by the primary means therefor has already been explained. When its use is indicated, a compensator should be installed prior to the pressure and temperature conditioning just described.

Fig. 11 illustrates a special duplex type of faucet connector which may be desired by persons who travel a great deal and no not want to be inconvenienced by the lack of a mixing faucet when needed for a syringe treatment. In this duplex connector, a generally Y-shaped tube section 66 is adapted to have its stem 67 connected to supply conduit 28 as at 68, preferably detachably, and has separate conical connectors proper 69 and 70 provided at the free ends of branches 71 and 72, respectively, for engagement with the separate hot and cold faucets 73 and 74 of a non-standard bathtub fixture. Individual shut-off clasps 75 and 76 are provided on branches 71 and 72 respectively of tube section 66. When a standard mixing faucet is encountered, one connector may be applied to the common spout and the other connector may be permitted to dangle in inactive condition, as shown in broken lines, with the corresponding shut-off clasp turned off, or closed.

Figs. 12 and 13 illustrate a modified form of duplex connector device, wherein a junction piece 77 having a Y-shaped internal channel 78 is adapted to have its base portion connected preferably detachably to conduit 28 as at 79. The rising branches of channel 78 are screwthreaded for detachable engagement with the shank portions of separate connectors proper 82 and 83. To meet the situation wherein a standard mixing faucet is available, a closure plug 84, which is permanently attached to junction piece 77 by flexible member 85, may be used to plug channel branch 81 after connector 83 has been detached therefrom.

Fig. 14 illustrates a safety connector which is especially desirable for use with a syringe, particularly when high strength antiseptics are being used therein and which could cause serious burns if a loose connector were to be blown off the faucet spout during the time when water from the faucet had not yet sufficiently diluted the antiseptic. This improved form of the connector has a plurality of aligned sections, preferably the three sections 86, 87 and 88. Section 86 is connected directly to supply conduit 28, section 87 has a screwthreaded connection with section 86, and section 88 has a similar screwthreaded connection with section 87. The successive sections 86, 87 and 88 are progressively larger in internal diameter from the inner one to the outer one, whereby the spout engaging ribs 86', 87' and 88' of the respective sections 86, 87 and 88 are progressively larger and adapted to fit spouts of correspondingly different sizes. If a large spout is encountered, section 88 of the connector may fit, whereas, if section 88 is too large to fit, said section 88 may be detached from section 87 so that the spout will reach the latter section. Similarly, section 87 may be removed to permit engagement of the smallest section 86 with an unusually small spout. When the outer section 88, for instance, becomes so worn internally that it ceases to fit an available faucet, such as one in the user's home, section 88 may be removed permanently to permit use of section 87 thereafter. The advantages of such a

multi-section connector should be appreciated without further discussion.

In Fig. 15, a further modification is disclosed, wherein aligned sections **89**, **90** and **91** of outwardly increasing internal diameter like the Fig. 14 construction are joined together by screw-threaded bushings **92** and **93**. Bushing **92** is adapted to be interposed between sections **89** and **90** and to be threaded into both. Similarly, bushing **93** is interposed between sections **90** and **91** and threaded into the same. Each bushing therefore serves as means for securing two adjoining sections together in detachable manner. Furthermore, each bushing serves to mount a faucet engaging ring **94** of elastic material, such as rubber, in a position to supplement the action of the integral ribs **95**. Each ring **94** is secured detachably in the corresponding bushing by a screw-threaded gland **96**, which may be removed to permit replacement of a worn or defective ring. The advantages of this improved connector feature should be apparent without added explanation.

Fig. 16 illustrates a simple device which may be used to aid sense perception in testing the water for pressure in use of the simplified form of syringe disclosed in Figs. 1 to 3. In this instance, the end of supply conduit **28** which is to be detachably connected to the mixing bag inlet has a thin-walled flexible pressure-testing tube **97** affixed in any suitable manner to the coupling member **98**. Testing tube **97** is disposed in longitudinal extension of the supply conduit and should be of such length that a jet of water issuing from said conduit through tube **97** will influence the shape of the latter. To increase the sensitiveness of tube **97** to water pressure, its free end may be constricted in internal diameter by the provision of inturned lip **99**. When using this testing device, the coupling member **98** should be held in the horizontal position shown in Fig. 16. The tube **97** will sag due to its weight and will have the curved form shown in solid lines when the pressure is low, whereas, when the pressure is high, it will stand out almost straight as shown in broken lines. By experimentation, the user can mentally catalogue the tube forms which represent those pressure values essential to the production of nozzle jet velocities suitable for the usual irrigation treatments. After pressure conditioning has been adjudged correct as indicated by testing tube **97**, said tube may be inserted into the mixing bag inlet opening as the supply conduit is coupled therewith. The testing tube will thus occupy an out of the way position while inactive.

The foregoing structural details are of course intended to be illustrative of the presently envisioned embodiments of our inventive concept, it being understood that numerous changes in shape and size of parts and in the materials used in their construction may be made in practice without departing from the scope of the invention as claimed hereinafter.

We claim:

1. A syringe of the class described comprising a mixing bag having inlet and outlet openings, a supply conduit adapted to have one end thereof connected to a water faucet and the other end detachably connected to the inlet opening of said bag, an applicator nozzle, a discharge conduit connecting the bag outlet opening with said nozzle, flow shut-off means for the discharge conduit, pressure conditioning means provided in said supply conduit and comprising a casing forming part of said conduit and having an enlarged chamber with upstream inlet and downstream outlet, a valve seat provided in said chamber inlet, a movable valve member cooperating with said seat, a valve spring urging said valve member against its seat, and means by which the tension of said valve spring may be adjusted to predetermine the water pressure which will open the valve.

2. A syringe as defined in claim 1, which includes an additional pressure conditioning means in the form of a perforate member disposed in said chamber across the channel afforded thereby, said perforate member being reversible in position and having axially tapered perforations, whereby said additional conditioning means may be used to modify the water pressure predetermined by the first-mentioned valve-type conditioning means.

3. A tubular faucet connector for the supply conduit of syringes and similar fluid discharge devices which comprises a series of aligned sections arranged in endwise abutting relation, and means for detachably securing each section to each abutting section, the respective diameters of the internal faucet-engaging surfaces of said sections being reduced progressively from the outer free end of the connector toward the inner end thereof, whereby the connector as a whole may be fitted to faucets of different sizes or may be accommodated when internally worn to any one faucet.

4. In a faucet connector as defined in claim 3, the inclusion at the juncture between abutting sections of a retaining bushing, and a faucet-engaging ring removably held by said bushing interiorly thereof, whereby said ring may be replaced when worn.

5. A syringe of the class described comprising a mixing bag of flattened form having separate flat wall and edge inlet openings and an edge outlet opening, said bag being provided with a funnelling skirt surrounding the edge inlet opening and with a perforated suspension tab projecting from said skirt, removable closures for both bag inlet openings and the outlet opening for service when the bag is used as a hot water bottle or an ice bag, a supply conduit adapted to have one end thereof connected to a water faucet and the other end detachably connected to one of the bag inlet openings after the closure therefor has been removed, an applicator nozzle, and a discharge conduit extending from said nozzle and adapted to be connected detachably to said bag outlet opening after the closure therefor has been removed.

6. A syringe of the class described comprising a mixing bag having inlet and outlet openings, a supply conduit adapted to have one end thereof connected to a water faucet and the other end detachably connected to the inlet opening of said bag, an applicator nozzle, a discharge conduit connecting the bag outlet opening with said nozzle, flow shut-off means for the discharge conduit, said supply conduit having an internal annular seat, pressure conditioning means provided in said supply conduit and including a floating perforate member adapted to rest upon said annular seat to bridge the fluid channel and influence the rate of flow and the pressure thereof, and flow shut-off means for the supply conduit.

7. A syringe as defined in claim 6, wherein the pressure conditioning member is concavo-convex in cross-sectional form.

8. A syringe as defined in claim 7, wherein the pressure conditioning member has perforations which are axially tapering and disposed with their larger ends opening through the convex face thereof.

9. A syringe as defined in claim 8, wherein the pressure conditioning member is reversible in position to vary the pressure.

10. A syringe of the class described comprising a mixing bag having inlet and outlet openings, a supply conduit adapted to have one end thereof connected to a water faucet, a coupling member provided at the other end of said supply conduit and adapted to be engaged detachably with said bag inlet opening and including a flexible pressure-testing tube in longitudinal extension thereof, said testing extension being of a size to enter the bag inlet opening in inactive condition when the supply conduit is coupled therewith, flow shut-off means for said supply conduit, an applicator nozzle; a discharge conduit connecting the bag outlet opening with said nozzle, and flow shut-off means for the discharge conduit.

11. A syringe as defined in claim 10, wherein the pressure-testing tube is constricted in internal diameter at its free end.

12. A supply conduit for syringes of the class described including a faucet connector, a coupling member adapted to be engaged detachably with the inlet of a mixing bag, and pressure conditioning means in the form of a chamber having a valve seat, a movable valve member cooperating with said seat, spring means tending to urge said valve member into seated position to shut off the fluid flow, and means by which the tension of said spring means may be adjusted to predetermine valve-opening fluid pressure.

13. In a syringe of the class described, a supply conduit for use with a mixing bag having inlet and outlet openings; said supply conduit including a tubular member having an axial fluid channel devoid of lateral vents and being adapted to have one end thereof detachably connected to a water faucet and the other end detachably connected with the inlet opening of the mixing bag, pressure conditioning means provided in said supply conduit and being in the form of a perforate member disposed across the fluid channel and through which the water stream must flow whereby pressure conditioning may be effected by faucet regulation with the cooperation of said perforate member prior to connection of the supply conduit with the mixing bag, and flow shut-off means for the supply conduit located between the ends thereof whereby discharge from the supply conduit may be interrupted pending connection of said supply conduit with the inlet opening of the mixing bag without affecting the pressure condition already established in the supply conduit.

14. A syringe as defined in claim 13, wherein the perforate pressure conditioning member has axially tapering perforations.

15. A syringe as defined in claim 14, wherein the perforate pressure conditioning member is reversible in position to vary the pressure.

16. A syringe as defined in claim 13, wherein the perforate pressure conditioning member is concavo-convex in form and has axially tapering perforations whose larger ends open through the convex face thereof.

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