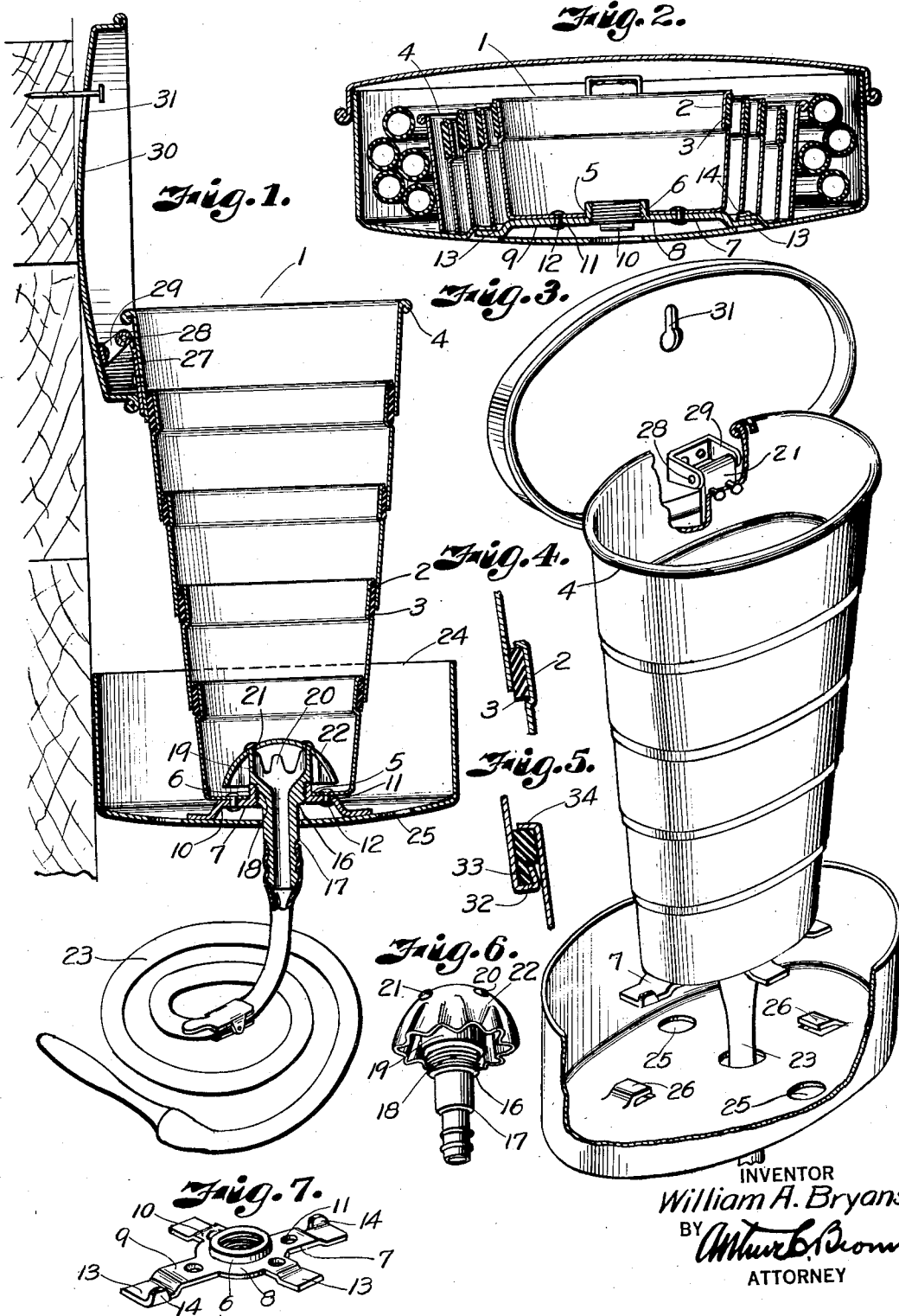


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FOUNTAIN SYRINGE

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FOUNTAIN SYRINGE.

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My invention relates to fountain syringes and more particularly to one of that type adapted for physicians' or travelers' use in that it may be collapsed into a comparatively small space for storage or transportation and, when desired for use, may be assembled and extended to provide the necessary liquid container and drainage.

Among the principal objects of the present invention are to provide a liquid tight, collapsible receptacle having a discharge nipple which may be so assembled with the receptacle as to preclude its accidental dislocation when the device is in use and whereby substantially complete drainage of the receptacle may be insured.

It is also an object of the invention to provide, in combination with the receptacle, a container or housing comprising a body element with which the container may be interlocked to prevent rattling of the collapsed elements and including a cover which may be employed as a hanger for the receptacle when the device is in use.

In accomplishing these and other objects of the invention I have provided improved details of structure, the preferred forms of which are illustrated in the accompanying drawings, wherein

Fig. 1 is a longitudinal, vertical section of the receptacle and housing elements of the syringe, shown in extended or functional position.

Fig. 2 is a cross section of the device, illustrating the parts collapsed and housed.

Fig. 3 is a perspective view of the device, showing the receptacle extended and in process of assembly for use.

Fig. 4 is a vertical section through portions of nesting sections of the receptacle.

Fig. 5 is a similar view of a modified form of telescoping joint for the nesting sections.

Fig. 6 is a detail perspective view of the tube nipple.

Fig. 7 is a detail perspective view of the spider for interlocking the receptacle and housing.

Referring more in detail to the drawings:

1 designates a receptacle consisting of a plurality of tubular members of non-corrodible metal, elliptical in cross section, tapered downwardly and of graduated diameters respectively to permit the members to nest when the receptacle is collapsed and to interlock in sealing relation when the receptacle is extended for use, each of the tubular

sections, except the upper one, being provided with channel offsets 2 at their upper edges. Contained within the offset 2 of each tubular section is a packing ring 3 of water-proof and flexible material, against which the lower edge of a next larger section may frictionally contact to effect the sealing and interlocking relation of the respective sections, the top section of the receptacle being provided with a rolled bead 4 to eliminate a sharp exposed edge, stiffen the receptacle and enhance its appearance.

The bottom section of the receptacle is provided with a central aperture 5 and extending through the aperture to the interior of said bottom section is the internally screw threaded neck 6 of a spider 7 comprising a central hub 8 and long and short legs 9 and 10, arranged in pairs to extend coincidently with the long and short axes of the receptacle. Each of the legs 9 and 10 is provided with an aperture 11 and extended through said apertures 11 and corresponding apertures in the bottom of the lower receptacle section are rivets or the like 12, whereby the spider is permanently attached to the receptacle, the spider being sealed to the bottom of the receptacle by riveting, welding or otherwise to avoid leakage between the receptacle and spider. Each of the spider legs has a downwardly offset lip 13 for resting on the bottom of a housing presently described, to space the receptacle from the housing; opposite edges of the lips on the longer legs of the spider being provided with ears 14, serving as stops for limiting movement of the lips in locking relation to latch ears on the receptacle housing as hereinafter explained.

16 designates a nipple, having a stem portion 17 of substantially less diameter than that of the spider neck 6 so that it may be projected freely therethrough, and comprising an exteriorly threaded neck 18 adapted for attachment to the interiorly threaded neck 6, and a chambered head 19 adapted to seat on the top of the neck 6 and castellated to afford free communication through its side wall to the interior of the nipple. The upper edge of the head 19 is provided with prongs 20 adapted for projection through apertures 21 in a dome 22 to fix the dome on the nipple head so that the dome may constitute a permanent cover for the nipple. The dome 22 is semi-spherical and of such dimension relative to the nipple and spider

collar as to space the lower edge of the dome above the bottom of the receptacle sufficiently to provide free flow of liquid beneath the dome and through the nipple head to the interior of the nipple. The end of the stem 17 is corrugated to form a holding connection for the ordinary syringe tube 23.

24 designates the body of a housing for the receptacle 1, having a contour corresponding to that of the receptacle and of a depth sufficient to freely house the receptacle therein, the bottom of said housing member having ventilation and drain ports 25 and up-struck latch ears 26, the latter being directed inwardly to receive the spider lips 13 when the latter are turned to project them beneath the latch ears on the housing. On the top member of the receptacle 1 is fixed a hinge bar 27 and hinged to said bar by a pin 28 is a link 29 that is fixed to the inner face of a housing cover member 30, so arranged on the upper receptacle member and so dimensioned that when the receptacle is collapsed the cover 30 may fit over the housing body 24 to form a lid or cover for the housing body.

The cover member 30 is provided near its end opposite the hinged cover with a keyhole slot 31, the slot portion of which is directed outwardly so that when the cover is applied to a nail or the like on a wall or other support, the shank of the nail may rest in the slot of the aperture to anchor the syringe on its suspended support (Figs. 1 and 3). When the syringe is supported in this manner the housing body engages the wall or other support to space the lower portion of the receptacle therefrom and maintain the receptacle in upright position.

It is apparent that the device when collapsed may be contained within the housing and occupy but a limited space in a hand bag or other carrier or within a storage cabinet, the outside dimensions of the receptacle being sufficiently less than the inside dimensions of the housing to permit the tube to lie coiled about the receptacle and within the housing (Fig. 2).

It is further apparent that when the receptacle is disconnected from the housing, the sections may be completely separated to facilitate sterilization, and that when the receptacle is extended the sections are sealed together to preclude leakage.

In the modified form of joint shown in Fig. 5 the lower edge of the receptacle section is cupped inwardly to form a retaining seat 32 for a packing ring 33 and the upper edge of the section provided with a keeper lip 34 for engaging the top of the packing ring so that the packing rings are compressed therebetween.

When the device is to be used, the cover member of the housing is swung back on its hinged connection and the receptacle and

tube removed from the housing. The tube is then projected through the collar in the bottom of the receptacle and the nipple threaded into the collar to form a close joint with the collar. The tube is then strung through the central aperture in the bottom of the housing body and the receptacle given a part turn to locate the spider ears beneath the latch ears on the body and lock the receptacle to the body. Liquid is then placed in the receptacle and the receptacle hung from a wall or other support by means of the keyhole slot. With the parts so arranged the device may be used in the ordinary way, liquid flowing beneath the dome in the bottom of the receptacle and through the castellated head and nipple into the tube, suction induced by the flow draining substantially the entire quantity of the liquid from the receptacle through the opening between the dome and the bottom of the receptacle.

After the device has been used it may be collapsed by an operation reverse to that for assembly and replaced in a carrier or cabinet, the space required for such storage being substantially less than that of a fountain syringe of the ordinary construction.

What I claim and desire to secure by Letters Patent is:

1. A fountain syringe comprising a receptacle having a nipple opening in its bottom, a nipple adapted for removable anchorage in said opening and projectable from said receptacle, a housing comprising a body portion having an aperture for the nipple, means for keying the receptacle to said body portion, and a cover for said body portion, said housing being of a substantially greater diameter than the receptacle to provide a substantial space between the walls of the receptacle and the housing.

2. A fountain syringe comprising a collapsible receptacle, a nipple removably mounted in the bottom of the receptacle, a housing comprising a body portion having an opening for the nipple, and a cover for said body portion hingedly mounted on the upper portion of the receptacle.

3. A fountain syringe comprising a collapsible receptacle, a housing comprising a body portion adapted for housing the receptacle when the latter is collapsed, means for keying the receptacle to said body portion, a nipple adapted for removable attachment to the bottom of the receptacle and for projection through the bottom of said body portion, and a cover for the body portion, hingedly connected with the top portion of the receptacle.

4. In a fountain syringe, a collapsible receptacle comprising tubular tapered sections of varying diameter, each having a packing member at its upper edge for sealing the joints between the respective sections when

the receptacle is extended and having an opening in the bottom of its lower section, a threaded neck located in said opening, a nipple having a threaded portion co-operative with said neck, and having an intake head adapted for location within the receptacle when the parts are assembled.

5. In a fountain syringe, a receptacle, a nipple on said receptacle comprising a head located within the receptacle and a dome on said head having its lower edge spaced from the bottom of the receptacle to form a port at the bottom of the receptacle.

6. In a fountain syringe, a receptacle, a neck on the bottom of and extending into the receptacle, a nipple removably located in said neck and having a head located within the receptacle and provided with edge openings, and a dome attached to the head and spaced from the bottom of the receptacle to limit intake to the nipple from the bottom of the receptacle.

7. In a fountain syringe, a collapsible receptacle comprising a plurality of tubular sections of varying diameter, each tapered toward the bottom and a packing member at one edge of each section, co-operative with the opposite tapered end of another section to seal the joints between the sections.

8. In a fountain syringe, a collapsible receptacle having a drain opening in its bottom, a housing for the receptacle, an opening in the housing aligned with the opening in the receptacle for the reception of a nipple, means for holding the housing and receptacle relatively to each other to maintain the alignment of said openings, and said receptacle being collapsible into the housing and being of a substantially smaller dimension than the housing to provide a substantial storage space between the housing and the receptacle when said receptacle is collapsed and arranged in the housing.

9. In a fountain syringe, a receptacle having an opening in its bottom, a spider attached to the bottom of said receptacle and having a threaded neck extended into the receptacle through said opening, lips on said spider, and a housing for containing the receptacle and having latch ears rotatable into co-operative relation with the spider lips to anchor the receptacle to the housing.

10. In a fountain syringe, a collapsible receptacle, a housing for the receptacle, means on the receptacle and on the housing rotatable into releasable connection with each other for anchoring the parts together and

a nipple projectable from the receptacle through the housing.

11. In a fountain syringe, a collapsible receptacle, a housing for the receptacle comprising a body member and a cover, and means on the receptacle and body member for anchoring the parts together, the cover being hingedly connected with the receptacle for co-operation with the body member to house said receptacle.

12. In a fountain syringe, a collapsible receptacle having an opening in its bottom, a spider on the receptacle having a threaded neck projected into the receptacle through said opening and having latch lips, a housing comprising a body portion having latch ears co-operative with the spider lips to anchor the receptacle to the housing, a nipple threaded into said neck and projected through the housing member, a dome on said nipple within the receptacle, and a cover for the housing, hingedly mounted on said receptacle.

13. In a fountain syringe, a collapsible receptacle having an opening in its bottom, a spider fixed to the bottom of the receptacle, having a threaded neck projected through said opening and having latch lips, a housing comprising a body member having latch ears co-operative with the spider lips to anchor the receptacle to the housing, a nipple threaded into said neck, having a castellated head located within the receptacle and a stem extended through the housing body member, a dome on said head having its lower edge spaced from the bottom of the receptacle to permit intake from the receptacle through the castellated head and a cover for said housing hingedly mounted on the upper portion of the receptacle.

14. In a fountain syringe, a collapsible receptacle having a drain opening in its bottom, a housing for the receptacle when said receptacle is collapsed including a cover and a body member respectively connected to the opposite ends of said collapsible receptacle.

15. In a fountain syringe, a collapsible receptacle having a drain opening in its bottom, a housing for the receptacle when said receptacle is collapsed including a cover and a body member respectively connected to the opposite ends of said collapsible receptacle, said cover and body members of the housing providing supports for said receptacle when said collapsible receptacle is extended.

In testimony whereof I affix my signature.
WILLIAM A. BRYANS.