May 1, 1951 E. T. CHRISTOPHER ET AL 2,551,315

SANITARY RECEPTACLE

Filed July 23, 1948 2 Sheets-Sheet 1

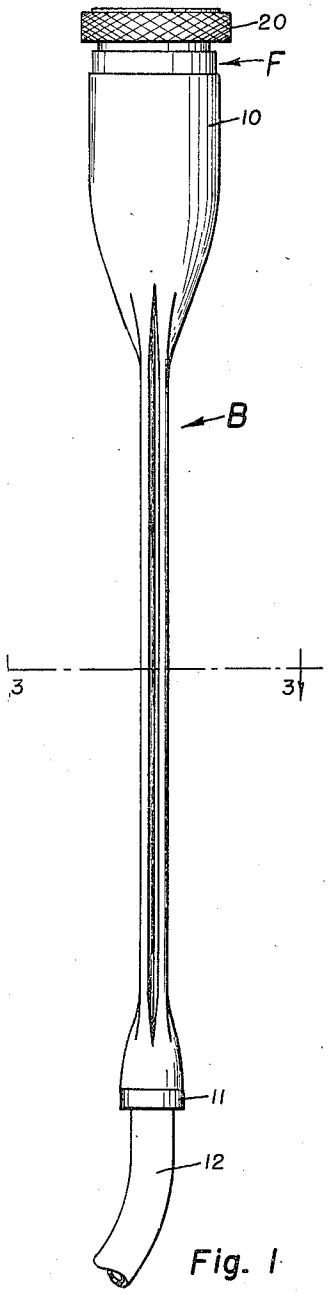


Fig. 1

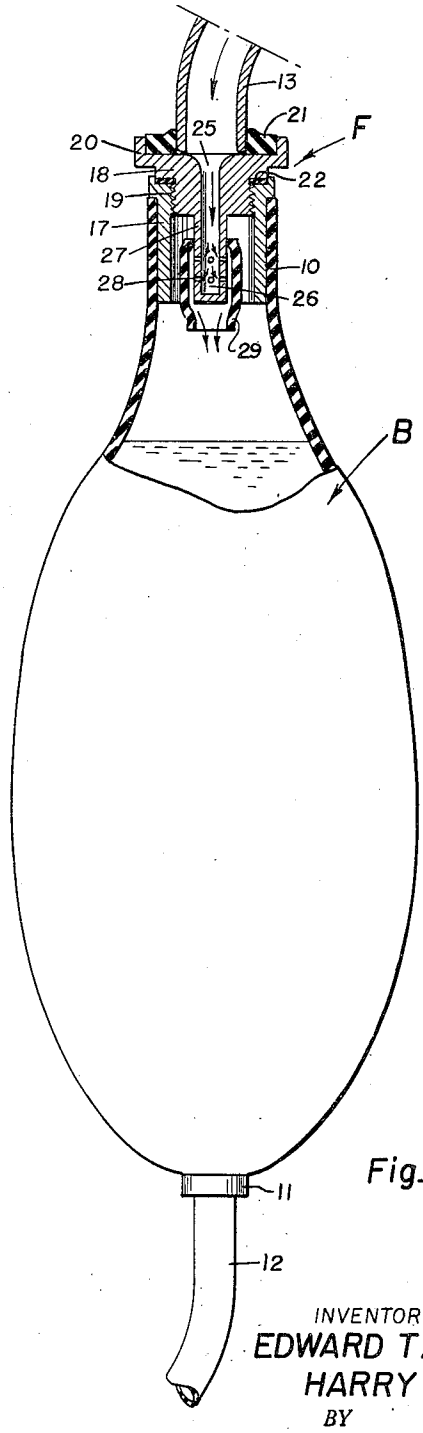


Fig. 2

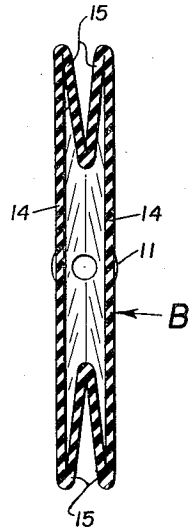


Fig. 3

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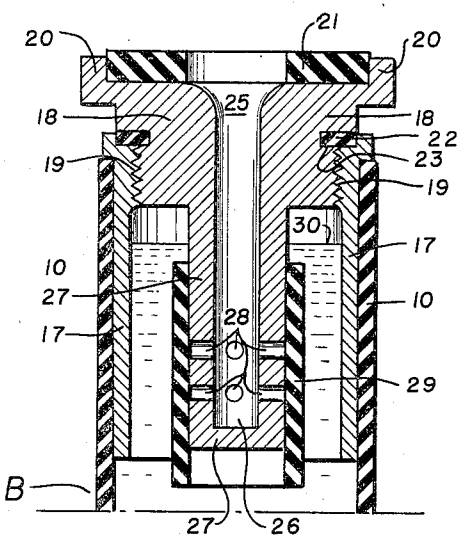


Fig. 4

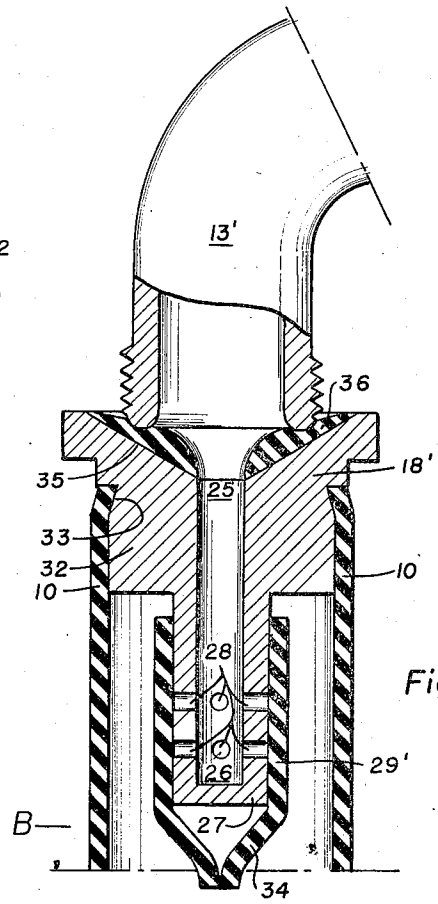


Fig. 5

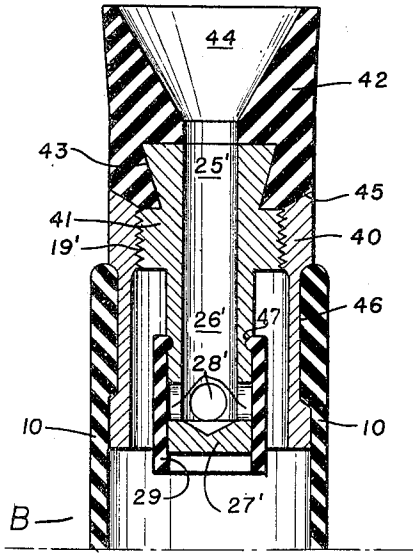


Fig. 6

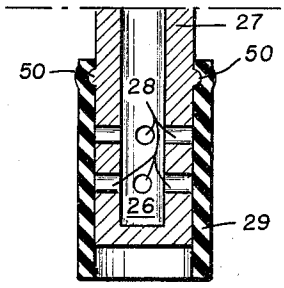


Fig. 7

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SANITARY RECEPTACLE

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16 Claims. (Cl. 128—227)

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This invention relates to sanitary devices, and more particularly to receptacles adapted to receive and discharge liquids, for sanitary use, such as douche bags, and also to filling connections therefor.

A receptacle, such as a douche bag, which may be filled with a liquid such as water, or a water solution including a small quantity of an antiseptic, soap or detergent, perfume or the like, and the contents controllably discharged, finds frequent use in personal sanitation. In the home or the like, where there is considerable space and extensive facilities, a receptacle of this type may be comparatively large, since it may be stored in a closet or other convenient place, but such receptacles are usually too bulky and cumbersome to be readily carried about. Also, the facilities for adequately filling or preparing the solution to be used in the receptacle, outside of the home, are frequently inadequate. Thus, it often happens that the personal comfort or hygiene of a possible user suffers.

Among the objects of this invention are to provide an improved sanitary device of the type described, and also a novel filling connection for the same; to provide such a receptacle which, when not in use, may be folded or assembled neatly in a small package, which can readily be carried in a handbag or the like; to provide such a filling connection which enables the receptacle to be readily filled, as from a conventional water tap; to provide such a filling connection which will accommodate different sizes of water taps; to provide such a filling connection which permits the ingress of liquid during filling, but prevents the egress of liquid, after filling; to provide such a filling connection which is particularly adapted to permit the introduction of a desired quantity of a material such as an antiseptic, detergent, perfume or the like; to provide such a filling connection which may take any one of a number of different forms; and to provide such a connection which is relatively simple in construction and inexpensive to manufacture. Additional objects and the novel features of this invention will become apparent from the description which follows.

In general, a sanitary device of the type described, constructed in accordance with this invention, may comprise a flexible, collapsible bag, having an inlet and an outlet tube or the like, in combination with a filling connection, preferably in the bag inlet, and having a non-return valve therein. The filling connection may com-

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prise a single body or an outer sleeve and an inner body detachably connected thereto, the inner body being provided with a non-return valve, details of a preferred form of the same and other parts being shown in the accompanying drawings, in which:

Fig. 1 is a side elevation of a sanitary device of the type described, comprising a bag and a novel filling connection, constructed in accordance with this invention;

Fig. 2 is a side elevation of the sanitary device of Fig. 1, when substantially filled with liquid, the upper portion thereof being broken away to show the interior construction and the flow of liquid during filling;

Fig. 3 is a cross section of the bag, taken along line 3—3 of Fig. 1;

Fig. 4 is an enlarged longitudinal section of the filling connection of Fig. 2, also illustrating more particularly the action of the connection after the receptacle is filled, as just before or during use;

Fig. 5 is a similar longitudinal section of an alternative embodiment of this invention;

Fig. 6 is a similar longitudinal section of a further alternative embodiment of this invention; and

Fig. 7 is a fragmentary, longitudinal section of a modified valve construction.

As illustrated in Figs. 1–3, a sanitary device constructed in accordance with this invention may comprise a collapsible bag B adapted to be folded into a flat, compact position, and provided with a neck 10 adapted to be stretched over the lower end of a filling connection F. The lower end of the bag B is provided with a conventional fitting 11 to which a tube 12 may be attached, for discharge of liquid from the bag, the flow through tube 12 being controlled by a conventional snap-acting pincer or the like (not shown). In general, the filling connection F is adapted to permit the flow of liquid into the bag B, as in Fig. 2, wherein the upper end of the filling connection F is held against a water tap or spigot 13, but after the bag has been filled, discharge of the liquid through the filling connection F is prevented, in a manner explained in detail later.

As in Fig. 3, the sides 14 and edges 15 of bag B are preferably preformed to provide folds, so that the bag may be folded flat, as shown, and the tube 12 either coiled or wound around the bag, or the bag B and tube 12 wound about the filling connection F. This provides a compact

package, which may be conveniently carried in a compartment of a handbag or the like.

During use, i. e. after filling, it is unnecessary to depend upon the force of gravity for discharge of liquid from the bag B, since the bag may be gently or forcibly squeezed by the hand of the user, as desired. Thus, the bag B need not be positioned at a relatively elevated point with respect to the discharge end of tube 12, and therefore the tube 12 may be relatively short, such as only a few inches in length. Also, due to the non-return valve in filling connection F, there is no possibility of liquid being accidentally discharged through the filling connection during use.

One embodiment of filling connection F, as shown in Figs. 1 to 4, comprises a cylindrical outer sleeve 17, over which neck 10 of bag B may be stretched, and to which an inner body 18 is detachably connected, as by cooperating threads 19. The neck 10 of bag B slips over the outer sleeve 17, and remains connected thereto, while the inner body 18 may be removed from the outer sleeve to permit a detergent, antiseptic, perfume or the like to be placed within the bag B prior to filling, or to permit the bag to be quickly emptied in case all of the liquid is not used. Inner body 18, as shown more clearly in Fig. 4, is provided at its upper end with an upstanding flange 20, which may be knurled around the outside, as in Fig. 1, so that the user may more readily connect and disconnect inner body 18 from outer sleeve 17, flange 20 providing a recess in which a washer 21 may be placed. Washer 21 is adapted to seal the lower end of the tap or spigot 13 of Fig. 2, so that it is necessary only to hold the filling connection F against the tap 13, during filling. Washer 21 may be made of hard or soft rubber, or other material, sufficiently soft material being preferred so that an effective seal at tap 13 is provided during filling by a relatively small amount of pressure against the tap. If desired, the washer 21 may be cemented or otherwise relatively permanently attached within its recess. A gasket 22 may also be provided at the upper end of outer sleeve 17, to prevent any possibility of leakage, the inner edge of gasket 22 being received in an annular recess 23 in body 17, to prevent possible loss of the gasket.

The inner body 18, as shown more clearly in Fig. 4, is also provided with a central passage 25 which leads to a well 26 formed in a depending cup 27, the latter being closed at its lower end and provided with one or more series of peripherally spaced holes or apertures 28. Holes 28 are adapted to form a non-return valve, in combination with a suitable closure, such as a tube 29, formed of rubber or other suitable elastic material stretched over the outside of cup 27 and distensible under water or liquid pressure from well 26, as in Fig. 2. As indicated by the arrows of Fig. 2, water from tap 13 flows into well 26 and through holes 28 into the interior of bag B, the pressure of the water forcing the tube 29 away from the outer wall of the cup 27 below the holes 28. As will be evident from Fig. 4, after the bag is full of water, as to a level 30, no water will discharge from the bag through the filling connection, since the tube 29 seals the holes 28, due to the pressure of water on the outside thereof.

In the embodiment of this invention illustrated in Fig. 5, a single body 18' is provided, the outer sleeve being omitted and body 18' being provided with an outer shoulder 32 over which the neck 10 of bag B is stretched. Outer shoulder 32 may be provided with an inwardly tapered groove 33 at its upper end, into which the upper end of neck 10 of bag B extends, to cause neck 10 to cling more securely to the connection. Similar to the body 18 of Figs. 2 and 4, the body 18' of Fig. 5 is provided with a central passage 25 leading to well 26 formed in depending cup 27, the latter having holes 28 and forming a non-return valve with a tube 29'. If desired, the lower end of tube 29' of Fig. 5, may be preformed so as to form a flat, normally closed flap 34 at the lower end, which will open upon the discharge of liquid therethrough.

Body 18' of Fig. 5 is provided with an inwardly tapered recess 35 at its upper end, in which a generally annular washer or cushion 36, formed of soft foam rubber or the like, and having an upper inwardly tapering surface, is relatively permanently attached, as by cementing, preferably with a waterproof cement or adhesive. The washer 36 is adapted to accommodate taps or spigots of different sizes, such as the slightly larger tap 13', the end of which is pressed into the relatively soft material of washer 36, as shown. As before, the bag is filled by pushing washer 36 at the upper end of the filling connection against tap or spigot 13', which causes the water or liquid to flow into well 26, out holes 28 and underneath tube 29', into the interior of the bag. When the outer sleeve is omitted, as in Fig. 5, antiseptic tablets or other material to be added to make up a desired solution in the bag, may be placed in the well 26, where they will tend to dissolve, and/or be carried through the holes 28 into the bag. Also, as before, after the bag has been filled to the desired level, the water or solution may be forced through the tube connected to the lower end of the bag by pressure on the bag, the non-return valve tube 29' preventing the water or solution from being discharged through the filling connection.

The embodiment illustrated in Fig. 6 includes an outer sleeve 40, an inner body 41 and a filling spout 42, the latter preferably being made of soft rubber or the like and cemented to or formed on and thereby attached to inner body 41 about a dovetail joint 43. Filling spout 42 has a relatively long, inwardly tapering recess or inlet 44, so that a user may more readily hold the spout against and around the tap during filling. The lower end of spout 42 is also provided with an outwardly tapered surface which forms a sealing joint 45 with the inwardly tapered upper end of sleeve 40, the latter being attached to inner body 41 by threads 19', and adapted to be unscrewed therefrom to enable antiseptic tablets or other material to be placed in the bag prior to filling.

The remainder of the construction illustrated in Fig. 6 is similar to that of Figs. 2 and 4, except that outer sleeve 40 may be provided with an exterior groove 46 in which neck 10 of bag B fits to form a more secure joint, when neck 10 is stretched over the outer sleeve. Inner body 41 is provided with a central passage 25' leading to a well 26' in an elongated cup 27', the latter being provided with only one set of holes 28', normally covered by rubber tube 29, which may also be constructed in the same manner as tube 29' of Fig. 5. To hold tube 29 more securely on cup 27', the latter may be provided with a groove 47 into which the upper end of tube 29 extends, the constriction of the upper

end of tube 29 in groove 47 insuring the flow of water through the lower end of tube 29, and the retention of tube 29 on cup 27' under relatively high pressure conditions.

Cup 27 of Figs. 4 and 5 may be provided with a groove similar to groove 47 of cup 27' of Fig. 6, or, as in Fig. 7, cup 27 may be provided with a series of exterior projections 50, located above holes 28, for the same purpose. As will be evident, cup 27' of Fig. 6 may be provided with projections 50 in lieu of groove 47.

From the foregoing, it will be evident that the sanitary bag and filling connection therefor of this invention fulfill to a marked degree the requirements and objects hereinbefore set forth. The combination of a readily collapsible bag, with a filling connection having a non-return valve therein, permits the discharge tube to be made relatively small in length, so that the bag and tube may be folded or otherwise assembled in a small, compact package readily carried in a compartment of a handbag. Also, a filling connection having a suitable sealing device, such as the washer 21 or 36, or spout 42, permits the bag to be filled conveniently from an ordinary water tap or spigot, and also permits the bag to be partially filled with hot water from one tap, and then cold water from another tap, or vice versa, to produce the desired temperature of solution. A filling connection having an inner body readily removable from an outer sleeve, the latter being adapted to receive in sealing engagement the neck of the bag, permits an antiseptic, detergent, perfume or other material to be placed in the bag prior to filling. Also, as indicated previously, when the filling connection is provided with a well formed in a depending, elongated cup, the antiseptic or the like may be placed in the well, to be dissolved by or washed into the bag during filling. The preferred form of non-return valve is very simple in construction, yet operates effectively to permit the bag to be filled readily and prevent the discharge of the contents through the filling connection during use, as when the bag is squeezed in order to cause the contents to flow out through the discharge tube.

Various materials may be utilized in making a filling connection constructed in accordance with this invention, the bag B, of course, being made of rubber or the like, either natural or synthetic. The body 18, 18' or 41, as well as the outer sleeve 17 or 40, is conveniently made of a plastic, either thermosetting or thermoplastic, which is readily molded to the desired shape. However, a light metal such as an aluminum or aluminum magnesium alloy, or the like, and particularly such a metal adapted to be die cast or similarly produced in large quantities economically, may also be utilized. The valve tube 29 or 29' is, of course, made of resilient material such as rubber, either natural or synthetic, while the gasket 22 may be made of natural or synthetic rubber, or other plastic. The washer 21, adapted to engage the filling tap or spigot, may be made of hard or soft rubber, as indicated, while the washer or cushion 36 and spout 42, which are interiorly tapered, are preferably made of a soft foam or cushion rubber or the like, as indicated previously. It will be understood, of course, that various other materials may be utilized.

It will also be understood that various changes in the size, shape or configuration of the parts may be made. For instance, cup 27 or 27' need

not be annular in shape, although an annular shape is normally preferred because of its simplicity in production, since the cup may be square, hexagonal, or have other cross sectional shape, either regular or irregular. Also, the number and position, as well as the spacing, of holes 28 or 28' may be varied considerably from that shown. Other types of collapsible bags or receptacles may be used, as well as other types of non-return valves, such as a spring pressed metal or plastic disc or bulb acting against a suitable seat. In addition, other types of joints between an inner body and outer sleeve may be utilized, as well as different sealing means.

While different embodiments of this invention and variants of certain parts thereof have been illustrated and described, it will be understood that other embodiments may exist, and other different variations may be utilized, without departing from the spirit and scope of this invention as defined in the appended claims.

What is claimed is:

1. A filling connection for a sanitary bag, comprising an outer sleeve adapted to be connected to said bag at the inlet thereof; and an inner body removably attached to said outer sleeve and provided with a liquid non-return valve.

2. A filling connection for a sanitary bag, as defined in claim 1, including a threaded connection between said outer sleeve and inner body, and a gasket between said sleeve and inner body.

3. A filling connection for a sanitary bag, as defined in claim 1, including a resilient filling spout at the upper end of said inner body and adapted to engage said outer sleeve to form a sealing joint therewith.

4. A filling connection for a sanitary bag, adapted to be connected to said bag at the inlet thereof, and having a passage for the flow of fluid; valve means adapted to permit the flow of liquid through said passage to the interior of said bag, but prevent a return flow of liquid; and sealing means at the entrance to said passage for engaging and sealing the end of a water tap or the like during filling.

5. In a filling connection for a sanitary bag, the improvement defined in claim 4, wherein said body is provided with an upstanding flange providing a recess at the entrance to said passage; and said sealing means comprises an annular washer disposed in said recess.

6. In a filling connection for a sanitary bag, the improvement defined in claim 4, wherein said body is provided with an inwardly tapering recess at the entrance to said passage; and said sealing means comprises a disc of yieldable material attached to said body in said recess, said disc having a central hole aligned with said passage and being relatively thicker adjacent said hole than at its outer edge.

7. In a filling connection for a sanitary bag, the improvement defined in claim 4, wherein said sealing means comprises a filling spout formed of resilient material extending upwardly from said body, and having a relatively long inwardly tapering inlet connecting with said body passage.

8. A filling connection for a sanitary bag, adapted to be attached to said bag at the inlet thereof, and provided with a depending elongated cup extending within said bag, said cup having at least one hole in the side wall thereof; and a flexible closure surrounding said cup, said closure being adapted to permit the flow of liquid from said cup to the interior of said bag,

but to prevent the return flow of liquid through said holes.

9. A filling connection for a sanitary bag, as defined in claim 8, wherein said closure comprises a tube of rubber or the like.

10. A filling connection for a sanitary bag, as defined in claim 9, wherein said tube is preformed so as to be flattened at the end, such end extending below said cup.

11. A filling connection for a sanitary bag, as defined in claim 9, wherein said cup is provided with an exterior groove above said holes and adapted to receive the upper end of said tube.

12. A filling connection for a sanitary bag, as defined in claim 9, wherein said cup is provided with projections on its outer surface, said projections being positioned to engage the inside of said tube.

13. A filling connection for a sanitary bag having a neck, comprising a single body having an outer shoulder adapted to be attached to said bag by insertion within said neck and provided with a depending elongated cup extending within said bag, said cup having at least one hole in the side wall thereof; and a flexible closure surrounding said cup, said closure being adapted to permit the flow of liquid from said cup to the interior of said bag, but to prevent the return flow of liquid through said holes.

14. A filling connection for a sanitary bag having a neck at its inlet, comprising an annular outer sleeve adapted to be connected to said bag at the inlet by insertion within said neck; an annular inner body threadedly attached to said outer sleeve and provided with a cylindrical elongated cup depending within said sleeve, said cup having a closed lower end and a plurality of holes in the side wall thereof, said inner body having a central passage leading to said cup and said body also having an upstanding flange around its upper edge, said flange being exteriorly knurled and surrounding a washer receiving recess; a washer disposed in said recess and adapted for sealing engagement with a tap or the like during filling; an annular gasket between the upper end of said outer sleeve and said inner body, said body having a shoulder spaced below said flange and an annular recess for receiving the inner edge of said gasket; and a flexible tube surrounding said cup and extending above said holes, said tube being distensible to permit the flow of liquid from said cup to the interior of said bag, but adapted to prevent the return flow of liquid through said holes.

15. A filling connection for a sanitary bag having a neck at its inlet, comprising a unitary body having an outer shoulder adapted to be connected to said bag at the inlet by insertion within said neck, said shoulder having a groove to receive the upper end of said neck and said body being provided with a cylindrical depending elongated cup having a closed lower end and a plurality of holes in the side wall thereof, said body having an inwardly tapering recess at its upper end and a central passage leading from said recess to said cup; an annular, soft, resilient washer attached

to said body in said recess and adapted for sealing engagement with a tap or the like during filling, said washer having a centrally inwardly tapering upper surface but being thicker adjacent the center than adjacent the edge; and a flexible tube of rubber or the like surrounding said cup and extending above said holes, said tube being distensible to permit the flow of liquid from said cup to the interior of said bag, but adapted to prevent the return flow of liquid through said holes, the lower end of said tube below said cup being flattened to form a normally substantially closed flap.

16. A filling connection for a sanitary bag having a neck at its inlet, comprising an annular outer sleeve adapted to be connected to said bag at the inlet by insertion within said neck and having an exterior annular groove adapted to receive said neck, said outer sleeve having an inwardly inclined annular upper edge and being interiorly threaded therebelow; an inner body threadedly attached to said outer sleeve and provided with a cylindrical depending elongated cup extending within said sleeve, said cup having a closed lower end and at least one hole in the side wall thereof and an exterior groove above said hole, said inner body having an upstanding flange at its upper end adapted to form a dovetail joint and a central passage leading to said cup; a soft resilient filling spout attached to said body by said dovetail joint and having a relatively long tapering central inlet for sealing engagement with a tap or the like during filling, said inlet connecting with said passage and the lower end of said spout having an outwardly inclined shoulder adapted for sealing engagement with the upper edge of said sleeve; and an annular flexible tube of rubber or the like surrounding said cup and extending above said holes with the upper end thereof received in said groove, said tube being distensible to permit the flow of liquid from said cup to the interior of said bag, but adapted to prevent the return flow of liquid through said holes.

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