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2,427,477

RECEPTACLE FOR DOUCHE APPLIANCES

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Fig. 1.

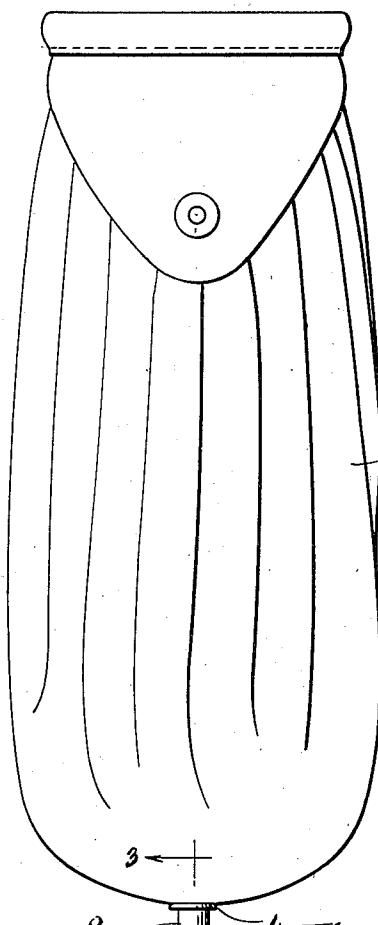


Fig. 3.

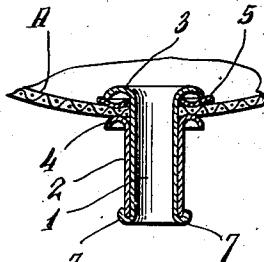


Fig. 4.

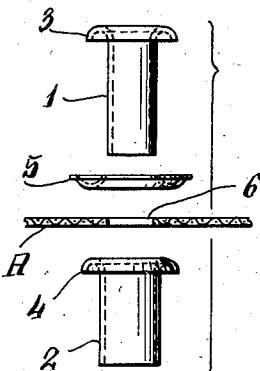


Fig. 5.

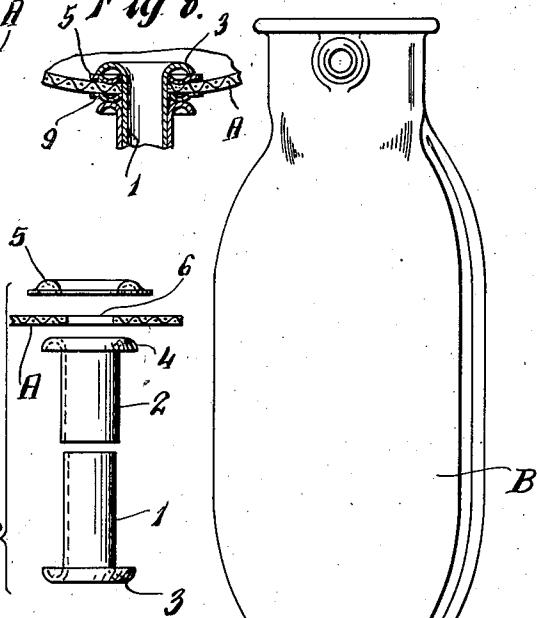


Fig. 7.

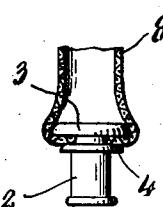


Fig. 6.

Fig. 2.
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RECEPTACLE FOR DOUCHE APPLIANCES

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1 Claim. (Cl. 285—38)

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This invention relates to irrigating douche appliances including a liquid carrying receptacle arranged for or with means to engage and suspend the receptacle from a support and having a nipple secured in an opening in and projecting outwardly from the receptacle adapted for engagement and connection of the end of a flexible discharge tube having a nozzle connected to the opposite end to connect the discharge tube in communication with the receptacle, and relates particularly to an improved construction and arrangement of discharge tube connecting nipple for securing the same in an opening in the receptacle in liquidtight connection therewith. While the invention is particularly adapted for use with receptacles of douche appliances commonly termed "bags" or "fountain syringes" made of flexible material, such as rubber or waterproofed fabric, it is also applicable to metallic liquid carrying receptacles.

Receptacles or bags for douche appliances when made of rubber are formed on a mould or form by successively dipping the form in rubber, or a composition thereof, in a liquid state and forming the bag or receptacle in superimposed films of the rubber on the form, the one end of the bag being formed with a mouth through which to fill liquid into the bag and the portion constituting the bottom of the bag is arranged with a tubular outlet projection in which a discharge tube connecting nipple is secured, as by cementing or vulcanizing the material of the bag to the nipple. In either case the material of the bag breaks away from the nipple in handling the bag and a consequent leakage of the bag. When douche bags are made of waterproofed or rubberized fabric the bag is formed from a circular blank or disk of the fabric by gathering the marginal portion of the disk upon itself in pleats and said gathered together marginal portion of the blank constituting the mouth of the bag. To connect a discharge tube connecting nipple to the bag a perforation is provided in the wall of the bottom portion of the bag in which the nipple is engaged and the material about the perforation is cemented to the nipple which will break away from the nipple in handling the bag and consequent leakage of the bag.

It is an object of the invention to provide an improved nipple for connecting a discharge tube in communication with the liquid carrying receptacle of a douche appliance.

It is another object of the invention to provide an improved nipple for connecting a discharge tube in communication with the liquid

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carrying receptacle of a douche appliance comprising a pair of tubular members one of which is adapted to be loosely engaged upon the other and constructed and arranged to clamp the marginal portion of the material of the receptacle about a perforation in the receptacle wall between said members and provide a liquidtight connection.

In the drawing accompanying and forming a part of this application

Figures 1 and 2 are side elevational views of two forms of bags of douche appliances showing my improved discharge tube connecting nipple secured in an opening therein.

Figure 3 is a sectional view of the bottom portion of the bag or receptacle shown in Figure 1 and showing my improved discharge tube connecting nipple, on an enlarged scale, secured in a perforation or opening therein.

Figure 4 is a side elevation of the parts of the nipple showing the same disassembled in relation to each other in which they are assembled in Figure 3.

Figure 5 is a view similar to Figure 3 but showing a modified manner of assembling the parts of the nipple in securing the nipple in a perforation in the bag or receptacle.

Figure 6 is a side elevation of the parts of the nipple showing the same disassembled and relative to the other in which they are assembled in securing the same to the bag in the manner shown in Figure 5.

Figure 7 is a sectional view of the tubular portion projecting from the bottom of the receptacle in Figure 2 and showing the manner of assembling and securing the nipple thereto; and

Figure 8 is a view similar to Figure 3 but showing the use of two washers in securing the nipple in the receptacle opening.

In carrying out the invention there is provided a nipple comprising a pair of tubular members of different lengths 1 and 2, each member having one end flanged outwardly and arranged with an outer surface of convex form in cross section and the marginal edge portion deflected outwardly and flattened, as shown in Figures 3 and 4. The member of greater length is also of less diameter than the member of least length and adapted to be slidably engaged in said latter member and when engaged therein a portion of the end opposite the flanged end projecting from the end of the member of least length 2. There is also provided a washer 5 having an annular portion about the opening of depressed arcuate form in cross section and having the outer

edge portion deflected outwardly and flattened. The nipple member 1 is adapted to be extended through a perforation in the wall of the bag or receptacle constituting the bottom portion and which is lowermost when liquid is filled into the bag and it is suspended from a support, the perforation or opening being of less diameter than the nipple member 1 so that it will snugly fit in the perforation and the marginal portion of the bag material is adapted to be clamped between the washer 5 and the flange 4 of the member 2 to secure the nipple to the bag in communication therewith and provide a liquidtight connection.

The nipple engaging perforation in the material of the bag or receptacle A shown in Figure 1, wherein the bag is formed from a circular blank or disk of sheet material by gathering the marginal portion of the blank upon itself in pleats, may be arranged centrally in the blank prior to forming the blank to bag form and the nipple secured in the perforation, or the nipple may be secured in the perforation subsequent to forming the blank to bag form.

To mount and secure the nipple in the perforation 6 in the bag A the washer 5 is engaged upon the nipple member 1 of greater length and said member is engaged in the bag perforation so that the flanged end will be within the bag with the washer 5 interposed between said flange and the inner side of the bag in overlapping relation to the marginal portion of the material about the perforation and the major portion of said nipple member projecting outwardly from the bag. The nipple member 2 is then engaged upon the projecting end portion of the nipple member 1 with the flanged end juxtaposed to the outer side of the bag in opposed relation to the washer 5, as shown in Figure 3. An implement to serve as an abutment is then applied to the flanged end of the nipple member 1 and an implement is applied to the opposite end of said member 1 and a force applied to said implements in a direction toward each other longitudinally of the tubular members, the implement engaging the plain end of the nipple member 1 being arranged whereby said force will flange the end of the member 1 outwardly relative to the end of the member 2 and rolling or curling said flange rearwardly upon itself providing an annular enlargement or bead at the outer end of the nipple, as shown at 7 in Figure 3, said bead acting to expand the discharge tube, usually of rubber and resilient, as the end is engaged upon the nipple and the resiliency of the material of said tube retaining it on the nipple. This outward flanging and curling of the end of the nipple member 1 at the end of the member 2 constricts the length of the member 1 and moves the flanged end of said member and the washer 5 and the flanged end of the member 2 toward each other and clamping the marginal portion of the material of the bag about the perforation between the same and providing a liquid tight connection between the nipple and bag. By this arrangement of the nipple member 2 and the portion of the nipple member 1 upon which it is engaged projects outwardly from the bag adapted for ready engagement thereon of the end of the discharge tube, the annular enlargement or bead 7, as stated, functioning to expand the material of the tube and the inherent resiliency of the material of the tube acting in conjunction with said nipple enlargement to retain the tube on the nipple.

In Figures 5 and 6 there is shown a modified arrangement of assembling the members of the nipple and securing the same liquid tight in the perforation 6 in the bag A. In this arrangement the nipple member 2 is engaged upon the nipple member 1 with the flange 3 thereof abutting the end of the member 2 spacing the flanged ends of the members apart a distance substantially equal to the length of the portion of the nipple to project outwardly from the bag, and the end of the nipple member 1 projecting from the flanged end 4 of the member 2. This projecting portion of the member 1 is extended through the bag perforation with the flange 4 of the member 2 disposed contiguous to the outer side of the bag. The washer is then engaged upon said projecting end of the member 1 at the inner side of the bag. The length of the nipple member 1 is then constricted as hereinbefore set forth by engaging an implement to serve as an abutment at the flanged end of the member 1 and applying an implement at the opposite end of said member 1 projecting from the washer 5 and said implements moved forcibly toward each other and whereby the one implement flanges the end of the member 1 outwardly and curling or rolling it rearwardly and thereby moving the washer and flanged end 4 of the member 2 into clamping engagement with the marginal portion of the material of the bag about the perforation and securing the nipple liquid tight thereto.

In Figure 7 there is shown the manner of securing the nipple in the tubular projecting outlet portion of the bag B produced by forming the same upon a mould or form by successively dipping the form in liquid rubber and superimposing films of the rubber upon the form. In securing the nipple to the tubular portion 8 of the bag or receptacle B the nipple member 1 may be engaged in the tubular projection from within the bag and the opening in said tubular projecting portion 8 being of the same or slightly less diameter than the diameter of the body of the nipple member 1 the material of the projection 8 is expanded over the nipple flange 3, or the projection 8 may be stretched over the flanged end 3 of the nipple member 1. In either case the extremity of the projection 8 is engaged below the flange 3 when the tubular member 2 is engaged on the member 1 with the flanged end 4 engaging the end portion of the projecting portion 8 in opposed relation to the flange 3 of the nipple member 1. The nipple member 1 is then constricted lengthwise in the manner hereinbefore set forth in securing the nipple in the perforation in the bag in the manner of Figures 3 and 4 by engaging an implement at the flanged end 3 of member 1 and engaging an implement at the opposite end of said member 1 and applying pressure to said implements to apply a force thereto in a direction toward each other and flanging the end of the member 1 over the end of the member 2, as at 7, and thereby forcibly engaging the washer and the flanged end of member 2 with the tubular member 8 of the bag and clamping the nipple thereto.

The members 1 and 2 of the nipple as well as the washer are made of any suitable material, preferably brass and nickel plated, so that there will be no reaction between the material of the nipple members and the material of the bag which will tend to deteriorate the material of the bag or receptacle and cause it to leak. Also by arranging the washer of the form described and curling or rolling the material of the flange of the members 1 and 2 rearwardly, no sharp edges are en-

gaged with the material of the bag when the nipple is secured thereto which will tend to cut or rupture the same. As shown in Figure 5 the washer is engaged on the projecting end of the nipple member 1 with the convex surface of the annular depressed portion of the washer outward and the flanged and rearwardly curled end engaging the washer within the annular depressed portion in securing the nipple to the bag, and in the arrangement of Figure 3 wherein the concave side of the depressed portion of the washer is outermost and the flanged end 3 of the nipple member 1 engages therein when the nipple is secured to the bag and deflects the peripheral portion of the washer away from the material of the bag.

As described and shown in Figure 3 the nipple members 1 and 2 are secured together in clamping connection with the marginal portion of the material of the receptacle about a perforation or opening therein with a washer 5 interposed between the flange 3 of the nipple member 1 and the inner side of the receptacle. In Figure 8 there is shown an arrangement of assembling the nipple members as in Figure 3 except that an additional washer 9, similar to the arrangement of the washer 5 in Figures 3 and 4, is engaged upon the tubular member 1 and interposed between the outer side of the receptacle and the flange 4 of the nipple member 2 and whereby the nipple members are more securely connected in the opening in the receptacle. In the arrangement of assembling the nipple members and securing the same in the opening in the receptacle a washer may also be engaged upon the nipple member 1 to be disposed between the outer side of the receptacle and the flange 4 of the nipple member 2.

Having described my invention, I claim:

In a douche appliance including a liquid carrying receptacle, means for connecting a discharge tube in communication with the receptacle, comprising a pair of tubular members of different lengths, the member of greater length adapted to be extended through a perforation in the receptacle wall, and the member of less length having an annular outwardly extending flange at one end and loosely engaged on the member of greater length at the outer side of the receptacle with the flanged end opposed to the outer side of the receptacle wall, and a washer loosely engaged on the member of greater length at the inner side of the receptacle in opposed relation to the flanged end of the member of less length, and the ends of the member of greater length flanged laterally drawing the flanged end of the one member engaged thereon and the washer toward each other and clamping the marginal portion of the material about the receptacle perforation between the washer and flanged end of the one tubular member and the portions of the tubular members at the outer side of the receptacle adapted for the engagement and connection of a discharge tube thereto.

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REFERENCES CITED

30 The following references are of record in the file of this patent:

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