Sept. 8, 1931. H. ZIELE 1,822,190

HOT WATER BAG

Filed May 16, 1929

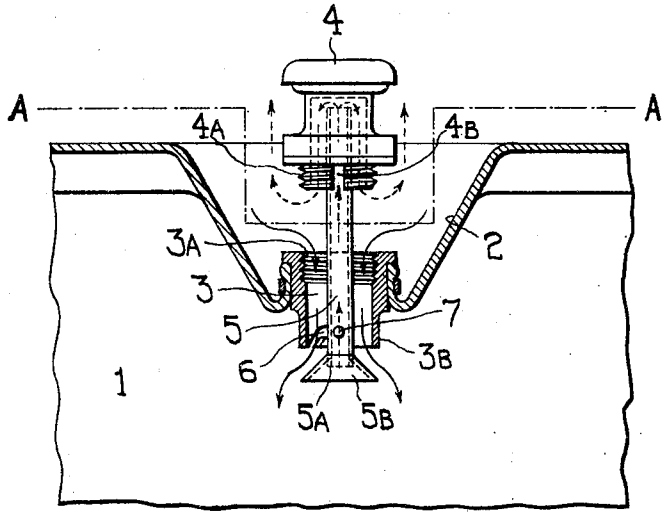


FIG. 1.

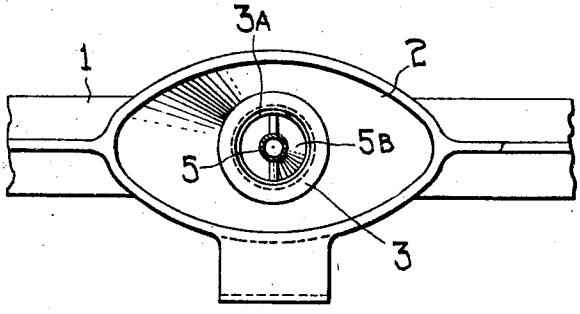


FIG. 2.

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HOT WATER BAG

Application filed May 16, 1929, Serial No. 363,656, and in New Zealand December 13, 1928.

This invention relates to hot water bags wherein rubber or rubberized fabric comprises the principal material employed in their construction.

With rubber water bags of the present type, it is found when filling same with hot water that air and steam tend to be suddenly expelled from the interior of the bag through the filler vent, with the result that hot water is blown back and frequently sprayed on to the hand of the person holding the bag.

There has been provided in hot water bags of this type, an air vent or tube designed to provide a separate passage to facilitate the outward escape of steam and air from the interior of the bag, but it is found in practice that the water poured into the funnel which surrounds the filler vent frequently rises to a level above the upper end of such air vent or pipe, with the result that its utility is destroyed, and the same nuisance is experienced.

The object of the present invention is, therefore, to provide an improved type of filler cap for hot water bags of the above type whereby escape of air and steam from the interior of the bag is facilitated so as to prevent hot water being blown back out of the bag, while a further object of the invention is to provide an improved type of funnel surrounding the filler, which is capable of lying flush with the top of the bag.

In the drawings accompanying the specification:—

Figure 1 is a sectional elevation of the invention,

Figure 2 is a plan of the invention on line A—A in Figure 1.

According to the invention the rubber hot water bag 1 is made of any desired shape, and in the top edge thereof there is moulded or inserted a recessed or funnel shaped pocket 2, having secured in its lower and narrow portion a metal sleeve 3, through the interior of which access is provided to the interior of the water bag 1. This metal sleeve 3 is internally screw threaded at its upper end 3A while its lower end 3B projects a short distance into the interior of the hot water bag, past the funnel shaped recess pocket 2.

There is a suitable stopper or cap 4 having an externally screw threaded lower portion 4A adapted to enter and engage the internal screw thread 3A in the upper end of the metal filler or sleeve 3, to close and seal the upper end of the latter and consequently the interior of the hot water bag 1. A section of the screw thread 4A may be cut away as at 4B to assist the escape of air or steam from the interior of the bag 1 or if desired a hole (not shown) may be cut in said screw thread 4A for the aforesaid purpose. Secured to the screwed cap 4 and projecting downwardly beneath the externally screwed portion thereof, is a tube 5 made preferably of rubber and of any desired diameter passing completely through the interior of the metal sleeve or filler 3 into the interior of the hot water bag 1.

The lower end 5A of this tube 5 is outwardly flared at 5B to provide a bell mouth having a diameter preferably greater than the interior diameter of the filler sleeve. It is preferred that the lower end 5A of the tube 5 be extended downwardly below the apex of the flared or bell mouthed end 5B to prevent any danger of water or air bubbles being forced up and through the filler opening. Owing to the difference in diameter between the bell mouth 5B on this tube 5 and the interior of the filler sleeve 3 the tube 5 attached to the screwed cap 4 cannot be completely withdrawn through the filler sleeve 3 when said cap is unscrewed, but the tube 5 is made of sufficient length to enable said cap 4 to be lifted a distance above the filler sleeve 3 when unscrewed, to enable water to be passed down said sleeve into the bag 1.

Suitable means are associated with the filler-sleeve and the tube passing therethrough in order that when the filler cap has been unscrewed and raised to clear the upper end of the filler sleeve such means will be brought into engagement to retain the tube and consequently the cap to which it is attached in their raised position.

One type of means for the aforesaid pur-

pose as shown in the accompanying drawings consists in providing two diametrically opposed spiral slots 6 in the periphery of the metal sleeve filler 3 at the lower end 3B thereof. Permanently attached to the tube 5 preferably in the position as illustrated in the drawings are two projecting lugs 7 for the purpose of engaging with the aforesaid spiral slots 6, the whole construction forming what is generally known as a bayonet socket attachment.

When the screwed cap 4 is unscrewed from the filler sleeve 3, and raised to clear the upper end thereof, the lugs 7 on the tube 5 are adapted to engage with the spiral slots 6 on the filler sleeve 3 and retain the said cap 4 in a raised position above the opening of said filler sleeve and therefore the cap 4 cannot be completely detached from the hot water bag 1, and mislaid while hot water is being poured into the bag by means of the funnel shaped recess 2 in the top end of the latter and the filler sleeve 3 opening from said recess 2 into the interior of the bag 1 passing down the annular space in the filler sleeve 3 around the tube 5 projecting downwardly therethrough from the filler cap 4, such water passing from the lower end of the sleeve and being directed outwardly into the interior of the bag by the bell mouth or flared construction 5B on the lower end 5A of said tube 5.

Air or steam collecting in the interior of the bag 1 is provided a free and ample passage for escape through the tube 5 which passes through the filler sleeve 3 and opens at its upper end into the interior of the screwed filler cap 4 from which it escapes through the under surface of its externally screwed portion 4A.

In the accompanying drawing, the full line arrows show the path of water into the bag, while the dotted line arrows show the path of escape for the steam or air from the interior of said bag.

The various parts of the filler sleeve cap and tube attached to the latter can be constructed entirely of metal or the screwed portions of the sleeve and cap can be constructed of metal and the remainder of such parts of rubber or the like suitable composition.

If desired the funnel surrounding the filler sleeve and cap can be moulded with its upper edge integral and flush with the top of the rubber bag, or said funnel can be attached to the top of the bag around its upper edge by means of a bellows like extensible rubber sleeve to enable said funnel to be withdrawn while filling the bag, and to be entered within the general contour of said bag after filling is completed and the filler cap has been screwed in place.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A hot water bag which comprises a bag having a funnel shaped pocket inserted within the upper edge thereof so as to be disposed within the confines of the bag, a cylindrical metal sleeve secured within the lower portion of said pocket so as to establish direct communication with the interior of the bag, a stopper adapted to engage within the said sleeve to firmly close the bag and a rigid open ended tube attached to and dependent from the stopper and means adapted to lock said stopper in the filling position so that the upper end is disposed above the upper edge of the pocket while not projecting thereabove in closed position.

2. In a hot water bag as described in claim 1, wherein the stopper is provided with an externally screw-threaded portion arranged to engage with an internally threaded portion of the metal sleeve.

3. In a hot water bag as described in claim 1, wherein said locking means consists of lugs provided on the lower end of the rigid tube and adapted to be movable into slots formed in the metal sleeve.

4. In a hot water bag as described in claim 1 wherein the upper end of the rigid tube is constructed to open into a space formed in the interior of the stopper and in communication with the exterior of the stopper through a passage arranged to be sealed by the metal sleeve when the stopper is in the closed position.

5. In a hot water bag as described in claim 1 wherein the lower end of the rigid tube extends into the interior of the bag and is provided with a bell mouth extension.

6. In a hot water bag as described in claim 1 wherein the lower end of the tube is provided with a bell mouth of a larger diameter than the internal diameter of the metal sleeve.

In testimony whereof I affix my signature.

HERBERT ZIELE.