Sept. 29, 1936. W. W. MacDONALD 2,055,695

WATER BAG

Filed March 18, 1936

Fig. 1.

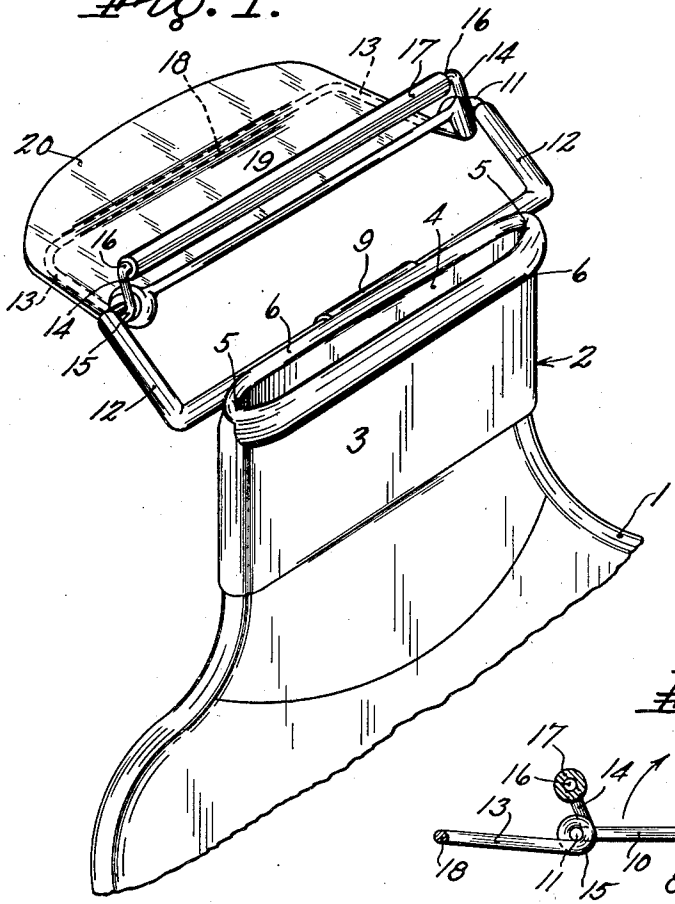


Fig. 2.

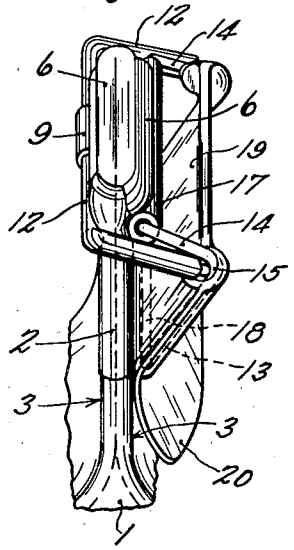


Fig. 3.

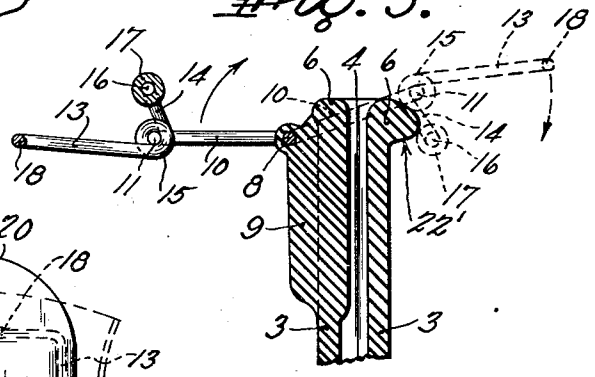
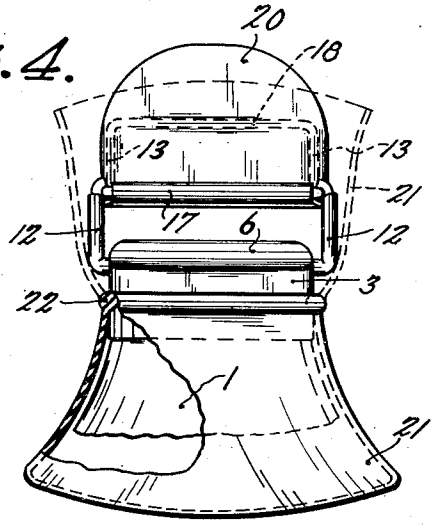


Fig. 4.



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WATER BAG

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7 Claims. (Cl. 150—3)

This invention relates to an improved water or ice bag and more particularly to the mouth and neck portions of such bags and the closure for the same.

The principal object of the invention is to provide a construction which will facilitate the filling and closure of the bag with greater ease and security than with prior constructions.

Other and further objects residing in the details of construction will be apparent from the following specification and claims.

In the accompanying drawing which illustrates one embodiment of the invention:

Fig. 1 is a perspective view showing the closure in released position;

Fig. 2 is a perspective view showing the closure in clamped or closing position;

Fig. 3 is a fragmentary view in vertical section of the neck portion of the bottle, with certain parts removed to better show the construction of the closing members; and

Fig. 4 is a front view, with parts broken away, showing a modified form of neck construction.

Referring to the drawing; the bag or bottle is constructed of molded rubber and is shown in part at 1. It is formed with a neck 2 constructed in substantially flat form, as shown in Fig. 1. This neck is formed by two wide and approximately straight, flat walls, connected at their ends. These walls are molded in the substantially flat form shown and their connecting ends are slightly less in thickness. The arrangement is such that the inner faces of the walls 3 of the neck intersect with relatively sharp creases 5 in the rubber. These creases predetermine the points at which the neck will start to bend when pressure is applied to the ends thereof. Such construction is also important as insuring a tight closure because, when the walls 3 or their terminal lips 6 are pressed together, as shown in Fig. 2, the seam of the closure appears as one straight line devoid of the small fillets at the ends of the seam which would otherwise be formed by the distortion of the rubber as the walls are pressed together and which might possibly permit leakage. The front lip 6 is preferably somewhat larger than the rear lip and has enough resiliency to restore the walls of the neck to the positions shown in Fig. 1, after pressure on the ends of the neck is relaxed, as shown. This front lip also cooperates with the clamping device as will later appear.

For pressing the lips of the bag together to close the neck thereof, a clamping device of a toggle-like nature is used. This device includes a bail-like member of wire, having a central straight portion 8 forming one jaw of the toggle clamp and pivotally mounted in a lug 9, formed centrally on the rear wall 3 of neck 2; two side bars 10 one at each end of and at right angles to the portion 6 and forming one pair of toggle links; and trunnions 11 bent inwardly, one from the end of and at right angles to each side bar 10. This bail member, except for the trunnions 11 and the central part of the portion 8 which passes through lug 9, is encased by two rubber tubes 12. These tubes have been omitted in Fig. 3 but they appear in the other figures. The other member of the clamp is also formed of wire bent up in the form of a bell crank, having pairs of laterally spaced arms 13 and 14. Each arm 13 is interconnected with the corresponding arm 14 by a loop 15 and these loops afford eyes to pivotally receive the trunnions 11. The arms 14 which form the other pair of toggle links, have at their outer ends inturned trunnions 16 which rotatably support a metal roll 17 which forms the other jaw of the toggle clamp. The outer ends of the arms 13 are interconnected by a cross bar or handle portion 18. The parts 13, 15 and 18 are also encased, in this case in a sheet of rubber 19 which extends between the parts 13 and beyond the handle part 18, forming a flap 20 which is convenient to grasp when the clamping device is in the position shown in Fig. 2, as a means to release the device,—the part 18 then being tightly pressed against the front wall 3 of the neck 2 as shown in Fig. 2.

Another desirable feature of the invention is shown in Fig. 4. This feature consists of a skirt-like part 21 which extends entirely around the neck 2 and is suitably secured at its upper end thereto, as by cementing or by the tension of the beading 22. This part 21 extends downwardly like a skirt to enclose the upper part of bag 1. The part 21 may be used as a shield to protect the hand of the user while filling the bag. At such time, the user grasps the neck of the bag in one hand and presses against the ends of the neck to dilate the opening 4 and the skirt-like shield may then cover and protect the hand. Alternatively, this part 21 may be upturned, as indicated in dotted lines, to serve also as a filling spout,—the clamping device being then swung upwardly into a more or less vertical position against the back wall of the spout.

The operation will next be described. To fill the bag the opening 4 is dilated and this may be conveniently effected by grasping the neck 2 in one hand and pressing the two ends toward one another, thereby spreading the walls 3 apart.

The thinner ends and the creases 5 insure that the bending starts along predetermined lines (those of the creases) rather than haphazardly. The side walls 3 are predisposed to bulge outwardly on the application of endwise pressure. A large opening is then available which will readily receive ice cubes if desired. The clamping device will at this time be positioned as shown in Fig. 1 and, as there shown, the bell crank 13, 14 is swung rearwardly on its bail connection well away from the neck of the bag, allowing full and free access to the opening 3 for filling. In the filling of the bag, the user may upturn the member 21 and use it as a funnel or he may leave it in its downturned position to function simply as a shield to cover and protect the user's hand.

Having filled the bag, the user relaxes the pressure exerted on the ends of the bag and the walls 3 then spring back into the position shown in Fig. 1, in which the opening 4 is nearly closed. The user still holds the bag, one hand grasping it by the neck near the lower end thereof. Then with the other hand he grasps the bar 18 of the clamping device and swings it from the position shown in Fig. 1 to that shown in Fig. 3. The bar 18 is now pressed downwardly and, in the initial stage of its downward movement, the bell crank will turn on the trunnions 11 and the roll 17 will easily move in under the shoulder 22 of the front lip 6. The roll is now positioned in contact with the front wall 3 and with the shoulder 22' and it remains thus positioned during the second stage of the downward movement of the bell crank. The arm 18 is pressed downwardly until it is arrested by engagement with the front wall 3. During the second stage of movement of the bell crank, the arms 13 swing upwardly and the sides 10 of the bail swing downwardly until these parts 13 and 10 come into line and the roll 17 and bar 8 are drawn together and pressure is applied in a toggle-like manner to squeeze the front and rear walls 3 tightly together and close the opening 4. In the final stage of the downward movement of bar 18, the parts 13 swing slightly above the parts 10, as shown in Fig. 2, crossing centers, and the clamp is then held in closed position by the abutment of bar 18 or its covering member 19 with wall 3. When it is desired to release the clamp one swings the cross bar 18 upwardly and this may be done conveniently through the flap 20 attached thereto. Then bar 18 is swung up and over and across the mouth of the bag and back into the position shown in Fig. 1.

Thus, I have provided a water bag having constructional features of improvement associated with the filling neck thereof to provide for the convenient opening and closing thereof and facilitate filling and provide an effective leakproof closure.

What I claim is:

1. In a water bag, a neck of elastic material having two relatively long and substantially flat walls connected together at their ends and normally lying in closely-spaced and approximately parallel relation and defining between them an elongated and narrow filling opening, one said wall having on its outer face a shoulder extending along the wall near the upper end thereof, and means for pressing said walls together to close said opening; said means comprising a pair of parallel jaws, one thereof being pivotally supported from and extending from end to end along one said wall, pairs of pivotally connected toggle links one pair on each said jaw for interconnecting the jaws and supporting the other jaw for swinging movement on the first-named jaw, and a lever for moving said toggle links and fixed to one pair thereof, said second named jaw being movable to engage beneath said shoulder by which it is held substantially stationary while the toggle links are moved to force the jaws toward one another and compress said walls therebetween, said lever having a part engageable with said shouldered wall to limit the movement of said links when moved into jaw closing position.

2. In a water bag, a neck of elastic material having two substantially flat walls interconnected at their ends and forming between them a narrow and elongated opening, a first jaw pivotally mounted on one said wall and extending the entire length thereof and beyond each end of the neck, links fixed one to each end of the first jaw, a second jaw having links fixed one at each end thereto and pivotally connected to the first links for enabling the second jaw to swing about an axis parallel to that of the first jaw, and an operating lever fixed to the second pair of links, the first links movable about the axis of the first jaw to bodily shift the second jaw and its attached links and lever from a position wholly on one side of said one wall to a position wholly on one side of the other wall, and when in the latter position said pairs of links being movable by said lever to press said jaws toward one another with a toggle action and compress said walls therebetween to close said opening, said lever being engageable with the last-named wall as a stop for the toggle links when in jaw closing position.

3. In a water bag, a neck of elastic material having two substantially flat walls interconnected at their ends and forming between them a narrow and elongated opening, a first jaw pivotally mounted on one said wall and extending the entire length thereof and beyond each end of the neck, links fixed one to each end of the first jaw, a second jaw having links fixed one at each end thereto and pivotally connected to the first links for enabling the second jaw to swing about an axis parallel to that of the first jaw, a roll mounted to rotate on the second jaw, and an operating lever fixed to the second pair of links, the first links movable about the axis of the first jaw to bodily shift the second jaw and its attached links and lever from a position wholly on one side of said one wall to a position wholly on one side of the other wall, and when in the latter position said pairs of links being movable by said lever to press said jaws toward one another with a toggle action and compress said walls therebetween to close said opening, said lever being engageable with the last-named wall as a stop for the toggle links when in jaw-closing position.

4. In a water bag, a neck of elastic material having two substantially flat walls interconnected at their ends and forming between them a narrow and elongated opening, a first jaw pivotally mounted on one said wall and extending the entire length thereof and beyond each end of the neck, links fixed one to each end of the first jaw, a second jaw having links fixed one at each end thereto and pivotally connected to the first links for enabling the second jaw to swing about an axis parallel to that of the first jaw, an operating lever fixed to the second pair of links, the first links movable about the axis of the first jaw to bodily shift the second jaw and its attached links and lever from a position wholly on one side of said one wall to a position wholly on one side of the other wall, and when in the latter po-

sition said pairs of links being movable by said lever to press said jaws toward one another with a toggle action and compress said walls therebetween to close said opening, said lever being engageable with the last-named wall as a stop for the toggle links when in jaw-closing position, and a waterproof casing enclosing said operating lever and extending beyond the same forming a flap for operating the lever and drawing it out of engagement with the last-named wall.

5. In a water bag, a neck of elastic material having an opening of elongated and narrow normal form and having two substantially flat boundary walls interconnected at their ends, the inner surfaces of said walls intersecting at opposite ends in sharp crease lines defining the ends of said opening, means for pressing said walls together to close said opening and form a leakproof seam of straight-line form devoid of filets at its ends, and a skirt surrounding the neck and secured at its upper end thereto at a location below said means, said skirt normally depending therefrom and affording a protective shield beneath which the hand may be placed to grasp the neck during a filling operation.

6. In a water bag, a filling neck of elastic material having a filling opening and clamp-closure means adjacent the open end of the neck, a skirt surrounding the neck and secured at its upper end thereto at a location below said means, said skirt normally depending therefrom and affording a protective shield beneath which the hand may be placed to grasp the neck during a filling operation, said skirt being liftable into an upraised position in which it extends above the top of the filling neck and forms a funnel therefor.

7. In a water bag, a filling neck of elastic material having a filling opening and clamp-closure means therefor adjacent the open end of the neck, a skirt-like member secured along its entire upper edge to and completely surrounding the neck at a location below said means, said member normally depending from said edge in skirt-like form and being movable into an upraised position in which it extends above the top of the filling neck and forms a funnel containing said means and in communication with the filling opening.

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