Sept. 3, 1935. W. B. OSBORNE 2,013,358

KNAPSACK WATER BAG

Filed Sept. 15, 1933

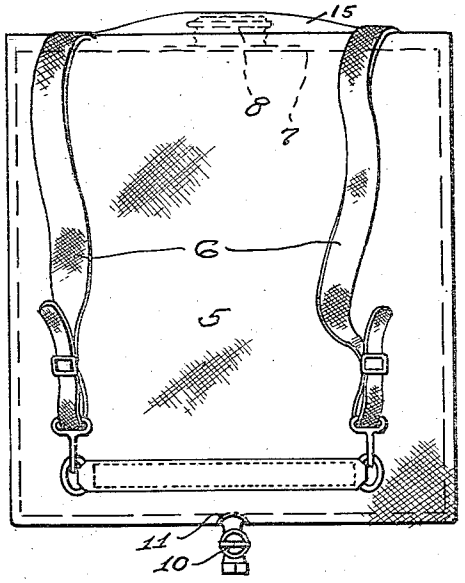

Fig. 1.

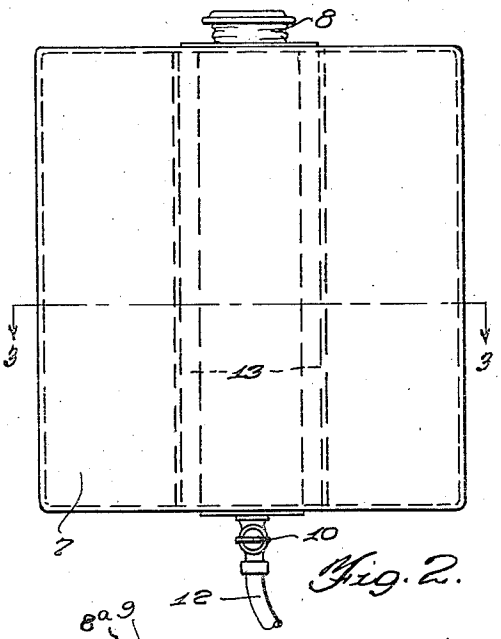

Fig. 2.

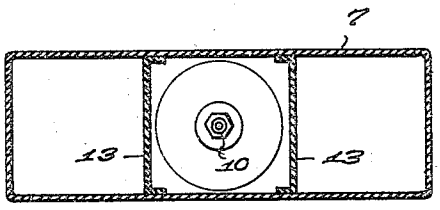

Fig. 3.

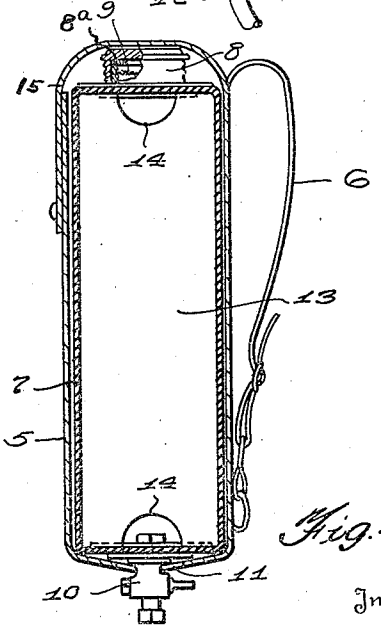

Fig. 4.

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KNAPSACK WATER BAG

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7 Claims. (Cl. 150—1)

This invention relates to a knap-sack water bag by which I mean a water bag of the knap-sack type adapted to be carried upon the back.

More particularly the invention resides in providing a combined article consisting of a standard knap-sack or other suitable container, and a rubber insert in the form of a water bag adapted to be inserted in the knap sack and to constitute a container for water.

I am aware of the fact that it is not broadly new to provide fabric carriers with rubber inserts of an air or waterproof nature; this being old, for example, in footballs. However, the device of my present invention has especial advantages and serves certain important purposes in a way not possible with any device with which I am familiar.

The device of my present invention is particularly adapted for the use of foresters, and especially those having to fight forest fires. It is common practice in the fighting of forest fires to utilize water containers carried upon the back to which there is attached a short length of hose and a trombone type of pump. Apparatus of this sort is particularly useful in extinguishing incipient fires, or "spot" fires, or in mopping up persistent spots of fires after the main spread has been controlled by other methods.

One of the most widely used articles of this nature consists of a metal back pack water can; thousands of which are purchased every year by the fire protective organizations of the country. In addition to being used for extinguishing fires, these cans are used for transporting drinking water to the crews working on fire lines. They have a capacity of from five to six gallons and weigh about nine pounds empty. They are heavy and bulky and can not be used for packing supplies or anything else but liquid. Further, they have a tendency to gouge a man in the back, when loaded. Another known type of device adapted to be carried upon the back and to aid in fighting fires consists of a rubber water bag with a hose attachment. In devices of this character lacking the external support provided by the canvas knap sack, the rubber bag itself must be made quite heavy. This not only greatly increases the expense but markedly increases the weight that has to be carried by the user. Further, devices of this sort are of no utility in carrying camp supplies to the points of operations.

The device of my invention is illustrated in the accompanying drawing wherein—

Figure 1 is a rear elevation.

Figure 2 is an elevation of the rubber insert hereinafter described.

Figure 3 is a horizontal sectional view upon line 3—3 of Figure 2 and

Figure 4 is a vertical sectional view through the knap-sack and the inserted rubber bag.

Like numerals designate corresponding parts in all the figures of the drawing.

Referring to the drawing, 5 designates a conventional or any other suitable knap-sack of a fabric which is non-elastic. This knap-sack carries the usual back straps 6 by which it may be carried upon the back.

The particular construction of the knap-sack is not of the essence of the invention. It is common practice in the manufacture of knap-sacks to incorporate various external pockets, etc. I have made no attempt to illustrate auxiliary pockets since my invention resides more particularly in the combination of the rubber insert of Figure 2 with any suitable type of carrier or container of a nature to support and carry the same.

The insert comprises a rubber bag 7 which is preferably, though not necessarily, rectangular in form, and is provided with an air tight filler cap 8, rubber gasket 8a, and internal strainer 9 of conventional form. The insert bag 7 carries a valved drain cock 10 at its bottom, which projects through a suitable opening 11 formed in the bottom of the knap-sack 5; said drain cock serving to control the flow of water from the bag 7 to a discharge hose 12; it being understood that this hose may have any suitable type of supply pump or nozzle attached thereto. To aid in preventing distension of the walls of the bag 7 and of the knap-sack 5, I preferably employ internal reinforcing webs 13 within the bag 7, and to equalize the water level in all of the resultant compartments of the bag, I provide openings 14 in these webs. These openings are of such limited area as to prevent sudden shifting of the load or sloshing of the water when the bag is only partly filled. All parts of the bag 7 with the exception of the filler cap are flexible and readily foldable, and may be rolled up into a small and compact bundle.

When the bag 7 is not in use, the knap-sack may serve its usual function as a carrier for all sorts of articles. The forester in starting out may pack his knap-sack in the usual way, placing the folded insert on top of the contents and closing the usual flap 15 thereover, or he may secure the insert to the top of the pack outside of the flap. In either case, upon reaching the scene of a fire he may quickly dump his various belongings out of the knap-sack, unroll the insert bag 7, place it in the knap sack and fill it with water, and then strap it upon his back. The insert bag weighs

only one pound, and, as before stated, can be used with almost any of the knap-sacks which are standard equipment with all fire protective organizations.

Among the advantages of this device are the small bulk and light weight of the insert when collapsed; the fact that the knap-sack can be loaded full of supplies and equipment in going to a fire; the saving of from five to seven pounds weight on loaded reservoirs of equal capacity; the provision of a perfect fitting soft cushion on one's back in lieu of a sharp metal can which touches the back only at a few spots and has a tendency to gouge at sharp corners; and the fact that the bag, when partially inflated, serves as a perfect pillow. The last named item is an important one to those living out of doors and who are frequently required to spend days at a time in places remote from ordinary types of beds and bedding.

The provision of the internal reinforcing webs strengthens the insert bag, prevents undue distension of its walls, and also causes it to conform more closely to the interior contour of the knap-sack. This, in turn, renders it possible to cause the knap-sack to so closely contact the insert bag as to support the same and relieve the reinforcing webs of some of the strain that would come upon them if the insert bag were free to be distended by the weight of the water.

I wish it to be understood that the invention is not limited to the particular construction shown because it is manifest that the insert bag 7 may be made of any material which will hold water and of any desired shape so long as it bears the proper relation to the containing knap-sack, i. e. that it is flexible and freely conforms to the movement of the walls of the knap-sack as the latter finds its seating upon the back of the user. Therefore, it is to be understood that the invention includes within its purview whatever changes fairly come within either the terms or the spirit of the appended claims.

Having described my invention, what I claim is:

1. The combination with a knap-sack having attaching straps for securing the same upon the back of the user, said knap-sack when filled having a substantially completely open top to permit the free placing of bulky objects therein, of a foldable and collapsible water bag shaped and dimensioned to conform closely to the internal contour of said knap-sack, a discharge fitting carried by said water bag and projecting through an opening in a wall of the knap-sack, and an internal web spanning the said water bag and connecting opposite walls thereof to prevent lateral distension of the walls of the water bag under the weight of the water therein.

2. The combination with a knap-sack having attaching straps for securing the same upon the back of the user, said knap-sack when filled having a substantially completely open top to permit the free placing of bulky objects therein, of a foldable and collapsible rubber water bag shaped and dimensioned to conform closely to the internal contour of said knap-sack, a discharge fitting carried by said water bag and projecting through an opening in a wall of the knap-sack, and an internal web spanning the said water bag and connecting opposite walls thereof to prevent lateral distension of the walls of the water bag under the weight of the water therein, and to serve as baffles for preventing sudden shifting of load, there being openings formed through said web to slowly equalize the water level upon the opposite sides of said web.

3. The combination with a knap-sack having attaching straps for securing the same upon the back of the user, said knap-sack having a substantially completely open top to permit the free placing of bulky objects therein, of a foldable and collapsible water bag shaped and dimensioned to conform to the internal contour of said knap-sack, a discharge fitting carried by said water bag and projecting through an opening in a wall of the knap sack, and a plurality of webs spanning the said water bag to prevent lateral distension of the walls of the water bag under the weight of the water therein, there being openings formed through said webs to equalize the water level upon the opposite sides of said webs.

4. The combination with a knapsack of rectangular formation and made of strong, flexible material, such as canvas, adapted to conform to the shape of the back of the user, of attaching straps by which the same may be carried upon the back of a man, said knapsack having a substantially completely open top to permit the free placing of bulky objects therein, of a foldable, collapsible, elastic water bag, the external dimensions of which, when deflated, conform closely to the internal contour of said knapsack, said water bag being made of a material such as rubber, which inherently has much less resistance to distension under internal pressure than the material of the knapsack, a discharge fitting carried by said water bag and projecting through an opening in the wall of the knapsack, said water bag comprising an integral top wall carrying a filling cap of much smaller area than the area of the top wall and an internally located flexible web connecting opposite walls of the water bag to prevent lateral distension of said walls under the pressure of water therein.

5. A water bag unit of the character described, made of a water-proof, foldable, elastic material comprising front and rear walls opposed to each other, side walls connecting the front and rear walls, a bottom wall and a top wall, a filling cap carried by the top wall, a discharge fitting carried by one of the other walls at a point adjacent the bottom of the bag, and a web connecting the front and rear walls to prevent distension of the same under the weight of water in the bag.

6. A water bag unit of the character described, made of a water-proof, foldable, elastic material, comprising front and rear walls opposed to each other, side walls connecting the front and rear walls, a bottom wall and a top wall, a filling cap carried by the top wall, a discharge fitting carried by one of the other walls at a point adjacent the bottom of the bag, and a pair of webs connecting the front and rear walls of the bag to prevent distension of the same under the weight of water in the bag, there being openings formed through said webs to permit the free passage of water from side to side thereof to thereby equalize the level of water in the bag, as and for the purposes set forth.

7. The combination with a knapsack of rectangular formation made of strong, flexible, substantially non-elastic material, such as canvas, adapted to conform to the shape of the back of the user, of attaching straps by which the same may be carried upon the back of a man, said knapsack having a substantially completely open top to permit the free placing of bulky objects therein, of a foldable, collapsible, water bag, the external dimensions of which when filled conform closely to the internal contour of said knap-

sack, said water bag being made of a lightweight waterproof material such as rubber, and a discharge fitting carried by said water bag, the wall of the knapsack having an opening therein receiving said discharge fitting, said fitting being formed for the attachment of a hose or pump thereto, the support for the thin rubber bag, provided by the non-elastic knapsack, permitting the use of a much thinner and lighter weight rubber water bag than would be required in a water bag not so supported.

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