

June 28, 1949.

D. H. QUINN

2,474,322

WATER FILTER CARRYING CASE

Filed July 31, 1946

4 Sheets-Sheet 1

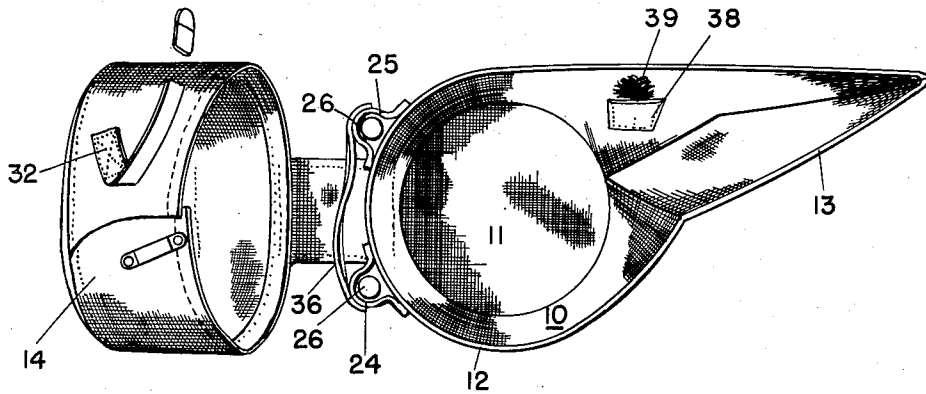


Fig. 2

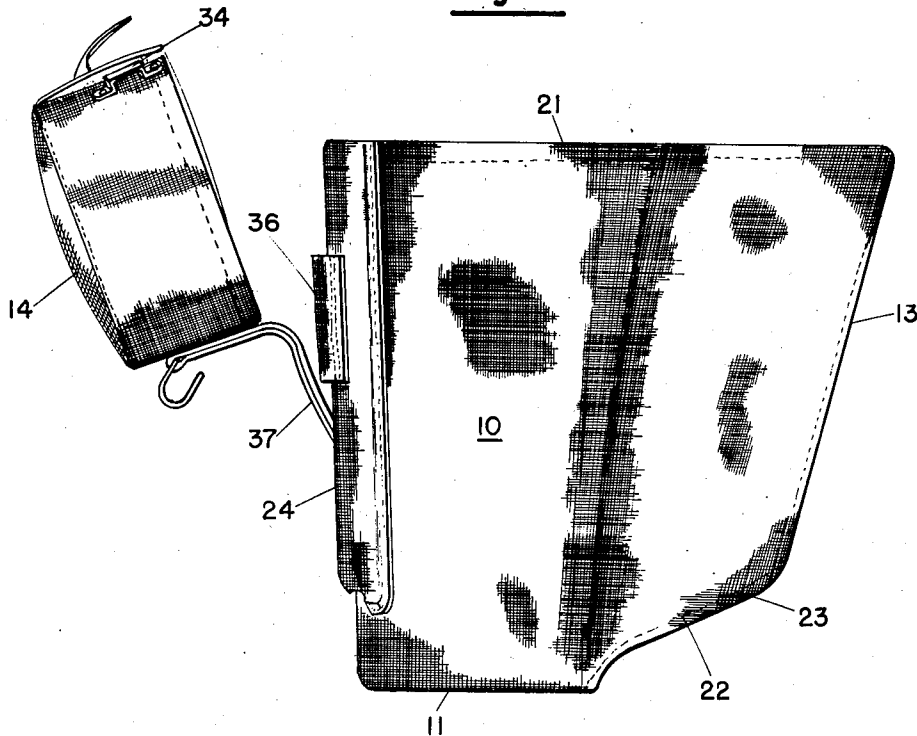


Fig. 1

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4 Sheets-Sheet 2

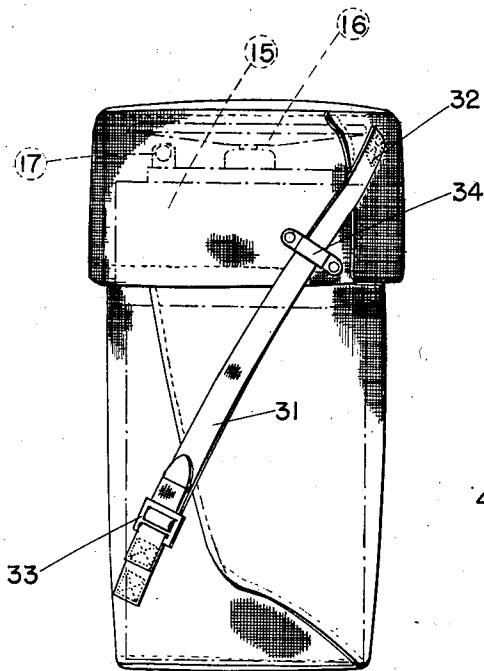


Fig. 3



Fig. 8

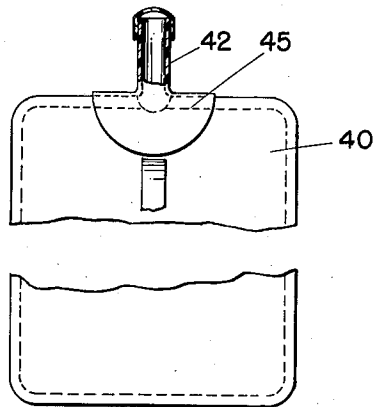


Fig. 5

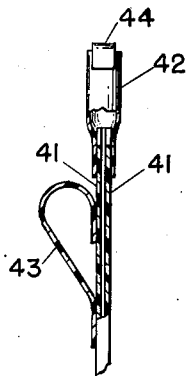


Fig. 6

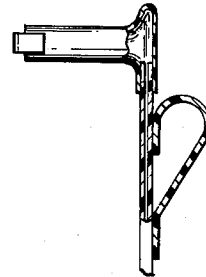


Fig. 7

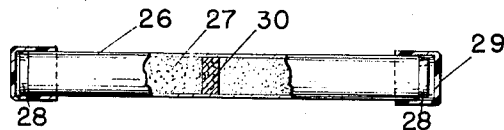


Fig. 4

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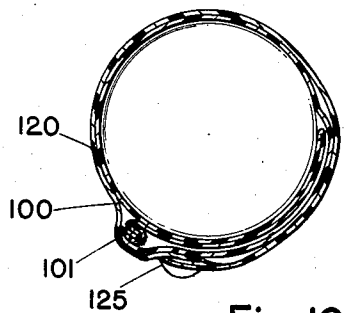
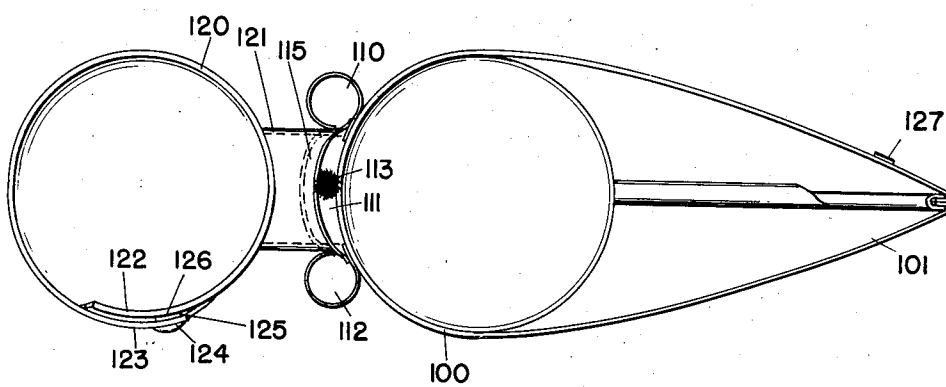
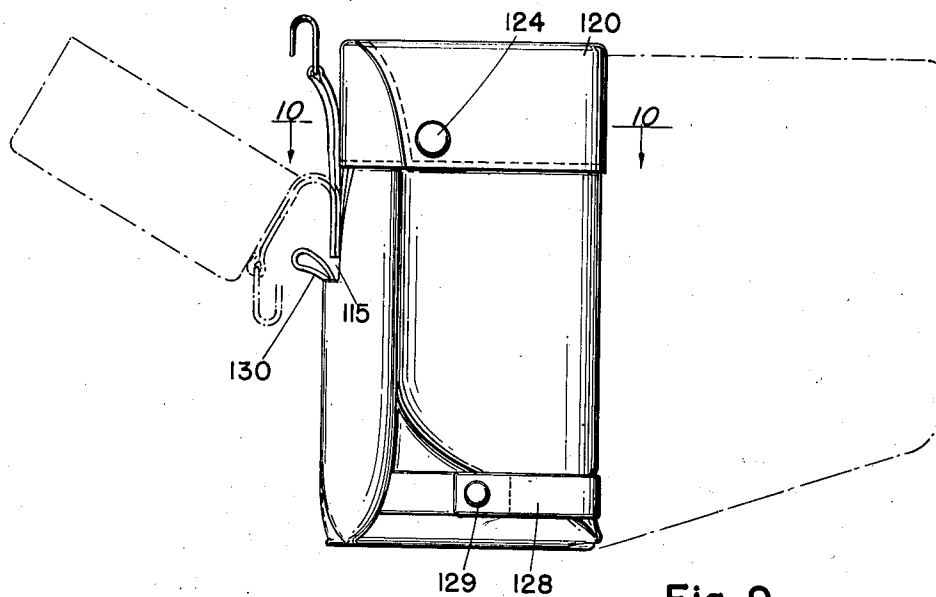
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WATER FILTER CARRYING CASE

Filed July 31, 1946

4 Sheets-Sheet 3



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WATER FILTER CARRYING CASE

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UNITED STATES PATENT OFFICE

2,474,322

WATER FILTER CARRYING CASE

David H. Quinn, United States Navy

Application July 31, 1946, Serial No. 687,502

4 Claims. (Cl. 150—3)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

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This invention is a continuation-in-part of my copending application Serial No. 666,939, filed May 3, 1946, and relates to improvements in the combined bucket and carrying case structure disclosed therein which is used with a portable water purifier.

One of the objects of this invention is to provide a flexible container serving as a combined bucket and purifier carrying case which is so designed that it will retain an optimum shape.

Another object is to provide said container with suitable means for carrying the instrumentalities which are employed in cleaning the purifier.

Another object is to provide said container with reinforcing means which also serves as a receptacle for a cleaning and regenerative compound.

Another object is to provide said container with a collapsible and foldable canteen and means for carrying the same.

A further object is to provide said container with simplified means for securing the various parts thereof in compact carrying case position.

Still further objects will become more apparent from a consideration of the description to follow, the accompanying drawings, and the appended claims.

Referring to the drawings:

Fig. 1 is a side elevational view of the container with the various parts thereof in position ready to be used as a bucket;

Fig. 2 is a top plan view of Fig. 1;

Fig. 3 is a side elevational view showing the various parts of the container in carrying case position;

Fig. 4 is a side elevational view, partly in section, of a combined reinforcing means and detergent receptacle;

Fig. 5 is a side elevational view, partly in section, of a canteen which is carried by the container;

Fig. 6 is a side elevational view, partly in section, of the upper portion of the canteen shown in Fig. 5;

Fig. 7 is a view similar to Fig. 6 but showing an alternate arrangement of the canteen spout;

Fig. 8 is an elevational view of the spout in liquid sealed position;

Fig. 9 is a side elevational view of a modified form of my container, the broken lines showing the position of the various parts thereof when the container is employed as a bucket;

Fig. 10 is a cross-sectional view taken along section 10—10 of Fig. 9;

Fig. 11 is a perspective view of the container of Fig. 9 unfolded to form a bucket;

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Fig. 12 is a top plan view of Fig. 11;

Fig. 13 is a cross-sectional view taken along section line 13—13 of Fig. 11; and

Fig. 14 is a perspective view of the collapsible canteen adapted to be carried by my modified container of Fig. 9.

Referring to Figs. 1 and 2, fabric container 10 comprises generally a bottom 11, a somewhat cylindrical portion 12 extending vertically therefrom, an elongated flap 13 forming a continuation of the cylindrical portion and a hinged cover 14, the various parts being shown in a position ready for scooping water from a suitable source. After the water has been scooped into the bucket, the portable water purifier 15 is inserted in cylindrical portion 12 and the water is pumped through the purifier by operation of handle 16, the purified water discharging from effluent tube 17 into a suitable container, all as will be more fully understood by reference to the copending application previously identified. When the structure aforesaid is to be disposed in its carrying case position, flap 13 is wrapped around cylindrical portion 12 and hinged cover 14 is telescoped over the cylindrical portion as best depicted in Fig. 3. The general features so far described are common to both this disclosure and the application previously referred to.

In the previous application, the container is shown with a cut-out portion in one of the side walls. In this invention the top edge 21 of both side walls is constructed straight, that is, parallel to base 11. This provides an increased bucket volume without increasing the overall dimensions of the container. Also, in the previous application, the lower portion 22 of flap 13 is substantially parallel to bottom 11, whereas in this invention it is disposed angularly thereto, this feature acting in a strut-like manner to aid in supporting the overhung load of water contained within the flap. If desired, the lower angular portion 22 may be reinforced by incorporating therewith a flexible material which is sufficiently stiff to add support to the overhung flap 13 but sufficiently flexible to permit the flap to be wrapped around cylindrical portion 12. As examples, a resilient wire of metal or plastic material could be inserted within or adjacent seam 23. On one side of the container, two vertical sheaths 24, 25 are provided, these being of fabric also, suitably secured to the container by stitching for example. A hole is provided in the bottom of each sheath to permit drainage of any water which might enter therein. Removable tubes 26 are inserted in sheaths 24, 25 and serve to reinforce the container and also

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provide receptacles in which the cleaning and regenerating compound 27 may be carried.

The open ends of tubes 26 are sealed by plugs 28 pressed into the tubes and over these are placed caps 29 which tightly telescope over the outside of the tubes. These caps may be constructed of cellophane or the like which may easily be removed but provides an effective seal against entry of water or foreign matter. If desired, a partition 30 may be incorporated in tubes 26 dividing same into two compartments. This construction has the advantage that if one plug and cap is removed and a portion of the compound in one end of the tube is used, the entry of water or foreign matter into the remaining portion thereof will not affect the compound in the opposite end of the tube, thereby reducing the chance of compound spoilage after one of the tube seals is broken. While the tubes 26 may be constructed of any suitable material, a transparent plastic is well adapted to the purpose since it is light in weight, sufficiently resilient to resist shock and still act as a reinforcing means, and further, by reason of its transparency the amount of compound used in a cleaning and regenerating operation can be easily gauged. Also, the reserve supply of compound can be readily ascertained.

In distinction to the former application, this invention provides a single securing means 31 to retain the various parts of the container in carrying case position. Securing means 31, which is in the form of a fabric strap, has one end secured at 32 to a side of split cover 14 and its opposite end cooperates with buckle 33 secured to the lower portion of the container. Intermediate its length it passes through a U-shaped member 34 secured to the adjacent side of split cover 14. Thus it may be seen that by a single securement at buckle 33, strap 31 pulls the split cover together, pulls it downward to resist swinging to its open position and since strap 31 overlies flap 13, the latter is secured in wrapped engagement with the remainder of the container.

To provide a convenient means for carrying a canteen with the unit, a strap member 36 is secured at its opposite ends to sheaths 24, 25, respectively, thereby forming a pocket structure into which a folded canteen may be inserted. This pocket structure may be closed at the bottom or left open as shown, hinge 37 acting as a pocket bottom to prevent the canteen from sliding downwardly.

Within the container in any convenient position, a pocket 38 is provided into which a cleaning brush 39 may be inserted, this brush being for the purpose of brushing the outside of the water purifier tubes when being cleaned.

Referring to Fig. 6 the canteen structure 40, which is adapted to be folded and inserted in the pocket formed by strap 36, comprises a pair of rectangular side walls 41, a spout 42, a carrying strap 43, and a strip 44 over the spout mouth. The entire structure is preferably made of a vinyl resin, and particularly the vinyl resin known by the trade name "Vinylite" which is a plasticized copolymer of vinyl chloride and vinyl acetate. This material has been found satisfactory for the purpose, since it imparts no taste, color, odor, or toxins to the water, is light in weight, transparent so that the condition of the inside of the canteen may be visually inspected, can be easily folded into a compact package, and has somewhat unusual elastic characteristics in that it may be stressed beyond the so-called elastic limit and still resume its original form. Other ma-

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terials such as vinylidene chloride and copolymers, etc. could serve the same purpose.

The side walls 41 of the canteen are bonded together along their edges as indicated by the dotted lines as by cementing, by use of a solvent which will weld the sides together, or by welding by heat and pressure. Alternately, the canteen body could be formed by a molding process. Spout 42 which may be molded as an integral piece has a collar portion 45 which is secured to the canteen body in any convenient manner such as previously described. The strap 44, secured to the spout, serves to support the spout below the effluent tube 17. When used with the embodiment shown in Fig. 8a of the previous application, the telescopic effluent tube shown therein would be extended and mouth 44 would be hung thereover so that the liquid discharged from the purifier would be directed downwardly into the spout. The strap relieves the operator from the necessity of holding the canteen spout under the effluent tube leaving him with one hand to steady the purifier and the other to operate the pump handle. When water is being transported in the canteen, carrying strap 43 is placed on a body belt such as a trousers belt, cartridge belt or the like. To seal the spout it is folded back upon itself and secured in that position by a suitable clip 50 as illustrated in Fig. 8. In emergency if the clip were lost, the spout could be retained in the position shown in Fig. 8 by binding the fold with string.

Fig. 7 shows a modified arrangement of the spout, the spout in this case emanating laterally from the canteen body rather than longitudinally thereof.

A modified and preferred form of my container is shown in Figs. 9 through 13. Referring to these figures, the container portion 100 and elongated flap 101 have substantially the same configurations and serve the same functions as the container portion 10 and flap portion 13 shown in Figs. 1 through 3 and described above.

On one side of the container, however, three vertical sheaths 110, 111, and 112 are provided. These vertical sheaths extend the full length of the container and are preferably fabricated of a single sheet of fabric sewn or otherwise affixed to the side of container 100. The sheaths 110 and 112 serve as repositories for tubes 26. As described above in connection with Figs. 1 and 2, the tubes 26 will serve to reinforce the container 100.

The sheath 111 serves as a repository for a cleaning brush 113 and the collapsible canteen 114 shown in Fig. 14 and described in detail below. The wire brush 113 is inserted at the top of the sheath. The canteen is inserted through a slot 115 cut in the side of the sheath and preferably located approximately midway the length thereof.

The container is provided with cover 120 secured to the outside of sheath 111 by flexible hinge 121. The cover is split to form an inside flap portion 122 and overlapping outer flap portion 123. Male portion 124 and female portion 125 of a snap fastener are oppositely disposed on flaps 123 and 122, respectively. A snap fastener female portion 126 is disposed on the inner surface of flap 122 opposite female portion 125 and adapted to mate with a male portion 127 disposed on elongated flap 101. The function of these various snap fastener elements will be explained hereinafter.

A split flexible strap 128 is affixed to the low-

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er part of the container and is provided with male and female snap fastener elements 129 and 130.

In securing the various parts of the container in carrying case position, the flap 101 is folded back around container portion 100. The ends of flexible strap 128 are brought together around the container and the snap fastener elements 129 and 130 secured to each other. The cover 120 is brought down around the top of the container and snap fastener elements 126 and 127 secured. Flap element 123 is then drawn taut around the container and snap fastener elements 124 and 125 secured to each other, as shown in Fig. 10.

The collapsible canteen 114 is fabricated of the same materials as the canteen of Figs. 5 through 7. The canteen 114 however is provided with a carrying strap 130 affixed to the top of the canteen, and a spout extending laterally from the side of the canteen adjacent the carrying strap. When the canteen is folded and inserted into sheath 111 through slot 115, the carrying strap 130 will extend outside of the sheath to facilitate ready removal of the canteen from the sheath.

The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

What is claimed is:

1. A container operable to provide a carrying case for a portable water purifier unit and also to provide a water scoop and reservoir for the purifier, comprising a substantially cylindrical open top container having a bottom, the side wall of the container being of flexible material, sheath means of flexible material attached to and extending longitudinally on the cylindrical container, removable reinforcing means insertable into said sheath means, said side wall including a hollow flap portion which may be opened to enlarge the capacity of the container or folded around the purifier when it is used as a carrying case, a hinged cap adapted to telescope over the container and the open ends of said sheath means when the container is used as a carrying case, said cap having a split side wall, and a single

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securing means to draw said split wall together, prevent hinged movement of said cap and retain said flap portion around the purifier.

2. The combination defined by claim 1 wherein said reinforcing means comprises a rigid tube adapted to contain a cleaning compound.

3. The combination defined by claim 1 wherein said sheath means comprises two substantially parallel members, and pocket means formed therebetween for holding a foldable canteen.

4. A container operable to provide a carrying case for a portable water purifier unit and also to provide a water scoop and reservoir for the purifier, comprising a substantially cylindrical open top container having a bottom, the side wall of the container being of flexible material and including a hollow flap portion which may be opened to enlarge the capacity of the container or folded around the purifier when it is used as a carrying case, a hinged cap adapted to telescope over the container when used as a carrying case having a split side wall, and a single securing means to draw said split wall together; prevent hinged movement of said cover; and retain said flap portion folded around the purifier.

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REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
442,991	McKevit	Dec. 16, 1890
576,452	Hart	Feb. 2, 1897
D. 33,807	Owen	Dec. 25, 1900
1,039,044	Fuhrman	Sept. 17, 1912
1,152,846	Ross	Sept. 7, 1915
1,225,511	Sexton	May 8, 1917
1,243,381	Bokop	Oct. 16, 1917
1,508,724	Rose	Sept. 16, 1924
1,581,535	Granger	Apr. 20, 1926
1,680,191	Woolf	Aug. 7, 1928
1,994,127	Fenton	Mar. 12, 1935

FOREIGN PATENTS

Number	Country	Date
169,538	Switzerland	Aug. 1, 1934