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DROP RAFT APPARATUS

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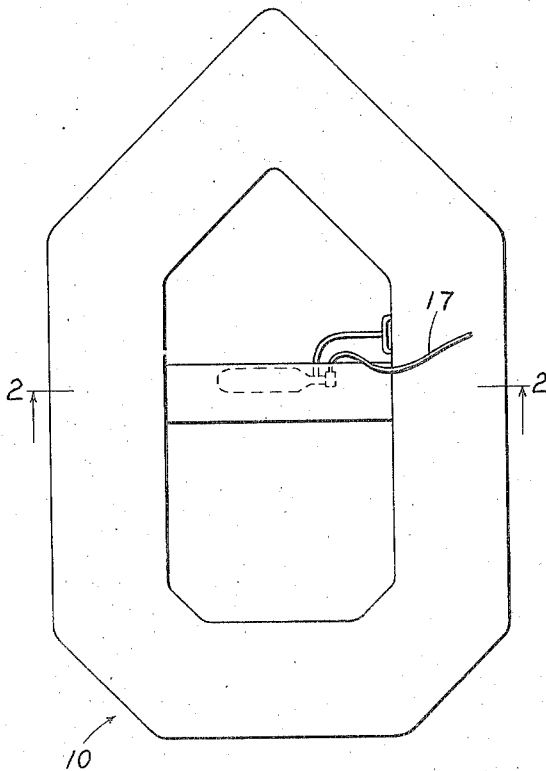


Fig. 1

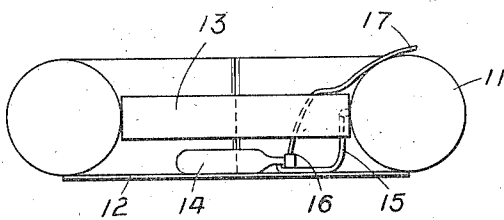


Fig. 2

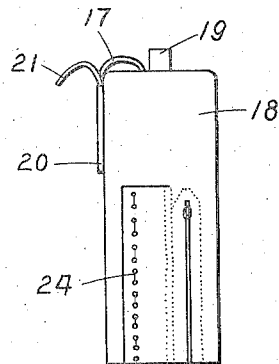


Fig. 3

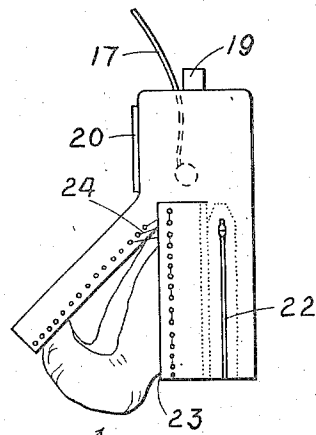


Fig. 4

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DROP RAFT APPARATUS

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3 Claims. (Cl. 9-11)

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

This invention relates to a drop raft apparatus, and has for an object an improvement in rafts which are self-inflating. Air inflatable rafts have been carried for some time for use in emergencies, particularly by seaplanes or airplanes and lighter-than-air craft operating over water. In an emergency, such as requiring a forced landing it is particularly desirable that the life raft be available for use as quickly as possible and with a minimum of preparation by the crew.

The raft embodying this invention is to be carried in a pack from which it is self-emerging and so as to occupy a minimum of space, which is always at a premium in aircraft.

As a further feature, the raft of this invention is provided with a gas bottle carrying a sufficient quantity of carbon dioxide, or other gas, under pressure to completely inflate the raft. With this invention the raft need merely be cast overboard, a painter being attached thereto for initiating the opening action of the raft, which action is automatically carried on and completed, either as the raft is falling or after it has alighted on the surface of the water.

With the foregoing and other objects in view, the invention consists in the construction, combination and arrangement of parts, as will be described more fully hereafter.

In the drawing:

Fig. 1 is a plan view of the inflated raft;
Fig. 2 is a sectional view on line 2-2 of Fig. 1;
Fig. 3 is an edge view of the container with the raft pack therein, and

Fig. 4 is an edge view of the container after the raft has commenced to inflate and emerge therefrom.

There is shown at 10 the self-inflating raft of this invention, which comprises an endless tube 11 held in suitable raft shape by means of a flexible bottom 12, secured along one side of the tube 11. Secured midway between the sides of the tube 11 is a seat 13 which may also serve for storage of emergency provisions. Secured beneath the seat 13 to the bottom 12 is a gas bottle 14 connected by small tubing 15 to the raft tube 11. A valve 16 is provided for operation by means of a painter 17 so that a pull on the lanyard or painter 17 will cause the valve 16 to discharge the gas from the bottle 14 through the tubing 15 to the raft tube 11. A portable, flexible container 18 having a handle 19 is provided for holding the raft 10 therein in folded position, the raft 10 having its ends folded toward the middle with the painter 17 projecting therefrom and having a section thereof coiled within the pocket 20,

the other end 21 of the lanyard or painter being adapted to be held in the hand or suitably secured for operation. The container 18 is provided with a separable fastener 22 permitting the raft 10 to be packed therein. Another opening 23 is provided, which is held closed by means of breakable stitches 24.

In operation, the end 21 of the painter 17 is suitably secured or held in the hand when the container 18 including the raft 10 is cast overboard, either when the aircraft is in the air or after it has alighted on the surface of the water. When cast overboard from the air the length of the lanyard or painter 17 within the pocket 20 permits the container 18 to drop a sufficient distance to prevent fouling the tail surfaces of the aircraft. As soon as the container 18 has fallen a sufficient distance, the lanyard or painter 17 operates the valve 16 to permit the gas from the bottle 14 to enter the raft tube 11. The raft immediately commences to swell up and the pressure is sufficient to break the stitches 24 over the opening 23, and permits the raft to emerge and assume the fully inflated position shown in Figs. 1 and 2.

By placing the weight of the gas bottle 14 and seat 13 substantially at the midline and somewhat below the center of gravity, it has been found that when dropped overboard from the vessel in the air, the raft will inflate within approximately five seconds after it has been cast loose and will then approach the surface of the water with a falling leaf motion and land right side up, ready for immediate use.

Other modifications and changes in the proportions and arrangements of the parts may be made by those skilled in the art without departing from the nature and scope of the invention.

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.

Having thus set forth and disclosed the nature of this invention, what is claimed is:

1. For use with a self-inflatable folded life raft having a gas pressure bottle connected thereto and including a valve for controlling the discharge of gas from the bottle to the raft; a flexible, portable container, said container having an opening having a separable fastener whereby the life raft may be placed therein, and an additional opening, breakable means closing said additional opening, and valve actuating means extending outside of said container whereby the

inflation of said raft may be initiated while within said container to break said means and emerge through said additional opening from said container.

- 5 2. For use with a self-inflatable folded life raft having a gas pressure bottle connected thereto and including a valve for controlling the discharge of gas to the raft; a flexible, portable container, said container having an opening having a separable fastener whereby the life raft 10 may be placed therein, and an additional opening, breakable means closing said additional opening, and valve actuating means extending outside of said container whereby the inflation of the 15 raft may be initiated while within said container to break said breakable means and emerge through said additional opening from said con-

tainer, said valve actuating means comprising a lanyard, and a pocket on the outside of said container for holding a substantial length of said lanyard disposed therein.

3. The combination of a self-inflatable folded 5 life raft, a gas bottle connected thereto, a valve for controlling the discharge of gas from said gas bottle to said raft, a flexible portable container having an easily closable opening through 10 which the raft is placed therein and a second opening closed by breakable means, and a valve actuating lanyard extending externally of said container whereby inflation of said raft may be commenced while within said container, causing 15 the raft to break said breakable means and emerge from the container.

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