

Oct. 13, 1964

M. I. RADNOFSKY ETAL

3,152,344

LIFE PRESERVER

Filed Feb. 15, 1963

2 Sheets-Sheet 1



Fig. 1 N70-36493

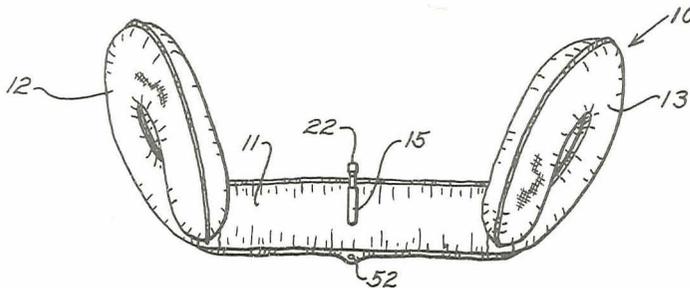


Fig. 2

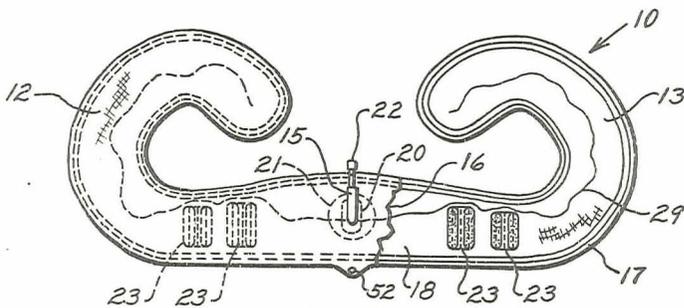


Fig. 3



N70-36493 (ACCESSION NUMBER)

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504

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2 Sheets-Sheet 2

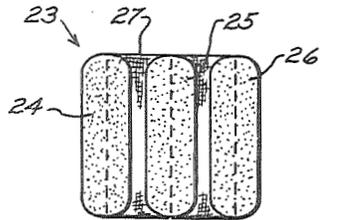
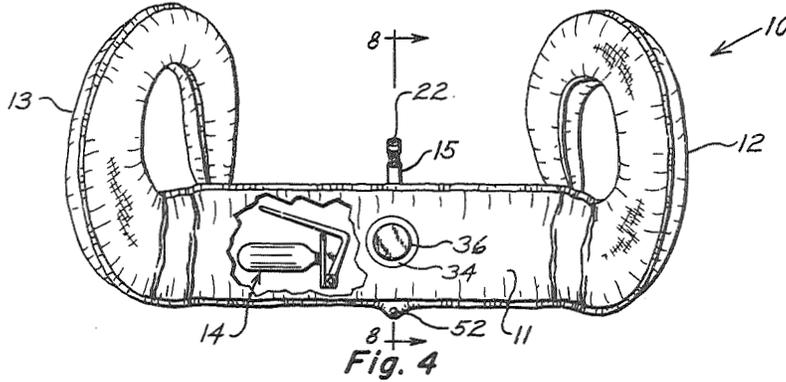


Fig. 5

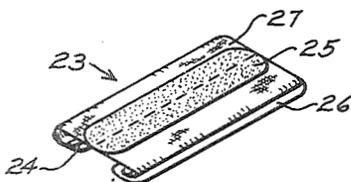


Fig. 6

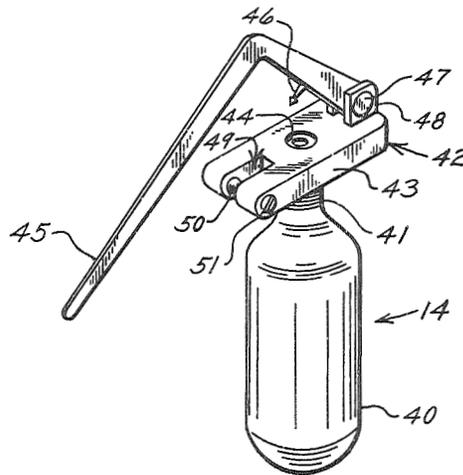


Fig. 7

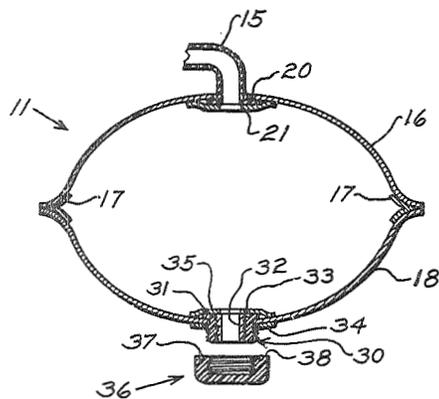


Fig. 8

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3,152,344

LIFE PRESERVER

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Filed Feb. 15, 1963, Ser. No. 258,932

12 Claims. (Cl. 9—316)

(Granted under Title 35, U.S. Code (1952), sec. 266)

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

This invention relates generally to a buoyant device for supporting a person in water and more particularly to an inflatable type of life preserver.

Among the many problems encountered in the early efforts of manned spaceflight, was an imperative need for a life preserver which would be suitable for use by an astronaut or pilot when clothed in the attire of an inflatable pressure suit or space suit. One of the requirements in a life preserver to be used by an astronaut or pilot is that it provide adequate flotation in the event his suit should become filled with water as may occur when a water landing has been made and he has found it necessary to take to the water. It is also important that the preserver possess flotation characteristics which would support the wearer's head well above the water, but which would not hinder his swimming or constitute an obstacle as to impede rescue and recovery operations. In addition, because of the natural cumbersomeness imposed by pressure suit attire, it is necessary that a life preserver suitable for use therewith possess easy don and doff characteristics and at all times, when worn, tend to cling to the wearer in a manner as would obviate the need for any fastening straps, buckles, or the like. Furthermore, to be included as survival equipment suitable for use with spacecraft or aircraft it is particularly important and desirable that such a life preserver possess a very lightweight construction and the adaptability to being reduced to a very small size for compact packaging and stowage.

It has been characteristic of the earlier types of life preservers which are filled with buoyant materials, such as kapok, fibrous glass, or the like, that they possess an undesirable bulk and weight and are consequently not foldable or reducible to a small and compact size as is desirable in a preserver to be carried aboard spacecraft or aircraft. On the other hand, the types of life preservers which have hitherto been devised are oftentimes equipped with unwieldy fastening devices, such as straps, buckles, or belts, and, as such, are particularly difficult to don by astronauts and aviators when clothed in the cumbersome pressure suits. The types of preservers which are not provided with such fastening devices, such as the water-wings type which is designed to fit around the waist or trunk of the person's body, do not adequately cling to the wearer and, like the conventional "ring" preserver, are a hindrance to swimming and an obstacle in operations directed to his rescue and recovery.

To overcome the disadvantages attendant to the life preservers of the prior art, the life preserver of this invention is fabricated from very lightweight flexible materials without fastening devices of any kind. The preserver is comprised of an inflatable structure provided with internal restraining members which cause the preserver, upon being inflated, to assume a "ram's horns" configuration having a straight central portion and ends in the form of "horns" or "hooks." The preserver is easily donned by extending the arms through the "hooks" so that the "hooks" extend under the armpits and loop over the shoulders with the straight portion of the preserver disposed across the

2

front of the chest. When worn in this manner the preserver supports the body in a near vertical, though slightly reclined, position and provides adequate flotation for holding the head well above the water. Although the vest clings tenaciously to the body, it does not hinder swimming on the part of the wearer nor otherwise impede rescue or recovery operations. To discard the life preserver, it is only necessary to shove or otherwise remove the inflatable "hooks" from the shoulders, which may easily be done one at a time, and to withdraw the arms therefrom. For inflating the preserver and as a means for maintaining its buoyancy, the preserver is provided with an oral inflation tube. For rapid inflation, a lightweight compressed gas cartridge is disposed in a loose manner internally of the preserver so as to avoid an attachment with the fabric walls of the preserver as would increase stresses at the point of attachment, particularly when folded, and therefore the possibility of leakage. This also permits its reduction, when deflated, to a compact package of a very small size and very light weight.

Other objects and many of the attendant advantages of this invention will be readily appreciated as the same become better understood by reference to the following detailed description when considered in connection with the accompanying drawings in which like reference numerals designate like parts throughout the figures thereof and wherein:

FIGURE 1 is a view showing the inflated life preserver of this invention as worn by a person in the water;

FIGURE 2 is a front view of the inflated life preserver of this invention;

FIGURE 3 is a front view of the life preserver of FIGURE 2 with parts broken away and showing the preserver in the deflated unfolded state;

FIGURE 4 is a back view of the inflated life preserver of FIGURE 2, with parts broken away, showing a compressed gas cartridge disposed therein;

FIGURE 5 is a plan view of one of the restraining members which are attached internally of the life preserver for bending the preserver to a desired configuration when in the inflated state;

FIGURE 6 is a perspective view of the restraining member of FIGURE 5 showing the restraint in the folded condition in which it is attached within the life preserver;

FIGURE 7 is a perspective view of the compressed gas cartridge assembly which is used for rapidly inflating the life preserver; and

FIGURE 8 is an exploded view in cross-section as taken along the line 8—8 in FIGURE 4 and looking in the direction of the arrows, with the internal restraining members of the life preserver omitted for purposes of clarity.

Referring more particularly to the drawings, there is shown in FIGURES 1 and 2 a life preserver or life vest 10 which is a preferred embodiment of the invention. The life preserver 10 is a flexible inflatable structure or tube which, when inflated, assumes a "ram's horns" configuration with an elongate straight portion 11 and ends 12 and 13 configured in the form of "horns" or "hooks." The inflatable structure of the preserver, aside from the incidental fittings and appurtenances, is constructed entirely of nylon fabric which is coated on one side with a thin fluid-impermeable layer of neoprene, which coated side is preferably disposed at the interior of the inflatable structure. Besides demonstrating exceptional durability, this type of fabric permits of a very lightweight and flexible construction for the preserver whereby, when the preserver is deflated, it may be folded and reduced to a very small and lightweight package for stowage. For rapidly inflating the life preserver a compressed gas cartridge assembly 14, as shown in FIGURES 4 and 7, is disposed in a loose manner within the tubular structure 11 wherein the cartridge

is adaptable to being punctured so as to release the inflating medium by merely squeezing the packaged or folded life preserver and the cartridge assembly placed therein.

In addition thereto, the life preserver is fitted with an oral inflation tube 15 which is installed centrally of the straight portion 11. When the preserver is fitted to the wearer with the "hooks" extending under the armpits and over the shoulders with the straight portion 11 across the front of the chest as in the manner illustrated in FIGURE 1, the inflation tube is disposed directly in front of the wearer. In this location, it may be easily reached and placed to the mouth whenever it is desired to further inflate or deflate the preserver.

The "ram's horns" configuration of the life vest makes it very easy to don since it only requires slipping the arms through the "hooks" or "horns" with the straight portion of the vest placed across the front of the body. Because the greater portion of the life vest is in front, it therefore tends to hold the body in a slightly reclined position with the head held high and the face kept out of the water by the buoyant section directly beneath the chin. This characteristic, of course, is very desirable and its importance can hardly be overemphasized, particularly, should the wearer lapse into unconsciousness.

In addition to its excellent buoyancy qualities, the "ram's horns" configuration of the life preserver offers little hindrance to natural movements of the wearer. Since there are no parts which obstruct arm and leg motions, the arms and legs are permitted a substantially unimpeded freedom of movement. Consequently, the vest does not impede swimming by the wearer. Further, since it is fitted closely and clings tenaciously to the body, while permitting free arm and leg movements, it does not tend to interfere when efforts are exerted to lift the wearer from the water.

For the purposes of weight saving and to provide for a simple and inexpensive method of manufacture, it is preferable that the life preserver be fabricated with as few seams as possible. One acceptable procedure for fabrication is to generate a design pattern of the life preserver structure as a projection on a single plane and to outline the pattern on the neoprene-coated side of a sheet of nylon fabric, such as the sheet 16, best shown in FIGURE 8. In forming the pattern, of course, the outline and the width of the tube are enlarged relative to the desired tube diameter when inflated.

The outline or pattern marking which is in the form of a closed figure or curve is then covered with coats of neoprene cement extending over an area of two or more inches on both sides of the marking. A conventional bias tape 17, as seen in FIGURES 3 and 8, is then applied to the outline marking on the fabric by folding the tape lengthwise so that the tape is "V-shape" in cross-section with its adhesive side facing outwardly and placing the open edge of the tape along the outline marking with the folded edge of the tape disposed externally of the pattern design.

Prior to the application of a second sheet 18 of neoprene-coated nylon which when cemented to the first sheet 16, as shown in FIGURES 3 and 8, forms the inflatable air-tight structure of the life preserver, the oral inflation tube is installed in the first sheet of fabric in any suitable manner. In the method illustrated in the drawings, the flexible flange 20 which is conventionally provided at the connecting or proximal end of the inflation tube, is cemented to the inner side of the fabric sheet 16 and disposed in substantially concentric relation about an aperture which is appropriately formed in the sheet and through which the tube is inserted to extend externally of the preserver. After the flange is cemented, a circular patch 21 of nylon is placed over the flange and cemented to the fabric sheet to further insure a good bond between the flange and fabric. At its free end, the inflation tube is provided with a conventional one-way "push" valve 22 which is installed therein to control the passage of air into the inflatable preserver and also to effectively check

its exit therefrom. The tube and valve are of the type disclosed in U.S. Patent No. 2,502,301 but may be of any other type suitable for installation in inflatable objects. Since there will generally be a very gradual diffusion or leakage of the inflating medium through the fabric walls of the preserver over a long period of time, the oral inflation tube permits the replenishment of pressure in the inflatable preserver by oral inflation to thereby enable a person who is wearing the preserver to maintain an adequate buoyancy at all times.

In order to configure the life preserver into its desired "ram's horns" configuration, a plurality of internal restraints 23, preferably four in number, are employed, each of which is disposed and attached internally of the preserver. A pair of the restraints 23 are disposed adjacent each end of the straight portion of the tubular structure and by their manner of installation are adapted to cause bending of the structure when in its inflated state.

The individual restraining members are fabricated by stitching three elongate pieces 24, 25, and 26 of solvent activated bias tape to a generally rectangular patch of nylon fabric 27, as shown in FIGURE 5. The three bias tapes are stitched to the nylon patch in parallel spaced relation to one another with their adhesive sides external to the patch. As applied to the life preserver, each restraining member is folded over at its ends, as shown in FIGURE 6, so that the outer two of the bias tapes are disposed with their adhesive sides facing in the same direction whereby they are adapted to be fastened to one of the sheets, such as the sheet 16 of the preserver. The center tape 25 of the restraint is then positioned with its adhesive face disposed to adhere to the second sheet of fabric 18 when the second sheet is applied to the first sheet during fabrication of the preserver.

As shown in FIGURE 3, the pairs of restraints at each end of the straight portion of the life preserver are disposed transversely to the straight portion and are longitudinally spaced therealong. Upon inflation of the preserver, the restraints cause the inflatable structure to bend at the line of attachment of the center tape of each restraint such that the restraints assume a "V-shape" and the preserver is curved or bent at each restraint in a direction opposite the direction of bending of the V such that the hook ends 12 and 13 depend in a substantially perpendicular direction from the straight portion 11 and thus provide the desired "ram's horns" configuration of the preserver wherein each curved end portion is in the form of a spiral or loop as illustrated in FIGURE 2. Since the cross-sectional diameter of the "horns" or "hooks" of the inflatable structure at its point of bending is slightly reduced, the outermost restraint of each pair is preferably smaller than its partner as is readily apparent from FIGURE 3.

A solution of talc, or the like, of cream-like consistency is then brushed over the area encompassed within the "V-tape" so that when the second sheet of neoprene coated nylon is applied to the first sheet so as to cover the outline thereon, it will adhere to the "V-tape" and to the cement-coated area of the first sheet which lies outside of the talc-coated area encompassed by the "V-tape," thus providing for an air-tight tubular assembly of the sheets. If desired, to facilitate the application of the one sheet to the other, the two sheets may be placed on the opposite sides of a hinged pattern jig which when closed will correctly place one over the other.

The provision of the "V-tape" at the cemented juncture or seam of the fabrics is for the purpose of increasing the strength of the junction. The attachment of the "V-tape" to both of the sheets of fabric results in the conversion of mechanical "peel" forces to forces acting in "shear" along the junction when the tube is inflated and thus produces a stronger union, since the "shear" strength of a cemented junction greatly exceeds the "peel" strength, as would be the limiting factor of a junction without the "V-tape."

5

If desired, before the second sheet is applied over the first sheet, a light cord 29 of nylon, or the like, may be cemented to the first sheet of fabric within the talc-coated area encompassed by the "V-tape." The presence of the cord serves to insure provision of an air passage between the sheets when the life preserver is being evacuated of air as is customary procedure for tight packing of the preserver into a compact storage container, such as a survival equipment kit, to be carried aboard spacecraft or aircraft. Without the presence of a cord, or similar object, to provide an air passage, evacuation of the life preserver is more difficult, uncertain, and time-consuming since the area near the exit port tends to evacuate to form and close off pockets of air in the preserver.

When the two nylon sheets have thus been joined together, the cemented areas are rolled to insure a perfect bond without air bubbles or wrinkles. The fabrics are then trimmed to within about 1/2 inch from the folded edge of the "V-tape" all about the periphery of the outline so as to remove the excess materials.

The compressed gas cartridge assembly which is provided for rapid inflation of the life preserver is inserted through a circular port formed centrally of the straight portion of the sheet 18 and is disposed loosely within the straight portion of the vest. An annular fitting 30 of hard nylon plastic is installed in the port and attached to the fabric sheet 18, preferably prior to its application to the first sheet 16. The annular fitting, which is in the form of a circular cylinder with an external annular flange 31 integrally formed at one end, is internally threaded and externally threaded throughout the length of its cylindrical portion. The flange is formed with an outer diameter greater than the diameter of the port in which the fitting is installed and is cemented to the side of the fabric sheet which constitutes the inner wall of the life preserver.

To prevent the annular nylon fitting from bending and warping, the fitting is provided with an inner sleeve 32 of aluminum which is threadedly connected to the fitting by external threads which cooperatively engage with the inner threads of the plastic fitting. Like the plastic fitting, an annular flange 33 is also provided at one end of the aluminum sleeve and is designed to abut the nylon flange 31 when the sleeve is threaded in position in the fitting. For further reinforcement of the bond between the fabric and fitting, circular patches 34 and 35 of nylon fabric are disposed concentrically to the annular fitting and cemented, respectively, to the outer and inner walls of the life preserver.

For closing the port, a nylon plastic closure cap 36 is provided which is screwable on to the plastic fitting 30. A seal in the form of a neoprene rubber "O-ring" 37 is installed in an annular groove found in the lower surface 38 of the cap and provides an airtight seal when the cap is threaded to the fitting.

The cartridge assembly 14, best shown in FIGURE 7, comprises a lightweight compressed gas cylinder 40 with an externally threaded neck portion 41 and is preferably a 16 gram carbon dioxide cylinder which may be of the type manufactured by the Knapp Monarch Corporation of St. Louis, Missouri. The trigger mechanism 42 of the assembly comprises a generally rectangular-shaped aluminum support 43 which is provided with a centrally located threaded aperture 44 for receiving the neck of the cartridge to which it is threaded. A soft steel trigger arm 45 with a hard steel plunger 46 affixed thereto is pivotally mounted on a steel pivot screw 47 secured between a pair of upright ears 48 which are integrally formed at one end of the support 42. The arrangement of the pivotal connection of the trigger arm and the location of the upright ears is such that the plane of pivotal movement of the arm includes the longitudinal axis of the CO₂ cartridge, so that the plunger may be caused to pierce a thin metal closure plate across the top of the cartridge

6

as the arm is pivoted towards the cartridge. Hence, when it is desired to rapidly inflate the life preserver, the compressed gas cartridge may be readily discharged by squeezing the uninflated preserver or the envelope in which the folded preserver may be packaged so as to cause the trigger arm to be pivotally moved towards the cartridge until puncture occurs.

In order to prevent the plunger from being accidentally forced into the cartridge, particularly when the life preserver is being folded, a safety device is provided in the form of an open slot 49 which is formed in the end of the support opposite the uprights in the plane of pivotal movement of the trigger arm and is provided with spring mounted detents 50 in the walls thereof which tend to keep the arm away from the cartridge. The detents shown in FIGURE 7, are in the form of steel balls mounted in lateral bores in the support and spring biased outwardly into the slot by means of coil springs (not shown) placed within the lateral bores and held therein by screws 51 which close one end of the bore. The openings of the bores into the slot are made of smaller dimension than the internal diameter of the bores so that the balls are retained within the bores and extend only part way into the slot. It will, therefore, be apparent that when sufficient pivotal force is applied to the trigger arm, the detents or balls 50 will yield to permit passage of the trigger arm into the slot 49 and consequently the puncture of the cartridge. It is to be understood, of course, that other types of safety devices might also be satisfactorily employed. A wire, for instance, might be secured across the mouth of the slot 49 which would break upon application of a predetermined force.

The adhesive used in bonding the various parts of the life preserver is a mixture of two neoprene adhesives N136A and N136B, which are manufactured by the UBS Chemical Company of Cambridge, Massachusetts. However, other good waterproofing cements which are adapted to the bonding of neoprene to nylon and neoprene to neoprene may satisfactorily be used. Substitutions may also be made for the various materials of the preserver which have herein been disclosed provided they are of comparable weight, durability, and utility. Dacron, for example, may satisfactorily be used as a substitute for nylon.

However, a life preserver incorporating materials of the type disclosed and fabricated in the manner described has been constructed with a length or spread of 24 inches across the "horns," when inflated, and an over-all weight not exceeding 0.98 pound, including the weight of the charged CO₂ cartridge assembly which weighs 0.26 pound. It is also reducible, when deflated, to a small compact package of approximately 18 cubic inches in volume, or less, depending on the tightness of packing. The envelope or container for the deflated life preserver is preferably of lightweight flexible material which is either sufficiently weak to tear as inflation occurs or is designed to open in response to pressure of the inflating medium. If desired, a metal grommet such as the grommet 52 may be provided in the seam flange of the inflatable structure of the life preserver and located preferably centrally of the straight portion 11, to which a securing line, or the like, may be attached. The seam flange at this location is preferably enlarged to receive the grommet.

It will therefore be seen that a new and improved life preserver of both simple and economical construction is disclosed herein which is fabricated with lightweight flexible materials without fastening devices of any kind. The preserver is provided with internal restraining members which bend the preserver to a "ram's horns" configuration upon inflation and which when fitted to the wearer will hold the head and face clear of the water. It will also cling tenaciously to the body without hindering the wearer's ability to swim or otherwise interfering when recovery operations and rescue of the wearer are at-

tempted. It will further be seen that the life preserver described herein possesses easy "don" and "doff" characteristics which make it particularly suitable for use by an astronaut or pilot or anyone clothed in cumbersome garments. It is also seen that a life preserver is disclosed herein which is provided with a lightweight compressed gas cartridge which is disposed in a loose manner internally of the preserver so as to permit its reduction, when deflated, to a compact package of very small size and very light weight. It is also provided with an oral inflation tube as an alternate means of inflation and for maintaining the buoyancy of the preserver.

It should be understood, of course, that the foregoing disclosure relates only to preferred embodiments of the invention and that it is intended to cover all changes and modifications of the examples in the invention herein chosen for the purposes of the disclosure, which do not constitute departures from the spirit and scope of the invention.

What is claimed and desired to be secured by Letters Patent is:

1. An inflatable life vest for buoyantly supporting a person in water comprising: an elongate inflatable structure having an elongate central portion and a pair of curved end portions connecting integrally with said central portion, each said curved end portion defining a substantially spiral loop; means attached internally of said elongate inflatable structure for bending said structure upon inflation at the junctions of said central portion and said curved end portions whereby said life vest assumes the configuration of a ram's horns with said end portions being coiled about an axis which is substantially parallel to the longitudinal axis of said central portion whereby said life vest is adapted to be fitted to a person's body with the central portion disposed across the chest and the curved end portions extending under the armpits with the arms extending through the loops defined by said curved end portions to thereby provide buoyant support for said person and to cling to said person without the need of fastening devices; means for inflating said inflatable structure, said inflating means comprising a container of compressed gas disposed in a loose manner internally of said inflatable structure, and a trigger means operatively associated with said container for releasing the compressed gas therein, said inflating means being operable to inflate said life vest by squeezing the deflated vest and the trigger means of said inflating means; and an opening through the wall of the life vest which is fitted with a removable closure means whereby the inflating means may be replaced in the life vest after discharge.

2. A life preserver comprising an inflatable structure fabricated of a thin, flexible, fluid-impervious material and adapted to be folded into a compact mass when deflated; means attached internally of said inflatable structure for bending said structure upon inflation to a predetermined configuration wherein said structure is comprised of an elongate central portion and a pair of curved end portions integrally joined to the respective ends of said elongate central portion, each said curved end portion being curled into a loop extending from said elongate central portion in a plane which is substantially normal to the longitudinal axis of said elongate central portion whereby said life vest is adapted to be fitted to a person's body with said elongate central portion disposed across the chest and said curved end portions extending under the armpits and looped about the person's arms at the shoulders to thereby provide buoyant support for the person in water; and removable means for inflating said inflatable structure, said inflating means comprising a container of compressed gas disposed internally of said inflatable structure and a trigger mechanism operatively associated with said container for releasing the compressed gas therein, said inflating means being operable to inflate said life preserver by squeezing the deflated life

preserver and the trigger mechanism of said inflating means.

3. An inflatable life vest for buoyantly supporting a person in water comprising: an elongate inflatable structure having an elongate central portion and a pair of curved end portions connecting integrally with said central portion, each said curved end portion defining a substantially closed loop; means operatively associated with said elongate inflatable structure for bending said structure upon inflation at the junctions of said central portion and said curved end portions whereby said life vest assumes the configuration of a ram's horns and is adapted to be fitted to a person's body with the central portion disposed across the chest and the curved end portions extending under the armpits and looped about the person's arms at the shoulders to thereby provide buoyant support for said person; and means for inflating said inflatable structure, said inflating means comprising a container of compressed gas disposed internally of said inflatable structure, and a trigger means operatively associated with said container for releasing the compressed gas therein, said inflating means being operable to inflate said life vest by squeezing the deflated vest and the trigger means of said inflating means.

4. An inflatable life vest for buoyantly supporting a person in water comprising: a tubular inflatable structure having an elongate central portion and a pair of curled end portions integrally connected to said central portion, each said curled end portion defining a substantially complete loop; means disposed in a loose manner internally of said inflatable structure for inflating said structure; and means internal of said elongate inflatable structure for bending said structure at the junctions of said central portion and said curled end portions whereby said life vest assumes a ram's horns configuration upon inflation and is adapted to be fitted to a person's body with the central portion disposed across the chest and the curved end portions extending under the armpits with the arms extending through the loops defined by said curled end portions to thereby provide buoyant support for the person.

5. An inflatable life vest comprising an elongate inflatable structure: means disposed in a loose manner internally of said inflatable structure for inflating said structure; and means attached internally of said inflatable structure for bending said structure upon inflation to a predetermined configuration wherein said structure is comprised of an elongate central portion and a pair of curved end portions integrally joined to the respective ends of said elongate central portion, each said curved end portion upon inflation of the vest being coiled into a loop about an axis which is substantially parallel to the longitudinal axis of said elongate central portion.

6. An inflatable life vest for buoyantly supporting a person in water comprising an elongate inflatable structure; means disposed in a loose manner internally of said structure for inflating said structure; means attached internally of said inflatable structure for bending said structure upon inflation to a "ram's horns" configuration having an elongate central portion with respective end portions configured in the form of spiral loops whereby said life preserver when fitted to the body of a person with the elongate central portion disposed across the chest and the arms extending through the loops defined by the respective end portions will provide buoyant support for the body and cling tenaciously thereto; and valve means installed on said inflatable structure for controlling the flow of an inflating medium into and out of said inflatable structure.

7. An inflatable life vest for buoyantly supporting a person in water comprising an elongate inflatable structure having overlying walls of fluid-impervious material, said inflatable structure having an elongate central portion and curled end portions connecting integrally with said central portion; means disposed in a loose manner in-

ternally of said inflatable structure for inflating said structure; a plurality of means internal of said inflatable structure for bending said structure upon inflation at the junctions of said central portion and said curled end portions whereby said life vest is adapted to be fitted to a person's body with the central portion disposed across the chest and the curled end portions extending under the armpits and substantially encircling the arms at the shoulders to thereby provide buoyant support for said person, each said means for bending the inflatable structure comprising a flexible member attached to one wall of the inflatable structure at two locations on said flexible member and to the opposing overlying wall of said inflatable structure at a location on said flexible member intermediate said two locations whereby said inflatable structure upon being inflated is bent away from the attachments of said flexible member at said two locations.

8. An inflatable life vest for buoyantly supporting a person in water comprising an elongate inflatable structure having overlying walls of fluid-impervious material, said inflatable structure having an elongate central portion and a pair of curled end portions connecting integrally with said central portion; a plurality of means internal of said inflatable structure for bending said structure upon inflation at the junctions of said central portion and said curled end portions whereby said life vest is adapted to be fitted to a person's body with the central portion disposed across the chest and the curled end portions extending under the armpits and substantially encircling the arms to thereby provide buoyant support for said person, each said means for bending the inflatable structure comprising a flexible member attached to one wall of the inflatable structure at two locations on said flexible member and to the opposing overlying wall of said inflatable structure at a location on said flexible member intermediate said two locations whereby said inflatable structure upon being inflated is bent away from the attachments of said flexible member at said two locations.

9. A life vest comprising: an inflatable structure fabricated of flexible, imperivous material and adapted to be folded into a compact mass when deflated, said inflatable structure in the inflated state comprising: an elongate central portion; a pair of curled end portions, said end portions being integrally joined to the respective ends of said central portion and extending therefrom in the fashion of a ram's horns whereby said life vest is adapted to be fitted to a person's body with the elongate central portion disposed across the chest and the curled end portions substantially encircling the arms at the shoulders to thereby support a person in water; and means for inflating said structure disposed in a loose manner internally of said structure, said inflating means comprising a container of compressed gas and a trigger mechanism operatively associated with said container for releasing the compressed gas therein, said inflating means being

operable to inflate said life vest by squeezing the deflated vest and the trigger mechanism of said inflating means.

10. A life preserver comprising: an inflatable structure fabricated of a flexible, fluid-impervious material and adapted to be folded into a compact mass when deflated, said inflatable structure in the inflated state comprising an elongate central portion adapted to be disposed across the chest of a person when the life vest is fitted to the person's body; and a pair of curled end portions, said end portions being integrally joined to the respective ends of said elongate central portion and extending angularly therefrom in the fashion of a ram's horns whereby said life vest is adapted to be fitted to a person's body with the elongate central portion disposed across the chest and the curled end portions extending under the armpits with the arms extending through the loops defined by the curled end portions to thereby buoyantly support said person when in water.

11. A life vest for buoyantly supporting a person in water, said life vest comprising: an elongate central portion adapted to be disposed across the chest of a person when the life vest is fitted to the person's body; and a pair of curled end portions in the fashion of a ram's horns whereby said life vest is adapted to be fitted to a person's body with the elongate central portion disposed across the chest and the curled end portions extending under the armpits and looped about the person's arms at the shoulders to thereby buoyantly support said person when in water.

12. A life vest for buoyantly supporting a person in water, said life vest comprising: an elongate central portion adapted to be disposed across the chest of a person when the life vest is fitted to the person's body; and a pair of curved end portions, said end portions being integrally joined to the respective ends of said elongate central portion and being coiled about an axis which is substantially parallel to the longitudinal axis of said elongate central portion whereby said life vest is adapted to be fitted to a person's body with the elongate central portion disposed across the chest and the curved end portions extending under the armpits with the arms extending through the loops defined by the curved end portions to thereby provide buoyant support for said person in water.

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