Aug. 14, 1951 M. J. SHAW 2,563,966

LIFE PRESERVER JACKET

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Fig 2

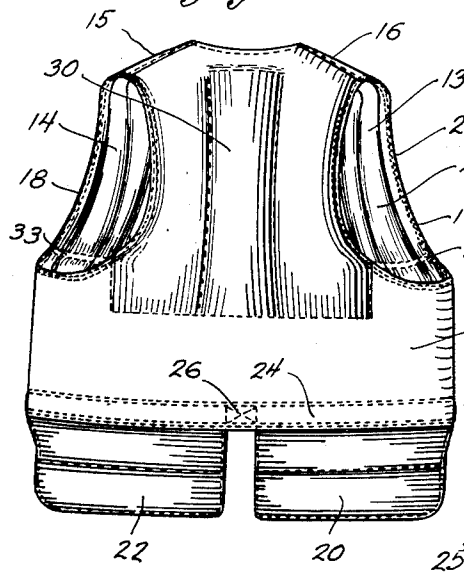


Fig 1

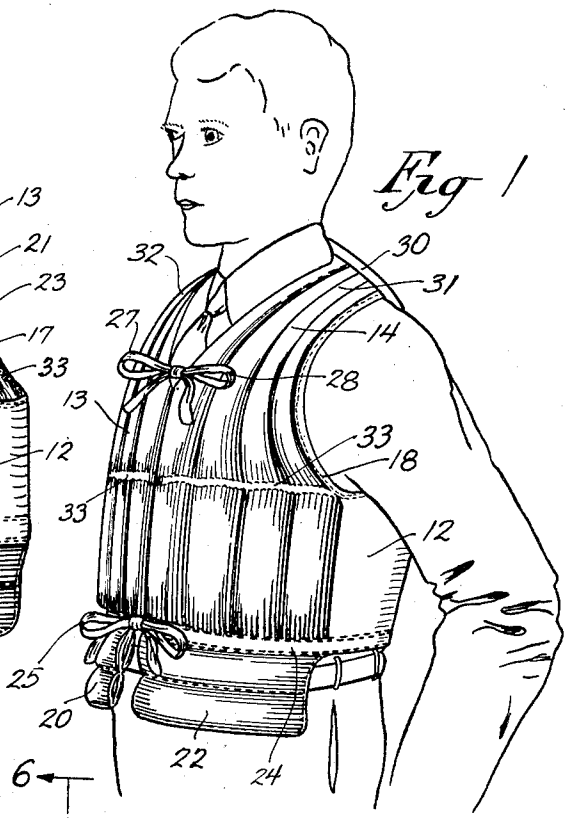
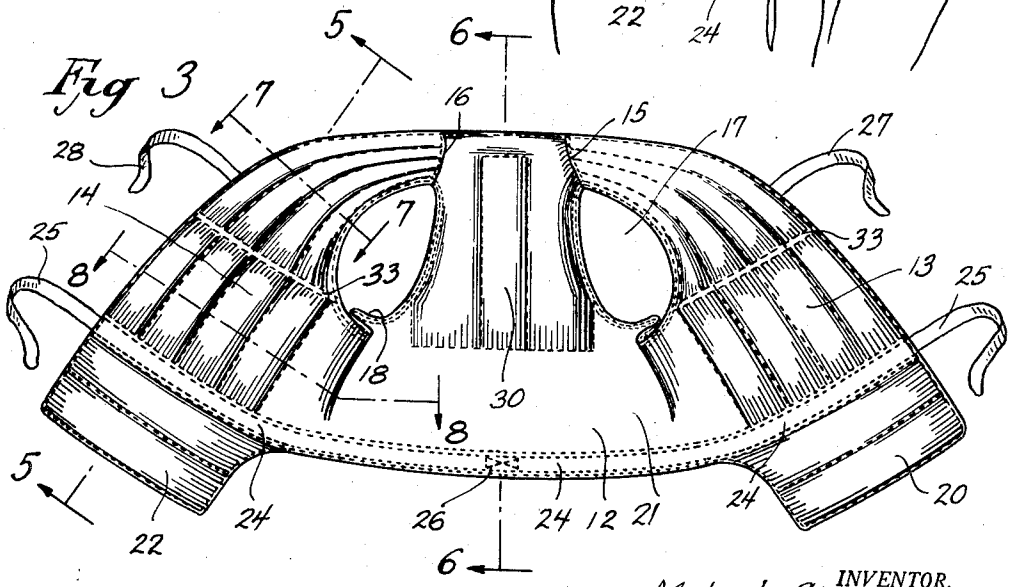


Fig 3



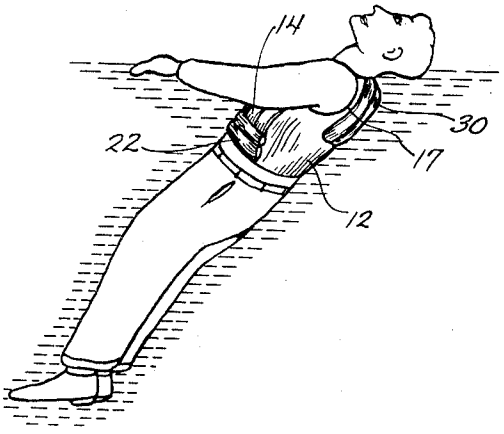
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Fig 4



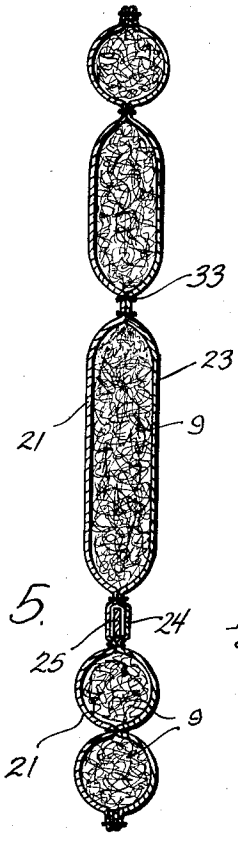


Fig 5

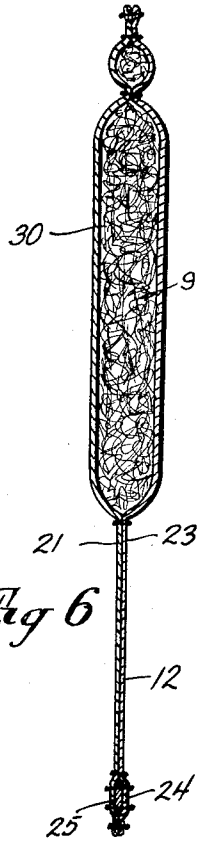
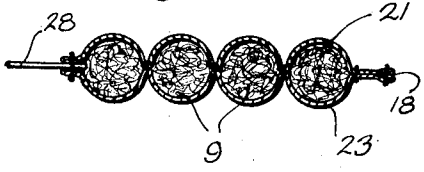


Fig 6

Fig 7



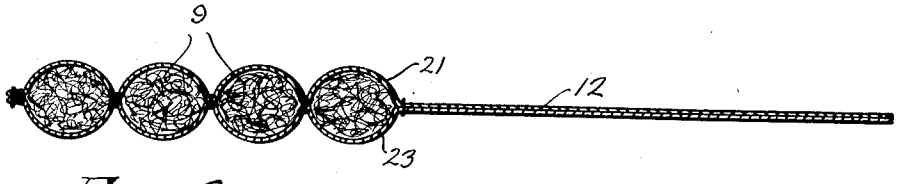


Fig 8.

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LIFE PRESERVER JACKET

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2 Claims. (Cl. 9—17)

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This invention relates to life preservers and more particularly to an improved life preserver of the vest or jacket type. Life vests or jackets may be divided into two general classes according to the nature of their use. The first class consists of emergency jackets required of a navigation company to be readily available for emergencies as when a ship is in imminent danger of sinking. These preservers are generally quite heavy and cumbersome to the wearer. The second class of life vests consists of those which are owned personally and are expected to be worn continuously by persons while engaged in occupations or recreations which expose them to the danger of drowning. This invention lies in the latter class.

Life vests which are to be worn continuously must be comfortable to the wearer or their purpose will be defeated. If a vest is too heavy or cumbersome, the temptation to remove it will be great and its purpose will be defeated. This is particularly true because life preservers of this type are worn largely by persons engaged in recreation occuring during the summer months when the factors of comfort and coolness for the wearer are essential factors.

Many life preservers of the second class are well known to the art. However, the present invention constitutes certain improvements, not only embodying an improved feature for additional comfort but also an improvement regarding safety.

In many cases of accidents on the water the victim is knocked unconscious at the time he falls into the water. When this occurs, it is necessary that the life preserver support his head in a position so that the face is not submerged. This has been accomplished in the past by providing a heavy collar of buoyant material attached to the life jacket around the neck which will cradle the head in a nonsubmerged position even when the muscles of the neck are limp. Although this jacket is useful in boat races, it is not satisfactory for jackets worn continuously. The present invention similates the advantages of such a jacket insofar as expected contingencies regarding unconsciousness are concerned, yet is more comfortable to wear.

One object of this invention is to provide an improved life saving vest which will be more comfortable to wear continuously and safer for the wearer than heretofore provided.

Another object is to provide a vest having an extra amount of soft buoyant material located about the wearer's neck to cradle the head without having a collar attached to the vest, and

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without the vest feeling stiff to the wearer out of the water.

A further object is to provide an improved light weight life vest having a high center buoyancy when worn, the center of buoyance being located so that the wearer's body will lie in the water on a 45° angle insuring that the face will not be submerged. A further object is to provide a vest of universal size incorporating these features which may be worn with equal comfort by persons of various proportions.

Another object is to provide a life vest which is divided into an upper and lower section by a double row of spaced stitching which readily flexes for comfort and tends to prevent the saturation of the upper portion of the vest by capillary action of water within the buoyant material so that during the early minutes of use in water the extra buoyant effect of dry pockets over the shoulders holds the head high during the time the wearer would probably be unconscious.

Another object is to provide a vest which is reversible and may be worn with either side out with the benefit of equal results either way.

These and other objects of the invention will be apparent to those skilled in the art from the drawings, the specification and the appended claims.

In the drawings:

Fig. 1 is a view of the preferred form of the invention as it appears when fastened in place on a person.

Fig. 2 is a back view of the vest shown in Fig. 1.

Fig. 3 is a view of the vest when unfolded and flattened.

Fig. 4 is a view of a person wearing this invention while floating in the water.

Fig. 5 is a section taken on line 5—5 of Fig. 3.

Fig. 6 is a section taken on line 6—6 of Fig. 3.

Fig. 7 is a section taken on line 7—7 of Fig. 3.

Fig. 8 is a section taken on line 8—8 of Fig. 3.

Referring now to Fig. 3 which shows the vest embodying this invention unfolded and flattened. The vest is formed of two layers 21 and 23 (Figs. 5 and 6), of preferably tightly woven cotton fabric, which are stitched or otherwise fastened together around the marginal edges to form an envelope. Various portions of this envelope are stuffed with a buoyant material, preferably kapok 9, either in pockets formed by stitches or quilted by additional stitching.

The minimum buoyancy of this life jacket relies completely upon the buoyancy of the filling material and not to the waterproof qualities of the fabric, for, in time, any fabric material will allow

water to pass through it and a vest predicated on this method of achieving buoyancy alone would not support a victim for a long period of time. However, one of the features of the invention relates to a temporary employment of this additional buoyant effect in addition to the buoyancy of the material for certain advantages when extra buoyancy around the neck is desirable for a substantial length of time.

For the purpose of description the vest may be considered to consist of a back portion 12 and two symmetrical front portions 13 and 14. The upper end of each front section 13 and 14 is stitched to the upper end of the back section 12 along the seams 15 and 16 to define the arm holes 17 and 18. The lower portion of each of the front sections 13 and 14 extends downwardly to form the skirts 20 and 22. These skirts are separated from the major portions of the front sections 13 and 14 by an unquilted section 24 disposed between parallel lines of stitching, which unquilted section forms a shirr tube through which passes the draw string 25. The draw string 25 is anchored against removal by stitching or other suitable means as indicated at 26 substantially in the middle of the back portion 12. The function of this string is to secure the lower part of the vest around the waist of the wearer. The construction wherein the string is secured only at the point 26 makes it possible for the fabric to pucker in folds in the unquilted part of the back portion 12 insuring a snug fit even when the waistline of the wearer is considerably less than that of the vest. Two ties 27 and 28 are provided on the upper portion of each of the front sections 13 and 14 for the purpose of securing the top of the vest about the chest of the wearer.

When the victim floats in the water the skirts 20 and 22 are free to float upward and assume the position shown in Fig. 4. This serves to raise the center of buoyancy of the vest thereby producing greater stability.

The back section 12 of the vest has no skirt section attached and the lower portion of this section preferably is not stuffed and quilted as is the remainder of the vest. However, the upper portion 30 bounded on the sides by the armholes is fully stuffed and quilted. This construction results in the wearer's body being much more stable when in the water. All the buoyant material is concentrated above the body's center of gravity. The upper portion 30 of the back section 12 is located above the body's center of gravity when the body assumes the angle in the water shown in Fig. 4 so that buoyant material in this portion serves to provide greater rather than lesser stability.

A further advantage of having a mass of buoyant material 9 in the upper back portion 30 is that this mass, in conjunction with the buoyant material in the upper portions 31 and 32 of the front sections 13 and 14, forms a cushion which serves to protect the head and neck of the wearer from suddent jerking should his body strike debris in the water. Should the wearer be unconscious, the cushion like mass will help hold the head in a position with the face above water, the weight and hang of the feet levering the body about this point for that purpose.

Furthermore, the relative locations of the buoyant material will roll the limp body of the wearer from face down to face up position if ever the wearer comes to the surface leaning forwardly. Not only this, but the buoyant portions

in front at the chest and neck level are so arranged that the head will be tipped back and held upright.

For this purpose each of the two front sections 13 and 14 is divided into two portions separated by horizontal rows of spaced stitching 33 located level with the bottom of the armholes 17 and 18. The expanse of loose cloth defined by this double stitching 33 divides each front section 13 and 14 into an upper portion and a lower portion which flex readily with respect to one another for comfort, and for buckling upward slightly to move or hold the head in upright position tilted rearwardly. These portions are each tightly stuffed with buoyant material as pocketed or quilted by vertical stitching. The double row of spaced stitching additionally separates the quilted sections so that the upper portions will not become water saturated from the lower portion by capillary action through and within the closely packed buoyant material. With this arrangement the air space in the sections 14 in addition to the buoyancy of the material will be conserved during the time that unconsciousness is likely to persist even if the wearer is badly hurt, having in mind the reviving effect the water will have if the wearer hasn't been too seriously hurt to have a chance to survive.

The benefits of this feature are further revealed by the fact that, although it is merely a light weight vest, the vest will support the body of the victim in a stable position in rough water to the best advantage for the operation of this feature. This is due primarily to the fact that the ultimate center of buoyancy is located above and in front of the center of gravity of the wearer's body to assure a righting of the victim's body and to maintain the body in an upright position at all times with a force greater than any tipping movement exerted by the waves. In fact any rocking motion caused by waves will cause the jacket to turn the wearer's face away from an oncoming wave.

Consequently, it will be seen that between the free flexing of the vest at 33 out of the water, greater comfort is had while the free flexing of the vest at 33 in the water will cause this portion of the vest to rise and lift the head back with the face out of the water. Moreover, the break in the buoyant material at this point from the buoyant material lower down substantially delays or even inhibits capillary water displacement of air from around the closely packed kapok fibers in the upper portion 13 and 14.

On examination of the drawings and the foregoing remarks it will be apparent to those skilled in the art that a superior life preserver has been created which provides for the novel features and objects mentioned herein. This jacket, even though light weight and not bulky, will support the victim's body in a stable position in smooth or rough water and if the victim is unconscious it will safely protect and support his head and neck to keep his face at all times exposed to the air.

It will also be apparent to those skilled in the art that various changes and modifications may be made in the life preserver of this invention without departing from the spirit of the invention whose scope is defined in the appended claims.

What is claimed is:

1. A life preserver jacket characterized by two layers of flexible material tailored to be worn as a vest comprising a back portion and two front

portions, said back and front portions being joined over the shoulders and below the arms to define armholes in the upper part of the jacket, said layers of material in each front portion being secured together along seam lines to form three separate vertically spaced compartments in each front portion, the seam lines forming one compartment being independent from the seam lines forming the other compartments and the horizontal seam lines bounding the top and bottom of the intermediate compartment being spaced a substantial distance from the seam lines bounding the respective adjacent edges of the top and bottom compartments to provide a band of said flexable material of substantial width between the compartments to permit extensive flexure and buckling between them wherever one is adjacent to another, the upper one of said horizontal bands being disposed at substantially the level of the bottom of the armholes and the lower one of said bands being disposed at the waist of the wearer, said layers of material in the back portion being secured together along seam lines to form a compartment in the back portion located between the armholes, buoyant material disposed in all of said compartments, and means for drawing the edges of the front portions together on a wearer including a fastening device for holding the jacket against the body of the wearer at the waist.

2. A life preserver jacket characterized by two layers of flexible material tailored to be worn as a vest comprising a back portion and two front portions, said back and front portions being joined over the shoulders and below the arms to define arm holes in the upper part of the jacket, said layers of material in each front portion being secured together along seam lines to form two separate vertically spaced compartments in each front portion having vertically elongated pockets,

the seam lines forming one compartment being separate from the seam lines forming the other compartment and the horizontal seam lines bounding the adjacent edges of the two compartments being spaced a substantial distance from each other to provide a strip of said flexible material of substantial width between the compartments to permit extensive flexure and buckling between them, said strip of flexible material being disposed at substantially the level of the bottom of the armholes and the lower one of said compartments terminating at approximately the waist of the wearer, said layers of material in the back portion being secured together along seam lines to form a compartment in the back portion located between the armholes, buoyant material disposed in all said compartments, means for drawing the edges of the front portions together on a wearer including a fastening device for holding the jacket against the body of the wearer at the waist, and a buoyant skirt section attached to the bottom edge of each front portion below said fastening device and adapted to flex upwardly to a position overlapping the lower compartment of the respective front portions.

MEL J. SHAW.

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