United States Patent

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[54] SAILING JACKET

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[52] **U.S. Cl.** **9/342**

[51] **Int. Cl.** **B63c 9/10**

[58] **Field of Search** 9/342, 311, 313, 329, 336–338, 9/340, 341, 333

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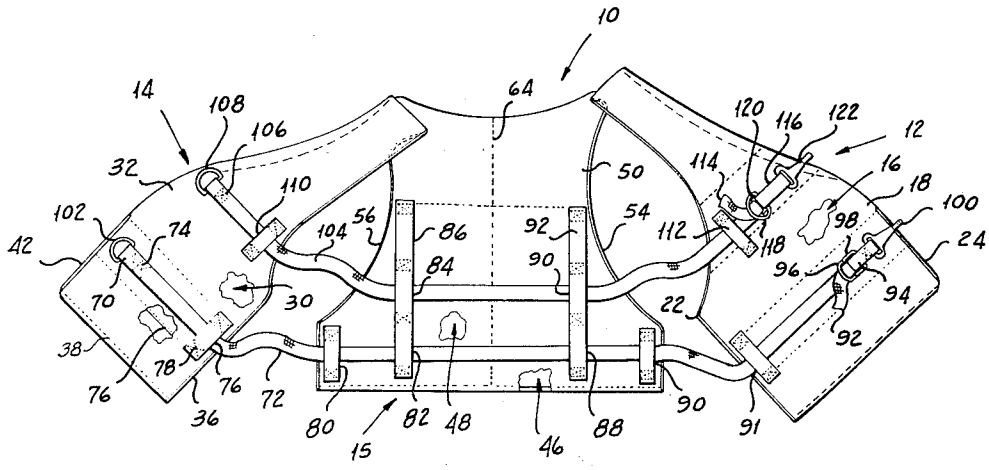
[57] **ABSTRACT**

A buoyant jacket especially adapted for use by persons such as sailboat crewmen engaged in strenuous physical activity in which each of two integral differentially buoyant right and left bodies has a thin waist portion leading up to a chest portion having a vertical slit in its outer skin and a thicker shoulder portion having transverse slits in its outer skin with a hollowed inner surface area in each body below the shoulder and in which the jacket back comprises right and left buoyant bodies each of which tapers in thickness from a shoulder area toward the waist and each of which has an outer transverse groove in the region of a shoulder blade of the wearer. A fabric covering, the inner portion of which is a fishnet fabric, houses all of the bodies, joins the back bodies along the spine of the wearer and joins the back bodies respectively to the front bodies at the shoulders. Straps, one of which is vertically adjustable, extend entirely around the outside front and back bodies securely to hold the jacket on the wearer's body.

12 Claims, 8 Drawing Figures



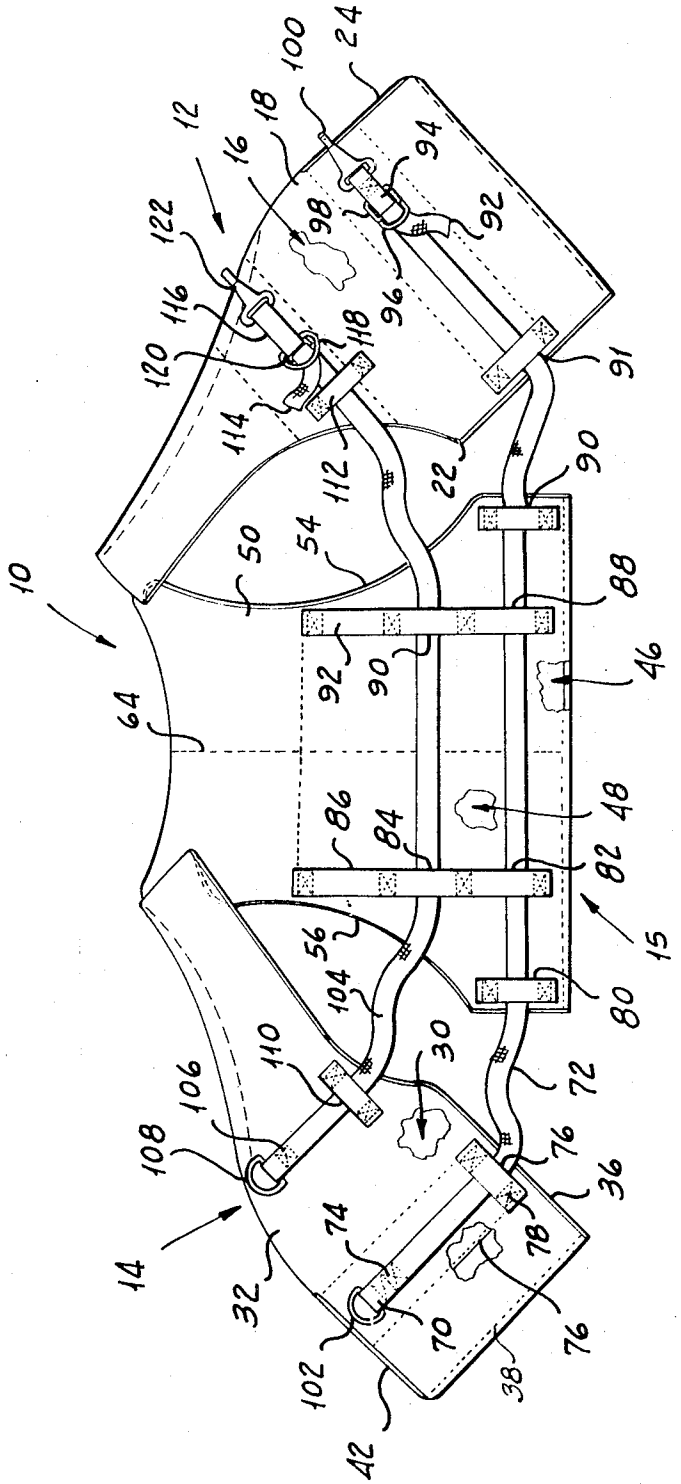


FIG. 1

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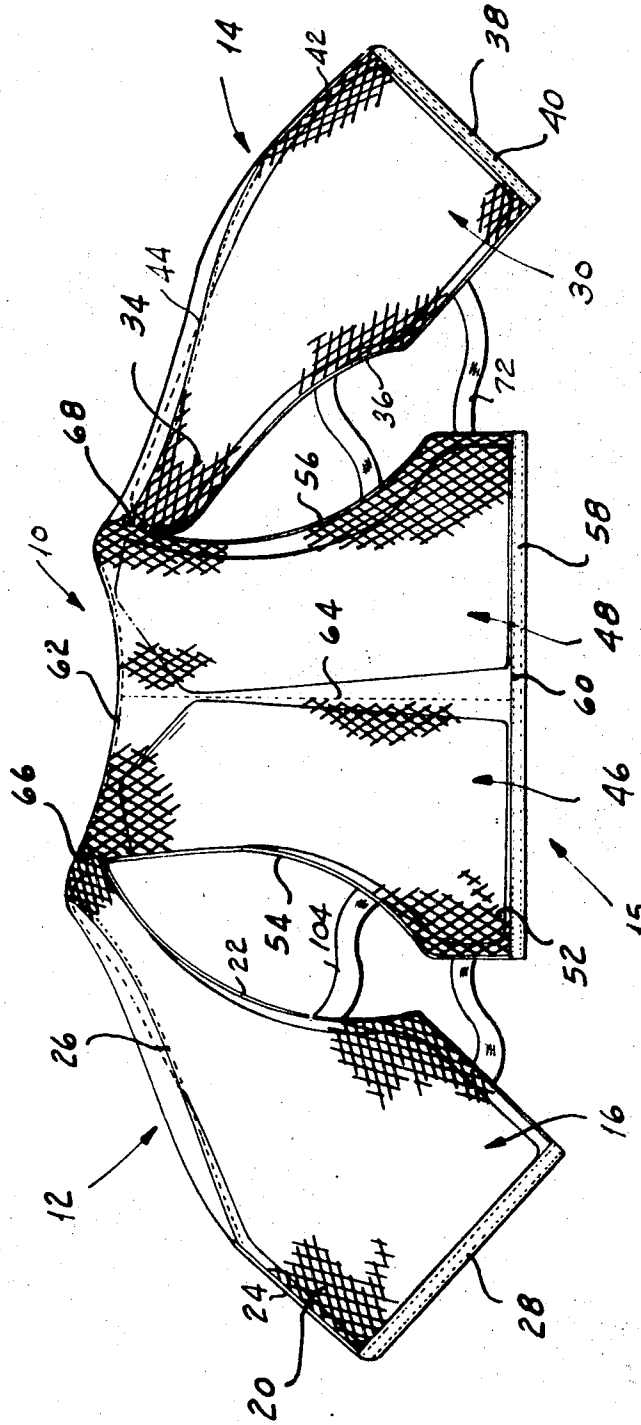

FIG 2

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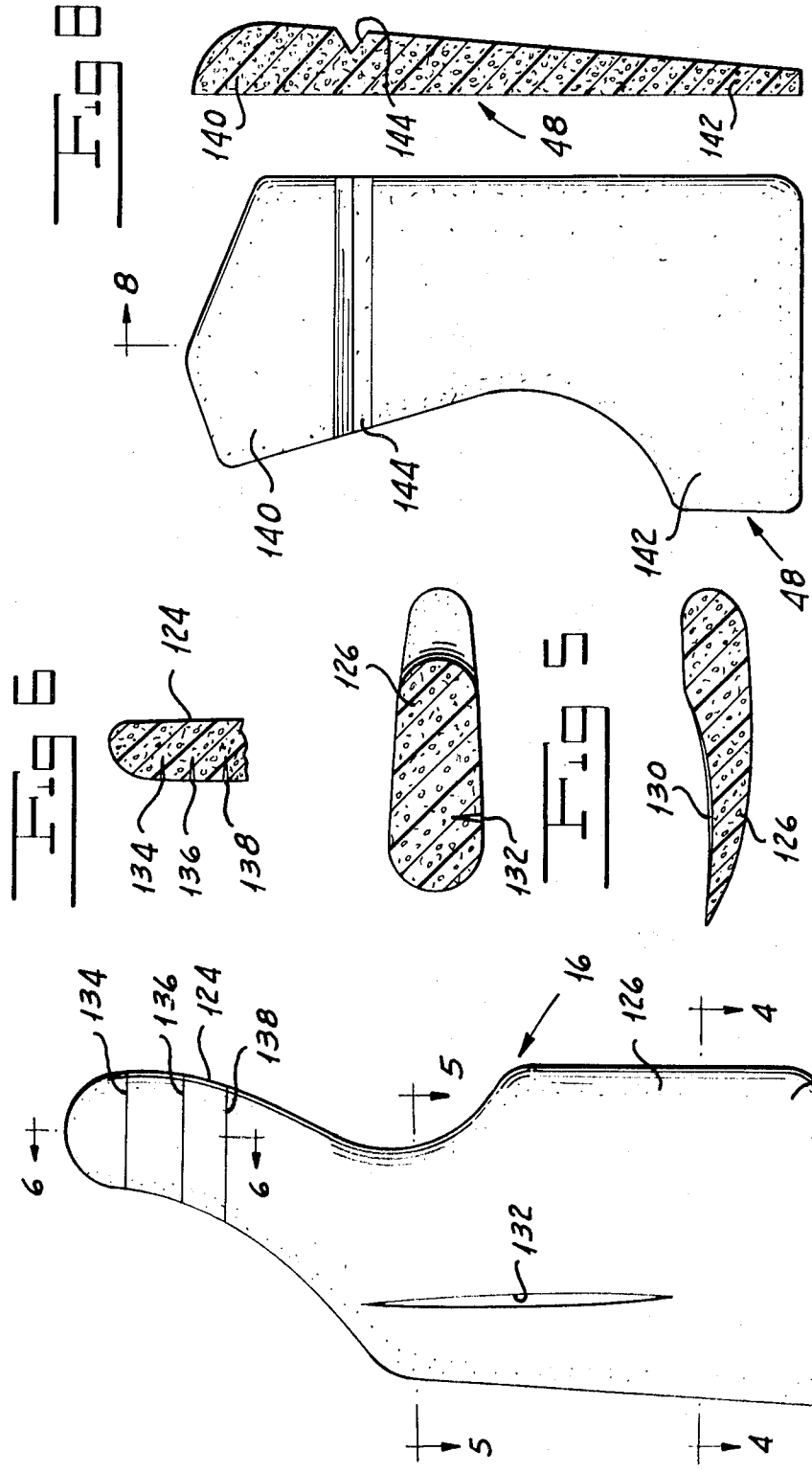

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SAILING JACKET

BACKGROUND OF THE INVENTION

Many different types of buoyant vests and jackets and the like are known in the prior art. The wide variety of jackets arises from the increasing trend toward development of jackets which are intended for use by persons engaged in specific activities.

While there are many different types of jackets available none of them satisfactorily fulfills all of the requirements of persons engaged in activities at sea which require sporadic periods of strenuous physical activity. Such persons, for example, would be those forming the crew of a sailboat. Such persons have periods of relative inactivity as well as periods wherein they must perform tasks requiring agility and the exertion of force. During all of these times the possibility exists that such a person may accidentally fall or be knocked into the water. In such an event it is necessary that the person be buoyantly supported until a rescue can be effected.

Many requirements must be met satisfactorily to fulfil the needs of persons of the class described above. A jacket used by a sailboat crewman must first of all fulfil the requirement of buoyantly supporting him in the water should he accidentally fall or be knocked off the boat and into the water. The jacket should be comfortable during periods of relative inactivity. It must permit freedom of movement for sitting, squatting and for vigorous arm movement during periods of physical activity. It should be easy to don. Owing to the fact that a number of such jackets customarily are stored aboard the boat and the same crew is not always aboard, it is desirable that the jacket provide a universal fit for all adult sizes and for both sexes. In addition to the requirements outlined above, the jacket should permit the wearer to climb from the water back into the boat. For that reason it should not trap water within the confines of the jacket. It should be strong enough to permit a wearer to be towed while in the water and be lifted back into the boat. It should orient the wearer to a face up position at the correct angle. It is desirable that the jacket be inexpensive so as to make it available to all members of the jacket-purchasing public.

I have invented a sailing jacket which is especially adapted for use by persons engaging in sporadic periods of strenuous activities on a sailboat or the like. My jacket fits all sizes of persons who normally would be expected to engage in the activities for which my jacket is designed. My jacket affords the wearer a high degree of physical freedom. It is comfortable during periods of inactivity. It permits the wearer to climb from the water back into the boat without interference. It is strong enough to permit the wearer to be towed or to be hoisted back into the boat. It floats the wearer in the water with his head up and with the body at the correct angle for safety. It is relatively inexpensive to manufacture.

SUMMARY OF THE INVENTION

One object of my invention is to provide a sailing jacket which is particularly suited for use by persons engaged in nautical activities requiring sporadic strenuous action.

Another object of my invention is to provide a sailing jacket which is comfortable during periods of inactivity while affording the wearer a high degree of physical freedom.

A further object of my invention is to provide a sailing jacket which fits substantially all sizes of persons who might be expected to engage in sailing.

Still another object of my invention is to provide a sailing jacket which enables a person wearing the jacket to climb from the water into a boat.

A still further object of my invention is to provide a sailing jacket which is strong enough to permit the wearer to be towed in the water and to be hoisted from the water.

Yet another object of my invention is to provide a sailing jacket which will float the wearer face up and at the proper angle.

A still further object of my invention is to provide a sailing jacket which is relatively inexpensive for the results achieved thereby.

Other and further objects of my invention will appear from the following description.

In general my invention contemplates the provision of a sailing jacket having left- and right-hand differentially buoyant front bodies each of which has a thin waist portion leading up to a chest portion having a vertical slit in its outer surface which chest portion leads to a thicker shoulder portion having transverse slits in its outer surface, each body having a hollowed area in its inner surface, and in which two similar back buoyant bodies taper in thickness from shoulder areas toward the waist and which have transversely extending, external grooves in the region of the shoulder blades of the wearer. A covering made up of an outer fabric and an inner fishnet fabric houses all of the bodies, joining the back bodies along the wearer's spine and joining the back bodies respectively to the front bodies at the shoulders. Straps, one of which may be adjusted vertically on the back, extend entirely around the wearer's body outside the jacket bodies securely to hold the jacket in position on the wearer.

BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawings which form part of the instant specification and which are to be read in conjunction therewith and in which like reference numerals are used to indicate like parts in the various views:

FIG. 1 is a plan view of the outside of my jacket with the jacket lying on a flat surface.

FIG. 2 is a plan view of the inside of my jacket with the jacket lying on a flat surface.

FIG. 3 is a front elevation of the front right-hand buoyant body of my sailing jacket.

FIG. 4 is a sectional view of the body shown in FIG. 3 taken along the line 4—4 of FIG. 3.

FIG. 5 is a sectional view of the body shown in FIG. 3 taken along the line 5—5 of FIG. 3.

FIG. 6 is a fragmentary sectional view of the body shown in FIG. 3 taken along the line 6—6 thereof.

FIG. 7 is a rear elevation of the left-hand back body of my sailing jacket.

FIG. 8 is a sectional view of the body shown in FIG. 7 taken along the line 8—8 thereof.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to FIGS. 1 and 2 of the drawings my sailing jacket indicated generally by the reference character 10 includes a right-hand front portion indicated generally by the reference character 12, a left-hand front section indicated generally by the reference character 14 and a back indicated generally by the reference character 15. The right-hand front section 12 includes a buoyant body 16 formed of any suitable material such for example as foamed unicellular polyvinyl chloride. The body 16 is encased in an envelope made up of an outer piece 18 of closely woven fabric such as a nylon fabric or the like. An inner piece 20 of a fishnet fabric permitting free flow of water therethrough is secured to the piece 18 to complete the envelope. Piping 22 secures the pieces 18 and 20 to each other along the inner edge of the section 12. A short length of piping 24 and a line of stitching 26 secures the pieces 18 and 20 to each other along the outer edge of the section 12. A tape 28 extending along the inside of the lower edge of section 12 receives stitching for securing the lower edges of pieces 18 and 20 together.

The left-hand front section 14 of my jacket 10 includes a buoyant body 30 formed of the same material as is the body 16 of the right-hand front section 12. As will be explained more fully hereinafter the body 30 has the same general configuration and incorporates the same features as does the body 16. However, I make the bodies 16 and 30 differentially buoyant so as to produce a turning moment for turning an individual

from a neutral face-down position in the water to a faceup position. In the particular embodiment shown in order to achieve that result I make the body **16** larger than is the body **30**. Alternatively I might, of course, make the bodies the same size but of materials which are inherently differentially buoyant.

I encase the body **30** in an envelope including an outer closely woven fabric piece **32** and an inner fabric piece **34** formed of netlike material which permits the free flow of water therethrough. A length of piping **36** is sewed along the outer edge of the envelope so as to join the fabric pieces along that edge. A line of stitching **38** through a tape **40** secures the pieces **32** and **34** along the lower edge. A short length of piping **42** along the generally vertical portion of the inner edge of the section **14** and a line of stitching **44** extending from the piping **42** to the top of the section **14** joins the fabric pieces **32** and **34** along the inner edge of the section.

The back **15** of my jacket **10** includes respective right-hand and left-hand buoyant bodies **46** and **48** the configuration and structural features of which will be described more fully hereinafter. I house the sections **46** and **48** in a fabric envelope made up of an outer closely woven fabric piece **50** and an inner fishnet fabric piece **52**. Respective lengths of piping **54** and **56** extend from the bottom edge of back **15** upwardly along the outer edges thereof to the top of the back so as to form continuations of the lengths of piping **22** and **36** and so as to join the side edges of the fabric pieces **50** and **52**. A tape **58** running along the inside of the back **16** along the lower edge thereof is stitched to both the fabric pieces **50** and **52** by stitching **60** so as to close the bottom of the envelope containing the two buoyant bodies **46** and **48**. A line of stitching **62** along the top of the back **12** connects the two lines of stitching **26** and **44** to close the top of the envelope housing the back bodies **46** and **48**. I provide a vertical line of stitching **64** running from top to bottom of the back **16** fabric pieces **50** and **52** between bodies **46** and **48** to provide a hinge connecting these two bodies. Stitching **66** and **68** connects the upper edges of the envelopes containing the front bodies **16** and **30** to shoulder portions of the envelope containing the bodies **46** and **48** to provide hinges in the region of the shoulders for joining sections **12** and **14** to the back **16**.

I provide my jacket with means for securely holding the jacket in position on the wearer's body in such a way as permits a person in the water to be towed while wearing my jacket and if necessary to be hoisted out of the water by means of the jacket without injury. I form a loop **70** at one end of a belt **72** made up of any suitable material such for example as nylon webbing. I secure the loop **70** to the fabric piece **32** adjacent the inner edge thereof by stitching **74**. Preferably I secure a reinforcing piece **76** of material of which the piece **32** is formed behind the piece **32** in regions whereat it is to receive stitching such for example as the stitching **74**. While other reinforcing pieces will not be described in detail, it will be understood that such pieces are provided in other stitched areas to be described.

The belt **72** runs from stitching **74** through a guide loop **76** which may be formed of the same material as is the belt and which loop **76** is secured to piece **32** by stitching **78**. From the loop **76** the belt **72** passes through a loop **80** adjacent one edge of the outside of the back **15** and thence through a loop **82** formed by a piece of webbing so stitched to the back fabric piece **50** as to form loop **82** and a pair of loops **84** and **86** spaced vertically above loop **82**. After leaving the loop **82** belt **72** passes through a loop **88** formed by a length of webbing so stitched to the back piece **50** as to form loop **88** and spaced loops **90** and **92** above loop **88**. Belt **72** extends from loop **88** through a loop **90** secured to the lower right-hand corner of the outside of back **16**. From loop **90** belt **72** passes through a loop **91** secured to the outer edge of the outside of section **12** to provide the free end **92**.

A short length of webbing **94** stitched to fabric piece **18** adjacent the lower edge thereof retains a pair of D-rings **96** and **98** for frictionally adjustably receiving the free end **92** of belt **72**. The piece **94** also retains a snaphook **100** adapted releasably to engage a D-ring **102** carried by loop **70**.

My securing means includes a second belt **104** extending from stitching **106** forming a loop carrying a D-ring **108** through a guide loop **110** in the chest area of section **14** then through the loops **84** and **90** and then through a loop **112** secured to section **12** in the chest area adjacent the outer edge thereof to provide a free end **114**. Another fabric piece **116** carries D-rings **118** and **120** for frictionally adjustably receiving free end **114** and a snaphook **122** adapted releasably to engage D-ring **108**.

From the structure just described it will be apparent that the two sets of D-rings **96** and **98** and **118** and **120** frictionally adjustably receive the free ends **92** and **114** to permit the jacket to be drawn tightly around the wearer's body. Moreover, a further adjustment to size is provided by the two auxiliary loops **86** and **92** through which belt **104** may pass to accommodate a person of smaller size than one who would use the jacket with the belt passing through loops **84** and **90**.

Referring now to FIGS. **3** to **6** the right-hand buoyant body **16** includes a shoulder portion **124**, a chest portion **126** and a waist portion **128**. I so form the section **16** that the body is relatively thick in the shoulder region **124** and in the upper portion of the chest region **126** and then is tapered to provide a relatively thin waist portion **128**. In addition, I hollow out a region **130** of the inner surface of the body **16** and I provide a vertically extending slit **132** in the outer section of the body **16** and the chest region so as to permit the body to flex relatively freely and so as comfortably to accommodate persons of various sizes and of both sexes. In addition to the features just described I provide the shoulder portion **124** with a plurality of transversely extending slits **134**, **136** and **138** in the outer surface thereof to permit the shoulder portion **124** to flex over the shoulder of the wearer without discomfort to the wearer. While the body **30** is somewhat smaller than is the body **16** to provide the differential buoyancy described hereinabove it incorporates all of the features described in connection with the body **16**. For this reason body **30** will not be described in detail.

Referring to FIGS. **7** and **8** the left-hand back buoyant body **48**, like bodies **16** and **30**, is molded from a suitable material such for example as expanded unicellular polyvinyl chloride. I so shape body **48** that it tapers from a shoulder region **140** downwardly to a waist region **142**. In this way I provide sufficient buoyant material in the shoulder blade area of the wearer relative to the material in the front bodies **16** and **30** as to cause the wearer to be supported in the water at the proper angle. I mold a transverse groove **144** in the outer surface of body **48** in the shoulder blade region thereof to permit the body to conform to the wearer's body without discomforting him and without detracting from the primary function of buoyancy. Body **46** is formed in a manner similar to, and is provided with, the same features as is the body **48**. Thus body **46** will not be described in greater detail.

In use of my buoyant jacket strap **104** first is positioned vertically on the back **15** so as to accommodate the size of the person who is to use the jacket. Next, the wearer dons the jacket by passing his arms through the openings between the shoulders and the portions of strap or belt **104** connecting section **16** to the sections **12** and **14**. Next, snaphooks **100** and **122** are engaged with rings **102** and **108**. Finally, the free ends **92** and **114** are pulled to draw the jacket around the wearer's body sufficiently tightly to hold it on his body. In the course of this operation the front sections **30** and **16** flex in the region of slits **132** so that this action, together with the hollowed out portions **130**, permits the sections to conform closely to the wearer's body without discomfort to the wearer. At the same time, the shoulder portions **124** of the front bodies flex along the slits **134**, **136** and **138** to permit them to assume positions at which they will effectively perform their intended function without irritating the wearer. Further in the course of the donning operation the back bodies **46** and **48** may move relative to each other along the hinge **64** in the back envelope.

Further, these bodies freely flex along the grooves **144** provided in the relatively thicker parts of bodies **46** and **48** to permit them to conform closely to the back of the shoulders of the wearer. In such positions the upper portions of the bodies are ideally located for accomplishing their function and they do not interfere with the wearer in any way.

Should the wearer fall or be accidentally knocked into the water, the differential buoyancy of the front bodies ensures that the wearer turns face up. Moreover, the relative buoyancies of the front bodies to the back bodies ensures that the person will assume the correct angle in the water. Should it be necessary to tow a person through the water or to hoist him out of the water, these operations can be achieved through the medium of the straps or belts **72** and **104** without harming the wearer.

It will be seen tat I have accomplished the objects of my invention. I have provided a buoyant jacket which is especially adapted for use by persons such as yachtsmen sporadically engaged in periods of strenuous activity. My jacket will accommodate persons of both sexes and of all sizes without discomfort. It permits the wearer a maximum degree of freedom of movement. It permits a person to be towed through or to be hoisted out of the water. It floats the wearer face up and at the correct angle.

It will be understood that certain features and subcombinations are of utility and may be employed without reference to other features and subcombinations. This is contemplated by and is within the scope of my claims. It is further obvious that various changes may be made in details within the scope of my claims without departing from the spirit of my invention. It is, therefore, to be understood that my invention is not to be limited to the specific details shown and described.

Having thus described my invention, what I claim is:

1. A buoyant jacket including in combination first and second unitary front buoyant bodies, each of said front buoyant bodies having a relatively thick shoulder portion and a relatively thin waist portion and a chest portion connecting the shoulder and waist portions, each of said shoulder portions having a transversely extending slit across its outer surface, respective left and right back unitary masses of buoyant material, each of said back masses extending from a shoulder toward the waist of said jacket, each of said back masses tapering from a relatively thick shoulder portion to a relatively thin waist portion, and fabric covering means for housing said bodies and said masses, said covering means comprising means for connecting the respective shoulder portions of said front bodies to the shoulder portions of said rear masses to form a neck opening when the jacket is positioned around the torso of a wearer, said covering means comprising means forming a fabric hinge extending along the spine of the wearer for connecting said back buoyant bodies.

2. A buoyant jacket as in claim **1** including means extending around the outer periphery of said jacket for holding the jacket in position on the wearer's torso.

3. A buoyant jacket as in claim **2** in which said holding means comprises a first strap and means for adjusting the vertical position of said strap on the outside of said back buoyant mass.

4. A buoyant jacket as in claim **3** in which said first strap is adjustably positioned vertically adjacent the middle of said back buoyant mass and in which said holding means comprises a second strap located adjacent the waist portions of said front bodies and adjacent the waist area of said back mass.

5. A buoyant jacket as in claim **1** including an additional spaced transverse slit in each of the shoulder portions of said front bodies.

6. A buoyant jacket as in claim **1** in which each of said front bodies is formed with a hollowed-out area in the back of its chest area.

7. A buoyant jacket as in claim **1** in which each of said front bodies has a vertical slit extending into the front surface thereof at the chest portion.

8. A buoyant jacket as in claim **1** in which each of said back masses has a transversely extending slit in the outer surface thereof.

9. A buoyant jacket as in claim **1** in which each of said front buoyant bodies is formed with a hollowed-out area in the inner surface thereof and a vertically extending slit extending into the outer surface thereof at the chest portion, and in which each of said back masses is provided with a transversely extending slit in the outer surface thereof.

10. A buoyant jacket as in claim **9** in which said holding means comprises a first strap extending around the outsides of said front and back bodies and masses adjacent the waist portions and a second strap extending around the outsides of said front and back bodies and masses adjacent the chest regions and means for adjusting the vertical position of said second strap with respect to said back masses.

11. In a buoyant vest, a front buoyant body molded of foamed, closed-cell synthetic resin, said body having a shoulder portion and a chest portion and a waist portion, a transverse slit formed in the outer skin of said body at said shoulder portion and a vertical slit formed in said outer skin at said chest portion.

12. A body as in claim **11** in which said waist portion is thin relative to said shoulder portion.

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