Nov. 27, 1945. H. G. MORNER 2,389,735

LIFE SAVING JACKET

Filed March 15, 1944

Fig. 1

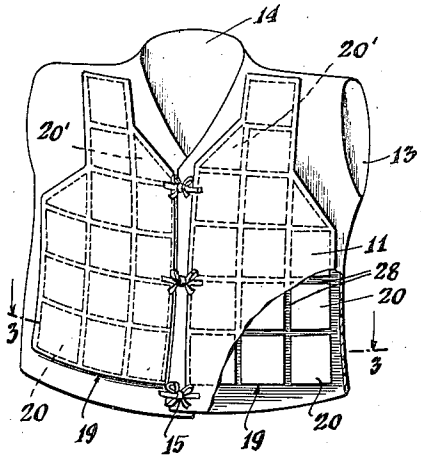


Fig. 2

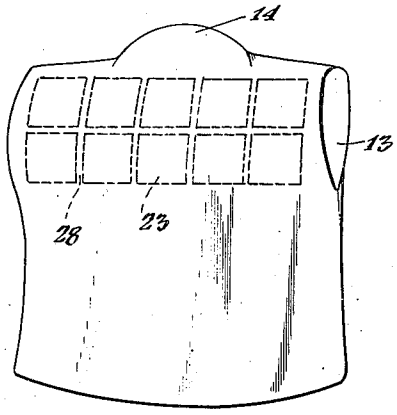


Fig. 3

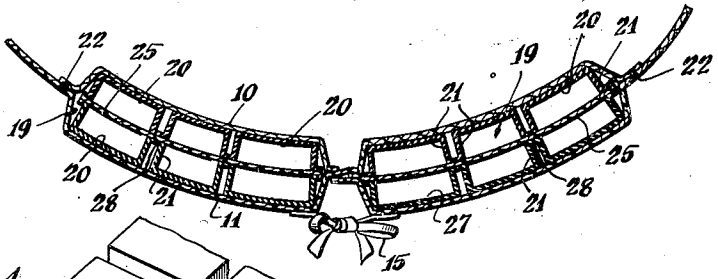


Fig. 4

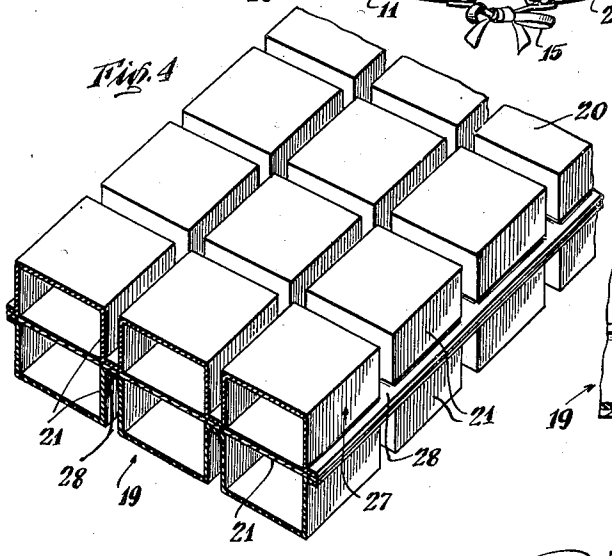
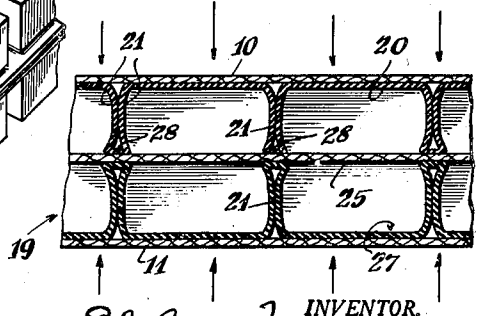


Fig. 5



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LIFESAVING JACKET

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3 Claims. (Cl. 9—20)

The present invention relates to new and useful improvements in lifesaving jackets and parts thereof.

Objects and advantages of the invention will be set forth in part hereinafter and in part will be obvious herefrom, or may be learned by practice with the invention, the same being realized and attained by means of the instrumentalities and combinations pointed out in the appended claims.

The invention consists in the novel parts, constructions, arrangements, combinations and improvements herein shown and described.

The accompanying drawing, referred to herein and constituting a part hereof, illustrates one embodiment of the invention, and together with the description, serves to explain the principles of the invention.

Of the drawing:

Figure 1 is a front elevation in perspective, with parts broken away, of a typical and illustrative embodiment of the invention;

Figure 2 is a similar view of the back of the vest shown in Figure 1;

Figure 3 is a sectional view taken on the line 3—3 of Figure 1;

Figure 4 is a perspective view, with parts shown in section, of flotation member used in the illustrated embodiment; and

Figure 5 is a sectional view of the parts shown in Figure 4 under the compression of water.

The present invention has for its object the provision of a novel and improved lifesaving jacket which is relatively simple, more durable and more sanitary than the usual jackets filled with kapok or the like. A further object is the provision of a life jacket which is relatively light in weight, of high flotation for its bulk, is always ready for instant use and is not likely to be seriously damaged in use or storage. The flotation members of the present invention are easily fabricated, are durable, not easily subject to serious damage, as are inflatable members, and can be made in large quantities from available materials and give extremely good flotation for a relatively small volume, at the same time being highly flexible so that it conforms easily to the body of the wearer. The jacket of the present invention is not subject to dangerous absorption of water, as are kapok jackets, particularly jackets filled with any except the highest, and now unobtainable, quality of kapok.

In accordance with the present invention there is provided a jacket, to be worn as a vest about the wearer, having inserted flotation members at the front and back, which flotation members are preferably in the form of closely adjacent, almost contiguous, hollow, interfitting prisms formed of waterproof, airtight, flexible material, such as rubber, which are bound together, preferably by an intermediate fabric layer to provide individual, non-communicating cells which are filled with air, under normal atmospheric pressure. By reason of the close adjacency of the interfitting prisms, which are preferably cubes, the adjacent sides of the several prisms support each other against substantial collapsing when the wearer is immersed in water, as pending a rescue. These inserts are positioned on the front and back of the wearer so that the larger part of them are immobilized by the vest or jacket at the front of the wearer, thereby insuring that he will float with his mouth out of water.

It will be understood that the foregoing general description and the following detailed description as well are exemplary and explanatory of the invention but are not restrictive thereof.

The life jacket of the present invention preferably consists of an inner and outer layer of fabric, e. g., heavy cotton such as twill layers 10 and 11 which are cut and sewn to encircle and fit loosely on the body of the wearer, having armholes 13 and a neck portion 14, the front of the jacket being provided with attached tapes 15 which may be tied together to secure the jacket to the person after it has been donned.

Down each of the front panels of the jacket and secured between the inner and outer layers 10, 11 thereof are flotation members 19 which can be easily removed by removing the stitching around the edges of the layers, thereby freeing the members so that they may be replaced or the layers may be washed.

Each of the front flotation members 19 comprises a large number of individually partitioned, or non-communicating cells 20, which are interfitting and of prismatic shape, having their side walls 21 in close adjacency and preferably almost contiguous. As shown, there are provided fifteen full cells 20 and, two partial cells 20' in each member 19, the cells adjacent to the neck portion of the wearer being reduced to conform somewhat to the neckline of the vest or jacket.

At the back of the wearer is similarly mounted a smaller construction providing a smaller flotation member 23 which is secured between the layers of the jacket by the side seams 22.

As shown in Figures 4 and 5 each of the flotation members 19 and 23 is preferably formed of an intermediate strong web of fabric 25 on each

side of which is cemeted or otherwise secured a member comprising a plurality of closely adjacent, interfitting semi-cubes **27** having between their side walls a narrow margin **28** by which they may be cemented to the central web **25**, which is preferably impervious thus forming a large number of individual cells, any one of which can be punctured without substantially affecting the over-all flotation of the jacket. Furthermore, small punctures rarely cause the punctured cell to lose all its buoyancy. The members **27** may be integrally molded to provide the various semi-cubical cavities, with the margins **28** of relatively narrow width, so that as shown in Figure 5, the walls **21** press against each other when subjected to the water pressure exerted by the water on the outer canvas layer **10**, thereby supporting the several side walls **21** and providing greater flotation.

The marginal portions **28** also permit extreme flexibility of the flotation members so that the assembly conforms easily and comfortably to the body of the wearer and does not seriously interfere with his body or arm movement either on deck or in the water.

Preferably, the interfitting prisms have a wall thickness less than one-twentieth the major dimension of the cells and are extremely flexible so as to provide a large volume for flotation relative to the area and the weight of the cell material.

The front panels generally provide approximately five hundred fifty cubic inches of flotation while the back panel provides approximately one hundred forty cubic inches of flotation, or a total of about seven hundred cubic inches equalling about twenty pounds net flotation which is more than sufficient to float any normal person indefinitely.

The seams **22** at the edges of the garment may be easily undone to allow removal and replacement of the flotation elements **20**, or so that the outer fabric members may be laundered or so that damaged flotation elements may be replaced. The flotation elements are preferably formed of flexible, oil resistant material, such as synthetic rubber, so that they are not damaged by ordinary wear on board ships, as is frequently necessary for long periods of time.

The flotation elements, in other sizes are of great usefulness, such as forming the flotation members for rafts or the filling member of a pillow or mattress.

The invention in its broader aspects is not limited to the specific mechanisms shown and described but departures may be made therefrom within the scope of the accompanying claims without departing from the principles of the invention and without sacrificing its chief advantages.

What I claim is:

1. A life jacket for flotation of a person including a plurality of flotation members forming part of a garment to be worn by a person, each flotation member comprising a plurality of closed hollow, prismatic members filled with air under normal pressure, closely adjacent and in interfitting relation with each other whereby substantial deflection of the adjacent side walls is avoided.

2. An air-filled member comprising a plurality of hollow, closed prismatic members having flexible walls with their sides positioned closely adjacent each other whereby deflection of the side walls is minimized, said members having marginal portions extending between their side walls whereby they are flexibly connected and closed to provide non-communicating flotation cells.

3. An air-filled member comprising a plurality of hollow, closed prismatic members having flexible walls with their sides positioned closely adjacent each other whereby deflection of the side walls is minimized, said members having marginal portions extending between their side walls whereby they are flexibly connected and closed to provide non-communicating flotation cells and an impervious web extending through all of said members and to which said members are secured by said marginal portions.

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