

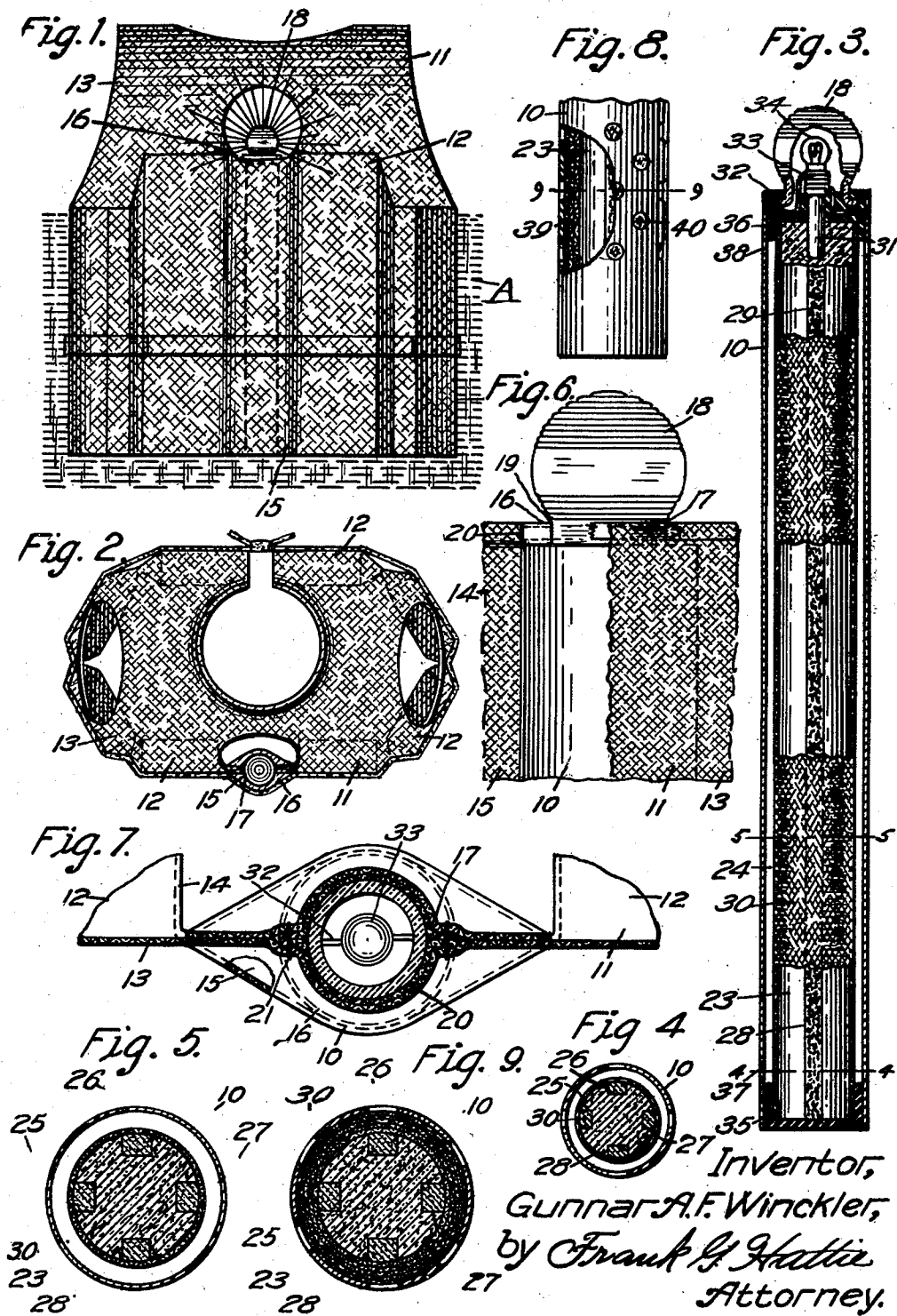
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LIFESAVING JACKET WITH AUTOMATIC ELECTRIC LIGHTING UNIT

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LIFESAVING JACKET WITH AUTOMATIC
ELECTRIC LIGHTING UNIT

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The invention relates to a life-jacket in combination with an automatic sea water link electrical generator to be used more particularly under emergency conditions in marine disasters for locating persons in the darkness of the night, who have been forced into the water, voluntarily or otherwise.

The invention consists of a life-jacket provided with an automatic lighting generator, lighting unit suitably secured in a pocket in the life-saving jacket which will automatically light when thrown into the waters of the salt seas to locate the person in distress.

The invention further consists of a device for removably securing the generator and lamp in position in the pocket to facilitate the varying conditions.

The invention further consists of the detail construction of the lighting unit adapted to suit the requirements of the life-saving jacket and to facilitate its operation.

The generator consists of a zinc outer casing which serves as a negative pole for the generator and also supports the depending structure which forms a complete lighting unit having a concentric generating positive pole of maximum polarization area with free space between the two poles to allow the electrolytic action to generate a constant current to automatically light the lamp when needed.

The invention further consists of converting the lighting unit into a torch after it has been removed from the water and the jacket. This is accomplished by placing absorbing material, such as cloth in the free space between the poles which will hold sufficient electrolytic fluid to maintain the light for a considerable length of time.

The object of the invention is to provide an automatic lighting unit for life-saving jackets to eliminate the danger in marine disasters of losing people in the darkness of the night.

A further object of the invention is to provide an automatic lighting unit for life-saving jackets which is not dependent on the conscious mental condition of the user.

Referring to the figures:

Fig. 1 is a side elevation of the life-saving jacket with the lamp and generator in position.

Fig. 2 is a plan view of the same.

Fig. 3 is an elevation of the lamp and generator partly in section.

Fig. 4 is a cross-section of the generating unit taken on the line 4-4, Fig. 3.

Fig. 5 is a full size cross-section of the generating unit taken on the line 5-5, Fig. 3.

Fig. 6 is a fragmentary view showing an elevation of the generating unit and the lamp globe secured in position to the life jacket.

Fig. 7 is a plan view of the jacket broken away with the globe in section.

Fig. 8 is a side elevation of the lower end of the generating unit broken away, showing the electrolytic absorbing material between the positive and negative poles.

Fig. 9 is a cross-section taken on the line 9-9, Fig. 8.

Referring to the drawing this illustrates the new automatic lighting unit 10 for life-saving jackets. The life jacket is indicated by the numeral 11 which is provided with a plurality of cork floats 12 secured between two layers of cloth 13 and 14 forming the jacket to support it when thrown into the waters of the salt seas.

In the back of the jacket 11 between two layers of cloth is formed a pocket 15 open at one end and provided with a bottom on the lower end for removably supporting the generator. To hold the unit in position in the jacket, the upper edges of the pocket 16 are formed into a choke 17, which automatically closes in around the lamp globe 18 and the top of the generating unit 10. The lower slope of the globe 18 and the larger size of the top of the generating unit form a holding groove 19 which allows the unit to be placed in position under special stress.

The automatic choke 17 consists of sewing flexible material on both sides of the inside edges of the pocket 16 such as double cotton covered rubber band 20 and in turn both ends are sewed together with the two layers of cloth as indicated by the numerals 21 and 22. The rubber band is stretched and then sewed in position after which the rubber contracts for the choke. To place the unit in position the lower end is placed in the upper end of the pocket 15 and is forced to the bottom of the pocket to the choke until it enters the groove between the globe 18 and the top of the unit. The rubber band grips the unit and holds it in position. With sufficient force the generating unit can be pulled out of the choke if necessity requires it.

The generating unit 10 is provided with an outer casing made of zinc which serves as a negative pole of the generator. Concentric with the casing 10 is a positive pole 23 having a free space 24 between them to allow both poles to be immersed in the electrolytic fluid when the jacket is placed in the waters of the salt seas.

Formed diametrically opposite each other are rectangular slots 25, 26, 27, and 28 which are filled with ground carbon 29 to increase the polarizing area of the positive pole. The ground carbon is held in position by the cloth sleeve 30 forced over the positive pole member to prevent the carbon from being washed away, but it does allow the electrolytic fluid to pass through and in around the ground carbon. Rigidly secured in the upper end of the positive pole is a lamp contact 31. Secured to the upper end of the zinc negative pole casing 10 is lamp sup-

port and current conductor 32 made of wire having a plurality of helical convolutions forming the lamp socket 33 for the lamp 34.

The positive pole 23 and the globe 18 are concentrically located in relation to the casing 10 and held in position by sulphur cement 35 and 36 which also serves as an insulation at both ends. By the construction the complete generating unit is made subject to the operator by immersing the poles in saline solution.

When the generating unit is thrown into the waters of the salt seas, the sea water enters through the hole 37 and as it enters the free space 24 between the positive and negative poles, the air in the free space rushes out through the upper hole 38 which allows the sea water to enter freely.

When the generating unit is used with the life-jacket it does not generate current until it is immersed in an electrolytic fluid such as sea water. Under normal conditions when the jacket is taken out of the fluid, the light goes out because no current is generated. To allow the generator to be used as a torch when it is removed from the electrolyte, a novel means is provided for retaining the electrolytic fluid. This is accomplished by inserting fluid absorbing material, such as cloth 39, between the poles as shown in Figs. 8 and 9. The material will absorb sufficient electrolytic fluid to allow current to be generated for days and is a very efficient means for serving as a torch or any practical purpose.

To allow the electrolytic fluid to saturate the cloth sufficiently, a plurality of holes 37 are machined in the casing or negative pole 10.

In operation and assembling of the device, a life jacket made of two layers of cloth 13 and 14 is used as shown in Figs. 1 and 7. The pocket 15, preferably in the back of the jacket, is made from two layers of cloth adapted to hold the generating unit after it is secured in position by a flexible choke 17 which not only allows it to be placed in position, but also allows it to be removed at will. When the user wearing the jacket is forced into the waters of the salt seas, the generator is immersed in the electrolytic fluid which starts generating current, which in turn automatically lights the signalling light.

After a person is rescued the electrolytic fluid, held by the absorbent material, will permit the lamp to remain lighted and serves as a torch. The generator can be removed from the jacket by a quick jerk.

What I claim as new and desire to secure by Letters Patent in the United States is:

1. In a life-saving jacket, in combination with an automatic sea water link electrical generator having positive and negative poles operating in saline solution when the generator is immersed therein, a lamp carried by the generator to be energized thereby, a pocket in the jacket open at one end for removably supporting the generator.

2. In a life-saving jacket, in combination with an automatic sea water link electrical generator having positive and negative poles operating in saline solution when the generator is immersed therein, a lamp carried by the generator to be energized thereby, a pocket in the jacket open at one end for removably supporting the generator, and means for holding the generator in position in the pocket.

3. In a life-saving jacket, in combination with an automatic sea water link electrical generator having positive and negative poles operating in saline solution when the generator is immersed therein, a lamp carried by the generator to be energized thereby, a pocket in the jacket open at one end for removably supporting the generator, a flexible choke means, preferably of rubber bands secured to the upper edge of the pocket, a lamp globe with a sloping under surface secured to the generator forming an annular ridge co-operating with the flexible choke member for holding the generator in position in the pocket and allowing it to be removed by a quick jerk.

4. In a life-saving jacket, in combination with an automatic sea water link electrical generator having positive and negative poles operating in saline solution when the generator is immersed therein, a lamp carried by the generator to be energized thereby, a pocket in the jacket open at one end for removably supporting the generator, and means in relation to the pocket and the casing to permit the sea water to enter and to immerse the generator poles.

5. In a life-saving jacket, in combination with an automatic sea water link electrical generator having positive and negative poles operating in saline solution when the generator is immersed therein, a lamp carried by the generator to be energized thereby, a pocket in the jacket open at one end for removably supporting the generator, cloth forming the pocket capable of having water pass through it, holes formed in the casing between the ends of the generator casing to allow the water to enter at the lower end and the air to pass out at the upper end to permit the water to enter the generator casing.

6. In a life-saving jacket, in combination with an automatic sea water link electrical generator having positive and negative poles operating in saline solution when the generator is immersed therein, a lamp carried by the generator to be energized thereby, a pocket in the jacket open at one end for removably supporting the generator, cloth forming the pocket capable of having water pass through it, holes formed in the casing between the ends to allow the water to enter at the lower end and the air to pass out at the upper end to permit the water to flow freely into the generator casing, and means located between the poles and bottom of the casing to permit the lamp to remain lighted after the jacket is removed from the water.

7. In a life-saving jacket, in combination with an automatic sea water link electrical generator having positive and negative poles operating in saline solution when the generator is immersed therein, a lamp carried by the generator to be energized thereby, a pocket in the jacket open at one end for removably supporting the generator, cloth forming the pocket capable of having the water pass through it, holes formed in the casing between the ends to allow the water to enter at the lower end and the air to pass out at the upper end to permit the water to flow freely into the generator casing, adsorbent cloth located between the poles to hold the water between the said poles, a bottom to the casing to prevent the water from running off to permit the lamp to remain lighted after the jacket leaves the water.

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