Oct. 10, 1944. J. C. HARRIS 2,359,844

LIFE SAVING GARMENT

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Fig. 1.

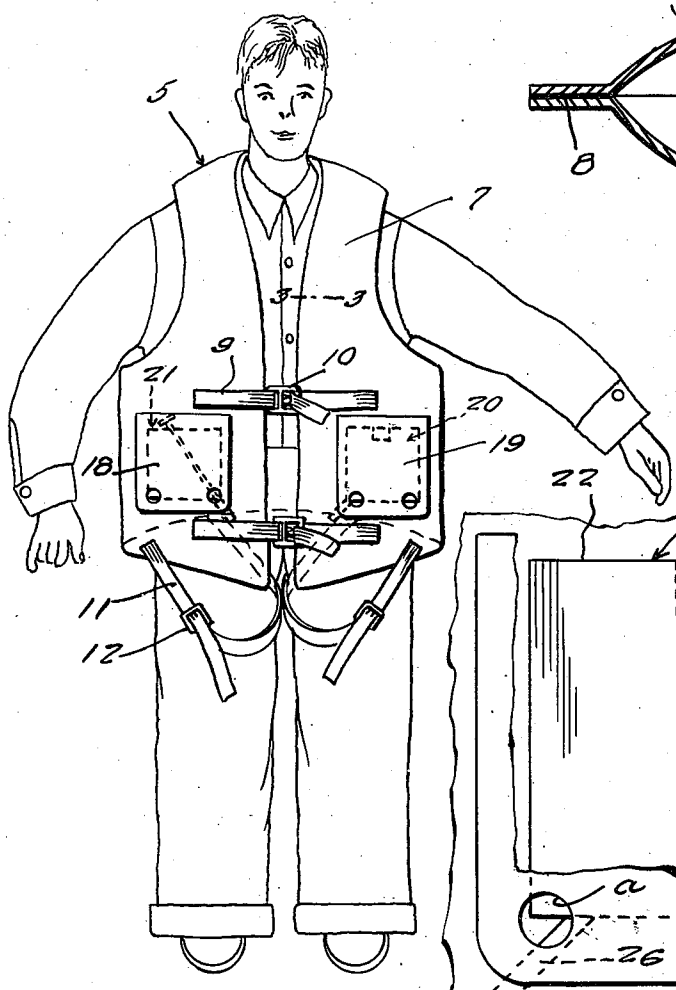


Fig. 3.

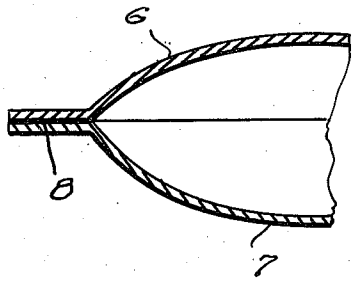
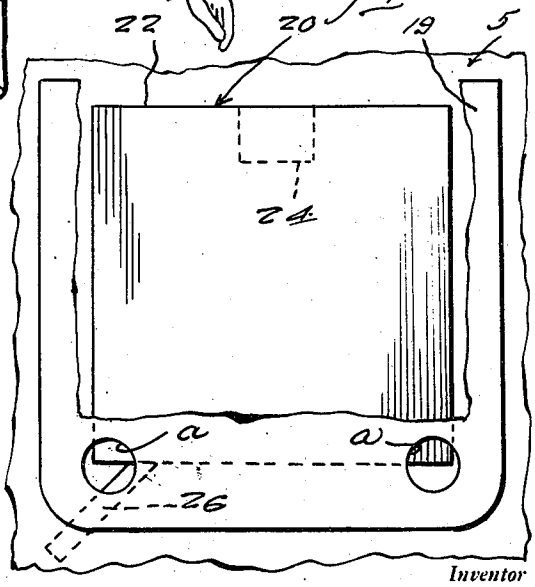


Fig. 2.



Inventor

John Clyde Harris

By Clarence A. O'Brien

and Harvey B. Jackson Attorneys

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LIFE SAVING GARMENT

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Fig. 4.

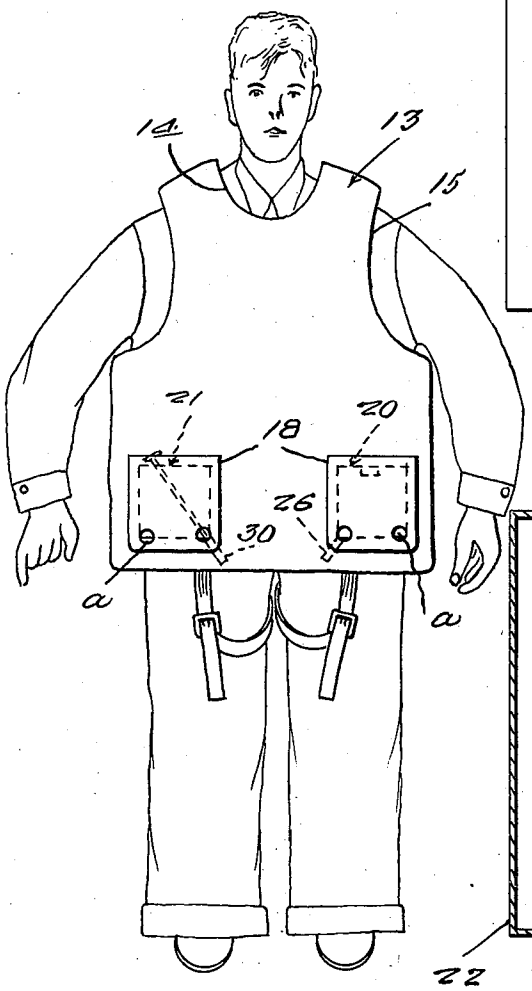


Fig. 6.

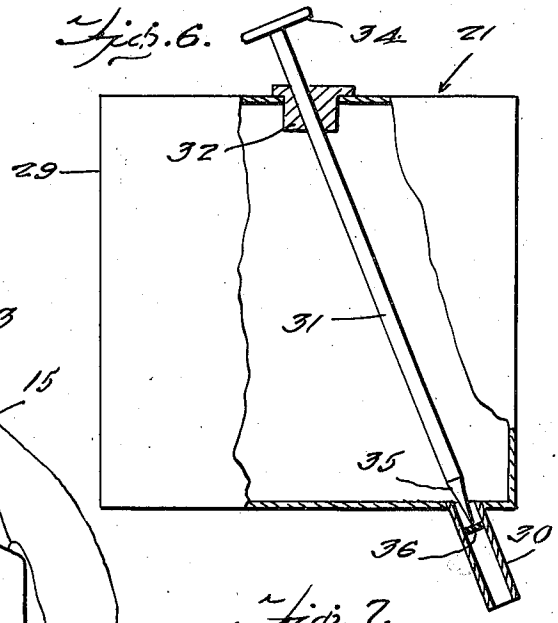
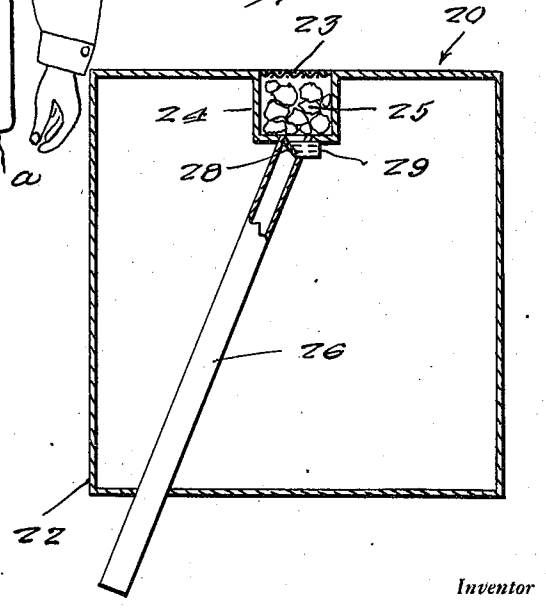


Fig. 7.



Inventor

John Clyde Harris

By Clarence A. O'Brien and Harvey B. Jackson

Attorneys

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LIFE SAVING GARMENT

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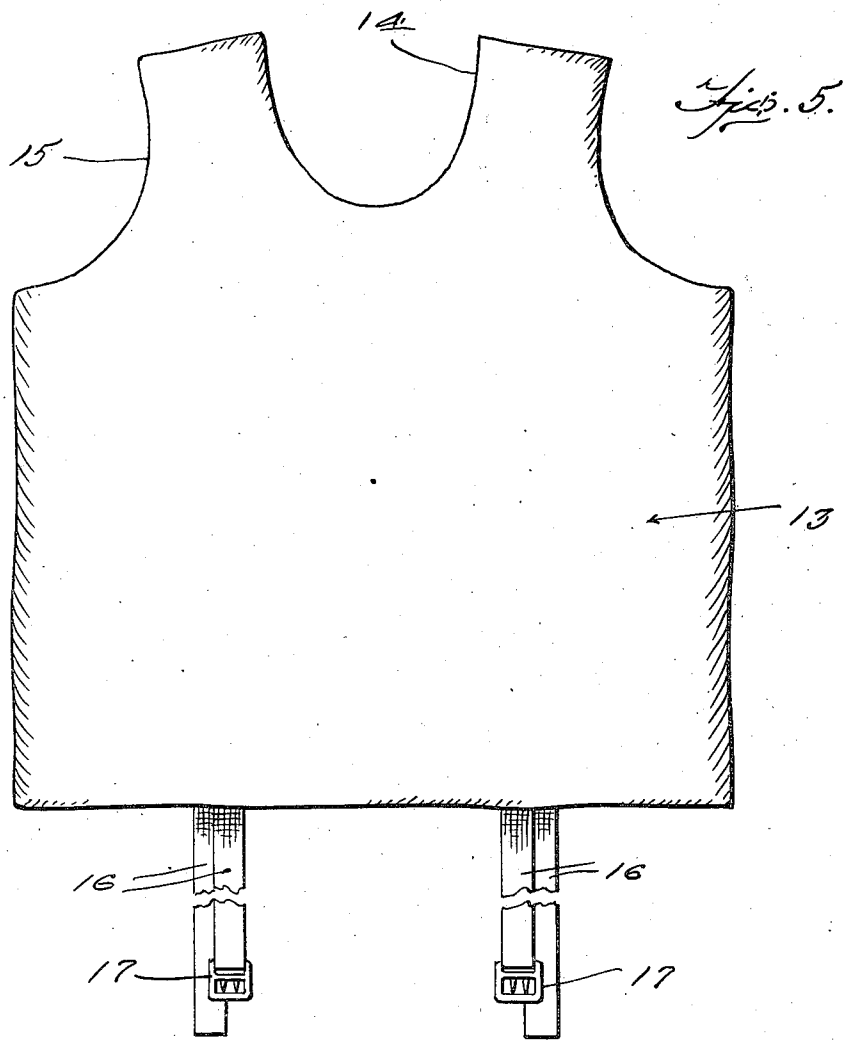
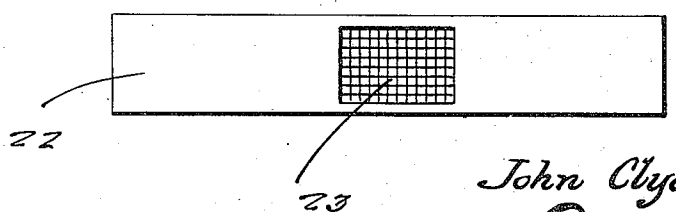


Fig. 5.

Fig. 8.



Inventor

John Clyde Harris

By Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

Patented Oct. 10, 1944 2,359,844

UNITED STATES PATENT OFFICE

2,359,844

LIFESAVING GARMENT

John Clyde Harris, Virginia Beach, Va., assignor of one-half to Mamie Garrett, Norfolk, Va.

Application April 20, 1942, Serial No. 439,732

2 Claims. (Cl. 9—19)

This invention relates to new and useful improvements in life saving garments and more particularly to a garment which can be conveniently worn during emergency by airmen, seamen and others.

The principal object of the present invention is to provide a garment in the form of a jacket which will automatically inflate itself should a person wearing the same fall unconsciously into the water, this with the view of holding the person afloat for an appreciable period of time.

Another important object of the invention is to provide a life saving garment in the form of a jacket of the slip-over or vest type having self-inflating means for the purpose of inflating the garment upon contact with water, especially to save unconscious persons falling into the sea or other bodies of water, the said garment having in addition to automatic means for inflating the garment, manual means which will serve to supplement the automatic means when the latter becomes spent.

Other objects and advantages of the invention will become apparent to the reader of the following description.

In the drawings:

Figure 1 represents a front elevational view of the vest type of garment as it will be worn.

Figure 2 is a fragmentary front elevational view of one of the pockets showing the drain openings.

Figure 3 is a fragmentary enlarged sectional view showing the jacket when inflated, this section being taken on the line 3—3 of Figure 1.

Figure 4 is a front elevational view of the slip-over type of garment as worn.

Figure 5 is a rear elevational view of the slip-over form of garment shown in Figure 4.

Figure 6 is a side elevational view of the manually operated inflating unit.

Figure 7 is a vertical sectional view through the automatic inflating unit.

Figure 8 is a top plan view of the unit shown in Figure 7.

Referring to the drawings wherein like numerals designate like parts, it can be seen that the vest type of garment is clearly shown in Figure 1 and is generally referred to by numeral 5. This vest type garment is constructed of inner and outer sheets 6, 7 of rubber or some like material vulcanized together at their edges, as at 8. Some form of binding means can be provided at these vulcanized edges to reinforce the same, if deemed advisable.

The front of the garment 5 can be held together by front straps 9 and buckles 10, and crotch-leg straps 11 and buckles 12 may be provided for holding the garment down on the body of the wearer, to the end that it will not rise when in the water.

Figures 4 and 5 show a slip-over type of garment which is generally referred to by numeral 13. This garment is constructed of inner and outer sheets of rubber as in the case of the garment 5 and has a neck opening 14 and arm openings 15, but no front opening as this garment is slipped over the head and the shoulders. This slip-over type of garment has crotch straps 16 and buckles 17 to prevent rising of the garment in the water.

A common factor of these two garments is the provision of right and left pockets 18, 19 on the front of the garment.

In preferably the left pocket is an automatic inflating unit generally referred to by numeral 20, while in the right hand pocket is a manually operated inflating unit generally referred to by numeral 21.

The automatic inflating unit comprises a very thin and preferably square compressed gas tank 22. This tank contains a volume of gas of the desired variety under a substantially high compression, a small capacity being sufficient for inflation of a relatively large size garment.

The top of this shell 22 is formed with an opening having a porous or mesh closure 23 and this is located over a small box 24 in the shell containing a volume of carbide 25.

Depending from the bottom of this box 24 is a tube 26 which extends through the bottom of the shell 22 and also through the bottom of the pocket 19 and into the space between the inner and outer sheets 6, 7 of the garment.

A short inlet structure 27 is provided at the upper end of the tube 26 to communicate the tube with the interior of the shell 22, but the passing of gas into the main portion of the tube 26 is prevented by a lead closure 28, this closure may be of some other material, just so it is subject to heat and will melt under a low temperature.

The function of this automatic inflating device is that when the unit becomes immersed in water, water will contact the carbide 25 producing a heat which will be transmitted by conductivity to the meltable closure 28 and when this melts, gas can escape from the interior of the shell 22 through the tube 26, to the interior of the garment for the purpose of inflating the garment and making the same buoyant.

The manually controlled unit 21 which is preferably in the right hand pocket so that an un-

conscious person upon coming to consciousness will upon first thought react with his right hand to actuate the unit **21**, especially if the buoyant effect of the automatic has become dissipated.

The unit **21** comprises a substantially square and thin shell **29** having a discharge tube **30** extending from the bottom thereof and being in communication with the interior of the shell. This tube **30** protrudes into the space between the sheets **6**, **7** of the garment, whether it be the garment **5** or the garment **13**.

An elongated pin **31** is slidably disposed through a packing means **32** in the top of the shell **29** and preferably has a handle or knob **34** at its upper end. This pin **31** slides through the shell **29** and has its lower end pointed as at **35** in order to reach into the tube **30** and engage a readily destructible closure **36**, which normally closes the inside of the tube **30** to prevent the leakage of gas from the shell **29**.

Obviously, when the pin **31** is forced downwardly, the closure **36** will be ruptured and gas can readily escape from the shell **29** through the tube **30** and into the garment for the purpose of inflating the garment.

As an example, the automatic unit **12** may be sufficient to keep a person afloat for 12 hours and upon dissipation of this inflation, the manual unit **21** can be brought into play and this will serve to supplement the first unit by another 12 hours or more.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Having described the invention, what is claimed as new is:

1. In an inflatable life saving garment, a gas container attached thereto, a tube extending out of said container and embodied in said garment for discharging gas from the container into the garment to inflate the same, a closure plug in said tube of material fusible under the action of heat at a low temperature, and means to subject the plug to the action of heat confined within said container and rendered effective by submerging the container in water.

2. In an inflatable life saving garment, a gas container attached thereto, a tube extending out of said container and embodied in said garment for discharging gas from the container into the garment to inflate the same, a closure plug in said tube of material fusible under the action of heat at a low temperature, and means to subject the plug to the action of heat confined within said container and rendered effective by submerging the container in water, said means comprising a pocket of carbide open at one side to admit water thereto and opening on another side onto said plug.

JOHN CLYDE HARRIS.