

July 11, 1939.

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2,165,300

SAFETY LIFE BELT

Filed Nov. 24, 1937

2 Sheets-Sheet 1

Fig. 1.

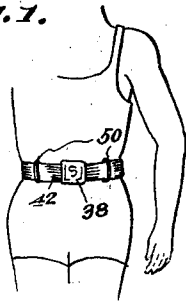


Fig. 2.

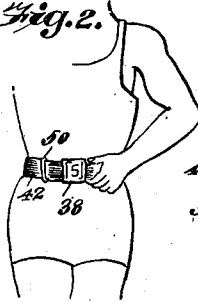


Fig. 3.

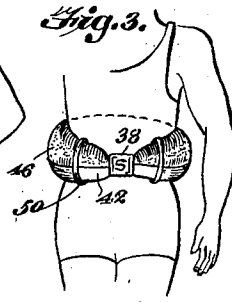


Fig. 4.

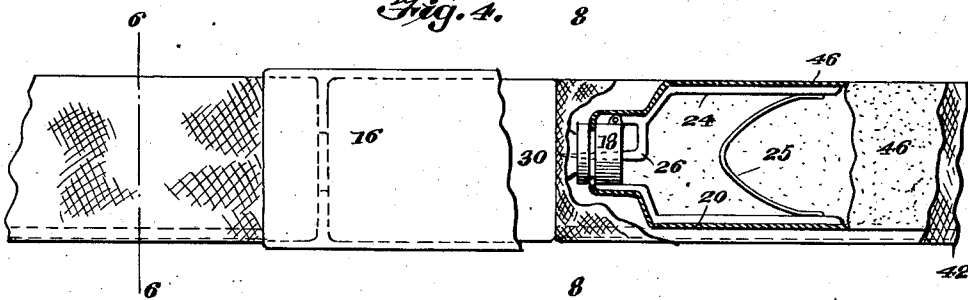


Fig. 5.

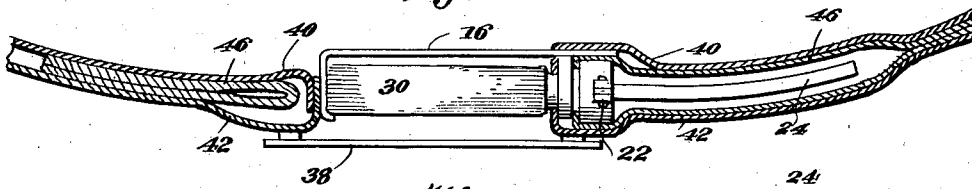


Fig. 6.

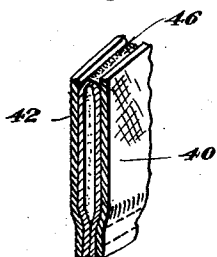


Fig. 7.

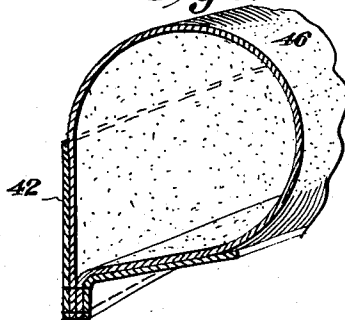
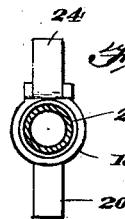


Fig. 8.



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Fig. 9.

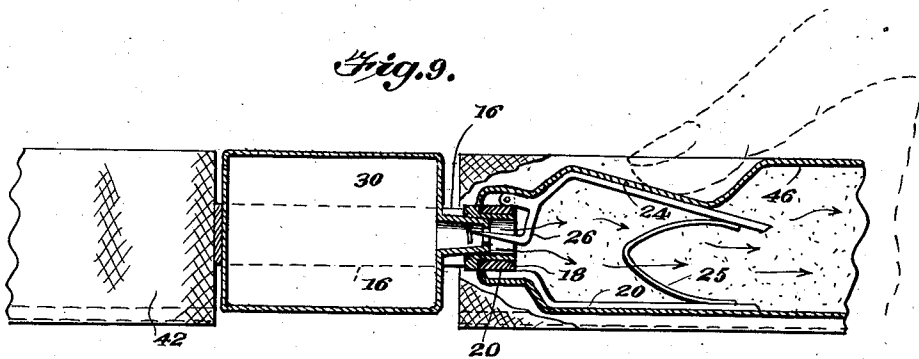


Fig. 10.

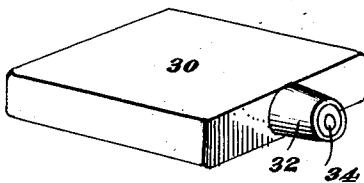


Fig. 12.

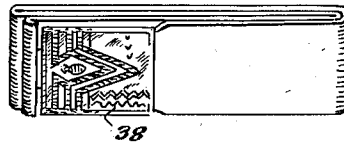


Fig. 11.

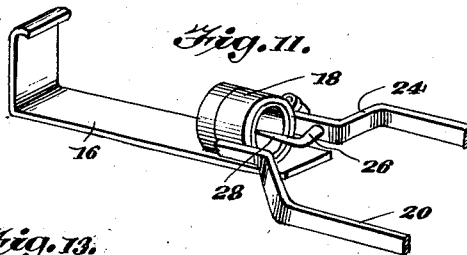


Fig. 14.

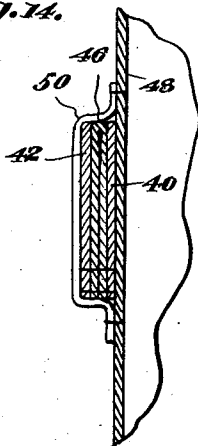


Fig. 13.

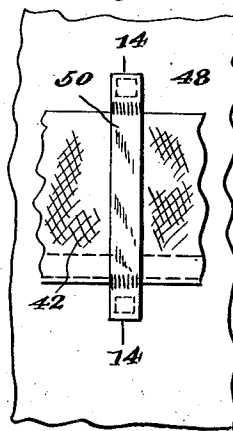
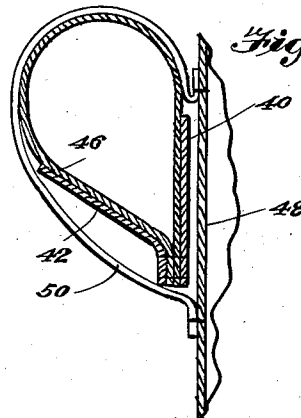


Fig. 15.



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UNITED STATES PATENT OFFICE

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SAFETY LIFE BELT

Gerhard J. Peterson, Grand Forks, N. Dak.

Application November 24, 1937, Serial No. 176,326

6 Claims. (Cl. 9-19)

The present invention relates to a belt and more particularly to a safety life belt especially adapted for use on a swimming suit or the like.

One of the objects of the present invention is to provide a safety life belt which is designed to be worn and will at every respect have the appearance of an ordinary belt that is used on a swimming suit.

A still further important object of the invention is to provide a safety life belt that is so designed that it may be packed in a very small package to be conveniently carried in one pocket if so desired, or in a lady's handbag or the like.

A still further important object of the invention is to provide a novelly constructed belt of this character which has a twofold function that of fulfilling the normal requirement of the ordinary belt and secondly of when called upon to function as a safety life belt.

A still further important object of the invention will be found to reside in the novel structure, and manner in which the life preserving features of the belt are brought into function by the wearer thereof.

Other objects of the invention including low cost of manufacture, simplicity of construction, as well as simplicity and positiveness of operation will become apparent from a study of the accompanying drawings wherein corresponding parts are designated by similar reference numerals and in which:

Figure 1 is a front elevational view of the safety belt on a bathing suit performing the function of any normal belt.

Figure 2 is a similar view illustrating the manner in which the wearer of the belt thereof actuates the operating lever to inflate the bladders carried thereby to cause the belt to function as a life preserver.

Figure 3 is a similar view illustrating the position of the bladders in inflated condition and the belt serving as a life preserver.

Figure 4 is a fragmentary front elevational view of a portion of the belt.

Figure 5 is a longitudinal sectional view of Figure 4.

Figure 6 is a vertical sectional view of Figure 4 taken on the line 6-6 thereof.

Figure 7 is a vertical sectional view similar to the view illustrated in Figure 6 with the bladder in inflated condition.

Figure 8 is a vertical sectional view of Figure 4 taken on line 8-8 thereof.

Figure 9 is a fragmentary front elevational view of the front portion of the belt with the belt

buckle removed therefrom and illustrating the manner in which the actuating handle is depressed to effect a discharge of the gas from the cartridge into the bladder.

Figure 10 is a perspective view of the cartridge.

Figure 11 is a fragmentary perspective view of the metallic cartridge supporting frame.

Figure 12 is a front elevational view of the belt in folded position having an ornamental belt buckle secured thereto to the end that it presents the appearance of the ordinary belt.

Figure 13 is a fragmentary front elevational view of a portion of a swimming suit illustrating the manner in which the belt is trained through an elastic belt loop secured to the garment.

Figure 14 is a vertical sectional view of Figure 13 taken on line 14-14 thereof, and

Figure 15 is a vertical sectional view similar to Figure 14 showing the position of the rubber bladder when in inflated condition.

In the accompanying drawings wherein for the purpose of illustration there is shown a preferred embodiment of the invention, the reference numeral 16 generally designates an elongated L-shaped metallic cartridge support on the inner side adjacent the free end of which there is secured a collar 16. As clearly illustrated in Figure 9 the collar is provided on its inner periphery thereof with a metallic bushing 18. To one side of the bushing 18 there is secured either integrally, or by welding or the like a longitudinally extending stationary arm 20. Diametrically opposite thereof there is pivotally mounted to an upstanding ear 22 on the collar 18 an actuating handle 24. The actuating handle 24 adjacent the outer portion of the collar 18 is provided with a substantially L-shaped piercing pin 26 the elongated pointed portion 28 of which is adapted to extend inwardly into the collar 18 upon an inward pressing of the handle 24.

Referring to Figure 10 it will be seen that there is clearly illustrated a substantially rectangular-shaped cartridge 30 having centrally of one end thereof an integral tapered neck 32. This cartridge 30 is adapted to be filled with a suitable gas, the gas being normally held therein by means of a suitable plug 34 in the neck 32. The neck portion 32 is removably inserted in the collar 18 and the other free end portion thereof brought into abutting relationship with the laterally extended portion of the cartridge support 16 as clearly illustrated in Figure 5 wherein the cartridge is ready for use. It will be observed that the neck portion 32 in disposition of the cartridge 30 snugly abuts the rubber washer 20 within the

collar 18 forming a perfect seal and preventing the gas from leaking out therebetween.

Referring to Figures 4 and 5 it will be observed one end of the encircling belt is secured to the collar end of the cartridge support, while the other end of the belt is connected to the other end of the cartridge support 16. To the free end of the belt there is secured in any manner an ornamental buckle 38. In this connection it is to be observed that while the one free end is shown to be permanently connected to the laterally extended portion of the cartridge support 16 for the purpose of removal of the belt and the like, any form of removable fastener may be embodied such as a hook or the like, to permit of the removable fastening of the free end thereof to the cartridge support.

Referring now to Figures 6 and 7 it will be observed that the belt comprises a pair of juxtaposed strips of fabric 40 and 42 which are stitched together as clearly illustrated along the lower edges thereof leaving the belt open at the top portion thereof. Between the strips 40 and 42 of the belt there is inserted a rubber bladder 46 one end of which is closed, and the other end being opened and adapted to be inserted over the stationary handles 20 and 24 and as clearly illustrated in Figure 5 around the neck 18 on the cartridge support 16. The pivotally mounted handle 24 is normally held in its uppermost position by means of a spring 25 holding the piercing pin 26 out of contacting engagement with the plug 34 of the cartridge 30.

It will thus be apparent that when the charged cartridge 30 as hereinbefore described is inserted in the cartridge 16 and the bladder placed around the neck portion 18 of the collar the bladder is disposed in its folded out of sight position between the strips 40 and 42 of the belt with the operating handles 20 and 24 assuming the position illustrated in Figure 4 to the end that the belt presents the appearance of an ordinary belt such as now in general use. It is to be observed in this connection that the operating handles 20 and 24 are slightly arcuate so as to follow the contour of the average shaped body.

With the belt encircling the body of the wearer as clearly illustrated in Figure 1 the life preserving belt may be brought into function, by the wearer depressing by means of his hands the handle 24 whereupon, the piercing pin 26 extends inwardly into the collar 18 pushing the plug 34 inwardly, or otherwise piercing the closed end of the neck 32 releasing the gas from the cartridge 30 into the bladder 46. Inasmuch as the lower portion of the bladder 46 is securely stitched or otherwise fastened between the lower stitched portions of the strips 40 and 42 the bladder assumes the inserted position clearly illustrated in Figures 3, 7 and 15 of the drawings completely encircling the wearer thereof with an inflated life belt. As illustrated in Figures 13 and 15, the belt if so desired may be supported on the front portion 48 of a swimming suit or the like by means of an elastic belt loop 50 it being apparent as shown in Figure 15 upon the inflation of the bladder 46 by the aforementioned operation that the elastic belt loop is stretched to assume substantially the same contour as the inflated bladder.

Discharged cartridge 30 is obviously removable from its cartridge support 16 and upon the removal therefrom, as hereinbefore described a charged cartridge may be replaced therein whereupon, the rubber bladder having assumed its

normal position between the belt strips 40 and 42 the belt is again ready for life preserving use.

Obviously the bladder may be designed in various ways or the belt folded in any compact position desired, and while there is shown for the purpose of illustration preferred embodiments of the invention it is to be specifically understood that it is capable of various changes and modifications without departing from the spirit and scope thereof, and it is intended therefore, that only such limitations shall be imposed thereon, as are indicated in the prior art and in the appended claims.

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

1. A life preserver of the class described comprising, a waist encircling belt including two strips connected adjacent one longitudinal edge portion, a bladder completely enclosed between said strips when the strips are in juxtaposed position, said bladder upon being inflated unfolding outwardly and urging the free ends of said strips apart, said bladder having one end closed and the other end open, an L shaped cartridge support, a collar on the inner side of the elongated arm of the support adjacent the free end thereof, a pair of diametrically disposed outwardly extending arms secured to said collar, one of said arms being pivotally mounted thereon, an integral piercing pin on the pivotally mounted arm adapted to project into said collar when said pivotal arm is moved toward the stationary arm, resilient means between said arms normally urging the pivotally mounted arm outwardly, the end of the belt having the closed end of the bladder therein being secured to the short arm of the L shaped cartridge support, the open end of the bladder being snugly inserted under said collar with the arms disposed within the bladder, the other free end of the belt being secured to the elongated arm of the cartridge support and the collar, a cartridge containing a compressed gas having a tapered discharge neck on one end with a destructible stopper therein said cartridge being held by the cartridge support with the discharged neck being received in the collar whereby upon actuation of the movable arm the piercing pin pierces the stopper emitting the gas into said bladder.

2. A life preserver of the class described comprising, a waist encircling belt including two strips connected adjacent one longitudinal edge portion, a bladder completely enclosed between said strips when the strips are in juxtaposed position, said bladder upon being inflated unfolding outwardly and urging the free ends of said strips apart, said bladder having one end closed and the other end open, an L shaped cartridge support, a collar on the inner side of the elongated arm of the support adjacent the free end thereof, a pair of diametrically disposed outwardly extending arms secured to said collar, one of said arms being pivotally mounted thereon, an integral piercing pin on the pivotally mounted arm adapted to project into said collar when said pivotal arm is moved toward the stationary arm, resilient means between said arms normally urging the pivotally mounted arm outwardly, the end of the belt having the closed end of the bladder therein being secured to the short arm of the L shaped cartridge support, the open end of the bladder being snugly inserted under said collar with the arms disposed within the bladder, the other free end of the belt being secured to the elongated arm of the cartridge support and

the collar, a cartridge containing a compressed gas having a tapered discharge neck one end with a destructible stopper therein, said cartridge being held by the cartridge support with the discharge neck being received in the collar whereby

upon actuation of the movable arm the piercing pin pierces the stopper emitting the gas into said bladder, and a buckle plate secured to the free ends of said strip completely covering said cartridge and said cartridge support.

3. A life preserver of the class described comprising, a waist encircling belt including two strips connected adjacent one longitudinal edge portion, a bladder completely enclosed between said strips when the strips are in juxtaposed position, said bladder upon being inflated unfolding outwardly and urging the free ends of said strips apart, said bladder having one end closed and the other end open, an L shaped cartridge support, a collar on the inner side of the elongated arm of the support adjacent the free end thereof for an annular channel therein, a pair of diametrically disposed outwardly extending arms secured to said collar, one of said arms being pivotally mounted thereon, an integral piercing pin on the pivotally mounted arm adapted to project into said collar when said pivotal arm is moved toward the stationary arm, resilient means between said arms normally urging the pivotally mounted arm outwardly, the end of the belt having the closed end of the bladder therein being secured to the short arm of the L shaped cartridge support, the open end of the bladder being snugly inserted under said collar with the arms disposed within the bladder, the free end of the bladder being received in the annular channel in the collar, the other free end of the belt being secured to the elongated arm of the cartridge support and the collar, a cartridge containing a compressed gas having a tapered discharge neck on one end with a destructible stopper therein, said cartridge being held by the cartridge support with the discharge neck being received in the collar whereby upon actuation of the movable arm the piercing pin pierces the stopper emitting the gas into said bladder.

4. A life preserver of the class described comprising, a waist encircling belt including two strips connected adjacent one longitudinal edge portion, a bladder completely enclosed between said strips when the strips are in juxtaposed position, said bladder upon being inflated unfolding outwardly and urging the free ends of said strips apart, said bladder having one end closed and the other end open, an L shaped cartridge support, a collar on the inner side of the elongated arm of the support adjacent the free end thereof, a pair of diametrically disposed outwardly extending arms secured to said collar, one of said arms being pivotally mounted thereon, an in-

tegral piercing pin on the pivotally mounted arm adapted to project into said collar when said pivotal arm is moved toward the stationary arm, resilient means between said arms normally urging the pivotally mounted arm outwardly, said arms being arcuate to substantially conform to the waist of the wearer, the end of the belt having the closed end of the bladder therein being secured to the short arm of the L shaped cartridge support, the open end of the bladder being snugly inserted under said collar with the arms disposed within the bladder, the other free end of the belt being secured to the elongated arm of the cartridge support and the collar, a cartridge containing a compressed gas having a tapered discharge neck on one end with a destructible stopper therein, said cartridge being held by the cartridge support with the discharge neck being received in the collar whereby upon actuation of the movable arm the piercing pin pierces the stopper emitting the gas into said bladder.

5. A life preserver belt comprising a waist encircling bladder having one closed end and one open end, an elongated cartridge receiver formed to removably and totally receive a gas cartridge and attached at one end to the open end of said bladder, said cartridge receiver having an apertured neck in communication with the open end of said bladder and having in longitudinally spaced relation from said neck a support for the base of a cartridge, a compressed gas cartridge having a pierceable stopper in one end and releasably receivable in said cartridge receiver to extend longitudinally thereof with the stopper end snugly fitting within said neck and with the base of said cartridge bearing against said support, means located within said bladder adjacent the open end thereof and controllable by the wearer for piercing said cartridge and means for releasably connecting the ends of said bladder.

6. A life preserver belt comprising a waist encircling bladder having one closed end and one open end, an elongated cartridge receiver of substantially L-shape formed to removably and totally receive a gas cartridge, the free end of the long arm of said receiver carrying an apertured neck attached to the open end of said bladder and in communication therewith, a compressed gas cartridge having a pierceable stopper in one end releasably receivable in said neck with the cartridge extending longitudinally of the receiver and with the base of the cartridge bearing against the short arm of said receiver, means located within said bladder adjacent the open end thereof and controllable by the wearer for piercing the stopper of said cartridge and means for releasably connecting said receiver with the closed end of said bladder.

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