R. J. LACKNER.

LIFE SAVING SUIT.

APPLICATION FILED JUNE 4, 1912.

1,070,705.

Patented Aug. 19, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

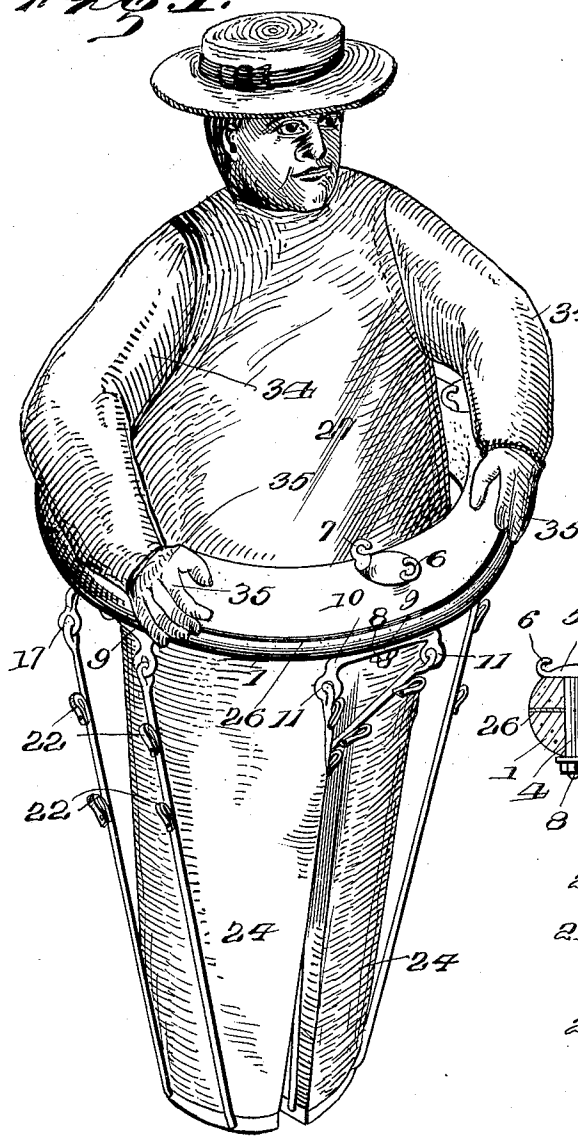
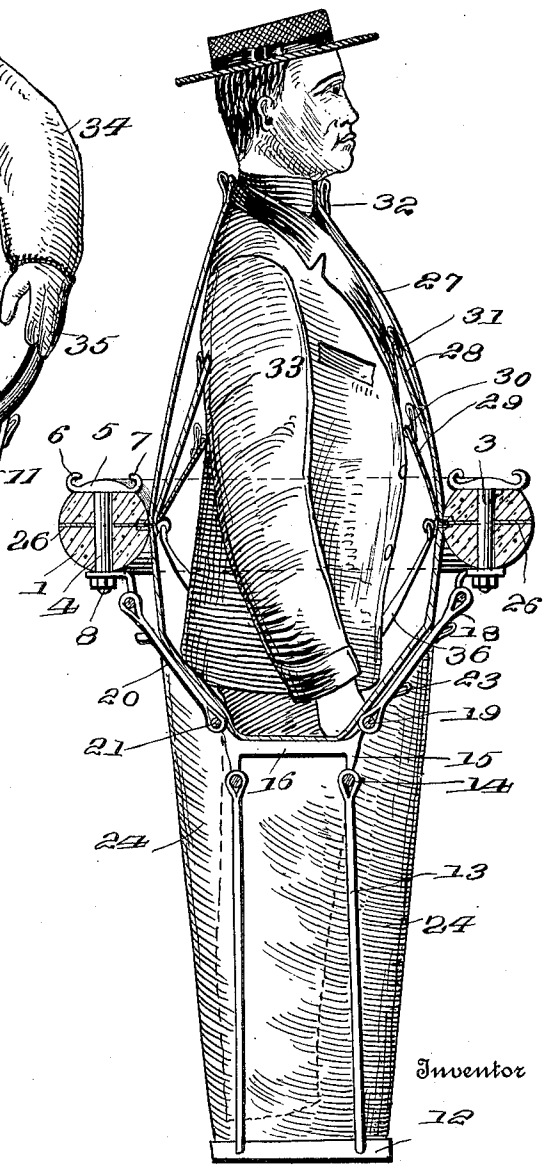


Fig. 2.



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Fig. 3.

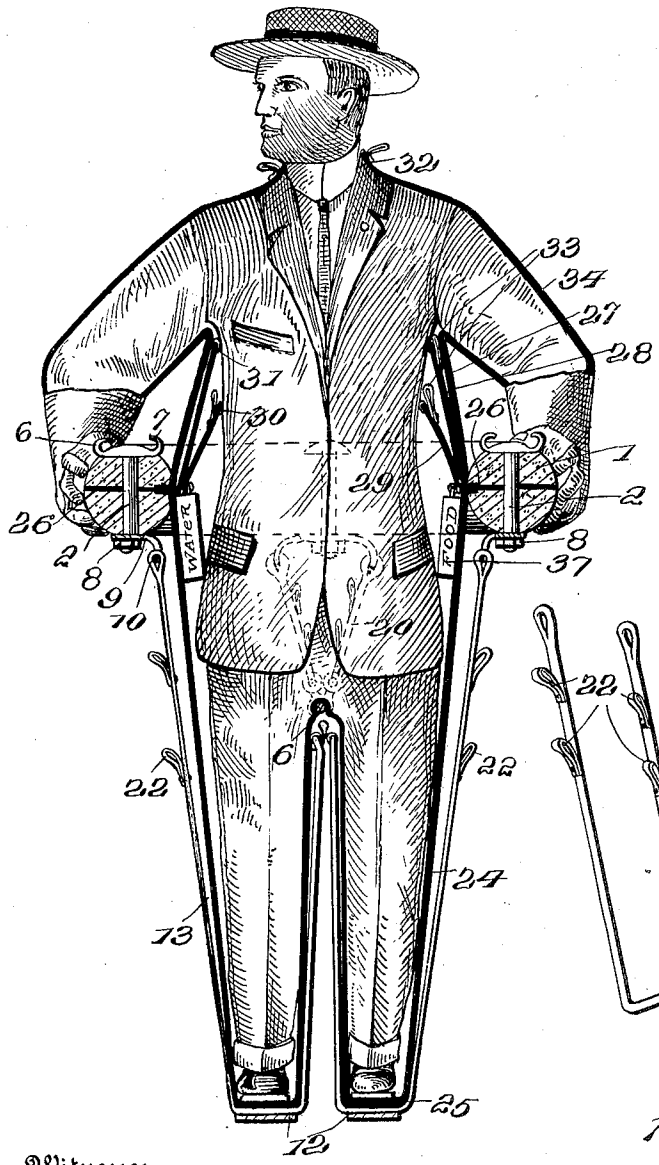
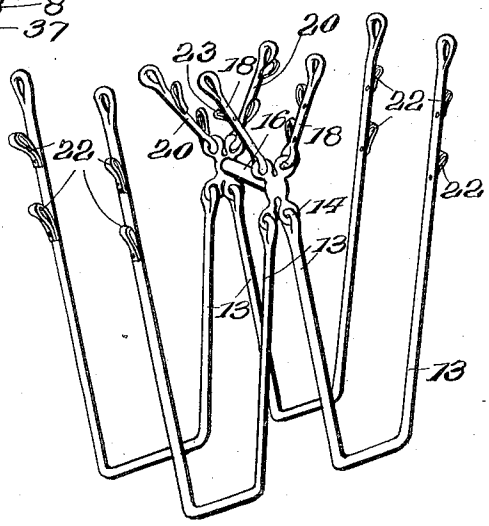


Fig. 4.



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UNITED STATES PATENT OFFICE.

RUDOLPH J. LACKNER, OF NEW YORK, N. Y.

LIFE-SAVING SUIT.

1,070,705. Specification of Letters Patent. Patented Aug. 19, 1913.

Application filed June 4, 1912. Serial No. 701,670.

To all whom it may concern:

Be it known that I, RUDOLPH J. LACKNER, intended citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Life-Saving Suits, of which the following is a specification.

This invention relates to marine life saving devices, and has as its object to provide a suit which may be readily and quickly donned and which will support the wearer in upright position in the water and serve as a protection from the water and the elements.

It is one aim of the invention to so construct the suit that when not in use, it may be collapsed so as to occupy but little space so that a large number of suits may be carried by a vessel in the same manner and in practically the same space as the ordinary life belts now in use.

The invention also aims to provide a suit of the class mentioned which will be constructed to protect all portions of the body of the wearer from the water and from the elements and which will adapt itself to persons of different build and may be readily adjusted to accommodate persons of different heights.

A further aim of the invention is to provide means for supporting the wearer of the suit from the buoy, which means will relieve the suit itself of strain which would be otherwise imposed upon it by the wearer. In this connection, the invention has as a further object to so construct the supporting means that it may be readily adjusted to adapt the suit for use by persons differing in build.

The invention still further aims to so construct the suit as to provide for freedom of movement and to permit the wearer to assume a standing or sitting posture.

For a full understanding of the invention reference is to be had to the following description and accompanying drawing, in which:—

Figure 1 is a perspective view of the suit in use. Fig. 2 is a vertical section through the suit. Fig. 3 is a vertical transverse sectional view through the suit. Fig. 4 is a perspective view of the supporting harness of the suit.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawing by the same reference characters.

Generally speaking, the device embodying the present invention consists of a buoy which supports a harness arranged to sustain the weight of the wearer of the suit of the device which is arranged within the buoy and includes leg-stalls and a body covering, all of which parts will be presently specifically described.

The buoy mentioned above is of annular form and consists of two sections, each indicated by the numeral 1, these sections being preferably semicircular in cross-section, although they may be of some other form if desired. The sections are held assembled by means of bolts of which there are preferably four, one located at each side of the device as a whole and one at the front and one at the rear. The bolts are of counterpart construction and those at the sides are indicated by the numeral 2, the one at the front by the numeral 3 and the one at the rear by the numeral 4. Each of the bolts includes a head 5 which is formed at diametrically opposite points with hooks 6 and 7, the hooks 6 being located at the outer sides of the head and the hooks 7 at the inner sides thereof, with respect to the axis of the buoy. These heads are preferably countersunk in the upper side of the upper section of the float and the lower ends of the shanks of the bolts are threaded and have fitted upon them nuts 8.

The harness of the device is supported from the buoy by means of brackets which are attached to the buoy by the bolts 2, 3 and 4, and each of these brackets includes an attaching head 9 and arms 10 which project in opposite directions therefrom and are provided with eyes 11. The harness includes stirrups 12 which may be of wood or any other suitable material and which are located at the lower ends of the leg-stalls of the suit, as will be presently explained.

A pair of straps 13 are secured transversely through each stirrup 12, one at a point adjacent the toe-end of the stirrup and the other adjacent the heel-end thereof, and these straps are connected as at 14 to eyes 15 formed at the ends of a hanger 16. The opposite ends of the straps are connected as at 17, permanently, to the eyes 11 of the respective brackets 9 which are secured by the side-bolts 2. It will be ob-

served that the hanger 16 is located below the axis of the buoy and it is supported in this position by means of suspension straps of which there are two pairs, one being located at the front and the other at the rear of the device. The forward suspension straps are indicated by the numeral 18 and at their ends are connected to eyes 19 at the forward end of the hanger 16 and at their upper ends these straps are connected to the eyes 11 of that one of the brackets 9 which is supported by the forward bolt 3. The rear straps are indicated at 20 and are connected at their lower ends to an eye 21 to the respective end of the hanger 16 and at their upper ends to the eyes of that one of the brackets 9 which is secured by the rear bolt 4. It will be understood at this point that the stirrups 12 are supported so that they will afford firm foot-rests although they may have movement in all directions, the straps 13 serving to support them for swinging movement.

For a purpose to be presently explained, loops 22 are secured upon the outer stretch of each strap 13 and these loops are engageable interchangeably with the hooks 6 upon the heads of the bolts 2. Similar loops 23 are secured upon each of the straps 18 and 20 and are interchangeably engageable respectively with the hoops 6 upon the heads of the bolts 3 and 4. The suit proper of the device is preferably formed from rubber, although portions of it may be made of rubberized cloth, or any other suitable flexible waterproof material and the suit includes leg-stalls 24 which are similarly shaped but considerably larger than a trouser leg and are closed at their lower ends as clearly shown in Fig. 3 of the drawings and secured in any suitable manner as at 25 to the upper sides of the stirrups 12. These leg-stalls are integrally connected with each other and with the waist portion of the suit and straddle the hanger 16 as shown in Figs. 1, 2 and 3 of the drawings. The suit at the waist line is formed exteriorly with an integral web 26 which is fitted between the sections of the buoy and is firmly clamped in place between their chordal faces.

The upper or body covering portion of the suit consists of a plurality of jackets, here shown as three in number, and these jackets are indicated one by the numeral 27, another by the numeral 28 and the third by the numeral 29. These jackets are arranged one within another as clearly shown in Figs. 2 and 3, the jacket 27 being the outermost one and the jacket 29 being the innermost one. Each of these jackets is, when extended, of substantially frusto-conical form and the jacket 29 is of less height than either of the jackets 27 and 28, and has its mouth or open upper end indicated by the numeral 30 and of such diameter that it may encircle the trunk of the wearer of the suit. The mouth of the jacket 28 is indicated at 31 and is of a size to fit snugly around the body of the wearer at the chest-line, and the mouth of the jacket 27, indicated at 32, is smaller than the open ends of the jackets 28 and 29 and is arranged to fit snugly around the throat of the person using the suit. As before stated the suit is preferably formed from rubber and in any event the jackets at their open ends may be stretched so as to allow them to pass over the body of the person to whom the suit is applied. At the mouth of each jacket there are provided loops which are four in number, one being located at each side of the mouth, one in front and the other at the rear. These loops when the suit is to be donned, are engaged with the hooks 7 of the heads of the correspondingly located bolts 2, 3 and 4 so that the jackets will be so stretched at their open ends as to permit of the wearer of the suit stepping into the leg-stalls thereof. The jackets are then adjusted to inclose the body of the wearer as illustrated in Figs. 1, 2 and 3, the loops 33 being first disengaged from said hooks 7. It is preferable that the jacket 27 be provided with integral sleeves 34 which terminate in gloves 35, and it will be understood that after the suit has been donned and adjusted, the person using the same will have substantially the same freedom of movement as when not incased within the suit. It will be understood at this point that the jackets serve not only to protect the wearer from cold and from the elements, as well as from the water, but they coöperate to form pockets which collect any water which may enter by way of the mouth of the jacket 27. It will also be understood that the suit as a whole or a portion thereof, may be lined with felt or any other suitable material for the purpose of rendering the same more comfortable to wear.

It is preferable that a saddle 36 be provided upon which the wearer may sit if he so desires, and this saddle is preferably in the nature of a suitably shaped strip of leather or cloth which is secured at its ends at the front and rear of the suit, within the same.

If desired, suitable containers 37 for food and water may be suspended or otherwise supported within the suit at or adjacent the waist line thereof.

From the foregoing it will be seen that there is provided a suit of the class mentioned which may be readily and quickly donned and which will support the wearer in upright position when in the water and which will protect him from the water and from the elements. It will also be understood that the suit may be readily and quickly adapted for use for persons of different build by engaging one or another of

the loops 22 and 23 with the respective hooks 6. This adjustment, of course, serves to lengthen or shorten the leg-stalls of the suit.

Having thus described the invention what is claimed as new is:—

1. In a device of the class described, a buoy, consisting of connected sections, and a body incasing suit provided with a web secured between the said sections of the buoy.

2. In a device of the class described, a buoy, a hanger supported beneath the buoy at the front and rear thereof, suspension straps secured to the buoy at the sides thereof and connected to the hanger, and stirrups supported in the loops in the said straps.

3. In a device of the class described, a buoy, a hanger supported beneath the buoy at the front and rear thereof, suspension straps secured to the buoy at the sides thereof and connected to the hanger, stirrups supported in the loops in the said straps, and a body incasement including leg-stalls attached at their lower ends to the stirrups.

4. In a device of the class described, a buoy, and a suit supported and surrounded thereby and including a nether portion extending beneath the buoy, and a body-inclosing portion extending above the buoy and including a plurality of overlapped jacket portions connected to each other only by their lower edges.

5. In a device of the class described, a buoy, and a suit supported and surrounded thereby and including a nether portion extending beneath the buoy, and a body-inclosing portion extending above the buoy and including a plurality of overlapped expansible jacket portions, which may be stretched to permit a person entering the same.

6. In a device of the class described, a buoy, and a suit supported and surrounded thereby and including a nether portion extending beneath the buoy, and a body inclosing portion extending above the buoy and including a plurality of overlapped expansible jacket portions, and the outer jacket being provided with closed sleeves.

7. In a device of the class described, a buoy, a harness suspended therefrom and including suspension straps provided with loops, hooks upon the buoy, with which the correspondingly located loops are interchangeably engageable whereby to lengthen or shorten the harness, and a body incasement supported within the harness and surrounded by the buoy.

8. In a device of the class described, a buoy, and a body incasing suit including a jacket portion having an expansible mouth, hooks arranged at opposite points upon the buoy, and loops upon the jacket at the mouth engageable with the said hooks.

9. In a device of the class described, a buoy, a hanger supported below the buoy and adjustable toward and away from the same, suspension straps secured to the buoy and hanger, and stirrups supported in the loops in said straps.

10. In a device of the class described, a buoy, a hanger supported beneath the buoy at the front and rear thereof, suspension straps secured to the hanger and buoy, their attachment to the buoy being adjustable, and stirrups mounted upon the straps and movable toward and away from the buoy by the adjustment of said straps.

11. In a device of the class described, a buoy consisting of upper and lower sections, bolts securing the sections together, the heads of said bolts carrying hooks, brackets secured to the buoy by said bolts and having eyes, a harness supported by the brackets and having loops for detachable engagement with the hooks, and a body incasement carried by said harness.

12. In a device of the class described, a buoy, a hanger supported below the buoy, straps secured by their ends to the hanger and buoy and forming a supporting harness, and stirrups movable along said straps.

In testimony whereof I affix my signature in presence of two witnesses.

RUDOLPH J. LACKNER. [L. S.]

Witnesses:
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I. C. LUND.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."