July 10, 1945. H. HOLDING 2,379,963

LIFE SAVING SUIT

Filed March 14, 1944

Fig. 1

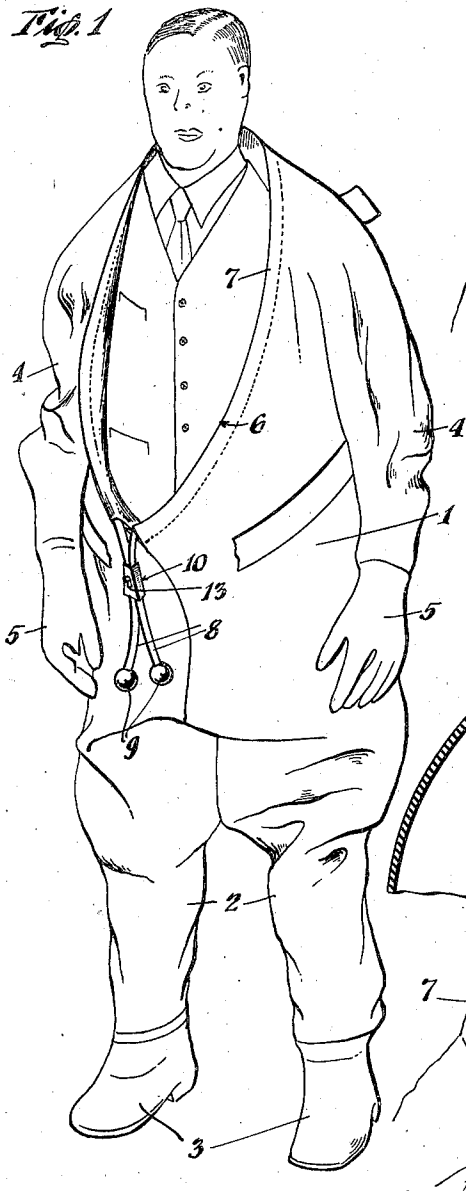


Fig. 2

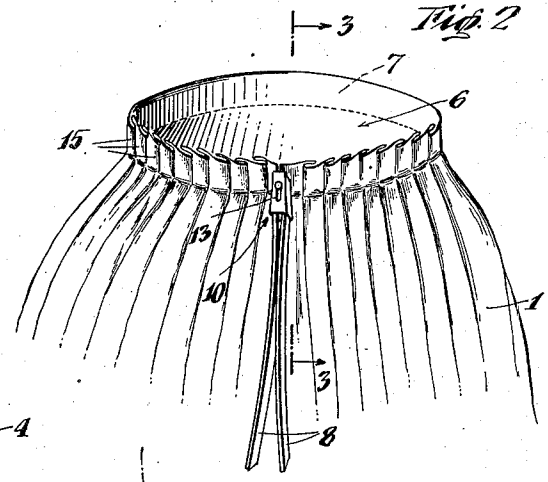


Fig. 3

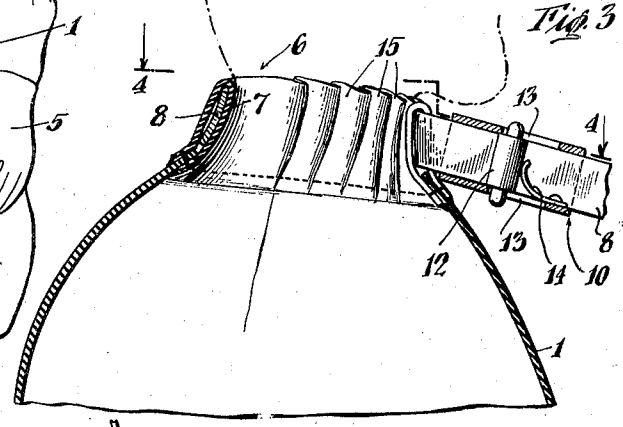
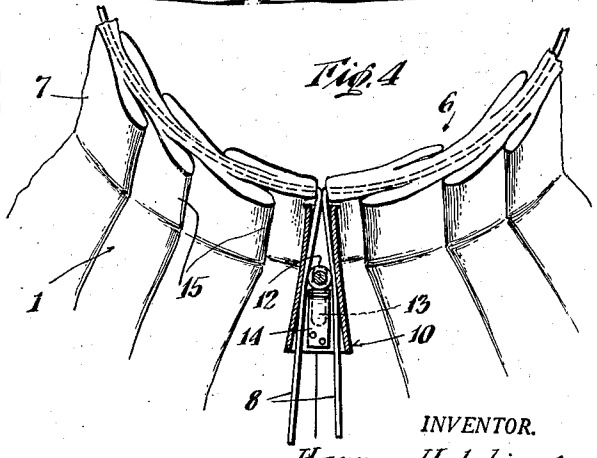


Fig. 4



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LIFESAVING SUIT

Harry Holding, Hamden, Conn.

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1 Claim. (Cl. 2—2.1)

This invention relates to one-piece life saving suits and has for its object to provide a novel and improved closure therefor.

Another object of the invention is to provide a life saving suit of the above type with a simple and efficient means for effecting a waterproof closure of the entrance opening at the top or neck portion of the garment.

Still another object is to provide an adjustable waterproof closure of the type specified, which is easy to manipulate under the most adverse conditions and enables the garment to be worn with added comfort and freedom of movement to the occupant.

Various other objects and advantages will be apparent as the nature of the invention is more fully disclosed.

Life saving suits of the type to which my invention relates are commonly constructed in one piece, including a body portion, legs with attached boots, and sleeves terminating in mittens or gloves, and the single entrance opening at the top or neck portion of the garment is usually closed by a drawstring after the garment is in place.

These drawstring closures, as heretofore constructed, have been unsatisfactory not only because of the danger of breaking, but also because the drawstrings tend to swell and stick after prolonged exposure to sea air even when the suit has never been used. Still more serious, however, is the fact that the entrance opening, which is gathered in to form the neck band of the suit when closed, is necessarily large, and, with the conventional drawstrings heretofore employed in garments of this type, there is a decided tendency for the fabric to bunch up unevenly and form channels for the ingress of water and also to cause considerable local irritation and discomfort to the wearer.

The present invention largely avoids the foregoing disadvantages of the prior art by providing the entrance opening of a union life saving suit with a neck hem containing a flat relatively wide draw band composed of plastic material which is moisture-proof and retains a smooth gliding surface under all conditions of use and still affords sufficient traction to be gripped and tightly clamped by a sliding clasp member which is used to manipulate the draw band.

Another important advantage of my improved combination resides in the fact that the wide draw band, when manipulated to close the entrance opening of the suit, guides the material about the opening into uniform folds or plaits to form a relatively high snug-fitting collar which not only excludes water but further utilizes the overlapping folds of the collar as a cushion, all to the increased comfort and safety of the wearer.

Although the novel features which are characteristic of this invention are set forth more in detail in the claim appended hereto, the nature and scope of the invention may be better understood by referring to the following description, taken in connection with the accompanying drawing forming a part thereof, in which a specific embodiment has been set forth for purposes of illustration.

In the drawing:

Fig. 1 is a front view of a life saving suit embodying the invention, showing same on the body before closing the entrance opening;

Fig. 2 is a fragmentary front view showing the upper part of the suit with material at the neck gathered to form the plaited collar;

Fig. 3 is a vertical sectional view taken on line 3—3 of Fig. 2, showing the interior of the plaited collar and the construction of the sliding clasp; and

Fig. 4 is a transverse sectional view taken on the line 4—4 of Fig. 3.

In the following description certain specific terms are used for convenience in referring to the various details of the invention. These terms, however, are to be interpreted as broadly as the state of the art will permit.

In the drawing, Fig. 1 shows a one-piece life saving suit of conventional type comprising a body portion 1 with integral legs 2 terminating in boots 3, and with sleeves 4 terminating in gloves 5.

The suit is provided with a neck entrance opening 6 of suitable size to permit entrance of the body of the wearer. The suit is made of any suitable waterproof material such as rubber-impregnated fabric or neoprene, and it envelops the body from feet to neck as illustrated.

According to a feature of the invention, the portion of the garment immediately surrounding the entrance opening 6 is formed of balloon cloth or other suitable soft, pliable waterproof material which is lighter and more flexible than the remainder of the suit, and the edge bordering upon said opening 6 is doubled over to provide a marginal hem or channel 7 for the passage of the draw band 8 which will now be described.

The draw band 8 is strung through the channel 7 and has its free ends tipped with knobs 9 which may be readily grasped by the gloved hand of the operator and also serve as a limiting stop for the sliding clasp member 10 which

tracks on the two branches of the band. The band 8 is a flat tape-like strand of considerably greater width than thickness and is composed of a pliable waterproof and moistureproof plastic material such as ethyl cellulose. This material has a smooth gliding surface and is unaffected by moisture or by extremes of temperature, yet it may be readily gripped and tightly secured by the clasp member 10.

In the embodiment illustrated, the clasp member 10 is a wedge-shaped metal or plastic slider having an internal channel containing a centrally disposed roller 12 which is mounted in slots 13 in the sides of the slider and is provided with a leaf spring 14 which urges the roller 12 toward the small end of the wedge-shaped body. The two branches of the flat band 8 are strung through the member 10 on opposite sides of the roller 12, and the tension of spring 14 on the roller normally clamps the flat sides of the band 8 between the roller and the sides of the member 10 as illustrated in Figs. 3 and 4.

When the wearer dons the suit as shown in Fig. 1, he grasps the knobs 9 with one gloved hand and then simply grasps the clasp member 10 with the other hand and slides it upwardly on the draw band 8 until the entrance opening 6 is closed. The clasp member 10 readily slides up in this manner because the traction of the band 8 on roller 12 forces the roller inwardly against the tension of spring 14 and thus permits movement of the clasp. When the wearer desires to loosen the neck he merely grasps the clasp with one hand in such a manner that his gloved fingers span the projecting ends of roller 12 and force the roller downwardly in the slots 13 against the tension of spring 14, the downward movement of the operator's hand simultaneously serving to slide the clasp member on the draw band 8.

When the clasp member 10 is moved upwardly on the draw band 8 to close the entrance opening 6 of the suit, the opening 6 decreases in diameter as the surrounding material is gathered in to form the neck band or collar of the garment. As this operation takes place, the wide band 8, which is preferably at least ⅞ inch wide, acts as a shaping form which guides the soft pliable material about the opening 6 into a continuous series of uniform folds or plaits 15, as shown in Figs. 2–4. When the opening 6 is finally narrowed to fit the neck of the wearer the band 8, surrounded by the nested folds of the fabric, forms an upstanding snug-fitting collar which prevents the ingress of water and furthermore utilizes the soft pliable folds of the fabric as a cushion to improve the seal and to increase the comfort of the wearer.

It is to be understood that the above example is only illustrative and that various changes and modifications may be made therein without departing from the scope and spirit of the invention as defined in the appended claim.

What is claimed is:

A life saving suit having an enlarged neck opening bordered by soft pliable material containing a marginal hem, a flat relatively wide draw band strung through said hem for gathering said material to form a snug-fitting upstanding collar, and a sliding clasp member tracking on said draw band said clasp being freely slidable in a direction to tighten said band and having a releasable spring-pressed roller frictionally engaging the flat sides of said band for gripping the same to prevent loosening of said band, said roller having release means extending beyond said clasp on opposite sides and arranged to be gripped by a gloved hand for releasing said band by an outward pull.

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