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CLOSE FITTING, INSULATING, WATER-TIGHT UNDERWEAR

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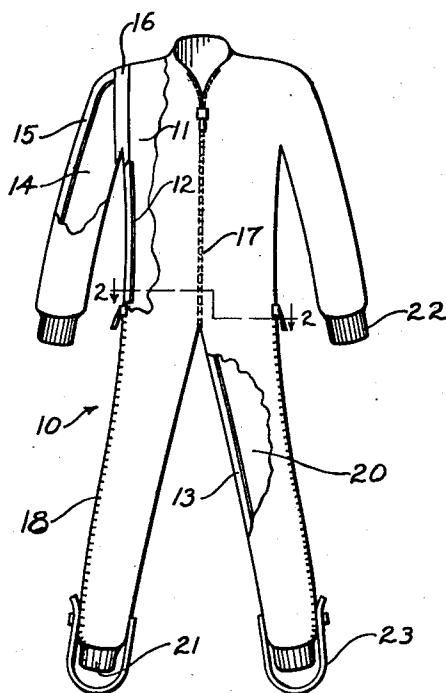


Fig. 1

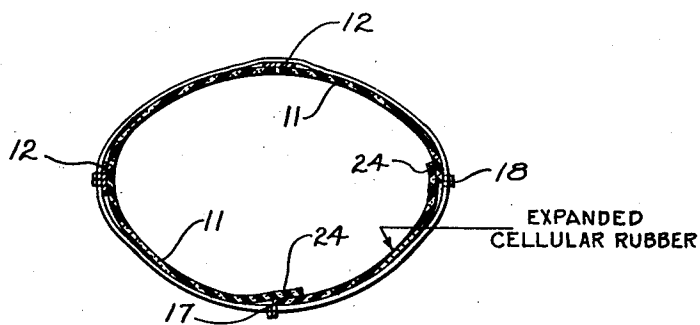


Fig 2

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CLOSE FITTING, INSULATING, WATER-TIGHT UNDERWEAR

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2 Claims. (Cl. 2—82)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

This invention relates to a close fitting insulating and water-tight underwear and has for an object to provide underwear especially intended for use by divers, either when diving in cold water or when using oxygen and helium mixtures.

One great problem confronting all divers is the rapid loss of body heat while under water, resulting in rapid loss of strength and fatigue. This is especially true when diving in cold water. This same feature is also true when using an atmosphere of oxygen and helium, in order to avoid bends, that is, nitrogen dissolving in the blood when under high pressure and causing severe injury when the pressure is reduced. It has been found that such a mixture of helium and oxygen permeating through the ordinary underwear of the diver robs him of body heat at an excessive rate.

With this invention, the diver is insulated both against the cold, resulting from diving in cold water, as well as against contact of his breathing atmosphere of helium and oxygen with the major portion of his body, all this without hampering his movements in any way, inasmuch as the underwear of this invention is soft and flexible.

With the foregoing and other objects in view, the invention consists in the construction, combination and arrangement of parts hereinafter described and illustrated in the drawing, in which:

Figure 1 is an elevational partly broken-away view of the diving underwear; and

Figure 2 is a sectional view on line 2—2 of Figure 1.

The suit of underwear 10 of this invention comprises a close fitting suit of underwear made of a plurality of vertically extending sections 11 of expander cellular rubber. These sections are suitably secured together from the back of the neck to the crotch and from the bottom of the armholes to opposite the crotch by strips 12 vulcanized thereto. The inner edges of the sections 11 below the crotch are likewise secured together by vulcanized strips 13 extending from the crotch to the ankle. Sleeves 14 are made of a similar section of material having its joints secured by a vulcanizing strip 15 and are in turn secured at the armholes of the trunk by a vulcanizing strip 16. An outer covering, such as knitted material, is secured about the expanded cellular rubber lining 11 and is provided with a separable fastener 17 extending upwardly from the crotch to the neck and with separable fasteners 18 extending from opposite the crotch along the outer

edges of the legs 20 down to the ankles. The legs and sleeves each terminate in knitted anklets 21 and wristlets 22, while snap straps 23 extend under the arch of the wearer's suit.

Beneath the separable fasteners 17 and 18, the expanded cellular rubber sections 11 are provided with overlaps 24 so that when the fasteners 17 and 18 are extended to closing position, they press the overlaps 24 against each other to make a substantially air-tight, snug-fitting joint against the body of the wearer, it being noted that the separable fastener 17 extends tight under the chin.

The water-tightness and air-tightness of the suit as thus worn protects the wearer against loss of body heat to the cold of the surrounding water or the heat-robbing characteristics of the helium atmosphere, as well as from any moisture that may be present within this diving suit.

Other modifications and changes in the proportions and arrangements of the parts may be made by those skilled in the art without departing from the nature of the invention, within the scope of what is hereinafter claimed.

The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

Having thus set forth and disclosed the nature of this invention, what is claimed is:

1. Close fitting insulating and water-tight underwear comprising, a plurality of vertically extending sections, all joined and overlapped, of soft, waterproof and impermeable material, said sections being of expanded cellular rubber having vulcanizing strips securing their permanent joints together, an outer cloth covering fitted about said cellular expanded rubber sections, and fastening means on said outer covering for holding said cellular expanded rubber sections in impermeable contact against the wearer.

2. A close fitting insulating and water-tight suit of underwear having a trunk, a neck at the upper end of the trunk, legs depending from the trunk and terminating in ankle sections, and a crotch between the legs at the bottom of the trunk, said underwear suit comprising, a plurality of vertically extending sections, of soft, waterproof and impermeable material, said sections being of expanded cellular rubber having vulcanizing strips securing their permanent joints together, an outer cloth covering fitted about said cellular expanded rubber sections, fastening

means on said outer strip for holding said cellular expanded rubber sections in impermeable contact against the wearer, said fastening means comprising a separable fastener extending from the crotch up the front of the trunk of the suit to the neck and separable fasteners extending from opposite the crotch to the ankle of the legs of the

suit, said inner cellular rubber sections being provided with overlaps beneath each separable fastener to provide an impermeable joint against the body of the wearer when the separable fasteners are in closed position.

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