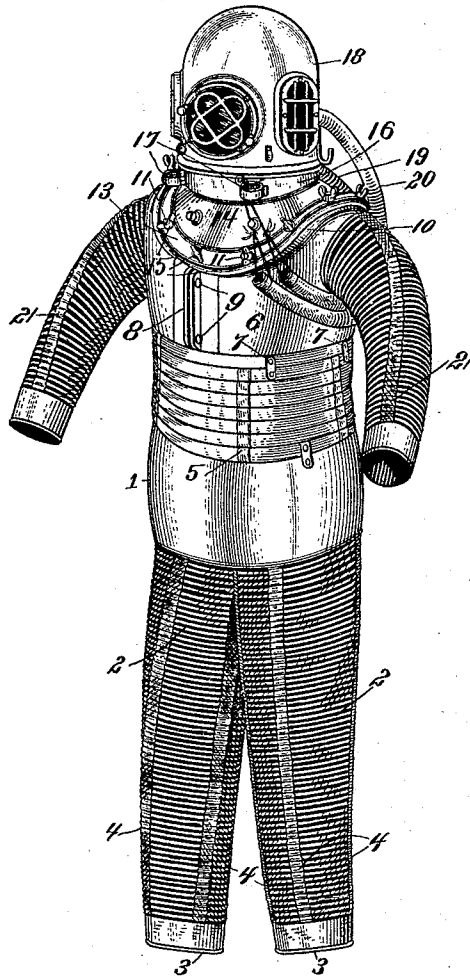


(No Model.)

A. HEMENGER.
DIVING ARMOR.

No. 496,686.

Patented May 2, 1893.



WITNESSES:

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ARTHUR HEMENGER, OF ALGONAC, MICHIGAN.

DIVING-ARMOR.

SPECIFICATION forming part of Letters Patent No. 496,686, dated May 2, 1893.

Application filed June 14, 1892. Serial No. 436,715. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR HEMENGER, a citizen of the United States, residing at Algonac, in the county of St. Clair and State of Michigan, have invented certain new and useful Improvements in Diving-Armor; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention has reference to that class of diving armor which forms a protective suit of clothing adapted to be worn by the diver, and it is designed as an improvement on my prior patent No. 437,779, dated October 7, 1890. The object sought to be accomplished is to provide superior means for protecting the limbs of the diver and at the same time allowing them a free universal movement, a further object being to provide more simple means for taking the armor apart; and a still further object of my device is to construct it much cheaper, stronger, and more durable.

To this end my invention consists in the peculiar features more fully described herein-after and pointed out in the claim.

The accompanying drawings show a general perspective view of my complete apparatus, with the exterior waterproof covering removed to better show the framework, and solid parts.

The reference numeral 1, denotes the middle portion or section which consists of a circular shell of thin or light metal. To the lower edge of this section are fastened in any suitable manner the legs 2, both of which are constructed alike. These consist of a spiral wire beginning at the top and ending at the bottom where it connects to anklets 3. The coils taper as they extend downward toward the anklets, and are attached to a number of flexible strips 4, passing across the coils and extending lengthwise of the legs. In the present instance four strips are used. These strips serve to allow the coils a limited movement away from each other, as the legs are extended, and they also serve to hold the coils in their proper adjustment. To the upper edge of the middle section is secured a sec-

tional waist portion comprising a series of thin overlapping bands, coils, or annular sections composed preferably of metal and bound together by flexible cross strips 5 of canvas or other suitable material. The top and bottom bands are secured to the chest section 6, by cleats 7. The chest section is composed of separable halves held together by flanges 8 and bolts 9. The upper edge of the chest section is provided with a flat joining surface 10, from which project rigid dowels 11, adapted to pass through corresponding holes 12, in the rim 13, of the collar section 14. The outer ends of the dowels are screw threaded to receive thumb nuts 15, adapted to clamp the two sections together.

The upper part of the collar section is provided with a collar band 16, having rings adapted to receive the suspension ropes (not shown). The head section 18, is mounted on the collar band, and is provided with the usual windows. Receiving and discharge pipes 19 and 20 for supplying air are attached to the rear of the upper portion of the armor. The sleeves are composed of continuous spiral coils of wire retained by flexible bands 21 extending longitudinally of the sleeves.

The whole of the entire framework is adapted to be covered with some suitable rubber or waterproof cloth.

The sectional waist portion, and yielding legs and arms permit the diver to move his limbs about with more perfect freedom, for the coils will spread on one side and come together on the other when a limb or his body is bent.

What I claim as new, and desire to secure by Letters Patent, is—

In a diving armor, the combination with a middle section or shell, of chest and collar sections detachably secured together, a flexible section interposed between the middle and chest sections, flexible legs and arms secured to the middle and chest sections respectively, and flexible bands connecting the coils of said legs and arms, substantially as and for the purpose set forth.

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

ARTHUR HEMENGER.

Witnesses:

HORACE B. SWARTOUT,
JOHN D. BURKE.