

No. 609,085.

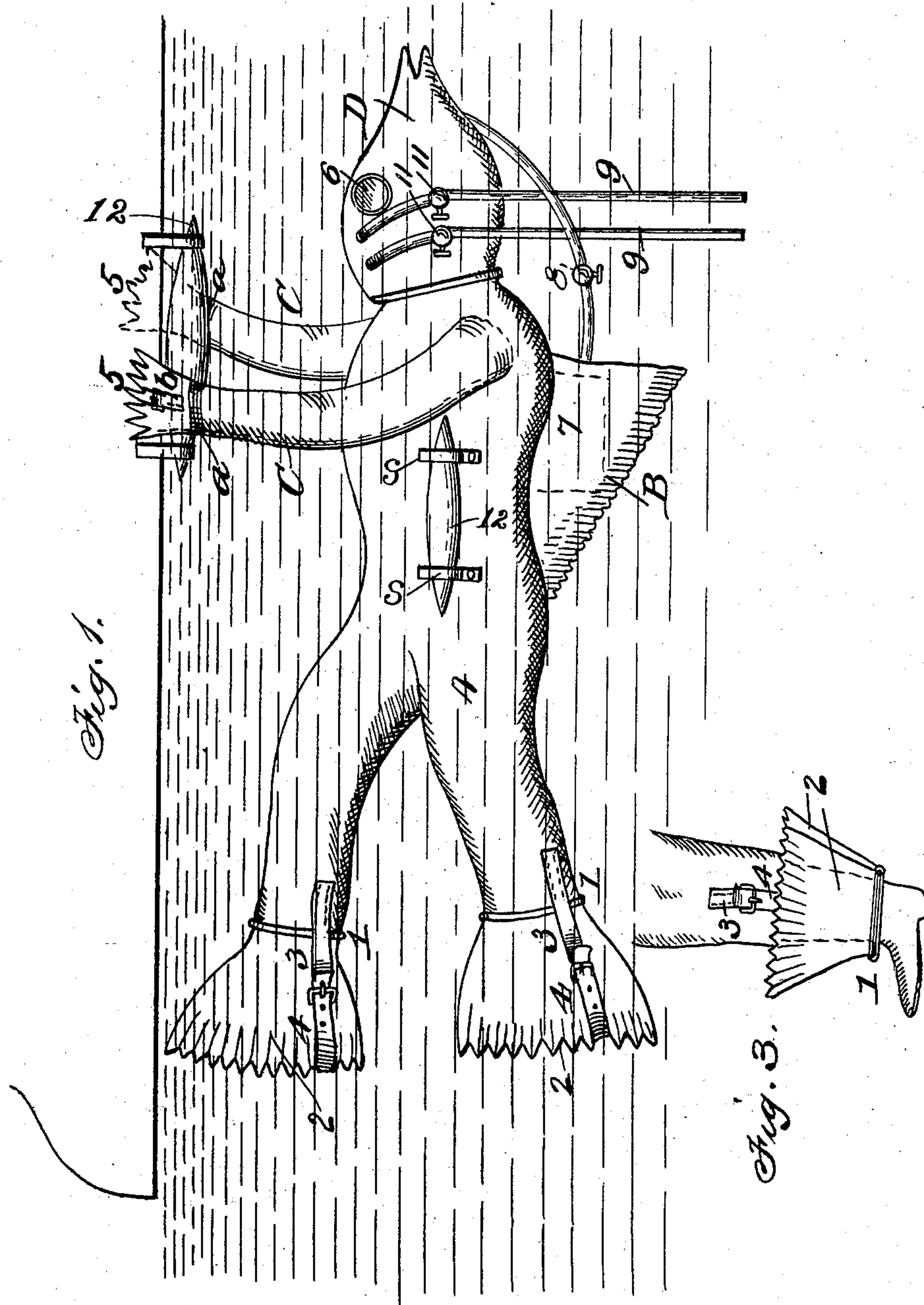
Patented Aug. 16, 1898.

J. J. DEVINE.
DIVING ARMOR.

(Application filed Dec. 31, 1897.)

(No Model.)

2 Sheets—Sheet 1.



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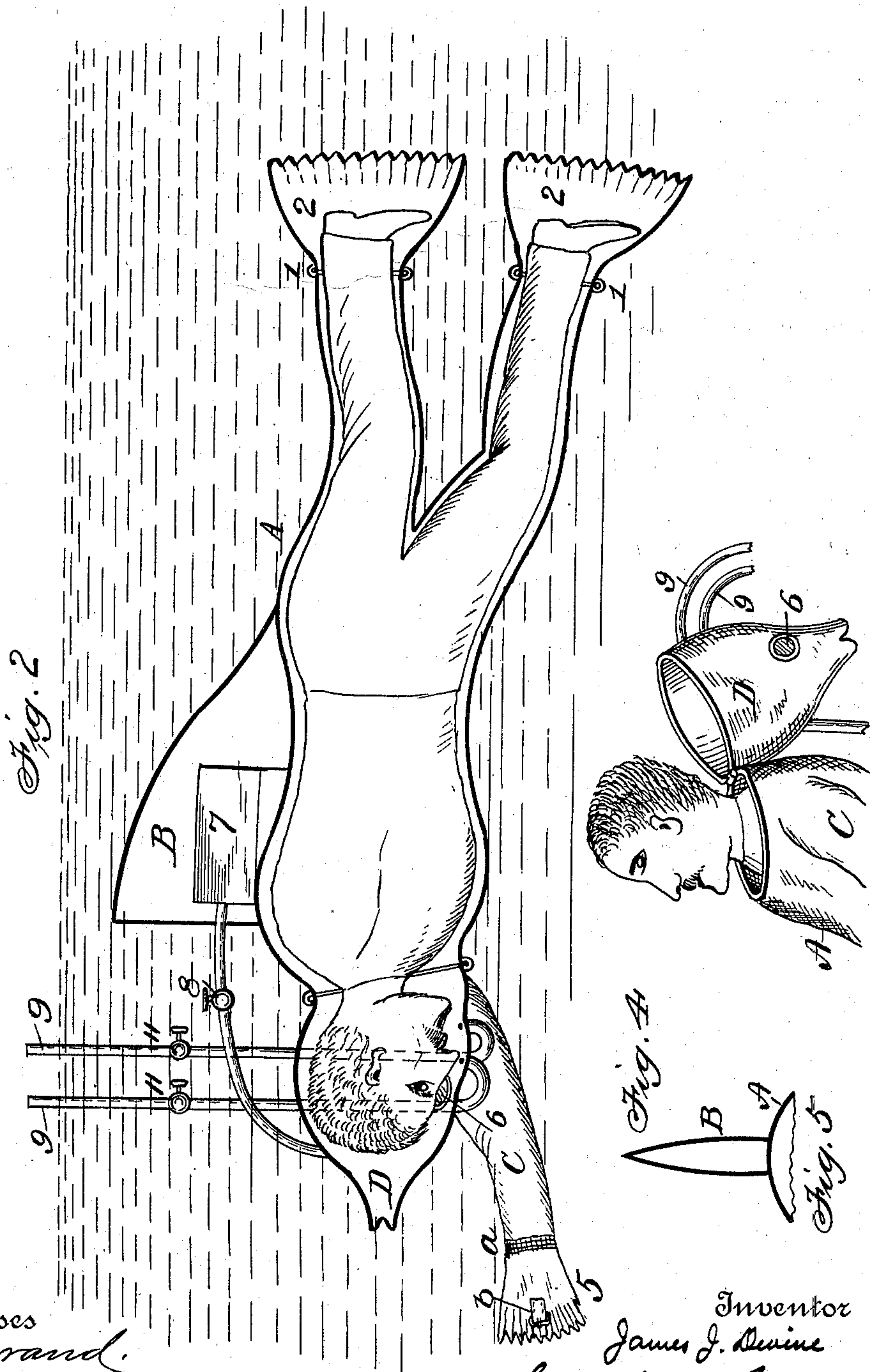
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UNITED STATES PATENT OFFICE.

JAMES J. DEVINE, OF CLIFTON HEIGHTS, PENNSYLVANIA.

DIVING-ARMOR.

SPECIFICATION forming part of Letters Patent No. 609,085, dated August 16, 1898.

Application filed December 31, 1897. Serial No. 664,959. (No model.)

To all whom it may concern:

Be it known that I, JAMES J. DEVINE, a citizen of the United States of America, residing at Clifton Heights, in the county of Delaware, in the State of Pennsylvania, have invented a new and useful Diving-Armor, of which the following is a specification.

My invention relates to improvements in diving-armor which may be worn and utilized for the usual purpose of affording means to accomplish and safety in attaining and effecting subaquatic explorations and labors, and is especially designed for and adapted to the propulsion and progression of a submerged person through water.

Another object or purpose is to provide a diving-armor by means of which the wearer can travel under water for placing torpedoes, which are carried conveniently by the armor, as will hereinafter be fully specified and the claimed novelty distinctly and particularly pointed out.

I have fully and clearly illustrated the invention in the accompanying drawings, wherein—

Figure 1 is a perspective of the diving-armor as applied to or worn by a person. Fig. 2 is a vertical section through the armor, showing the compressed-air box in the fin-shaped receptacle on the back of the armor and the air-tubes. Fig. 3 is a detail view of one of the foot-fins turned up into position to enable the wearer to walk upon land. Fig. 4 is a detail of the hood or head piece turned back. Fig. 5 is a section of the back receptacle of the armor.

A designates the body of the armor, which may be of any of the approved constructions suitable to the purpose and composed of material impervious to water and having proper sealed joints and connections of any suitable character.

At the ankle portions of the legs of the armor are secured interior packings 1, which are made of strips or bands of any impervious textile or elastic material suitably secured to the ankle portions of the armor and adapted to encircle the legs of the wearer at this point to prevent the ingress of water, and to the ends of the legs of the armor are secured fin-shaped extensions 2, into which the feet of

the wearer project, as shown in the drawings, the fin-shaped extensions 2 being secured with the edges together by a strap 3, which clamps the forms together, as indicated. These fin-shaped extensions are reversible in direction, being adapted to be turned up, as shown in Fig. 3 of the drawings, to enable the wearer to walk conveniently on the ground, in which position they are secured and retained by means of strap 4, engaging with a buckle on the straps 3. These fin-shaped extensions enable the wearer to propel himself through the water faster and with less exertion than where the feet are incased in boot-shaped terminations.

B designates a fin-shaped receptacle on the back of the armor, tapering vertically from the base to the meeting edges of the sides, as indicated in Fig. 5 of the drawings, and the front end of the receptacle being rounded or made up of two inclined sides to present a minimum of resistance to the water through which the movement is made.

The arms C C of the armor are shaped to receive the arms of the wearer and terminate in fin-shaped projections 5, which give a forceful resistance to the water in the propelling movement of the arms and slight resistance on the recovery movement by the wearer, turning them so that their edges cut the water on the return stroke. The wrist portions of the arms of the armor are water-sealed by packings a, and the fin-shaped extensions are held together by a strap and buckle b, as indicated.

D designates the head or hood of the armor, made pointed or conical and connected to the body of the armor so that it can be turned back and off and from the face of the wearer when so desired. In the head or hood are secured sight-glasses 6, so arranged therein that the wearer may have visual observation of surrounding objects.

In the back receptacle is disposed and suitably secured a compressed-air box 7, of any proper construction, to receive and hold a supply of compressed air. A flexible air-pipe leading from the air-box into the hood of the armor supplies the requisite air when the wearer is deep in the water and cannot take in air through the other air-tubes. The supply of

air from the air-box is turned on and off and regulated by a valve 8, arranged therein within the reach of the wearer.

Through the hood of the armor are let in 5 and secured air-pipes 9 9, leading to convenient proximity to the mouth and nose of the wearer, and are of such length that in a shallow course through the water these pipes 9 will project above the surface of the water 10 and permit a free and uninterrupted passage of air to the occupant of the armor.

Valves 11 are arranged in the air-tubes 9, which are closed when the diver goes beyond the length of the air-tubes 9, after which he 15 has to have recourse to the air furnished from the compressed-air chamber.

As the armor is intended especially for the purpose of wear and use when the person is to proceed on the work of destruction in war, a 20 torpedo 12 is detachably secured to the armor and carried on the trip to the place desired. The torpedo may be held in place while carried by means of straps or keepers s s on the armor, having one end permanently secured 25 to the armor and the other end detachably fastened thereto, as by a buckle or button.

The uses of my improved armor are apparent and have been generally stated in the description thereof. The wearer launches into the 30 water and proceeds to his destination, the fin-shaped terminations greatly expediting his progress, and when he arrives at the place desired he lands the torpedo and having depos-

ited or placed it in a desired position makes the usual connections and then returns to the 35 point of starting.

What I claim is—

1. A diving-armor comprising a suitable body portion, the legs and arms of which terminate in fin-shaped projections, and a fin- 40 shaped receptacle on the back adapted to receive and hold an air-box.

2. In a diving-armor, a body-covering the legs and arms thereof terminating in fin-shaped projections, a fin-shaped receptacle 45 on the back of the armor, a hood to cover the head of the wearer, a compressed-air box in the fin-shaped receptacle, and a conduit from the said air-box to the hood.

3. In a diving-armor, a body-covering the 50 legs and arms thereof terminating in fin-shaped projections, a fin-shaped receptacle on the back of the armor, a hood to cover the head of the wearer, a compressed-air box in the fin-shaped receptacle, a conduit from the 55 said air-box to the hood, and air-pipes 9, 9, leading into the hood, said air-pipes adapted to project above the water while the armor is submerged a short distance.

In witness whereof I have hereunto set my 60 hand in the presence of two witnesses.

JAMES J. DEVINE.

Attest:

JOSEPH F. ROGERS,
JOHN L. BURNS.