

W. H. Taylor.

Diving Armor.

N^o 578.

Patented Jun. 20, 1838.

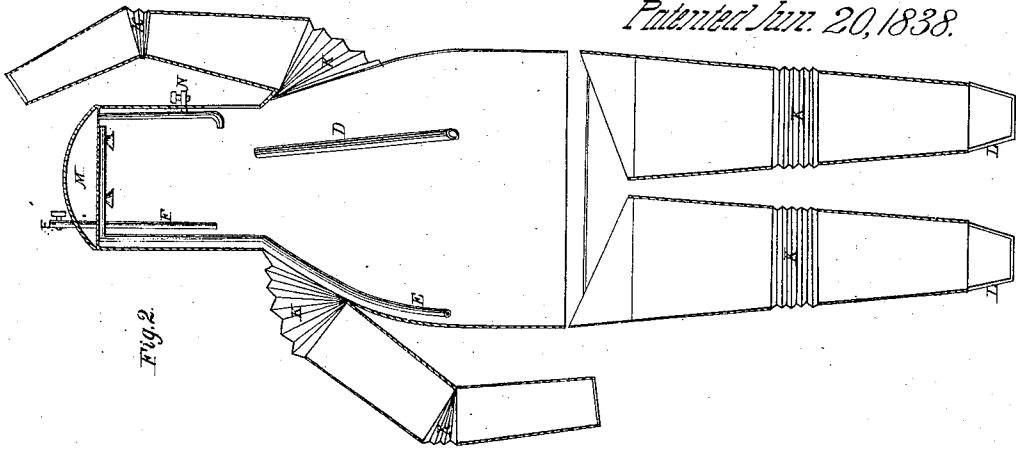


Fig. 2.

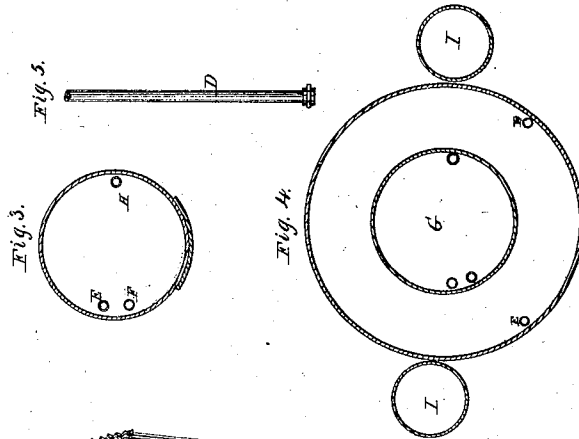


Fig. 5.

Fig. 3.

Fig. 4.

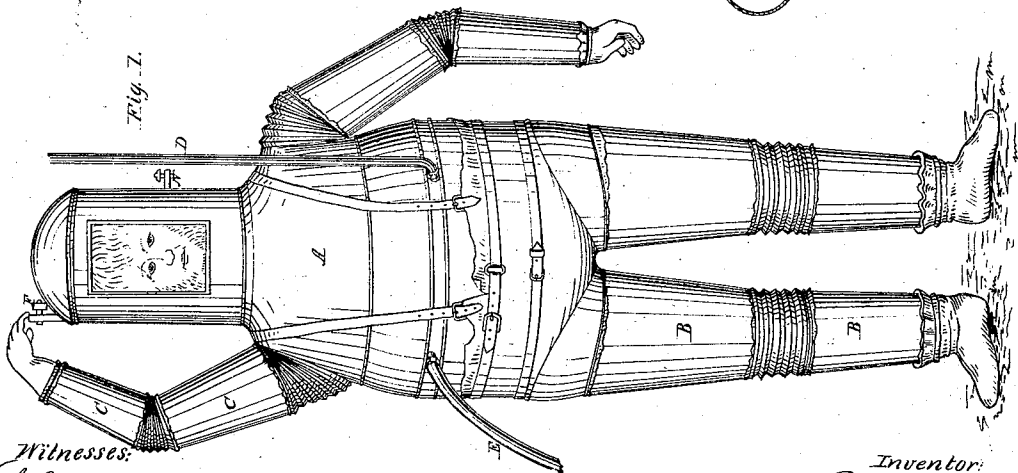


Fig. 1.

Witnesses:
John E. Chapin
Owen B. Warren

Inventor:
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UNITED STATES PATENT OFFICE.

WILLIAM H. TAYLOR, OF NEW YORK, N. Y.

APPARATUS FOR DIVING.

Specification of Letters Patent No. 578, dated January 20, 1838.

To all whom it may concern:

Be it known that I, WILLIAM H. TAYLOR, of the city, county, and State of New York, have invented a new and useful Improvement in Diving Apparatus, called "Taylor's Submarine Armor;" and I do hereby declare that the following is a full and exact description.

The nature of my invention consists in clothing the diver in a dress which will protect him from the pressure of the water and from danger from fishes, etc., and at the same time give him the free use of his limbs and enable him to be supplied with air for breathing.

To enable others to make and use my invention I herein more fully describe its construction.

The apparatus consists of a suit of peculiar armor enveloping the head body and limbs, with a pipe to convey down the air and another pipe for its discharge. A body piece, of tin, copper or other metal incloses the head and the upper part of the body, leaving sufficient space inside for the free circulation of air and motion of the body with a glass or other transparent substance in front to admit the light.

The arms are protected by cylindrical pieces of armor, joined together by peculiar joints hereinafter described.

The legs are covered also by separate cylindrical pieces joined like those of the arms.

The body piece.—(See the drawing hereunto annexed Figure 1, A.) This is made to contain the head and a part of the body, say nearly down to the hips. It is generally made of tin, sheet-iron or copper, enveloped in lead, to give it weight. It is made of a circular, oval, or other desirable shape, to admit the body—but the circular shape is best. There is a plate of thick clear glass or other transparent substance in front of the upper part. The width of the body piece at bottom is about nineteen inches and the height for a person of ordinary size about thirty two inches. The upper part which contains the glass in front is made smaller. It is generally made circular (upon the plan) but may be made of any desirable shape. The glass through which the operator sees should be curved to the same circle as the part in which it is fitted. In the top is a small chamber for containing any liquid for quenching the thirst of the diver. A small pipe from this chamber runs down upon the

inside and is bent near the position of the mouth, a cock in this pipe extends to the outside, so as to enable the operator at any time to quench his thirst.

The pipe for the discharge of the air, runs up the inside of the body piece to the top, and has two funnel-shaped openings, the more readily to receive the air. At the bottom of this body piece is a small projection or rim—or if desirable, a groove around it, in which the strap fits and holds on the lower part of the dress or the trousers.

Upon each side near the front is an aperture—one for receiving air and the other for its discharge—with a connecting screw joint. At the aperture for receiving air a pipe runs up inside within a few inches of the chin. The other aperture is for the discharge of the air which enters it above the head by its funnel-shaped openings and is conveyed down the inside to the aperture and thence by a flexible tube outside, is discharged into the water or if desirable, above the surface.

A pipe extends from the receiving aperture to the air-pump or bellows and is flexible.

The arm pieces are constructed in the following manner, viz: for each arm there are made two cylindrical pieces, having at their ends rims or flanges. They should be made of tin copper sheet-iron or other metal, enveloped in lead, to add to their specific gravity. The joints for the elbows are made of spiral or circular wires covered with india rubber cloth or other substance watertight. This cloth or whatever covering it may be for the joints is sewed to the flanges; or, otherwise, passes over them and is secured by a seizing of copper wire or other suitable fastening. The spiral or circular wires in these joints, are to keep off the pressure of the water, and at the same time be flexible. The arm pieces are connected to the body piece at the shoulders with similar joints to those described as for the elbows and secured in the same manner, there being flanges made upon the edge of the arm holes of the body piece.

The joints for the knees are made in every respect like those of the elbows.

The boots and the gloves are secured to the leg and arm pieces by a seizing over the flanges.

The cylindrical pieces which cover the thigh are made longer upon the outside than

the inside, at the upper part. The body part of the trousers is firstly sewed to them through holes in the flanges then the seams are made tight and another covering is secured by a seizing of wire or cord. Around the inside of the body part of the trousers are spiral or circular wires or irons to prevent the pressure of the water.

The lower part of the dress, or trousers, is made separate from the metallic body piece. When the diver puts on the dress, the trousers are brought up over the body piece and a strap or cord passed around above the flange and secured in front and above this another strap is put on for greater security. A pair of suspenders are passed over the shoulders and buckled in front.

The weight of the whole armor in connection with the weight of the operator should be a little less than the specific gravity of water the greater part of the weight being upon the legs, in order that the less specific gravity of the upper part will keep the operator in an upright position, without the danger of being thrown down. When the diver descends to the bottom weights are attached at or near the hips, and are disengaged when he wishes to rise immediately to the surface without being drawn up.

The following is a description of the drawing hereunto annexed. A, (Fig. 1) the body piece as it appears upon the operator; B, the leg pieces; C, the arm pieces; D, the receiving pipe, by which air is furnished for breathing; E, the pipe by which the air escapes. G is a plan of the body piece when made circular; H, a plan of the upper part or head piece; I, plan of the arm pieces.

Fig. No. 2. F, the relief pipe by which the operator can immediately supply himself with air when he rises to the surface; K, the joints, made of spiral or circular wires or hoops, covered with india rubber cloth; L, straps of iron or tin for the sup-

port of the dress when out of the water; M, the chamber for containing drink; N, the pipe by which it is conveyed to the mouth.

Operation.—The diver places himself within the dress and sufficient weight is attached to take him down the required depth. An air pump or bellows is then applied to the receiving pipe—the relief cock stopped—and the dress is inflated. The diver then descends to the bottom. He is abundantly supplied with air, from the air pump or bellows and is consequently at his ease—being capable of seeing, walking and exerting himself in any way until fatigued with the duty which he has to perform. When thirsty he has only to turn the cock at the side of the head and he is supplied with drink from the chamber. When he wishes to ascend, he can either pull an alarm rope, or the receiving pipe and be drawn up, or he can disengage the weights and immediately rise to the surface. This armor is also a perfect protection from sharks and all other marine animals.

What I claim as my invention and desire to secure by Letters Patent is—

1. The peculiar construction of the body piece, with its appurtenances of the pipes and chamber, as above described.

2. I claim the joints of the arms and legs, as made of spiral or circular wires or hoops, covered with india rubber cloth or other substances impermeable to water.

3. I claim the mode in which water-proof covering (constituting part of the joints) is connected and secured to the cylindrical pieces of the arms and legs by means of the flanges upon said pieces and a seizing of copper wire or other fastening.

Given under my hand this day of December, 1837.

W. H. TAYLOR.

Witnesses:

C. NAGLE,

G. W. TAYLOR.