NEW DIVING APPARATUS.

In diving apparatus shaped to the human body it has been difficult to combine with the requisite flexibility of material a rigidity sufficient to resist at every portion of the armor the external pressure of the water without re-enforcing or aiding the material of which the apparatus is composed by pumping within it a supply of atmospheric air not only sufficient to insure life to the diver, but also sufficient to balance the external pressure of the water.

The armor, shown in the engraving, overcomes this difficulty, and is of itself of sufficient strength to resist at its every portion the external pressures without re-enforcement by an oversupply of internal air, and is at the same time sufficiently flexible to permit of the movement of the diver.

The flexible waterproof covering of the armor is made of rubber, water-proof cloth, or other fabric, which, while both strong and elastic, is impervious to water.

An interior metallic casing constitutes the inner layer, or body of the suit. The lining has rigidity sufficient to retain the contour of its various sections against the collapsing pressure of the water.

The joints corresponding to the joints of the limbs are of bellows form, permitting of the free movement of the body and limbs. The joints are stayed so as to prevent collapse from external pressure, as shown in Fig. 2.

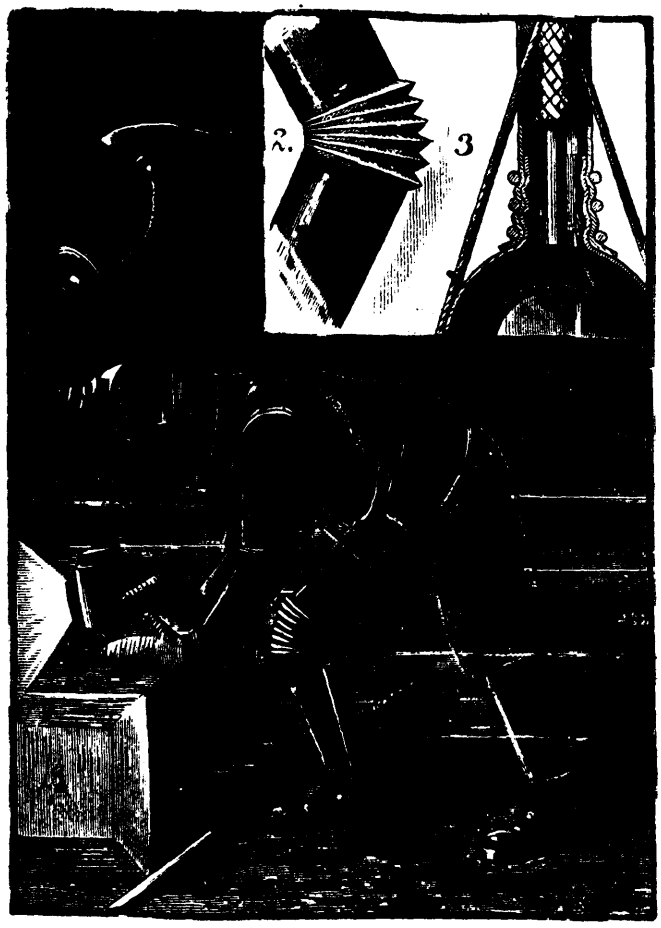
It is obvious that this joint has the advantage of being laterally very stiff, compact, and light, a few rings cut from light sheet metal insuring, from their form and arrangement, both strong resistance to exterior pressures and large extension to the flaps. The flap portions are thoroughly protected by the rings when closed, and held with certainty in their folds, while the connection of section with section is steady and strong, whether the joint be open or shut. The apparatus, therefore, considered as a whole, is a casing at all parts, joints, and unjointed surfaces, capable of resisting external pressures.

The trunk portion of the apparatus is provided with a coupling, which starts from one shoulder, extends obliquely around the body, front and back, and terminates below the arm which is opposite to the shoulder mentioned, so that the apparatus can be easily put on and taken off.

The helmet of the apparatus, shown in section in Fig. 3, is adapted to be removed.

The air tubes consist of an inner tube for supplying air, and an outer tube for carrying off the exhaled air. These tubes are made to resist a high degree of external pressure and to have a tensile strength sufficient for raising and lowering the apparatus.

This new diving apparatus is the invention of Mr. Stephen P. M. Tasker, of Philadelphia, Pa.



TASKER'S IMPROVED DIVING APPARATUS.