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2,970,448

BELT SUPPORTED DIVING BALLAST

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FIG. 1

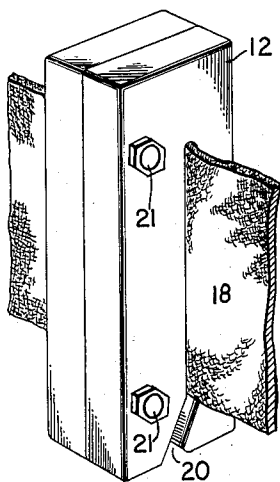


FIG. 2

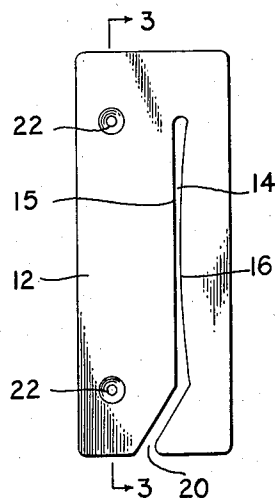


FIG. 4

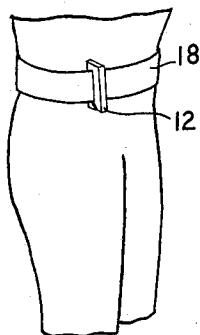
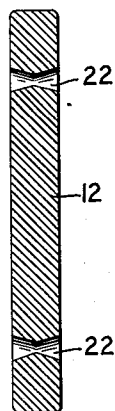


FIG. 3



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BELT SUPPORTED DIVING BALLAST

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6 Claims. (Cl. 61—70)

This invention relates generally to weight devices, and more particularly the invention pertains to a belt supported diving ballast.

The matter of buoyancy control is of great concern to divers. One desirable condition desired by divers is that of weightlessness in water. This invention enables the diver to proceed in any direction under little effort. For stationary or heavy work on the bottom of a stream, river, bay or the like, the diver may prefer to be quite heavy.

Individual buoyancy and ballast requirements vary greatly depending on the specific gravity of the body. Adjustments must also be made in ballast to compensate for the equipment carried by the diver.

Such adjustments are arrived at experimentally by the diver who attaches or removes weights from his person or attached equipment until a satisfactory buoyancy is reached.

This is necessarily done while the diver is totally immersed in the water. For this reason, belt-strung weights as presently employed are difficult to adjust and the entire belt has to be removed for removing the weights singularly. The danger exists, too, that the entire belt of the diver may be dropped and lost during the procedure.

All schools of thought concerning diving apparatus concur that it is wise to keep the number of straps and accessories around the waist to essentials. This will prevent fumbling when the diver has only a matter of seconds to disengage the ballast. It is well-known that many operations which seem quite simple in the air become surprisingly awkward under water.

It is, therefore, an object of this invention to provide a belt supported diving ballast which is more readily attached to a diver's belt.

Another object of this invention is to provide a belt supported ballast which will remain where placed on the belt of a diver.

A further object of this invention is to provide a unit of ballast for a diver which can be combined and handled in groups.

And still other objects of this invention are to provide a belt supported diving ballast which is economical to manufacture, easy to assemble and disassemble, and which is efficient and reliable in operational use.

These and other objects and advantages of this invention will become more readily apparent and understood from the accompanying specification and drawings in which:

Fig. 1 is a perspective view of a pair of diving ballasts comprising this invention installed on a portion of a belt;

Fig. 2 is a side view of the diving ballast showing details of construction;

Fig. 3 is a cross section taken along line 3—3 of Fig. 2; and

Fig. 4 depicts the manner in which the diving ballast

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is worn on the belt of the diver, a portion of whose body is shown.

Referring now to Figs. 1 to 3 of the drawings, a weight 12 of rectangularly shaped heavy metal, such as lead or bronze, has cast or cut into it a slot 14 parallel to the long dimension and traversing the narrow dimension of the weight.

This slot 14 has a straight side 15 and an inwardly curving opposite side 16.

A slot 20 communicates between the end of the weight 12 and slot 14 at a substantial angle thereto.

The length of slot 14 is made to accommodate the greatest width of a belt 18 in general use by divers. A pair of spaced apertures 22 are provided in the weight 12 through its narrow dimension.

In use, the weight 12 is hooked over the belt 18 of the diver by means of the communicating slot 20 and longitudinal slot 14. The curved side 16 leans against the belt 18 compressing the material thereof and so preventing side movement of the belt from the originally installed position, as best seen in Figs. 1 and 4.

Furthermore, the angle between slot 20 and slot 14 requires that the belt 18 be deformed in passing therethrough. The effect is to effectively captivate weight 12 to belt 18 in all conceivable attitudes of the diver until a deliberate separation is desired.

While only one ballast weight 12 is shown worn on the belt of the diver in Fig. 4 as many as necessary to achieve the desired buoyancy may be used thereon. If desired two or more weights 12 may be bolted by bolts 21 together or tied in parallel, using apertures 22. The stringing operation may be made easier by bending the ends of the apertures 22 as shown, especially where several units are to be combined.

The combined units 12, within limits, can still be installed as conveniently as a single weight.

It should be noted that the choice of metal used for the weight 12 gives a wide latitude to the degree of clamping exerted by slot 14 on belt 18. If a dead-soft lead is used no clamping may result until the weight is squeezed by hand. Other metals and alloys may yield a more desirable spring action.

Obviously many other modifications and variations of the present invention are possible in light of the above teachings. It is therefore to be understood that within the scope of the appended claims, the invention may be practiced otherwise than as specifically described.

What is claimed is:

1. A diving ballast for a belt made of compressible and flexible material, comprising, structure defining a block of weighty material having marginal surfaces, said block having a pair of slots provided therein and extending from opposite faces of said block, said slots being arranged as a continuation of each other but at an angle thereto, one of said slots communicating with one of said marginal surfaces of said block so that said block can be inserted on the belt of a diver, the other of said pair of slots having a straight surface and an opposite surface bowed toward said straight surface of said other slot, with the thickness of said second slot where the straight and curved surfaces are closest together at its narrowest point being slightly less than the thickness of said belt, whereby said ballast can be securely mounted on said belt.

2. An arrangement as recited in claim 1, wherein a plurality of said diving ballasts are positioned on said belt.

3. An arrangement as recited in claim 2, and means for holding a plurality of said diving ballasts adjacent to each other in an operative position.

4. In combination, structure defining a belt of compressible and flexible material, and a diving ballast sup-

ported by said belt, said ballast consisting of a block of weighty material having a narrowly traversing slot therein, said slot having one portion terminating at one marginal surface of said block at a substantial angle thereto and a second portion thereof arranged as a continuation of said first portion of said slot but extending substantially longitudinally of said block but terminating short of the opposite marginal surface of said block, said second portion of said slot having a straight surface and an opposite surface bowed toward said straight surface of said second portion of said slot, with the thickness of said second portion of said slot where the straight and bowed surfaces are closest together at its narrowest point being slightly less than the thickness of said belt; said belt fitting into said slot and being retained in said second portion of said slot due to the thickness of said second portion of said slot at its narrowest point.

5. In combination, a belt made of compressible and flexible material, and a diving ballast therefor, said diving ballast consisting of a block of weighty material having marginal surfaces, said block having a pair of slots pro-

vided therein and extending from opposite faces of said block, said slots being arranged as a continuation of each other but at an angle thereto, one of said slots communicating with one of said marginal surfaces of said block so that said block can be inserted on said belt, the other of said pair of slots having a straight surface and an opposite surface bowed toward said straight surface of said other slot, with the thickness of said second slot where the straight and curved surfaces are closest together at its narrowest point being slightly less than the thickness of said belt, whereby said ballast can be securely mounted on said belt.

6. An arrangement as recited in claim 5, wherein a plurality of said diving ballasts are positioned on said belt.

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