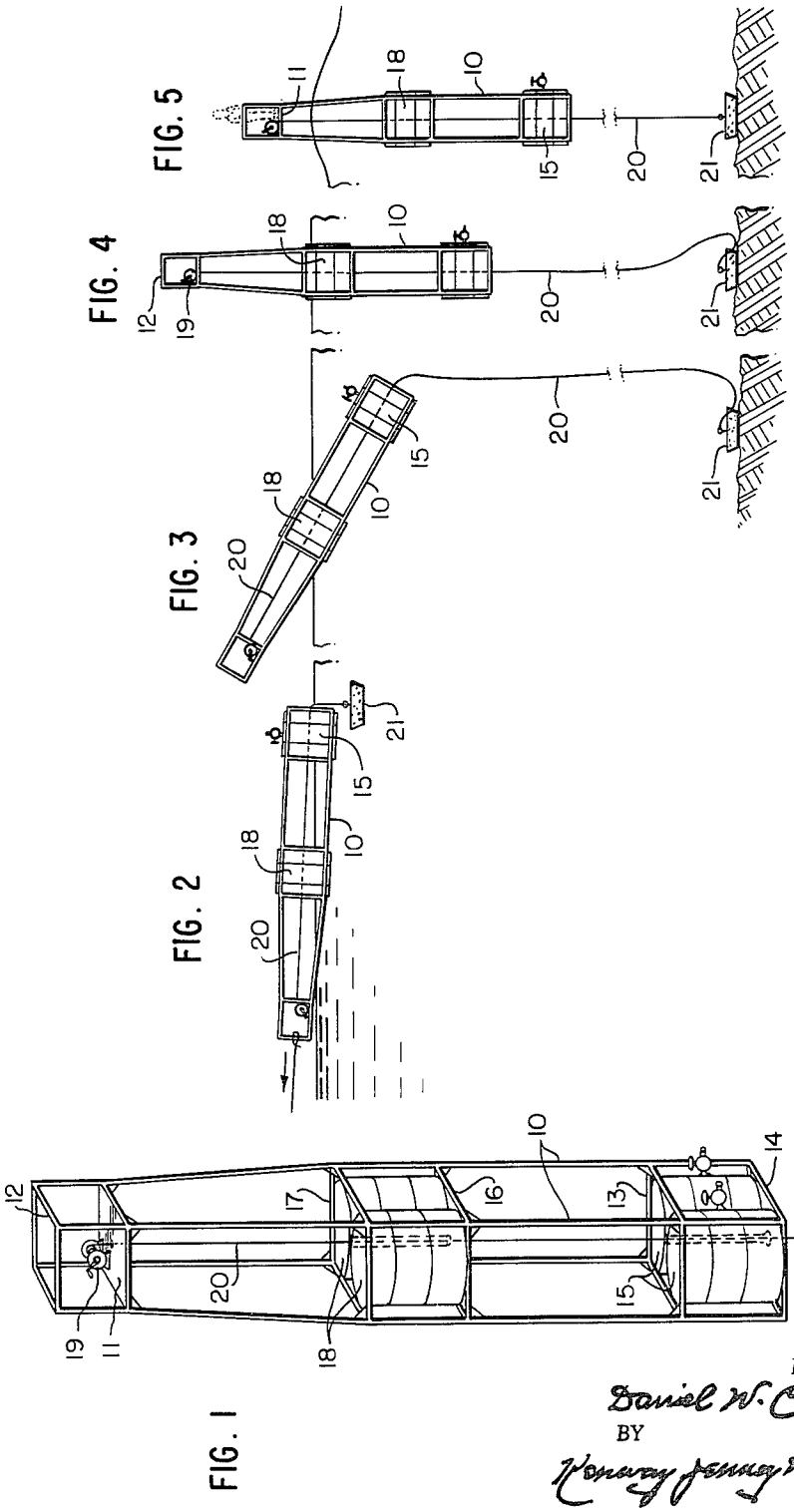
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MOBILE MARINE PLATFORM

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MOBILE MARINE PLATFORM

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1 Claim. (Cl. 9—8)

This invention comprises a new and improved platform for use in any marine environment, for example as a base for the study of ocean tides, currents and wave action, or marine life, or for salvage purposes.

The platform of my invention is incorporated in a mobile marine structure which may be rendered sufficiently buoyant as a whole to float in a horizontal or prone position under towing conditions. It is also so constructed and arranged that it may be self-righted at any selected location with provision for adjustment to bring the platform the desired height above the wave zone.

The platform structure includes an elongated skeleton frame or tower having buoyancy tanks distributed along its length in fixed positions and these tanks are so located that one or more of them balances the whole structure in its horizontal position or may be manipulated so as to float the frame in upright position at the selected point of installation.

An important element of the invention is a hold-down mooring which may be initially located adjacent to one of the buoyancy tanks and has hoisting connections with a winch located on the platform or other convenient place. When the frame has been brought into its upright position at the point of installation the mooring may be dropped to the bottom and the structure winched down to a position in which the platform is located the desired height above the water level under the existing weather conditions and a minimum cross section of the skeleton frame is exposed to wave action.

These and other features of the invention will be best understood and appreciated from the following description of a preferred embodiment thereof, selected for purposes of illustration and shown in the accompanying drawings in which:

FIG. 1 is a view in perspective of the structure in upright position,

FIG. 2 is a view in elevation of the structure on a smaller scale and in its horizontal towing position, and

FIGS. 3, 4 and 5 show the structure in three progressive positions as it assumes its upright position and is adjusted for height.

In the form herein shown the structure includes an elongated skeleton frame or tower comprising four tubular corner sections **10** of square cross section secured together near their upper ends by cross braces supporting a square platform **11**. The corner sections are extended above the platform to provide a railing **12**. They are also united at their lower ends by welded cross braces **13** and **14** which form a container or cage for a pair of buoyancy tanks **15**.

The corner sections **10** are also united by welded cross braces **16** and **17** at a mid-point, which may be about one-third of the height of the frame, and these cross braces form a container or cage for an intermediate pair of buoyancy tanks **18**. It will be understood that an equivalent frame could be constructed of steel pipe sections with conventional fittings.

As herein shown a winch **19** is mounted on the platform **11** and a cable **20** passes downwardly from it through suitable guides located between the buoyancy tanks and connects it to a hold-down mooring **21** at the bottom of the frame.

In the structure as herein shown the intermediate buoyancy tanks **18** are fully exhausted at all times. The lower buoyancy tanks **15** are exhausted when it is desired to tow the structure in horizontal position as shown in FIG. 2. Under these conditions the mooring **21** is held by the cable **20** in close proximity to the tanks **15** so that their buoyancy compensates for the weight of the mooring.

When the structure has been towed to the selected location the lower tanks **15** are flooded and for this purpose they are provided with values and relief check valves (not shown). As the tanks **15** fill the frame swings into its upright position as suggested in FIG. 3 and the cable **20** is paid off until the mooring **21** rests on the bottom. In its fully upright position the intermediate buoyancy tanks **18** are at least partially submerged and a substantial portion of the frame extends above the water level. The mooring **21** is of sufficient weight to overcome the buoyancy of the structure as a whole and so hold it in upright position when submerged to any desired depth. The winch **19** may then be operated to bring the platform **11** down to the desired height above the water line, depending on sea conditions, and the whole structure is firmly anchored with a minimum cross section of the frame exposed to the wave action. The cross section of the tower is reduced for that purpose by the upward convergence of the corner sections **10** as they extend above the buoyancy tanks **18**.

While the winch **19** is herein shown as mounted upon the platform **11** it will be understood that if desired it may be mounted in a lower section of the frame and be driven by remote control from the platform. Stability of the structure is ensured by the buoyancy of the intermediate tanks **18** as these are held submerged by connection with the mooring **21**.

Having thus disclosed by invention and described in detail an illustrative embodiment thereof, I claim as new and desire to secure by Letters Patent:

A mobile, self-righting marine structure comprising an elongated skeleton frame of tubular members having a platform at its upper end, a lower cage containing a pair of buoyancy tanks at its lower end and a cage containing a pair of buoyancy tanks at an intermediate point separated from the lower cage by openwork of the skeleton frame, a mooring adjacent the lower end, said mooring being of sufficient weight to swing the frame into upright position when the lower buoyancy tanks are flooded and so hold the frame at least partially submerged in upright position, a winch in the upper part of the frame, and cable connections with the mooring passing through guides located between the intermediate buoyancy tanks whereby the mooring may be maintained adjacent to the bottom of the frame or the frame may be hauled down to adjust the platform to the desired height above the water level with the intermediate buoyancy tanks submerged thus exposing to the weather only the upper end of the said skeleton frame.

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