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(54) Title: SYSTEM AND METHOD FOR REBUILDING A SAND BEACH

(57) Abstract: An apparatus for rebuilding a sand beach along a shore line is disclosed. The apparatus comprises a generally hollow module having an interior space, the interior space adapted to be filled with ballast material, the module having a landward surface and a generally opposing seaward surface when positioned along the shore line, a flow through passage extending through the interior space between the landward surface and the seaward surface, the flow through passage permitting flow of sand laden water between the landward surface and the seaward surface, and a removable portal providing access to the interior space to permit introduction of ballast material into the interior space when the module is placed along the shore line.



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SYSTEM AND METHOD FOR REBUILDING A SAND BEACH

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of U.S. Provisional Application Serial Number 61/184,385, filed on June 5, 2009, the entirety of which is incorporated herein by reference.

FIELD OF THE INVENTION

[0002] The present invention relates to a system and method for rebuilding a sand beach.

BACKGROUND OF THE INVENTION

[0003] Shore erosion can be a problem along a shore line of a body of water as a result of wave action in the body of water. One system for preventing such shore erosion is described in Herzog, U.S. Pat. No. 7,165,912. The system comprises a series of structures placed end-to-end along the shore line to form a wall which a wave can pass through or over, depositing sand over and around the structures as the wave recedes. However in certain circumstances, the structures described by Herzog may be difficult to place along the shoreline.

BRIEF DESCRIPTION OF THE DRAWINGS

[0004] Figure 1 is a perspective view of a module according to the present invention;

Figure 2 is a top view of a series of the modules of Figure 1 placed along a shore line; and

Figure 3 is a side view of a series of the modules of Figure 1 placed along a shore line.

DETAILED DESCRIPTION

[0005] While this invention is susceptible of embodiment in many different forms, there will be described herein in detail, a specific embodiment thereof with the understanding that the present disclosure is to be considered as an exemplification of the principles of the invention and is not intended to limit the invention to the specific embodiment illustrated.

[0006] Referring to the Figures, a hollow plastic module 10 according to the present invention is illustrated. The module 10 may be smaller in size than the device described in Herzog, preferably having a height of 12," a depth at its base of 20," and a width of 20." The module 10 may be generally trapezoidal in cross-section.

[0007] As illustrated in Figures 2 and 3, a series of these modules 10 are placed end-to-end, forming a system generally following the contour of the shore line. The modules 10 have one, generally concave sidewall and one generally convex sidewall, to permit the system to follow the contour of a shore line.

[0008] The module 10 includes a base portion 12 defining an interior space and a fitted removable lid 14. The lid 14 is generally rectangular, preferably having a dimension of 20" by 8". Alternatively the lid 14 may be fixed to the module 10 and include a removable portion thereof, such as a threaded closure 14' threadably engaged to the lid 14

[0009] The module 10 further includes hollow, generally horizontal, tubular members 18, or flow through passages, passing through the module 10 from a front (water) side 19 to a back (land) side 20. The tubular members 18 are isolated from the interior space of the module 10. According to one option, the tubular members are 4" in diameter in the front, tapering to 2" in diameter in the back. However other shapes for the tubular members 18, tapered or otherwise, are also contemplated. As waves laden with sand pass over and through the module 10, and then recede through the tubular members 18, sand is deposited over and around the module 10, thereby building the shore line.

[0010] The module 10 further includes generally hollow, ½" tubular structures 22 that pass generally vertically through corresponding apertures 23 in the lid 14, and continuing through corresponding apertures 24 in the base portion 12 of the module 10. There are four of these vertical tubular structures 22, one in each corner of the module 10, each allowing a stake 25, 3/8" wide and 24" long, to secure the base portion 12 in place. Each of the stakes 25 includes a head 26 of sufficient diameter to engage the lid 14, thereby helping to hold down the lid 14.

[0011] In accordance with the present invention, the module 10 may be utilized where waves and/or tides are not high enough to cover a three foot module.

The smaller module 10 of the present invention is also easier to transport and install than the larger module due to its weight and size.

[0012] The fitted lid 14, or the alternative threaded closure 14', permits easier fill of the module 10. Depending upon dynamics of the water, the module 10 can be filled with ballast material, such as concrete, cement, gravel, sand, water or other materials, when positioned in place on the shore line. The ballast material forms around the tubular members 18 and the tubular structures 22.

[0013] Smaller tubular structures passing from front to rear are appropriate for the smaller module. The module is expected to be placed in areas where there is less wave energy intensity than the larger modules.

[0014] The vertical tubular structures 22 serve two purposes. They allow stakes 24 to pass through the lid 14 and the module 10 to assist holding down the lid 14 and to help to secure the filled module 10 in place. The front side 19 of the module 10 is generally upwardly inwardly tapered. The rear side 20 of the module 10 may be upwardly inwardly tapered or substantially vertical.

[0015] From the foregoing, it will be observed that numerous variations and modifications may be effected without departing from the spirit and scope of the invention. It is to be understood that no limitation with respect to the specific apparatuses illustrated herein is intended or should be inferred. It is, of course, intended to cover by the appended claim all such modifications as fall within the scope of the claim.

Claims

1. An apparatus for rebuilding a sand beach along a shore line comprising:

a generally hollow module having an interior space, the interior space adapted to be filled with ballast material, the module having a landward surface and a generally opposing seaward surface when positioned along the shore line;

a flow through passage extending through the interior space between the landward surface and the seaward surface, the flow through passage permitting flow of sand laden water between the landward surface and the seaward surface; and

a removable portal providing access to the interior space to permit introduction of ballast material into the interior space when the module is placed along the shore line.

2. The apparatus of claim 1 wherein the portal is fittingly engaged to the module.

3. The apparatus of claim 1 wherein the portal lid is threadably engaged to an upper surface of the module.

4. The apparatus of claim 1 including a plurality of the flow through passages.

5. An apparatus for rebuilding a sand beach along a shore line comprising:

a generally hollow module having an interior space, the interior space adapted to be filled with ballast material, the module having a landward surface and a generally opposing seaward surface when positioned along the shore line;

a flow through passage extending through the interior space between the landward surface and the seaward surface, the flow through passage permitting flow of sand laden water between the landward surface and the seaward surface; and

a removable lid providing access to the interior space to permit introduction of ballast material into the interior space when the module is placed along the shore line.

6. The apparatus of claim 5 wherein the lid is fittingly engaged to the module.
7. The apparatus of claim 5 wherein the lid is threadably engaged to an upper surface of the module.
8. The apparatus of claim 5 including a plurality of the flow through passages.
9. The apparatus of claim 5 including:
 - a generally vertical tubular structure extending through the module and aligned with an opening in the lid; and
 - a stake having a head portion, the stake extending through the tubular structure and the head engaging the lid to retain the lid to the module.
10. A method of rebuilding a sand beach along a shore line comprising:
 - providing a plurality of apparatuses along the shore line, the apparatuses comprising a generally hollow module having an interior space, the interior space adapted to be filled with ballast material, the module having a landward surface and a generally opposing seaward surface when positioned along the shore line; a flow through passage extending through the interior space between the landward surface and the seaward surface, the flow through passage permitting flow of sand laden water between the landward surface and the seaward surface; and a removable lid providing access to the interior space to permit introduction of ballast material into the interior space when the module is placed along the shore line; and
 - filling the apparatuses with ballast material when generally located in place.
11. The method of claim 10 wherein the removable lid is fittingly engaged to the module.
12. The method of claim 10 wherein the lid is threadably engaged to an upper surface of the module.
13. The method of claim 10 wherein the module includes a plurality of the flow through passages.

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FIG. 1

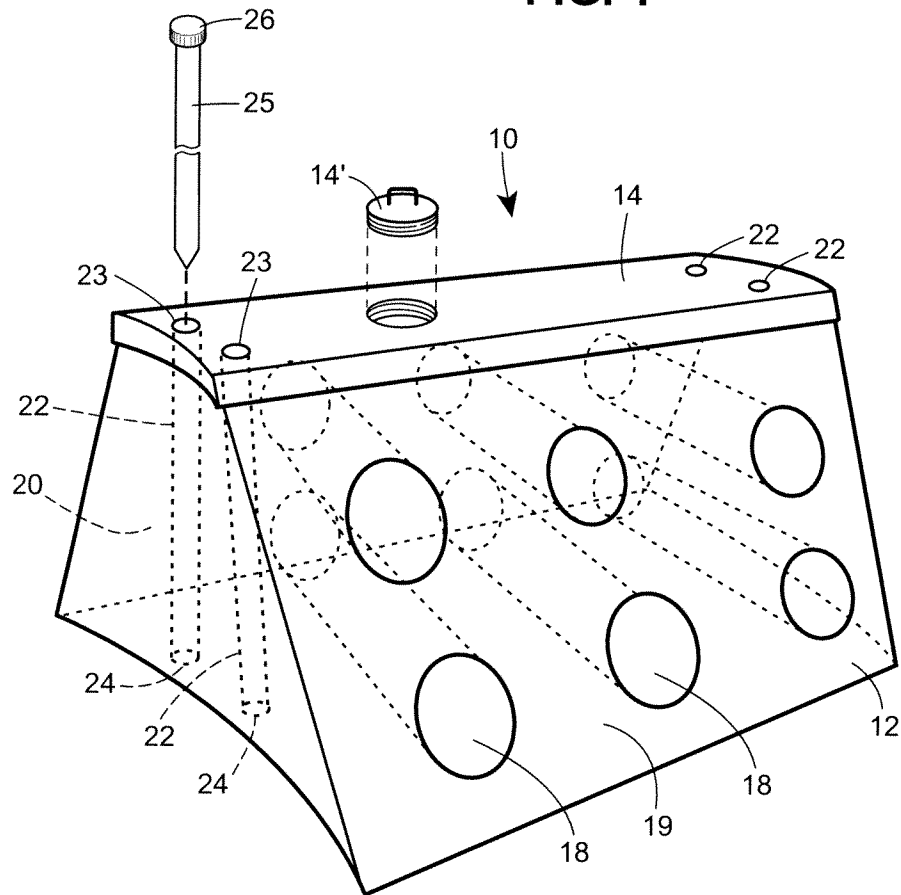


FIG. 2

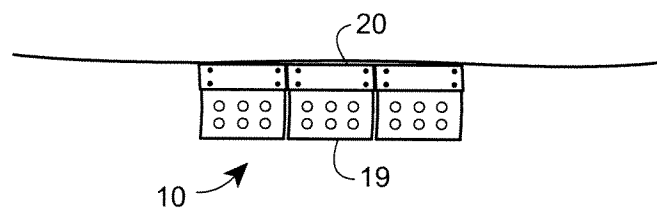


FIG. 3

