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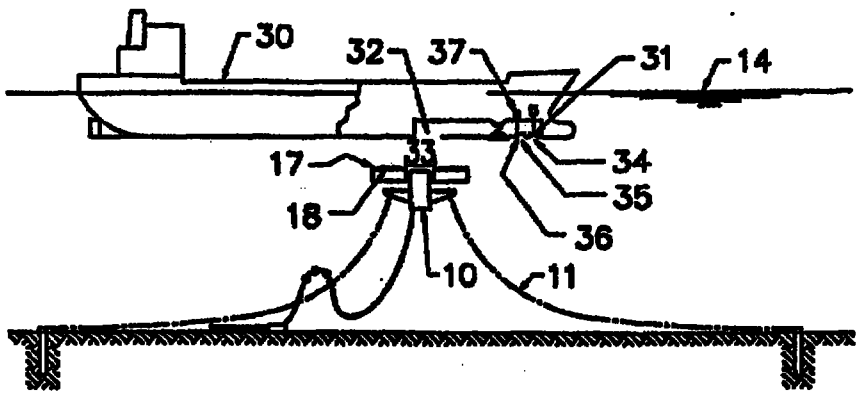
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(54) Title: METHOD AND APPARATUS FOR MOORING A VESSEL



(57) Abstract

A mooring system for a vessel (30) including a mooring area (33) on a bottom surface thereof, includes a mooring element (10) coupled to the sea floor by a plurality of mooring tethers (11) which resides, when not in use, in a storage position a preselected depth below the surface. An upper surface of the mooring element includes a sealing surface (17) surrounding a target area to be coupled within the mooring area. The system includes apparatus (12) for raising the mooring element from the storage position into a mooring position in which the sealing surface is in contact with the bottom surface of the vessel so that mooring area is sealed between the bottom surface of the vessel and the target area and a pump (31) for lowering the pressure between the bottom surface of the vessel and the target area of the upper surface of the mooring element to a first level for immobilizing the mooring element with respect to the bottom surface of the vessel and a second level so that the mooring element is maintained in sliding contact with the bottom surface of the vessel. The system also includes a device for detecting a displacement of the mooring element from a desired position of the mooring element within the mooring area.