(12) 按照专利合作条约所公布的国际申请

(19) 世界知识产权组织
国 际 局

(43) 国际公布日
2015 年 9 月 17 日 (17.09.2015)

WIPO | PCT

(10) 国际公布号
WO 2015/135471 A1

(51) 国际专利分类号:
E02B 17/00 (2006.01)

(21) 国际申请号: PCT/CN2015/073980

(22) 国际申请日: 2015 年 3 月 11 日 (11.03.2015)

(25) 申请语言: 中文

(26) 公布语言: 中文

(30) 优先权:
201410095652.8 2014 年 3 月 14 日 (14.03.2014) CN

(71) 申请人: 香港强光海洋工程有限公司 (CBJ (HONG KONG) OCEAN ENGINEERING LIMITED) [CN/CN]; 中国澳门特别行政区澳门议事厅前地 17 号, Macao (CN)。

(72) 发明人; 及
(71) 申请人 : 黄灿光 (WONG, Carlos) [CN/CN]; 中国澳门特别行政区澳门议事厅前地 17 号, Macao (CN)。

(74) 代理人: 北京永新同创知识产权代理有限公司 (NTD UNIVATION INTELLECTUAL PROPERTY AGENCY LTD.); 中国北京市西城区金融大街 27 号投资广场 A 座 1802, Beijing 100033 (CN)。

(81) 指定国 (除另有指明，要求每一种可提供的国家保护): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW。

(84) 指定国 (除另有指明，要求每一种可提供的地区保护): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), 欧亚 (AM, AZ, BY, KG, KZ, RU, TJ, TM), 欧洲 (AL, AT, BE, BG, CH,

[见续页]

(54) Title: HOLLOW CYLINDRICAL PIER FOR FIXING OFFSHORE PLATFORM STRUCTURE TO BED AND METHOD OF INSTALLING AND CONSTRUCTING SAME

(54) 发明名称 : 水上平台结构水底固定用空心筒墩及其安装施工方法

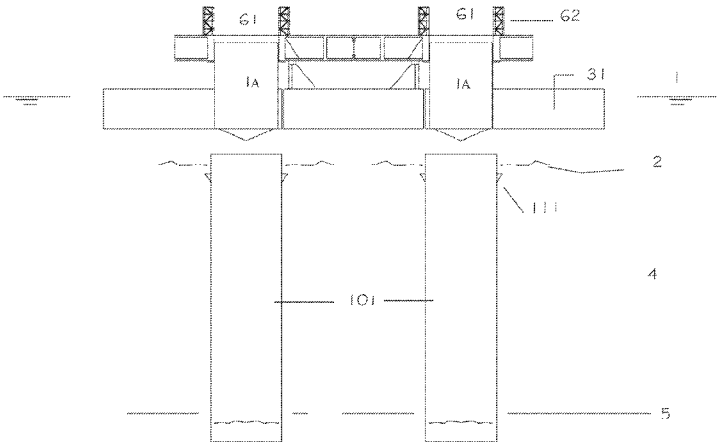


图3 / FIG.3

(57) Abstract: Provided is a method of installing and constructing a hollow cylindrical pier for fixing an offshore platform structure to the bed, wherein a steel cylinder (101) with an inner diameter slightly greater than the hollow cylindrical pier is driven into the bed (2) until at least the bearing stratum is reached to ensure fixing, and part of the steel cylinder (101) is exposed above the water surface (1); draining ponding inside the steel cylinder (101), and excavating bed sediment inside the steel cylinder (101); cutting off the steel cylinder (101); hoisting a first hollow cylindrical pier section (1A) with a sealed bottom end vertically downwards from the water surface (1) towards the steel cylinder (101), pre-tensioning an overlapping hollow cylindrical pier section on the hollow cylindrical pier section via a shear key structure and then fixedly connecting same with the previous hollow cylindrical pier section, and hoisting same in turn such that after the sealed bottom end of the first hollow cylindrical pier section (1A) reaches near the bottom end of steel cylinder (101), at least part of the lastly hoisted overlapping hollow cylindrical pier section is exposed above the water surface (1); and pouring concrete (107) into a gap between the steel cylinder (101) and the hollow cylindrical piers. Further provided are a method of installing and constructing an offshore platform structure and a hollow cylindrical pier for fixing to the bed and an offshore platform structure.

(57) 摘要:

[见续页]

WO 2015/135471 A1

CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG)。

本国际公布:

— 包括国际检索报告(条约第 21 条(3))。

一种水上平台结构水底固定用空心筒墩安装施工方法，将内径稍大于空心筒墩的钢筒（101）插打到水底（2）中至少达到持力层确保固定且钢筒（101）的一部分露出水面（1）；将钢筒（101）内部的积水抽干，挖去钢筒（101）内部的水底沉积物；截断钢筒（101）；将底端封闭的第一空心筒墩分段（1A）从水面（1）竖直向下朝向钢筒（101）吊装，叠加的空心筒墩分段经在空心筒墩分段上的剪力键结构预紧后与前一个空心筒墩分段固定相连，依次吊装，使得待第一个空心筒墩分段（1A）的封闭底端到达钢筒（101）的底端附近后，最后一个吊装的叠加空心筒墩分段的至少一部分露出水面（1）；向钢筒（101）和空心筒墩之间的间隙灌注混凝土（107）。还提供了一种水上平台结构的安装施工方法和水底固定用空心筒墩以及水上平台结构。