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(54) Title: FLANGE SYSTEM WITH MODULAR SPACERS

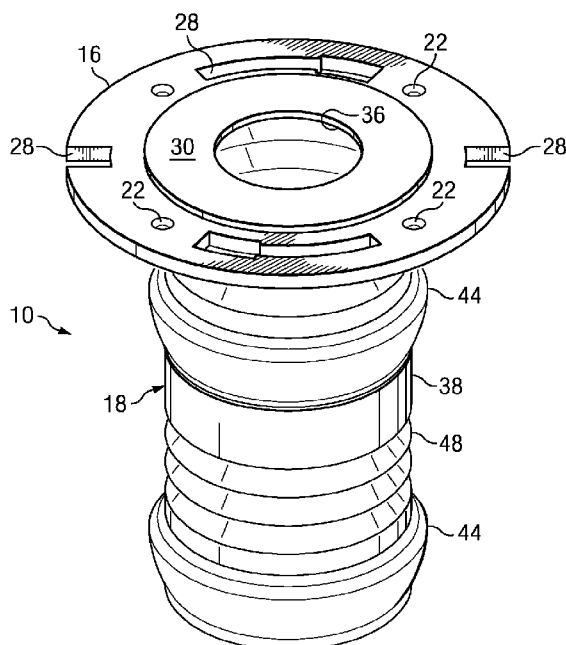


FIG. 1

(57) Abstract: The present disclosure generally relates to improved water closet flanges and methods for installing such water closet flanges. In one exemplary embodiment, an improved water close flange apparatus includes a modular spacer system for raising an upper surface of the outer surface above a finish flooring surface installed on top of a ground slab in order to improve the ease of installation. In one embodiment, an improved water closet flange apparatus includes an outer flange and a flexible conduit portion (i.e. sleeve) extending downwardly therefrom. The flexible sleeve has a sufficient degree of flexibility to accommodate connection between offset, misaligned, angled, or otherwise incongruous plumbing fixture discharges and waste drain pipe outlets. In one embodiment, the flexible sleeve includes at least one corrugated portion to aid the desired flexibility.



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B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC(8) - E03D 11/00, 11/16, 11/17 (2012.01) USPC - 4/252.1, 252.4, 252.5, 252.6, Dig. 7; 285/56, 57 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) MicroPatent		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2010/0037376 A1 (HUGHES) 18 February 2010 (18.02.2010) entire document	1-4, 7, 8, 16, 17
Y		14, 15, 18
Y	US 2009/0119826 A1 (CORONADO) 14 May 2009 (14.05.2009) entire document	14, 15, 18
A	US 5,018,224 A (HODGES) 28 May 1991 (28.05.1991) entire document	1-28
A	US 6,443,495 B1 (HARMELING) 03 September 2002 (03.09.2002) entire document	1-28
A	US 7,188,376 B2 (ORTIZ et al) 13 March 2007 (13.03.2007) entire document	1-28
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