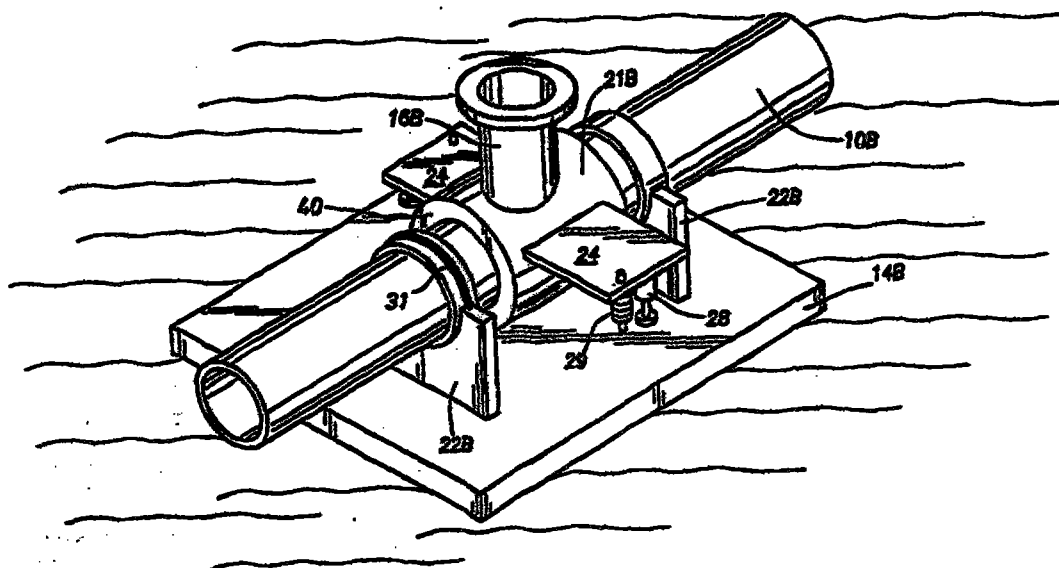




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(54) Title: SELF-ORIENTING SUBSEA FLOWLINE TAPPING ARRANGEMENT



(57) Abstract

A subsea flowline (10) deployed onto the sea floor (S) has tie-in points for interfacing other subsea facilities. Mudmats (14A, 14B, 14C) support hubs (16A, 16B, 16C) at the tie-in points. One embodiment shown in Figure 2 has a cradle (22) supporting flowline (10) for relative rotative movement. Hydraulic jacks (26) are connected to arms (24) to position and maintain hub (16) in a vertical orientation. Another embodiment, shown in Figure 3, has an outer swivel sleeve (21A) which is mounted on mudmat (14A) and receiving flowline (10A) for relative rotation. An annular fluid chamber or toroid (25A) provides fluid communication between flowline (10) and hub (16A) connected to outer swivel sleeve (21A). Another embodiment, shown in Figure 4, combines the features and characteristics illustrated in Figures 2 and 3.