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(54) Title: TOP-TENSIONED RISER SYSTEM

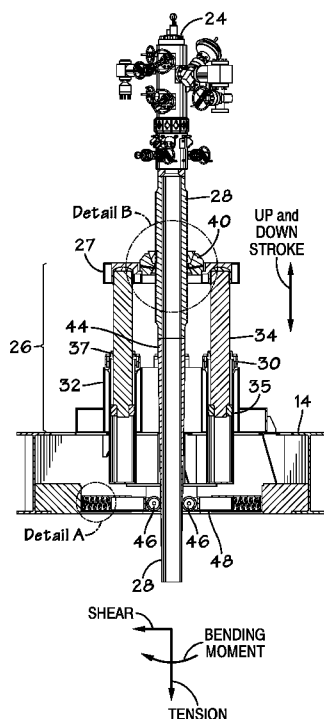


FIG. 2B

(57) Abstract: A top-tensioned riser (TTR) is supported by a tensioning system on the deck of a floating platform. The tension ring may include an elastomeric layer which permits small angular and lateral displacements of the tension joint. The tension joint comprises a tapered section to resist the bending moment and shear imposed by the vessel's motion. The riser tension joint may be supported laterally by rollers below the tension ring. The rollers react on the tapered section when the riser strokes up and down. The tapered section may be engineered to maximize the use of the tension joint, and to reduce bending moment and shear loads imposed on the tensioning system. In certain embodiments, there may be a small gap between the rollers and the tapered section. In certain other embodiments, the rollers may be spring-loaded to increase the stability of surface equipment on the upper terminus of the riser.



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