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ABSTRACT

RISER JOINT AND APPARATUS FOR ITS ASSEMBLY

A joint design particularly useful in subsea risers is disclosed. The joint is preferably of a pin and box design where one of the components is held in a stressed condition as the joint is made up and locked together. A portion of the applied stress is then removed, leaving a preload in the assembled joint. A hydraulically operated tool is used to apply the stress while at the same time supporting the riser string. The joint can seal with resilient seals or metal-to-metal contact, or both. The locking device can be of a variety of types including but not limited to breech lock, threads, or lock rings. The pin and box may be made of different materials that have different yield strengths and moduli of elasticity.

FIG. 1