

SIMULTANEOUS CLAMP AND TORQUE DRIVE

ABSTRACT

A clamping system for making and breaking threaded connections between a first tubular and a second tubular comprises a clamp assembly. The clamp assembly includes a first cam gear, a first plurality of clamp members disposed within the first cam gear, and a torque gear. Each clamp member is pivotally coupled to the torque gear. Each clamp member is configured to pivot between a withdraw position radially spaced apart from the first tubular and a gripping position engaging the first tubular. In addition, the clamping system comprises a clamp actuator. The clamp actuator includes a mounting shaft, a first clamp drive gear rotatably coupled to the mounting shaft, and a torque drive gear rotatably coupled to the mounting shaft. The first clamp drive gear is configured to rotate the first cam gear and the torque drive gear is configured to rotate the torque gear.

Figure 1