

ABSTRACT OF THE DISCLOSURE**APPARATUS FOR REDUCING FASTENER BENDING STRESS IN
FLANGED CONNECTIONS**

An apparatus for reducing the bending stress imparted to threaded fasteners in flanged connections is disclosed. The apparatus includes a stress reducing washer positioned between the head of the threaded fastener and a counterbore in the backface of the flange. In a first embodiment, the stress reducing washer uses a tapered upper surface oriented with respect to the flange to compensate for flange deflection as the threaded fastener is tightened to a predetermined torque value. Second and third embodiments utilizing spherical and cylindrical surfaces are also shown. A fourth embodiment eliminates the need for the stress reducing washer and machines the tapered surface in the backface of the flange.

FIG. 1