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(54) **Title:** APPARATUS AND METHOD FOR HYDROCONVERSION

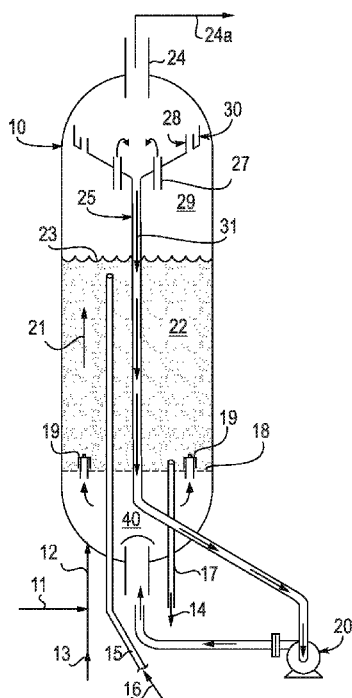


FIG. 1

(57) **Abstract:** An apparatus is disclosed for the hydroconversion of hydrocarbon feedstock with a hydrogen gas at elevated temperature and pressure with the use of a catalyst. The apparatus is a reactor vessel with a grid plate distributor for improved gas liquid distribution. The distributor comprises a grid plate and a bubble cap assembly with a plurality of tubular risers extending through the grid plate. Each tubular riser has an upper section above the grid plate and a lower section below the grid plate, the lower section terminated with an open bottom end for ingress of the hydrogen gas and hydrocarbon feedstock, the upper section having a closed top terminated with a housing cap. Each tubular riser has at least a vertical slot and at least a side hole sufficiently sized such that in operation, the liquid level in the zone below the grid plate is above the vertical slot and below the side hole opening.



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