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(54) **Title:** CHEMICAL PROCESSING VESSELS HAVING PLATE GRID DISTRIBUTORS AND METHODS OF OPERATING THE SAME

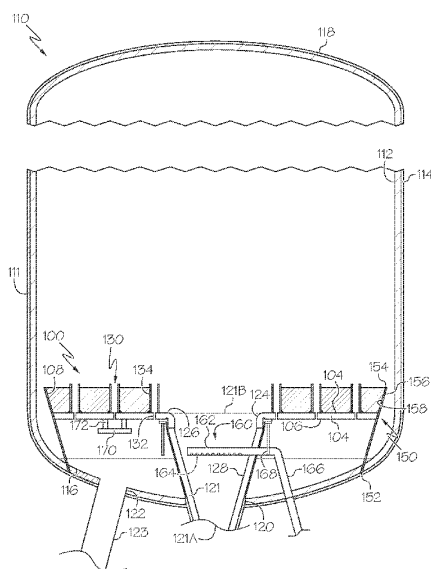


FIG. 1

(57) **Abstract:** According to one or more embodiments, a chemical processing vessel may include side walls, a floor, a catalyst outlet through the floor, and a plate grid distributor for distributing a fluid. The plate may include a plurality of apertures extending through the thickness of the plate and a central opening. The plate may include a catalyst transport passage extending from the central opening to the catalyst outlet. The catalyst transport passage may have a greater cross section area at the central opening of the plate than at the catalyst outlet. According to one or more embodiments, a method of operating a chemical processing vessel passing a fluid into the chemical processing vessel, directing the fluid through a plate grid distributor, and passing catalyst from above the plate, through the catalyst transport passage, and out of the chemical processing vessel through the catalyst outlet.

[Continued on next page]

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