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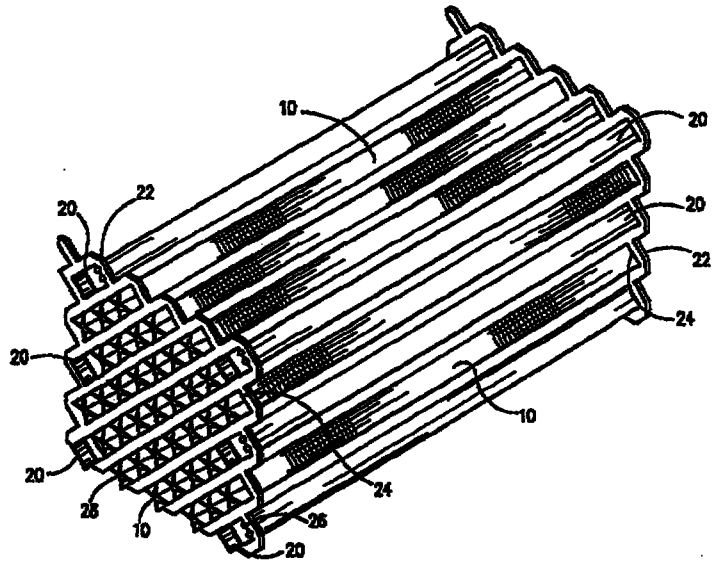
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(54) Title: CATALYTIC DISTILLATION STRUCTURE



(57) Abstract

A contact structure, useful as a distillation structure, has a rigid frame made of two substantially vertical duplicate grids (22) spaced apart and held rigid by a plurality of substantially horizontal rigid members (20) and a plurality of substantially horizontal wire mesh tubes (10) mounted to the grids to form a plurality of fluid pathways among the tubes. For use as a catalytic distillation structure, which serves as both the distillation structure and the catalyst, at least a portion of the wire mesh tubes contain a particulate catalytic material (30). The catalyst within the tubes provides a reaction zone where catalytic reactions may occur and the wire mesh provides mass transfer surfaces to effect a fractional distillation. The spacing elements provide for a variation of the catalyst density and loading and structural integrity.