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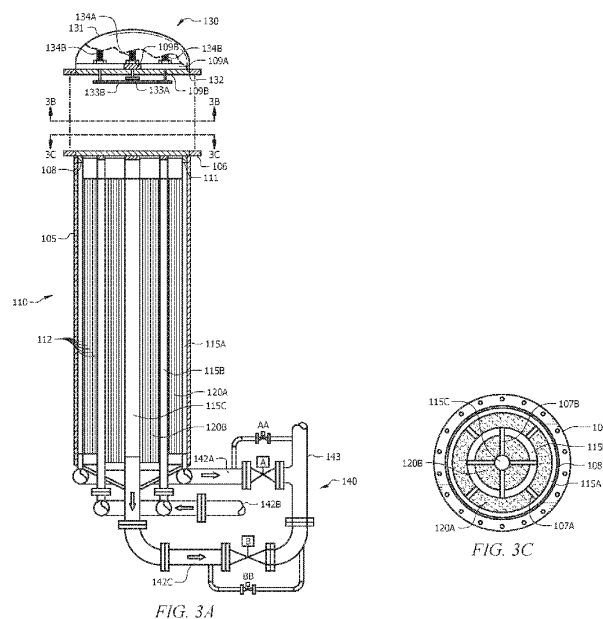
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(54) Title: BI-MODAL RADIAL FLOW REACTOR



(57) Abstract: A bi-modal radial flow reactor comprising: a cylindrical outer housing surrounding at least five cylindrical, concentric zones, including at least three annulus vapor zones including an outer annulus vapor zone, a middle annulus vapor zone, and a central annulus vapor zone, and at least two catalyst zones, including an outer catalyst zone and an inner catalyst zone, wherein the outer catalyst zone is intercalated with the outer annulus vapor zone and the middle annulus vapor zone, and wherein the inner catalyst zone is intercalated with the middle annulus vapor zone and the central annulus vapor zone; and a manifold configured to introduce a feed vertically into a bottom end of each of one or two of the at least three annulus vapor zones, and remove a product from a bottom end of each of the one or two remaining of the at least three annulus vapor zones.

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