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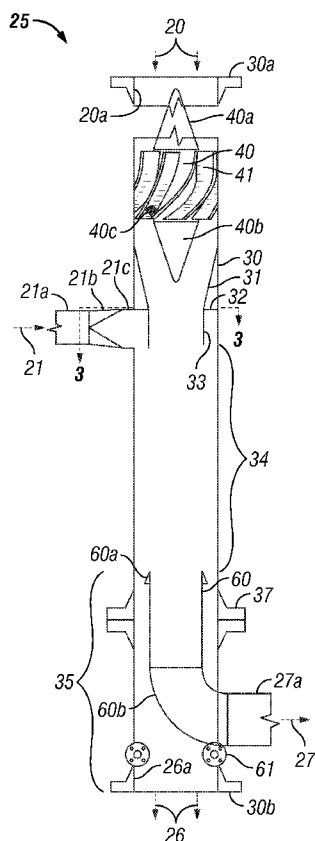
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(54) Title: APPARATUS AND METHOD FOR SUPERHEATED VAPOR CONTACTING AND VAPORIZATION OF FEED-STOCKS CONTAINING HIGH BOILING POINT AND UNVAPORIZABLE FOULANTS IN AN OLEFINS FURNACE



(57) Abstract: A contactor/separator is formed from a vessel; an inlet for receiving a vapor/liquid mixture; an inlet for receiving a superheated vapor; a hub located within the vessel, the hub including a plurality of vanes for imparting a centrifugal motion to the vapor/liquid mixture or the superheated vapor; an outlet in a bottom of the vessel for removing liquid; and an outlet for removing vapor from the vessel. A method is also provided for heating and separating liquid and vapor from a hydrocarbon feedstock comprising introducing a hydrocarbon feedstock into a contactor/separator: introducing a superheated vapor into the contactor/separator such that it contacts and vaporizes a portion of the feedstock within the contactor/separator; separating unvaporized feedstock from vaporized feedstock in the contactor/separator; removing the vaporized feedstock and the superheated vapor through a first outlet; and removing the unvaporized feedstock through a second outlet.



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