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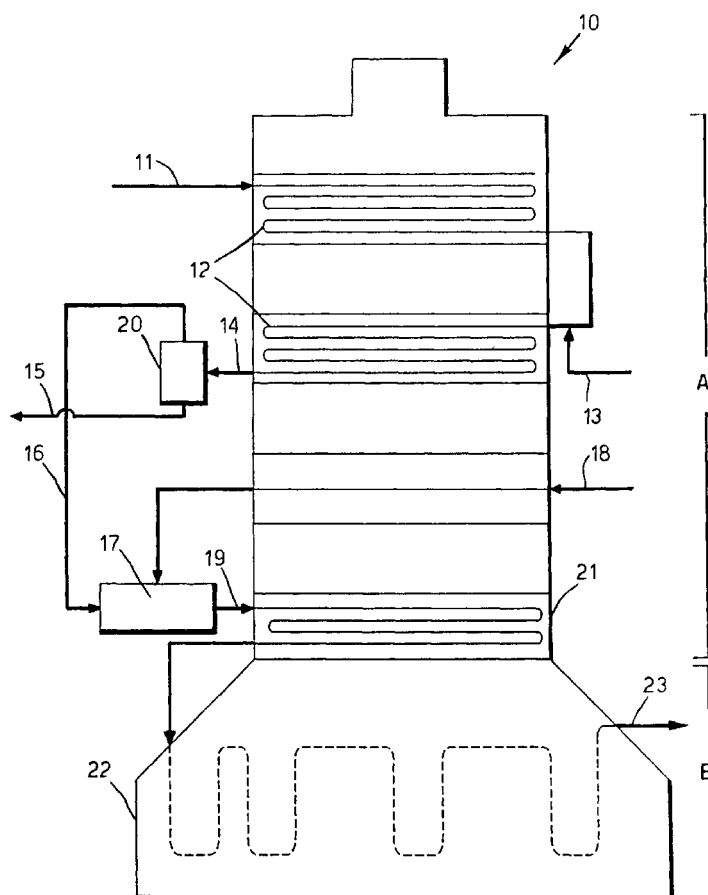
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(54) Title: **PYROLYZING CRUDE OIL AND CRUDE OIL FRACTIONS CONTAINING PITCH**



(57) Abstract: A crude oil feedstock or crude oil fractions containing pitch feedstock is pyrolyzed in a pyrolysis furnace by feeding the crude oil or crude oil fractions containing pitch feedstock to a first stage preheater within the convection zone of the pyrolysis furnace, wherein the crude oil or crude oil fraction containing the pitch feedstock is heated within the first stage preheater to an exit temperature of at least 375 °C to produce a heated gas-liquid mixture, withdrawing from first stage preheater the gas-liquid mixture to a vapour-liquid separator, separating and removing the gas from the liquid in the vapour-liquid separator, and feeding the removed gas to a second preheater provided in the convection zone, further heating the temperature of the gas to a temperature above the temperature of the gas exiting the vapour-liquid separator, introducing the preheated gas into a radiant zone within the pyrolysis furnace, and pyrolyzing the gas to olefins, such as ethylene, and associated by-products.

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