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- (54) Title:** PROCESS FOR SEPARATING HEAVY BY-PRODUCTS AND CATALYST LIGAN FROM A VAPOUR STREAM COMPRISING ALDEHYDE

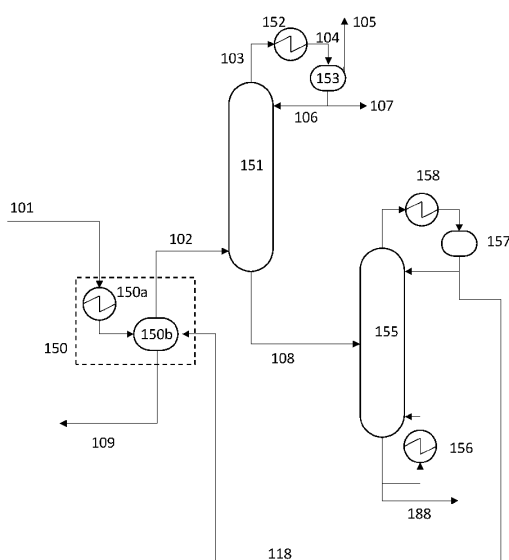


Fig. 5

- (57) Abstract:** A process for separating heavy by-products and catalyst ligand from a vapour stream comprising aldehyde, the heavy by-products and the catalyst ligand is disclosed. The process comprises: passing the vapour stream to a fractionator in which the vapour stream is contacted with liquid aldehyde which removes at least a portion of the catalyst ligand and at least a portion of the heavy by-products from the vapour stream; recovering a liquid bottom stream, comprising removed catalyst ligand, removed heavy by-products and some of the aldehyde, from the fractionator; recovering a scrubbed vapour stream from the fractionator; condensing a first portion of the scrubbed vapour stream to create the liquid aldehyde, for reflux back to the fractionator; and recovering a second portion of the scrubbed vapour stream as a product aldehyde stream. The liquid bottom stream is passed to a separation system to separate at least some aldehyde from the liquid bottom stream to create a recovered aldehyde stream, comprising the separated aldehyde, and a waste stream comprising the removed catalyst ligand and the removed heavy by-products.