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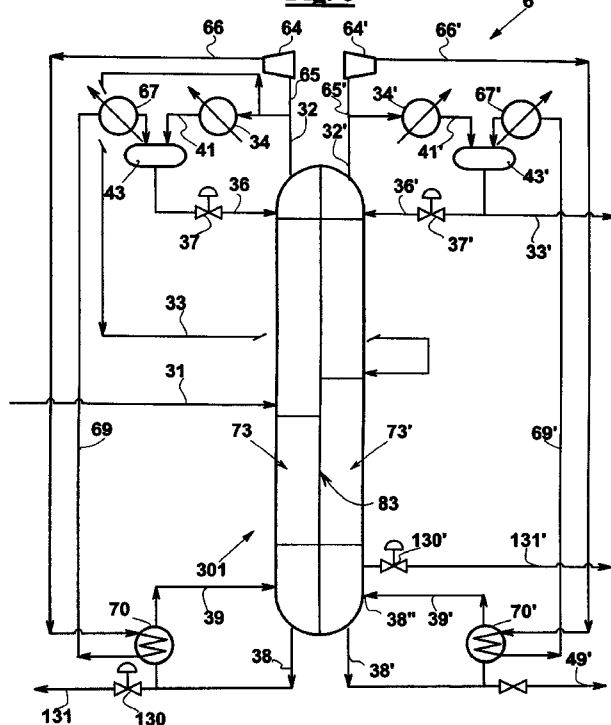
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(54) Title: PROCESS AND EQUIPMENT FOR SEPARATING 1,2,4 TRIMETHYLBENZENE (PSEUDOCUMENE) FROM A MIXTURE CONTAINING AROMATIC HYDROCARBONS

Fig. 6

(57) Abstract: A method and an apparatus (7') for separating 1,2,4-Trimethylbenzene by fractional distillation of a mixture (31) that contains C₉ or C₉+ aromatic hydrocarbons, and possibly hydrocarbons with less than nine carbon atoms. According to an aspect of the invention, a first distillation step and a second distillation step are provided are carried out in respective distillation chambers (75, 75') defined by a cylindrical vertical container 501 and by an inner partition wall (85) of the container. According to another aspect of the invention, a means is provided for compressing (64) at least one part (65) of an overhead vapour fraction extracted from the first distillation chamber and/or from the second distillation chamber, in order to increase the condensation temperature of the overhead vapour above the boiling temperature of a bottom fraction (38, 38') that is extracted from the first second distillation and/or from the second distillation chamber, and a condensation is also provided of the compressed overhead vapour (66) in the reboiler (70') associated to the first chamber and/or to the second chamber, so that the condensation latent heat provides the evaporation heat for a respective portion (39') of the bottom fraction. In a particular exemplary embodiment, the compression means (64) of the fraction (65) that is extracted from the first chamber is operated by an expansion means (764) for expanding an aeriform substance (761), and is used in the reboiler (70') associated with the second chamber (75'), and the apparatus (7') comprises a steam (764) generation means (71) that is associated with an externally heated reboiler (70) associated with the first distillation chamber (75). In another particular exemplary embodiment, at least one part (52) of the overhead vapour of the first chamber

(75), which contains Pseudocumene, is fed to the second distillation chamber (75') through a passageway (86) that is defined within the inner partition wall (86).

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