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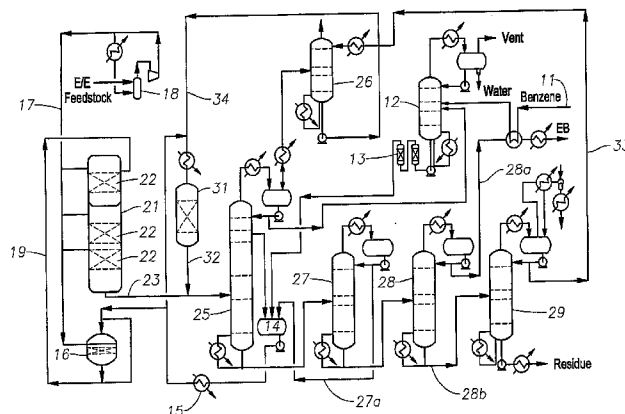
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

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[Continued on next page]

(54) Title: MIXED PHASE, MULTISTAGE ALKYLAROMATICS PRODUCTION



(57) **Abstract:** A process is described for producing an alkyaromatic compound in a multistage reaction system comprising at least first and second series-connected alkylation reaction zones each containing an alkylation catalyst. A first feed comprising an alkylatable aromatic compound and a second feed comprising an alkene and one or more alkanes are introduced into said first alkylation reaction zone. The first alkylation reaction zone is operated under conditions of temperature and pressure effective to cause alkylation of the aromatic compound with the alkene in the presence of the alkylation catalyst, the temperature and pressure being such that the aromatic compound is partly in the vapor phase and partly in the liquid phase. An effluent comprising the alkyaromatic compound, unreacted alkylatable aromatic compound, any unreacted alkene and the alkane is withdrawn from the first alkylation reaction zone and then supplied to the second alkylation reaction zone without removal of the alkane. The operating conditions in each of said first and second reaction zones are such that the ratio of the volume of liquid to the volume of vapor in each zone is from about 0.1 to about 10.

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