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Declarations under Rule 4.17:

- 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))

[Continued on next page]

(54) Title: HYDROCARBON CONVERSION TO ETHYLENE

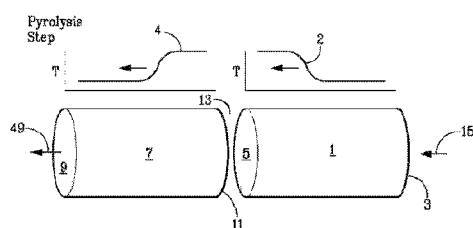


FIG. 1A

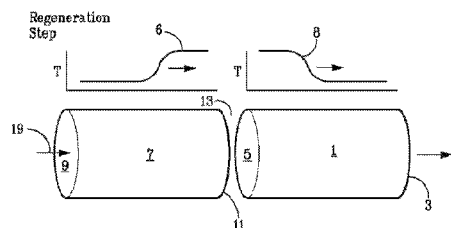


FIG. 1B

(57) Abstract: The invention relates to a hydrocarbon conversion process and a reactor configured to carry out the hydrocarbon conversion process. The hydrocarbon conversion process is directed to increasing the overall equilibrium production of ethylene from typical pyrolysis reactions. The hydrocarbon conversion process can be carried out by exposing a hydrocarbon feed to a peak pyrolysis gas temperature in a reaction zone in the range of from 850°C to 1200°C.



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