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(54) Title: ELECTRICALLY HEATED REFORMING REACTOR FOR REFORMING OF METHANE AND OTHER HYDRO-CARBONS

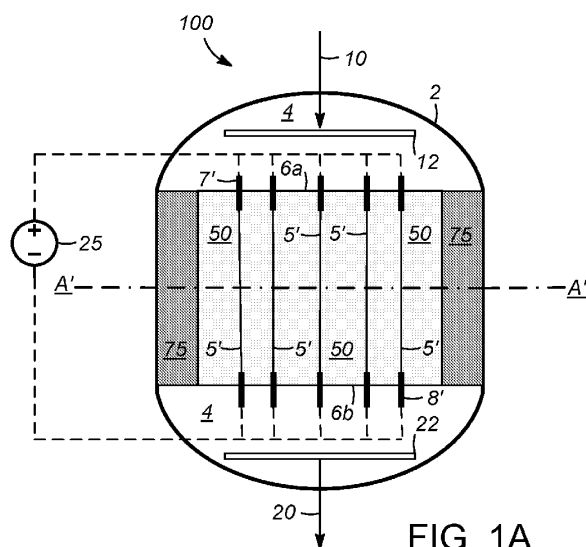


FIG. 1A

(57) Abstract: Electrically heated reforming reactors and associated reforming processes are disclosed, which benefit from a number of advantages in terms of attaining and controlling the input of heat to catalytic conversion processes such as in the reforming of hydrocarbons (e.g., methane) using H₂O and/or CO₂ as an oxidant. The disclosed reactors provide the ability to target the input of heat to specific regions within a catalyst bed volume. This allows for the control of the temperature profile in one or more dimensions (e.g., axially and/or radially) and/or otherwise tailoring heat input for processing specific reformer feeds, achieving specific reformer products, effectively utilizing the catalyst, and/or compensating for a number of operating parameters (e.g., flow distribution). Dynamic control of the heat input may be used in response to changes in feed or product composition and/or catalyst activity.

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