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(54) Title: METHANE CONVERSION APPARATUS AND PROCESS USING A SUPERSONIC FLOW REACTOR

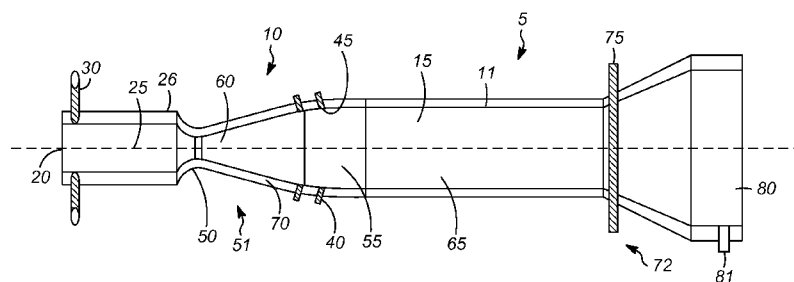


FIG. 1

(57) Abstract: Apparatus and methods are provided for converting methane in a feed stream to acetylene. A hydrocarbon stream is introduced into a supersonic reactor and pyrolyzed to convert at least a portion of the methane to acetylene. The reactor effluent stream may be treated to convert acetylene to another hydrocarbon process.