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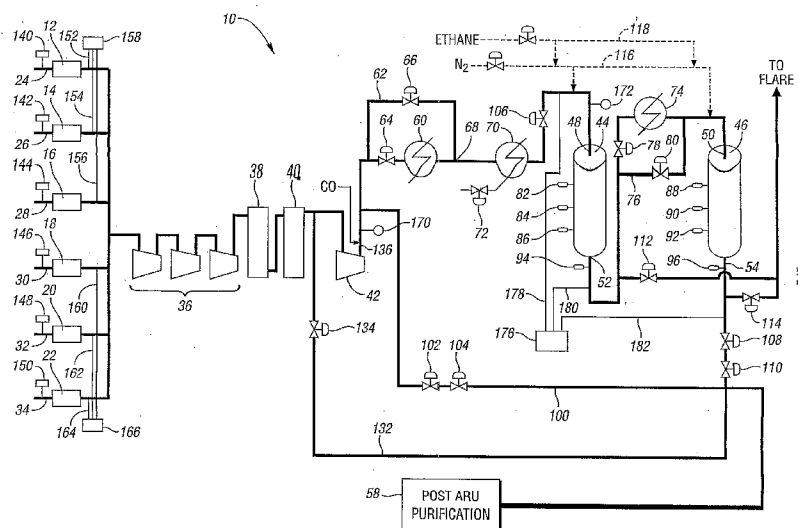
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(54) Title: ACETYLENE REMOVAL METHODS AND APPARATUS



(57) Abstract: The present invention provides a method and apparatus for removing acetylene from a gaseous mixture comprising hydrogen, methane, ethane, ethylene, acetylene, propane, propylene, butane, butenes, butadiene, and other C4 or higher hydrocarbons. The method of the invention utilizes a front-end acetylene removal unit ("ARU") located after a charge gas compressor in which acetylene is selectively reduced. The method of the invention achieves selective reduction of acetylene by using a proprietary Chevron Phillips E series palladium based catalyst. The method of the invention also utilizes a novel startup procedure, a novel emergency shutdown procedure, a novel maximum cool down procedure, and a novel carbon monoxide monitoring procedure.

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