

ABSTRACT OF THE DISCLOSURE

Apparatus is disclosed herein for reducing engine nitrogen oxide emissions by mixing hydrogen prepared from a portion of engine fuel within a simple burner. The apparatus includes a burner having an internal combustion chamber for receiving either a portion of gaseous fuel or liquid fuel for mixture with air and subsequent ignition by a spark plug. A mixing chamber is included having a series of baffles against which injected air and fuel vapor impinge causing thorough and complete air/fuel blending into a mixture subsequently ignited and burned, and then discharged into the combustion chamber of the engine itself. A pre-heating arrangement is provided for raising the temperature of the air/fuel mixture via a heat exchanging process with the combusted gases in the combustion chamber.

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