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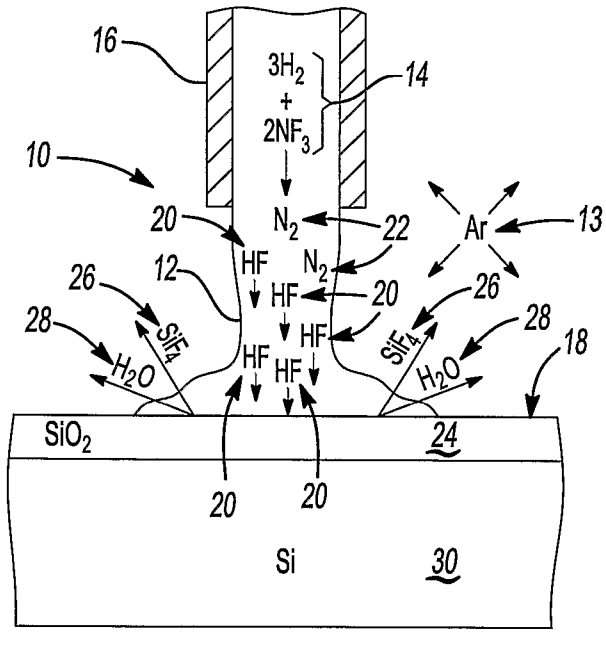
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[Continued on next page]

(54) Title: SUBSTRATE PROCESSING METHOD AND APPARATUS USING A COMBUSTION FLAME



(57) Abstract: A substrate processing method and apparatus using a combustion flame of a gaseous mixture of hydrogen and a non-oxygen oxidizer is described. The method uses the hydrogen and non-oxygen oxidizer combustion flame to impinge upon a substrate surface for chemically reacting with a thin film on the surface and thus etching the substrate. The method is performed in a substantially inert and non-ionized environment at a substantially atmospheric pressure. An apparatus for processing a substrate with the method has a processing chamber for containing the inert environment and a nozzle head for directing the combustion flame towards a substrate retained upon a substrate holder. In an embodiment, an edge nozzle assembly is angled towards the edge of the wafer for treating the near-edge and edge of the wafer. In this embodiment, a heater preheats the substrate in the near-edge region to be processed.

WO 2007/037826 A1

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