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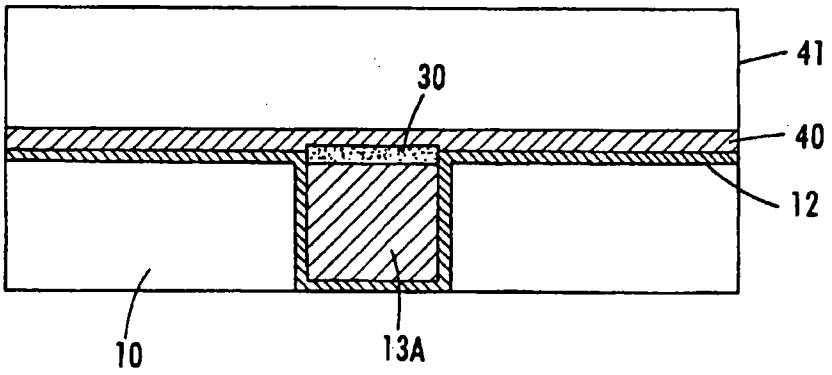
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(54) Title: METHOD OF FORMING COPPER INTERCONNECT CAPPING LAYERS WITH IMPROVED INTERFACE AND ADHESION



(57) Abstract: The integrity of the interface and adhesion between a barrier or capping layer (40) and a Cu or Cu alloy interconnect member (13A) is significantly enhanced by delaying and/or slowly ramping up the introduction of silane to deposit a silicon nitride capping layer after treating the exposed planarized surface (30) of the Cu or Cu alloy with an ammonia-containing plasma. Other embodiments include purging the reaction chamber with nitrogen at elevated temperature to remove residual gases prior to introducing the wafer for plasma treatment.

WO 02/09173 A3

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