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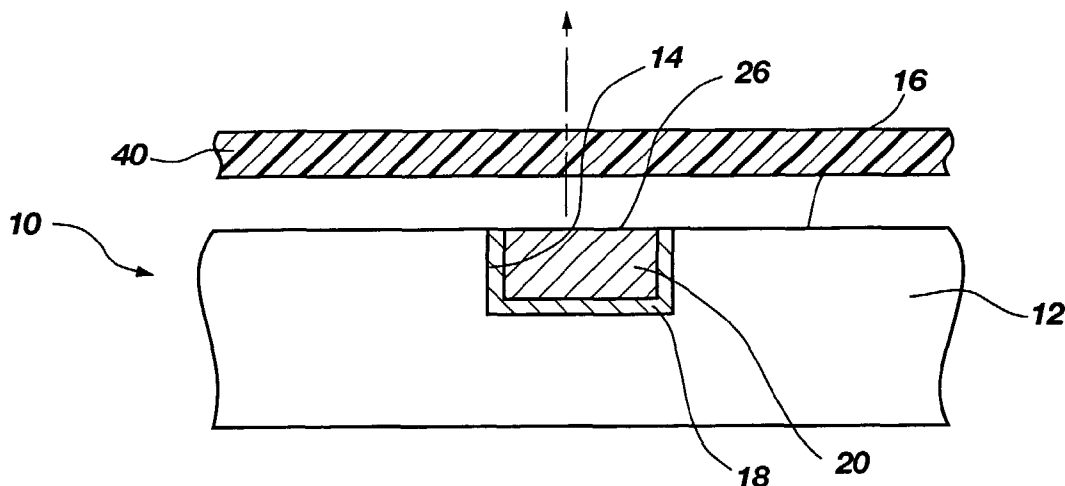
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(54) Title: SLURRY FOR USE WITH FIXED-ABRASIVE POLISHING PADS IN POLISHING SEMICONDUCTOR DEVICE CONDUCTIVE STRUCTURES THAT INCLUDE COPPER AND TUNGSTEN AND POLISHING METHODS



(57) Abstract: A method for substantially simultaneously polishing a copper conductive structure of a semiconductor device structure and an adjacent barrier layer. The method includes use of a fixed-abrasive type polishing pad with a substantially abrasive-free slurry in which copper is removed at a rate that is substantially the same as or faster than a rate at which a material, such as tungsten, of the barrier layer is removed. The slurry is formulated so as to oxidize copper at substantially the same rate as or at a faster rate than a material of the barrier layer is oxidized. Thus, copper and the barrier layer material have substantially the same oxidation energies in the slurry or the oxidation energy of the barrier layer material in the slurry may be greater than that of copper. Systems for substantially polishing copper conductive structures and adjacent barrier structures on semiconductor device structures are also disclosed.



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