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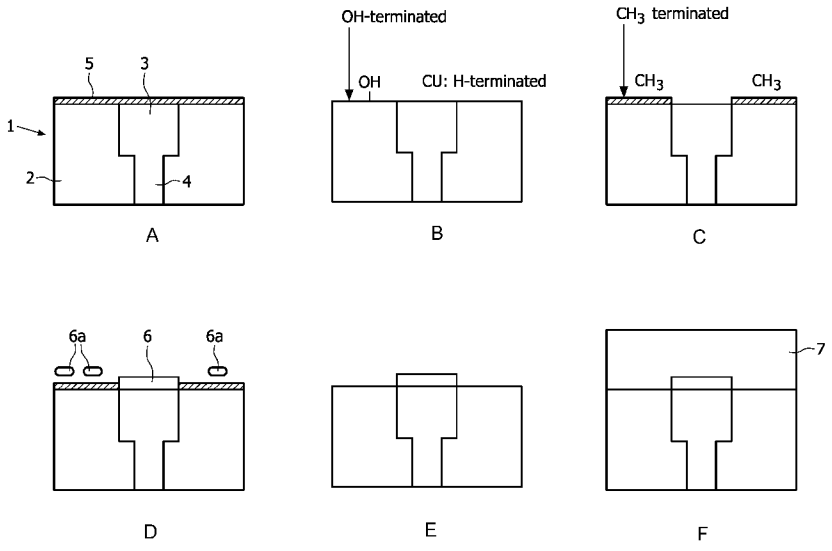
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(54) Title: A METHOD OF FORMING A LAYER OVER A SURFACE OF A FIRST MATERIAL EMBEDDED IN A SECOND MATERIAL IN A STRUCTURE FOR A SEMICONDUCTOR DEVICE



(57) Abstract: There is described a method of forming a barrier layer (6, 110) over a surface of a copper line (3, 107) embedded in a dielectric material (2, 100) in an interconnect structure for a semiconductor device. The barrier layer (6, 110) is selectively deposited over the surface of the copper line (3, 107) by a vapour deposition step and the surface of the dielectric material (2, 100) is treated prior to the vapour deposition step to inhibit deposition of the barrier layer (6, 110) there on during the vapour deposition step. Preferably, the vapour deposition step comprises atomic layer deposition.

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