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(54) Title: MOLYBDENUM INTEGRATION AND VOID-FREE FILL

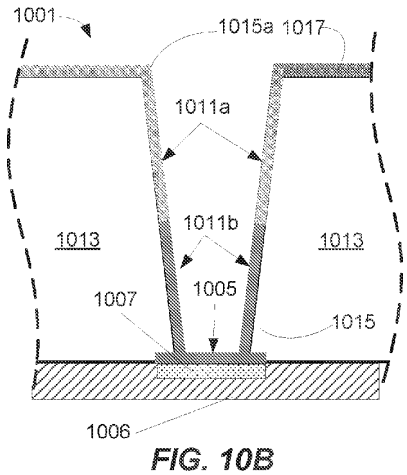


FIG. 10B

(57) Abstract: Provided herein are methods of filling features with molybdenum (Mo) that may be used for logic and memory applications. The methods involve treating the surface of feature prior to feature fill. In some embodiments, the methods involve treating the surface of feature by exposure to a molybdenum halide. In some embodiments, the methods involve treating the surface of the feature by selective oxidation, nitridation, or halogenation. Apparatus to perform the methods are provided.

[Continued on next page]

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