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(54) WAFER HAVING SMOOTH SURFACE

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(56) **References Cited**

U.S. PATENT DOCUMENTS

3,602,778 * 8/1971 Mitsuru et al. 317/234 R

* cited by examiner

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(57) ABSTRACT

A method for preparing a wafer having a smooth surface is disclosed. The present invention includes the step of preparing a wafer base and a first material on the wafer base. The wafer base and first material have a surface and a plurality of holes. The present invention includes the step of depositing a second material at an angle on the first material such that the second material is substantially on the surface. The present invention includes the step of exposing the first material and the second material to an oxidizing agent. The present includes the step of reacting a third material on the second surface to close the holes.

6 Claims, 3 Drawing Sheets

