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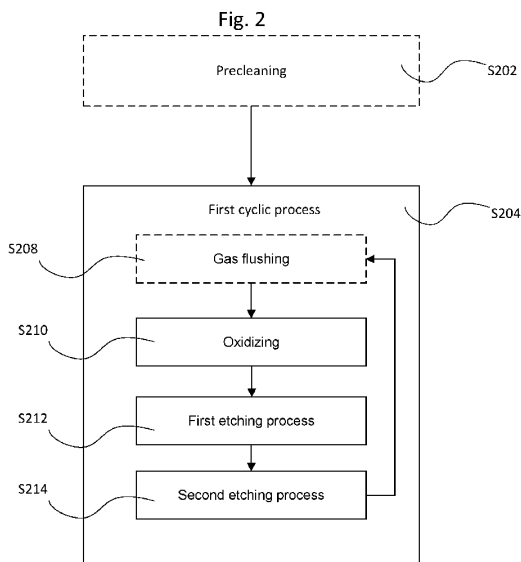
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- (54) **Title:** CYCLIC PROCESSING OF A SILICON NANOSTRUCTURE



- (57) **Abstract:** A method for processing a silicon nanostructure erecting from a support structure is presented. The silicon nanostructure having a main surface delimited by, in relation to the main surface, inclined surfaces. The method comprises subjecting the silicon nanostructure for a first cyclic process. Each cycle of the first cyclic process comprises: oxidizing the main surface and the inclined surfaces forming a silicon oxide layer on the main surface and the inclined surfaces; applying a first etching process configured to anisotropically etch the silicon oxide layer from the main surface while preserving the silicon oxide layer on the inclined surfaces, thereby exposing the silicon of the silicon nanostructure; and applying a second etching process configured to selectively etch the exposed silicon of the silicon nanostructure using the silicon oxide layers of the inclined surfaces as masking layers. Whereby selective etching of the main surface relative to the inclined surfaces is achieved such that a recess in the silicon nanostructure is formed, the recess having its opening at the main surface of the silicon nanostructure.