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(54) **Title:** GATE STACK FOR FIELD EFFECT TRANSISTORS

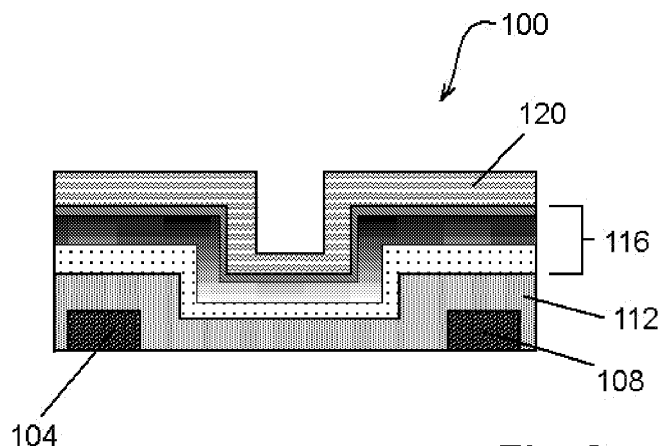


Fig. 2

(57) **Abstract:** A novel gate stack for a field effect transistor reduces the net charge in the dielectric material of the gate stack adjacent the semiconductor material of the transistor. The gate stack includes a gradient region between the dielectric layer abutting the semiconductor material and the diffusion barrier abutting the gate material, wherein the stoichiometry of the materials in the gradient region changes from the stoichiometry of the dielectric material to the stoichiometry of the diffusion barrier while avoiding abrupt changes in stoichiometry.

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Declarations under Rule 4.17:

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