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(71) Applicant: **INTEL CORPORATION** [US/US]; 2200 Mission College Boulevard, Santa Clara, CA 95052 (US).

(72) Inventors: **DUBIN, Valery**; 5388 NW Lianna Way, Portland, OR 97229 (US). **CHENG, Chin-Chang**; 6160 NW 165th Terrace, Portland, OR 97229 (US). **HUSSEIN, Makarem**; 9739 SW Stonecreek Drive, Beaverton, OR 97007 (US). **NGUYEN, Phil**; 1165 SE Helene Court, Hillsboro, OR 97123 (US). **BRAIN, Ruth**; 17588 NWCountry Drive, Portland, OR 97229 (US).

(74) Agents: **MALLIE, Michael, J.** et al.; Blakely Sokoloff Tayor & Zafman, 12400 Wilshire Boulevard, 7th Floor, Los Angles, CA 90025 (US).

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(54) Title: USE OF CONDUCTIVE ELECTROLESSLY DEPOSIDED ETCH STOP LAYERS, LINER LAYERS AND VIA PLUGS IN INTERCONNECT STRUCTURES

(57) Abstract: Multiple level interconnect structures and methods for fabricating the interconnect structures are disclosed. The interconnect structures may contain an interconnect line, an electrolessly deposited metal layer formed over the interconnect line, a via formed over the metal layer, and a second interconnect line formed over the via. Often the metal layer contains a cobalt or nickel alloy and provides an etch stop layer for formation of an opening corresponding to the via. The metal layer may provide protection to the underlying interconnect line and may replace a traditional protective dielectric layer. The metal layer is conductive, rather than dielectric, and provides a shunt for passage of electrical current between the via and the interconnect line. Similar metal layers may also be used within the interconnect structures as via liner layers and via plugs.