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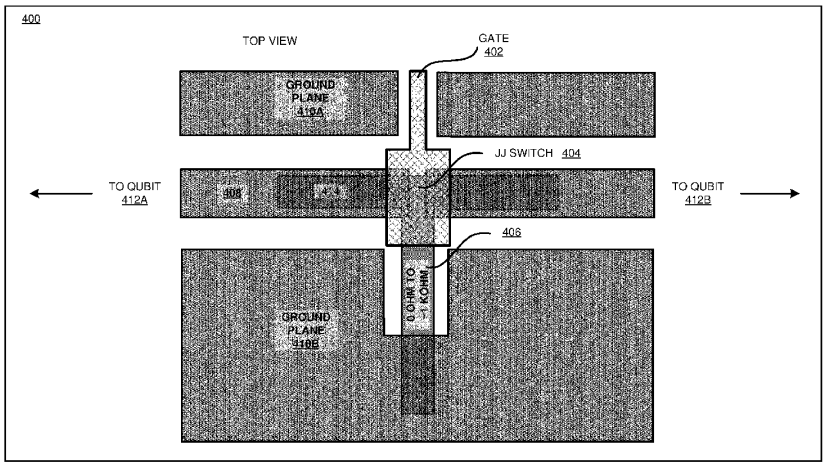
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(54) Title: GATE VOLTAGE-TUNABLE ELECTRON SYSTEM INTEGRATED WITH SUPERCONDUCTING RESONATOR FOR QUANTUM COMPUTING DEVICE

FIGURE 4



(57) Abstract: A superconducting coupling device includes a resonator structure. The resonator structure has a first end configured to be coupled to a first device and a second end configured to be coupled to a second device. The device further includes an electron system coupled to the resonator structure, and a gate positioned proximal to a portion of the electron system. The electron system and the gate are configured to interrupt the resonator structure at one or more predetermined locations forming a switch. The gate is configured to receive a gate voltage and vary an inductance of the electron system based upon the gate voltage. The varying of the inductance induces the resonator structure to vary a strength of coupling between the first device and the second device.

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