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(54) **Title:** SYSTEMS AND METHODS FOR PRODUCING A SINGLE CRYSTAL SILICON INGOT USING A VAPORIZED DOPANT

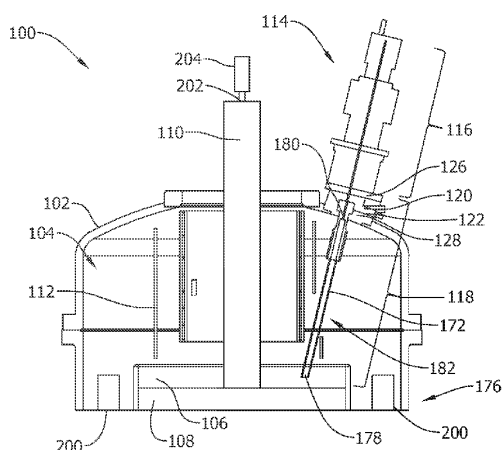


FIG. 1

(57) **Abstract:** Systems and methods for doping a single crystal silicon ingot pulled from a silicon melt held within an ingot puller apparatus are disclosed. The ingot puller apparatus includes a housing defining a chamber, a crucible disposed within the chamber, and a dopant injector extending into the housing. The method includes heating a vaporization cup and maintaining a pressure of an interior of the housing at a first pressure. The method further includes injecting liquid dopant into the vaporization cup. A pressure of the liquid dopant is maintained at a second pressure greater than the first pressure prior to injection. The method also includes vaporizing the liquid dopant by heating the liquid dopant with the vaporization cup and reducing the pressure of the liquid dopant from the second pressure to the first pressure by injecting the liquid dopant into the housing, and channeling the vaporized dopant into the housing.

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