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(54) Title: PROCESS FOR THE PRODUCTION OF MEDIUM AND HIGH PURITY SILICON FROM METALLURGICAL GRADE SILICON

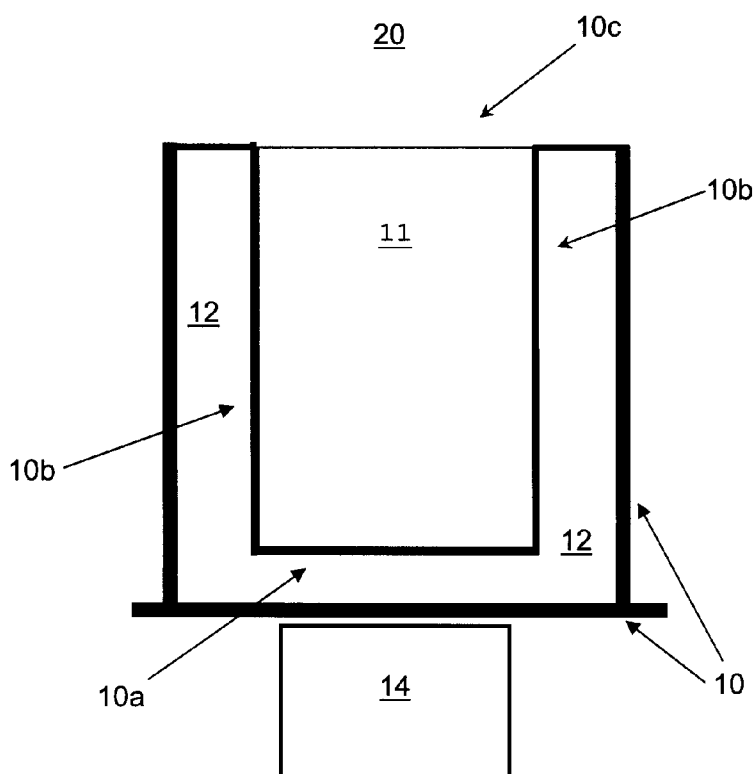


FIG. 1A

(57) Abstract: A process for purifying low-purity metallurgical grade silicon, containing at least one contaminant and obtaining a higher-purity solid polycrystalline silicon is provided. The process includes containing a melt of low-purity metallurgical grade silicon in a mould having insulated bottom and side walls, and an open top; solidifying the melt by unidirectional solidification from the open top towards the bottom wall while electromagnetically stirring the melt; controlling a rate of the unidirectional solidification; stopping the unidirectional solidification when the melt has partially solidified to produce an ingot having an exterior shell including the higher-purity solid polycrystalline silicon and a center including an impurity-enriched liquid silicon; and creating an opening in the exterior shell of the ingot to outflow the impurity-enriched liquid silicon and leave the exterior shell which has the higher-purity solid polycrystalline silicon.

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