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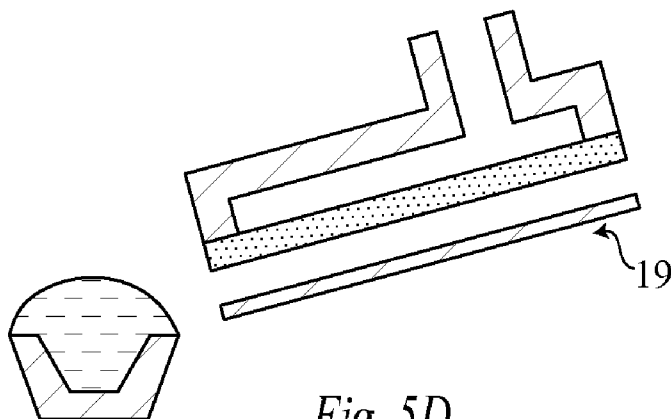


Fig. 5D

(57) Abstract: A pressure differential is applied across a mold sheet and a semiconductor (e.g. silicon) wafer is formed thereon. Relaxation of the pressure differential allows release of the wafer. The mold sheet may be cooler than the melt. Heat is extracted almost exclusively through the thickness of the forming wafer. The liquid and solid interface is substantially parallel to the mold sheet. The temperature of the solidifying body is substantially uniform across its width, resulting in low stresses and dislocation density and higher crystallographic quality. The mold sheet must allow flow of gas through it. The melt can be introduced to the sheet by: full area contact with the top of a melt; traversing a partial area contact of melt with the mold sheet, whether horizontal or vertical, or in between; and by dipping the mold into a melt. The grain size can be controlled by many means.