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(54) **MICROFLUIDIC STRUCTURES AND METHODS FOR INTEGRATING A FUNCTIONAL COMPONENT INTO A MICROFLUIDIC DEVICE**

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(58) **Field of Classification Search** 422/50, 422/68.1, 100, 101, 102, 104, 103; 436/43, 436/63, 180; 156/125, 242

See application file for complete search history.

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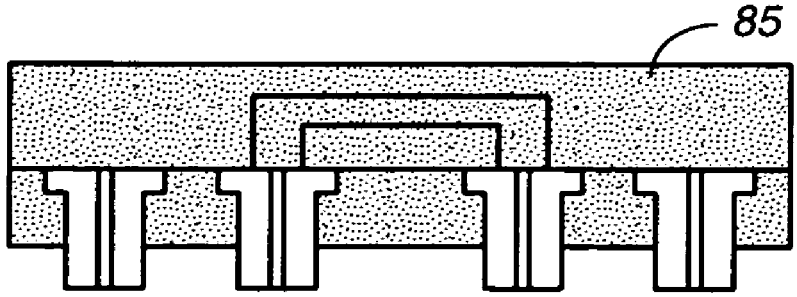
(57) **ABSTRACT**

Injection molding is used to form microfluidic devices with integrated functional components. One or more functional components are placed in a mold cavity which is then closed. Molten thermoplastic resin is injected into the mold and then cooled, thereby forming a solid substrate including the functional component(s). The solid substrate including the functional component(s) is then bonded to a second substrate which may include microchannels or other features.

8 Claims, 3 Drawing Sheets