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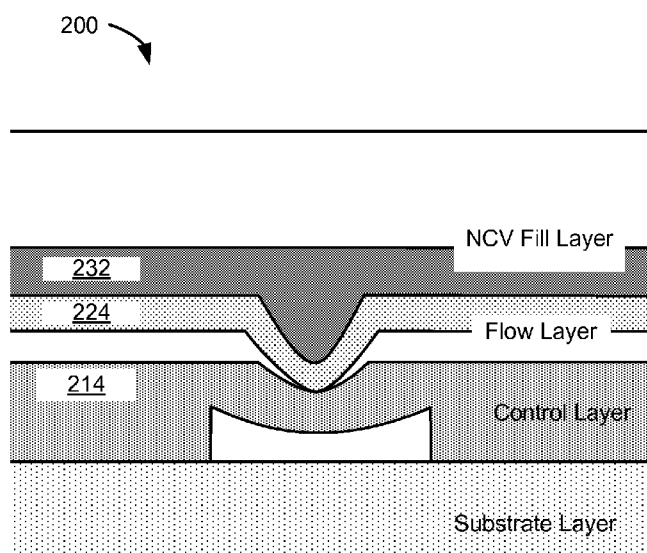


FIG. 2B

(57) **Abstract:** A microfluidic device includes an input source characterized by a source pressure and an input channel in fluid communication with the input source. The microfluidic device also includes an output channel and a valve having an open state and a closed state. The valve is disposed between the input channel and the output channel and is characterized by a static pressure. The microfluidic device further includes a control channel coupled to the valve and characterized by a control pressure. In the closed state, the control pressure is greater than atmospheric pressure.