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(54) Title: DROPLET EJECTOR ASSEMBLY STRUCTURE AND METHODS

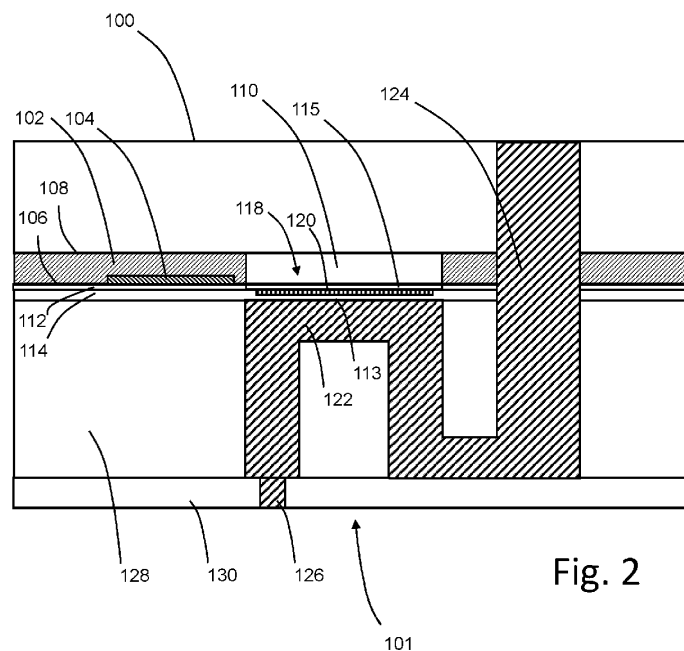


Fig. 2

(57) Abstract: A droplet ejector assembly for a printhead comprises a substrate, the substrate comprising a CMOS control circuit, a plurality of layers on the first surface of the substrate, a fluid chamber having a droplet ejection outlet, and a piezoelectric actuator element formed by one or more said layers and comprising first and second electrodes in contact with a piezoelectric body. The piezoelectric actuator element defines part of the fluid chamber. At least one said electrode electrically is connected to the CMOS control circuit. The droplet ejector comprises a fluid chamber having a droplet ejection outlet. The piezoelectric actuator element is separate to the droplet ejection outlet and the piezoelectric body is formed of one or more piezoelectric materials processable at a temperature below 450°C. Thus, a CMOS control circuit is integrated with a droplet ejector assembly. The CMOS control circuit may receive both an analogue actuator ejection pulse and serial digital controls signals and use the serial digital control signals to determine which

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piezoelectric actuator elements are connected to and driven by individual actuator ejection pulses.