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Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

- (54) **Title:** TILT AND ROTATE DISPENSER HAVING MATERIAL FLOW RATE CONTROL

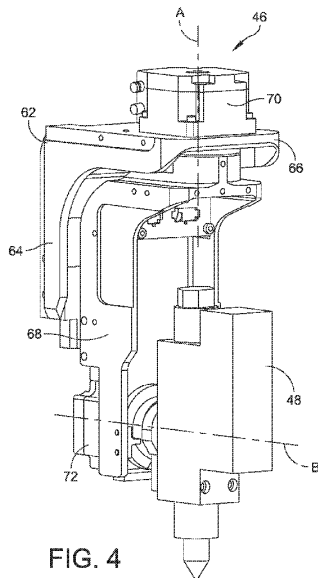


FIG. 4

(57) **Abstract:** A dispensing system includes a frame, a support coupled to the frame, a dispensing unit configured to dispense viscous material, and a gantry assembly coupled to the frame. The gantry assembly includes a gantry configured to support the dispensing unit and to move the dispensing unit in x-axis, y-axis and z-axis directions and a tilt and rotate subassembly configured to tilt and rotate the dispensing unit. The dispensing system further includes a controller configured to control dispensing unit and the gantry assembly to perform a dispense operation on the electronic substrate. The controller is configured to control the dispensing unit to dispense material from the nozzle of the dispensing unit at a flow rate configured to deposit a desired amount or density of material on the electronic substrate along a three-dimensional path.

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