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(54) Title: A PUMP ASSEMBLY FOR A THREE-DIMENSIONAL PRINTING SYSTEM

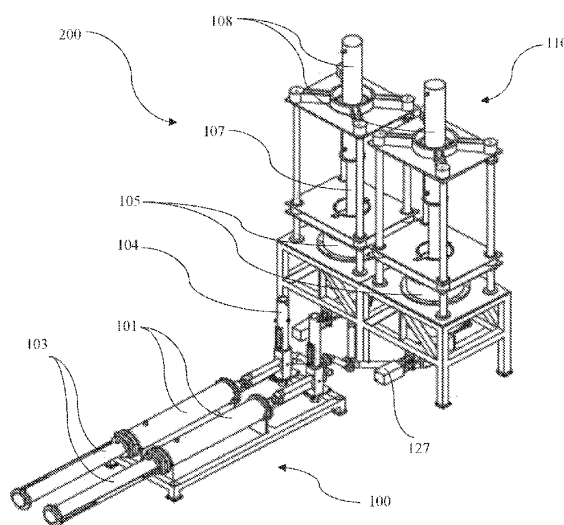


Figure. 1

(57) Abstract: The present disclosure discloses a pumping system for a three-dimensional printing system. The pumping system includes a pump assembly and a primer arrangement fluidly connected to each, other. The pump assembly includes a plurality of pumping cylinders encasing a first piston coupled to at least one first actuator. The primer arrangement includes at least one primer chamber for holding print material and in fluid communication with each of the plurality of pumping cylinders. Tire at least one primer chamber includes a second piston coupled to a second actuator. Further, the pumping system include one or sensors configured to generate an input signal corresponding to position of the first and second actuator. Additionally, the pumping system includes a control unit. The control unit is configured to operate valves associated with the plurality of pumping cylinders, based on the input signal from the one or more sensors to initiate loading cycle in one of the pumping cylinder and simultaneously pumping cycle in another pumping cylinder.

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