

Box III Text of the abstract

Provided is a syringe pump system comprising a half-nut assembly, wherein the half-nut assembly comprises two pivotally-coupled half-nuts which can engage with a lead screw upon actuation of a linear cam. The syringe pump system further comprises a plunger head assembly coupled to the half-nut assembly to drive a plunger of a syringe into a barrel of the syringe. This system would enable monitoring fluid pressure within the syringe barrel and controls discharge amount, thus mitigating any occlusion conditions.