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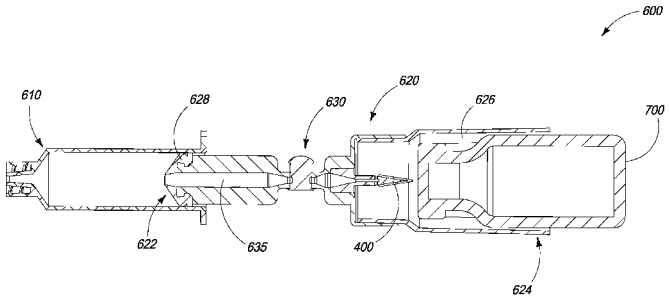


FIG. 5

(57) Abstract: Syringe assemblies are provided that can include a valve within a plunger having a fluid channel extending longitudinally therethrough and along the channel, the valve including a piston extending substantially normally to the channel and configured to slidably engage the plunger along the extension. Syringe assemblies can also include: a syringe barrel having a first cross sectional diameter; a syringe piston configured to operatively couple with the barrel; a fluid channel extending the length of the piston; a vial port extending from an end of the piston, the vial port having a second cross sectional diameter, the second diameter being greater than the first diameter. Methods for controlling fluid along a fluid channel within a syringe plunger are also provided. The methods can include extending a piston in one direction normally to the fluid channel to provide fluid communication between two sections of the fluid channel.

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