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Klippenstein

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(54) **SINGLE-USE PNEUMATIC SAFETY SYRINGE PROVIDING GAS-DRIVEN NEEDLE RETRACTION**

(58) **Field of Classification Search**
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See application file for complete search history.

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(57) **ABSTRACT**

A pneumatic retractable syringe has a plunger having an interior retraction lumen. The plunger and syringe barrel have cooperating locking elements so that the plunger is locked after use within the syringe barrel. After injection of medication is completed, the needle is retracted into the lumen by compressed gas that is released from a gas cell within the syringe when the gas cell is ruptured just before the plunger reaches the end of its downstream path of travel.

20 Claims, 13 Drawing Sheets

