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Kriheli et al.

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(54) **CLOSED DRUG TRANSFER SYSTEM**

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CPC ***A61J 1/2013*** (2015.05); ***A61J 1/2051*** (2015.05); ***A61J 1/2072*** (2015.05); ***A61J 1/2096*** (2013.01); *A61M 5/162* (2013.01)

(58) **Field of Classification Search**
CPC A61J 1/145; A61J 1/2096; A61J 1/2037
See application file for complete search history.

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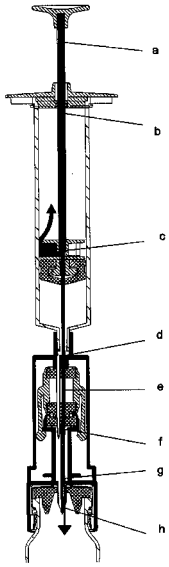
(57) **ABSTRACT**

The application describes innovative designs for components of a drug transfer apparatus that overcome problems encountered in daily use of prior art apparatuses. Specifically described are components configured to prevent liquid from entering the air chamber of syringes coupled to the apparatus and to prevent tearing of the rubber stopper of drug vials when they are attached to the apparatus.

17 Claims, 36 Drawing Sheets