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Jepson et al.

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(54) **PRE-SLIT INJECTION SITE AND TAPERED CANNULA**

FOREIGN PATENT DOCUMENTS

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(21) Appl. No.: **09/907,234**

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(65) **Prior Publication Data**

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Components for IV. infusion and blood transfusion sets (patient-side terminals) Undated (1980-1986); pp. PF0358, PF0241, PF0392, PF0218.

Related U.S. Application Data

Travenol Nutrition Products, 1982 pp. BX 77331, 77533-BX 77534.

(63) Continuation of application No. 09/181,975, filed on Oct. 29, 1998, now Pat. No. 6,261,266, which is a continuation of application No. 08/695,040, filed on Aug. 9, 1996, now Pat. No. 5,899,888, which is a continuation of application No. 07/325,617, filed on Mar. 17, 1989, now abandoned, which is a continuation-in-part of application No. 07/217,004, filed on Jul. 8, 1988, now abandoned, which is a continuation-in-part of application No. 07/147,414, filed on Jan. 25, 1988, now abandoned.

Schematic Drawing of Automix (Undated), pp. BX 77314.

(List continued on next page.)

- (51) **Int. Cl.⁷** **A61M 5/28**
- (52) **U.S. Cl.** **604/201; 604/905**
- (58) **Field of Search** **604/189, 523, 604/533-539, 905, 164, 174, 256; 137/223**

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(57) **ABSTRACT**

A pre-slit injection site (34) includes a housing (40) with a flow path therethrough. A first end (42) of the housing (40) carries a pre-slit septum (52). One form of a blunt cannula (98), usable with the injection site (34), carries a locking member (100). When the pre-slit injection site (34) slidably receives the blunt cannula (98), the locking member (100) latches to the injection site (34) and creates a mechanically coupled unit. Another form of the cannula (280) includes a tube having a tapered distal end region (298) and having elongate discharge slots (294) for reducing contact surface area and for directing the flow laterally out of the cannula. The cannula may also include a rounded lead post (330), an annular barb (394), and axially oriented grooves (268).

(List continued on next page.)

24 Claims, 16 Drawing Sheets

