



US006997908B2

(12) **United States Patent**  
**Carrillo, Jr. et al.**

(10) **Patent No.:** **US 6,997,908 B2**  
(45) **Date of Patent:** **\*Feb. 14, 2006**

(54) **RAPID EXCHANGE CATHETER WITH  
DETACHABLE HOOD**

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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 257 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **10/327,379**

(22) Filed: **Dec. 20, 2002**

(65) **Prior Publication Data**

US 2003/0088153 A1 May 8, 2003

**Related U.S. Application Data**

(63) Continuation of application No. 09/519,649, filed on Mar. 6, 2000, now Pat. No. 6,520,951, which is a continuation-in-part of application No. 09/312,340, filed on May 14, 1999, now Pat. No. 6,346,093, which is a continuation-in-part of application No. 09/080,520, filed on May 18, 1998, now Pat. No. 6,096,009, which is a continuation-in-part of application No. 08/926,200, filed on Sep. 9, 1997, now Pat. No. 6,007,522.

(60) Provisional application No. 60/025,235, filed on Sep. 13, 1996.

(51) **Int. Cl.**

*A61M 5/178* (2006.01)

(52) **U.S. Cl.** ..... **604/167.06**; 604/164.03

(58) **Field of Classification Search** ..... 604/165.01, 604/165.02, 165.04, 164.13, 523, 533; 600/585; 607/507, 508, 510, 514, 516

See application file for complete search history.

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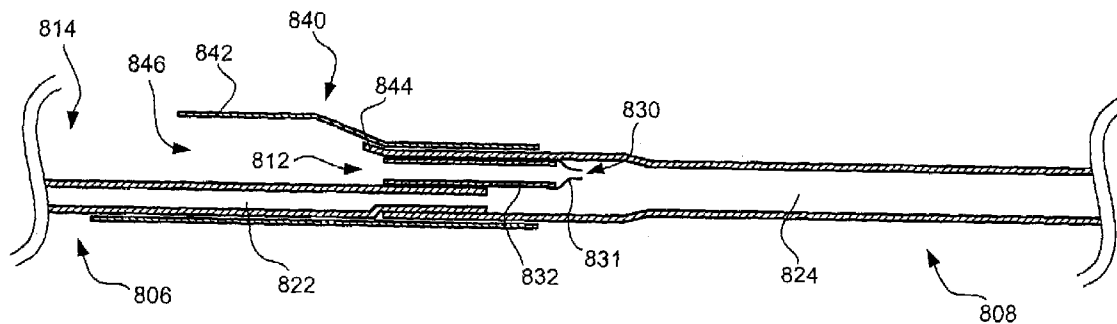
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(57) **ABSTRACT**

A single operator exchange biliary catheter having a common distal lumen. The biliary catheter includes an elongate shaft having a proximal portion defining an ancillary lumen and a distal portion defining a common guidewire and ancillary lumen. The common distal lumen reduces the profile of the distal portion of the shaft. The elongate shaft also includes a proximal guidewire port disposed between the proximal end of the shaft and the distal end of the shaft to facilitate single operator use. A seal may be disposed adjacent the proximal guidewire port to thereby seal the port. Preferably, the shaft includes a single lumen distal portion and a bi-lumen proximal portion. The single lumen distal portion of the shaft may be curved and may include a tapered or spherically shaped distal tip.

**20 Claims, 34 Drawing Sheets**



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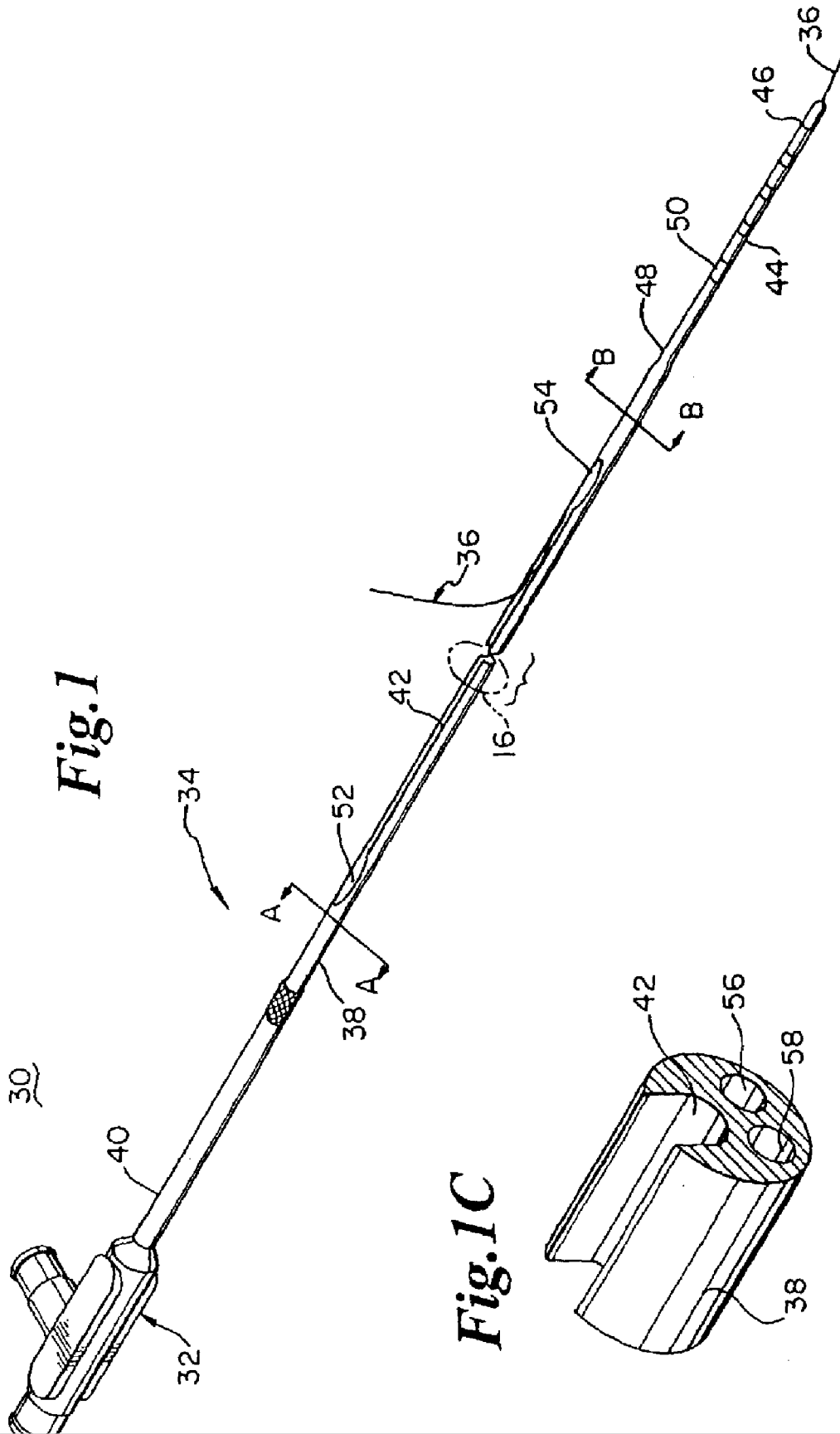
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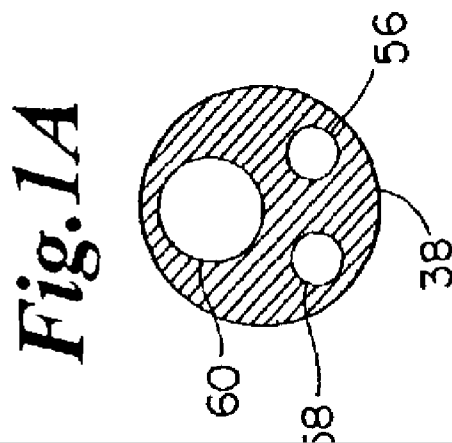
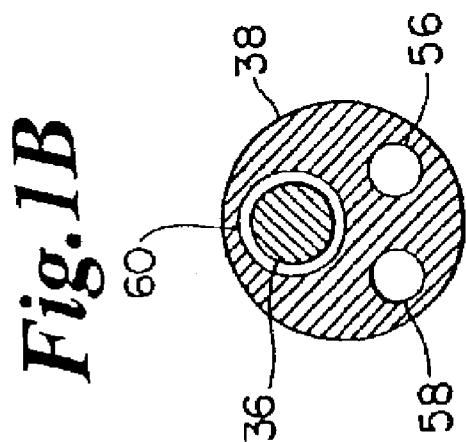
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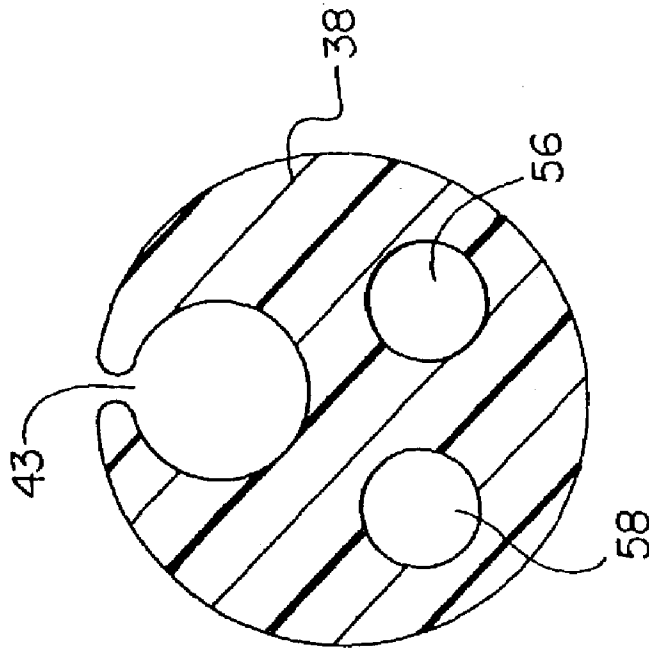
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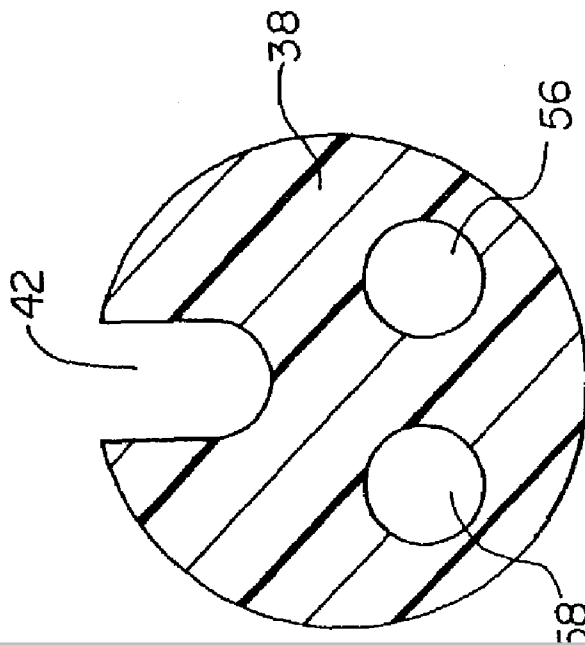




*Fig. 1E*



*Fig. 1D*



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