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(54) Title: **BALLOON-ANCHORED BIOPSY DEVICE**

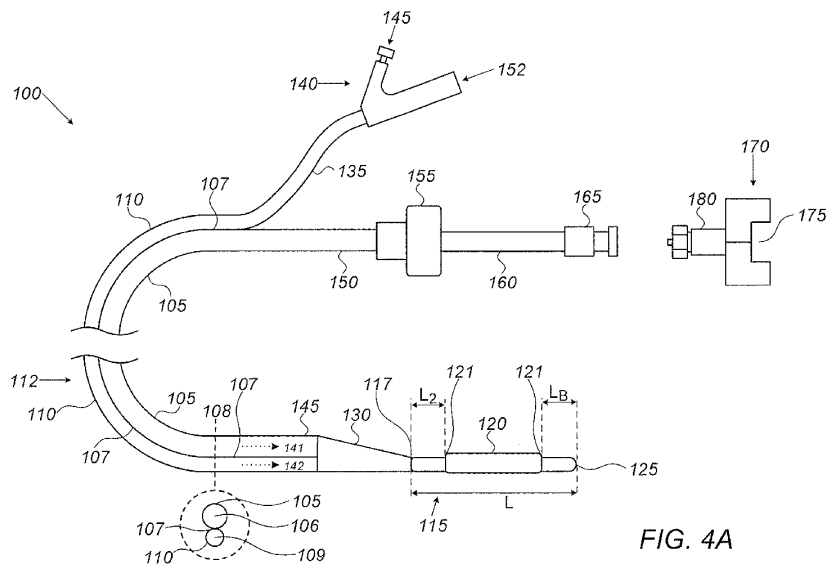


FIG. 4A

(57) Abstract: A balloon-anchored, biopsy device includes a first elongated tube, a second elongated tube, and a flexible biopsy needle. A section of the first elongated tube near the distal tip may include a balloon for insertion into a blood vessel that when inflated, anchors the section in the blood vessel near a biopsy site. The second elongated tube includes a beveled distal exit of a second lumen, which may be positioned at the biopsy site when the first elongated tube is anchored in the blood vessel by the inflated balloon. The flexible biopsy needle is configured to exit the beveled distal exit for penetration into tissue at the biopsy site at a predefined angle between a longitudinal axis of the section of the first elongated tube and a longitudinal axis of the flexible biopsy needle, and to acquire a biopsy sample of the target organ at the biopsy site.

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