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(54) Title: DIRECTIONAL BALLOON TRANSSEPTAL INSERTION DEVICE FOR MEDICAL PROCEDURES WITH IM-
PROVED TRANSSEPTAL PUNCTURE SYSTEM WITH PUNCTURE MEMBER BALLOON SEAL

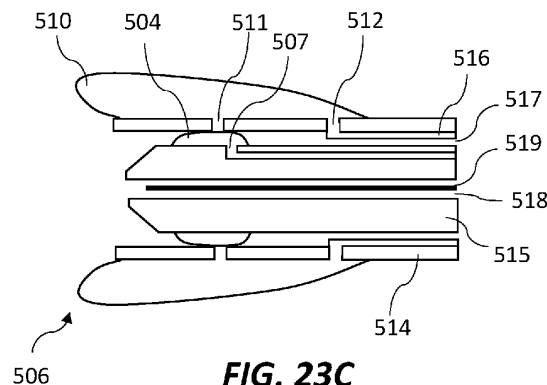


FIG. 23C

(57) Abstract: The disclosed invention provides a transseptal insertion device which is suitable for facilitating precise and safe transsep-
tal puncture of a cardiac interatrial septum. The transseptal insertion device includes a sheath that defines at least one lumen therein,
one or more positioning balloons that are connected to a distal end of the sheath, a puncture member movably positioned within the at
least one lumen, and a puncture member balloon located on the puncture member. The sheath has one or more deflation ports to deflate
the one or more positioning balloons. The puncture member balloon, when inflated, is capable of sealing the one or more deflation ports
in the sheath, permitting the inflation of the one or more positioning balloons. When the puncture member moves toward fossa ovalis,
the inflated puncture member balloon moves away from the deflation ports, allowing the positioning balloons to be deflated.

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