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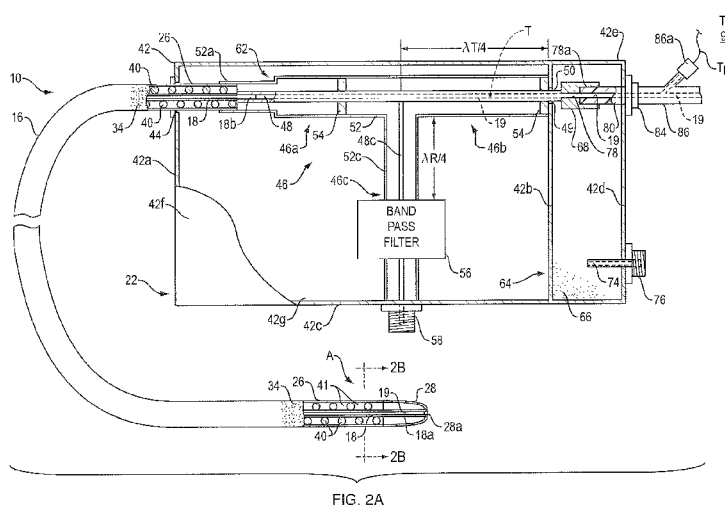


FIG. 2A

(57) Abstract: Catheter apparatus comprises a coaxial cable having proximal and distal ends. The cable includes a hollow center conductor, an outer conductor and an electrically insulating layer between the conductors. An antenna is at the distal end of the cable, and a diplexer is connected to the cable, the diplexer including a transmit path for connecting the antenna to a transmitter which transmits first frequency signals and a receive path for connecting the antenna to a receiver which detects second frequency signals the diplexer isolating the signals on the two paths from one another. A transmission line connects the cable to the diplexer, the transmission line having a segment with a tubular inner conductor one end of which is connected to the center conductor and a second end of which is adapted for connection to a coolant source, the center and inner conductors forming a continuous coolant pathway.