



[54] BALLOON CATHETER WITH DISTAL GUIDE WIRE LUMEN

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[58] Field of Search 606/192, 194; 604/95-103, 282, 204

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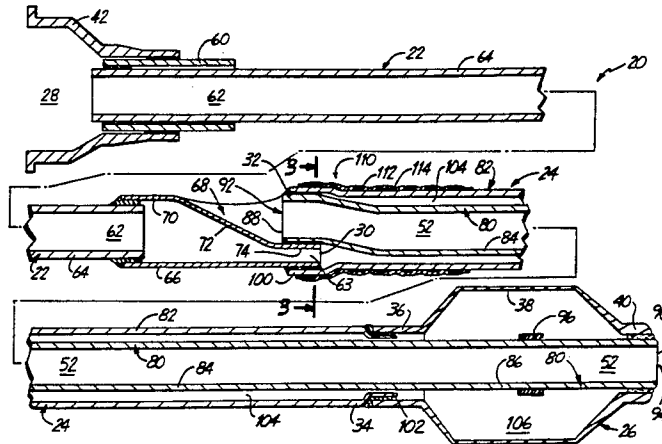
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[57] ABSTRACT

An over-the-wire balloon dilatation catheter has a stainless steel hypotube catheter shaft, an intermediate sleeve section bonded to the shaft and a distal balloon section connected to the sleeve section. The sleeve section is formed from relatively flexible polymer materials and includes an inner core tube which defines a guide wire lumen extending only through a distal portion of the catheter (including its sleeve and balloon sections) to facilitate fast balloon catheter exchanges. A distal end of the hypotube shaft is crimped laterally and the core tube is nested and bonded within the crimp to provide a proximal outlet for the guide wire lumen. The hypotube shaft provides an inflation lumen for the balloon, with the inflation lumen being continued as an annular inflation lumen through the sleeve section where an outer sleeve is bonded about the core tube and extends from the distal end of the hypotube shaft to the balloon section. A kink-resistant coil structure extends distally from the distal end of the hypotube shaft to provide a gradual change in stiffness along the length of the catheter from the relatively stiff hypotube shaft to the relatively flexible distal portion of the catheter.

56 Claims, 6 Drawing Sheets



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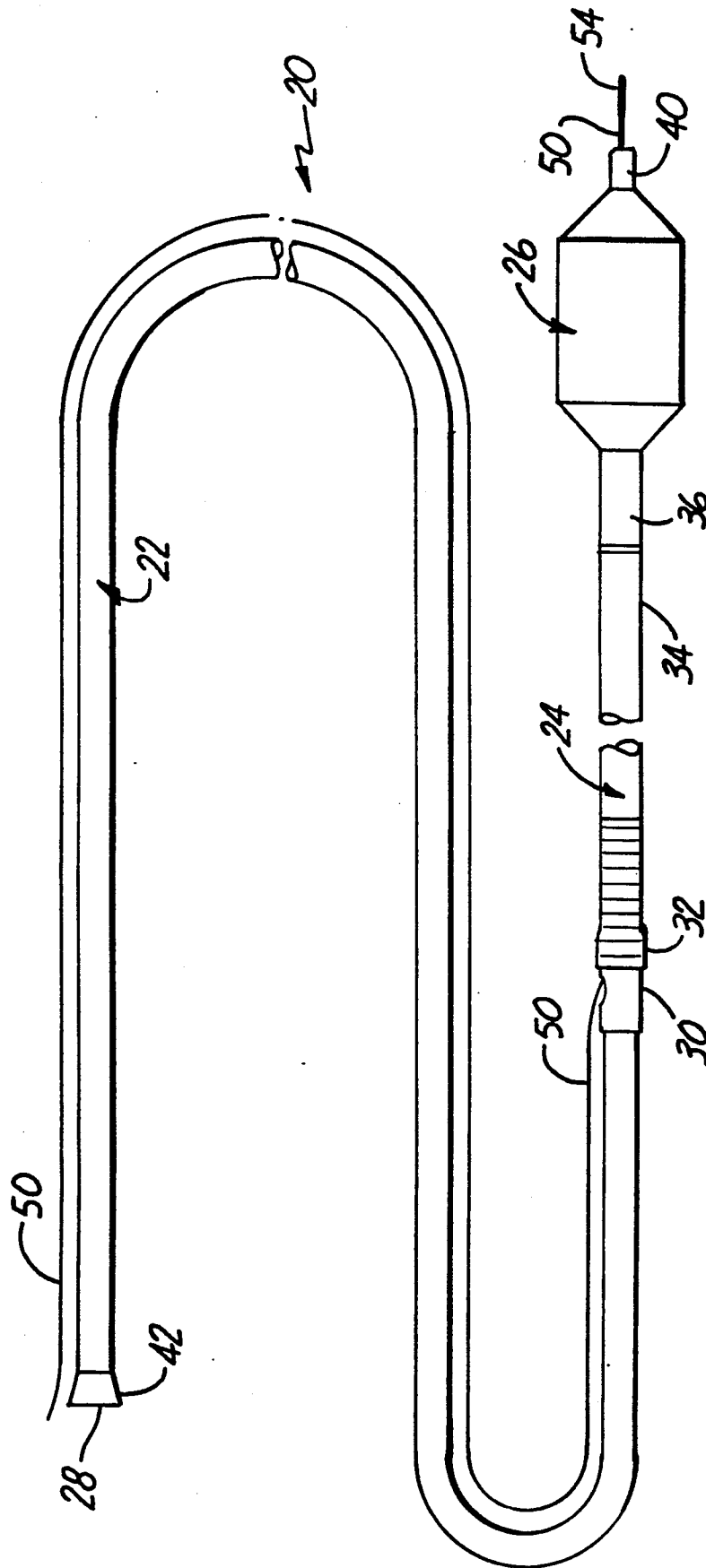
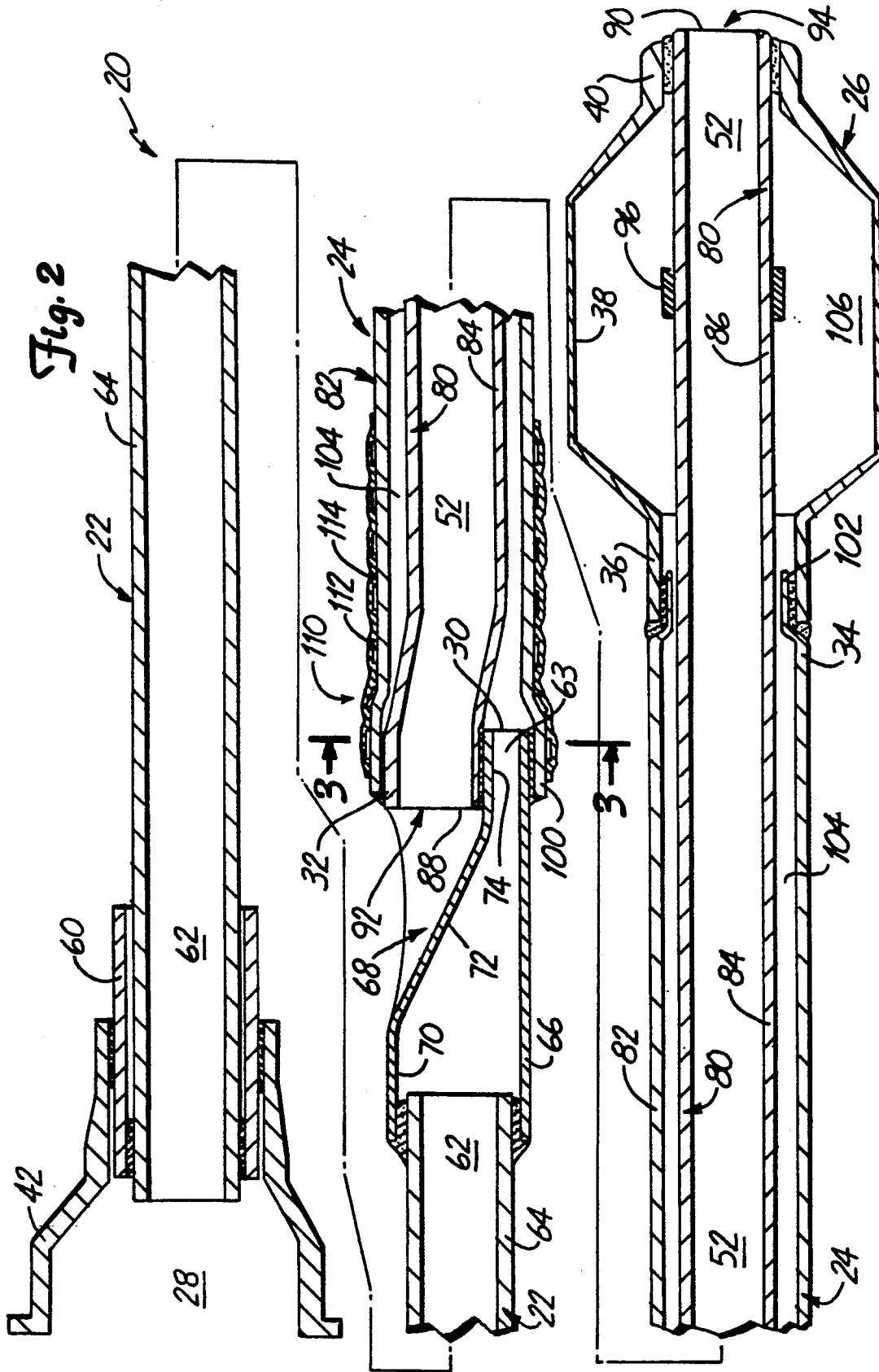


Fig. 1



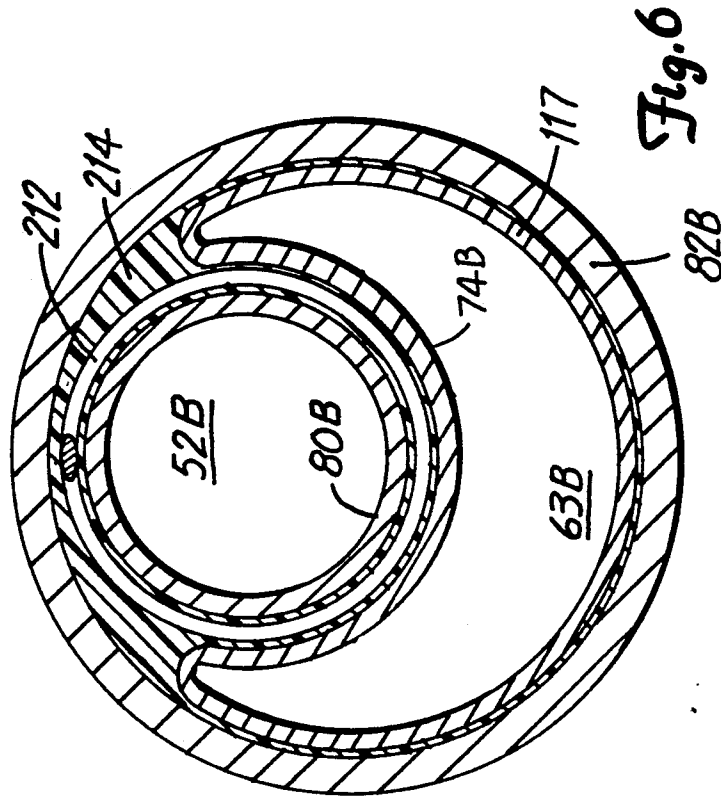


Fig. 6

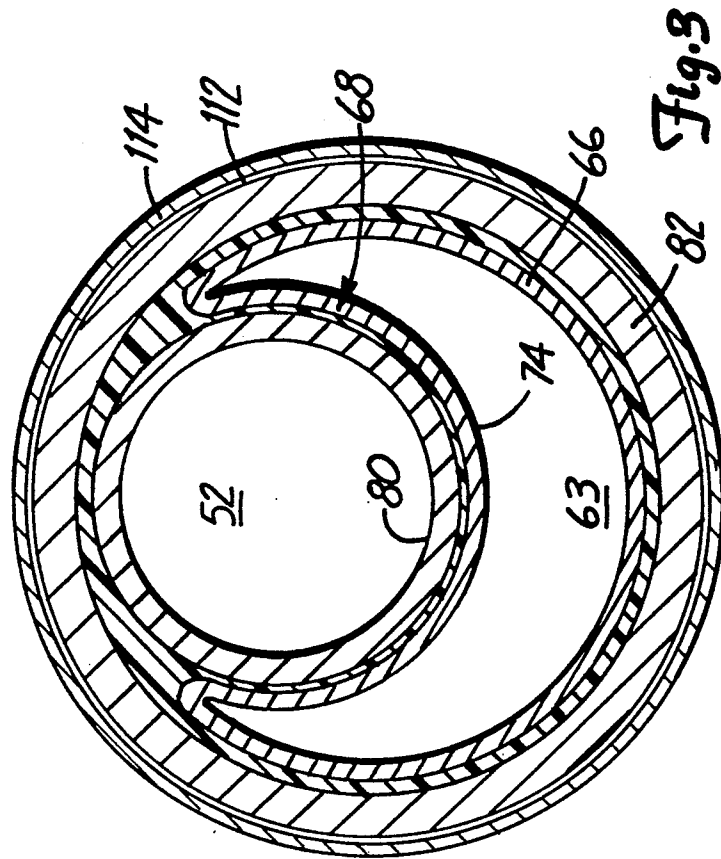


Fig. 9

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