United States Patent [19]

Rupp et al.

[54] **THICKENED INNER LUMEN FOR UNIFORM STENT EXPANSION AND METHOD OF MAKING**

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[52] U.S. Cl. **604/96**; 606/194

[58] Field of Search 604/96, 103, 171, 604/280, 282, 273, 104; 128/658; 606/192, 194, 195, 108

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[57] **ABSTRACT**

An intravascular catheter system for implanting a radially expandable stent within a body vessel including a catheter comprising an inner lumen tube, an inflation lumen tube, an inflatable balloon and at least one free standing built-up layer affixed to the outer diameter of the inner lumen tube, the built-up layer being internal to the balloon. A stent is mounted coaxially upon the balloon, the built-up layer extends coaxially within the stent but does not extend beyond the proximal and distal ends of the stent. The built-up layer is sufficiently thick as to cause the balloon to expand evenly and the stent to deploy uniformly. The method of manufacturing the built-up layer includes forming the layer from shrink wrap tubing or alternatively forming the layer from molded ultraviolet light curing adhesive.
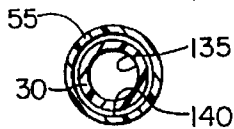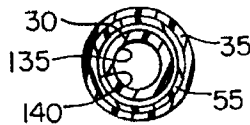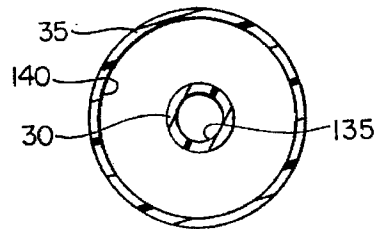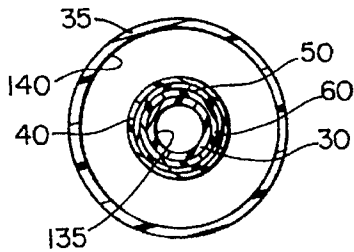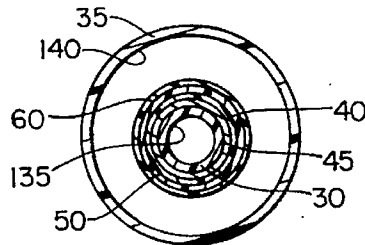
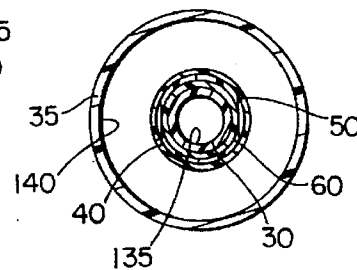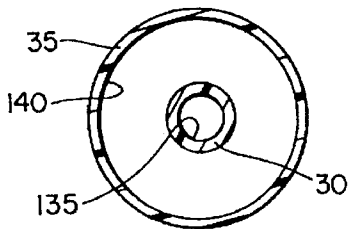**17 Claims, 5 Drawing Sheets**
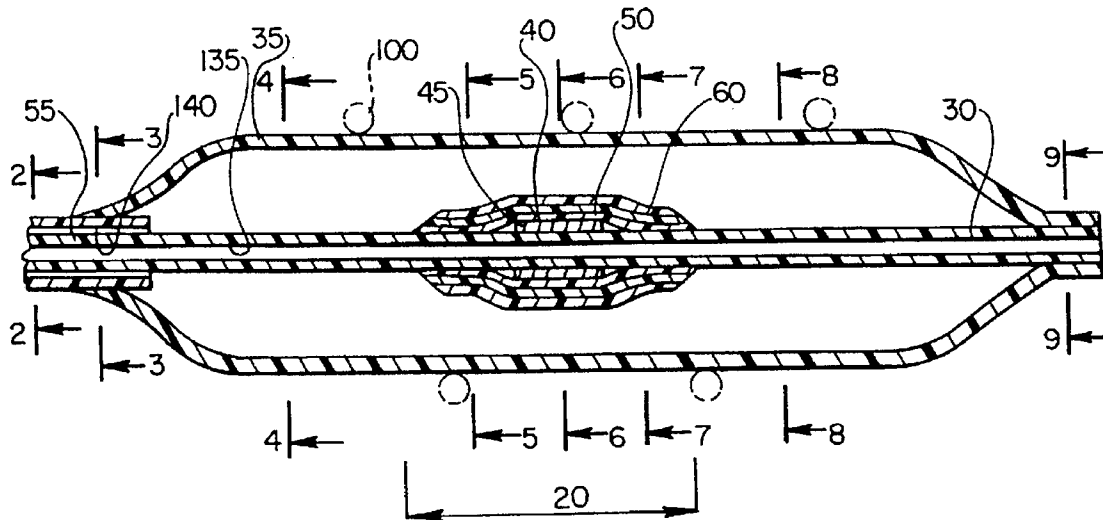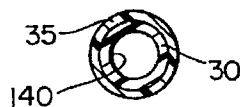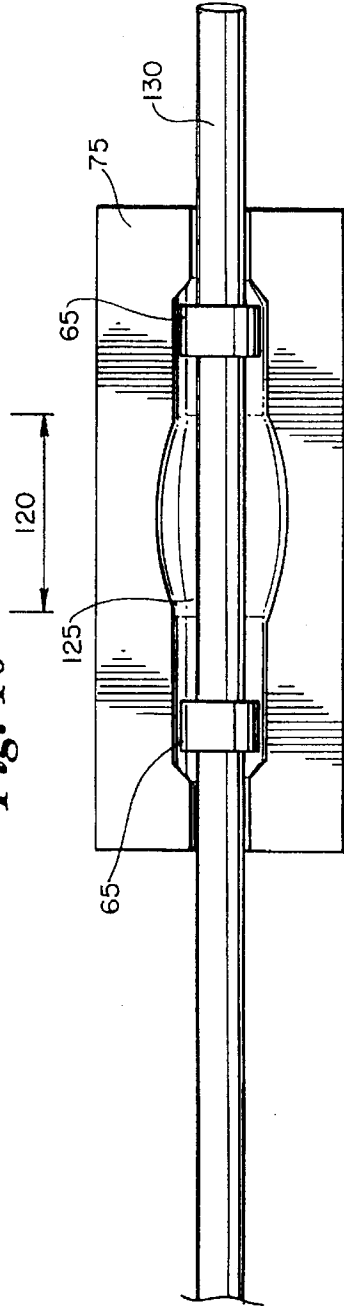
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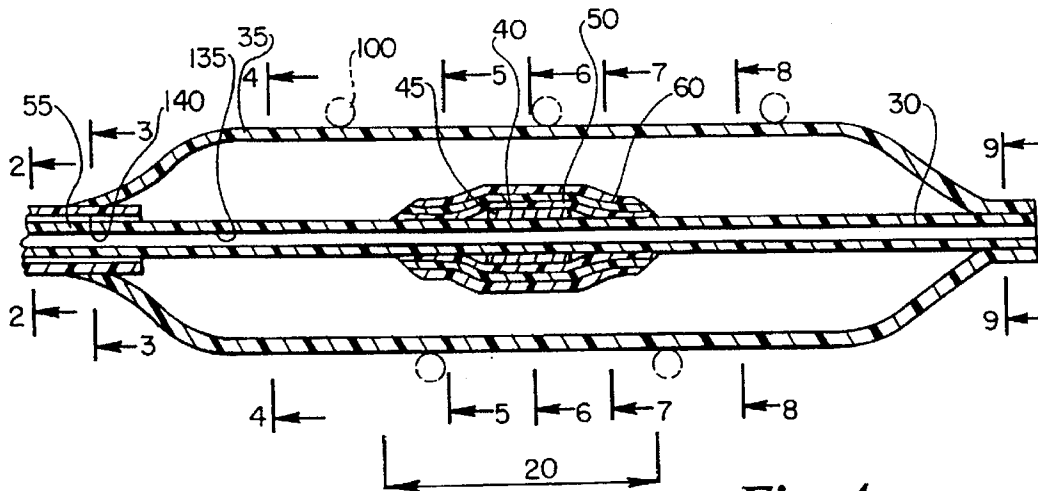
Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 8
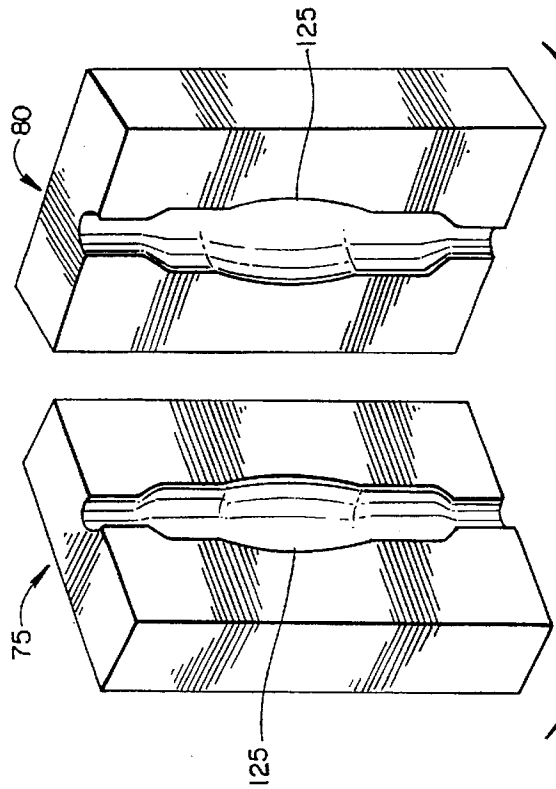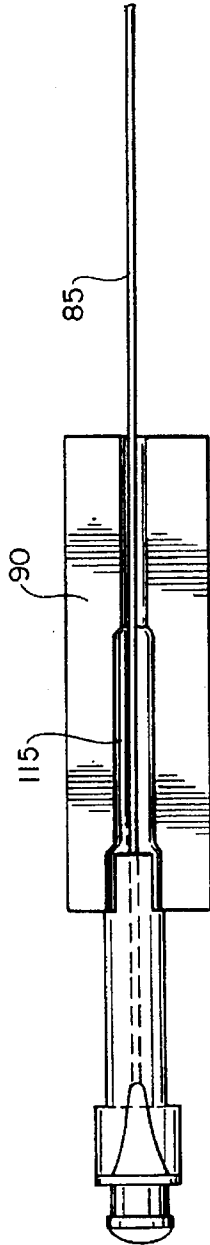

Fig. 9

Fig. 10

Fig. 11

Fig. 12

Fig. 13

Fig. 14

Fig. 15

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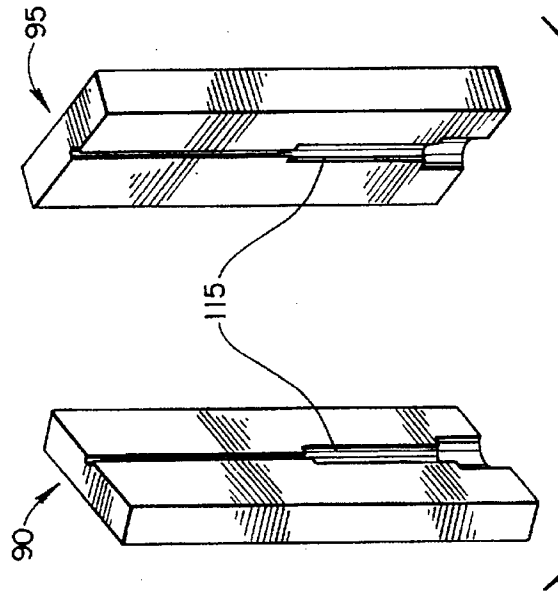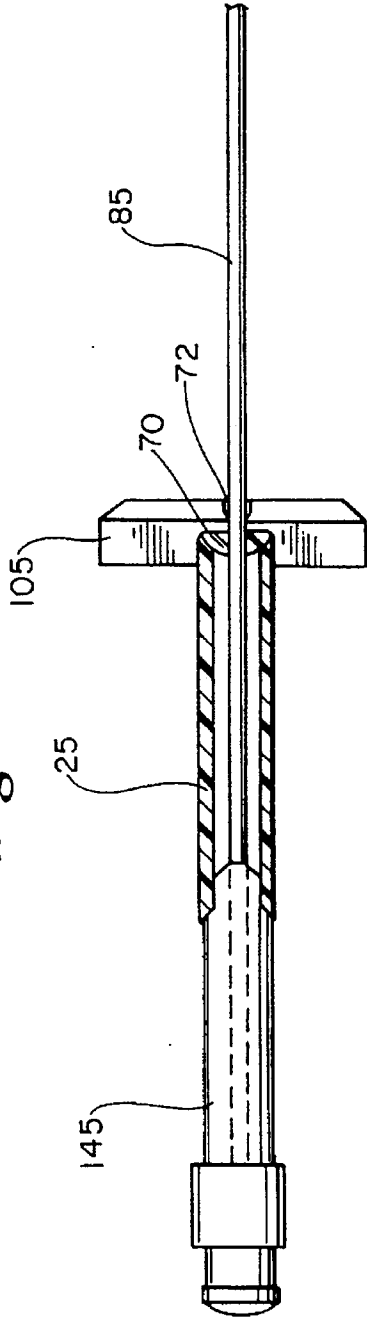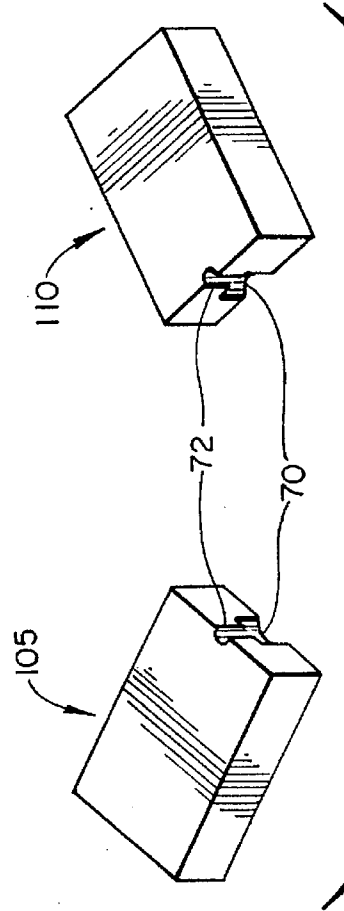
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