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United States Patent [19]

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Lau et al.

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[54] **METHOD AND SYSTEM FOR STENT DELIVERY**

[75] Inventors: **Lilip Lau, Cupertino; William M. Hartigan, Fremont, both of Calif.**

[73] Assignee: **Advanced Cardiovascular Systems, Inc., Santa Clara, Calif.**

[21] Appl. No.: **735,195**

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Related U.S. Application Data

[63] Continuation of Ser. No. 514,108, Apr. 25, 1990, abandoned.

[51] Int. Cl.⁵ **A61M 29/00**

[52] U.S. Cl. **604/96; 604/164**

[58] Field of Search **604/164-167, 604/96-104, 280, 282**

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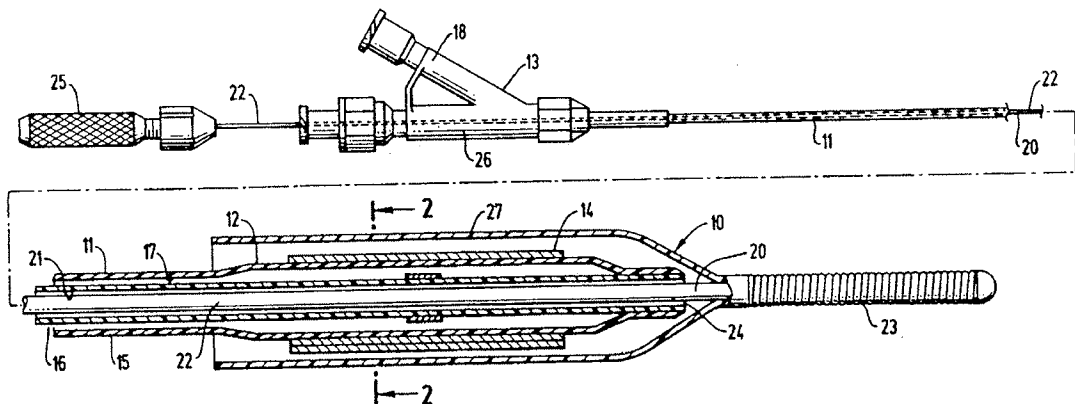
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Primary Examiner—John D. Yasko

[57] ABSTRACT

A stent delivery system having an expandable stent in a contracted condition positioned on an expandable member, such as an inflatable balloon, disposed on the distal portion of an elongated catheter body. A guidewire extends through an inner lumen within the elongated catheter body and out its distal end. A tubular protective sheath is secured by its distal end to the portion of the guidewire which extends out of the distal end of the catheter body and fits over the rolled up stent mounted on the expandable member on the distal end of the catheter body. The catheter assembly is advanced to a desired location within a patient's body lumen, such as the patient's arterial system, with the sheath in place over the stent. Once in proper position, the guidewire is advanced distally in order to remove the attached sheath and completely expose the stent. The expandable member on the catheter is expanded to expand the stent. The stent is preferably self-locking in the expanded condition so that the expanded expandable member can be contracted and the catheter can be removed therefrom.

15 Claims, 6 Drawing Sheets



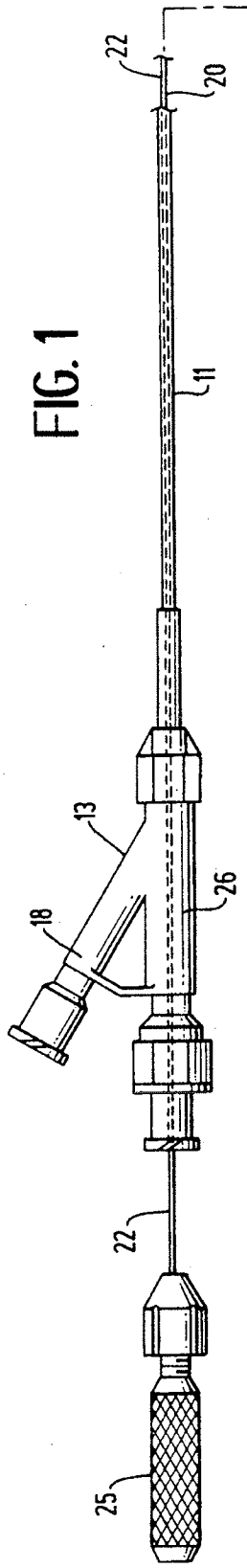


FIG. 1

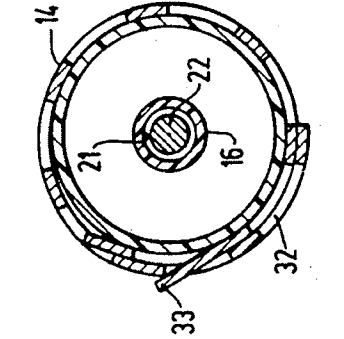
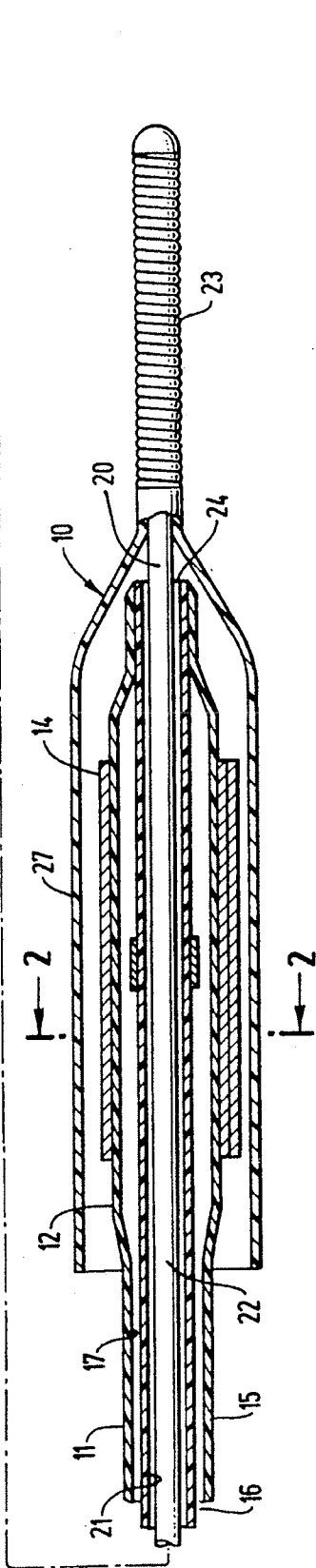


FIG. 3

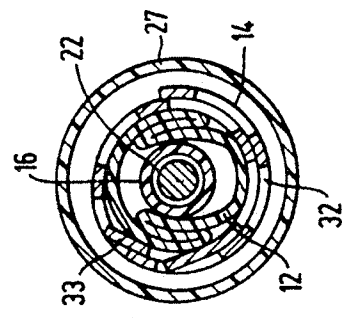
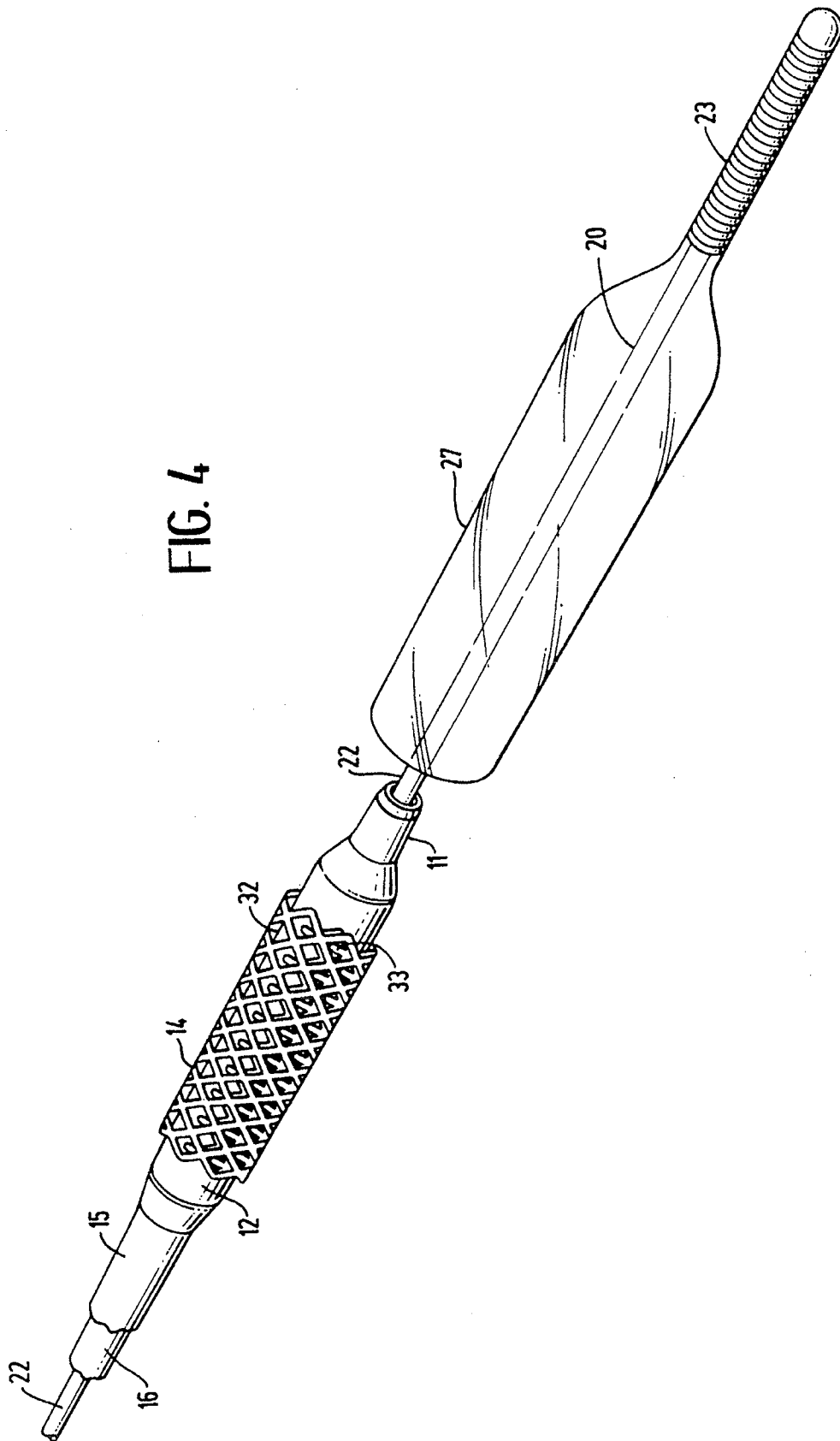


FIG. 2

FIG. 4



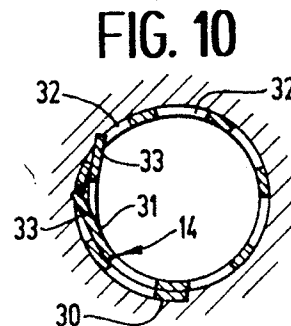
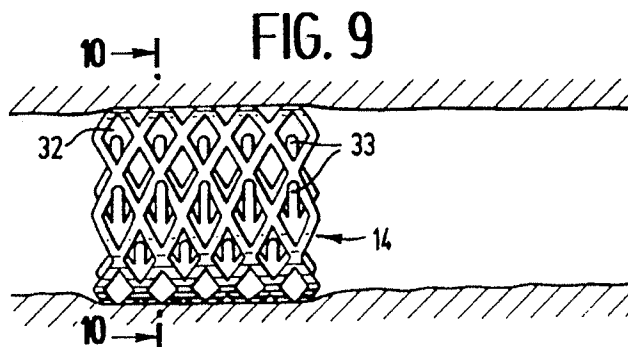
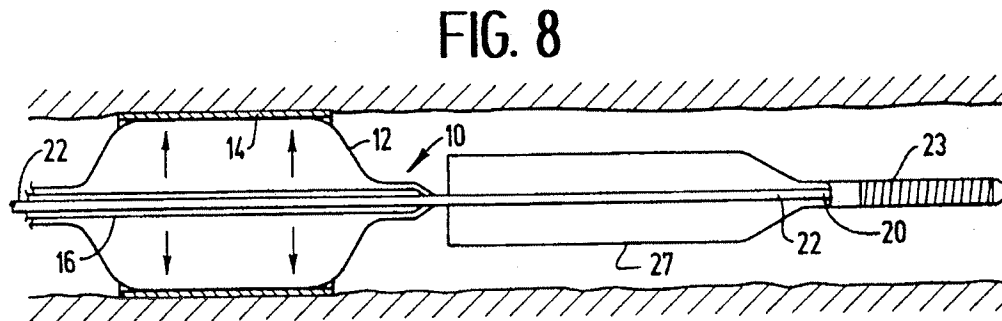
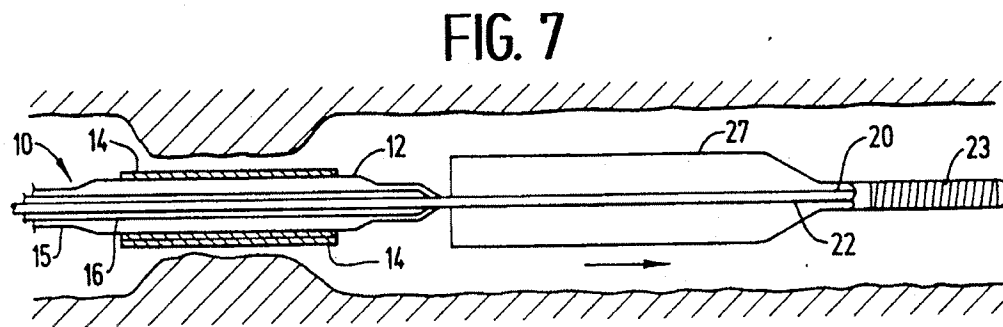
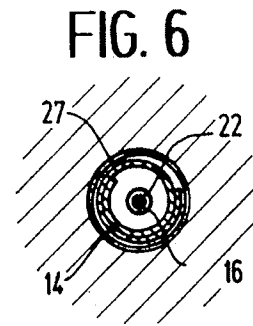
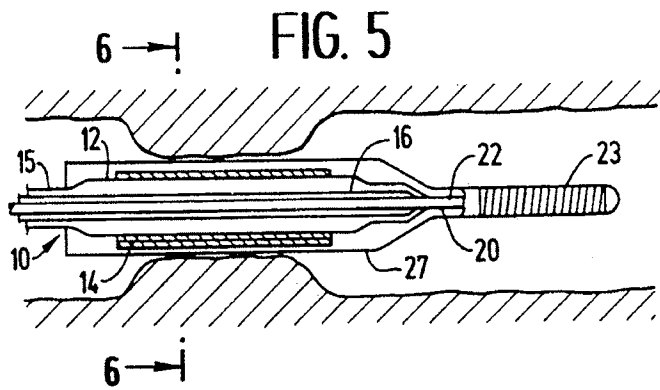


FIG. 11

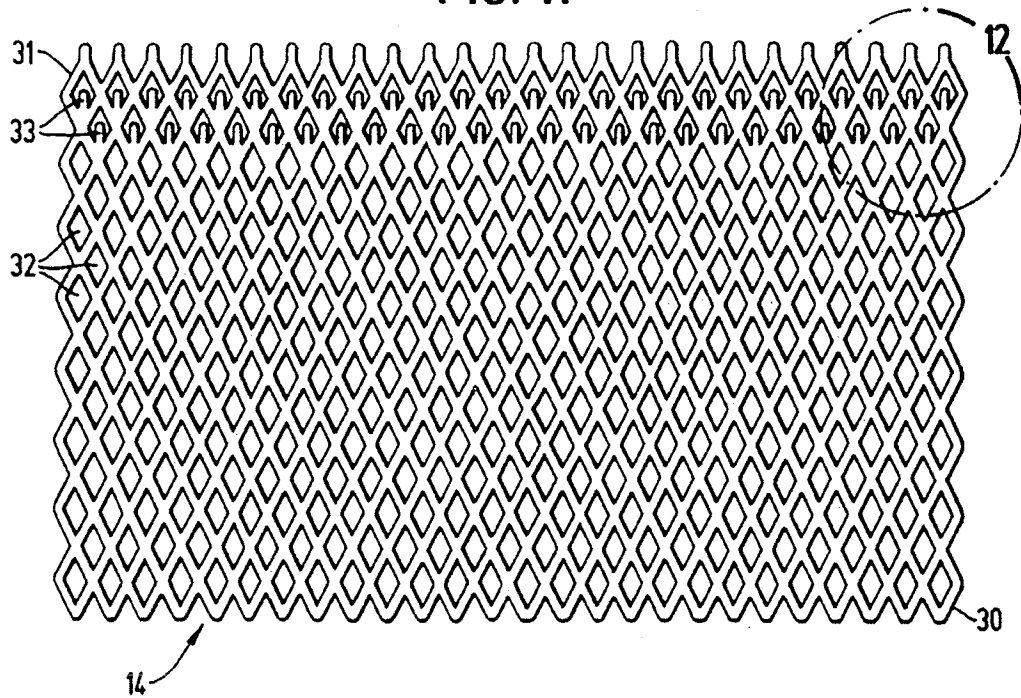
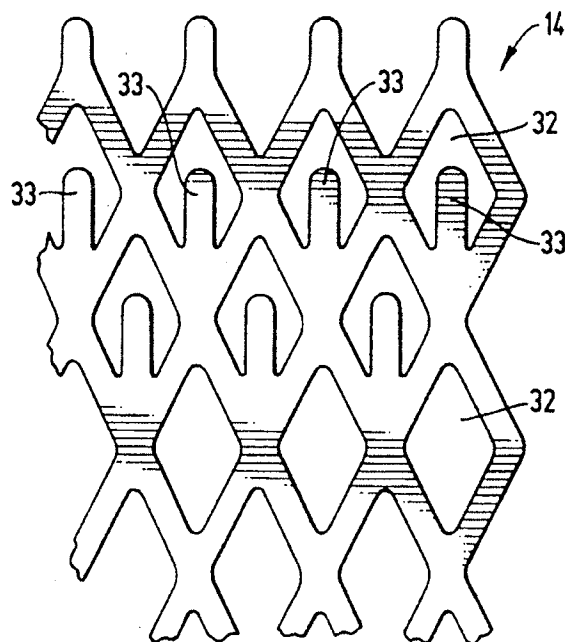


FIG. 12



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