

CLAIMS

1. A delivery apparatus for a medical device implant comprising:
an outer catheter;
a flexible delivery catheter;
wherein the outer catheter comprises an axially extending shaft and a first lumen extending co-axially through the axially extending shaft.
2. The delivery apparatus of claim 1, wherein the flexible delivery catheter comprises an elongate shaft having a flexible section extending along a distal portion of the elongate shaft.
3. The delivery apparatus of claim 2, wherein the elongate shaft further comprises a relatively more rigid section located adjacent and proximal to the flexible section.
4. The delivery apparatus of any one of claim 2 or claim 3, wherein the flexible delivery catheter further comprises a second lumen that extends the length of the elongate shaft.
5. The delivery apparatus of any one of claims 2 or 3, wherein the flexible section of the elongate shaft can be positioned or adjusted between a first, delivery configuration and a second, activated configuration.
6. The delivery apparatus of claim 5, wherein in the delivery configuration, the flexible section is substantially straight.

7. The delivery apparatus of claim 5, wherein in the activated configuration, the delivery catheter forms a helically curved portion.

8. The delivery apparatus of claim 7, wherein the helically curved portion comprises a proximal section that curves radially away from the elongate shaft in a plane that is substantially perpendicular to the elongate shaft.

9. The delivery apparatus of claim 7 or 8, wherein the helically curved portion comprises a distal tip portion that is angled downwardly away from the plane of the proximal section.

10. The delivery apparatus of any one of claims 1 to 9, wherein the delivery catheter further comprises a pull wire.

11. The delivery apparatus of claim 10, wherein the elongate shaft comprises a centrally disposed and axially extending second lumen, and the pull wire extends co-axially through the second lumen of the elongate shaft.

12. The delivery apparatus of claim 11, wherein a distal end of the pull wire is fixedly secured or attached to the distal end of the elongate shaft.

13. The delivery apparatus of claim 1, wherein the elongate shaft comprises a plurality of axial sections, the plurality of axial sections comprising a relatively more rigid section located adjacent and proximal to a flexible section extending along a distal portion of the elongate shaft.

14. The delivery apparatus of claim 13, wherein the flexible section comprises a first plurality of circumferentially extending, axially spaced slots on a first side of the elongate shaft and a plurality of diagonally or generally helically extending slots on a second, opposing side of the elongate shaft.

15. The delivery apparatus of claim 14, wherein the circumferential slots are axially spaced apart from each other.

16. The delivery apparatus of claim 14 or claim 15, wherein the circumferential slots are angularly offset from each other.

17. The delivery apparatus of any one of claims 14 to 16, wherein the circumferential slots are spaced relative to each other in a spiral or helical configuration.

18. The delivery apparatus of any one of claims 14 to 17, wherein the diagonally extending slots extend axially and circumferentially in a helical shape.

19. The delivery apparatus of any one of claims 14 to 18, wherein the circumferential slots are generally diametrically opposed to the diagonally extending slots.

20. The delivery apparatus of any one of claims 14 to 19, wherein the flexible section further comprises a second plurality of circumferential slots and a third plurality of circumferential slots, which are positioned proximally relative to the first plurality of circumferential slots and the diagonally extending slots.