

What is claimed is:

1. An implantable prosthetic device comprising:
 - a coaption portion;
 - an anchor portion comprising a plurality of paddles, the paddles having an outer and inner portion and being extendable from a folded closed position to an open position; and
 - a clasp attached to each of the plurality of paddles, the clasp comprising:
 - a fixed arm attached to the inner portion of the paddle;
 - a moveable arm having a barbed portion; and
 - a hinge portion hingeably connecting the fixed arm to the moveable arm;wherein the moveable arm is substantially parallel to the fixed arm when the clasp is in a closed position.
2. The implantable prosthetic device according to claim 1, wherein the clasp is formed from a top layer and a bottom layer, the top and bottom layers formed of shape memory material.
3. The implantable prosthetic device according to claim 2, wherein the top and bottom layers are only joined in one location to allow the top and bottom layers to slide relative to one another during opening of the clasp.
4. The implantable prosthetic device according to claim 3, wherein the top and bottom layers are joined at an end of the moveable arm.
5. The implantable prosthetic device according to claims 2–4, wherein the barbed portion includes barbs and barb supports, and wherein the barbs are formed from the bottom layer and the barb supports are formed from the top layer.
6. The implantable prosthetic device according to claims 2–4, wherein the barbed portion includes barbs and barb supports, and wherein the barbs are formed from the top layer and the barb supports are formed from the bottom layer.

7. The implantable prosthetic device according to any of the above claims, wherein:
 - the moveable arm comprises two side beams; and
 - the hinge portion comprises two beam loops, each beam loop comprising:
 - a center portion extending from the fixed arm; and
 - an outer portion extending from the center portion to one of the two side beams of the moveable arm.
8. The implantable prosthetic device according to any of the above claims, wherein ends of the fixed and moveable arms adjacent to the hinge portion are offset from each other by an offset distance.
9. The implantable prosthetic device according to any of the above claims, wherein the clasp is formed from shape memory material and the fixed and moveable arms are shape set in a preloading position so that a pinch force exists between the fixed and moveable arms when the fixed arm is approximately parallel with the moveable arm.
10. The implantable prosthetic device according to any of claims 8–9, wherein the fixed arm is bent in the closing direction beyond the closed position to the preloading position.
11. The implantable prosthetic device according to claim 9, wherein the fixed arm is bent in the closing direction to about 45 degrees beyond the closed position to the preloading position.
12. The implantable prosthetic device according to claim 9, wherein the fixed arm is bent in the closing direction to about 90 degrees beyond the closed position to the preloading position.
13. The implantable prosthetic device according to claim 9, wherein after shape setting, the fixed arm is prohibited from returning to the preloading position by a cross-member.
14. The implantable prosthetic device according to claim 13, wherein the cross-member is an integral cross-member.

15. The implantable prosthetic device according to any of the above claims, wherein a plastic limit of the material of the clasp is not exceeded when the moveable arm is opened to a fully open position about 140 degrees from the fixed arm.
16. The implantable prosthetic device according to claim 1, wherein the clasp is formed from a shape memory material having a thick portion and a thin portion.
17. The implantable prosthetic device according to claim 16, wherein the clasp is formed from a plurality of layers having thick and thin portions.
18. The implantable prosthetic device according to claim 17, wherein the plurality of layers are laminated across the width of the clasp.
19. The implantable prosthetic device according to any of claims 16–18, wherein barbs are formed in at least two of the plurality of layers.
20. The implantable prosthetic device according to any of the above claims, wherein barbs of the barbed portion are tapered in the direction of the length of the clasp.
21. The implantable prosthetic device according to any of the above claims, wherein the hinge portion is formed of a portion of a generally circular loop.
22. The implantable prosthetic device according to any of the above claims, wherein holes in the clasp extend across the width of the clasp.
23. An implantable prosthetic device comprising:
 - a coaption portion;
 - an anchor portion comprising a plurality of paddles, the paddles having an outer and inner portion and being extendable from a folded closed position to an open position; and
 - a clasp attached to each of the plurality of paddles, the clasp comprising:
 - a fixed arm attached to the inner portion of the paddle;
 - a moveable arm having a barbed portion; and

a hinge portion hingeably connecting the fixed arm to the moveable arm, the hinge portion comprising a plurality of spring segments, wherein each spring segment is connected to a plurality of spring segments.

24. The implantable prosthetic device according to claim 23, wherein the spring segments are torsional spring segments.

25. The implantable prosthetic device according to any of claims 23-24, wherein:

the spring segments comprise a first end and a second end; and

the first end of one spring segment is connected to at least one of the first and second end of another spring segment.

26. The implantable prosthetic device according to any of claims 23-25, wherein:

the spring segments comprise a first end, a second end, a first side, and a second side;

a first side joining location is adjacent the first end;

a first end joining location is adjacent the first side;

a second side joining location is adjacent the second end; and

a second end joining location is adjacent the second side.

27. The implantable prosthetic device according to claim 26, wherein:

the spring segments are arranged into a plurality of rows and at least one column;

the first or second ends of spring segments proximate a side edge of the clasp are joined to one other spring segment; and

the first or second ends of spring segments proximate an adjacent column are joined to at least one other spring segment.

28. The implantable prosthetic device according to any of claims 23-27, wherein:
- the spring segments are arranged in a pattern having three columns and seven rows of spring segments.
29. The implantable prosthetic device according to any of any of claims 23-28, wherein the clasp is formed from a top layer and a bottom layer, the top and bottom layers formed of shape memory material.
30. The implantable prosthetic device according to claim 29, wherein the top and bottom layers are only joined in one location to allow the top and bottom layers to slide relative to one another during opening of the clasp.
31. The implantable prosthetic device according to any of any of claims 23-30, wherein the clasp is formed from shape memory material and the fixed and moveable arms are shape set in a preloading position so that a pinch force exists between the fixed and moveable arms when the fixed arm is approximately parallel with the moveable arm.
32. The implantable prosthetic device according to claim 31, wherein the fixed arm is bent in the closing direction beyond the closed position to the preloading position.
33. The implantable prosthetic device according to claim 32, wherein the fixed arm is bent in the closing direction to about 45 degrees beyond the closed position to the preloading position.
34. The implantable prosthetic device according to claim 32, wherein the fixed arm is bent in the closing direction to about 90 degrees beyond the closed position to the preloading position.
35. The implantable prosthetic device according to claim 32, wherein after shape setting, the fixed arm is prohibited from returning to the preloading position by a cross-member.
36. The implantable prosthetic device according to claim 35, wherein the cross-member is an integral cross-member.

37. The implantable prosthetic device according to any of claims 23-36, wherein a plastic limit of the material of the clasp is not exceeded when the moveable arm is opened to a fully open position about 140 degrees from the fixed arm.
38. The implantable prosthetic device according to any of claims 23-37, wherein the clasp is formed from a shape memory material having a thick portion and a thin portion.
39. The implantable prosthetic device according to claim 29, wherein barbs are formed in both the top and bottom layer.
40. The implantable prosthetic device according to any of claims 23-39, wherein barbs of the barbed portion are tapered in the direction of the length of the clasp.
41. The implantable prosthetic device according to any of claims 23-40, wherein the barbs of the barbed portion end in a point.
42. A clasp for an implantable prosthetic device comprising:
 - a fixed arm;
 - a moveable arm having a barbed portion; and
 - a hinge portion hingeably connecting the fixed arm to the moveable arm, the hinge portion comprising a plurality of spring segments, wherein each spring segment is connected to a plurality of spring segments.
43. The clasp according to claim 42, wherein the spring segments are torsional spring segments.
44. The clasp according to any of claims 42-43, wherein:
 - the spring segments comprise a first end and a second end; and
 - the first end of one spring segment is connected to at least one of the first and second end of another spring segment.

45. The clasp according to any of claims 42-44, wherein:
- the spring segments comprise a first end, a second end, a first side, and a second side;
 - a first side joining location is adjacent the first end;
 - a first end joining location is adjacent the first side;
 - a second side joining location is adjacent the second end; and
 - a second end joining location is adjacent the second side.
46. The clasp according to claim 44, wherein:
- the spring segments are arranged into a plurality of rows and columns;
 - the first or second ends of spring segments proximate a side edge of the clasp are joined to one other spring segment; and
 - the first or second ends of spring segments proximate an adjacent column are joined to at least one other spring segment.
47. The clasp according to any of claims 42–46, wherein:
- the spring segments are arranged in a pattern having three columns and seven rows of spring segments.
48. The clasp according to any of claims 42-47, wherein the clasp is formed from a top layer and a bottom layer, the top and bottom layers formed of shape memory material.
49. The clasp according to claim 48, wherein the top and bottom layers are only joined in one location to allow the top and bottom layers to slide relative to one another during opening of the clasp.
50. The clasp according to any of claims 42–49 wherein the clasp is formed from shape memory material and the fixed and moveable arms are shape set in a preloading position so that a pinch force exists between the fixed and moveable arms when the fixed arm is approximately parallel with the moveable arm.

51. The clasp according to claim 50, wherein the fixed arm is bent in the closing direction beyond the closed position to the preloading position.
52. The clasp according to claim 51, wherein the fixed arm is bent in the closing direction to about 45 degrees beyond the closed position to the preloading position.
53. The clasp according to claim 51, wherein the fixed arm is bent in the closing direction to about 90 degrees beyond the closed position to the preloading position.
54. The clasp according to claim 51, wherein after shape setting, the fixed arm is prohibited from returning to the preloading position by a cross-member.
55. The clasp according to claim 54, wherein the cross-member is an integral cross-member.
56. The clasp according to claims 42-55, wherein a plastic limit of the material of the clasp is not exceeded when the moveable arm is opened to a fully open position about 140 degrees from the fixed arm.
57. The clasp according to claim 42, wherein the clasp is formed from a shape memory material having a thick portion and a thin portion.
58. The clasp according to claim 48, wherein barbs are formed in at least two of the plurality of layers.
59. The clasp according to any of claims 42-58, wherein barbs of the barbed portion are tapered in the direction of the length of the clasp.
60. The clasp according to any of claims 42-59, wherein the barbs of the barbed portion end in a point.
61. An implantable prosthetic device comprising:

a coaption portion;

an anchor portion comprising a plurality of paddles, the paddles having an outer and inner portion and being extendable from a folded closed position to an open position; and

a clasp attached to each of the plurality of paddles, the clasp having a concave upper surface and a convex lower surface, the clasp comprising:

a fixed arm attached to the inner portion of the paddle;

a moveable arm having a barbed portion; and

a hinge portion hingeably connecting the fixed arm to the moveable arm.

62. The implantable prosthetic device according to claim 61, wherein the hinge portion comprises a plurality of spring segments, wherein each spring segment is connected to a plurality of spring segments.

63. The implantable prosthetic device according to claim 62, wherein the spring segments are torsional spring segments.

64. The implantable prosthetic device according to any of claims 62–63, wherein:

the spring segments comprise a first end and a second end; and

the first end of one spring segment is connected to at least one of the first and second end of another spring segment.

65. The implantable prosthetic device according to any of claims 62–64, wherein:

the spring segments comprise a first end, a second end, a first side, and a second side;

a first side joining location is adjacent the first end;

a first end joining location is adjacent the first side;

a second side joining location is adjacent the second end; and

a second end joining location is adjacent the second side.

66. The implantable prosthetic device according to claim 64, wherein:

the spring segments are arranged into a plurality of rows and columns;

the first or second ends of spring segments proximate a side edge of the clasp are joined to one other spring segment; and

the first or second ends of spring segments proximate an adjacent column are joined to at least one other spring segment.

67. The implantable prosthetic device according to any of claims 62–66, wherein:

the spring segments are arranged in a pattern having three columns and seven rows of spring segments.

68. The implantable prosthetic device according to any of the above claims, wherein the clasp is formed from a top layer and a bottom layer, the top and bottom layers formed of shape memory material.

69. The implantable prosthetic device according to claim 68, wherein the top and bottom layers are only joined in one location to allow the top and bottom layers to slide relative to one another during opening of the clasp.

70. The implantable prosthetic device according to any of claims 61-69, wherein the clasp is formed from shape memory material and the fixed and moveable arms are shape set in a preloading position so that a pinch force exists between the fixed and moveable arms when the fixed arm is approximately parallel with the moveable arm.

71. The implantable prosthetic device according to claim 70, wherein the fixed arm is bent in the closing direction beyond the closed position to the preloading position.

72. The implantable prosthetic device according to claim 71, wherein the fixed arm is bent in the closing direction to about 45 degrees beyond the closed position to the preloading position.

73. The implantable prosthetic device according to claim 71, wherein the fixed arm is bent in the closing direction to about 90 degrees beyond the closed position to the preloading position.
74. The implantable prosthetic device according to claim 71, wherein after shape setting, the fixed arm is prohibited from returning to the preloading position by a cross-member.
75. The implantable prosthetic device according to claim 74, wherein the cross-member is an integral cross-member.
76. The implantable prosthetic device according to any of claims 61-75, wherein a plastic limit of the material of the clasp is not exceeded when the moveable arm is opened to a fully open position about 140 degrees from the fixed arm.
77. The implantable prosthetic device according to claim 61, wherein the clasp is formed from a shape memory material having a thick portion and a thin portion.
78. The implantable prosthetic device according to claim 68, wherein barbs are formed in at least two of the plurality of layers.
79. The implantable prosthetic device according to any of claims 61-78, wherein barbs of the barbed portion are tapered in the direction of the length of the clasp.
80. The implantable prosthetic device according to any of claims 61-69, wherein the barbs of the barbed portion end in a point.
81. The implantable prosthetic device according to any of claims 61-80, wherein the clasp is cut from a tubular piece of material.
82. The implantable prosthetic device according to claim 81, wherein the clasp is cut with a 4-axis laser cutter.
83. The implantable prosthetic device according to any of claims 61-82, wherein the clasp is cut with a 5-axis laser cutter.

84. The implantable prosthetic device according to any of claims 61-69, wherein barbs of the barbed portion have a beveled edge.
85. A clasp for an implantable prosthetic device comprising:
- a fixed arm having a concave surface along a length of the fixed arm;
 - a moveable arm having a concave surface along a length of the moveable arm and a barbed portion;
 - wherein the concave surface of the fixed arm faces the concave surface of the movable arm when the clasp is in a closed position;
 - a hinge portion hingeably connecting the fixed arm to the moveable arm that biases the clasp to the closed position.
86. The clasp according to claim 85, wherein:
- spring segments are arranged into a plurality of rows and columns;
 - the first or second ends of spring segments proximate a side edge of the clasp are joined to one other spring segment; and
 - the first or second ends of spring segments proximate an adjacent column are joined to at least one other spring segment.
87. An implantable prosthetic device comprising:
- a coaption portion;
 - an anchor portion comprising a plurality of paddles, the paddles having an outer and inner portion and being extendable from a folded closed position to an open position; and
 - a clasp attached to each of the plurality of paddles, the clasp comprising:
 - a fixed arm attached to the inner portion of the paddle;

a hoop-shaped moveable arm extending from a first end to a second end and having a barbed portion; and

a hinge portion hingeably connecting the fixed arm to the moveable arm.

88. The implantable prosthetic device according to claim 87, wherein drawing the clasp into a delivery sheath causes the hoop-shaped moveable arm to collapse.
89. The implantable prosthetic device according to any of claims 87-88, wherein actuating an actuation suture causes the hoop-shaped moveable arm to collapse laterally.
90. The implantable prosthetic device according to claim 87, wherein the hinge portion comprises a plurality of spring segments, wherein each spring segment is connected to a plurality of spring segments.
91. The implantable prosthetic device according to claim 90, wherein the spring segments are torsional spring segments.
92. The implantable prosthetic device according to any of claims 90–91, wherein:

the spring segments comprise a first end and a second end; and

the first end of one spring segment is connected to at least one of the first and second end of another spring segment.
93. The implantable prosthetic device according to any of claims 90–92, wherein:

the spring segments comprise a first end, a second end, a first side, and a second side;

a first side joining location is adjacent the first end;

a first end joining location is adjacent the first side;

a second side joining location is adjacent the second end; and

a second end joining location is adjacent the second side.

94. The implantable prosthetic device according to claim 93, wherein:
- the spring segments are arranged into a plurality of rows and columns;
 - the first or second ends of spring segments proximate a side edge of the clasp are joined to one other spring segment; and
 - the first or second ends of spring segments proximate an adjacent column are joined to at least one other spring segment.
95. The implantable prosthetic device according to any of claims 90–94, wherein:
- the spring segments are arranged in a pattern having three columns and seven rows of spring segments.
96. The implantable prosthetic device according to claim 87, wherein the clasp is formed from a shape memory material having a thick portion and a thin portion.
97. The implantable prosthetic device according to any of claims 92-93, wherein barbs of the barbed portion are tapered in the direction of the length of the clasp.
98. A clasp comprising:
- a fixed arm;
 - a hoop-shaped moveable arm extending from a first end to a second end and having a barbed portion;
 - a hinge portion hingeably connecting the fixed arm to the moveable arm.
99. The clasp according to claim 98, wherein withdrawing the clasp into a delivery sheath causes the hoop-shaped moveable arm to collapse.
100. The clasp according to any of claims 98-99, wherein actuating an actuation suture causes the hoop-shaped moveable arm to collapse laterally.

101. The clasp according to claim 98, wherein the hinge portion comprises a plurality of spring segments, wherein each spring segment is connected to a plurality of spring segments.
102. The clasp according to claim 101, wherein the spring segments are torsional spring segments.
103. The clasp according to any of claims 101–102, wherein:
- the spring segments comprise a first end and a second end; and
- the first end of one spring segment is connected to at least one of the first and second end of another spring segment.
104. The clasp according to any of claims 101–103, wherein:
- the spring segments comprise a first end, a second end, a first side, and a second side;
- a first side joining location is adjacent the first end;
- a first end joining location is adjacent the first side;
- a second side joining location is adjacent the second end; and
- a second end joining location is adjacent the second side.
105. The clasp according to claim 104, wherein:
- the spring segments are arranged into a plurality of rows and columns;
- the first or second ends of spring segments proximate a side edge of the clasp are joined to one other spring segment; and
- the first or second ends of spring segments proximate an adjacent column are joined to at least one other spring segment.
106. The clasp according to any of claims 101–105, wherein:

the spring segments are arranged in a pattern having three columns and seven rows of spring segments.

107. The clasp according to claim 101, wherein the fixed arm is bent in a closing direction to about 45 degrees beyond a closed position to a preloading position.
108. The clasp according to claim 101, wherein the fixed arm is bent in a closing direction to about 90 degrees beyond a closed position to a preloading position.
109. The clasp according to claim 101, wherein after shape setting, the fixed arm is prohibited from returning to a preloading position by a cross-member.
110. The clasp according to claim 109, wherein the cross-member is an integral cross-member.
111. The clasp according to claim 98, wherein the clasp is formed from a shape memory material having a thick portion and a thin portion.
112. An implantable prosthetic device comprising:
 - a coaption portion;
 - an anchor portion comprising a plurality of paddles, the paddles having an outer and inner portion and being extendable from a folded closed position to an open position; and
 - a clasp attached to each of the plurality of paddles, the clasp comprising:
 - a fixed arm attached to the inner portion of the paddle;
 - a plurality of moveable arms each having a barbed portion; and
 - a plurality of hinge portions hingeably connecting the fixed arm to the plurality of moveable arms.
113. The implantable prosthetic device according to claim 112, wherein the moveable arms are bent to form the hinge portions.

114. The implantable prosthetic device according to any of claims 112-113, wherein the moveable arms include a twisted portion.
115. The implantable prosthetic device according to any of claims 112-114, wherein the clasp is cut from a flat piece of material and the moveable arms are bent and twisted before shape setting so that the barbs are substantially perpendicular to the fixed arm.
116. The implantable prosthetic device according to any one of claims 112-115, wherein the clasp includes four moveable arms, each moveable arm having a hinge portion.
117. The implantable prosthetic device according to any one of claims 112-116 wherein actuating an actuation suture causes the moveable arms to collapse laterally and be gathered together.
118. The implantable prosthetic device according to claim 112, wherein the hinge portion comprises a plurality of spring segments, wherein each spring segment is connected to a plurality of spring segments.
119. The implantable prosthetic device according to claim 118, wherein the spring segments are torsional spring segments.
120. The implantable prosthetic device according to any of claims 118–119, wherein:
- the spring segments comprise a first end and a second end; and
- the first end of one spring segment is connected to at least one of the first and second end of another spring segment.
121. The implantable prosthetic device according to any of claims 118–120, wherein:
- the spring segments comprise a first end, a second end, a first side, and a second side;
- a first side joining location is adjacent the first end;

- a first end joining location is adjacent the first side;
 - a second side joining location is adjacent the second end; and
 - a second end joining location is adjacent the second side.
122. The implantable prosthetic device according to claim 120, wherein:
- the spring segments are arranged into a plurality of rows and columns;
 - the first or second ends of spring segments proximate a side edge of the clasp are joined to one other spring segment; and
 - the first or second ends of spring segments proximate an adjacent column are joined to at least one other spring segment.
123. The implantable prosthetic device according to any of claims 118–122, wherein:
- the spring segments are arranged in a pattern having three columns and seven rows of spring segments.
124. The implantable prosthetic device according to any of claims 112-113, wherein the clasp is formed from shape memory material and the fixed and moveable arms are shape set in a preloading position so that a pinch force exists between the fixed and moveable arms when the fixed arm is approximately parallel with the moveable arm.
125. The implantable prosthetic device according to claim 124, wherein the fixed arm is bent in a closing direction beyond the closed position to the preloading position.
126. The implantable prosthetic device according to claim 125, wherein the fixed arm is bent in the closing direction to about 45 degrees beyond the closed position to the preloading position.

127. The implantable prosthetic device according to claim 125, wherein the fixed arm is bent in the closing direction to about 90 degrees beyond the closed position to the preloading position.
128. The implantable prosthetic device according to claim 125, wherein after shape setting, the fixed arm is prohibited from returning to the preloading position by a cross-member.
129. The implantable prosthetic device according to claim 128, wherein the cross-member is an integral cross-member.
130. The implantable prosthetic device according to claim 112, wherein the clasp is formed from a shape memory material having a thick portion and a thin portion.
131. A clasp comprising:
 - a fixed arm;
 - a plurality of moveable arms each having a barbed portion; and
 - a plurality of hinge portions connecting the fixed arm to the plurality of moveable arms.
132. The clasp according to claim 131, wherein the moveable arms are bent to form the hinge portions.
133. The clasp according to any of claims 131–132, wherein the moveable arms each include a twisted portion.
134. The clasp according to any of claims 131-132, wherein the clasp is cut from a flat piece of material and the moveable arms are bent and twisted before shape setting so that the barbs are substantially perpendicular to the fixed arm.
135. The clasp according to any one of claims 131-134, wherein the clasp includes four moveable arms, each moveable arm having a hinge portion.

136. The clasp according to any one of claims 131-135 wherein actuating an actuation suture causes the moveable arms to collapse laterally and be gathered together.
137. The clasp according to claim 131, wherein the hinge portion comprises a plurality of spring segments, wherein each spring segment is connected to a plurality of spring segments.
138. The clasp according to claim 137, wherein the spring segments are torsional spring segments.
139. The clasp according to any of claims 137–138, wherein:
- the spring segments comprise a first end and a second end; and
- the first end of one spring segment is connected to at least one of the first and second end of another spring segment.
140. The clasp according to any of claims 137-139, wherein:
- the spring segments comprise a first end, a second end, a first side, and a second side;
- a first side joining location is adjacent the first end;
- a first end joining location is adjacent the first side;
- a second side joining location is adjacent the second end; and
- a second end joining location is adjacent the second side.
141. The clasp according to claim 139, wherein:
- the spring segments are arranged into a plurality of rows and columns;
- the first or second ends of spring segments proximate a side edge of the clasp are joined to one other spring segment; and

the first or second ends of spring segments proximate an adjacent column are joined to at least one other spring segment.

142. The clasp according to any of claims 139–141, wherein:

the spring segments are arranged in a pattern having three columns and seven rows of spring segments.

143. The clasp according to any of claims 141–142, wherein the clasp is formed from a top layer and a bottom layer, the top and bottom layers formed of shape memory material.

144. The clasp according to claim 141, wherein the top and bottom layers are only joined in one location to allow the top and bottom layers to slide relative to one another during opening of the clasp.

145. The clasp according to any of claims 141–144, wherein the clasp is formed from shape memory material and the fixed and moveable arms are shape set in a preloading position so that a pinch force exists between the fixed and moveable arms when the fixed arm is approximately parallel with the moveable arm.

146. The clasp according to claim 145, wherein the fixed arm is bent in the closing direction beyond the closed position to the preloading position.

147. The clasp according to claim 146, wherein the fixed arm is bent in the closing direction to about 45 degrees beyond the closed position to the preloading position.

148. The clasp according to claim 146, wherein the fixed arm is bent in the closing direction to about 90 degrees beyond the closed position to the preloading position.

149. The clasp according to claim 146, wherein after shape setting, the fixed arm is prohibited from returning to the preloading position by a cross-member.

150. The clasp according to claim 149, wherein the cross-member is an integral cross-member.
151. The clasp according to any of claims 131–150, wherein a plastic limit of the material of the clasp is not exceeded when the moveable arm is opened to a fully open position about 140 degrees from the fixed arm.
152. The clasp according to claim 131, wherein the clasp is formed from a shape memory material having a thick portion and a thin portion.
153. The clasp according to claim 143, wherein barbs are formed in at least two of the plurality of layers.
154. The clasp according to any of claims 131-153, wherein barbs of the barbed portion are tapered in the direction of the length of the clasp.
155. The clasp according to any of claims 131-154, wherein the barbs of the barbed portion end in a point.
156. The clasp according to any of claims 131-155, wherein the clasp is cut from a tubular piece of material.
157. An implantable prosthetic device comprising:
 - a coaption portion;
 - an anchor portion comprising a plurality of paddles, the paddles having an outer and inner portion and being extendable from a folded closed position to an open position;
 - a clasp attached to each of the plurality of paddles, the clasp comprising:
 - a fixed arm attached to the inner portion of the paddle;
 - a moveable arm having a barbed portion, a first eyelet, and a second eyelet;
 - and
 - a hinge portion hingeably connecting the fixed arm to the moveable arm;

a first intermediate suture loop attached to the first eyelet;

a second intermediate suture loop attached to the second eyelet; and

at least one actuation suture attached to the first and second intermediate suture loops.

158. The implantable prosthetic device according to claim 157, wherein the first eyelet is arranged proximate a first side of the clasp and the second eyelet is arranged proximate a second side of the clasp.
159. The implantable prosthetic device according to claim 157, further comprising a first side gap between a first side of the clasp and the first eyelet and a second side gap between the second side of the clasp and the second eyelet; wherein the first and second side gaps are less than one third a width of the clasp.
160. The implantable prosthetic device according to any of claims 157-159, wherein the first and second intermediate suture loops wrap around an end of the moveable arm.
161. The implantable prosthetic device according to any of claims 157-160, wherein the first and second intermediate suture loops extend through an opening in the moveable arm.
162. The implantable prosthetic device according to claim 157, wherein an end of the moveable arm is rounded.
163. The implantable prosthetic device according to claim 157, wherein the hinge portion comprises a plurality of spring segments, wherein each spring segment is connected to a plurality of spring segments.
164. The implantable prosthetic device according to claim 163, wherein the spring segments are torsional spring segments.
165. The implantable prosthetic device according to any of claims 163-164, wherein:

the spring segments comprise a first end and a second end; and

the first end of one spring segment is connected to at least one of the first and second end of another spring segment.

166. The implantable prosthetic device according to any of claims 163–165, wherein:

the spring segments comprise a first end, a second end, a first side, and a second side;

a first side joining location is adjacent the first end;

a first end joining location is adjacent the first side;

a second side joining location is adjacent the second end; and

a second end joining location is adjacent the second side.

167. The implantable prosthetic device according to claim 165, wherein:

the spring segments are arranged into a plurality of rows and columns;

the first or second ends of spring segments proximate a side edge of the clasp are joined to one other spring segment; and

the first or second ends of spring segments proximate an adjacent column are joined to at least one other spring segment.

168. The implantable prosthetic device according to any of claims 163–167, wherein:

the spring segments are arranged in a pattern having three columns and seven rows of spring segments.

169. The implantable prosthetic device according to any of claims 157–168, wherein the clasp is formed from a top layer and a bottom layer, the top and bottom layers formed of shape memory material.

170. The implantable prosthetic device according to claim 169, wherein the top and bottom layers are only joined in one location to allow the top and bottom layers to slide relative to one another during opening of the clasp.
171. The implantable prosthetic device according to any of claims 157-170, wherein the clasp is formed from shape memory material and the fixed and moveable arms are shape set in a preloading position so that a pinch force exists between the fixed and moveable arms when the fixed arm is approximately parallel with the moveable arm.
172. The implantable prosthetic device according to claim 171, wherein the fixed arm is bent in the closing direction beyond the closed position to the preloading position.
173. The implantable prosthetic device according to claim 172, wherein the fixed arm is bent in the closing direction to about 45 degrees beyond the closed position to the preloading position.
174. The implantable prosthetic device according to claim 172, wherein the fixed arm is bent in the closing direction to about 90 degrees beyond the closed position to the preloading position.
175. The implantable prosthetic device according to claim 172, wherein after shape setting, the fixed arm is prohibited from returning to the preloading position by a cross-member.
176. The implantable prosthetic device according to claim 175, wherein the cross-member is an integral cross-member.
177. The implantable prosthetic device according to any of claims 157-176, wherein a plastic limit of the material of the clasp is not exceeded when the moveable arm is opened to a fully open position about 140 degrees from the fixed arm.
178. The implantable prosthetic device according to claim 157, wherein the clasp is formed from a shape memory material having a thick portion and a thin portion.

179. The implantable prosthetic device according to claim 169, wherein barbs are formed in at least two of the plurality of layers.
180. The implantable prosthetic device according to any of claims 157-179, wherein barbs of the barbed portion are tapered in the direction of the length of the clasp.
181. The implantable prosthetic device according to any of claims 157-180, wherein the barbs of the barbed portion end in a point.
182. The implantable prosthetic device according to any of claims 157-176, wherein the clasp is cut from a tubular piece of material.
183. A clasp comprising:
- a fixed arm;
 - a moveable arm having a barbed portion, a first eyelet, and a second eyelet;
 - and
 - a hinge portion hingeably connecting the fixed arm to the moveable arm;
 - a first suture loop attached to the first eyelet;
 - a second suture loop attached to the second eyelet; and
 - at least one actuation suture attached to the first and second intermediate suture loops.
184. The clasp according to claim 183, wherein the first eyelet is arranged proximate a first side of the clasp and the second eyelet is arranged proximate a second side of the clasp.
185. The clasp according to claim 183, further comprising a first side gap between a first side of the clasp and the first eyelet and a second side gap between the second side of the clasp and the second eyelet; wherein the first and second side gaps are less than one third a width of the clasp.

186. The clasp according to any of claims 183-185, wherein the first and second intermediate suture loops wrap around an end of the moveable arm.
187. The clasp according to any of claims 183-186, wherein the first and second intermediate suture loops extend through an opening in the moveable arm.
188. The clasp according to claim 183, wherein an end of the moveable arm is rounded.
189. The clasp according to claim 183, wherein the hinge portion comprises a plurality of spring segments, wherein each spring segment is connected to a plurality of spring segments.
190. The clasp according to claim 189, wherein the spring segments are torsional spring segments.
191. The clasp according to any of claims 189–190, wherein:
- the spring segments comprise a first end and a second end; and
- the first end of one spring segment is connected to at least one of the first and second end of another spring segment.
192. The clasp according to any of claims 189–191, wherein:
- the spring segments comprise a first end, a second end, a first side, and a second side;
- a first side joining location is adjacent the first end;
- a first end joining location is adjacent the first side;
- a second side joining location is adjacent the second end; and
- a second end joining location is adjacent the second side.
193. The clasp according to claim 191, wherein:
- the spring segments are arranged into a plurality of rows and columns;

the first or second ends of spring segments proximate a side edge of the clasp are joined to one other spring segment; and

the first or second ends of spring segments proximate an adjacent column are joined to at least one other spring segment.

194. The clasp according to any of claims 189–193, wherein:

the spring segments are arranged in a pattern having three columns and seven rows of spring segments.

195. The clasp according to any of claims 193–194, wherein the clasp is formed from a top layer and a bottom layer, the top and bottom layers formed of shape memory material.

196. The clasp according to claim 195, wherein the top and bottom layers are only joined in one location to allow the top and bottom layers to slide relative to one another during opening of the clasp.

197. The clasp according to any of claims 183–196, wherein the clasp is formed from shape memory material and the fixed and moveable arms are shape set in a preloading position so that a pinch force exists between the fixed and moveable arms when the fixed arm is approximately parallel with the moveable arm.

198. The clasp according to claim 197, wherein the fixed arm is bent in the closing direction beyond the closed position to the preloading position.

199. The clasp according to claim 198, wherein the fixed arm is bent in the closing direction to about 45 degrees beyond the closed position to the preloading position.

200. The clasp according to claim 198, wherein the fixed arm is bent in the closing direction to about 90 degrees beyond the closed position to the preloading position.

201. The clasp according to claim 198, wherein after shape setting, the fixed arm is prohibited from returning to the preloading position by a cross-member.
202. The clasp according to claim 201, wherein the cross-member is an integral cross-member.
203. The clasp according to any of claims 183–202, wherein a plastic limit of the material of the clasp is not exceeded when the moveable arm is opened to a fully open position about 140 degrees from the fixed arm.
204. The clasp according to claim 183, wherein the clasp is formed from a shape memory material having a thick portion and a thin portion.
205. The clasp according to claim 195, wherein barbs are formed in at least two of the plurality of layers.
206. The clasp according to any of claims 183–205, wherein barbs of the barbed portion are tapered in the direction of the length of the clasp.
207. The clasp according to any of claims 183–206, wherein the barbs of the barbed portion end in a point.
208. The clasp according to any of claims 183–207, wherein the clasp is cut from a tubular piece of material.
209. The clasp according to claim 185, wherein the first and second side gaps are less than one quarter a width of the clasp.
210. An implantable prosthetic device comprising:
 - a coaption portion;
 - an anchor portion comprising a plurality of paddles, the paddles having an outer and inner portion and being extendable from a folded closed position to an open position; and
 - a clasp attached to each of the plurality of paddles, the clasp comprising:
 - a fixed arm attached to the inner portion of the paddle;

a moveable arm having a barbed portion and an end that is rounded;
and

a hinge portion hingeably connecting the fixed arm to the moveable
arm.

- 211. The implantable prosthetic device according to claim 210, wherein edges of the moveable arm are rounded.
- 212. The implantable prosthetic device according to claim 210, wherein the end of the moveable arm has a convex curved shape formed from a single radius.
- 213. The implantable prosthetic device according to claim 210, wherein the end of the moveable arm has a semi-circle shape.
- 214. The implantable prosthetic device according to claim 210, wherein the end of the moveable arm has a semi-elliptical shape.
- 215. The implantable prosthetic device according to claim 210, wherein the end of the moveable arm has a rounded triangle shape.
- 216. The implantable prosthetic device according to claim 210, wherein the hinge portion comprises a plurality of spring segments, wherein each spring segment is connected to a plurality of spring segments.
- 217. The implantable prosthetic device according to claim 216, wherein the spring segments are torsional spring segments.
- 218. The implantable prosthetic device according to any of claims 216–217, wherein:

the spring segments comprise a first end and a second end; and

the first end of one spring segment is connected to at least one of the first and second end of another spring segment.
- 219. The implantable prosthetic device according to any of claims 216–218, wherein:

the spring segments comprise a first end, a second end, a first side, and a second side;

a first side joining location is adjacent the first end;

a first end joining location is adjacent the first side;

a second side joining location is adjacent the second end; and

a second end joining location is adjacent the second side.

220. The implantable prosthetic device according to claim 218, wherein:

the spring segments are arranged into a plurality of rows and columns;

the first or second ends of spring segments proximate a side edge of the clasp are joined to one other spring segment; and

the first or second ends of spring segments proximate an adjacent column are joined to at least one other spring segment.

221. The implantable prosthetic device according to any of claims 216–220, wherein:

the spring segments are arranged in a pattern having three columns and seven rows of spring segments.

222. The implantable prosthetic device according to any of claims 210-221, wherein the clasp is formed from a top layer and a bottom layer, the top and bottom layers formed of shape memory material.

223. The implantable prosthetic device according to claim 222, wherein the top and bottom layers are only joined in one location to allow the top and bottom layers to slide relative to one another during opening of the clasp.

224. The implantable prosthetic device according to any of claims 210-223, wherein the clasp is formed from shape memory material and the fixed and moveable arms are shape set in a preloading position so that a pinch force

exists between the fixed and moveable arms when the fixed arm is approximately parallel with the moveable arm.

- 225. The implantable prosthetic device according to claim 224, wherein the fixed arm is bent in the closing direction beyond the closed position to the preloading position.
- 226. The implantable prosthetic device according to claim 225, wherein the fixed arm is bent in the closing direction to about 45 degrees beyond the closed position to the preloading position.
- 227. The implantable prosthetic device according to claim 225, wherein the fixed arm is bent in the closing direction to about 90 degrees beyond the closed position to the preloading position.
- 228. The implantable prosthetic device according to claim 225, wherein after shape setting, the fixed arm is prohibited from returning to the preloading position by a cross-member.
- 229. The implantable prosthetic device according to claim 228, wherein the cross-member is an integral cross-member.
- 230. The implantable prosthetic device according to any of claims 210-229, wherein a plastic limit of the material of the clasp is not exceeded when the moveable arm is opened to a fully open position about 140 degrees from the fixed arm.
- 231. The implantable prosthetic device according to claim 210, wherein the clasp is formed from a shape memory material having a thick portion and a thin portion.
- 232. The implantable prosthetic device according to claim 222, wherein barbs are formed in at least two of the plurality of layers.
- 233. The implantable prosthetic device according to any of claims 210-232, wherein barbs of the barbed portion are tapered in the direction of the length of the clasp.

234. The implantable prosthetic device according to any of claims 210-233, wherein the barbs of the barbed portion end in a point.
235. The implantable prosthetic device according to any of claims 210-234, wherein the clasp is cut from a tubular piece of material.
236. A clasp comprising:
- a fixed arm;
 - a moveable arm having a barbed portion and an end that is rounded; and
 - a hinge portion connecting the fixed arm to the moveable arm.
237. The clasp according to claim 236, wherein edges of the moveable arm are rounded.
238. The clasp according to claim 236, wherein the end of the moveable arm has a convex curved shape formed from a single radius.
239. The clasp according to claim 236, wherein the end of the moveable arm has a semi-circle shape.
240. The clasp according to claim 236, wherein the end of the moveable arm has a semi-elliptical shape.
241. The clasp according to claim 236, wherein the end of the moveable arm has a rounded triangle shape.
242. The clasp according to claim 236, wherein the hinge portion comprises a plurality of spring segments, wherein each spring segment is connected to a plurality of spring segments.
243. The clasp according to claim 242, wherein the spring segments are torsional spring segments.
244. The clasp according to any of claims 242–243, wherein:
- the spring segments comprise a first end and a second end; and

the first end of one spring segment is connected to at least one of the first and second end of another spring segment.

245. The clasp according to any of claims 242–244, wherein:

the spring segments comprise a first end, a second end, a first side, and a second side;

a first side joining location is adjacent the first end;

a first end joining location is adjacent the first side;

a second side joining location is adjacent the second end; and

a second end joining location is adjacent the second side.

246. The clasp according to claim 244, wherein:

the spring segments are arranged into a plurality of rows and columns;

the first or second ends of spring segments proximate a side edge of the clasp are joined to one other spring segment; and

the first or second ends of spring segments proximate an adjacent column are joined to at least one other spring segment.

247. The clasp according to any of claims 242–246, wherein:

the spring segments are arranged in a pattern having three columns and seven rows of spring segments.

248. The clasp according to any of claims 242–247, wherein the clasp is formed from a top layer and a bottom layer, the top and bottom layers formed of shape memory material.

249. The clasp according to claim 248, wherein the top and bottom layers are only joined in one location to allow the top and bottom layers to slide relative to one another during opening of the clasp.

- 250. The clasp according to any of claims 246–248, wherein the clasp is formed from shape memory material and the fixed and moveable arms are shape set in a preloading position so that a pinch force exists between the fixed and moveable arms when the fixed arm is approximately parallel with the moveable arm.
- 251. The clasp according to claim 250, wherein the fixed arm is bent in the closing direction beyond the closed position to the preloading position.
- 252. The clasp according to claim 251, wherein the fixed arm is bent in the closing direction to about 45 degrees beyond the closed position to the preloading position.
- 253. The clasp according to claim 251, wherein the fixed arm is bent in the closing direction to about 90 degrees beyond the closed position to the preloading position.
- 254. The clasp according to claim 251, wherein after shape setting, the fixed arm is prohibited from returning to the preloading position by a cross-member.
- 255. The clasp according to claim 254, wherein the cross-member is an integral cross-member.
- 256. The clasp according to any of claims 236–255, wherein a plastic limit of the material of the clasp is not exceeded when the moveable arm is opened to a fully open position about 140 degrees from the fixed arm.
- 257. The clasp according to claim 236, wherein the clasp is formed from a shape memory material having a thick portion and a thin portion.
- 258. The clasp according to claim 248, wherein barbs are formed in at least two of the plurality of layers.
- 259. The clasp according to any of claims 236–258, wherein barbs of the barbed portion are tapered in the direction of the length of the clasp.

260. The clasp according to any of claims 236-259, wherein the barbs of the barbed portion end in a point.
261. The clasp according to any of claims 236-260, wherein the clasp is cut from a tubular piece of material.
262. An implantable prosthetic device comprising:
- a coaption portion;
 - an anchor portion comprising a plurality of paddles, the paddles having an outer and inner portion and being extendable from a folded closed position to an open position; and
 - a clasp attached to each of the plurality of paddles, the clasp comprising:
 - a fixed arm attached to the inner portion of the paddle;
 - a moveable arm having a barbed portion; and
 - a hinge portion hingeably connecting the fixed arm to the moveable arm;
- wherein the device does not include catch points when the anchor portion is in the open position and the clasps are in a closed condition.
263. The implantable prosthetic device according to claim 262, wherein the device does not include any recesses having a depth greater than one third of the width of the device.
264. The implantable prosthetic device according to claim 262, wherein the hinge portion is rounded when the clasp is in the closed condition.
265. The implantable prosthetic device according to claim 262, wherein the device does not include any barb-shaped protrusions.
266. The implantable prosthetic device according to claim 262, wherein the device does not include any hook-shaped protrusions.

267. The implantable prosthetic device according to claim 262, wherein the device does not include any needle-shaped protrusions.
268. The implantable prosthetic device according to claim 262, wherein the hinge portion comprises a plurality of spring segments, wherein each spring segment is connected to a plurality of spring segments.
269. The implantable prosthetic device according to claim 268, wherein the spring segments are torsional spring segments.
270. The implantable prosthetic device according to any of claims 268–269, wherein:
- the spring segments comprise a first end and a second end; and
- the first end of one spring segment is connected to at least one of the first and second end of another spring segment.
271. The implantable prosthetic device according to any of claims 268–270, wherein:
- the spring segments comprise a first end, a second end, a first side, and a second side;
- a first side joining location is adjacent the first end;
- a first end joining location is adjacent the first side;
- a second side joining location is adjacent the second end; and
- a second end joining location is adjacent the second side.
272. The implantable prosthetic device according to claim 270, wherein:
- the spring segments are arranged into a plurality of rows and columns;
- the first or second ends of spring segments proximate a side edge of the clasp are joined to one other spring segment; and

the first or second ends of spring segments proximate an adjacent column are joined to at least one other spring segment.

273. The implantable prosthetic device according to any of claims 268–272, wherein:

the spring segments are arranged in a pattern having three columns and seven rows of spring segments.

274. The implantable prosthetic device according to any of claims 262-273, wherein the clasp is formed from a top layer and a bottom layer, the top and bottom layers formed of shape memory material.

275. The implantable prosthetic device according to claim 274, wherein the top and bottom layers are only joined in one location to allow the top and bottom layers to slide relative to one another during opening of the clasp.

276. The implantable prosthetic device according to any of claims 262-275, wherein the clasp is formed from shape memory material and the fixed and moveable arms are shape set in a preloading position so that a pinch force exists between the fixed and moveable arms when the fixed arm is approximately parallel with the moveable arm.

277. The implantable prosthetic device according to claim 276, wherein the fixed arm is bent in the closing direction beyond the closed position to the preloading position.

278. The implantable prosthetic device according to claim 277, wherein the fixed arm is bent in the closing direction to about 45 degrees beyond the closed position to the preloading position.

279. The implantable prosthetic device according to claim 277, wherein the fixed arm is bent in the closing direction to about 90 degrees beyond the closed position to the preloading position.

280. The implantable prosthetic device according to claim 277, wherein after shape setting, the fixed arm is prohibited from returning to the preloading position by a cross-member.
281. The implantable prosthetic device according to claim 280, wherein the cross-member is an integral cross-member.
282. The implantable prosthetic device according to any of claims 262-281, wherein a plastic limit of the material of the clasp is not exceeded when the moveable arm is opened to a fully open position about 140 degrees from the fixed arm.
283. The implantable prosthetic device according to claim 262, wherein the clasp is formed from a shape memory material having a thick portion and a thin portion.
284. The implantable prosthetic device according to claim 274, wherein barbs are formed in at least two of the plurality of layers.
285. The implantable prosthetic device according to any of claims 262-284, wherein barbs of the barbed portion are tapered in the direction of the length of the clasp.
286. The implantable prosthetic device according to any of claims 262-285, wherein the barbs of the barbed portion end in a point.
287. The implantable prosthetic device according to any of claims 262-286, wherein the clasp is cut from a tubular piece of material.
288. An implantable prosthetic device comprising:
- a coaption portion;
 - an anchor portion comprising a plurality of paddles, the paddles having an outer and inner portion and being extendable from a folded closed position to an open position; and
 - a clasp comprising:

a fixed arm;

a plurality of moveable arms each having a barbed portion; and

a plurality of hinge portions hingeably connecting the moveable arms to the fixed arm.

289. The implantable prosthetic device according to claim 288, wherein the clasp is formed from a top layer and a bottom layer, the top and bottom layers formed of shape memory material.
290. The implantable prosthetic device according to claim 289, wherein the top and bottom layers are only joined in one location to allow the top and bottom layers to slide relative to one another during opening of the clasp.
291. The implantable prosthetic device according to claims 289–290, wherein the barbed portion includes barbs and barb supports, and wherein the barbs are formed from the bottom layer and the barb supports are formed from the top layer.
292. The implantable prosthetic device according to claims 289–290, wherein the barbed portion includes barbs and barb supports, and wherein the barbs are formed from the top layer and the barb supports are formed from the bottom layer.
293. The implantable prosthetic device according to claim 288, wherein the hinge portion comprises a plurality of spring segments, wherein each spring segment is connected to a plurality of spring segments.
294. The implantable prosthetic device according to claim 293, wherein the spring segments are torsional spring segments.
295. The implantable prosthetic device according to any of claims 293–294, wherein:
- the spring segments comprise a first end and a second end; and

the first end of one spring segment is connected to at least one of the first and second end of another spring segment.

296. The implantable prosthetic device according to any of claims 293–295, wherein:

the spring segments comprise a first end, a second end, a first side, and a second side;

a first side joining location is adjacent the first end;

a first end joining location is adjacent the first side;

a second side joining location is adjacent the second end; and

a second end joining location is adjacent the second side.

297. The implantable prosthetic device according to claim 295, wherein:

the spring segments are arranged into a plurality of rows and columns;

the first or second ends of spring segments proximate a side edge of the clasp are joined to one other spring segment; and

the first or second ends of spring segments proximate an adjacent column are joined to at least one other spring segment.

298. The implantable prosthetic device according to any of claims 293–297, wherein:

the spring segments are arranged in a pattern having three columns and seven rows of spring segments.

299. The implantable prosthetic device according to any of claims 288–298, wherein the clasp is formed from a top layer and a bottom layer, the top and bottom layers formed of shape memory material.

- 300. The implantable prosthetic device according to claim 299, wherein the top and bottom layers are only joined in one location to allow the top and bottom layers to slide relative to one another during opening of the clasp.
- 301. The implantable prosthetic device according to any of claims 288-300, wherein the clasp is formed from shape memory material and the fixed and moveable arms are shape set in a preloading position so that a pinch force exists between the fixed and moveable arms when the fixed arm is approximately parallel with the moveable arm.
- 302. The implantable prosthetic device according to claim 301, wherein the fixed arm is bent in the closing direction beyond the closed position to the preloading position.
- 303. The implantable prosthetic device according to claim 302, wherein the fixed arm is bent in the closing direction to about 45 degrees beyond the closed position to the preloading position.
- 304. The implantable prosthetic device according to claim 302, wherein the fixed arm is bent in the closing direction to about 90 degrees beyond the closed position to the preloading position.
- 305. The implantable prosthetic device according to claim 302, wherein after shape setting, the fixed arm is prohibited from returning to the preloading position by a cross-member.
- 306. The implantable prosthetic device according to claim 305, wherein the cross-member is an integral cross-member.
- 307. The implantable prosthetic device according to any of claims 288-306, wherein a plastic limit of the material of the clasp is not exceeded when the moveable arm is opened to a fully open position about 140 degrees from the fixed arm.
- 308. The implantable prosthetic device according to claim 288, wherein the clasp is formed from a shape memory material having a thick portion and a thin portion.

309. The implantable prosthetic device according to any of claims 288-308, wherein barbs of the barbed portion are tapered in the direction of the length of the clasp.
310. The implantable prosthetic device according to any of claims 288-309, wherein the barbs of the barbed portion end in a point.
311. The implantable prosthetic device according to any of claims 288-310, wherein the clasp is cut from a tubular piece of material.
312. A clasp comprising:
- a fixed arm;
 - a plurality of moveable arms each having a barbed portion; and
 - a plurality of hinge portions connecting the moveable arms to the fixed arm.
313. The clasp according to claim 312, wherein the clasp is formed from a top layer and a bottom layer, the top and bottom layers formed of shape memory material.
314. The clasp according to claim 313, wherein the top and bottom layers are only joined in one location to allow the top and bottom layers to slide relative to one another during opening of the clasp.
315. The clasp according to claims 313–314, wherein the barbed portion includes barbs and barb supports, and wherein the barbs are formed from the bottom layer and the barb supports are formed from the top layer.
316. The clasp according to claims 313-314, wherein the barbed portion includes barbs and barb supports, and wherein the barbs are formed from the top layer and the barb supports are formed from the bottom layer.
317. The clasp according to claim 312, wherein the hinge portion comprises a plurality of spring segments, wherein each spring segment is connected to a plurality of spring segments.

318. The clasp according to claim 317, wherein the spring segments are torsional spring segments.
319. The clasp according to any of claims 317–318, wherein:
- the spring segments comprise a first end and a second end; and
- the first end of one spring segment is connected to at least one of the first and second end of another spring segment.
320. The clasp according to any of claims 317–319, wherein:
- the spring segments comprise a first end, a second end, a first side, and a second side;
- a first side joining location is adjacent the first end;
- a first end joining location is adjacent the first side;
- a second side joining location is adjacent the second end; and
- a second end joining location is adjacent the second side.
321. The clasp according to claim 319, wherein:
- the spring segments are arranged into a plurality of rows and columns;
- the first or second ends of spring segments proximate a side edge of the clasp are joined to one other spring segment; and
- the first or second ends of spring segments proximate an adjacent column are joined to at least one other spring segment.
322. The clasp according to any of claims 317–321, wherein:
- the spring segments are arranged in a pattern having three columns and seven rows of spring segments.

- 323. The clasp according to any of claims 312–322, wherein the clasp is formed from a top layer and a bottom layer, the top and bottom layers formed of shape memory material.
- 324. The clasp according to claim 323, wherein the top and bottom layers are only joined in one location to allow the top and bottom layers to slide relative to one another during opening of the clasp.
- 325. The clasp according to any of claims 312–324, wherein the clasp is formed from shape memory material and the fixed and moveable arms are shape set in a preloading position so that a pinch force exists between the fixed and moveable arms when the fixed arm is approximately parallel with the moveable arm.
- 326. The clasp according to claim 325, wherein the fixed arm is bent in the closing direction beyond the closed position to the preloading position.
- 327. The clasp according to claim 326, wherein the fixed arm is bent in the closing direction to about 45 degrees beyond the closed position to the preloading position.
- 328. The clasp according to claim 326, wherein the fixed arm is bent in the closing direction to about 90 degrees beyond the closed position to the preloading position.
- 329. The clasp according to claim 326, wherein after shape setting, the fixed arm is prohibited from returning to the preloading position by a cross-member.
- 330. The clasp according to claim 329, wherein the cross-member is an integral cross-member.
- 331. The clasp according to any of claims 312–330, wherein a plastic limit of the material of the clasp is not exceeded when the moveable arm is opened to a fully open position about 140 degrees from the fixed arm.
- 332. The clasp according to claim 312, wherein the clasp is formed from a shape memory material having a thick portion and a thin portion.

333. The clasp according to any of claims 312–332, wherein barbs of the barbed portion are tapered in the direction of the length of the clasp.
334. The clasp according to any of claims 312–333, wherein the barbs of the barbed portion end in a point.
335. The clasp according to any of claims 312–334, wherein the clasp is cut from a tubular piece of material.
336. An implantable prosthetic device comprising:
- a coaption portion;
 - an anchor portion comprising a plurality of paddles, the paddles having an outer and inner portion and being extendable from a folded closed position to an open position;
 - a clasp attached to each of the plurality of paddles, the clasp comprising:
 - a fixed arm attached to the inner portion of the paddle;
 - a moveable arm having a barbed portion; and
 - a hinge portion hingeably connecting the fixed arm to the moveable arm;
 - a cover wraps around at least a portion of the moveable arm of the clasp; and
 - at least one actuation suture attached to the cover.
337. The implantable prosthetic device according to claim 336, wherein the cover comprises a flexible mesh.
338. The implantable prosthetic device according to claim 336, further comprising a first side gap between a first side of the clasp and a first attachment location of the cover and a second side gap between a second side of the clasp and a second attachment location of the cover; wherein the first and second side gaps are less than one third a width of the clasp.

339. The implantable prosthetic device according to claim 338, wherein the first and second side gaps are less than one quarter a width of the clasp.
340. The implantable prosthetic device according to any of claims 336-339, wherein the cover wraps around an end of the moveable arm.
341. The implantable prosthetic device according to any of claims 336-340, wherein at least a portion of the cover forms at least a portion of the coaption portion.
342. The implantable prosthetic device according to claim 336, wherein an end of the moveable arm is rounded.
343. The implantable prosthetic device according to claim 336, wherein the hinge portion comprises a plurality of spring segments, wherein each spring segment is connected to a plurality of spring segments.
344. The implantable prosthetic device according to claim 343, wherein the spring segments are torsional spring segments.
345. The implantable prosthetic device according to any of claims 343-344, wherein:
- the spring segments comprise a first end and a second end; and
- the first end of one spring segment is connected to at least one of the first and second end of another spring segment.
346. The implantable prosthetic device according to any of claims 343-345, wherein:
- the spring segments comprise a first end, a second end, a first side, and a second side;
- a first side joining location is adjacent the first end;
- a first end joining location is adjacent the first side;
- a second side joining location is adjacent the second end; and

a second end joining location is adjacent the second side.

347. The implantable prosthetic device according to claim 345, wherein:

the spring segments are arranged into a plurality of rows and columns;

the first or second ends of spring segments proximate a side edge of the clasp are joined to one other spring segment; and

the first or second ends of spring segments proximate an adjacent column are joined to at least one other spring segment.

348. The implantable prosthetic device according to any of claims 343–347, wherein:

the spring segments are arranged in a pattern having three columns and seven rows of spring segments.

349. The implantable prosthetic device according to any of claims 336–348, wherein the clasp is formed from a top layer and a bottom layer, the top and bottom layers formed of shape memory material.

350. The implantable prosthetic device according to claim 349, wherein the top and bottom layers are only joined in one location to allow the top and bottom layers to slide relative to one another during opening of the clasp.

351. The implantable prosthetic device according to any of claims 336–350, wherein the clasp is formed from shape memory material and the fixed and moveable arms are shape set in a preloading position so that a pinch force exists between the fixed and moveable arms when the fixed arm is approximately parallel with the moveable arm.

352. The implantable prosthetic device according to claim 351, wherein the fixed arm is bent in the closing direction beyond the closed position to the preloading position.

- 353. The implantable prosthetic device according to claim 352, wherein the fixed arm is bent in the closing direction to about 45 degrees beyond the closed position to the preloading position.
- 354. The implantable prosthetic device according to claim 352, wherein the fixed arm is bent in the closing direction to about 90 degrees beyond the closed position to the preloading position.
- 355. The implantable prosthetic device according to claim 352, wherein after shape setting, the fixed arm is prohibited from returning to the preloading position by a cross-member.
- 356. The implantable prosthetic device according to claim 355, wherein the cross-member is an integral cross-member.
- 357. The implantable prosthetic device according to any of claims 336-356, wherein a plastic limit of the material of the clasp is not exceeded when the moveable arm is opened to a fully open position about 140 degrees from the fixed arm.
- 358. The implantable prosthetic device according to claim 336, wherein the clasp is formed from a shape memory material having a thick portion and a thin portion.
- 359. The implantable prosthetic device according to claim 349, wherein barbs are formed in at least two of the plurality of layers.
- 360. The implantable prosthetic device according to any of claims 336-359, wherein barbs of the barbed portion are tapered in the direction of the length of the clasp.
- 361. The implantable prosthetic device according to any of claims 336-360, wherein the barbs of the barbed portion end in a point.
- 362. The implantable prosthetic device according to any of claims 336-361, wherein the clasp is cut from a tubular piece of material.

363. A clasp comprising:
- a fixed arm;
 - a moveable arm having a barbed portion; and
 - a hinge portion hingeably connecting the fixed arm to the moveable arm;
 - a cover surrounding at least a portion of the moveable arm; and
 - at least one actuation suture attached to the cover.
364. The clasp according to claim 363, wherein a first eyelet is arranged proximate a first side of the clasp and a second eyelet is arranged proximate a second side of the clasp.
365. The clasp according to claim 363, further comprising a first side gap between a first side of the clasp and a first eyelet and a second side gap between the second side of the clasp and a second eyelet; wherein the first and second side gaps are less than one third a width of the clasp.
366. The clasp according to any of claims 363–365, wherein first and second intermediate suture loops wrap around an end of the moveable arm.
367. The clasp according to claim 366, wherein the first and second intermediate suture loops extend through an opening in the moveable arm.
368. The clasp according to claim 363, wherein an end of the moveable arm is rounded.
369. The clasp according to claim 363, wherein the hinge portion comprises a plurality of spring segments, wherein each spring segment is connected to a plurality of spring segments.
370. The clasp according to claim 369, wherein the spring segments are torsional spring segments.
371. The clasp according to any of claims 369–370, wherein:

the spring segments comprise a first end and a second end; and

the first end of one spring segment is connected to at least one of the first and second end of another spring segment.

372. The clasp according to any of claims 369–371, wherein:

the spring segments comprise a first end, a second end, a first side, and a second side;

a first side joining location is adjacent the first end;

a first end joining location is adjacent the first side;

a second side joining location is adjacent the second end; and

a second end joining location is adjacent the second side.

373. The clasp according to claim 371, wherein:

the spring segments are arranged into a plurality of rows and columns;

the first or second ends of spring segments proximate a side edge of the clasp are joined to one other spring segment; and

the first or second ends of spring segments proximate an adjacent column are joined to at least one other spring segment.

374. The clasp according to any of claims 369–373, wherein:

the spring segments are arranged in a pattern having three columns and seven rows of spring segments.

375. The clasp according to any of claims 363–374, wherein the clasp is formed from a top layer and a bottom layer, the top and bottom layers formed of shape memory material.

- 376. The clasp according to claim 375, wherein the top and bottom layers are only joined in one location to allow the top and bottom layers to slide relative to one another during opening of the clasp.
- 377. The clasp according to any of claims 375–376, wherein the clasp is formed from shape memory material and the fixed and moveable arms are shape set in a preloading position so that a pinch force exists between the fixed and moveable arms when the fixed arm is approximately parallel with the moveable arm.
- 378. The clasp according to claim 377, wherein the fixed arm is bent in the closing direction beyond the closed position to the preloading position.
- 379. The clasp according to claim 378, wherein the fixed arm is bent in the closing direction to about 45 degrees beyond the closed position to the preloading position.
- 380. The clasp according to claim 378, wherein the fixed arm is bent in the closing direction to about 90 degrees beyond the closed position to the preloading position.
- 381. The clasp according to claim 378, wherein after shape setting, the fixed arm is prohibited from returning to the preloading position by a cross-member.
- 382. The clasp according to claim 381, wherein the cross-member is an integral cross-member.
- 383. The clasp according to any of claims 363–382, wherein a plastic limit of the material of the clasp is not exceeded when the moveable arm is opened to a fully open position about 140 degrees from the fixed arm.
- 384. The clasp according to claim 363, wherein the clasp is formed from a shape memory material having a thick portion and a thin portion.
- 385. The clasp according to claim 375, wherein barbs are formed in at least two of the plurality of layers.

386. The clasp according to any of claims 363–385, wherein barbs of the barbed portion are tapered in the direction of the length of the clasp.
387. The clasp according to any of claims 363–386, wherein the barbs of the barbed portion end in a point.
388. The clasp according to any of claims 363–387, wherein the clasp is cut from a tubular piece of material.