

What is claimed is:

1. A coupling for joining pipe elements, said coupling comprising:

a plurality of segments attached to one another end to end surrounding a central space for receiving said pipe elements, each of said segments comprising:

first and second channels positioned on opposite sides of said segments, each of said channels extending between said ends of said segments and having a first floor and a second floor facing said central space, said first floor having a greater radius of curvature than said second floor;

first and second retainers positioned respectively in said first and second channels, each of said retainers comprising a band having oppositely disposed ends, a plurality of teeth being positioned along one edge of said band and projecting toward said central space, at least one tab being positioned along an opposite edge of said band, said band overlying said first floor, said at least one tab overlying said second floor when said retainers are positioned within said channels.

2. The coupling according to claim 1, further comprising a plurality of said tabs.

3. The coupling according to claim 1, further comprising:

a third channel positioned between said first and second channels in each of said segments, said third channels extending between said ends of said segments and facing said central space.

4. The coupling according to claim 1, wherein said teeth are oriented angularly with respect to a line extending radially from an axis arranged coaxially with said central space.

5. The coupling according to claim 1, wherein said at least one tab is oriented perpendicularly to a line extending radially from an axis arranged coaxially with said central space.

6. The coupling according to claim 1, wherein said at least one tab is offset from said band toward an axis arranged coaxially with said central space.

7. The coupling according to claim 3, wherein said at least one tab projects toward said third channel.

8. The coupling according to claim 1, comprising no more than a first and a second of said segments joined end to end surrounding said central space.

9. The coupling according to claim 8, further comprising first and second attachment members positioned at opposite ends of said first and second segments, at least one of said attachment members being adjustably tightenable for drawing said first and second segments toward one another.

10. The coupling according to claim 9, wherein said first attachment member comprises:

first and second lugs positioned respectively on said first and second segments, said first and second lugs being in facing relation;

a first fastener extending between said first and second lugs, tightening of said first fastener drawing said segments toward one another.

11. The coupling according to claim 10, wherein said second attachment member comprises:

third and fourth lugs positioned respectively on said first and second segments, said third and fourth lugs being in facing relation;

a second fastener extending between said third and fourth lugs, tightening of said second fastener drawing said segments toward one another.

12. The coupling according to claim 1, further comprising a first aperture in at least one of said segments, said first aperture providing a line of sight toward said central space.

13. The coupling according to claim 12, wherein said first aperture is aligned with said first channel.

14. The coupling according to claim 12, wherein said first aperture is positioned between two of said segments.

15. The coupling according to claim 14, wherein said first aperture comprises a trough positioned at an interface between said two segments.

16. The coupling according to claim 12, further comprising a second aperture in at least one of said segments, said second aperture providing a line of sight toward said central space.

17. The coupling according to claim 16, wherein said second aperture is aligned with said second channel.

18. The coupling according to claim 16, wherein said second aperture is positioned between two of said segments.

19. The coupling according to claim 18, wherein said second aperture comprises a trough positioned at an interface between said two segments.

20. The coupling according to claim 1, further comprising:

a ring seal positioned within said third channels, said ring seal having an inner surface sized to receive said pipe elements and an outer surface sized to support said segments in spaced apart relation sufficient to permit insertion of said pipe elements into said central space while said segments are attached to one another.

21. The coupling according to claim 20, wherein said retainer bands are sized to cooperate with said ring seal to support said segments in said spaced apart relation.

22. A coupling for joining pipe elements, said coupling comprising:

a plurality of segments attached to one another end to end surrounding a central space for receiving said pipe elements, each of said segments comprising:

at least a first channel positioned on a first side of said segments, said first channel extending between said ends of said segments;

a first aperture in at least one of said segments, said first aperture providing a line of sight toward said central space.

23. The coupling according to claim 22, wherein said first aperture is aligned with said first channel.

24. The coupling according to claim 22, wherein said first aperture is positioned between two of said segments.

25. The coupling according to claim 24, wherein said first aperture comprises a trough positioned at an interface between said two segments.

26. The coupling according to claim 22, further comprising a second aperture in at least one of said segments, said second aperture providing a line of sight toward said central space.

27. The coupling according to claim 26, wherein said second aperture is aligned with a second channel positioned on a second side of said segments opposite said first side.

28. The coupling according to claim 25, wherein said second aperture is positioned between two of said segments.

29. The coupling according to claim 28, wherein said second aperture comprises a trough positioned at an interface between said two segments.

30. The coupling according to claim 22, wherein:

said first channels have a first floor and a second floor facing said central space, said first floor having a greater radius of curvature than said second floor;

a first retainer positioned in said first channels, said first retainer comprising a band having oppositely disposed ends, a plurality of teeth being positioned along one edge of said band and projecting toward said central space, at least one tab being positioned along an opposite edge of said band, said band overlying said first floor, said tabs overlying said second floor when said retainer is positioned within said channels.

31. The coupling according to claim 30 further comprising a plurality of said tabs.

32. The coupling according to claim 30, further comprising:

a third channel positioned adjacent to said first channels in each of said first and second segments, said third channels extending between said ends of said segments and facing said central space.

33. The coupling according to claim 30, wherein said teeth are oriented angularly with respect to a line extending radially from an axis arranged coaxially with said central space.

34. The coupling according to claim 30, wherein said at least one tab is oriented perpendicularly to a line extending radially from an axis arranged coaxially with said central space.

35. The coupling according to claim 30, wherein said at least one tab is offset from said band toward an axis arranged coaxially with said central space.

36. The coupling according to claim 32, wherein said at least one tab projects toward said third channel.

37. The coupling according to claim 22, comprising at most a first and a second of said segments.

38. The coupling according to claim 37, further comprising first and second attachment members positioned at opposite ends of said first and second segments, at least one of said attachment members being adjustably tightenable for drawing said first and second segments toward one another.

39. The coupling according to claim 38, wherein said first attachment member comprises:

first and second lugs positioned respectively on said first and second segments, said first and second lugs being in facing relation;

a first fastener extending between said first and second lugs, tightening of said first fastener drawing said segments toward one another.

40. The coupling according to claim 39, wherein said second attachment member comprises:

third and fourth lugs positioned respectively on said first and second segments, said third and fourth lugs being in facing relation;

a second fastener extending between said third and fourth lugs, tightening of said second fastener drawing said segments toward one another.

41. The coupling according to claim 32, further comprising:

a ring seal positioned within said third channels, said ring seal having an inner surface sized to receive said pipe elements and an outer surface sized to support said segments in spaced apart relation sufficient to permit insertion of said pipe elements into said central space while said segments are attached to one another.

42. The coupling according to claim 41, wherein said retainer bands are sized to cooperate with said ring seal to support said segments in said spaced apart relation.

43. A method of joining pipe elements, said method comprising:

inserting at least a first pipe element into a central space defined by a plurality of segments attached to one another end to end in spaced relation sufficient to permit insertion of said pipe elements;

observing, through a first aperture in at least one of said segments, whether or not said first pipe element is present within said central space.

44. The method according to claim 43, further comprising:

inserting at least a second pipe element into said central space;

observing, through a second aperture in at least one of said segments, whether or not said second pipe element is present within said central space.

45. The method according to claim 44, further comprising:

adjusting positions of said pipe elements within said central space if said pipe elements are not present within said central space; and

drawing said segments toward said central space and into engagement with said pipe elements once said pipe elements are observed to be present within said central space.