CLAIMS

1. A connector to secure a winged needle set to a catheter assembly, the connector comprising:

a male luer lock, comprising a tapered male discharge nozzle and a locking ring surrounding the tapered male discharge nozzle, wherein the locking ring comprises internal threaded;

a septum configured to prevent flow through the tapered male discharge nozzle; and

an arm, comprising a first end, a second end, and a hinge portion disposed between the first end and the second end, wherein the first end is coupled to the male luer lock, wherein in response to the hinge portion moving from an open position to a closed position, the arm is configured to secure a winged needle set to the connector,

wherein the second end comprises a first prong, a second prong, and an opening disposed between the first prong and the second prong, wherein the first prong comprises a first protrusion and the second prong comprises a second protrusion, wherein a portion of the opening between the first protrusion and the second protrusion includes a diameter, wherein the first prong and the second prong are constructed of a resilient material and configured to bias outwardly when the winged needle set moves through the diameter,

wherein the locking ring comprises a flange, wherein the septum comprises a cap and a stem extending from the cap, wherein the stem extends into the tapered male discharge nozzle, wherein the cap rests on the flange, wherein the stem comprises a plurality of protrusions, wherein the tapered male discharge nozzle is spaced apart from the locking ring by a cavity proximate the internal threads, further comprising a plurality of apertures connecting an interior of the tapered male discharge nozzle with the cavity, wherein the plurality of protrusions of the septum are disposed within the plurality of apertures.

2. The connector of claim 1, wherein the opening is aligned with the tapered male discharge nozzle in response to the hinge portion being disposed in the closed position.

3. The connector of claim 1, wherein the diameter is narrower than a diameter of another portion of the opening disposed between the first prong and the second prong.

4. The connector of claim 1, wherein the hinge portion comprises a living hinge.

5. The connector of claim 1, wherein the locking ring extends beyond an end of the tapered male discharge nozzle.

6. The connector of claim 1, wherein the tapered male discharge nozzle is coupled to the locking ring at an attachment portion, wherein the plurality of apertures are proximate the attachment portion.

7. The connector of claim 1, wherein the flange is disposed between the cap and the plurality of protrusions and contacts the plurality of protrusions.

8. A medical connector, comprising:

a male luer lock, comprising a tapered male discharge nozzle and a locking ring surrounding the tapered male discharge nozzle, wherein the locking ring comprises internal threads; and

a septum configured to prevent flow through the tapered male discharge nozzle,

wherein the locking ring comprises a flange, wherein the septum comprises a cap and a stem extending from the cap, wherein the stem extends into the tapered male discharge nozzle, wherein the cap rests on the flange, wherein the stem comprises a plurality of protrusions, wherein the tapered male discharge nozzle is spaced apart from the locking ring by a cavity proximate the internal threads, further comprising a plurality of apertures connecting an interior of the tapered male discharge nozzle with the cavity, wherein the plurality of protrusions of the septum are disposed within the plurality of apertures.

9. A method of securing a winged needle set to a catheter assembly, comprising:

coupling a connector to a catheter assembly, wherein the connector comprises:

a male luer lock, comprising a tapered male discharge nozzle and a locking ring surrounding the tapered male discharge nozzle, wherein the locking ring is internally threaded;

a septum configured to prevent flow through the tapered male discharge nozzle; and

an arm, comprising a first end coupled to the male luer lock, a second end, and a hinge portion disposed between the first end and the second end, wherein the second end comprises a first prong, a second prong, and an opening disposed between the first prong and the second prong, wherein the first prong comprises a first protrusion and the second prong comprises a second protrusion, wherein a portion of the opening between the first protrusion and the second protrusion includes a diameter, wherein the first prong and the second prong are constructed of a resilient material;

inserting a winged needle set through the septum and into the tapered male discharge nozzle, wherein the winged needle set comprises a hub, and a wing extending outwardly from the hub; and

moving the hinge portion from an open position to a closed position, wherein in response to moving the hinge portion from the open position to the closed position, the first prong and the second prong are biased outwardly and a portion of the winged needle set moves through the diameter, wherein in response to the hinge portion being in the closed position, the wing of the winged needle set is disposed between the second end and the septum,

wherein the locking ring comprises a flange, wherein the septum comprises a cap and a stem extending from the cap, wherein the stem extends into the tapered male discharge nozzle, wherein the cap rests on the flange, wherein the stem comprises a plurality of protrusions, wherein the tapered male discharge nozzle is spaced apart from the locking ring by a cavity, further comprising a plurality of apertures connecting an interior of the tapered male discharge nozzle with the cavity, wherein the plurality of protrusions of the septum are disposed within the plurality of apertures.

10. The method of claim 9, wherein the winged needle set extends through the opening in response to the hinge portion being in a closed position.

11. The method of clam 9, wherein a diameter of the portion of the winged needle set is greater than the diameter of the portion of the opening between the first protrusion and the second protrusion.

12. The method of claim 9, wherein the hinge portion comprises a living hinge.

13. The method of claim 9, wherein the locking ring extends beyond an end of the tapered male discharge nozzle.

14. The method of claim 9, wherein the tapered male discharge nozzle is coupled to the locking ring at an attachment portion, wherein the plurality of apertures are proximate the attachment portion.

15. The method of claim 9, wherein the flange is disposed between the cap and the plurality of protrusions and contacts the plurality of protrusions.

16. A connector to secure a winged needle set to a catheter assembly, the connector comprising:

a male luer lock, comprising a tapered male discharge nozzle and a locking ring surrounding the tapered male discharge nozzle, wherein the locking ring is internally threaded;

a septum configured to prevent flow through the tapered male discharge nozzle; and

an arm, comprising a first end, a second end, and a hinge portion disposed between the first end and the second end, wherein the first end is coupled to the male luer lock, wherein in response to the hinge portion moving from an open position to a closed position, the arm is configured to secure the winged needle set to the connector, wherein the second end comprises:

one or more elongated portions depending from the hinge portion;

a first prong and a second prong angled with respect to and depending from the one or more elongated portions, wherein the first prong extends along a first major axis and the second prong extends along a second major axis parallel to the first major axis;

a first protrusion extending from the first prong;

a second protrusion extending from the second prong towards the first protrusion; and

an opening disposed between the first prong and the second prong, a portion of the opening being disposed between the first protrusion and the second protrusion, wherein the

first prong and the second prong are configured to be biased outwardly when the winged needle set moves through the portion of the opening and return inwardly after the winged needle set is moved through the portion of the opening.

17. The connector of claim 16, wherein the opening is aligned with the tapered male discharge nozzle in response to the hinge portion being disposed in the closed position.

18. The connector of claim 16, wherein the portion of the opening between the first protrusion and the second protrusion includes a diameter that is narrower than a diameter of another portion of the opening between the first prong and the second prong towards the one or more elongated portions.

19. The connector of claim 16, wherein the hinge portion comprises a living hinge.

20. The connector of claim 16, wherein the locking ring extends beyond an end of the tapered male discharge nozzle.

21. The connector of claim 16, wherein the locking ring comprises a flange, wherein the septum comprises a cap and a stem extending from the cap, wherein the stem extends into the tapered male discharge nozzle, wherein the cap rests on the flange.

22. The connector of claim 21, wherein the stem comprises a plurality of protrusions, wherein the tapered male discharge nozzle is spaced apart from the locking ring by a cavity, further comprising a plurality of apertures connecting an interior of the tapered male discharge nozzle with the cavity, wherein the plurality of protrusions of the septum are disposed within the plurality of apertures.

23. The connector of claim 22, wherein the tapered male discharge nozzle is coupled to the locking ring at an attachment portion, wherein the plurality of apertures are proximate the attachment portion.

24. The connector of claim 22, wherein the flange is disposed between the cap and the plurality of protrusions and contacts the plurality of protrusions.

25. The connector of claim 16, wherein the first prong and the second prong are angled with respect to the one or more elongated portions at 90 degrees.

26. A method of securing a winged needle set to a catheter assembly, comprising:

coupling a connector to a catheter assembly, wherein the connector comprises:

a male luer lock, comprising a tapered male discharge nozzle and a locking ring surrounding the tapered male discharge nozzle, wherein the locking ring is internally threaded;

a septum configured to prevent flow through the tapered male discharge nozzle; and

an arm, comprising a first end coupled to the male luer lock, a second end, and a hinge portion disposed between the first end and the second end, wherein the second end comprises:

one or more elongated portions depending from the hinge portion;

a first prong and a second prong angled with respect to and depending from the one or more elongated portions, wherein the first prong extends along a first major axis and the second prong extends along a second major axis parallel to the first major axis;

a first protrusion extending from the first prong;

a second protrusion extending from the second prong towards the first protrusion; and

an opening disposed between the first prong and the second prong, a portion of the opening being disposed between the first protrusion and the second protrusion, wherein the first prong and the second prong are configured to be biased outwardly when the winged needle set moves through the portion of the opening and return inwardly after the winged needle set is moved through the portion of the opening;

inserting the winged needle set through the septum and into the tapered male discharge nozzle, wherein the winged needle set comprises a hub, a needle secured within the hub, and a wing extending outwardly from the hub; and

moving the hinge portion from an open position to a closed position, wherein in response to the hinge portion being in the closed position, the wing of the winged needle set is secured between the second end and the septum.

27. The method of claim 26, wherein the winged needle set extends through the portion of the opening in response to the hinge portion being in a closed position.

28. The method of claim 27, wherein the portion of the opening between the first protrusion and the second protrusion includes a diameter that is narrower than a diameter of another portion of the opening between the first prong and the second prong towards the one or more elongated portions, wherein moving the hinge portion from the open position to the closed position comprises moving a portion of the winged needle set through the diameter of the portion of the opening between the first protrusion and the second protrusion.

29. The method of claim 28, wherein a diameter of the portion of the winged needle set is greater than the diameter of the portion of the opening between the first protrusion and the second protrusion.

30. The method of claim 26, wherein the hinge portion comprises a living hinge.

31. The method of claim 26, wherein the locking ring extends beyond an end of the tapered male discharge nozzle.

32. The method of claim 26, wherein the locking ring comprises a flange, wherein the septum comprises a cap and a stem extending from the cap, wherein the stem extends into the tapered male discharge nozzle, wherein the cap rests on the flange.

33. The method of claim 32, wherein the stem comprises a plurality of protrusions, wherein the tapered male discharge nozzle is spaced apart from the locking ring by a cavity, further comprising a plurality of apertures connecting an interior of the tapered male discharge nozzle with the cavity, wherein the plurality of protrusions of the septum are disposed within the plurality of apertures.