

CLAIMS

What is claimed is:

1. A catheter device comprising:

a catheter hub comprising a pair of wings, an injection port for introducing fluid into the catheter hub and a first detent element;

a needle guard housing in contact with the catheter hub and comprising a second detent element;

a needle hub in contact with the needle guard housing and comprising a needle, the needle comprising a shaft and a distal tip;

wherein engagement between the first detent element and second detent element prevents accidental separation of the catheter hub and needle guard housing; and

wherein the first detent element comprises a groove and the second detent element comprises a projection, the first detent element and the second detent element are both projections, or the first detent element is a projection and the second detent element is a groove.

2. The device of claim 1, wherein the groove having two sidewalls in a v-shape.

3. The device of claim 1, wherein the groove having two sidewalls and a bottom wall.

4. The device of claim 1, wherein the needle guard comprises multiple sub-components that are assembled together.

5. The device of claim 4, wherein one of the detent elements comprises external threads.

6. The device of any preceding claim, further comprising a tether that unfolds and stretches out between the needle guard housing and the needle hub.

7. The device of any claim 1-5, wherein the needle comprises a crimp and the needle guard housing is provided with an engaging means to engage the crimp.

8. The device of claim 7, wherein the engaging means comprises a perimeter defining an opening.

9. The device of any preceding claim, wherein the needle guard housing has an open distal end
5 sized and shaped to accept the proximal end of the catheter hub, including a Luer lock.

10. The device of any preceding claim, wherein the first detent element and the second detent element are both projections and the second detent element is a leaf spring style projection.

10 11. The device of claim 3, wherein the sidewalls are angled or straight.

12. A method of manufacturing a catheter device, comprising:

forming a catheter hub with a catheter tube; said catheter hub comprising an exterior surface with exterior threads;

15 forming a needle guard housing with a wall surface having an exterior surface and an interior surface defining an interior cavity;

placing the needle guard housing over a proximal end of the catheter hub such that the proximal end of the catheter projects into the interior cavity of the needle guard housing;

forming a needle hub with a needle having a needle tip and placing the needle hub into
20 engagement with the needle guard housing such that the needle projects through the needle guard housing, the catheter hub, and the catheter tube and the needle guard housing is located inside a shroud formed with the needle hub; and

removably securing the needle guard housing with the catheter hub by engaging a first detent element on the exterior surface of the catheter hub with a second detent element in the
25 interior cavity of the needle guard housing.

13. The method of claim 12, wherein the first detent element is a groove and the second detent element is a projection.

14. The method of claim 12 or 13, wherein the first detent element is the exterior threads on the catheter hub.

15. The method of any claim 12-14, further comprising a tether attached to the needle guard housing and the needle hub.

16. The method of any claim 12-14, wherein the needle comprises a change in profile formed proximally of the needle tip for engaging a perimeter defining an opening formed with the needle guard housing.

17. The method of claim 12, wherein the second detent element comprises two leaf springs formed on two sidewalls of the needle guard housing.

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1. A catheter device comprising:

a catheter hub comprising a pair of wings, an injection port for introducing fluid into the catheter hub and a first detent element;

a needle guard housing in contact with the catheter hub and comprising a second detent element;

a needle hub in contact with the needle guard housing and comprising a needle, the needle comprising a shaft and a distal tip;

wherein engagement between the first detent element and second detent element prevents accidental separation of the catheter hub and needle guard housing; and

wherein the first detent element and the second detent element are both projections and the second detent element is a leaf spring style projection.

2. The device of claim 1, wherein the needle guard comprises multiple sub-components that are assembled together.

3. The device of claim 4, wherein one of the detent elements comprises external threads.

4. The device of any preceding claim, further comprising a tether that unfolds and stretches out between the needle guard housing and the needle hub.

5. The device of any claim 1-4, wherein the needle comprises a crimp and the needle guard housing is provided with an engaging means to engage the crimp.

6. The device of claim 5, wherein the engaging means comprises a perimeter defining an opening.

7. The device of any preceding claim, wherein the needle guard housing has an open distal end sized and shaped to accept the proximal end of the catheter hub, including a Luer lock.