

WHAT IS CLAIMED IS:

1. A disinfection cap having a housing comprising:
 - a top wall,
 - a cylindrical sidewall having an inner surface defining a cavity,
 - 5 an open bottom formed by the cylindrical sidewall with an opening to the cavity within said housing for receiving a hub of a luer connector;
 - a blockage feature disposed within the cavity, the blockage feature configured as a cylindrical protrusion, the cylindrical protrusion being disposed on the top wall of the housing, the cylindrical protrusion fluidly blocking the hub of the luer connector;
 - 10 and,
 - a fluid releasably retained within a depressible open cell foam structure disposed within the cavity, wherein when the hub of said luer connector is received within said inner surface of said cavity.
- 15 2. The disinfection cap of claim 1, wherein said cavity extends essentially from an inner surface of said top wall toward said open bottom of said housing.
3. The disinfection cap of claim 1, wherein the cylindrical protrusion is non-removably disposed on the top wall of the housing.
- 20 4. The disinfection cap of claim 1, wherein the depressible open cell foam structure is disposed against the top wall, the depressible open cell foam structure having a hollow cylindrical shape configured to fit around the cylindrical protrusion.
- 25 5. The disinfection cap of claim 1, wherein the cylindrical protrusion further includes an upper portion and a lower portion, the upper portion having a diameter equal to the top wall, the lower portion having a diameter smaller than the upper portion, the lower portion configured to fluidly block the hub of the luer connector.

6. The disinfection cap of claim 5, wherein the depressible open cell foam structure is disposed against a bottom surface of the upper portion of the cylindrical protrusion, the depressible open cell foam structure having a hollow cylindrical shape configured to fit around the lower portion of the cylindrical protrusion.

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7. The disinfection cap of claim 5, wherein a second depressible open cell foam is disposed between the upper portion of the cylindrical protrusion and the top wall of the cavity, the second depressible open cell foam structure releasably retaining a fluid.

10 8. The disinfection cap of claim 1, further including an at least one thread on an outer surface of the housing, said at least one thread being sufficient to interlock with a mating feature of said luer connector.

9. The disinfection cap of claim 8, wherein said hub is secured within said inner surface of
15 said cavity by interlocking at least a portion of said at least one thread with a mating feature on said hub of said luer connector.

10. The disinfection cap of claim 1, wherein the inner surface of the cavity is secured by an interference fit with the hub of the luer connector.

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11. The disinfection cap of claim 1, wherein the fluid is selected from a group consisting essentially of isopropyl alcohol, ethanol, 2-propanol, butanol, methylparaben, ethylparaben, propylparaben, propyl gallate, butylated hydroxyanisole (BHA), butylated hydroxytoluene, t-butyl-hydroquinone, chloroxylenol, chlorhexidine, chlorhexidine diacetate, chlorhexidine
25 gluconate, povidone iodine, alcohol, dichlorobenzyl alcohol, dehydroacetic acid, hexetidine, triclosan, hydrogen peroxide, colloidal silver, benzethonium chloride, benzalkonium chloride, octenidine, antibiotic, and mixtures thereof.

12. A disinfection cap having a housing comprising:
- a top wall having an aperture extending partially into the housing,
 - a cylindrical sidewall having an inner surface defining a cavity,
 - an open bottom formed by the cylindrical sidewall with an opening to the cavity
- 5 within said housing for receiving a hub of a luer connector;
- an umbrella stopper including a stem at least partially disposed into the aperture of the top wall, the umbrella stopper further including a fanned barrier configured as a blockage feature for fluidly blocking a hub of a medical device, the fanned barrier creating a liquid tight seal with the inner surface of the cylindrical sidewall; and,
- 10 a fluid releasably retained within between the cavity and the fanned barrier of the umbrella stopper, wherein the hub of said luer connector is received within said inner surface of said cavity and wherein when the fanned barrier deforms when moved against the hub, thereby releasing the fluid.
- 15 13. The disinfection cap of claim 12, wherein the umbrella stopper further includes a rounded or chamfered end, the rounded or chamfered end configured to fluidly block the hub of the luer connector.
- 20 14. The disinfection cap of claim 12, wherein the fanned barrier is at a right angle to the stem.
15. The disinfection cap of claim 12, wherein the fanned barrier is at an obtuse angle to the stem.
- 25 16. A disinfection cap having a housing comprising:
- a top wall,
 - a cylindrical sidewall having an inner surface defining a cavity,

an open bottom formed by a cylindrical sidewall with an opening to the cavity within said housing for receiving a hub of a luer connector;

5 a blockage feature disposed within the cavity, the blockage feature configured as a plurality of hydrophilic bristles, the hydrophilic bristles being disposed on the top wall of the housing, the hydrophilic bristles fluidly blocking the hub of the luer connector; and

a fluid releasably retained within the hydrophilic bristles, wherein when the hub of said luer connector is received within said inner surface of said cavity.

10 17. The disinfection cap of claim 16, further including a movable conical stopper, the movable conical stopper comprising a top portion and a bottom portion, the top portion including a flange having a diameter less than the diameter of the cavity, the top portion including a lumen extending therethrough, the cavity including a protrusion configured as a secondary blockage feature by which the protrusion blocks the hub of the luer connector.

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18. A disinfection cap having a housing comprising:

a top portion including a set of winged protrusions configured to receive a membrane or pouch, the membrane or pouching including a bulbous cavity for retaining a fluid and a fluid path fluidly connecting the bulbous cavity to a drain;

20 a drain disposed on a top surface of the top portion, the drain including a conical cavity having a lumen disposed on a bottom surface of the conical cavity, the lumen being in fluid communication with a cavity defined by an inner sidewall of a bottom portion of the housing;

25 at least two spines extending from the top surface into a center of the conical cavity, the at least two spines structurally securing a protrusion disposed within the cavity, the protrusion extending through the lumen, the protrusion configured as blockage feature by which a lower portion of the disinfection cap has a diameter equal to or greater than the diameter of a hub of a medical device; and

an open bottom formed by a cylindrical sidewall of the cavity with an opening to the cavity within said housing for receiving a hub of a luer connector, wherein when the hub of said luer connector is received within an inner surface of said cavity.

5 19. A disinfection cap having a housing comprising:

an upper portion having an engagement surface disposed around a circumference of a top surface of the upper portion of a cylindrical housing, the engagement surface configured to receive a membrane or pouch, the membrane or pouch having a dome shape defining a bulbous cavity for retaining fluid;

10 an open bottom formed by a cylindrical sidewall of the bulbous cavity with an opening to the bulbous cavity within said housing for receiving a hub of a luer connector; and

at least two vents or slits disposed through the top surface of the upper portion, the at least two vents or slits in fluid communication with the bulbous cavity of the upper portion and the bulbous cavity, the at least two vents being disposed a distance from one another, the distance being greater than a length of the hub of said luer connector,

15 wherein when the hub of said luer connector is received within an inner surface of the bulbous cavity and wherein the bulbous cavity may be depressed or collapsed onto the top surface of the upper portion, thereby releasing fluid into the at least two vents or slits.

20 20. The disinfection cap of claim 19, wherein the hub of the luer connector abuts a top wall of the bulbous cavity, the top wall fluidly sealing the hub of the luer connector.

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