

Claims

1. A sealed retractable needle assembly, comprising:
 - a needle assembly comprised of a needle hub and a needle securely coupled to the needle hub;
 - a resiliently deflectable actuator arm extending from the needle hub and having an actuator button formed thereon;
 - a barrel having proximal and distal ends and a passage extending therebetween, wherein the needle assembly is slidably disposed within the passage and the needle assembly and the actuator arm are axially movable relative to the barrel from a distal position where the needle projects distally beyond the distal end of the barrel and a proximal position where the needle is entirely contained within the barrel, and wherein the barrel defines an aperture extending therethrough, which aperture engages the actuator button when the needle hub is in the distal position and the actuator button disengages the aperture when the actuator arm is resiliently deflected, wherein the actuator button comprises a first interlocking edge that extends proximally and the aperture comprises a corresponding second interlocking edge that extends distally, the first interlocking edge overlapping with the second interlocking edge when the needle hub is in the distal position to thereby block inward movement of the actuator button; and
 - a spring disposed in the barrel for propelling the needle assembly to the proximal position when the actuator arm is deflected and the actuator button disengages the aperture.
2. The sealed retractable needle assembly of claim 1, wherein the spring biases the first and second interlocking edges into interlocking engagement when the needle hub is in the distal position and the actuator button engages the aperture.

3. The sealed retractable needle assembly of claim 2, wherein the interlocking engagement of the interlocking edges prevents the needle assembly from being inadvertently propelled into the proximal position, and wherein the needle assembly must be moved distally against the spring bias until the interlocking edges disengage before the actuator arm can be deflected such that the actuator button disengages the aperture and the needle assembly is propelled under the spring force into the proximal position.

4. A sealed retractable needle assembly, comprising:

a needle assembly comprised of a needle hub and a needle securely coupled to the needle hub;

a resiliently deflectable actuator arm extending from the needle hub and having an actuator button formed thereon;

a barrel having proximal and distal ends and a passage extending therebetween, wherein the needle assembly is slidably disposed within the passage such that the needle assembly and the actuator arm are axially movable relative to the barrel from a distal position where the needle projects distally beyond the distal end of the barrel and a proximal position where the needle is entirely contained within the barrel, and wherein the barrel defines an aperture extending therethrough, which aperture engages the actuator button when the needle hub is in the distal position and the actuator button disengages the aperture when the actuator arm is resiliently deflected;

a spring disposed in the barrel for propelling the needle assembly to the proximal position when the actuator arm is deflected and the actuator button disengages the aperture; and

an annular sleeve rotatably disposed about a circumference of the proximal end of the barrel, wherein the sleeve is selectively rotatable between a first position and a second

position, and wherein the sleeve comprises a cover and a slot, wherein the cover obscures the aperture and the actuator button when the sleeve is in the first position, and wherein the aperture and the actuator button are accessible through the slot when the sleeve is in the second position.

5. The sealed retractable needle assembly of claim 4, further comprising an absorbent sponge fitted within the distal end of the barrel, wherein the needle extends through the sponge when the needle is in the distal position, and wherein the sponge absorbs and retains any fluid on the outside of the needle as the needle is retracted into the proximal position.

6. The sealed retractable needle assembly of claim 5, further comprising at least one resiliently deflectable locking finger extending from the barrel, wherein the at least one locking is configured to lockingly engage the needle hub when the needle hub reaches the proximal position.

7. The sealed retractable needle assembly of claim 4, wherein the sleeve prevents the needle assembly from being inadvertently propelled into the proximal position when the sleeve is in the first position, and wherein the sleeve must be rotated to the second position before the actuator arm can be deflected such that the actuator button disengages the aperture and the needle assembly is propelled under the spring force into the proximal position.

8. A sealed retractable needle assembly, comprising:

a needle assembly comprised of a needle hub and a needle securely coupled to the needle hub;

a resiliently deflectable actuator arm extending from the needle hub and having an actuator button formed thereon;

a barrel having proximal and distal ends and a passage extending therebetween, wherein the needle assembly is slidably disposed within the passage such that the needle

assembly and the actuator arm are axially movable relative to the barrel from a distal position where the needle projects distally beyond the distal end of the barrel and a proximal position where the needle is entirely contained within the barrel, and wherein the barrel defines an aperture extending therethrough, which aperture engages the actuator button when the needle hub is in the distal position and the actuator button disengages the aperture when the actuator arm is resiliently deflected;

a spring disposed in the barrel for propelling the needle assembly to the proximal position when the actuator arm is deflected and the actuator button disengages the aperture; and

an annular sleeve rotatably disposed about a circumference of the proximal end of the barrel, wherein the sleeve is selectively rotatable between a first position and a second position, and wherein the sleeve comprises a cover and a slot, wherein the sleeve prevents the needle assembly from being inadvertently propelled into the proximal position when the sleeve is in the first position, and wherein the sleeve must be rotated to the second position before the actuator arm can be deflected such that the actuator button disengages the aperture and the needle assembly is propelled under the spring force into the proximal position.

9. The sealed retractable needle assembly of claim 8, further comprising an absorbent sponge fitted within the distal end of the barrel, wherein the needle extends through the sponge when the needle is in the distal position, and wherein the sponge absorbs and retains any fluid on the outside of the needle as the needle is retracted into the proximal position.

10. The sealed retractable needle assembly of claim 8, further comprising at least one resiliently deflectable locking finger extending from the barrel, wherein the at least one

locking is configured to lockingly engage the needle hub when the needle hub reaches the proximal position.