CLAIMS

1. A catheter insertion assembly comprising:

a) a transparent tubular member open at each end with one mammilated end;

b) a plunger assembly slidable within said tubular member having a stem portion with a knob at one end;

c) a transparent chamber attached to said stem portion opposite said knob having a needle base and sealing member; and

d) an elongated tubular needle having a chamber at one end embedded within said needle base and extending there from with said needle in fluid communication with said transparent chamber.

2. The catheter insertion assembly according to claim 1 wherein said transparent tubular member further comprises external upper and lower flat areas and concave external side walls for gripping said tubular member.

3. The catheter insertion assembly according to claim 1 wherein said transparent chamber is vented to atmosphere through said stem portion.

4. The catheter insertion assembly according to claim 1 wherein said catheter insertion assembly further comprises a catheter assembly having a cannula member attached to a hub member said hub member cooperative with said mammilated end.

5. The catheter insertion assembly according to claim 4 wherein said tubular needle is threaded through the lumen of said cannula.

6. The catheter insertion assembly according to claim 1 wherein said sealing member provides a sliding seal between said plunger assembly and said transparent tubular member.

7. The catheter insertion assembly according to

claim 1 wherein displacement of said plunger within said transparent tubular member defines a void between said tubular member and said needle base.

8. The catheter insertion assembly according to claim 1 wherein said tubular needle extends through said mammilated end.

9. The catheter insertion assembly according to claim 1 wherein said plunger assembly is rotationally oriented relative to said transparent tubular member.

10. The catheter insertion assembly according to claim 1 wherein said chamber is rotationally oriented relative to said plunger.

11. A catheter insertion assembly comprising:

a) a transparent tubular member open at each end with one mammilated end;

b) a plunger assembly slidable within said tubular member having a stem portion with a knob at one end;

c) a transparent chamber attached to said stem portion opposite said knob having a needle base and sealing member;

d) an elongated tubular needle having a chamber at one end embedded within said needle base and extending there from with said needle in fluid communication with said transparent chamber; and

e) a catheter assembly, a cannula and a hub attached to said mammilated end with said tubular needle passing longitudinally through said cannula.

12. The catheter insertion assembly according to claim 11 wherein said sealing member is in sliding contact with interior of said transparent tubular member.

13. The catheter insertion assembly according to claim 12 wherein neutral position for said plunger is with said needle base in contact with said mammilated

end.

14. The catheter insertion assembly according to claim 13 wherein displacement of said plunger from said neutral position retracts said tubular needle to within said cannula and defines a void between said seal and said mammilated end.

15. The catheter insertion assembly according to claim 13 wherein said transparent chamber is vented through said stem portion.

16. The catheter insertion assembly according to claim 11 wherein said stem portion comprises a step portion adjacent said knob for rotationally orienting said plunger assembly relative to said transparent tubular member.

17. The catheter insertion assembly according to claim 16 wherein said transparent tubular member is notched to receive said step portion for rotationally orienting said chamber relative to said plunger assembly.

18. A catheter insertion apparatus comprising:

a) a transparent tubular member open at each end with one mammilated end;

b) a seal assembly having a stem portion slidable within said transparent tubular member and a knob at one end located external of said transparent tubular member;

c) an elongated tubular needle having a proximate end and a distal end said proximate end attached to said seal assembly said distal end having a chamber;

d) a transparent chamber in fluid communication with said tubular needle; and

e) a cannula extending from said mammilated end with said tubular needle passing longitudinally through said cannula.

19. A method for inserting a catheter assembly

having a cannula and transparent hub comprising the steps of:

a) providing an apparatus comprising:

i) a transparent tubular member open at each end with one mammilated end;

ii) a plunger assembly slidable within said tubular member having a stem portion with a knob at one end;

iii) a transparent chamber attached to said stem portion opposite said knob having a needle base and sealing member; and

iv) an elongated tubular needle having a chamber at one end embedded within said needle base and extending there from with said needle in fluid communication with said transparent chamber;

b) threading said tubular needle longitudinally through said mammilated end and said hub and cannula;

c) attaching said hub portion to said mammilated end;

d) inserting said catheter and tubular needle into a subcutaneous blood vessel thereby allowing pressurized blood to flow into said transparent chamber; and

e) displacing said plunger thereby defining a void between said sealing member and said mammilated end and thus producing a negative pressure within said void allowing blood to be drawn between said needle and cannula and into said transparent hub.

20. A method for inserting a catheter comprising the steps of:

a) providing a catheter assembly comprising:

i) a transparent tubular member open at each end with one mammilated end;

ii) a plunger assembly slidable within said tubular member having a stem portion with a knob at one end;

iii) a transparent chamber attached to said stem portion opposite said knob having a needle base and sealing member;

iv) an elongated tubular needle having a chamber at one end embedded within said needle base and extending there from with said needle in fluid communication with said transparent chamber;

v) a transparent hub member attached externally to said mammilated end having an elongated cannula threaded longitudinally over said tubular needle to a point adjacent said chamber;

b) inserting said catheter and tubular needle into a subcutaneous blood vessel hereby allowing pressurized blood to flow into said transparent chamber; and

c) displacing said plunger thereby defining a void between said sealing member and said mammilated end and thus producing a negative pressure within said void allowing blood to be drawn between said needle and cannula and into said transparent hub.

21. A method for inserting a catheter comprising the steps of:

a) providing a catheter assembly comprising:

i) a transparent tubular member open at each end with one mammilated end;

ii) a plunger assembly slidable within said tubular member having a stem portion with a knob at one end;

iii) a transparent chamber attached to said stem portion opposite said knob having a needle base and sealing member;

iv) an elongated tubular needle having a chamfer at one end embedded within said needle base and extending there from with said needle in fluid communication with said transparent chamber;

v) a transparent hub member attached externally to said mammilated end having an elongated cannula threaded longitudinally over said tubular needle to a point adjacent said chamber;

b) inserting said catheter and tubular needle into a subcutaneous blood vessel hereby allowing pressurized blood to flow into said transparent chamber; and

c) displacing said plunger thereby defining a void between said sealing member and said mammilated end and thus producing a negative pressure within said void allowing blood to be drawn between said needle and cannula and into said transparent hub and said void.

22. The inventions substantially as shown and described herein.

CLAIMS

1. A catheter insertion assembly comprising: a) a transparent tubular member open at each end; b) a plunger assembly slidable within said tubular member having a stem portion at a first end; c) an at least a partially transparent chamber attached to said stem portion having a needle base and sealing member on a second end of the plunger assembly; d) an elongated tubular needle embedded within said needle base and extending there from with said needle in fluid communication with said transparent chamber; e) a catheter assembly, a cannula and a transparent hub attached to said second end with said tubular needle passing longitudinally through said cannula; and f) a fluid passage formed between said needle and said cannula so that when the plunger is retracted a vacuum is established within the fluid passage and blood is drawn through the fluid passage into the transparent hub within the tubular member so that a user can identify blood flow within the transparent hub of the catheter assembly.

2. The catheter insertion assembly according to claim 1 wherein said transparent tubular member further comprises external upper and lower flat areas and concave external side walls for gripping said tubular member.

3. The catheter insertion assembly according to claim 1 wherein said transparent chamber is vented to atmosphere through said stem portion.

4. The catheter insertion assembly according to claim 1 wherein said tubular needle is threaded though a lumen of said cannula.

5. The catheter insertion assembly according to claim 1 wherein said sealing member provides a sliding seal between said plunger assembly and said transparent tubular member.

6. The catheter insertion assembly according to claim 1 wherein displacement of said plunger within said transparent tubular member defines a void between said tubular member and said needle base.

7. The catheter insertion assembly according to claim 1 wherein said plunger assembly is rotationally oriented relative to said transparent tubular member.

8. A catheter insertion assembly comprising: a) a transparent tubular member open at each end with one mammilated end; b) a plunger assembly slidable within said tubular member having a stem portion with a knob

at one end; c) a transparent chamber attached to said stem portion opposite said knob having a needle base and sealing member; d) an elongated tubular needle having a chamfer at one end embedded within said needle base and extending there from with said needle in fluid communication with said transparent chamber; e) a catheter assembly, a cannula and a hub attached to said mammilated end with said tubular needle passing longitudinally through said cannula; and f) a fluid passage formed between said needle and said cannula for allowing blood flow through the fluid passage into the transparent hub as a vacuum is established within the fluid passage when the plunger is retracted within the tubular member so that a user can verify that the cannula has entered the blood vessel by identifying blood flow within the transparent hub of the catheter assembly.

9. The catheter insertion assembly according to claim 8 wherein said sealing member is in sliding contact with interior of said transparent tubular member.

10. The catheter insertion assembly according to claim 9 wherein neutral position for said plunger is with said needle base in contact with said mammilated end.

11. The catheter insertion assembly according to claim 10 wherein displacement of said plunger from said neutral position retracts said tubular needle to within said cannula and defines a void between said seal and said mammilated end.

12. The catheter insertion assembly according to claim 10 wherein said transparent chamber is vented through said stem portion.

13. The catheter insertion assembly according to claim 8 wherein said stem portion comprises a step portion adjacent said knob for rotationally orienting said plunger assembly relative to said transparent tubular member.

14. The catheter insertion assembly according to claim 13 wherein said transparent tubular member is notched to receive said step portion for rotationally orienting said chamfer relative to said plunger assembly.

15. A catheter insertion apparatus comprising: a) a transparent tubular member open at each end with one mammilated end; b) a seal assembly having a stem portion slidable within said transparent tubular member and a knob at one end located external of said transparent tubular member; c) an elongated tubular needle having a

proximate end and a distal end said proximate end attached to said seal assembly said distal end having a chamfer; d) a transparent chamber in fluid communication with said tubular needle; wherein the transparent chamber is attached to said stem portion of the seal assembly opposite an end of said knob; e) a cannula extending from said mammilated end with said tubular needle passing longitudinally through said cannula; and f) a fluid passage formed between said needle and said cannula for drawing blood flow through the fluid passage into the transparent hub when a vacuum is established within the fluid passage as the plunger is retracted within the tubular member so that a user can verify blood flow within the cannula from the blood flow into the transparent hub of the catheter assembly.

16. A method for inserting a catheter assembly having a cannula and transparent hub comprising the steps of a) providing an apparatus comprising: i) a transparent tubular member open at each end with one mammilated end; ii) a plunger assembly slidable within said tubular member having a stem portion; iii) a transparent chamber attached to said stem portion having a needle base and sealing member; and iv) an elongated tubular needle having a chamfer at one end embedded within said needle base and extending there from with said needle in fluid communication with said transparent chamber; b) threading said tubular needle longitudinally through said mammilated end and said hub and cannula; c) attaching said hub portion to said mammilated end; d) inserting said catheter and tubular needle into a subcutaneous blood vessel thereby allowing pressurized blood to flow into said transparent chamber; and e) displacing said plunger thereby defining a void between said sealing member and said mammilated end and thus producing a negative pressure within said void allowing blood to be drawn between said needle and cannula and into said transparent hub so that a user can identify blood flow within the transparent hub of the catheter assembly.

17. A method for inserting a catheter comprising the steps of: a) providing a catheter assembly comprising: i) a transparent tubular member open at each end with one mammilated end; ii) a plunger assembly slidable within said tubular member having a stem portion; iii) a transparent chamber attached to said stem portion having a needle base and sealing member; iv) an elongated tubular needle having a chamfer at one end embedded within said needle base and extending there from with said needle in fluid communication with said transparent chamber; v) a transparent hub member attached externally to said mammilated end having an elongated cannula threaded longitudinally over said tubular needle to a point adjacent said chamfer; b) inserting said catheter and tubular needle into a

subcutaneous blood vessel hereby allowing pressurized blood to flow into said transparent chamber; and c) displacing said plunger thereby defining a void between said sealing member and said mammilated end and thus producing a negative pressure within said void allowing blood to be drawn between said needle and cannula and into said transparent hub so that a user can identify blood flow within the transparent hub of the catheter assembly.

18. A catheter insertion assembly comprising: a) a tubular member open at each end; b) a plunger assembly slidable within said tubular member having a stem portion at a first end; c) an at least partially transparent chamber attached to said stem portion having a needle base and sealing member on a second end of the plunger assembly; d) an elongated tubular needle embedded within said needle base and extending there from with said needle in fluid communication with said partially transparent chamber; e) a catheter assembly, a cannula and a transparent hub attached to said second end with said tubular needle passing longitudinally through said cannula; and f) a fluid passage formed between said needle and said cannula for drawing blood flow through the fluid passage into the transparent hub when a vacuum is established within the fluid passage as the plunger is retracted within the tubular member so that a user can identify blood flow transparent hub of the catheter assembly to verify blood flow through the cannula.