

the knob having a camming nose with opposed tapers which cooperate with a ramp on each of the pair of locking fingers to spread the locking fingers as the knob is inserted therebetween and to thereby ease the seating of the knob in the groove; and

the knob having a distal end with a furrow transversely thereacross and the groove having a peak centered therein and transverse thereto so that a central position of the knob is maintained during engagement in the groove.

2. The adapter of claim 1 wherein the knob is transversely larger than the living hinge and the knob extends normal thereto with a shoulder thereabout.

3. The adapter of claim 2 wherein the ramps on the locking fingers each have a central recess located opposite to one another to cooperate as the camming nose is forced thereacross and therebetween so that the conjugating motion of the knob and the pair of locking fingers initially spreads the locking fingers apart and when the peak and furrow are fully together a land on each locking finger positioned normal to the inward taper of the ramp of each and engages with the shoulder securing the knob in the groove.

4. An adapter and cap assembly comprising:

- a housing with an input and an output, the housing having a passage aligned along an axis of the housing and passing from the input to the output, the housing having a generally cylindrical inlet extending from the housing in a first direction normal relative to the axis, the inlet having an intersection with the housing for permitting fluid communication between the inlet and the passage, the inlet having a mouth shaped therewithin for connecting in fluid tight manner with an infusion device, the mouth having lips extending radially therefrom;
- a cap having a generally cylindrical side wall with an inner surface configured to conjugate with and close the inlet when placed thereover and to open the mouth when the cap is removed therefrom, an undercut in the inner side wall of the cap to conjugate and releasably lock to the lips, a protrusion extends from the side wall one way and a living hinge terminating in a knob extends the other way, the protrusion can be used to remove the cap from the inlet when the undercut thereon is engaged with the lips; and
- a pair of opposed locking fingers extends from the housing defining a groove therebetween, the locking fingers shaped for receiving and securing therebetween the knob in the groove, the knob has a camming nose with opposed tapers which cooperate with a ramp on each of the pair of locking fingers to spread the fingers as the knob is inserted therebetween to ease the seating of the knob in the groove, the knob has a distal end with a furrow

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located transverse thereto and the groove has a peak transversely centered therein so that the central position of the knob in the groove is maintained upon engagement, the knob is transversely thicker than the living hinge and the knob extends normal thereto with a shoulder thereabout, each ramp has an opposed central recess for cooperating as the camming nose is forced thereover and between so that the conjugating motion of the knob and the pair of locking fingers spreads the locking fingers apart until the peak and furrow are fully together, on each locking finger a land positioned normal to the inward taper of the ramp of each and located above the groove engages the shoulder on the knob.

5. The method of claim 4 with the added step of directing with a central recess in each ramp that cooperates with the tapers as the camming nose is forced thereover and between so that the conjugating step for the knob and the pair of locking fingers guides the knob into the center of the groove.

6. A method for assembling an adapter with an inlet cap including the following steps:

- assembling an adapter to a cap, the adapter comprising a housing with an input and an output, the housing having a passage aligned along an axis thereof between the input and output, the housing having an inlet extending from the housing, the inlet having an intersection for permitting fluid communication with the passage and having a pair of opposed locking fingers extending from the housing with a groove therebetween for receiving and securing a knob, and the cap comprising a living hinge including a knob having a camming nose with opposed tapers and a shoulder at a transversely thicker portion where the knob is joined to the living hinge;
- holding the cap by the living hinge, the cap further having a side wall with an inner surface configured to conjugate with and close the inlet when placed thereover, the living hinge of the cap extending from and terminating in the knob;
- placing the knob, above the locking fingers which have a ramp on each so that the cap will conjugate with the inlet;
- spreading the fingers by inserting the camming nose between the ramps to move the locking fingers apart to ease the seating of the knob in the groove as the knob is pressed toward the housing in a direction normal to the axis; and
- centering the knob in the groove with a furrow located transversely across a distal end of the knob and with a peak centered in and transversely across the groove.

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