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## SINGLE PATIENT SNAP LATCH CONNECTOR

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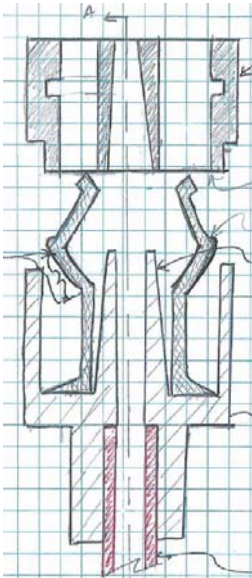
The disclosed invention provides a connector for a patient disposable set used in a medical fluid delivery system.

### Specification

The snap latch connector is for use on a single patient disposable set (SPDS) of tubing that connects to a medical fluid delivery system that will:

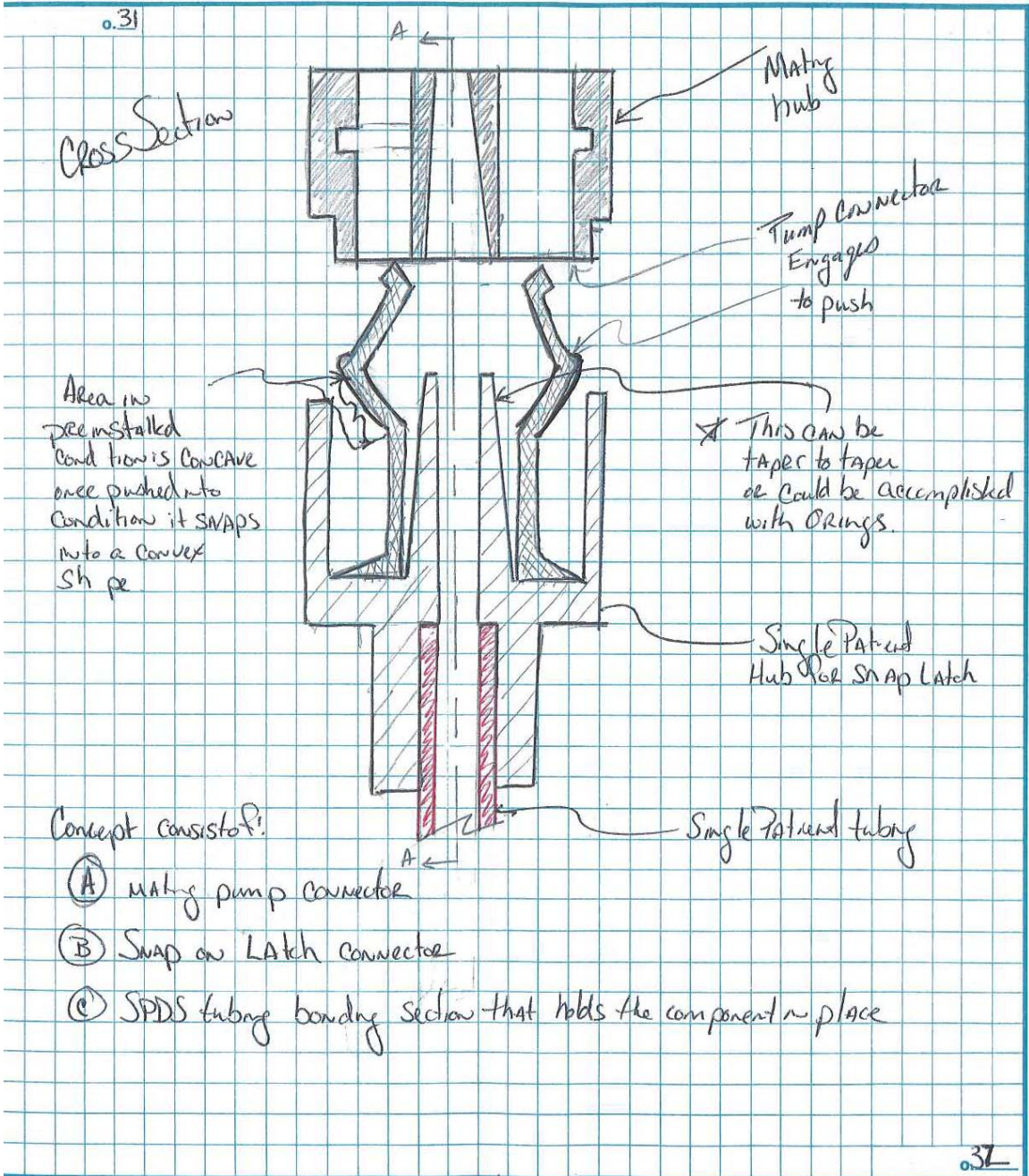
- Provide a method to differentiate the system path from the patient path
  - The connector is designed to mate with the fluid delivery system and not with a catheter.
- Provide features that are desirable to the clinicians, such as ease of use by quick connection and disconnection.
- Provide a connection that is designed to maintain its integrity under the high pressures of the medical fluid delivery system, and thereby prevent undesirable disconnection.
- Provide a method to reduce cross-contamination
  - The connection method prevents reconnection, thereby mitigating cross contamination.

The connector of the present invention is described in greater detail to show the components and operation. The invention shown below is based on a taper to taper connection for sealing, however, other suitable sealing methods can be utilized instead of a luer taper.



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Concept consists of:

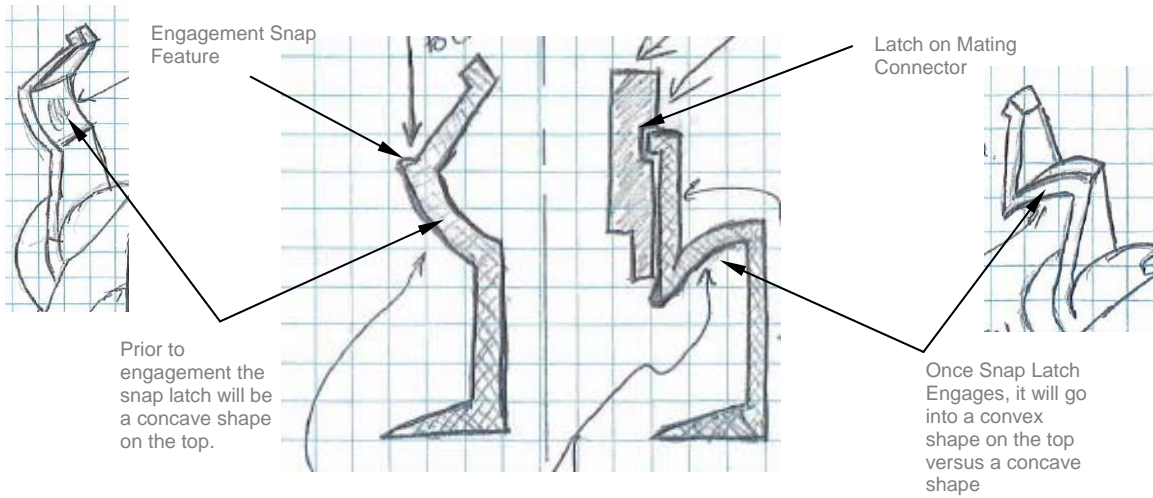
- (A) Mating pump connector
- (B) Snap on Latch connector
- (C) SPDS tubing bonding section that holds the component in place

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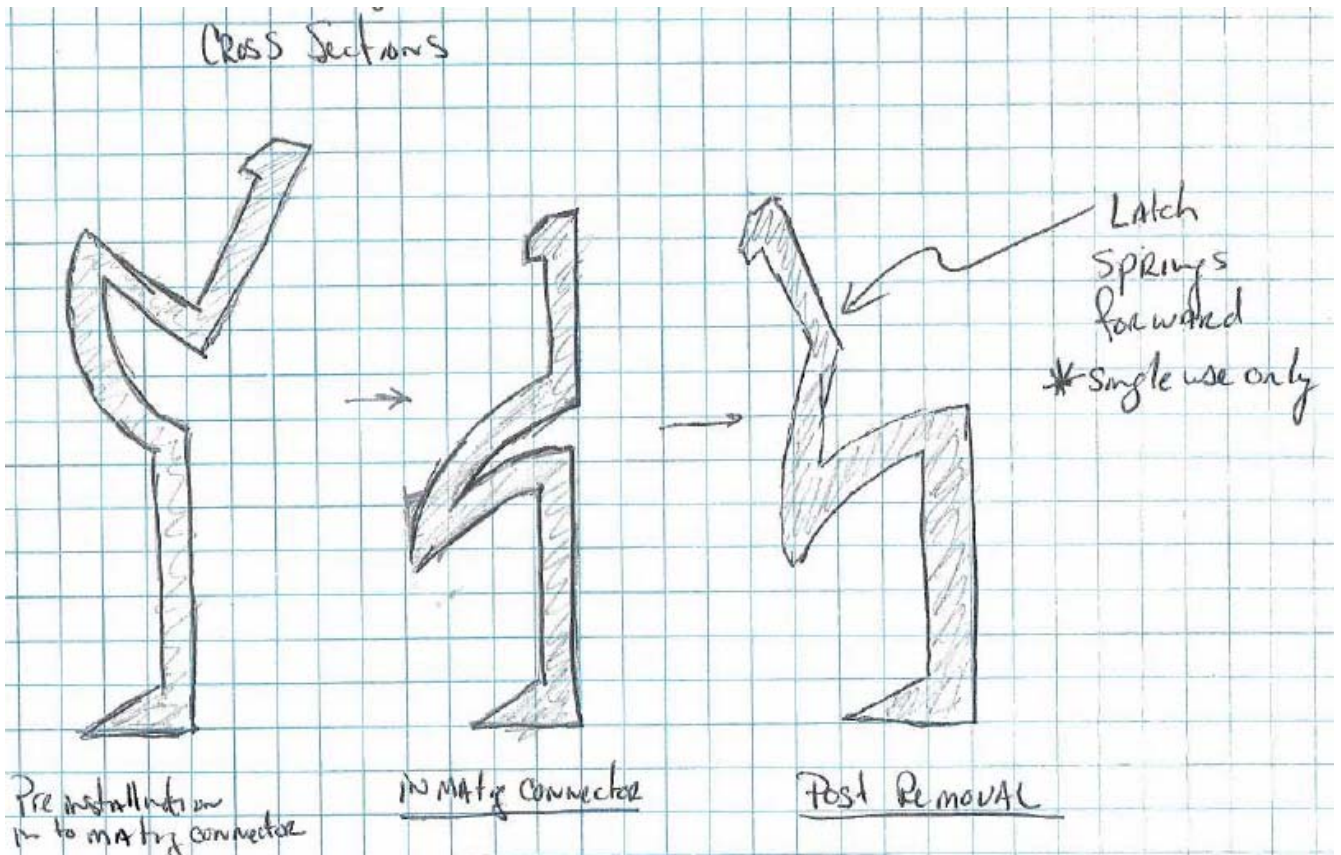
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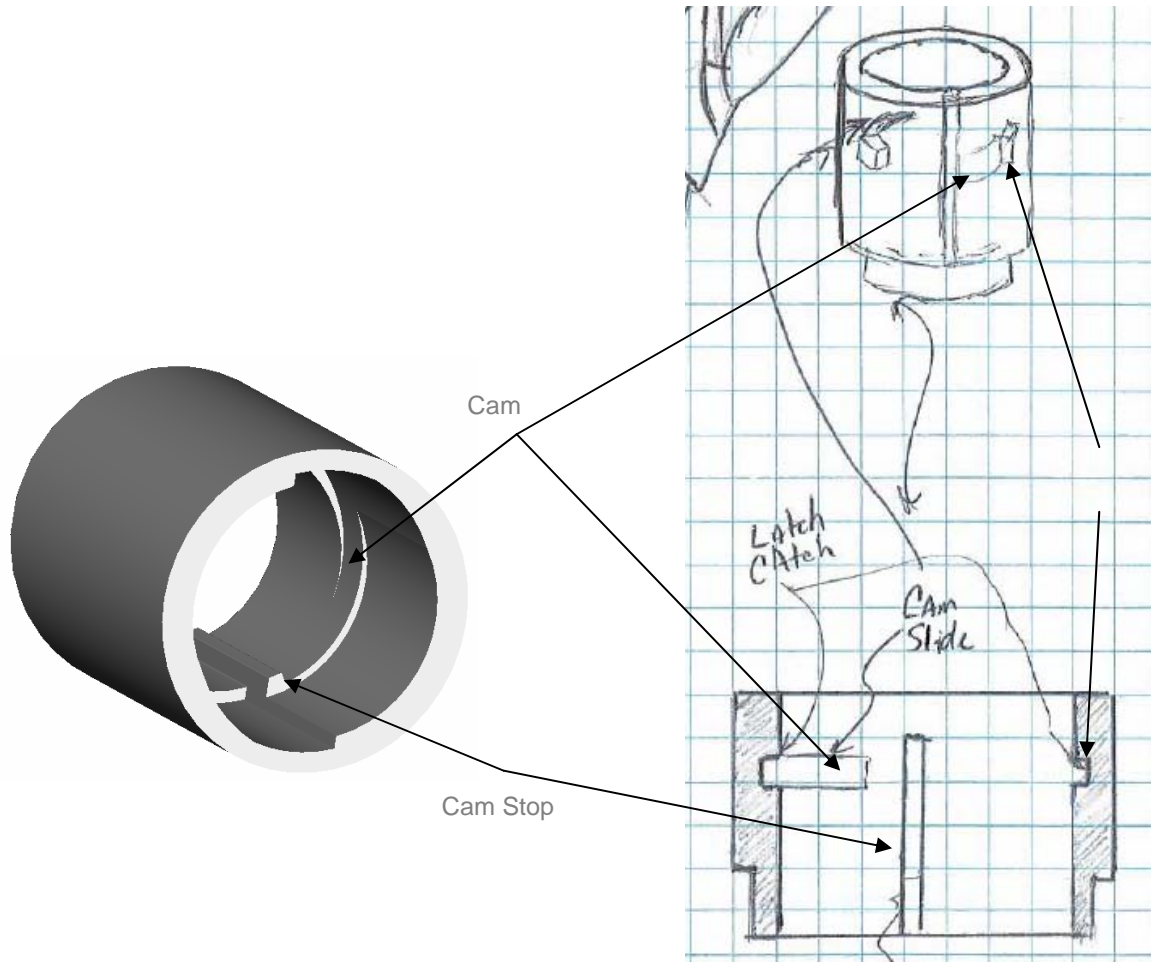
- The latch of the current invention provides a “snap on latch” feature that incorporates :
  - A concave section that when engaged pops into a convex position. This acts as the natural spring feature.
  - A latch feature to engage with the mating connector.
  - A pressure pad to allow mating connector to push down on the snap latch.



- Alternate latch configurations of the present invention include:
  - Designing the latch to spring forward and ensure single use for safety.



In order to remove the snap latch, either the snap latch or the mating connector could rotate to release through a cam mechanism.



The latch of the current invention provides these novel features:

- **Sanitary and Reduced Cross-Contamination** – Connection method designed to work once.
- **Ergonomic** - Single-motion installation process, twist and pull to remove
- **Multi-Use Durability** – Does not require sliding tapered contact surfaces to assure fluid seal (minimizes particulate generation with no sliding contact)
- **Secure connection** – Once installed, cannot be accidentally pulled off, instead the connector must be twisted to be removed
- **Intuitive** – Press to install, and bias the mini flex ring inward to remove
- **Design is Flexible** – Multiple configurations are possible to pull in the connector, hold the connector and remove the connector
- **Tactile Attachment** – Once the snap on latch pops, there an accompanied audible and have a tactile feel
- **System/Single-Patient connector - Two Pieces** – Each disclosed connector requires only two injection molded components