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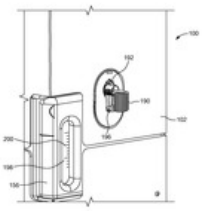
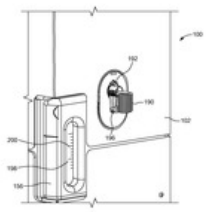
#	Title	Publication number	1st app. date	Applicant/Assignee	1st publ. date	Publ. date
1.	Single-use disposable set connector	CA2936234	2015-01-09	BAYER HEALTHCARE* BAYER MEDICAL CARE	2015-07-16	2015-07-16

A medical connector for providing a sterile connection between a multi-use portion and a single-use portion of a fluid delivery system is provided. The medical connector includes a fluid inlet port configured for removable engagement with a connection port of a multi-use disposable set (MUDS) to establish a fluid connection therewith and a waste outlet port configured for removable engagement with a waste inlet port of the MUDS to establish a fluid connection therewith. A patient fluid line is connected, at a first end, to the fluid inlet port and connected, at a second end, to the waste outlet port. Fluid flow through the patient fluid line is unidirectional from the first end to the second end. The patient fluid line is configured for being disconnected from the waste outlet port for delivering fluid to a patient. A multi-fluid delivery system having the medical connector and MUDS is also provided.





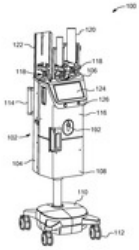


FIG. 1

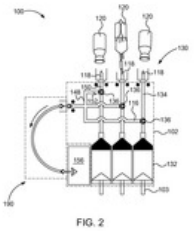


FIG. 2

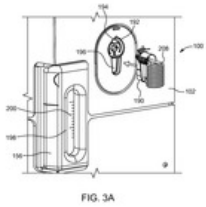


FIG. 3A

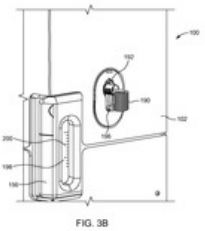


FIG. 3B

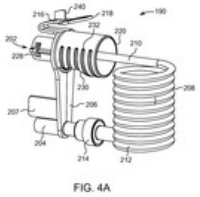


FIG. 4A

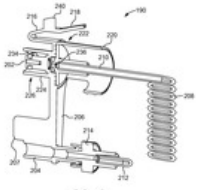


FIG. 4B

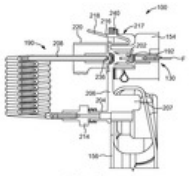


FIG. 4C

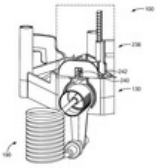


FIG. 5A

FIG. 5B

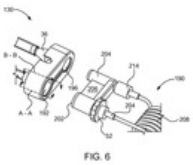
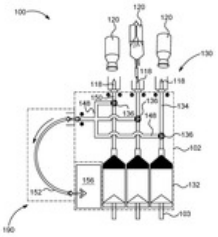
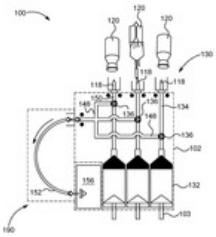


FIG. 6

#	Title	Publication number	1st app. date	Applicant/Assignee	1st publ. date	Publ. date
2.	Multiple fluid delivery system with multi-use disposable set and features thereof	CA2973257	2016-01-07	BAYER HEALTHCARE*	2016-07-14	2016-07-14

A multi-use disposable set (MUDS) has at least one syringe having a proximal end and a distal end spaced apart from the proximal end along a longitudinal axis. The MUDS further has a plunger reciprocally movable within a syringe interior between the proximal end and the distal end. A manifold is in fluid communication with the distal end of the at least one syringe. At least one valve is in fluid communication with the syringe interior. The at least one valve is operable between a filling position for filling the syringe interior with fluid and a delivery position for delivering the fluid from the syringe interior. At least one connection port is in fluid communication with the manifold and the syringe interior when the at least one valve is in the delivery position. A multi-fluid delivery system having the medical connector and MUDS is also provided. Various features of the MUDS system are also described.





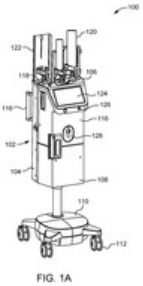


FIG. 1A

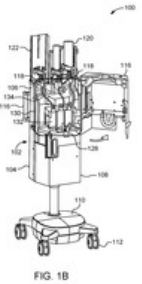


FIG. 1B

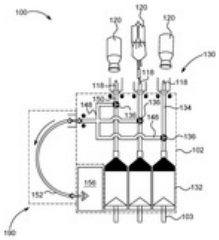


FIG. 2

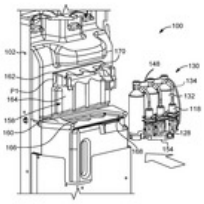


FIG. 3A

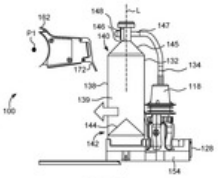


FIG. 3B

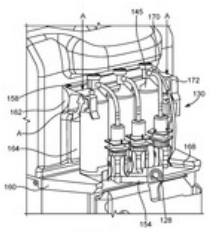


FIG. 4A

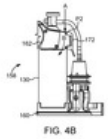


FIG. 4B

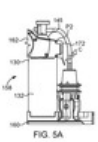


FIG. 5A

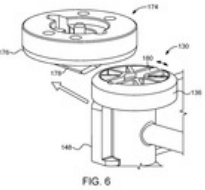


FIG. 6

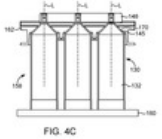


FIG. 4C

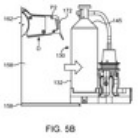
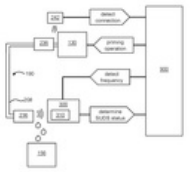
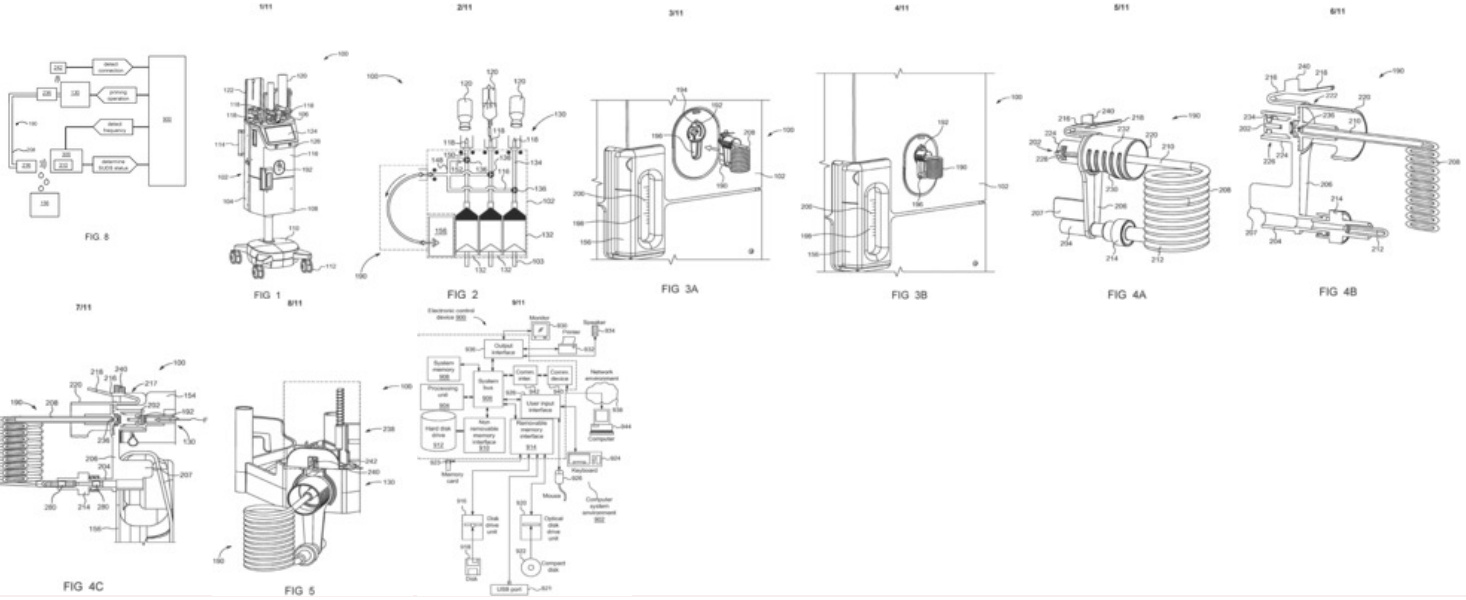


FIG. 5B

3.	Acoustic frequency recognition of patient lines	WO2018144369	2018-01-29	BAYER HEALTHCARE*	2018-08-09	2018-08-09

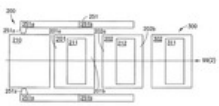
A fluid injector system includes a powered fluid injector, a connection port configured to receive a single-use disposable set having tubing connected to a fluid inlet port at a first end and connected to a waste outlet port at a second end, and a detector associated with the connection port and configured to generate a signal in response to a sonic, infrasonic, or ultrasonic wave emitted from the single-use disposable set during a priming operation of the single-use disposable set. In some examples, the detector is configured to generate a signal if the frequency of the wave emitted from the single-use disposable set is outside a predetermined range of frequencies corresponding to a predetermined range of frequencies of air expelled from the tubing. A method for detecting the multiple uses of a single-use disposable set connected to a fluid injector system is also provided.

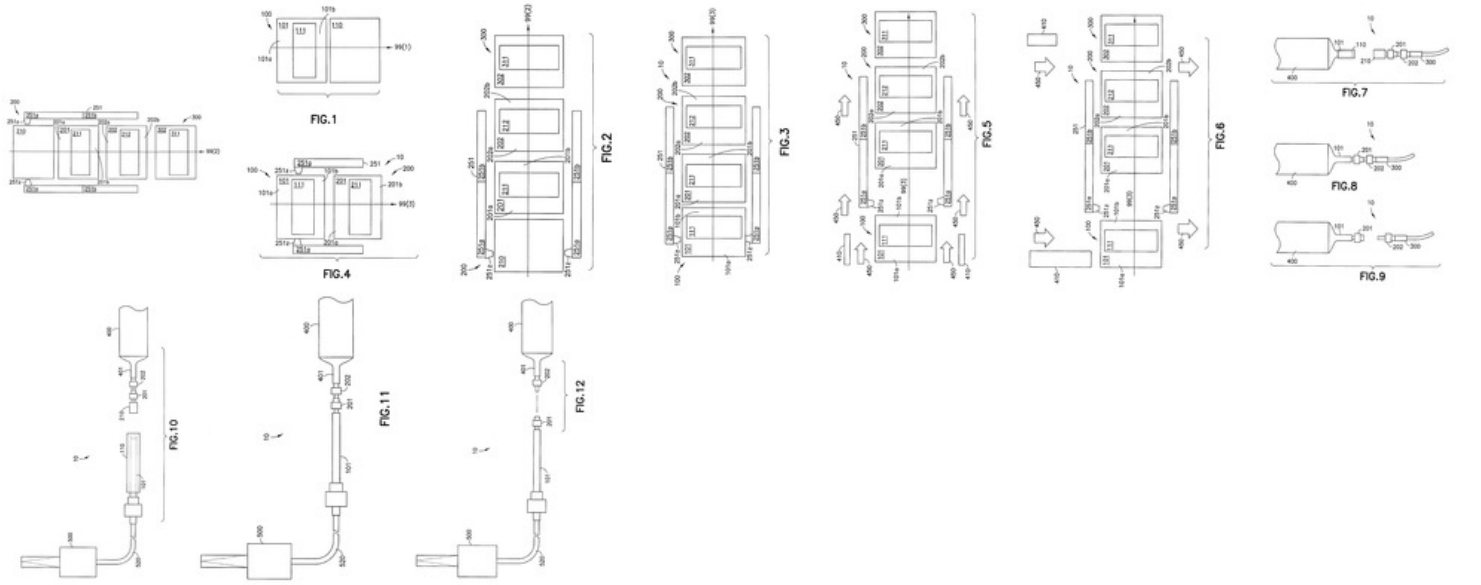




4.	Sterility retaining medical connector assembly and method	CA2853090	2012-10-19	BAYER HEALTHCARE* BAYER MEDICAL CARE MEDRAD*	2013-04-25	2013-04-25

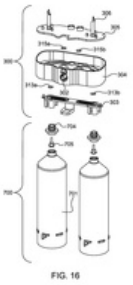
A medical connector assembly for establishing a fluid connection between a first medical device and a second medical device includes a multi-use connector and a plurality of single-use connectors connected in series. The multi-use connector has a proximal end opposite a distal end along a longitudinal length thereof. The plurality of single-use connectors each have a proximal end opposite a distal end along a longitudinal length thereof. The distal end of the multi-use connector is releasably connected to the proximal end of a first of the serially-connected single-use connectors. When a second of the serially-connected single-use connectors is disconnected from the first single-use connector, the first single-use connector remains connected to the multi-use medical connector as a sterility retaining cover.

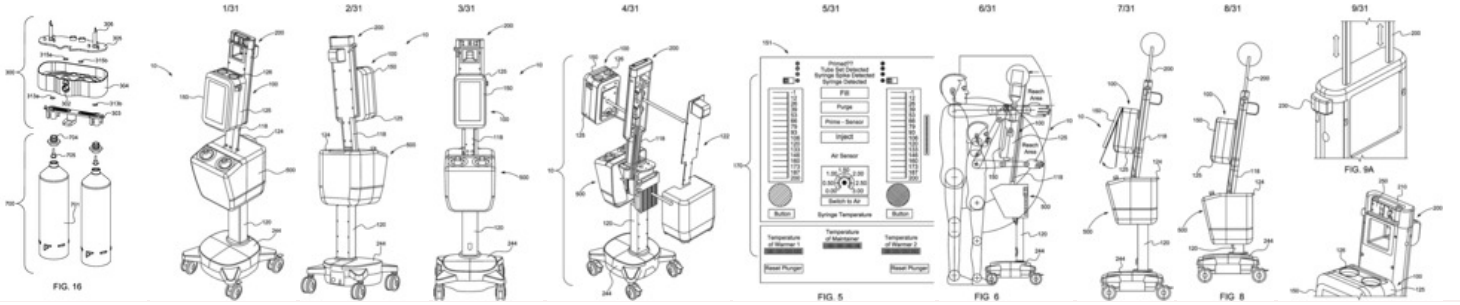




5. Fluid injector and patient set therefor WO2018017447 2017-07-17 BAYER HEALTHCARE* 2018-01-25 2018-01-25

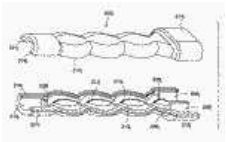
A syringe manifold (300) for a fluid injector assembly includes a middle body member (304) defining an upper cavity (308) and a lower cavity (309), the middle body member defining at least one fluid path in an upper surface of the middle body member and at least one fluid path in a lower surface of the middle body member, the middle body member defining at least two ports extending through the middle body member, the middle body member comprising an outlet (302) for connection of the syringe manifold to at least one fluid delivery device; a lower body member (303) received within the lower cavity of the middle body member, the lower body member comprising at least one connector for connection of the lower body member to a syringe assembly (700); and an upper body member (305) received within the upper cavity of the middle body member.

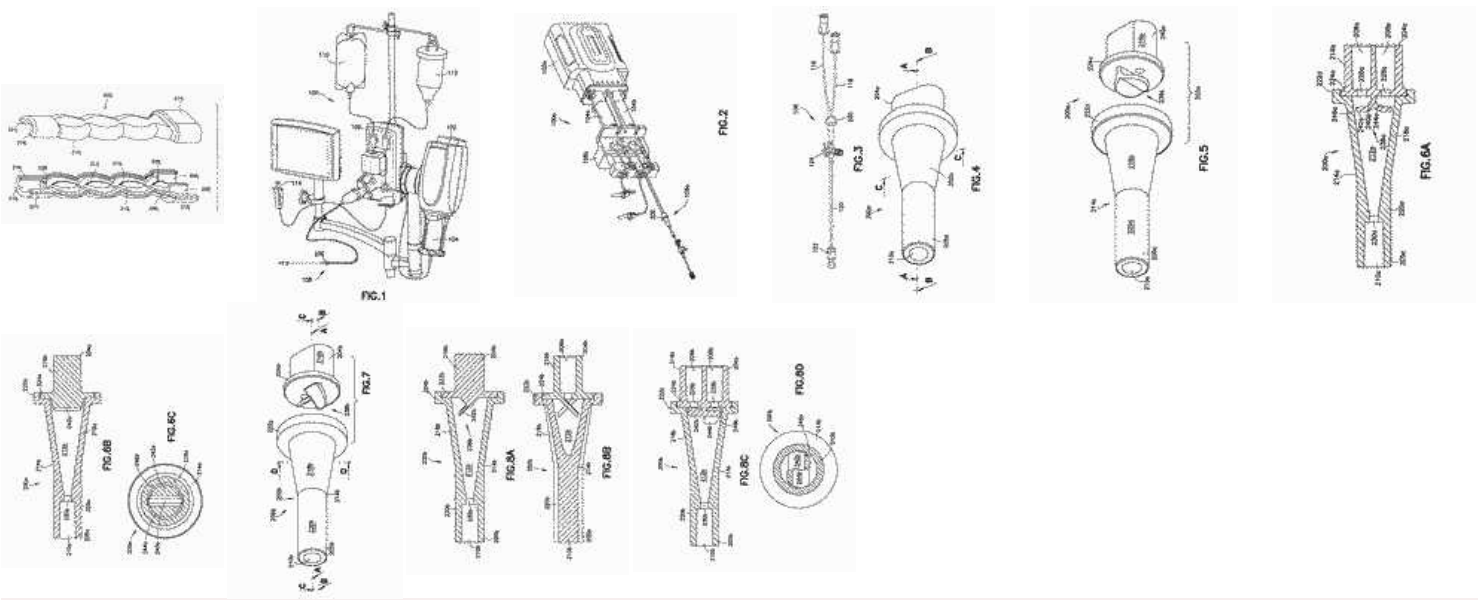




6. Fluid path set with turbulent mixing chamber, backflow compensator US20140261713 2013-03-13 BAYER HEALTHCARE* BAYER MEDICAL CARE 2014-09-18 2014-09-18

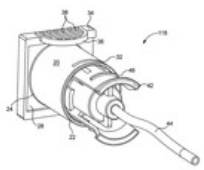
A fluid path set includes a first fluid line having a proximal end fluidly connectable to a source of a first fluid and a second fluid line having a proximal end fluidly connectable to a source of a second fluid. A flow mixing device is in fluid communication with distal ends of the first and second fluid lines. The flow mixing device includes a housing, a first fluid port provided for receiving the first fluid, and a second fluid port for receiving the second fluid. A mixing chamber is disposed within the housing and is in fluid communication with the first and second fluid ports. A third fluid port in fluid communication with the mixing chamber for discharging a mixed solution of the first and second fluids. A turbulent flow inducing member is disposed within the mixing chamber for promoting turbulent mixing of the first and second fluids.





7. Portable fluid delivery system | CA2914573 | 2014-06-13 | BAYER HEALTHCARE* BAYER MEDICAL CARE | 2014-12-18 | 2014-12-18

A fluid delivery system includes a first container configured for storing a first fluid therein and a second container configured for storing a second fluid therein, wherein the second fluid is different from the first fluid. The fluid delivery system further includes at least one pump configured for delivering under pressure one or both of the first and second fluids. At least one valve is provided for selectively delivering one or both of the first and second fluids to the pump. The first and second containers, the pump, and the valve are contained within a cartridge that is removably insertable into a cartridge carrier of the fluid delivery system.



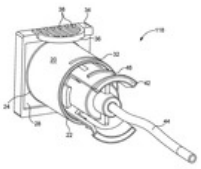


FIG. 1

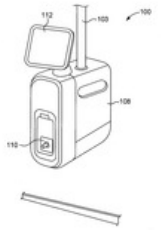


FIG. 2

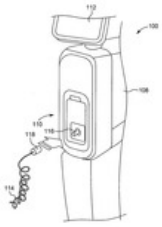


FIG. 3

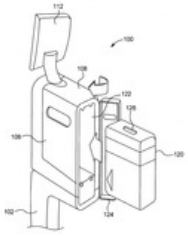


FIG. 4

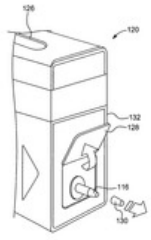


FIG. 5

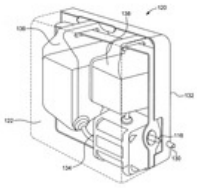


FIG. 6A

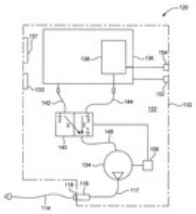


FIG. 6B

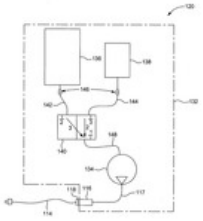


FIG. 7A

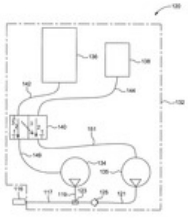


FIG. 7B

8. Sterility retaining medical connector assembly and method | WO2014210418 | 2014-06-27 | BAYER MEDICAL CARE* | 2014-12-31 | 2014-12-31

A medical connector assembly includes a multi-use connector having a front face and a first fluid passageway and one or more single-use connectors removably engagable with the multi- use connector. Each of the single-use connectors includes a housing having a proximal end opposite a distal end. A connector element is removably coupled with the housing and has a second fluid passageway. The connector element is movable relative to the housing between a first position where the first fluid passageway is in fluid communication with the second fluid passageway and a second position where the first fluid passageway is out of fluid communication with the second fluid passageway. Each single-use connector has a sterility- maintaining arrangement adapted for slidably moving the distal end of the housing relative the front face of the multi-use connector without exposing the distal end of the housing to contamination.

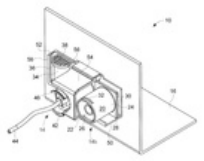


FIG. 1

1/20 2/20 3/20 4/20 5/20 6/20

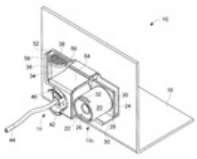


FIG. 1

7/20

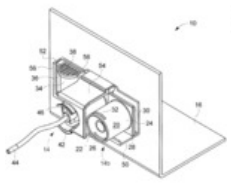


FIG. 1

8/20

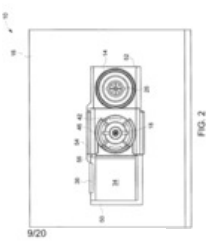


FIG. 2

9/20

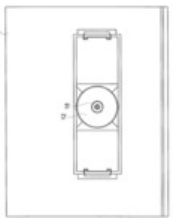


FIG. 3

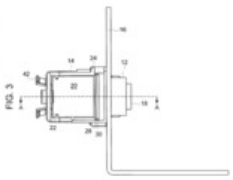


FIG. 4

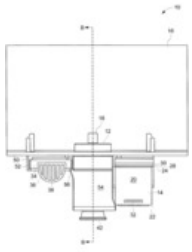


FIG. 5

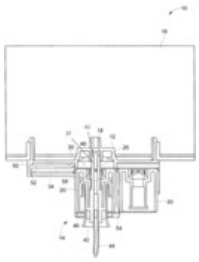


FIG. 6

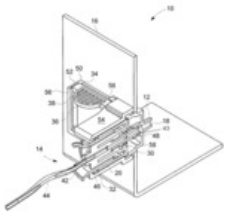


FIG. 7

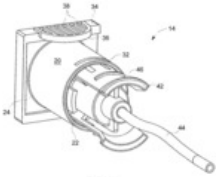


FIG. 8

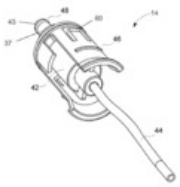


FIG. 9

9.	Multi-use disposable system and syringe therefor	WO2017218372	2017-06-12	BAYER HEALTHCARE*	2017-12-21	2017-12-21

A syringe including a syringe body extending from a proximal end to a distal end, and a stabilizing element provided on the distal end of the syringe body, a portion of the stabilizing element extending substantially perpendicular to a longitudinal axis of the syringe body. A multi-use disposable set (MUDS) includes a plurality of syringes, each syringe having a syringe body, a proximal end, a distal end spaced apart from the proximal end along a longitudinal axis of the syringe body, a stabilizing element provided on the distal end, a portion of the stabilizing element extending substantially perpendicular to the longitudinal axis of the syringe body, and a manifold in fluid communication with the distal end of each of the plurality of syringes.

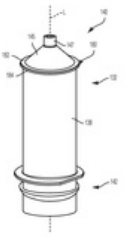


FIG. 6A

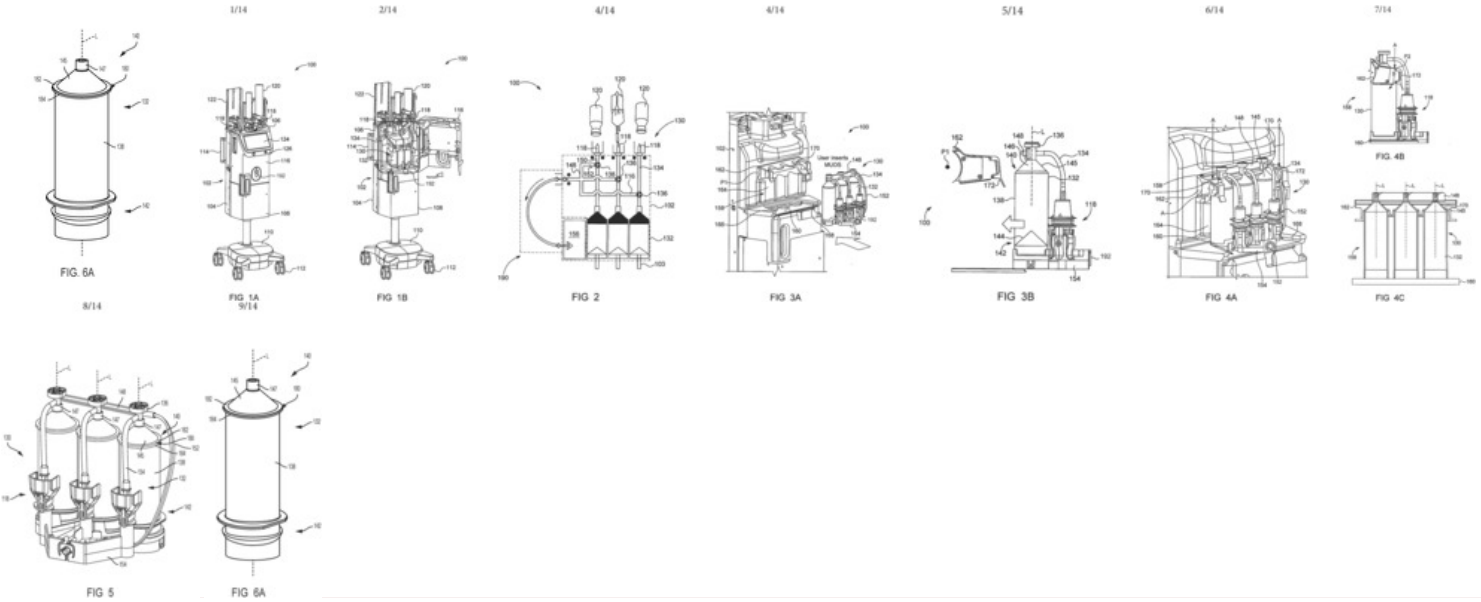


FIG. 6A

FIG. 1A

FIG. 1B

FIG. 2

FIG. 3A

FIG. 3B

FIG. 4A

FIG. 4B

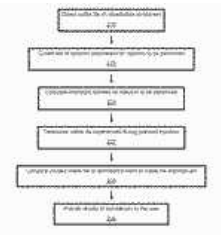
FIG. 4C

FIG. 5

FIG. 6A

10.	Systems for determining, and devices for indicating, viable life of replaceable components thereof and methods therefor	CA2995398	2016-08-11	BAYER HEALTHCARE*	2017-02-16	2017-02-16

A system capable of monitoring a replaceable component is provided. The system includes a controller for controlling operation of the system; programming instructions according to which the system is configured to: accept input of a viable life for the component, calculate an accumulated amount of distress experienced by the component based on each set of previously collected use data associated with each previous use of the component, and determine, based in part on the accumulated amount of distress, a used portion of the viable life that the component has experienced as a result of the previous use(s) thereof and an unused portion of the viable life; and a feedback device configured to provide to an operator of the system an indication of at least one of the unused and used portions of the viable life of the component. Methods of monitoring a replaceable component of a system are also provided.



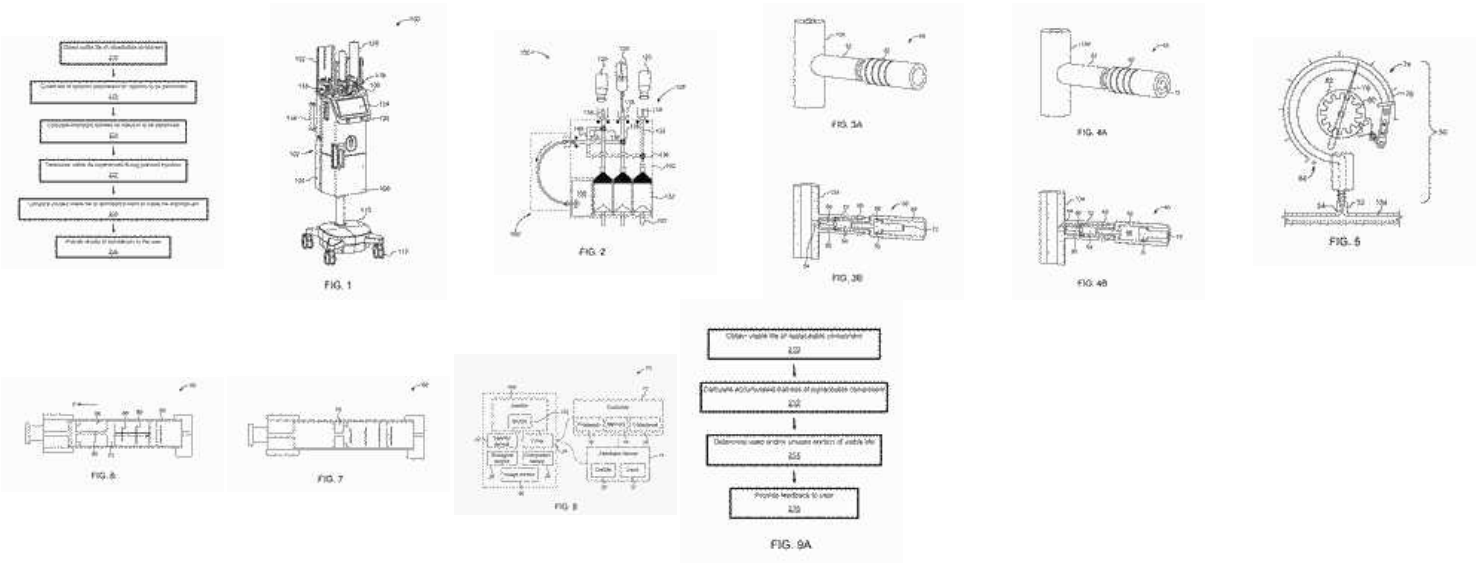


FIG. 1

FIG. 2

FIG. 3A

FIG. 3B

FIG. 4A

FIG. 4B

FIG. 5

FIG. 6

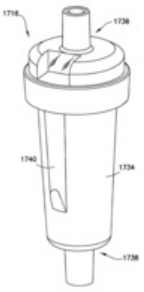
FIG. 7

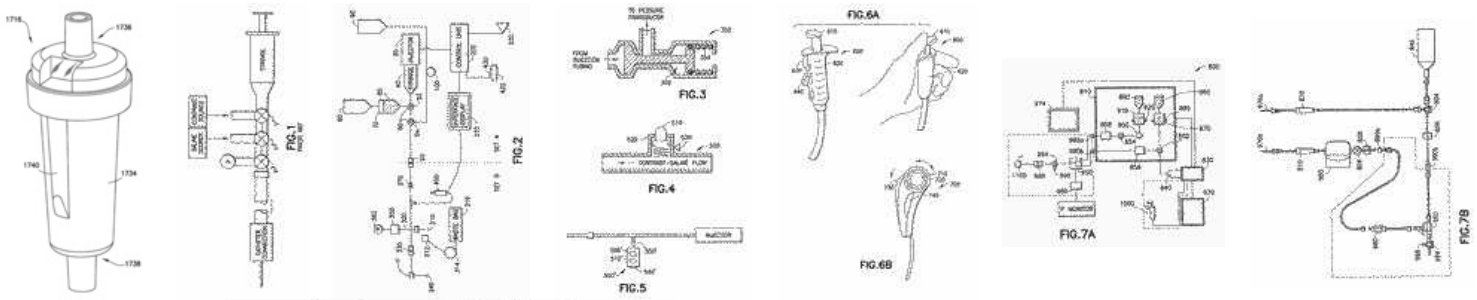
FIG. 8

FIG. 9A

11.	Fluid delivery system, fluid control device, and methods associated with the fluid delivery system and fluid control device	US20050230575	2004-04-16	BAYER HEALTHCARE* MEDRAD	2005-10-20	2005-10-20

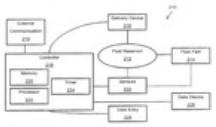
The fluid delivery system (10) generally includes a source of injection fluid (6), a pump device (30), a fluid path set disposed between the source of injection fluid and the pump device, and a fluid control device. The fluid path set includes a multi-position valve (50). The fluid control device is operatively associated with the fluid path set and includes a valve actuator adapted to operate the multi-position valve. The valve actuator is adapted to close the multi-position valve to isolate the pump device from a patient and stop flow of the injection fluid to the patient at substantially any pressure or flow rate generated by the pump device for delivering a sharp bolus of the injection fluid to the patient. The valve actuator is generally adapted to selectively place the pump device in fluid communication with the source of injection fluid for supplying the injection fluid to the pump device and the patient.

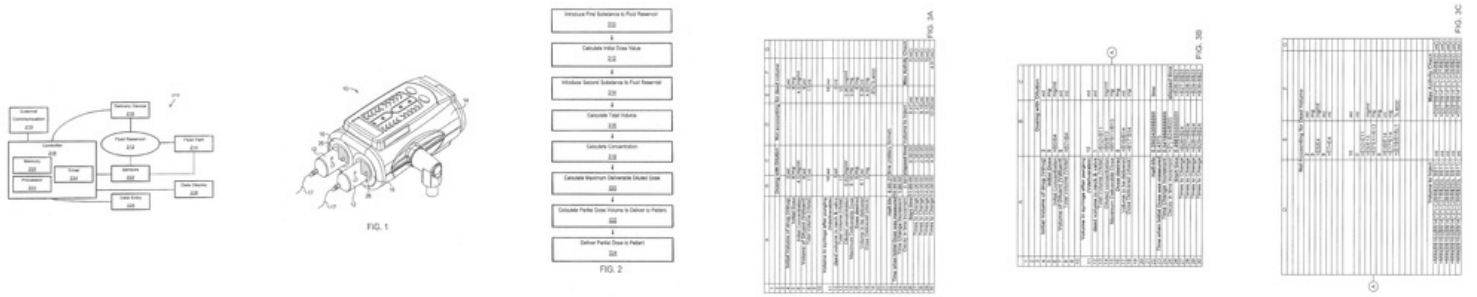


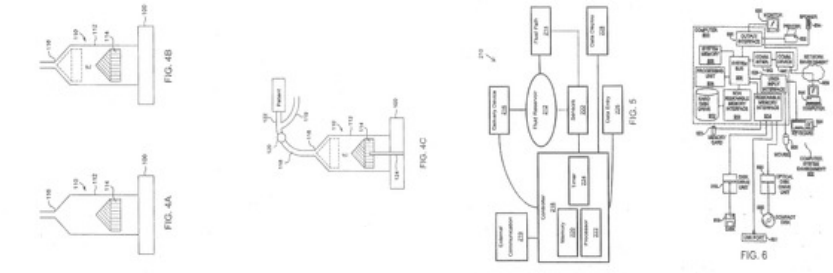


12.	Accurately delivering partial doses of a drug post dilution using an injector	WO2015077777	2014-11-25	BAYER HEALTHCARE* BAYER MEDICAL CARE	2015-05-28	2015-05-28

Methods and systems for diluting a dose of a substance to be delivered to a patient and for determining a maximum deliverable dose of the substance and/or a partial fluid volume to be delivered to the patient to provide a desired dose amount are provided. The method includes the step of providing a first substance within a fluid reservoir having an initial unit value. The method also includes diluting the first substance with a second substance to produce the diluted solution. Once the first substance is diluted, a total volume (VTotal) of the diluted solution is measured. A concentration of the diluted solution is then calculated based on the initial unit value and the total volume (VTotal). A fluid delivery system including a fluid reservoir and fluid delivery device, which is configured to perform the method, is also provided.

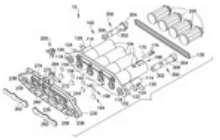


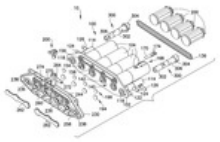




13.	Continuous multi-fluid pump device, drive and actuating system and method	CA2987358	2012-09-20	BAYER HEALTHCARE* BAYER MEDICAL CARE BAYER PHARMACEUTICALS MEDRAD	2013-03-28	2013-03-28

A fluid pump device is operable by a drive and actuating system. The fluid pump device includes a pump manifold, a plurality of pump cylinders, a plunger reciprocally operable in each of the pump cylinders, and at least one inlet selector valve. The pump cylinders may extend proximally from the pump manifold and are in selective fluid communication with the pump manifold via, for example, respective inlet and outlet check valves. The plungers are reciprocally operable within the pump cylinders and are independently and reciprocally operable by respective piston linear actuators provided in the drive and actuating system. The inlet selector valve is used to establish selective fluid communication between one or more fluid source containers and the pump manifold to control fluid flow into the pump manifold. The inlet selector valve may be located laterally outboard of the pump cylinders and extend generally parallel to the pump cylinders.





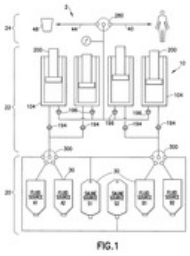


FIG.1

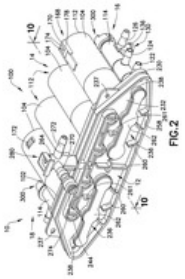


FIG.2

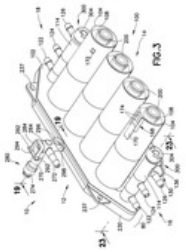


FIG.3

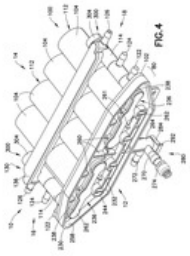


FIG.4

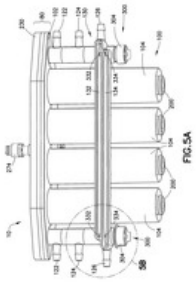


FIG.5A

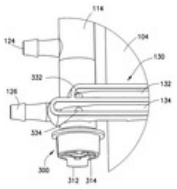


FIG.5B

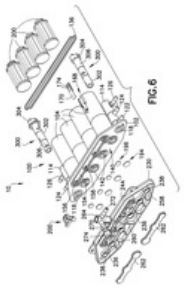


FIG.6

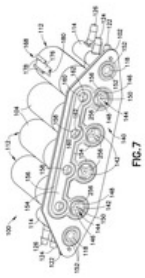


FIG.7

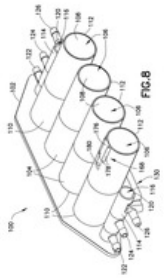


FIG.8

14.	Adjustable connector, improved fluid flow and reduced clotting risk	WO2011011462	2010-07-20	OPTISCAN BIOMEDICAL*	2011-01-27	2011-01-27

Methods and systems for determining the concentration of one or more analytes from a sample such as blood or plasma are described. The systems described herein can be configured to withdraw a sample from a source of fluid, direct a first portion of the withdrawn sample to an analyte monitoring system and return a second portion of the sample. The analyte monitoring system can be connected to the fluid source via a connector that is configured to improve fluid flow and reduce blood clotting risk. These goals can be accomplished, for example, by employing coatings in or on a connector, positioning a resilient substance at or near the junction, by reducing dead space volume, by using resiliency to improve fit, by extending a portion of one connector to better mate with a portion of another connector, etc.

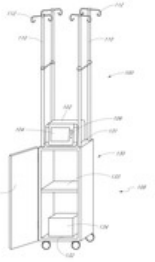


FIG. 1

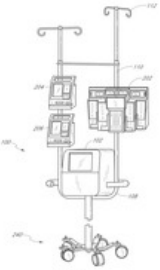


FIG. 2

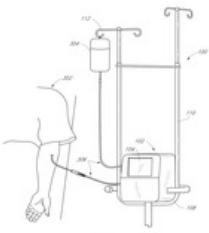


FIG. 3

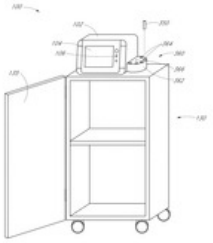


FIG. 3A

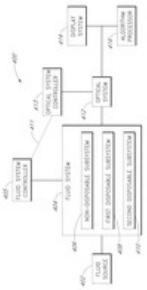


FIG. 4

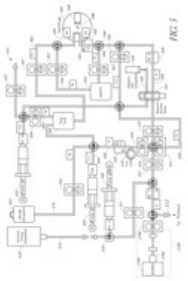


FIG. 5

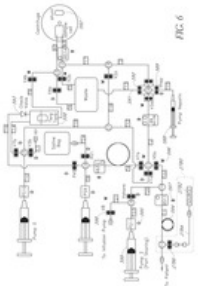


FIG. 6

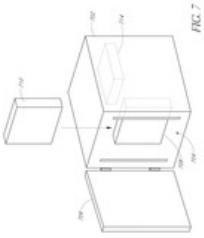


FIG. 7

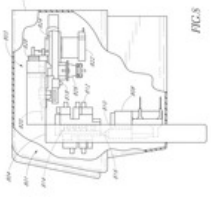
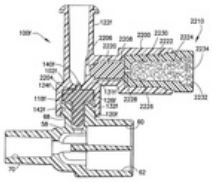
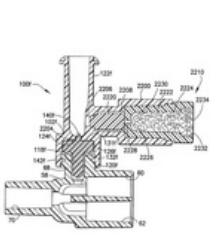


FIG. 8

15.	Flow based pressure isolation and fluid delivery system including flow based pressure isolation and flow initiating mechanism	WO2008079540	2007-11-12	BAYER HEALTHCARE* MEDRAD	2008-07-03	2008-07-03

The fluid delivery system includes a pressurizing device for delivering a pressurized injection fluid, a low pressure fluid delivery system, and a pressure isolation mechanism adapted for fluid communication with the pressurizing device and low pressure fluid delivery system. The pressure isolation mechanism includes a housing defining an inlet port, an isolation port, and an internal cavity. The housing defines a seal seat in the internal cavity between the inlet port and isolation port. A valve member is disposed in the internal cavity. The valve member is free floating in the internal cavity and is adapted to engage the seal seat. The valve member has an open position permitting fluid communication between the inlet port and isolation port, and is fluid flow responsive to fluid flow in the inlet port to engage the seal seat and attain a closed position preventing fluid flow between the inlet port and isolation port.





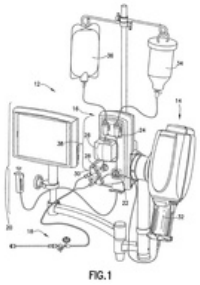


FIG.1

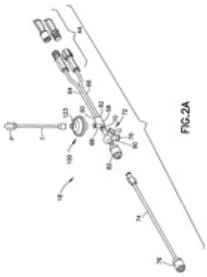


FIG.2A

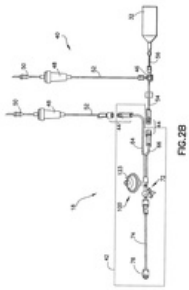


FIG.2B

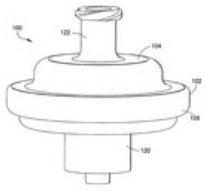


FIG.3

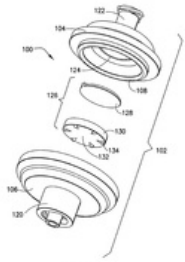


FIG.4

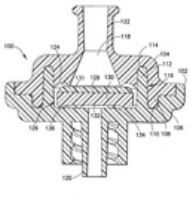


FIG.5

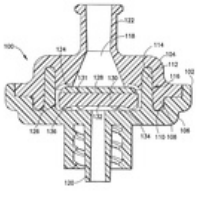


FIG.6

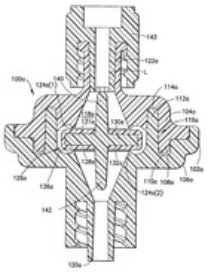
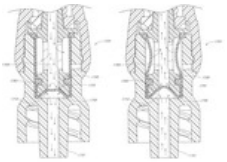


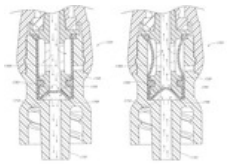
FIG.7

FIG.8

16.	Medical connectors and methods of use	WO2010111546	2010-03-23	ICEY YOU MEDICAL ICU MEDICAL*	2010-09-30	2010-09-30

Some embodiments disclosed herein relate to a medical connector having a backflow resistance module configured to prevent fluid from being drawn into the connector when a backflow inducing event occurs. In some embodiments, the backflow resistance module can include a variable-volume chamber configured to change in volume in response to a backflow-inducing event and a check valve configured to resist backflow. In some embodiments, the medical connector can include a fluid diverter configured to direct fluid flowing through the medical connector into the variable volume chamber to prevent fluid stagnation therein. In some embodiments, the medical connector includes a body member, a base member, a seal member, a support member, and a valve member.





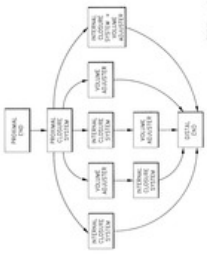


FIG. 1

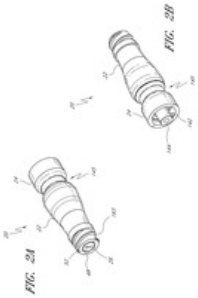


FIG. 2B

FIG. 2A

FIG. 3

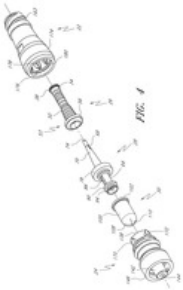


FIG. 4

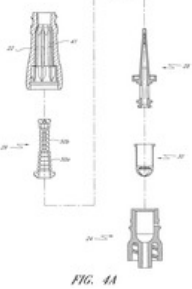


FIG. 4A

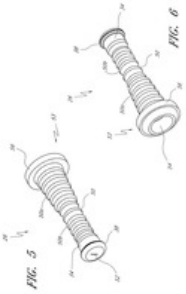


FIG. 5

FIG. 6

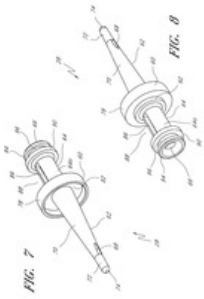


FIG. 7

FIG. 8

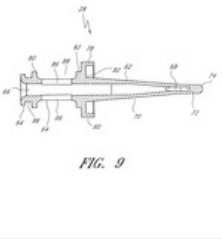


FIG. 9

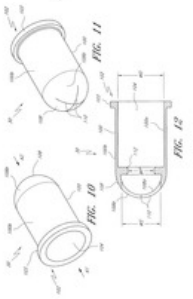


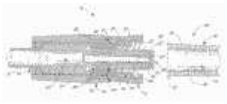
FIG. 10

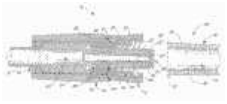
FIG. 11

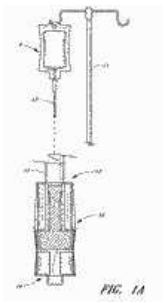
FIG. 12

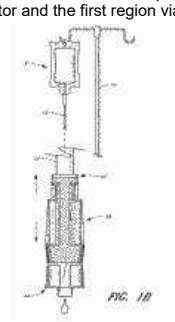
17.	Medical connector with closeable male luer	WO2007008511	2006-05-03	ICEY YOU MEDICAL ICU MEDICAL*	2007-01-18	2007-01-18

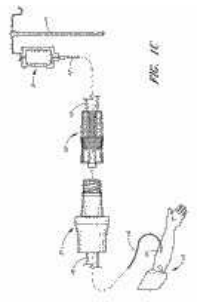
A medical connector comprising a housing with a central axis and an internal cavity. The internal cavity of the housing comprises a passage connecting a first region and a second region; and a rigid valve member configured to be advanced towards and away from the second region along the central axis of the housing, the rigid valve member comprising an internal passageway and a fluid chamber at one end of the valve member. The fluid chamber has a closed tip and a hole adjacent the closed tip. The medical connector has a first position in which at least a portion of the fluid chamber comprising the hole is positioned in the passage and fluid flow between the internal passageway and the first region is impeded. The medical connector also has a second position in which the rigid valve member is advanced towards the first region and fluid communication between the interior of the medical connector and the first region via the hole is enabled.

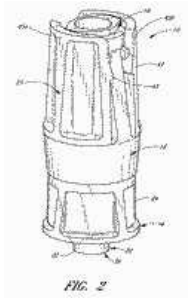


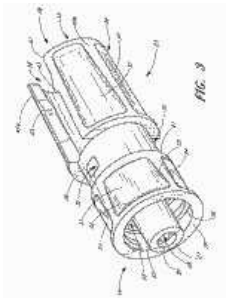


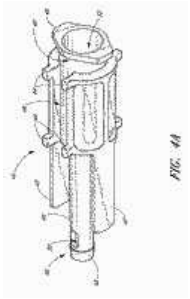


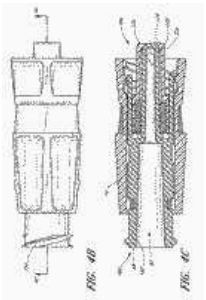


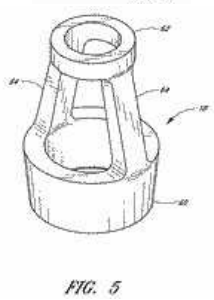


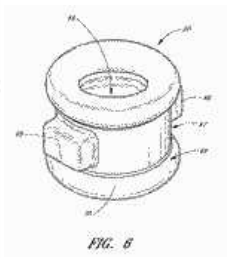






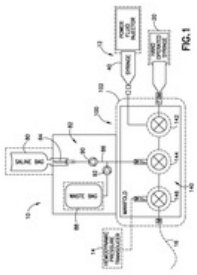


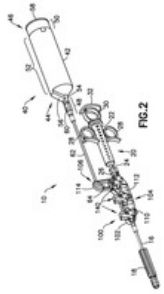


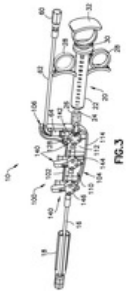


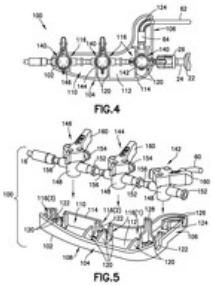
18.	Fluid delivery system with high and low pressure hand manifold	US20140107480	2013-01-31	BAYER HEALTHCARE* BAYER MEDICAL CARE MEDRAD	2014-04-17	2014-04-17

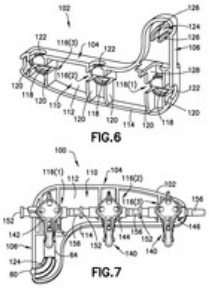
A fluid delivery system is provided and includes a power injector supporting a high pressure syringe. The fluid delivery system further includes a manifold and a low pressure hand-operated syringe. The manifold generally includes a plurality of fluid control valves in series fluid communication. A first fluid control valve of the plurality of fluid control valves has a first port, a second inlet port, and a third port. The third port of the first fluid control valve is in fluid connection with a first port of a second fluid control valve. The low pressure hand-operated syringe is in fluid connection with the first port of the first fluid control valve, and the high pressure syringe is in fluid connection with the second port of the first fluid control valve. The fluid control valves may be multi-position stopcock valves.

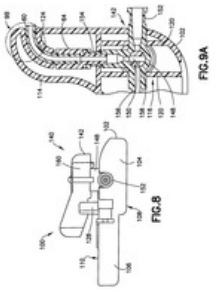


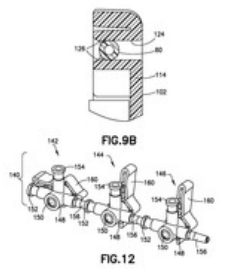


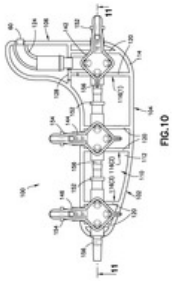


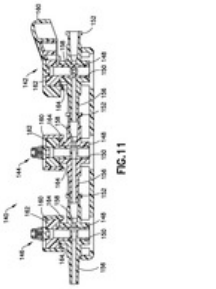






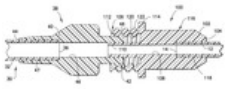


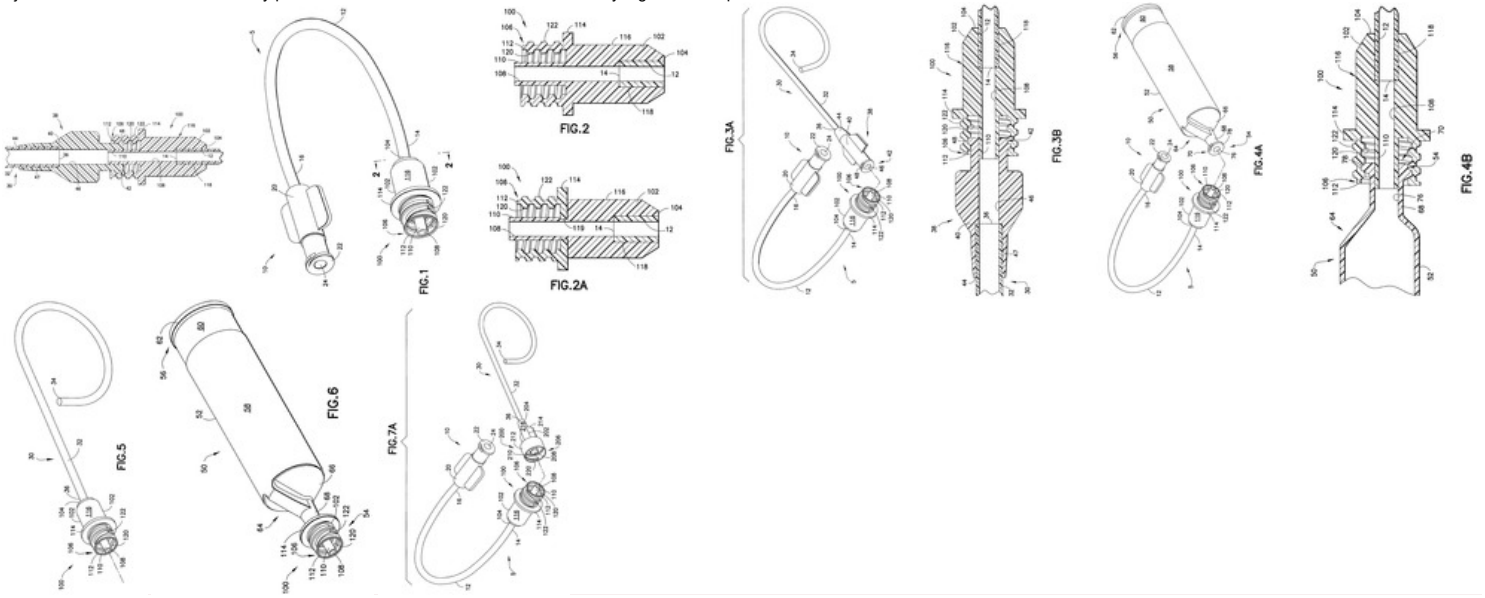




19.	Fluid delivery system, fluid path, and medical connector for use with the fluid delivery system and fluid path	US20070129705	2006-08-10	BAYER HEALTHCARE* MEDRAD	2007-06-07	2007-06-07

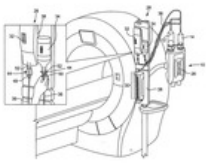
A medical connector includes a body defining a lumen for fluid flow through the medical connector. The medical connector includes a luer member and an annular member disposed about the luer member. The annular member includes internal and/or external engagement structures. The medical connector may be provided on the outlet of a syringe or on a catheter. A fluid path is disclosed including a first section and a second section. The first and second sections may each include a medical connector to provide a removable connection with a syringe and a catheter, respectively. The medical connector may provide a removable connection between the first and second sections. A fluid delivery system is disclosed including an injector, a syringe operatively associated with the injector, and a fluid path connecting the syringe and a source of injection. The medical connector may provide a removable connection between the syringe and fluid path.

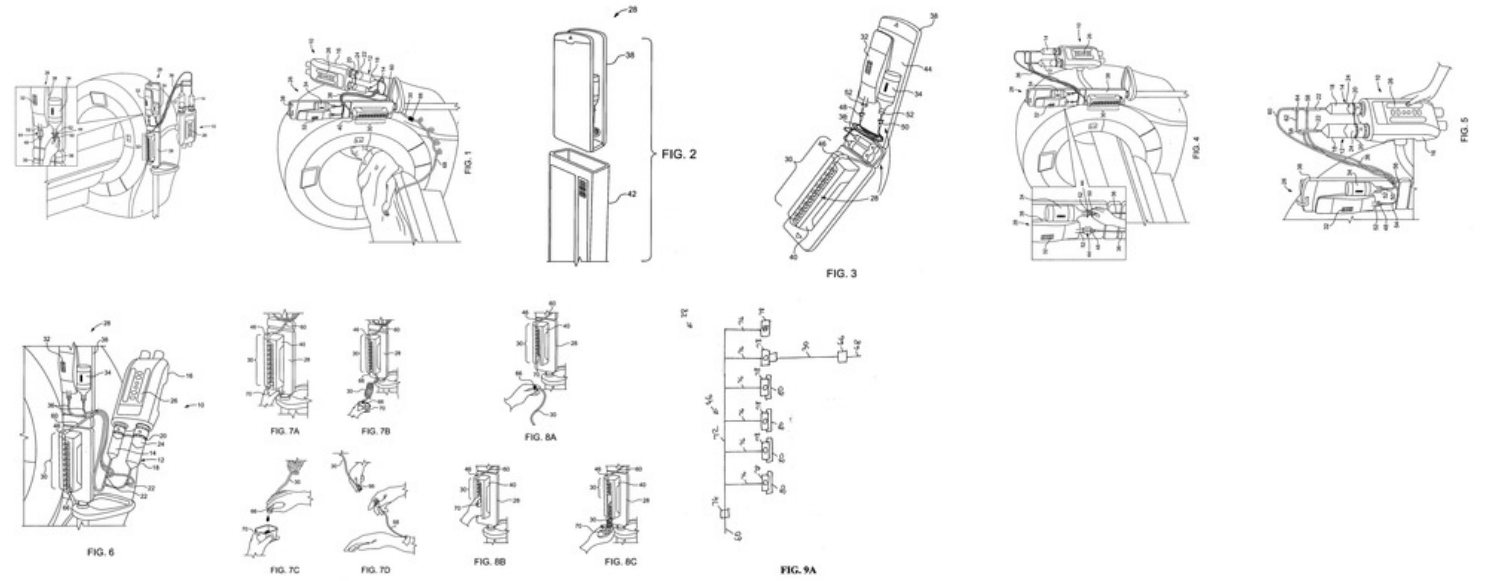




20.	Multi-dose disposable system	CA2937901	2015-02-18	BAYER HEALTHCARE* BAYER MEDICAL CARE	2015-08-27	2015-08-27

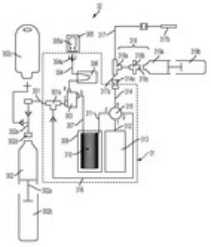
A multi-dose disposable fluid delivery system includes at least one fluid container, a multi-use fluid path set, and a plurality of single-use fluid path sets. The at least one fluid container has a connection port configured for fluidly connecting with a first end of the multi-use fluid path set. The second end of the multi-fluid path set is configured for fluidly connecting to a fluid injection apparatus. The plurality of single-use fluid path sets is connected in sequence to define a fluid path extending from a first single-use fluid path set to a last single- use fluid path set. Each of the plurality single-use fluid path sets has a first end and a second end. The first end of the first single-use fluid path set is configured for connecting to a delivery line. The second end of the last single-use fluid path set is configured for connecting to the injection apparatus.





21.	Radiopharmacuetical delivery device	WO2013184642	2013-03-14	BAYER HEALTHCARE* BAYER MEDICAL CARE BAYER PHARMACEUTICALS	2013-12-12	2013-12-12

A device for delivery of a radiopharmaceutical and, in some embodiments, delivery of a pharmaceutical agent are provided herein. The device includes a confluence valve, a four-way valve, a first tubing section in fluid communication with a first input and the confluence valve, a second tubing section in fluid communication with a second input and the confluence valve, a third tubing section in fluid communication with the confluence valve and the four-way valve, an output tubing section in fluid communication with the four-way valve and at least one output fitting, a waste tubing section in fluid communication with the four-way valve and at least one waste receptacle, an auxiliary tubing section in fluid communication with the four-way valve and the confluence valve, and one or more pumps operably connected to the fluid path.



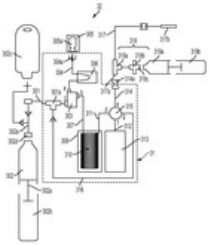


FIG. 1

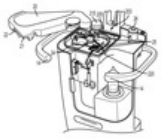


FIG. 2A

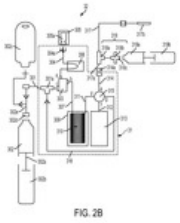


FIG. 2B

FIG. 2C-I

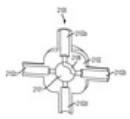


FIG. 2C-II

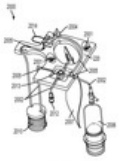


FIG. 2D

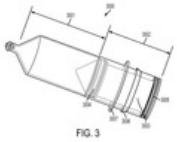


FIG. 3

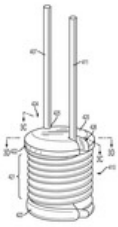


FIG. 4A

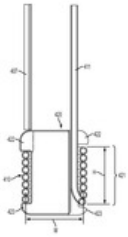


FIG. 4B

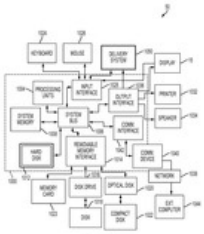
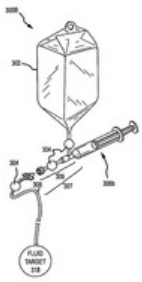
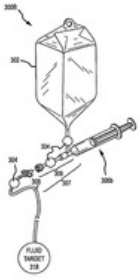


FIG. 5

22.	Fluid delivery system with multi-dose fluid source	WO2009067200	2008-11-19	LIEBEL FLARSHEIM* LIEBEL FRASSHEIM MALLINCKRODT MERINKOD	2009-05-28	2009-05-28

A fluid delivery system (400A) is generally directed to allowing fluid sources or other fluid delivery components to be reused with multiple fluid targets (318), and includes at least one fluid source (314) fluidly interconnectable with at least one sterilization zone (316) and at least one fluid target (318). This sterilization zone (316) could include one or more sterilization systems that attempt to neutralize contaminants entering the fluid delivery system (400A) by a backflow from the fluid target (318). One such sterilization system (500A-D) includes a container (502a-d) and a flush system (520) for sterilizing the container (502a-d) between uses. Another sterilization system (600) includes a flowpath (604) exposed to an output of an energy source (602) capable of destroying contaminants. Yet another sterilization system could include a sterilizing substance (710) that engages and moves along an interior surface (705) of a housing (704) to treat contamination thereon.





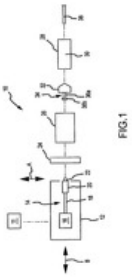


FIG.1

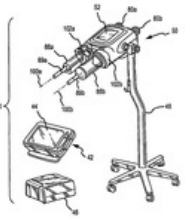


FIG.2A

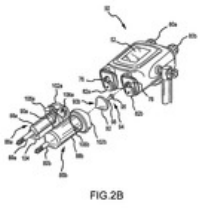


FIG.2B

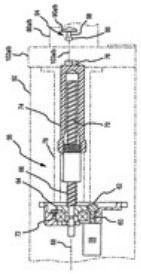


FIG.2C

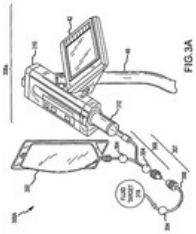


FIG.3A

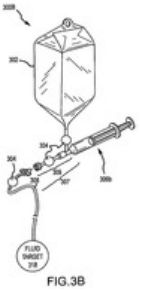


FIG.3B

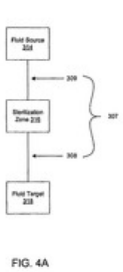


FIG. 4A

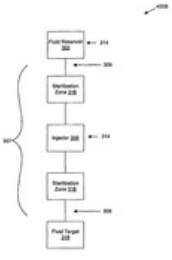


FIG. 4B

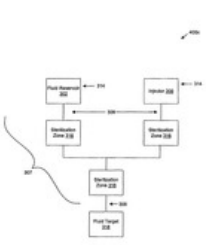
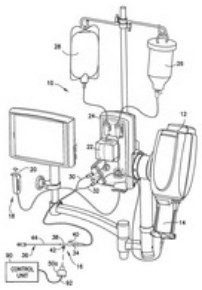
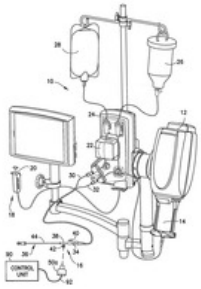


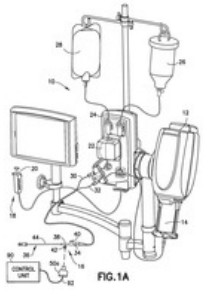
FIG. 4C

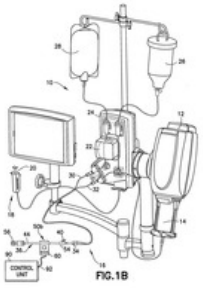
23.	High pressure sensor for use with a fluid delivery system	US20130255390	2013-03-13	BAYER HEALTHCARE* BAYER MEDICAL CARE MEDRAD	2013-10-03	2013-10-03

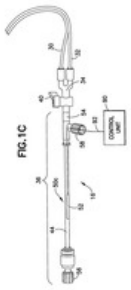
A pressure sensor for use with a fluid delivery system having good sensitivity at low pressure, but also configured to remain in operating condition after being exposed to high pressures is disclosed herein. In one variation, the pressure sensor includes a fluid path set, a deformable element associated with the fluid path set and configured to deform in response to an external pressure, and a pressure transducer for monitoring deformation of the deformable element. In certain embodiments, the pressure sensor is configured to measure fluid pressure within the range of between about 0 mm Hg to about 300 mm Hg. However, the sensor pressure is also be configured to remain functional after being exposed to pressure in excess of about 60,000 mm Hg.

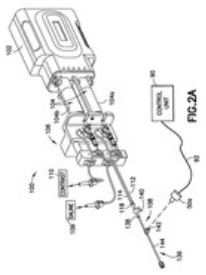


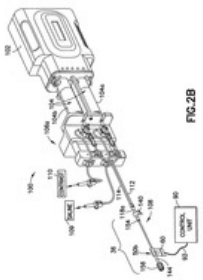


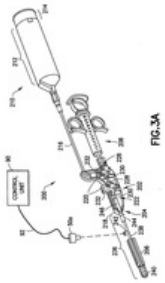


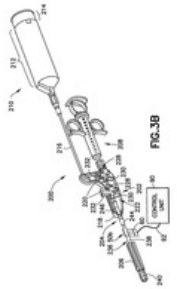


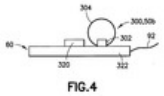


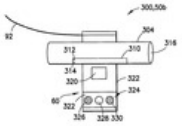


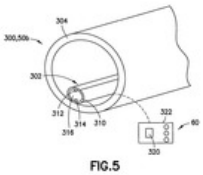


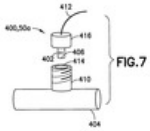






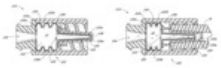


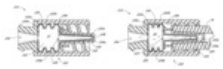


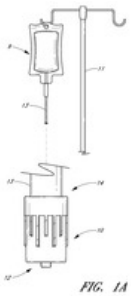


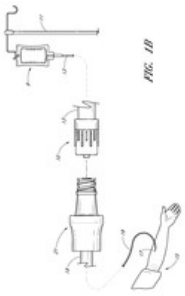
24.	Medical connector with closeable luer connector	WO2010071848	2009-12-17	ICEY YOU MEDICAL ICU MEDICAL*	2010-06-24	2010-06-24

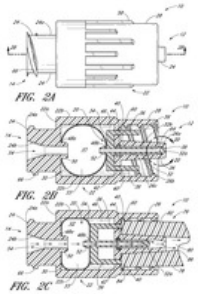
Some embodiments disclosed herein relate to a medical connector having a selectively closable male end portion. Embodiments are configured to open upon connection with a female connector or female tipped medical implement. Some embodiments include an internal cavity configured to change size as the connector moves from the open to closed or closed to open positions. In some embodiments, the connector is configured to draw fluid from the male end toward the other end of the connector as the connector closes.

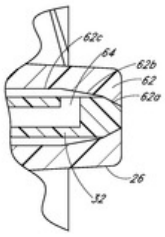


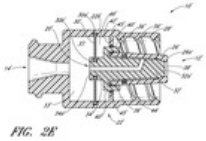


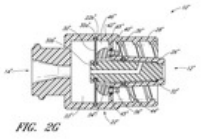


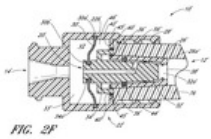


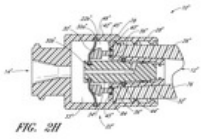


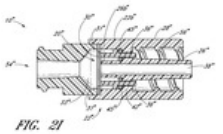


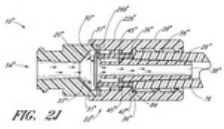


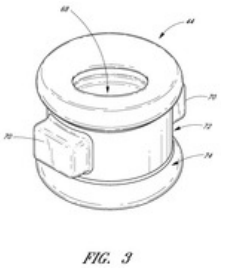


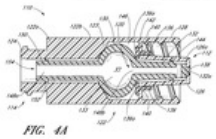


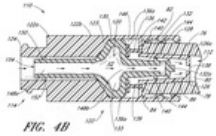












25.	System and method for identifying a fill volume of a fluid chamber	EP3266481	2017-07-07	BAYER HEALTHCARE*	2018-01-10	2018-01-10

A system and method for determining the fill volume of a fluid chamber includes a fluid injector, at least one fluid chamber in fluid communication with the fluid injector, one or more sensors positioned relative to the at least one fluid chamber and configured to detect a position of a liquid-gas interface of the fluid contained in the at least one fluid chamber, and at least one processor in communication with the sensors and the fluid injector, and configured to: determine the position of the liquid-gas interface of the fluid, calculate the volume of fluid in the at least one fluid chamber based on the position of the liquid-gas interface, and at least one of: i) display the volume of the fluid; ii) enable the fluid injector to perform an action; and iii) disable the fluid injector from performing the action.

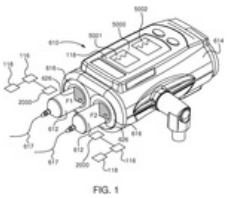


FIG. 1

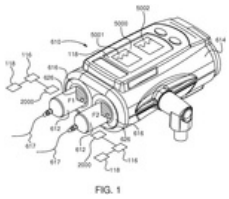


FIG. 1

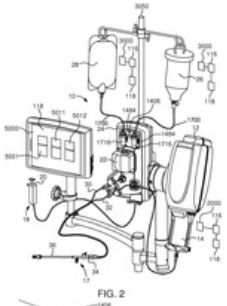


FIG. 2

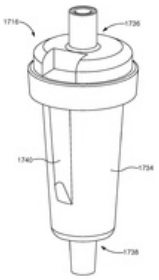


FIG. 3

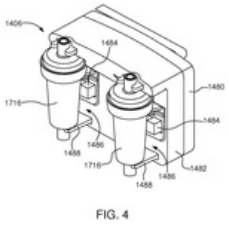


FIG. 4

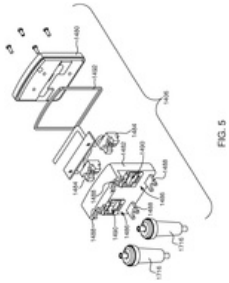


FIG. 5

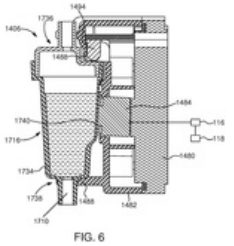


FIG. 6

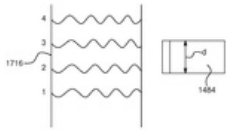


FIG. 7

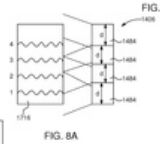


FIG. 8A

FIG. 9A

FIG. 9B

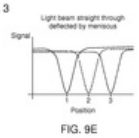


FIG. 9E

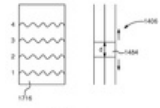


FIG. 8B

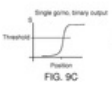


FIG. 9C

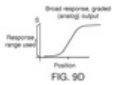


FIG. 9D

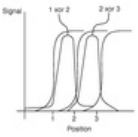


FIG. 9F