

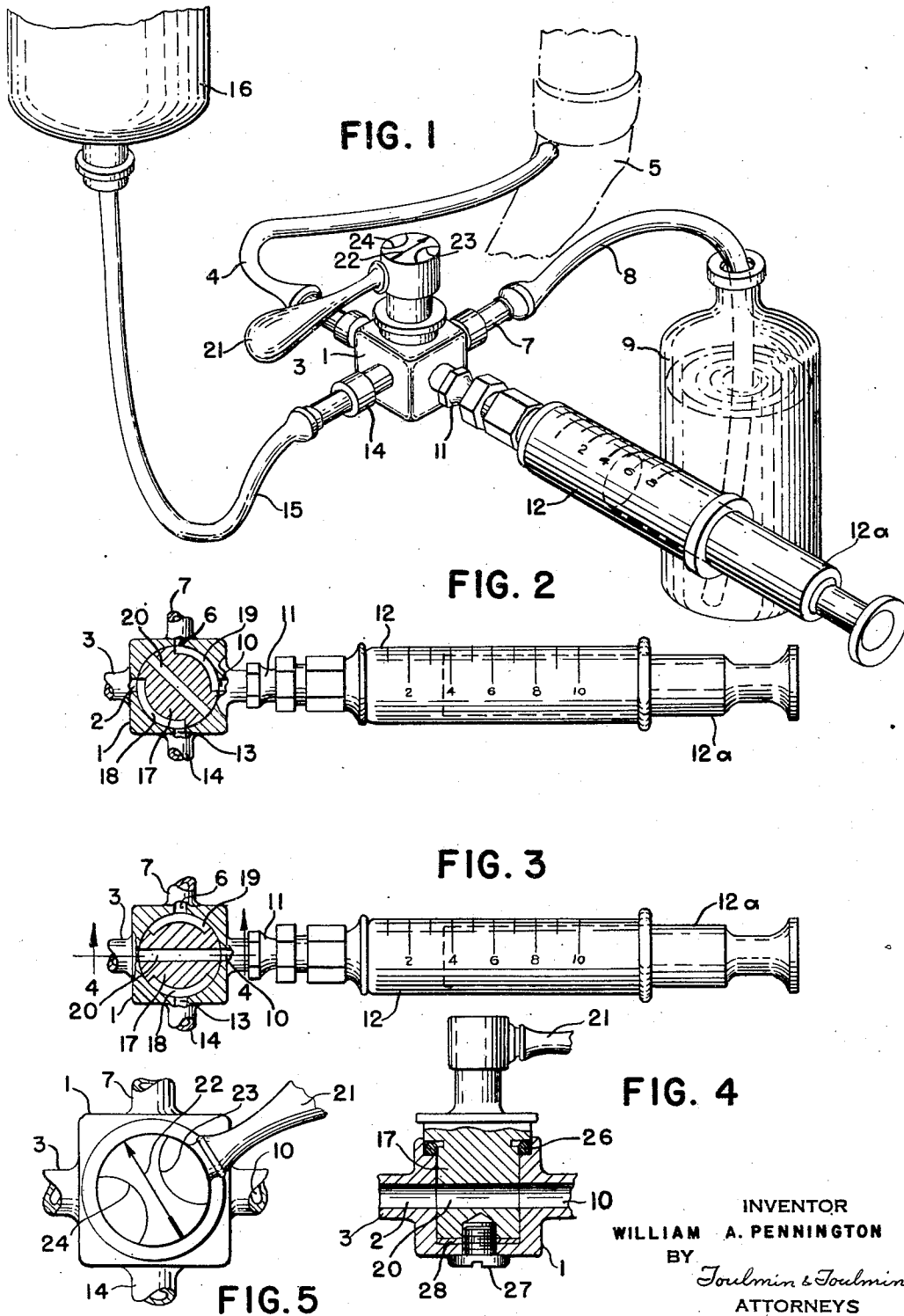
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DIFFERENTIAL ANESTHESIA VALVE

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DIFFERENTIAL ANESTHESIA VALVE

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2 Claims. (Cl. 128—214)

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My invention relates to the administration of anesthesia.

It is the object of this invention to provide a differential anesthesia valve.

It is the object of the invention to provide a valve that makes possible the alternate administration of two intravenous solutions.

It is a further object of the invention to provide all adjustments so localized at one point as to make it possible for closer attention to the patient with less necessary attention to the apparatus on the part of the physician.

It is a further object of the invention to provide a valve that has relatively large apertures to facilitate cleaning.

It is a further important object of the valve to make it impossible to mix the solutions within the valve.

It is the object of this invention to provide a valve with a single passageway to the patient, allowing communication between the syringe and the patient only, when administering anesthesia.

It is a further object to provide a valve in which the movement of the single passageway and the connecting of the syringe to a reservoir of one material is effected; or the movement of the valve can be effected for the connection of the syringe to another material. In either event it is impossible to mix the materials on their way to the patient.

It is a further object to alternately connect a solution to the patient and when one of such solutions is so connected, a charge of another solution is prepared for administration.

Referring to the drawings;

Figure 1 is an isometric perspective of the valve, the syringe, a supply of pentothal, a supply of saline solution and the arm of the patient receiving the material.

Figure 2 is a section through the valve with an elevation of the syringe showing the valve in position for connection to the patient to the saline solution while the syringe is connected to the pentothal supply.

Figure 3 is a similar view to Figure 2 showing the valve in position for the discharge from the syringe of the pentothal charge to the patient while the saline solution has been shut off from the patient.

Figure 4 is a vertical section through the valve on line 4—4 of Figure 3 indicating its construction and method of operation.

Figure 5 is a top plan view of the valve, showing in detail its direction indicator.

Referring to the drawings in detail, 1 designates

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a valve body having a port 2, communicating with a pipe 3, constituting a connector for the rubber pipe 4 that in turn is connected suitably to the arm of the patient for intravenous application of the fluids hereinafter referred to.

The arm of the patient is designated 5 and the attachment of the pipe 4 is illustrated diagrammatically. The exact means of injection is of no interest in connection with this invention.

6 is a port in the valve body 1 which communicates with the connector 7, that in turn supports the rubber pipe 8 that is connected to a supply 9 of pentothal.

The port 10 in the valve body 1 is connected to a connector 11 which in turn supports the syringe 12. The actuation of the plunger 12a of the syringe 12 serves to draw the pentothal into the syringe body and also serves to eject it at the suitable moment.

The passageway 13 in the valve body 1 is connected to the connector 14 which in turn supports the rubber tube 15 that is connected to a saline solution container 16.

The valve member 17 is provided with a cutaway portion 18 to form a passageway that will interconnect the several ports inside of the valve body 1. A similar cutaway passageway is formed at 19. These internal passageways serve to place source of supply and the patient in direct contact with one another or to connect the source of supply of pentothal to the syringe. It will be observed that in either way it is possible to conduct the fluid either to the patient or to the syringe without any possibility of a mixture of the two.

A central passageway 20 is provided through the valve body which is adapted to connect the syringe to the patient. In such a position there is no possibility of any connection of the saline solution to the patient at the time the pentothal is being injected. The valve member 17 will carry the handle 21 and is provided with an indicator arrow 22 and an indicator as to the position of the valve passageways at 23 and 24. The valve member is mounted upon a sealing ring 26 and is retained by retaining set screw 27. A suitable seal 28 is provided below the valve.

The novel feature of this invention resides in the ability, with a single handle, to connect the patient to the saline solution or connect the patient to the source of pentothal or other material without any possibility of mixture. The further advantage is that while the patient is receiving the saline solution, a measured quantity of pentothal can be withdrawn from the container 9 into the syringe 12 ready for the next

operation of injecting the pentothal into the patient. In this manner the single hand of the physician or nurse may be employed for the purpose of complete regulation of the application of the several fluids involved with no possibility of mixture or mistake.

It will be thus seen that I provide a valve which makes possible the alternate administration of 2 intravenous solutions all adjustments localized at one point, making it possible to give closer attention to the patient with less necessary attention to the apparatus. The valve itself has relatively large apertures which facilitate cleaning and they are so arranged that it is impossible to mix a solution within the valve.

It will be understood that I desire to comprehend within my invention such modifications as may be necessary to adapt the invention to various conditions of use, all within the scope of the hereinafter appended claims.

I claim:

1. In an anesthesia apparatus, the combination of the valve body having spaced ports, four in number, a rotor having a single transverse passageway and two oppositely disposed quadrant surface passageways, a syringe connected to one of said ports, a source of anesthetic connected to an adjacent port, a source of saline solution connected to the other adjacent port and means of connecting the patient to the fourth port whereby as said valve is positioned in one position, its quadrant passageways will connect the saline solution to the patient and the anesthetic to the syringe and in the other position, the patient will be connected to the source of anesthetic only in the syringe while the source of anesthetic and the saline solution are cut off

to prevent any mixing thereof on the way to the patient.

2. In combination in an anesthesia apparatus, a valve body, a rotor mounted therein having a single transverse passageway and quadrant surface passageways, said valve body having four equally spaced ports, a handle for operating the said rotor, a syringe mounted on said valve body connected to one of said passageways, a source of anesthetic connected to another of said passageways adjacent to the syringe, the other passageway adjacent to said one passageway being connected to a source of saline solution and the fourth passageway connected to a patient, means in the syringe for withdrawing a supply of anesthetic into the syringe to measure it and prepare it for injection whereby when the rotor is in one position its external passageways will connect the source of anesthetic and the syringe to one another and connect the patient and the source of saline solution to one another and in the other position the internal passageway of said rotor will connect the syringe direct to the patient so that the measured supply of anesthetic can be injected into the patient.

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