

June 17, 1924.

J. R. MARTIN ET AL

1,498,055

SYRINGE

Filed May 24, 1922

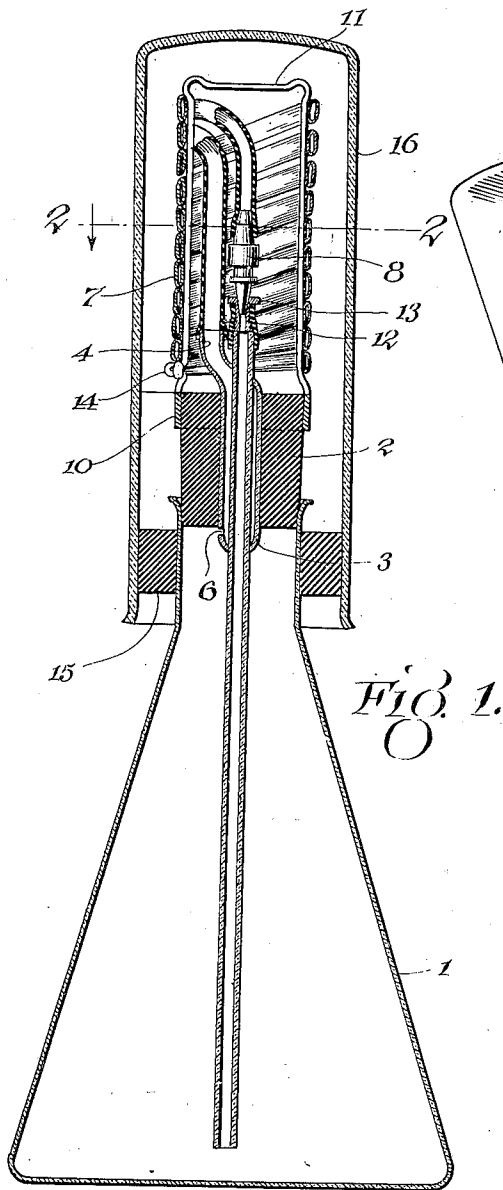


FIG. 1.

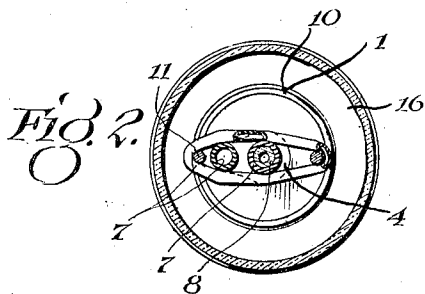
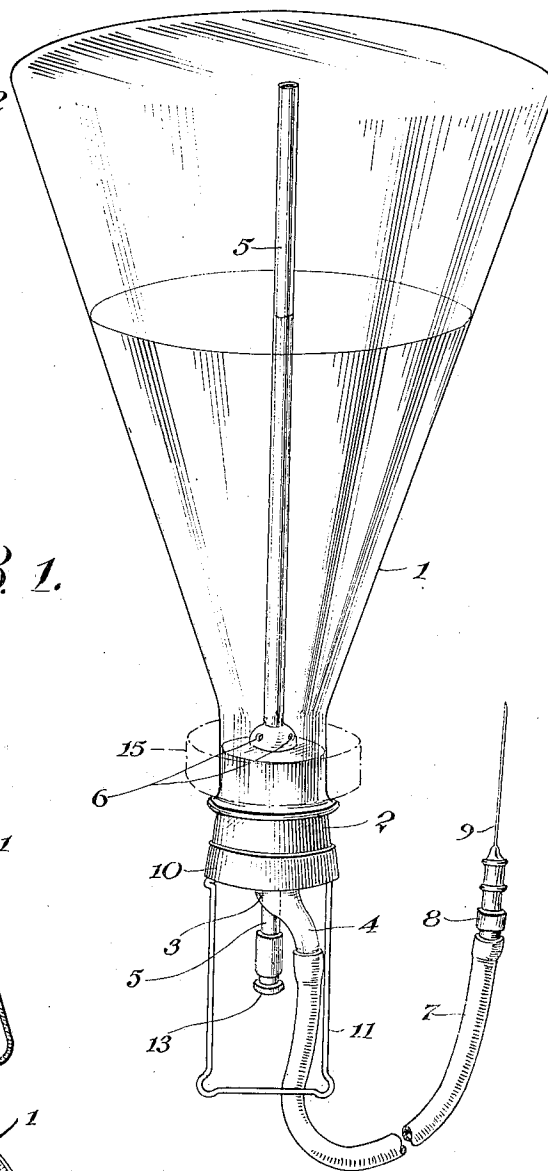


FIG. 2.

FIG. 3.



Inventors:

James R. Martin,
Edward F. Lane,
Excluston & Excluston,
Attorneys

Patented June 17, 1924.

1,498,055

UNITED STATES PATENT OFFICE.

JAMES R. MARTIN, OF SIOUX CITY, IOWA, AND EDWARD F. LANE, OF WASHINGTON, DISTRICT OF COLUMBIA.

SYRINGE.

Application filed May 24, 1922. Serial No. 563,439.

To all whom it may concern:

Be it known that we, JAMES R. MARTIN and EDWARD F. LANE, citizens of the United States and Canada, respectively, and residents of Sioux City, county of Woodbury, and State of Iowa, and Washington, D. C., respectively, have invented certain new and useful Improvements in Syringes, of which the following is a full, clear, and exact description.

Our invention relates to syringes for use in the administration of fluids into the body by the intraperitoneal, intravenous or the subcutaneous method, and has for its object to combine both asepsis and ease of operation.

A further object of the invention is the provision of such a device of the gravity feed type in which the use of valves or stop-cocks is avoided.

Another object of the invention is to so construct and arrange a syringe of this type that the same may be sterilized while its working parts remain in storage position.

A further object of the invention is to so construct such a syringe that the tubing may be wound on a frame provided therefor and thereby use a minimum of space when stored.

Other and further objects of the invention will be apparent from the following description when taken in connection with the accompanying drawing, in which:

Figure 1 is a vertical section through the apparatus when packed for storage.

Figure 2 is a section taken on line 2—2 of Figure 1, and

Figure 3 is a perspective view showing the syringe inverted for use.

Referring to the drawing more in detail, the numeral 1 designates a flask or similar container for receiving and dispensing the fluid to be used in the syringe. The mouth of the receptacle 1 is adapted to be closed by a stopper 2 of rubber, cork or the like and is provided with a central longitudinal passage which receives the relatively large glass tube 3. The tube 3 is narrowed and offset at its upper end to provide the neck portion 4, and is constructed to receive the tube 5 which extends through the same and is welded or otherwise connected thereto. The tube 5 extends to a point adjacent the bottom of the receptacle 1 and provides a vent therefor. As clearly shown in Figure

3, the tube 3 is further perforated as indicated at 6 to provide an exit passage for the fluid contained in the receptacle.

Connected to the neck of the tube 3 is a relatively long, flexible tube 7 which carries a male adapter 8 at its opposite end to which may be attached the injecting needle 9.

In order to properly dispose of the flexible tube 7 when not in use, the stopper 2 has connected therewith a band 10 which carries a frame 11 on which the tubing is wound. The upper end of the vent tube 5 carries a short piece of rubber tubing 12 in which is mounted a female adapter 13. When not in use the needle 9 is removed and the male adapter 8 is inserted in the adapter 13; the tubing is then wound around the frame 11 and the loop thereof engaged over a lug 14 carried by the frame. If desired, in order to conserve space, the flask 1 may be removed and a cylindrical tube or flask having a diameter equal to the inner diameter of gasket 15 substituted therefor when the apparatus is to be stored.

For the purpose of excluding dust, etc., from the working parts of the device the neck of the flask carries a gasket 15 which is engaged by the glass cap 16, the latter entirely inclosing the tubing, adapters, stopper and neck of the flask.

When the parts are in the position shown in Figure 1 the entire apparatus is sealed and may be sterilized in the usual manner. To be put in operation the cap 16 is removed, the tubing 7 unwound from the frame 11 and the male adapter 8 removed from the adapter 13. The needle 9 is then secured to the male adapter 8 and the flask inverted.

From the foregoing description it will be seen that we have provided a syringe of the gravity-feed type which is simple in construction, is readily put into condition for storage and may be sterilized when in its storage condition.

In accordance with the patent statutes, we have described what we now believe to be the best embodiment of the invention, but we do not wish to be understood thereby as limiting ourselves or the scope of the invention, as many changes and modifications may be made without departing from the spirit of the invention; all such we aim to include in the scope of the appended claims.

What we claim as new and desire to secure by Letters Patent is:

1. A device of the class described, including a receptacle, a resilient plug therefor, a
5 central open-ended tube extending through said plug to a point adjacent the bottom of the receptacle, and a relatively large tube encircling a portion of the first mentioned tube and provided with a lateral bend ad-
10 jacent its upper end through one of the walls on which said central tube extends and is secured.

2. A device of the class described, including a receptacle, a closure therefor, a flexi-
15 ble tube having its ends normally connected to said closure, and a detachable frame carried by said closure and on which said flexible tube may be wound.

3. A device of the class described, includ-
20 ing a receptacle, a stopper therefor, a flexible tube connected to said stopper, and a

frame on which said tube may be wound, said frame including a band engaging the upper end of the stopper.

4. A device of the class described, includ- 25
ing a receptacle, a stopper therefor, a flexible tube having its ends normally connected to said stopper whereby a loop is formed, a frame on said stopper on which said tube is wound, and a lug on said frame adapted to
30 be engaged by a portion of said loop.

5. A device of the class described, including a receptacle, a closure therefor, tubes ex-
tending through said closure, a flexible tube
35 connected to one of said first mentioned tubes, a male adapter connected to the opposite end of said flexible tube, and a female adapter connected to the other one of said first mentioned tubes.

JAMES R. MARTIN.
EDWARD F. LANE.