July 29, 1924. 1,503,220

J. H. WEDIG

HYPODERMIC SYRINGE

Filed Feb. 21 1923

Fig. 1.

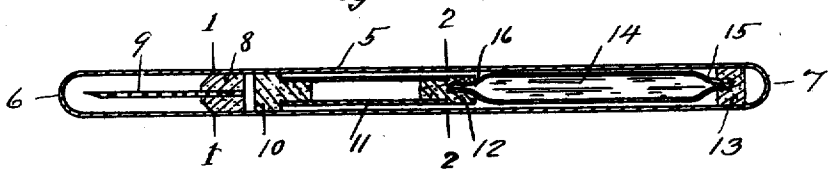


Fig. 2.

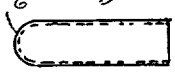


Fig. 4.

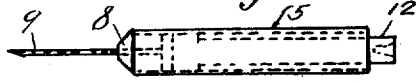


Fig. 3.

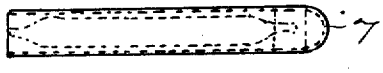
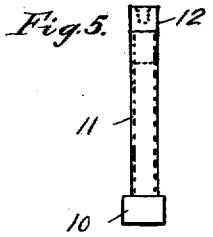


Fig. 5.



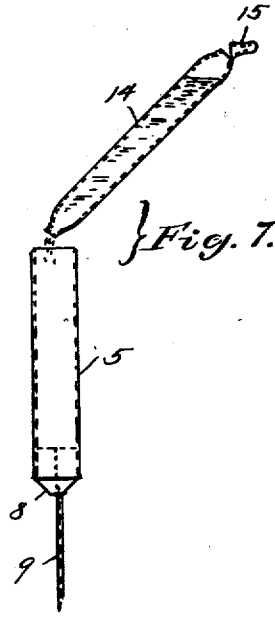
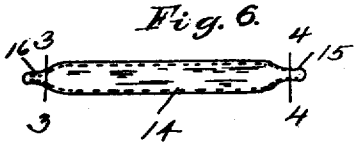


Fig. 7.

Fig. 6.



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Patented July 29, 1924. 1,503,220

UNITED STATES PATENT OFFICE.

JOHN H. WEDIG, OF GRANITE CITY, ILLINOIS.

HYPODERMIC SYRINGE.

Application filed February 21, 1923. Serial No. 620,402.

To all whom it may concern:

Be it known that I, JOHN H. WEDIG, a citizen of the United States, residing at Granite City, in the county of Madison and State of Illinois, have invented certain new and useful Improvements in Hypodermic Syringes, of which the following is a specification.

This invention relates to certain new and useful improvements in hypodermic syringes, the peculiarities of which will be hereinafter fully described and claimed.

The main object of my invention is to support yieldingly a fragile hermetically sealed tube with contained medicament in a larger hermetically sealed tube adapted to constitute a hypodermic syringe when fractured at predetermined points and charged by transfer of the contents of the smaller tube thereinto.

In the accompanying drawing on which like reference numerals indicate corresponding parts, Fig. 1 represents a central longitudinal sectional view of a device exemplifying my invention; Fig. 2, a side view of one end detached from the main portion; Fig. 3, a similar view of the other end of said device with a hermetically sealed medicament tube indicated therein; Fig. 4, a similar view of the main portion forming the barrel of a hypodermic syringe and its contained parts; Fig. 5, a similar view of a plunger removed from the main portion; Fig. 6, a similar view of the hermetically sealed medicament chamber with ampullate ends; and Fig. 7, illustrating the transfer of a medicament from the ampullary tube to the main portion of the device.

The numeral 5 designates a tube of glass or other suitable material having hermetically sealed ends 6 and 7 and adapted to be fractured at predetermined points, such as the planes 1—1 and 2—2 indicated by scratches or partially cut circumferential lines at such points, so that fracture may readily take place when desired. When the tube is fractured at the two planes mentioned, three parts are formed of the tube 5,—one part having the end 6 and being shown in Fig. 2, the opposite end being shown in Fig. 3, and the main portion with contained parts being shown in Fig. 4. The latter portion is provided at one end with a closure 8 cemented therein and containing a cannula needle 9 in the chamber formed by the end 6. The opposite end of the main portion contains a piston 10 having a plunger 11, preferably hollow and containing at its outer end a cushion 12 of rubber, cork or other suitable material cemented therein as shown in Fig. 1. When the tube 5 is fractured on the plane 2—2, this end is exposed so that the plunger and piston may be drawn out. The part of the tube having the end 7 contains a cushion 13 located near the end 7, and at such a predetermined distance from the plunger cushion 12, that an inner tube 14 having ampullate ends 15 and 16 and hermetically sealed, can be supported by said ends in recesses in said cushions 13 and 12 respectively, as shown in Fig. 1. When the tube is fractured at 2—2, the adjacent end portion is opened and the said tube 14 readily removed therefrom as shown in Fig. 6. This inner tube contains a medicament preferably in form of a liquid, which being hermetically sealed therein, and contained in the outer hermetically sealed tube 5, is protected from fracture till removed. The said tube 14 can then be easily broken at its fragile ends on the lines 3—3 and 4—4 Fig. 6, and its contents emptied into the upended main portion of the tube 5 as illustrated in Fig. 7. The size of the tube 14 causes the liquid or medicament to adhere to the inner walls when but one end is fractured, but when the upper end is fractured as shown in Fig. 7, the contents are readily discharged into the syringe, and the plunger piston being inserted partially and the air and a drop or two of the liquid being expressed when the needle is pointed upward, the hypodermic syringe is ready for use.

I claim:

A device of the character described comprising a hermetically sealed tube forming a chamber adapted to be fractured at two predetermined points into three parts,— the main part adapted to form the barrel of a syringe having a cannula needle mount-

ed in a fixed closure at one end and exposing at the other end a plunger provided with a cushion recess in its exposed end, a hermetically sealed tube forming a medicament chamber having fragile ampullate ends adapted to be yieldingly supported in the cushion recess of said plunger and by a cushion mounted in the adjacent end of the device respectively, before fracture, substantially as described.

In testimony whereof I have affixed my signature.

JOHN H. WEDIG.