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W. BRODY

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HYPODERMIC NEEDLE

Filed May 15, 1924

Fig. 1.

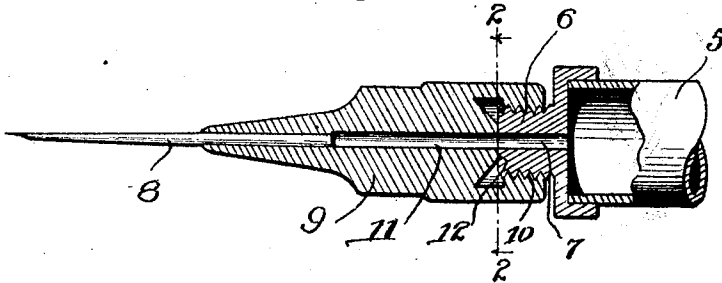
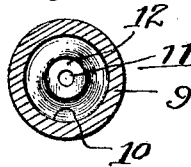


Fig. 2.



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WILLIAM BRODY, OF NEW YORK, N. Y.

HYPODERMIC NEEDLE.

Application filed May 15, 1924. Serial No. 713,474.

To all whom it may concern:

Be it known that I, WILLIAM BRODY, a citizen of the United States of America, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Hypodermic Needles, of which the following is a specification.

My invention relates to improvements in hypodermic needles of the type used for local anesthesia.

Heretofore it has been customary to provide hypodermic needles with washers, located between the syringe and the nozzle to insure a leak proof joint. However this practice has many disadvantages and an important object of this invention is to provide a hypodermic needle in which these washers will be eliminated, and yet a leak-proof joint will be effected between the syringe and the nozzle.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings which form a part of this specification and in which like numerals are employed to designate like parts throughout the same.

Figure 1 is a central longitudinal section through a needle involving my invention, and,

Figure 2 is a transverse section on the line 2—2 of Figure 1.

In the drawings, wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 5 designates the usual syringe having the screw-threaded nipple 6 provided with the longitudinally extending port or opening 7. The needle 8 is preferably tapered in form and is swaged solidly in the nozzle 9 to form an integral part thereof. This nozzle is provided with a screw-threaded opening 10 in the end opposite to the needle receiving end which is adapted to receive the nipple 6. A central longitudinal opening 11 is arranged in said nozzle and is adapted to register with the opening 7 of the nipple when the parts are assembled.

The opening 10, instead of ending in a flat surface is provided with a raised portion or elevation 12 which ends in a flat surface surrounding the opening 11, and of a lesser diameter than the nipple 6, the sides of the elevation being tapered towards the lower end of the recess 10. It will there-

fore be seen that the end of the nipple will contact with the surface of the elevation and will be spaced from the bottom of the recess.

When the nozzle is screwed onto the nipple the surface of the elevation will engage the end of the nipple and as the nozzle is tightened, the joint will be rendered leak-proof, due to the reduced surface of the elevation, which is due to the slanting walls thereof. This reduced surface surrounds the central openings 10 and 11 and will provide a leakproof joint therebetween.

It is obvious that the needle does not depend upon the syringe to hold it in the nozzle but is formed as an integral part of the nozzle.

It can readily be seen that my improved structure renders a washer unnecessary, and provides a much better joint than if a washer were used, and of course there is no danger of forgetting the washer or necessity of replacing it.

While I have shown and described the preferred embodiment of my invention, it is to be understood that various changes in the shape, size, and arrangement of parts may be resorted to without departing from the spirit of my invention or the scope of the subjoined claims.

Having described my invention what I claim and desire to protect by Letters Patent is:

1. In a hypodermic needle, a nozzle having an opening therein adapted to receive the end of a syringe, said opening having an elevation in its end adapted to contact with the surface of the end of the syringe to form a leakproof joint of less surface contact than the surface of the end of the syringe.

2. In a device of the character described, a nozzle having an opening therein adapted to receive the end of a syringe, said opening ending in an elevation which has a surface of a diameter less than the diameter of the opening, said elevation being adapted to contact with the end of the syringe, said contact being of substantially less area than the area of the end of the syringe.

3. In a device of the character described, a nozzle having an opening therein adapted to receive the end of a syringe, said nozzle also having a central longitudinal passage therethrough, said first named opening hav-

ing its end provided with a raised portion having a flat surface of less diameter than the diameter of the opening, said raised portion being arranged about, and adjacent the longitudinal passage and adapted to contact with the end of the syringe, thereby forming a small surface of contact to insure a leakproof joint.

4. In a device of the character described, the combination with a syringe having a screw-threaded nipple and a central passage therethrough, of a nozzle having a screw-threaded recess to receive the nipple, and being also provided with a central longitudinal passage adapted to register with the passage in the nipple, said recess having its end formed with a raised portion having a flat surface surrounding said passage way and of a less diameter than the diameter of the nipple, said flat surface of the raised portion being adapted to engage the end of the nipple to form a leakproof joint of less

surface contact than the end of the nipple.

5. In a device of the character described, the combination with a syringe having a screw-threaded nipple and a central longitudinal passage therethrough, of a nozzle having a needle formed therewith, said nozzle having a screwthreaded recess to receive said nipple, and a longitudinal passage adapted to register with the passage in the nipple, said recess having its end tapered outwardly to form a raised surface of reduced diameter concentrically arranged about said longitudinal passage, said raised surface being adapted to engage the end of the nipple about the passage therein, and be pressed against said nipple to form a leakproof joint therewith of a surface substantially less than the surface of the end of the nipple.

In testimony whereof I affix my signature.

WILLIAM BRODY.