

July 21, 1925.

G. LANGBEIN

1,546,494

SYRINGE

Original Filed Sept. 25, 1923

FIG. 1

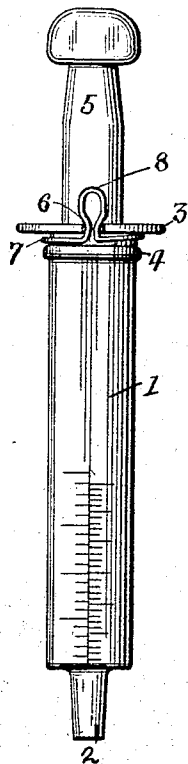


FIG. 2

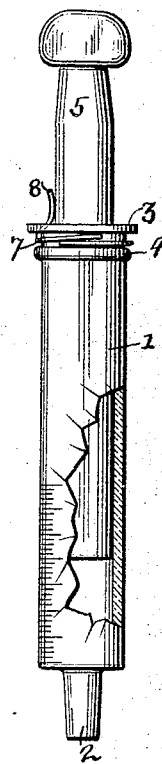


FIG. 3

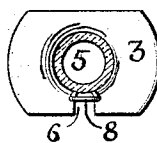
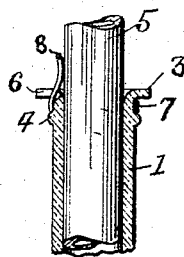


FIG. 4



George Langbein,

INVENTOR

BY Robert H. Hillgore

ATTORNEY

UNITED STATES PATENT OFFICE.

GEORGE LANGBEIN, OF BOSTON, MASSACHUSETTS.

SYRINGE.

Application filed September 25, 1923, Serial No. 664,699. Renewed April 18, 1925.

To all whom it may concern:

Be it known that I, GEORGE LANGBEIN, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Syringes, of which the following is a specification.

My invention relates to improvements in syringes, especially those used for hypodermic injections, and it is my object to produce a syringe which will be made wholly of glass so that it may be easily cleaned and sterilized and which is provided with means frictionally engaging the plunger so that the plunger will remain in any desired position and which retaining means may be quickly and simply re-adjusted if necessary, will not catch in or tear the operator's gloves and will not cut or scratch the plunger and thereby cause it to leak.

I have shown my invention applied to an all-glass syringe, of which the plunger, as well as the barrel, is made of glass.

In the drawing Fig. 1 is a view of my improved syringe; Fig. 2 a view of the structure of Fig. 1 with the barrel partly broken away to show the plunger; Fig. 3 a top view of the syringe with the plunger in section; and Fig. 4 a detail view of the retaining means with the barrel shown in section.

The barrel 1 may be graduated as shown in Figs. 1 and 2 and has a tip 2 at its lower end to which the needle is secured. The barrel has an integral finger piece 3 at its upper end and a bead 4 below the finger piece, the two forming a groove between them. A plunger 5 enters the barrel.

The finger piece 3 is nicked at 6 and a piece of spring wire 7, preferably gold-plated to resist corrosion, is wrapped around the barrel between the finger piece 3 and the bead 4 with a portion intermediate its ends formed into a loop 8 which loop lies in and extends above the nick 6 in the finger piece 3 and bears against the plunger 5 to frictionally engage it to prevent slipping or falling out of the plunger. As the ends of the spring wire 7 lie within the groove there

is no danger of their puncturing or tearing the operator's rubber gloves and as the loop 8 is closed there is likewise no danger of its causing damage.

As the closed loop 8 bears against the glass plunger there is no danger of scratching or cutting the latter and causing it to leak as would be the case if the end of the wire bore against the plunger.

Should the spring pressure weaken it is only necessary to remove the plunger and push the loop inwards to restore the frictional engagement with the plunger.

To thoroughly clean and sterilize the syringe the plunger is removed, when all parts of the syringe are exposed and there are no pockets to catch and hold dirt or any of the solutions injected. If desired the spring wire 7 may be slipped off the barrel during sterilization and easily replaced.

I claim:—

1. A syringe comprising a barrel, a finger piece integral with the barrel, a plunger in the barrel, a wire spring secured to the barrel and provided with a loop extending above the finger piece, the loop of the wire bearing against the plunger for the purpose set forth.

2. A syringe comprising a barrel, a finger piece integral with the barrel, said finger piece being nicked, a plunger in the barrel, a spring secured to the barrel below the finger piece and provided with a loop extending through the nick and above the finger piece, the loop bearing against the plunger for the purpose set forth.

3. A syringe comprising a barrel, a finger piece integral therewith, a bead on the barrel below the finger piece, said finger piece being nicked, a plunger in the barrel, a spring surrounding the barrel between the finger piece and bead and provided with a loop extending through the nick and above the finger piece, the loop bearing against the plunger for the purpose set forth.

In testimony whereof I have affixed my signature.

GEORGE LANGBEIN.