I. R. SHULL.

GLASS SYRINGE.

APPLICATION FILED DEC. 21, 1916.

1,265,537. Patented May 7, 1918.

Fig. 1.

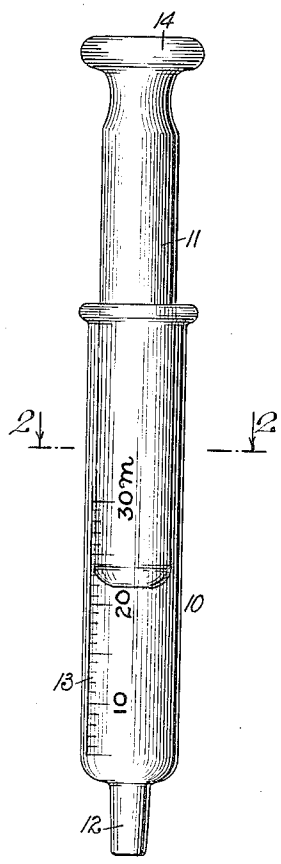
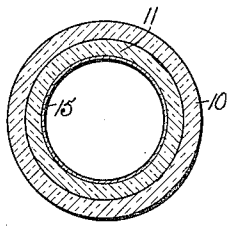


Fig. 2.



WITNESSES

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GLASS SYRINGE.

1,265,537. Specification of Letters Patent. Patented May 7, 1918.

Application filed December 21, 1916. Serial No. 138,176.

To all whom it may concern:

Be it known that I, IVAN R. SHULL, a citizen of the United States, and a resident of Millville, in the county of Cumberland and State of New Jersey, have invented a new and Improved Glass Syringe, of which the following is a full, clear, and exact description.

The invention relates to syringes in which the barrel and plunger are both made of glass, and the inner surface of the barrel and the exterior surface of the plunger are ground to insure an air and liquid tight joint between the barrel and plunger. In syringes of this type it is difficult to see the amount of liquid drawn into the barrel owing to the light diffusing character of the ground surfaces especially if the syringe is used for drawing in and ejecting a clear white or a similar liquid.

The object of the invention is to provide a new and improved glass syringe of the type referred to and arranged to enable the user to see and correctly determine the amount of the fluid drawn into the barrel.

In order to accomplish the desired result, use is made of a glass barrel and a glass plunger mounted to reciprocate therein, the glass plunger being hollow and provided with an interior reflecting lining to form a strong contrast between the plunger and the barrel for gaging the amount of the liquid drawn into the barrel or ejected therefrom.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in both views.

Figure 1 is a plan view of the improved glass syringe; and

Fig. 2 is an enlarged cross section of the same on the line 2—2 of Fig. 1.

In the glass barrel 10 is mounted to reciprocate the plunger 11 and the said barrel 10 is provided with the usual nozzle 12 and graduation marks 13 such as are usually found on syringes of this type. The outer end of the plunger 11 is provided with a handle 14 and the exterior surface of the plunger 11 and the interior surface of the barrel 10 are ground to form an air and liquid tight joint between the barrel and the plunger. The plunger 11 is made hollow and its interior surface is provided with a lining or a coating 15, preferably in the nature of a silvering, to provide a strong reflecting medium for the rays of light. It is understood that by this lining or coating the graduation marks 13 are rendered exceedingly clear and visible relative to the movement of the plunger 11 in the barrel 10 to enable the user of the glass syringe to accurately determine the amount of the liquid drawn into the barrel or forced out from the same.

It is understood that the rays of light passing through the walls of the barrel and the plunger are reflected by the reflecting lining and hence illuminate the ground surfaces of the barrel and the plunger to such an extent that the position of the plunger in the barrel can be readily seen and read by the user on the corresponding graduation mark thus correctly indicating the amount of the liquid drawn into the barrel or ejected therefrom.

It is understood that in practice the plunger 11 is closed at its ends and the lining or coating 15 is placed in the plunger prior to sealing up the outer end thereof.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. A glass syringe, comprising a barrel provided with a graduation and a plunger mounted to reciprocate in the barrel, the plunger being hollow and provided with a reflecting lining on its inner surface, the said reflecting lining coacting with the said graduation to permit accurate reading thereof.

2. A glass syringe, comprising a barrel and a plunger mounted to reciprocate in the barrel, the contacting surfaces of the barrel and the plunger being ground and the barrel being provided with graduation marks, the said plunger being hollow and having its inner surface silvered to provide a reflecting surface for the rays of light.

IVAN R. SHULL.