

(No Model.)

H. W. LÜER.
SYRINGE.

No. 583,382.

Patented May 25, 1897.

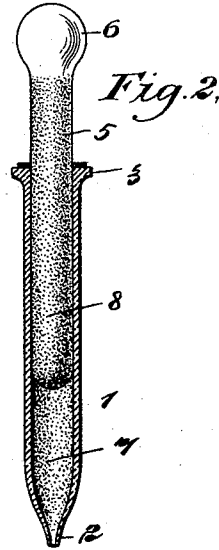
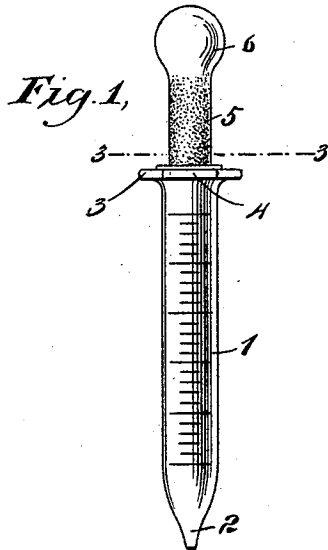
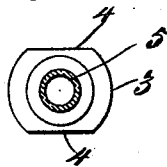


Fig. 3.



WITNESSES:

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HERMANN WULFING LÜER, OF PARIS, FRANCE, ASSIGNOR TO WILLIAM THEODORE GEORGEN, OF NEW YORK, N. Y.

SYRINGE.

SPECIFICATION forming part of Letters Patent No. 583,382, dated May 25, 1897.

Application filed December 11, 1896. Serial No. 615,267. (No model.) Patented in France November 6, 1894, No. 242,646; in Germany April 20, 1895, No. 88,352; in Austria November 4, 1895, No. 45/41.86, and in England February 17, 1896, No. 3,524.

To all whom it may concern:

Be it known that I, HERMANN WULFING LÜER, of Paris, France, have invented new and useful Improvements in Syringes, (for which I have obtained Letters Patent in France, No. 242,646, dated November 6, 1894; in England, No. 3,524, dated February 17, 1896; in Germany, No. 88,352, dated April 20, 1895; in Austria, dated November 4, 1895, register-book 45, page 41.86,) of which the following is a full, clear, and exact description.

This invention relates to syringes used for injecting medicine; and the object is to provide a syringe having no detachable parts—such as glands, stuffing-boxes, packings, or the like—and which may without difficulty be kept perfectly clean and antiseptic, and, further, to so construct a syringe that there is a practically air and liquid tight connection between the cylinder and plunger.

I will describe a syringe embodying my invention, and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is an elevation of a syringe embodying my invention, showing the plunger as partly drawn out. Fig. 2 is a partial elevation and partial longitudinal section, and Fig. 3 is a section through the line 3 3 of Fig. 1.

The syringe comprises a glass cylinder or barrel 1, having a reduced outlet end 2 and an annular flange 3 at its opposite end. This flange may have one or more flattened portions 4, which by engaging with a table or other support will prevent the syringe from rolling. Movable in the cylinder or barrel 1 is a glass plunger 5, the body portion of which is of a length substantially that of the cylinder or barrel, and the outer end of the plunger may be provided with a finger-piece or knob 6. It is desired that there shall be a

practically air and liquid tight connection between the plunger and cylinder or barrel. I carry out this part of the improvement by grinding the inner surface of the cylinder or barrel throughout its cylindrical length, as indicated at 7, and the exterior of the plunger throughout the length of its body portion will also be ground, as indicated at 8. By the close connection between the parts it will be obvious that the necessary suction will be produced when drawing out the plunger to draw liquid into the cylinder.

A syringe carefully constructed as described requires no packing of asbestos or the like, and therefore it can be kept perfectly clean and antiseptic with the least possible trouble.

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

1. As a new article of manufacture, a syringe comprising a glass cylinder having its interior surface ground from end to end, and a glass plunger operating in said cylinder, the said plunger having its body portion ground on its exterior and having a length substantially equal to that of the cylinder, substantially as described.

2. As a new article of manufacture, a syringe comprising a glass cylinder or barrel portion having its interior surface ground and having a reduced outer end, and an annular flange on its opposite end formed with a flattened portion, and a glass plunger for operating in the cylinder the said plunger having its body portion ground to closely engage against the interior of the cylinder and the said plunger having a length substantially equal to that of the cylinder, substantially as described.

HERMANN WULFING LÜER.

Witnesses:

EDWARD P. MACLEAN,
JAMES ALLISON BOWEN.