(No Model.)

S. H. STOTT.

MEANS FOR IMPREGNATING THE WATER OR LIQUID DISCHARGED FROM SYRINGES.

No. 489,396. Patented Jan. 3, 1893.

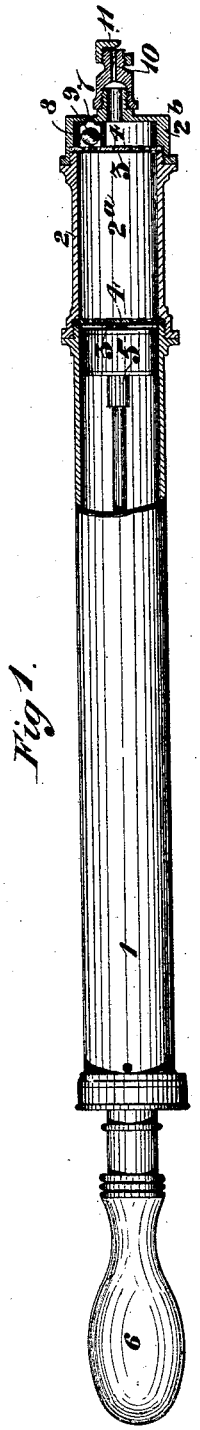


Fig. 1.

Fig. 3.

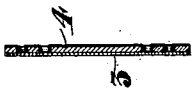
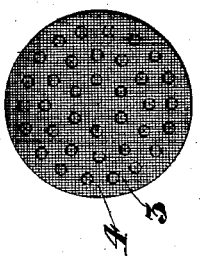


Fig 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

SAMUEL HOWARD STOTT, OF PRESTON, COUNTY OF LANCASTER, ENGLAND.

MEANS FOR IMPREGNATING THE WATER OR LIQUID DISCHARGED FROM SYRINGES.

SPECIFICATION forming part of Letters Patent No. 489,396, dated January 3, 1893.

Application filed March 8, 1892. Serial No. 424,152. (No model.) Patented in England May 2, 1890, No. 6,769; in Victoria December 10, 1890, No. 8,330; in New South Wales December 12, 1890, No. 2,765; in New Zealand January 6, 1891, No. 4,789; in France January 29, 1891, No. 211,060; in Belgium January 30, 1891, No. 93,601; in Germany February 1, 1891, and in Italy March 31, 1891, LVII, 66.

To all whom it may concern:

Be it known that I, SAMUEL HOWARD STOTT, a subject of the Queen of Great Britain and Ireland, residing at Fulwood, Preston, in the county of Lancaster, England, have invented Improvements in Means for Impregnating the Water or Liquid Discharged from Syringes, (for which I have obtained a patent in England, No. 6,769, dated May 2, 1890; in Victoria, No. 8,330, dated December 10, 1890; in New South Wales, No. 2,765, dated December 12, 1890; in New Zealand, No. 4,789, dated January 6, 1891; in France, No. 211,060, dated January 29, 1891; in Belgium, No. 93,601, dated January 30, 1891; in Germany, February 1, 1891, and in Italy, LVII, 66, dated March 31, 1891,) of which the following is a specification.

This invention has for its object to provide means for impregnating the water or liquid discharged from the outlet end or nozzle of a syringe, with substances soluble in water such as those used for insect-destroying, fertilizing, and deodorizing purposes, and it consists in interposing between the outlet end of the cylinder or pump barrel of the syringe, and the nozzle or spray-producing device, a chamber arranged preferably in line with the cylinder. The ends of the chamber are made of sheet metal perforated with a number of small holes, and the chamber may conveniently be made to screw on to the outlet end of the cylinder, and to have the nozzle or spray-producing device screwed on to its outer end.

In the accompanying drawings, Figure 1 shows partly in side elevation and partly in longitudinal section diffusing apparatus constructed according to this invention. Figs. 2 and 3 are detail views to a larger scale hereinafter referred to.

1 is the pump barrel of an ordinary form of garden syringe to the outlet or discharge end of which is screwed a casing 2 that forms a mixing chamber 2^a to hold the fertilizing, insect destroying, or other ingredient. The two ends of this chamber are each made of a sheet 3 of fine wire gauze and a perforated plate 4 that serves to support the gauze while water is being forced through the chamber. The sheets of gauze and their supporting plates may be held in place as shown, one sheet of gauze and its plate being placed between the pump barrel 1 and the casing 2, and the other sheet and plate between this casing and its removable cap or cover 2^b. In Figs. 2 and 3, which are respectively a face view, and a central section, one of these sheets of wire gauze with its supporting plate is shown detached from the apparatus. The water or other liquid sucked into the pump barrel when the piston 5 is drawn to the inner end of its stroke by the handle 6, may enter through a hole 7 in the cap or cover 2^b, and through a cage 8 provided with a spherical or ball valve 9; and as it passes through the mixing chamber, it becomes impregnated with the material therein. When the water or other liquid is forced out or discharged from the pump barrel by the piston, it will on its return passage through the chamber 2^a become still further mixed with the impregnating material, and be discharged through a nozzle 10, the valve 9 at this time being closed against its seat in the cap 2^b so as to close the hole 7. If the casing 2 be permanently secured to the pump barrel, it may be charged with the desired material through an opening or openings formed in its side and normally closed by a screw cap or caps. When however it is made removable from the pump barrel as in the construction described and shown it may be simply removed from the pump barrel for charging, or the cap or cover 2^b may be removed from the casing for this purpose.

Although I prefer to employ in conjunction with a syringe having a mixing chamber as above described a nozzle 10 of the kind described and shown in the specification of another application for Letters Patent filed by me dated August 25, 1891, Serial No. 458,433, and in which the issuing water is caused to meet an obstructing medium such as the under side of a cap 11, any of the ordinary forms of nozzle or "rose" may be so employed.

What I claim is:—

1. In a syringe, the combination of the barrel having the piston and the screw threaded end, the casing on the end of said barrel having threaded ends, the perforated plate and the gauze on said plate clamped between the

ends of the barrel and casing, the cap screwed on the outer end of said casing, the perforated plate and gauze clamped between the end of said casing and said cap, said cap provided with a nozzle and a valved inlet, substantially as described.

2. In a syringe, the combination of a barrel having a piston and an extended end to contain insect destroying or like substance, a cap on said end provided with a discharge nozzle and an inlet opening, a ball valve to close said opening against outflow and a chamber for said valve.

3. In a syringe, the combination of the barrel 1, the piston 5, the chamber or casing 2 on the end of the barrel provided with, the perforated ends 3, 4, the cap or cover 2^b on the outer end of said casing provided with an outlet and with an inlet opening controlled by the valve 9 substantially as described.

4. In a syringe the combination of the barrel 1, piston 5, chamber or casing 2, on the end of the barrel provided with the perforated ends 3, 4, and having cap 2^b provided with a discharge nozzle 10, and an inlet 7, a cage 8 in said cap and a ball valve in said cage to close said inlet against outflow.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAMUEL HOWARD STOTT.

Witnesses:

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