W. DE C. PRIDEAUX.

HYPODERMIC OR OTHER SYRINGE.

APPLICATION FILED JULY 7, 1910.

1,039,591.

Patented Sept. 24, 1912.

Fig 1

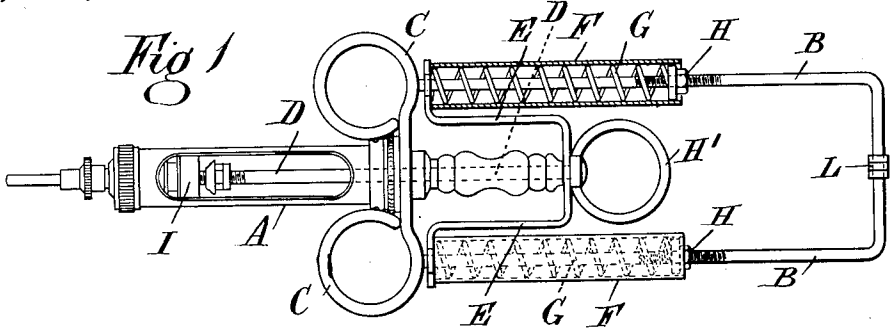


Fig. 2.

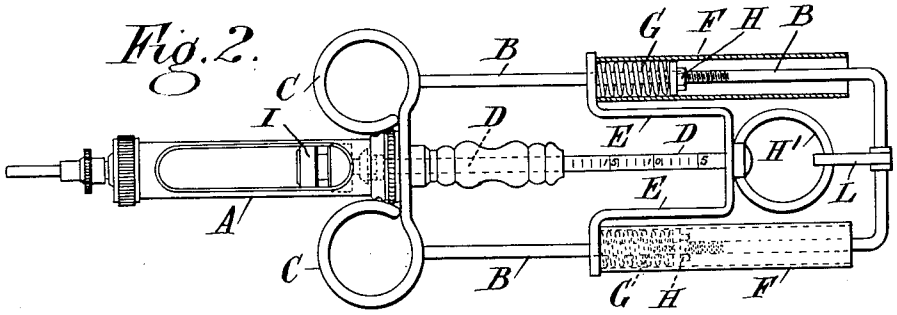
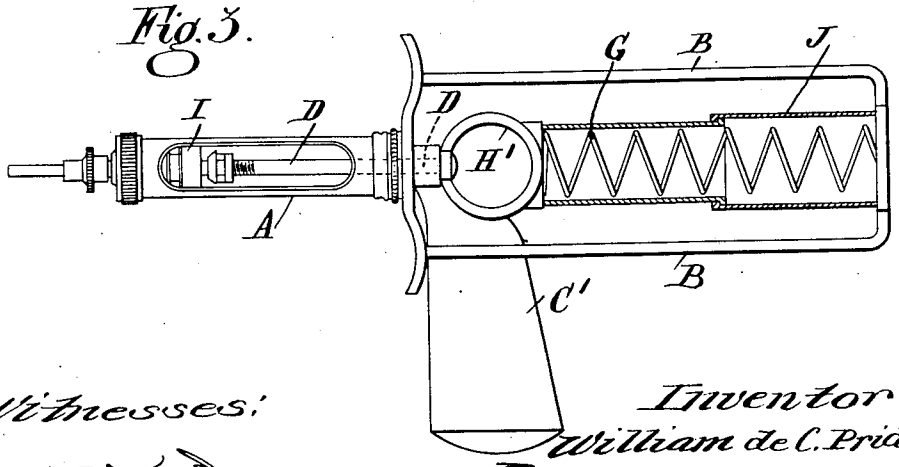


Fig. 3.



Witnesses:

Inventor

William de C. Prideaux

By

James L. Morris Jr.

Atty

UNITED STATES PATENT OFFICE.

WILLIAM DE COURCY PRIDEAUX, OF WEYMOUTH, ENGLAND.

HYPODERMIC OR OTHER SYRINGE.

1,039,591. Specification of Letters Patent. Patented Sept. 24, 1912.

Application filed July 7, 1910. Serial No. 570,842.

To all whom it may concern:

Be it known that I, WILLIAM DE COURCY PRIDEAUX, a subject of the King of Great Britain, residing at Weymouth, England, have invented certain new and useful Improvements in Hypodermic or other Syringes, of which the following is a specification.

In hypodermic syringes of the usual construction the body of the syringe is provided with finger holds and the piston after being drawn out and the syringe filled, is pressed in by the thumb of the operator, this proving tiring to the operator in many instances in consequence of the continuous considerable pressure required to thoroughly anesthetize a given area.

Now the object of my invention is to construct such a syringe in which the pressure on the piston is not effected by the operator but by a spring or springs, thus relieving the strain on the operator's fingers and allowing him to work with greater ease, and to have the pressure constant and correct as desired.

My invention will be clearly understood from the following description aided by the annexed drawings which illustrate various methods of carrying out my invention.

Figures 1 and 2 are part sectional elevations of a hypodermic syringe with one form of my invention applied, Fig. 1 showing the piston in the normal position and Fig. 2 the piston in the position it occupies when the syringe is full and the piston held by a catch. Fig. 3 is a part sectional elevation of another form of my invention employing only one spring.

For the purpose of my invention I construct the body A of the syringe with a frame B carrying finger holds C, and I attach to the piston rod D or a branch or branches attached thereto another frame E carrying tubes F encircling the frame B, springs G encircling the frame and being inclosed within the tubes and held in position by the nuts H screwed on the frame B and by the ends of the frame E, and I may provide the piston rod or the branch or branches therefrom with a finger or thumb hold H′ by which the piston I can be steadied, felt and controlled as it is moved by the springs' action in ejecting the anesthetic.

According to Figs. 1 and 2, I employ two springs, but at Fig. 3, I only employ one spring and this is situated and held between the thumb hold H′, and the end of the frame B by telescopic tubing J, and in lieu of or addition to the finger holds C, I may employ a butt C′ as in a pistol to hold the syringe.

The frame is provided with means for holding the piston back when filled until the patient is ready for the operation, *e. g.* by a hook L as in Figs. 1 and 2.

The syringe itself, is of the usual construction and therefore needs no explanation.

It will be observed that with the exception of releasing the piston the operation of holding the appliance and retarding the action of the spring is performed with one hand, thus permitting the other hand to be employed in holding the part of the body of the patient into which the injection is to be made, so that the operator has full view of the part being operated upon while said part is immovably held. If, for instance, the syringe is used in performing dental operations, the operator by determining the movement of the springs and piston by the retardation of the thumb coupled with the density of the gum tissues, can positively control the requisite amount of anesthetic injected into the patient's jaw, and as the apparatus is firmly held in proper position without fear of slip or jerk, a successful operation may be performed. The cylinder A provided with two finger holders C and the piston D with a thumb hold H′ is materially advantageous from a standpoint of effective organization in that when two of the fingers of the operator are passed into the holder C and the thumb into the holder H′, a movement of the thumb away from the two fingers causes the piston to be drawn back and the cylinder filled. When it is desired to perform the injecting operation, the operator still having his two fingers and thumb in engagement with the syringe as just explained will release the hook L or lever M, but maintain the pull back on the piston against the resistance of the springs until the syringe is properly applied, when the piston will be released while the body of the syringe is steadily held by the fingers.

What I do declare as my invention and desire to secure by Letters Patent is:—

1. In a hypodermic syringe, a cylinder having a piston and piston rod movable therein and also provided with two finger holders fixed to the rear end thereof, a frame extending rearwardly from the finger holders, a thumb hold associated with the rear

projecting extremity of the piston rod to draw the latter and the piston backwardly while the cylinder is held by the finger holders, and spring containing cylinder means movably associated with the said frame and with the said thumb hold.

2. In a hypodermic syringe, a cylinder having a piston and piston rod movable therein and also provided with two finger holders fixed to the rear end thereof, a thumb hold associated with the rear projecting extremity of the piston rod to draw the latter and the piston backwardly while the cylinder is held by the finger holders, a frame projecting rearwardly from the finger holders, and spring containing cylinders movably associated with the frame and connected to the thumb hold.

3. In a hypodermic syringe, a cylinder having a piston and piston rod movable therein and also provided with two finger holders fixed to the rear end thereof, a thumb hold associated with the rear projecting extremity of the piston rod to draw the latter and the piston backwardly while the cylinder is held by the finger holders, a frame extending rearwardly from the finger holders, spring containing cylinder means operatively associated with the thumb hold and frame, and locking means attached to the rear extremity of the frame to engage the thumb hold.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM DE COURCY PRIDEAUX.

Witnesses:
HENRY CHARLES SYMS,
CHAS. BROWN.