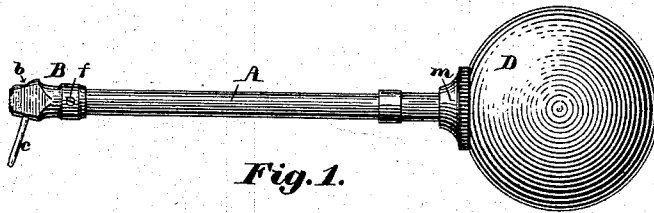


(Model.)

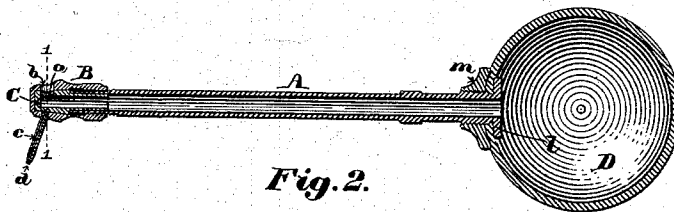
P. B. LASKEY.  
SYRINGE.

No. 291,364.

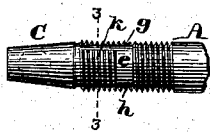
Patented Jan. 1, 1884.



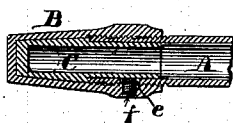
*Fig. 1.*



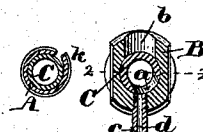
*Fig. 2.*



*Fig. 5.*



*Fig. 4.*



*Fig. 6. Fig. 3.*

*Witnesses:*

*Walter E. Lombard.*  
*Frank Dodge*

*Inventor:*

*Philip B. Laskey*

# UNITED STATES PATENT OFFICE.

PHILIP B. LASKEY, OF MARBLEHEAD, MASSACHUSETTS.

## SYRINGE.

SPECIFICATION forming part of Letters Patent No. 291,664, dated January 1, 1884.

Application filed October 8, 1883. (Model.)

*To all whom it may concern:*

Be it known that I, PHILIP B. LASKEY, of Marblehead, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Syringes for Dental and other Purposes, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to syringes, and particularly to the class of syringes used in dentistry for the cleansing of cavities in teeth. Several kinds of syringes have been in use for this purpose; but much trouble has been found to exist from using them, either on account of the time spent in filling them when all the liquid is injected through the nozzle, which is of necessity very small, or on account of the nozzle being left cold, as is the fact where the liquid, which it is obvious should be warm, is put directly into the ball when detached from the nozzle.

To overcome these difficulties is the object of my present invention; and it consists in certain novel features and details of construction, which will readily be understood by reference to the description of the drawings, and the claims to be hereinafter given.

In the drawings, Figure 1 represents a side elevation of my improved syringe. Fig. 2 represents a central vertical section of the same. Fig. 3 represents a transverse section of the same on line 1 1 in Fig. 2. Fig. 4 represents a central horizontal section of the nozzle end of the same on line 2 2 in Fig. 3. Fig. 5 represents an elevation of the nozzle end of the tube and thimble, and Fig. 6 represents a transverse section of the same on line 3 3 in Fig. 5.

A is a tube, made of metal or other suitable material, and it is provided at one end with a thread, upon which is screwed the cap or sleeve B, as shown in Figs. 1, 2, and 4. The interior of the outer end of the cap B is made to accurately fit the tapering thimble C, which is tightly secured, by soldering or otherwise, to the outer end of the tube A. The thimble C is provided in its circumference, near its outer end, with an opening, *a*, through which liquid may pass in either direction. The cap B is provided with an opening, *b*, corresponding to the opening *a*, and through which the ball or bulb D may be quickly filled with any liquid in the usual manner. Directly opposite to the

opening *b* the cap B is also provided with the nozzle *c*, which is provided with a very small hole, *d*, through which the liquid is intended to be ejected.

As shown in Figs. 4 and 5, the tube A, near its outer end, is cut through to the thimble C, making a path, *e*, nearly half-way around the circumference of the tube, into which path extends the screw *f*, set in the cap B, the object of which is to limit the movement of the tube A about its axis, for when the holes or openings *a* and *b* are coincident with each other the set-screw *f* rests against the shoulder *g* at one end of the path *e*, and when the openings *a* and *d* are in the positions shown in Fig. 3, then the set-screw *f* rests against the shoulder *h* at the other end of said path *e*.

In order that the cap B may retain any position in which it may be placed, a friction is created by cutting through the tube A around threesides of a portion, *k*, thereof, and bending outwardly the portion *k* to a position slightly eccentric to the circumference of the main body of the tube, as shown in Figs. 5 and 6, which portion *k* bears firmly against the interior of the cap B and retains it in the required position.

In order to operate the tube A so as to cause the hole *a* to communicate with either the hole *b* or *d*, it is necessary that the tube A should be firmly secured to the ball or bulb D, as it is by means of this ball or bulb that the tube is most conveniently turned. To accomplish this object, the tube A, on its inner end, is provided with a suitable flange, *l*, which, having been passed through a hole in said ball or bulb D, rests against the inner surface of said ball. Outside of the flange *l* the tube A is provided with a screw-thread upon which is fitted the thumb-nut *m*, which, by being screwed toward the flange *l*, firmly clamps between itself and said flange that portion of the ball D contiguous thereto, thus preventing any leakage, and at the same time making a very neat and compact connection. While this connection will never become loose of itself while in use, still it may readily be detached, if necessary, and as readily attached again by virtue of the fact that both parts to be acted upon may be seized outside of the ball or bulb D. The thumb-nut cannot be lost, as it cannot pass either the flange *l* or the cap B.

When desiring to use the syringe, the operator turns the tube A so that the set-screw *f* rests against the shoulder *g* of the path *e*, when the holes *a* and *b* will be coincident. He then  
 5 places the nozzle end into the liquid to be used and injects a suitable amount of said liquid into the bulb or ball D, when the syringe may be withdrawn, the set-screw *f* turned against  
 10 the opposite shoulder, *h*, when the hole or opening *a* will connect with the opening *d* and the syringe will be ready to operate.

It is obvious that a piston-syringe may be used instead of a bulb-syringe; and it is also obvious that, although the syringe shown is  
 15 adapted for a particular purpose, syringes may be made including my invention for numerous other purposes.

The cap B may be made of such form as to slide lengthwise of the tube A, and the openings *b* and *d* so arranged therein that they will  
 20 be brought alternately in conjunction with the opening *a* of the tube A without altering the principles of my invention.

On cold mornings the syringe is apt to be so cold that the warm water in passing is quite chilled. To obviate this the operator may inject warm water into the bulb D, and then eject the same through hole *b* until the syringe is quite warm.

30 What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a syringe, a delivery-tube provided with a single opening, in combination with a sleeve or cap provided with two openings of  
 35 different sizes, which are adapted to be brought

alternately in conjunction with said opening in the delivery-tube, substantially as and for the purposes described.

2. In a syringe, the combination of a delivery-tube provided with a single opening, a sleeve or cap provided with two openings of different sizes, which are adapted to be brought alternately in conjunction with said opening in the delivery-tube, a screw set in said cap or sleeve, and two shoulders adapted to come in  
 45 contact with said set-screw, to limit the movement of said cap or sleeve in either direction, substantially as and for the purposes described.

3. In a syringe, the combination of the tube A, to which is tightly fitted the thimble C, provided with the opening *a*, the cap B, provided with the openings *b* and *d*, and the set-screw  
 50 *f*, the shoulders *g* and *h*, and the friction-surface *k*, all adapted to operate substantially as and for the purposes described. 55

4. In a syringe, the combination of a delivery-tube, A, provided with the flange *l* and a suitable screw-thread, upon which is mounted the thumb-nut *m*, and the ball or bulb D, all adapted to operate substantially as and for the  
 60 purposes described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 3d day of October, A. D. 1883.

PHILIP B. LASKEY.

Witnesses:

WALTER E. LOMBARD,  
 FRANK DODGE.