

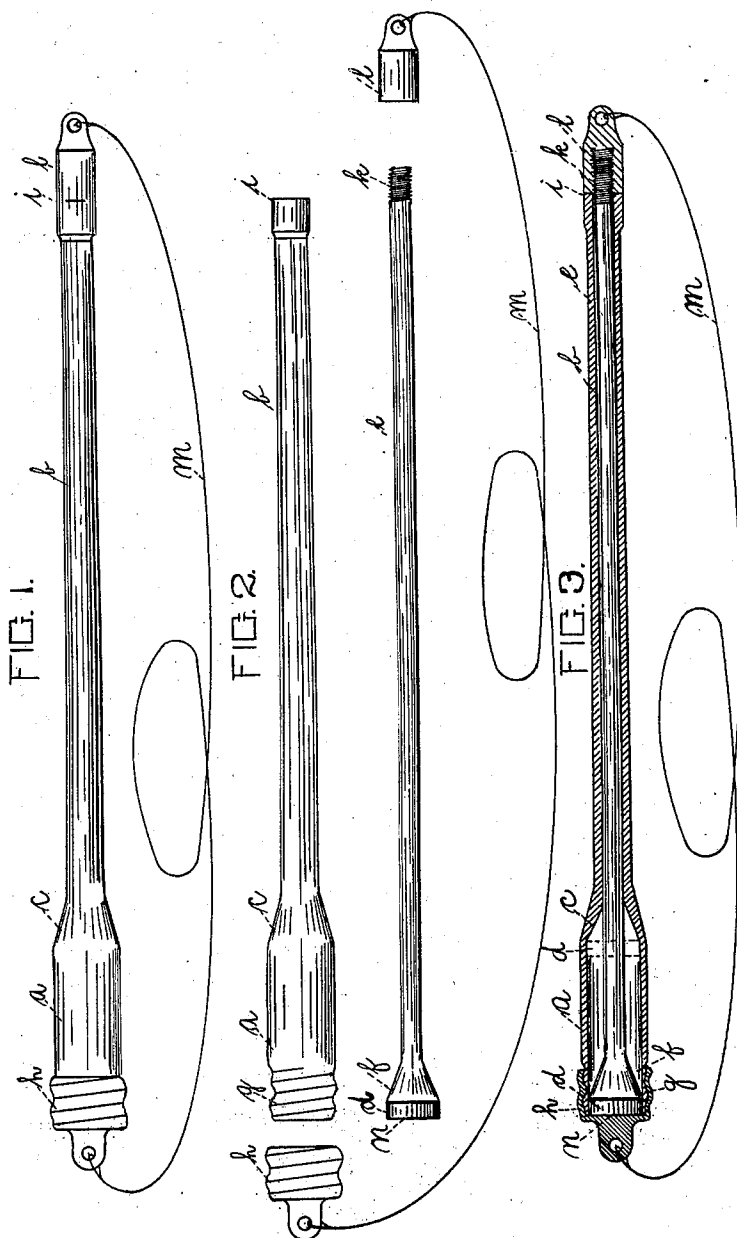
No. 670,018.

Patented Mar. 19, 1901.

H. H. GROTH.  
APPLICATOR.

(Application filed June 2, 1900.)

(No Model.)



WITNESSES.

Ernest G. Spoon  
Florence Brandes.

INVENTOR.

Hans Heinrich Groth,  
by B. F. Herbsleb  
his Attorney.

# UNITED STATES PATENT OFFICE.

HANS HENNERICH GROTH, OF CINCINNATI, OHIO.

## APPLICATOR.

SPECIFICATION forming part of Letters Patent No. 670,018, dated March 19, 1901.

Application filed June 2, 1900. Serial No. 18,818. (No model.)

*To all whom it may concern:*

Be it known that I, HANS HENNERICH GROTH, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Applicators for Medicinal Purposes, of which the following is a specification.

The primary object of my improved device is to obviate the objections to the so-called "suppositories" now in use.

The suppository melts by reason of the heat from the body, introduces foreign and objectionable matter not necessary for healing purposes, and after melting the matter composing the suppository is liable to and does ooze from the body in an objectionable manner, taking with it part of the medicine applied, thereby making the quantity of medicine available for healing purposes uncertain. The suppository also deposits the medicine in one place, and when applied by patients is often not introduced sufficiently far into the body to reach the seat of disease. My improved device overcomes all these objections and enables the medicine to be applied in predetermined quantities and at predetermined points and permits the medicine to be applied throughout a passage by moving the device about within the passage while gradually ejecting the medicine by the movement of the piston.

My device consists, essentially, of a receptacle provided with a shank, so as to be able to reach the seat of affliction or desired point of application of the medicine, and a piston or air-passage to eject the medicine when the receptacle has been properly placed, and arranged to receive a predetermined quantity of drug or medicine and to eject all of the drug or medicine that may be introduced into the device at the point of application desired, so that the application of the drug or medicine may be regulated with great accuracy both in quantity applied and in place of application.

My device provides a clean way in which to apply the medicine and reaches the seat of trouble.

My invention consists in the parts and in the construction, arrangement, and combi-

nations of parts hereinafter more fully described and claimed.

In the drawings, Figure 1 is a side elevation of my improved device. Fig. 2 is a similar view showing the parts separated. Fig. 3 is a longitudinal section of my device, showing the piston in assumed position in dotted lines.

A tube *a* is adapted to receive the medicine and has a shank *b*, preferably reduced in cross-section, extending therefrom, with an inclined or reducing connection *c* between the two. The tube *a* has within it a piston *d*, fitting snugly therein, from which a rod *e* extends through the shank *b*, there being an inclined face *f*, corresponding with the inclined connection *c* between the piston and rod. The outer end of the tube is preferably screw-threaded, as at *g*, to receive a cap *h*, and the outer end of the shank has a stop or shoulder *i*. The outer end of the rod is also preferably screw-threaded, as at *k*, to receive a cap *l*. A cord *m* preferably connects the two caps. The tube and shank are preferably round, or nearly so, in cross-section, so as to present no corners or irritating points to the parts affected.

My device is capable of two main classes of application, the one for the treatment of vaginal or rectal disease and the other for the treatment of diseases of the nose, ear, and throat. In using, in the former, the cap *h* is removed and the piston *d* drawn back by pulling on the cap *l*, so that the rear end of the piston will rest against the connection *c*, as indicated in dotted lines in Fig. 3. The drug, powder, or medicine is then placed in the tube *a* between its end and the piston. The instrument is then introduced into the afflicted part of the body a sufficient distance to reach the seat of disease, which it is possible to do by reason of the length of the shank. The piston is then pushed so as to eject the medicine, and the instrument removed, its use being clean and effective, and not destroying the instrument itself, as in the case of suppositories. The device may also before removal from the body be moved about therein under gradual ejection of the medicine by the movement of the piston, so that a healing drug or powder may be distributed along

an afflicted passage. The reduced shank permits the desired movement of the device for the gradual discharge and deposit in proper place of the drug, powder, or medicine. When the piston is forced outwardly, so as to eject the drug, powder, or medicine, its outer face *n* comes flush with the outer end of the tube *a*, so that all the medicine in the tube may be ejected, insuring accuracy in the quantity of the medicine applied. The screw-thread between the rod *e* and cap *l* permits the length of the rod to be regulated, so that when the cap *l* strikes the stop or shoulder *i* the face *n* may be flush with the outer end of the tube *a*.

15 In my improved device a charge of medicine of predetermined quantity may be inserted in the tube *a* and held therein by the cap *h*, while the holder is carried about in the pocket or other receptacle without danger of loss or injury to the medicine until the application of the medicine may be desired, when the cap may be removed and the medicine applied, my holder affording a convenient means for carrying and also applying the predetermined quantity of medicine.

In the second application of my device—that relating to the treatment of diseases of the ear, nose, or throat—both caps are removed from the tube and rod, respectively, which is easily accomplished by reason of their severable connection, and the piston and rod are removed from the tube or drawn back into the tube, the medicine being introduced into the small end of the tube, which is then placed at the seat of trouble and blown or forced by the piston out of the tube to the seat of disease.

My improved device is preferably made of

glass or hard rubber. It is durable and capable of repeated uses by the mere recharge of the tube with the proper medicine.

I claim—

1. The herein-described applicator for medicinal purposes comprising the tube *a*, having the shank *b*, the piston *d* and the rod *e* for the same, with an abutting face for limiting the drawing in of the piston, the cap *h* for the tube, and the cap *l* for the rod, with the caps arranged for ready removal from the tube and rod respectively for permitting the ready removal of the piston and rod from the tube, the stop *i*, and the connection *m*, constructed and arranged substantially as described.

2. The combination, in an applicator for medicinal purposes comprising a tube *a*, having a shank *b*, a piston *d* and a rod *e* for the same, with an abutting face for limiting the drawing in of the piston for the reception of a predetermined quantity of medicine in the tube, a removable closing device for the end of the tube for retaining the medicine in the tube while carrying the holder about and arranged to be removed before applying the medicine, a cap *l* and a stop *i* and a threaded end *k* for limiting and regulating the outward movement of the piston for ejecting the medicine in the tube, substantially as described.

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

HANS HENNERICH GROTH.

Witnesses:

ERNEST G. SIMON,  
FLORENCE BRANDES.