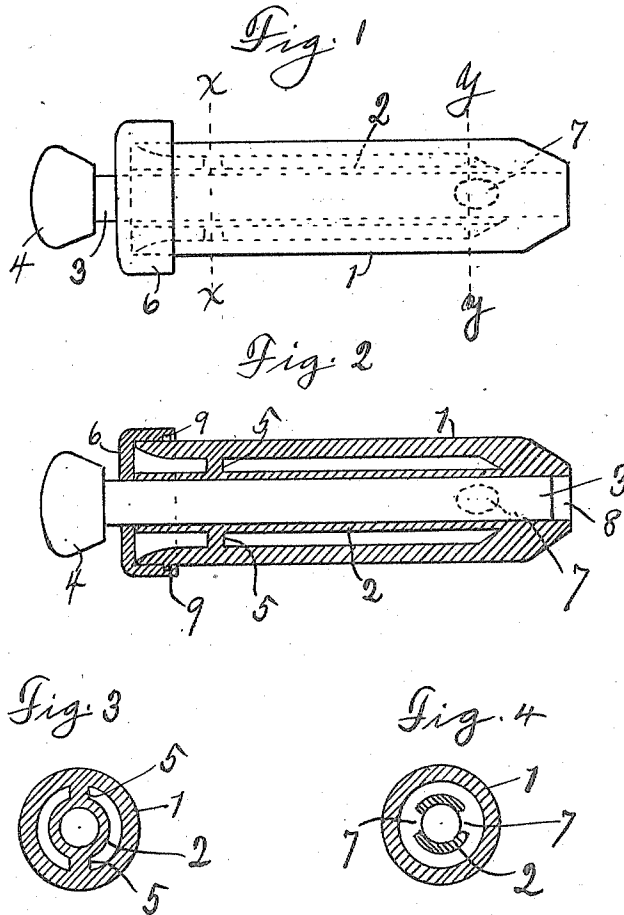


C. W. KLINE & H. A. LONG.
POWDER EJECTOR.
APPLICATION FILED OCT. 29, 1909.

948,057.

Patented Feb. 1, 1910.



Witnesses:-
L. J. Knight
L. B. Mayfield.

Inventors,
C. W. Kline
and
H. A. Long,
By A. L. Jackson,
att'y.

UNITED STATES PATENT OFFICE.

CHARLES W. KLINE AND HARLEY A. LONG, OF FORT WORTH, TEXAS.

POWDER-EJECTOR.

948,057.

Specification of Letters Patent.

Patented Feb. 1, 1910.

Application filed October 29, 1909. Serial No. 525,344.

To all whom it may concern:

Be it known that we, CHARLES W. KLINE and HARLEY A. LONG, both citizens of the United States of America, and both residents of Fort Worth, in the county of Tarrant and State of Texas, have invented a new and Improved Powder-Ejector, of which the following is a specification.

This invention relates to surgical instruments and more particularly to instruments for inserting medicine in cavities in the body, and the object is to provide a simple instrument for inserting powders and other medicines in cavities in the body which instrument will be perfectly sanitary, which will be smooth and without rough surfaces which would irritate the flesh, and which will carry a quantity of medicine therein.

One of the objects of this invention is to provide such instrument with means for quickly and easily separating a dose of medicine from the quantity of medicine carried in the instrument and arranging the same so that the plunger will easily and certainly eject the dose of medicine.

Other objects and advantages will be fully explained in the following description and the invention will be more particularly pointed out in the claims.

Reference is had to the accompanying drawings which form a part of this application.

Figure 1 is a side elevation of the instrument, the interior mechanism being shown in dotted outline. Fig. 2 is a longitudinal section of the tubular casings. Fig. 3 is a cross section, taken along the line $x-x$ of Fig. 1. Fig. 4 is a cross section, taken along the line $y-y$ of Fig. 1.

Similar characters of reference are used to indicate the same parts throughout the several views.

The entire instrument is preferably made of glass. The device has an outer barrel 1 and an inner barrel 2, the two being preferably formed integral. A plunger 3 operates within the inner barrel 2 and is provided with a knob or handle 4 for convenience in operation. The barrel 1 is flared on the interior at the upper part for convenience in charging the instrument with powdered medicine. The inner barrel 2 may be formed integral at the bottom thereof with the outer barrel and in order that the two barrels may maintain their positions relative to the other or so that the outer barrel

will remain concentric with the inner barrel braces 5 may be formed integral with the two barrels, as shown in Fig. 3. The space between the inner and the outer barrel is utilized to carry a quantity of medicine. A hood or cap 6 closes both the inner and the outer barrels and the hood 6 is perforated for the passage of the plunger 3 which plunger is flush with the interior of the inner barrel and with that part of the outer barrel which extends beyond the inner barrel. When the plunger is drawn partly out of the cylinders or barrels, powder may be shaken out of the cavity between the barrels through perforations 7 in the lower part of the inner barrel into the mouth 8 of the outer barrel. The inner barrel must be spaced far enough from the nozzle or mouth 8 of the outer barrel so that a single dose of medicine will be held in the mouth of the outer barrel in position to be discharged by the plunger 3. In order to charge the instrument with a supply of medicine, the hood or cap 6 is raised far enough and the medicine is poured into the flared end of the outer barrel while the thumb or some stopper closes the lower end of the outer barrel or the plunger 3 could be used for this purpose. The hood 6 may be held on the barrel 1 by means of lugs 9 formed on the outer barrel 1 and which operate in grooves formed on the interior of the hood. The plunger 3 is made long enough to be flush with the mouth or nozzle 8 of the outer barrel when inserted full length in the inner barrel. Normally the plunger holds the medicine within the space between the two barrels. When a dose of medicine is to be administered, the plunger may be drawn above the perforations 7 while the nozzle 8 is held closed. A slight shaking or tapping on the instrument will fill the space below the perforations 7 with a dose of medicine which is ready to be discharged by the plunger.

Having fully described our invention, what we claim as new and desire to secure by Letters Patent, is,—

1. A powder ejector having an inner and an outer barrel spaced apart for carrying a quantity of powder, the inner barrel terminating above the exit of the outer barrel and having perforations at the termination thereof communicating with the outer barrel, and a plunger operating through the discharge ends of said barrels to discharge a dose of powder.

2. A medicine ejector having an outer barrel provided with a flared receiving end, an inner barrel spaced apart from the outer barrel and terminating above the discharge end of said outer barrel and having perforations at the termination thereof forming openings into the outer barrel, said outer barrel having the opening through the discharge end of the same diameter as the opening through the inner barrel, and a plunger operating through the discharge ends of said barrels.

3. A medicine ejector having an outer barrel provided with a flared receiving end, an inner barrel spaced apart from the outer barrel and terminating within the outer barrel and integral therewith and having perforations at the termination thereof, said outer barrel tapering at the discharge end and the opening through the discharge end being uniform with the opening through said inner barrel, a perforated cap closing said barrels, and a plunger operating through said cap and through the discharge ends of said barrels.

4. A medicine ejector having an outer

barrel, an inner barrel integral therewith and spaced therefrom and having communication therewith, said outer barrel having a discharge end provided with an opening therethrough uniform with the opening through said inner barrel, a perforated cap closing said barrels, and a plunger operating through said cap and the discharge ends of said barrels.

5. A medicine ejector having an outer barrel, an inner barrel spaced therefrom and integral therewith at one end and having integral braces for the other end and having communication with said outer barrel, and a plunger operating through the discharge ends of said barrels to discharge doses of medicine therefrom.

In testimony whereof, we set our hands in the presence of two witnesses, this 13th day of October, 1909.

CHARLES W. KLINE.
HARLEY A. LONG.

Witnesses:

A. L. JACKSON,
J. W. STETT.