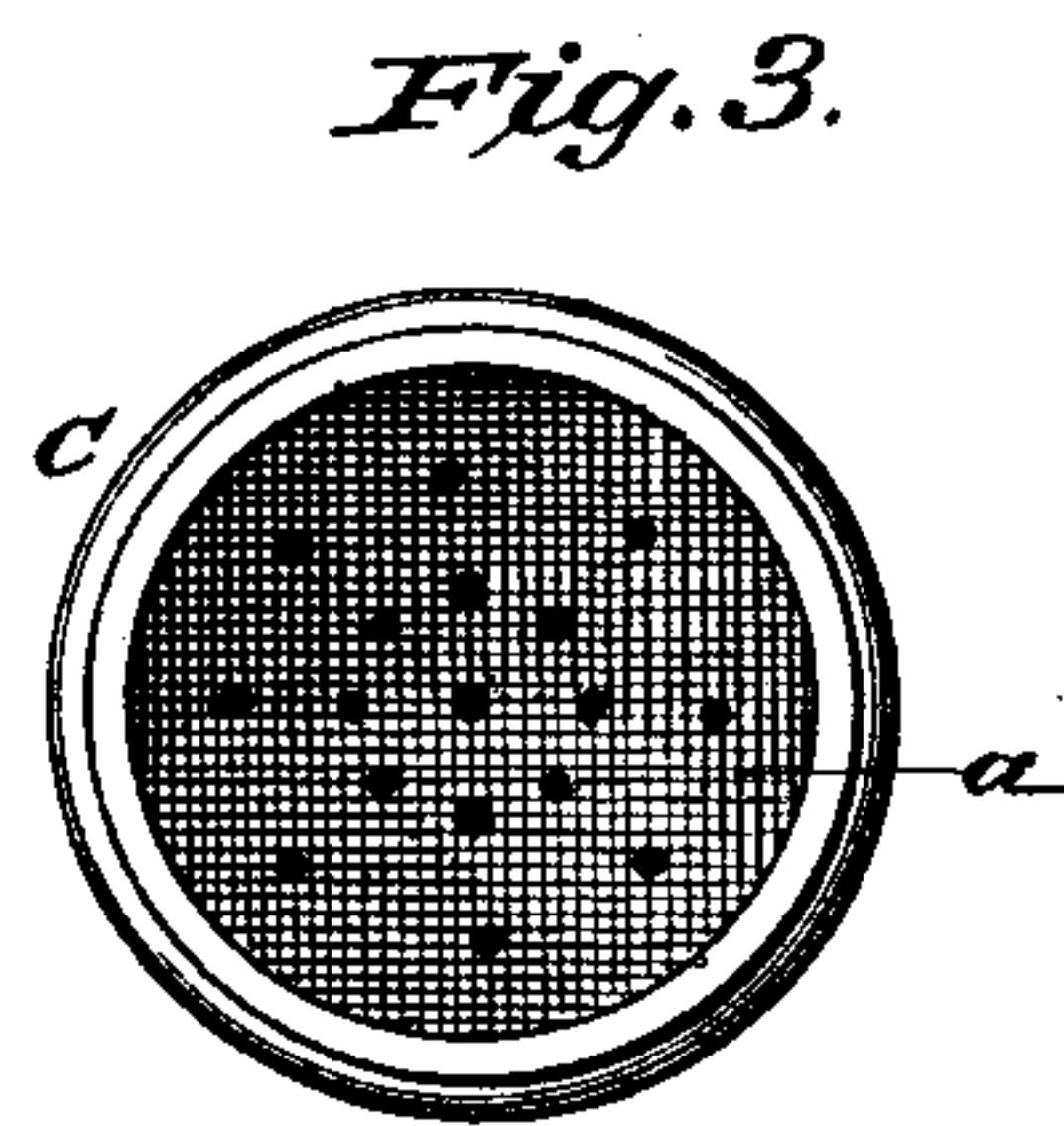
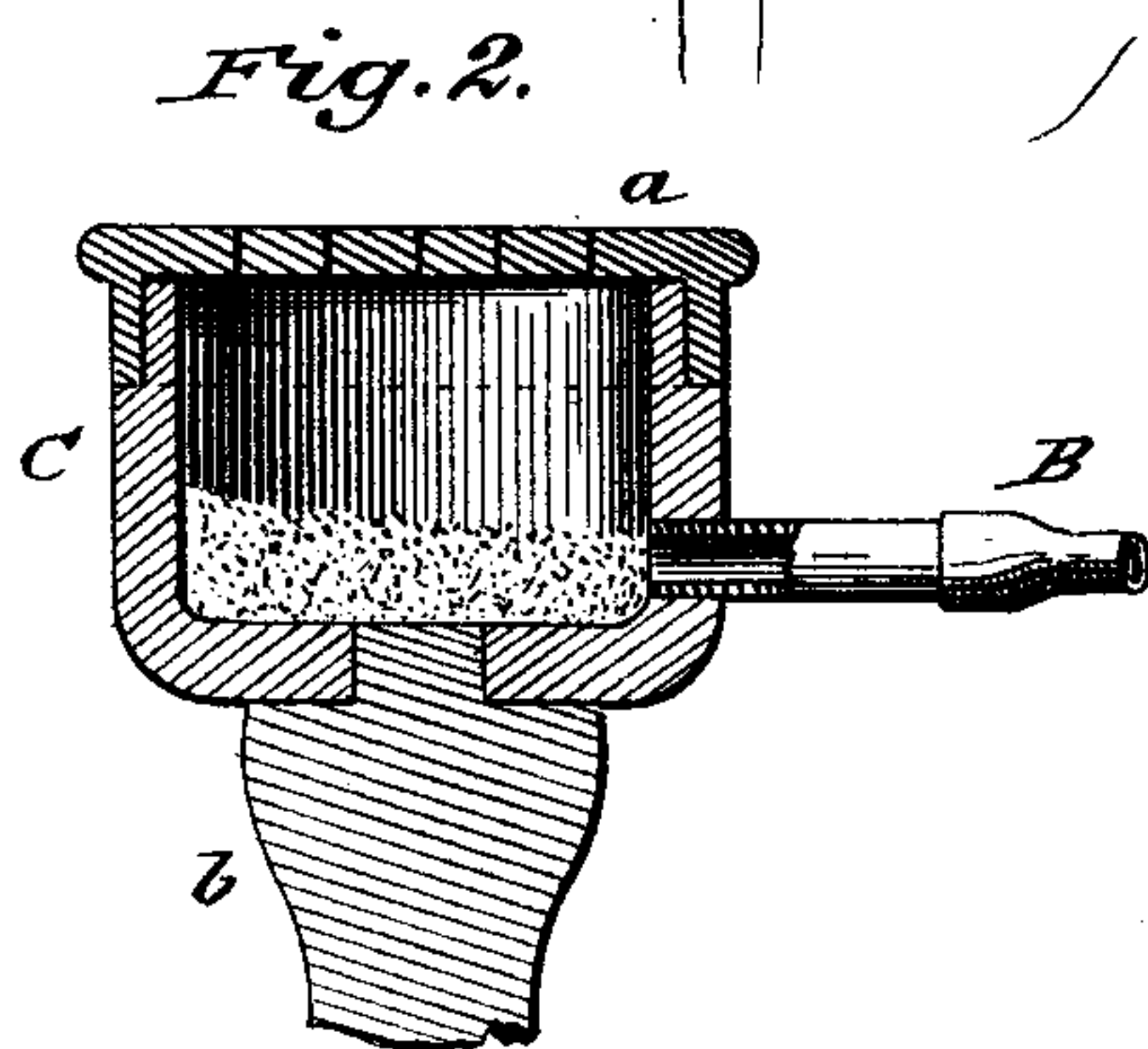


(No Model.)

A. K. IVES.
INHALER.

No. 388,202.

Patented Aug. 21, 1888.



WITNESSES:
Fred G. Dieterich.
John C. Kemmer.

INVENTOR:
A. K. Ives.
BY *Munn & Co.*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ALMON K. IVES, OF MISSOULA, MONTANA TERRITORY.

INHALER.

SPECIFICATION forming part of Letters Patent No. 388,202, dated August 21, 1888.

Application filed January 4, 1888. Serial No. 259,809. (No model.)

To all whom it may concern:

Be it known that I, ALMON K. IVES, of Missoula, in the county of Missoula, Montana Territory, have invented a new and useful Improvement in Medical Instruments, of which
5 the following is a specification.

In the topical treatment of diseases of the nasal, throat, and lung cavities great difficulty is experienced in applying powdered medicinal substances to the affected parts.
10

The object of my invention is to provide a simple and inexpensive instrument which is adapted to perform this function with convenience, certainty, and dispatch.

15 The invention embodies certain features of instruments employed for destroying insects on animals, to wit: a compressible air-bulb, a powder-receptacle having a discharge-nozzle, and also a perforated plate for hindering the
20 escape of large particles of the powder (or other substance) from said receptacle into the nozzle.

My improved instrument is composed of parts constructed and combined as hereinafter described and claimed.
25

In the accompanying drawings, Figure 1 is a perspective view of the instrument in use. Fig. 2 is a longitudinal section of the powder-receptacle. Fig. 3 is a plan view of the cover
30 of the latter inverted.

The bulb A and tube B are formed of rubber similar to those employed in the construction of atomizers in common use. The tube B connects with the powder box or receptacle C
35 at or near the bottom thereof, so that the air forced into it will enter at such a point as to enable it to take up a portion of the powder and carry it out through the openings in the cover *a* of the receptacle. In this instance the
40 cover is shown secured by a friction-joint; but I propose to attach it by means of a screw-threaded joint in some cases. The perforations in the cover are of so small diameter as to allow only the finest or most impalpable
45 portions of the powder to pass through them. A rigid handle, *b*, is attached to the under side of the box C for convenience in holding and manipulating the instrument.

The practical use of the latter is as follows: A suitable quantity of the finely-powdered
50 medicinal substance to be applied to the diseased surfaces is placed in the receptacle C and the cover *a* replaced. The bulb A is then held in one hand while the other is applied to the handle *b* of the powder-receptacle C, and
55 when the perforated portion of the latter has been properly placed or directed with reference to the parts to be treated the bulb is pressed more or less forcibly, thus driving air into the receptacle C, wherein it takes up a
60 portion of the impalpable powder and carries it through the openings in the cover *a* in the form of jets, which convey it to and deposit it upon the diseased surfaces. The small diameter of the openings in the cover prevents escape of any coarse particles of the powders,
65 so that a serious objection incident to the digital application of medicinal powders to the nasal and other passages is avoided. The powder thus expelled follows and is carried
70 along in the air-current produced by the act of inhalation, and thus reaches the innermost cavities and surfaces which are not otherwise accessible to treatment. The top of the receptacle C may have different forms to better
75 adapt it for use in the nose or throat.

What I claim is—

The improved instrument for applying powdered medicinal substances to the nasal, throat, or lung cavities, the same consisting of the
80 powder-receptacle having small perforations in its top and a suitable handle, the compressible air-bulb, and the flexible tube connecting it with said bulb, as shown and described, whereby the compression of the latter forces
85 air into contact with the powder in the receptacle, whence it is expelled in jets that carry along some of the fine impalpable portion of the powder, as specified.

ALMON K. IVES.

Witnesses:

FRDRK. P. KERN,
JAMES O'GRADY.