

No. 658,436.

Patented Sept. 25, 1900.

H. H. GROTH.
INSUFFLATOR.

(Application filed May 28, 1900.)

(No Model.)

Fig. 1.

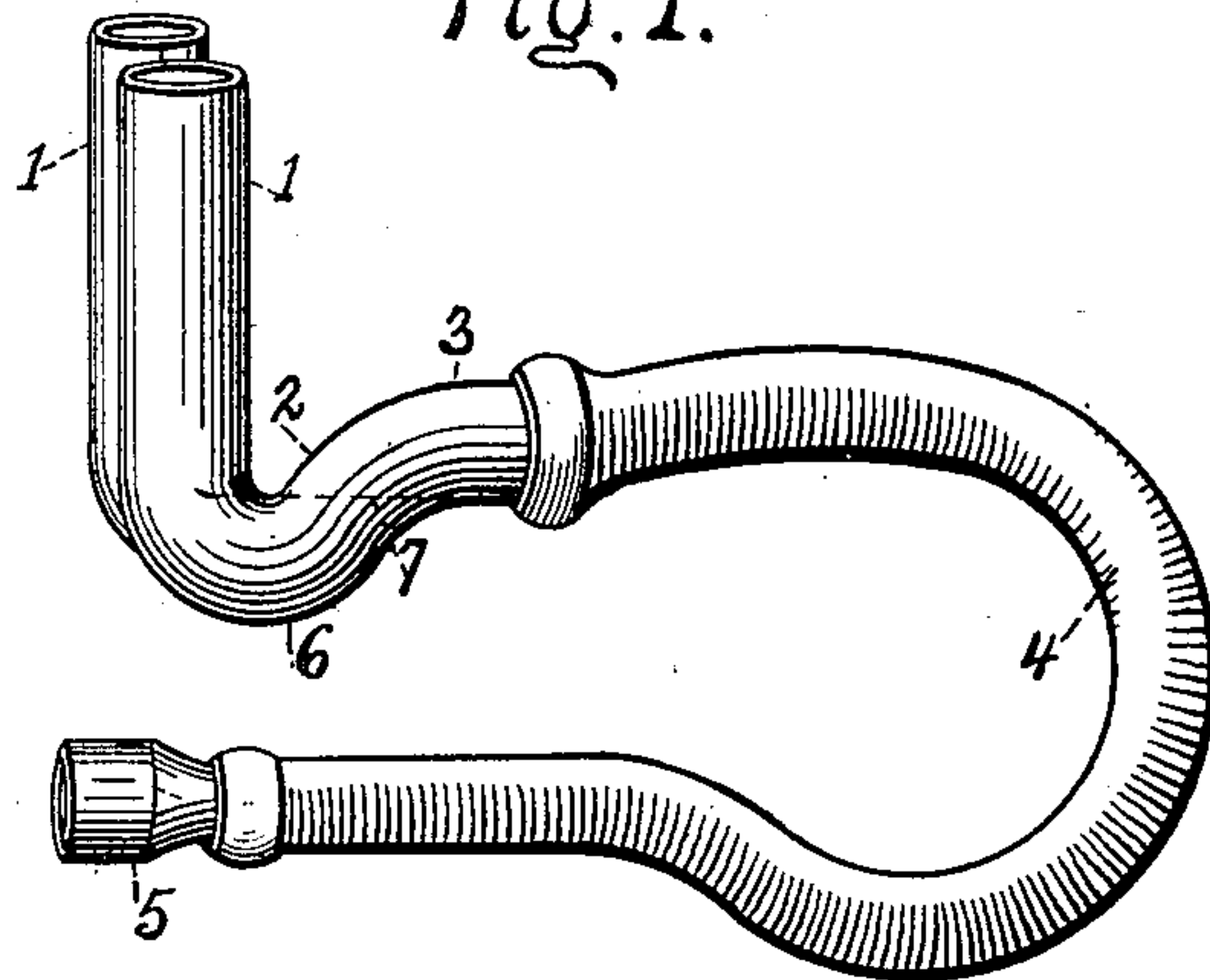


Fig. 2.

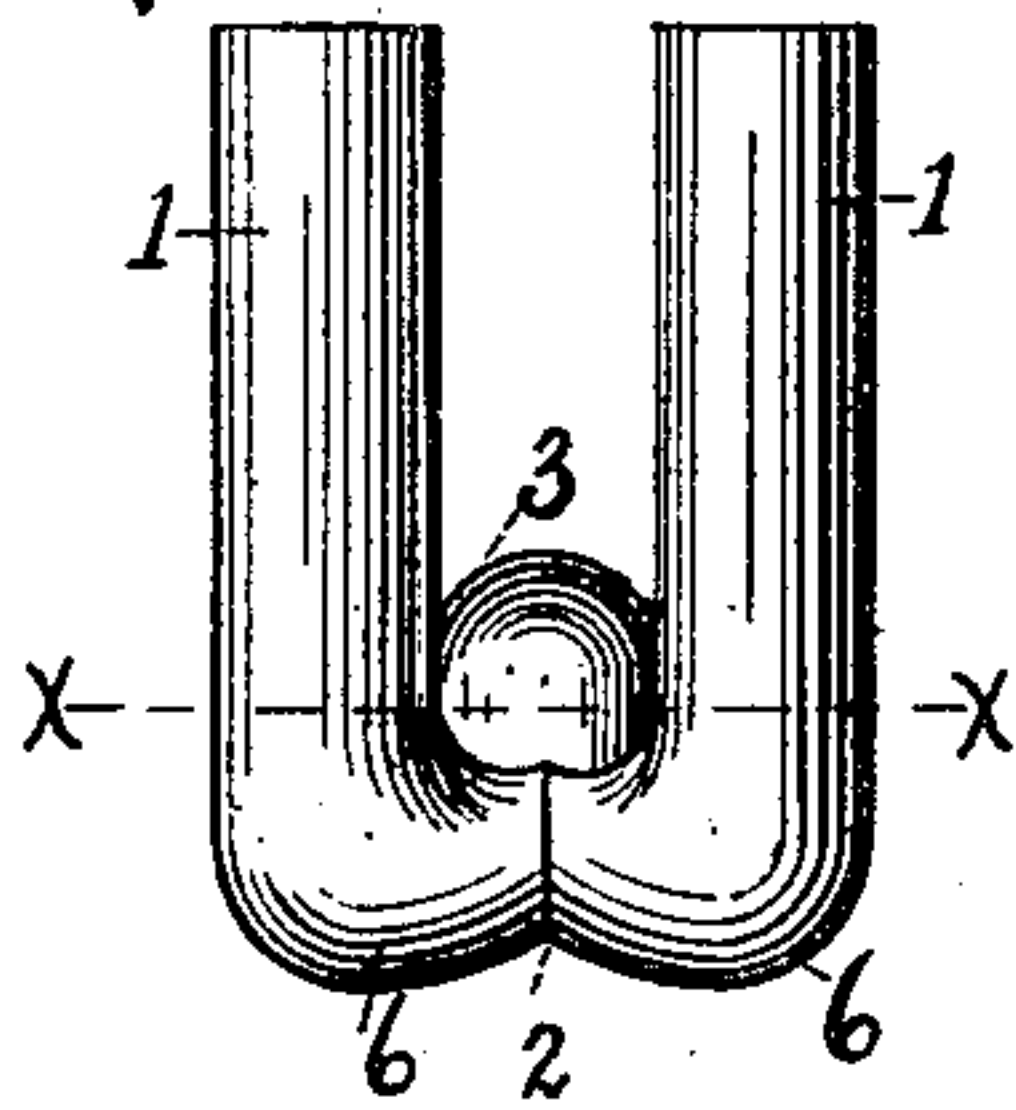
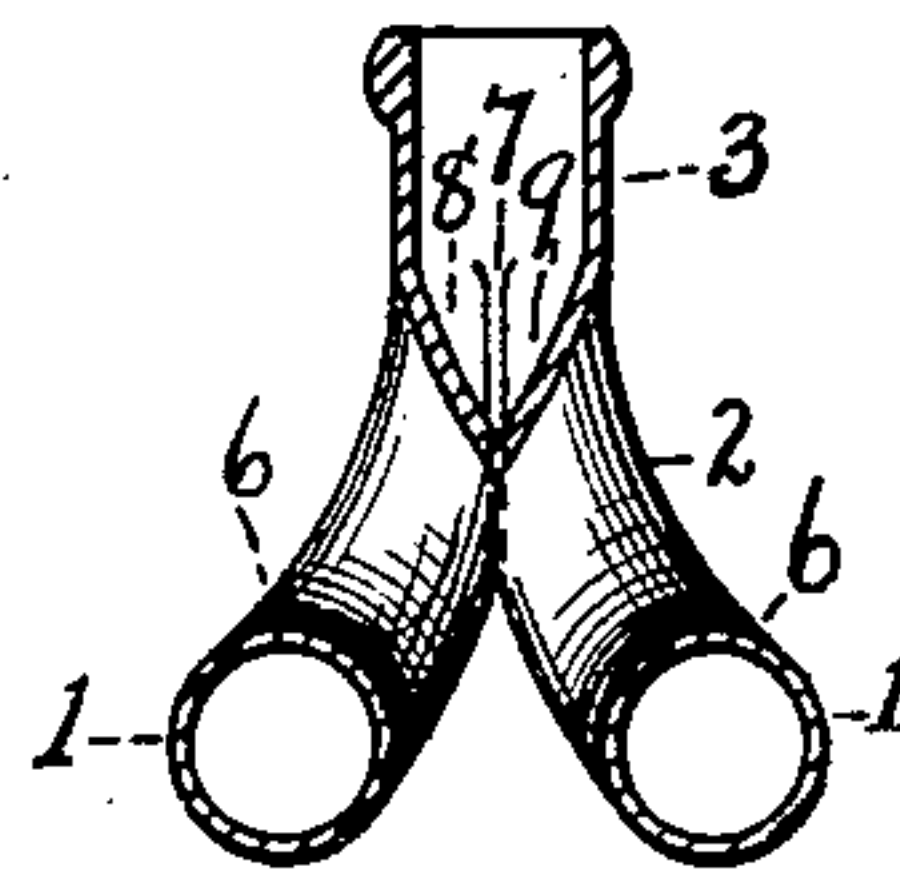


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

HANS HENNERICH GROTH, OF CINCINNATI, OHIO.

INSUFFLATOR.

SPECIFICATION forming part of Letters Patent No. 658,436, dated September 25, 1900.

Application filed May 28, 1900. Serial No. 18,266. (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 Insufflators, of which the following is a specification.

My invention relates to that class of devices usually termed "insufflators."

It is the object of my invention to provide an insufflator that is simple and economical in construction, that is easily cleaned, and that is capable of directing a predetermined quantity of medicine to either nostril and a predetermined but varying quantity to both nostrils at the same time.

My device is especially serviceable in the application of powders after the throat and nasal passages have been cleaned in the treatment of disease for the purpose of applying a soothing or healing drug to the afflicted parts and may also be used for applying liquid medicines.

My invention consists in providing a device with which both nostrils may be treated at the same time and by which both nostrils are practically closed to the outside air, so that the person in blowing through my insufflator forces the drug therein to the innermost passages reached from the nostrils; further, in so constructing my insufflator that a predetermined and different quantity of medicine or drug may be simultaneously blown into each nostril, and, further, in the parts and in the construction, arrangement, and combinations of parts hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of my device. Fig. 2 is an end elevation of the same with the flexible tube omitted, and Fig. 3 is a detail in section on the line *xx* of Fig. 2.

I prefer to make my improved device, with the exception of the flexible tube, of glass, although it is obvious that other substances may be used.

My device consists, preferably, of a pair of tubes 1 1, adapted to be placed into the nostrils and of such size as to substantially fill the same, so that outside air may be excluded from the nostrils when the powder or drug is applied. The tubes 1 1 connect at a neck 2

and preferably merge into a single tube 3, adapted to have a flexible tube 4 attached thereto, terminating in a mouthpiece 5, adapted to be placed in the mouth for blowing therethrough. The tubes 1 1 are preferably perpendicular and the tube 3 horizontal, with a slight depression 6 between the two for the more ready reception of the powder or substance to be blown into the nostrils.

In nasal diseases it is frequently the case that a certain specified quantity of medicine or drug is required for one nostril, differing from the quantity required for the other nostril. The application of the medicine is also more easily and pleasantly applied and the best results are also obtained when the medicine is applied to both nostrils simultaneously. The medicine it is necessary to apply is sometimes irritating, and when, as in old constructions, it is attempted to apply it first to one and then to the other nostril it has been found that the irritation caused by the application to the first nostril made it objectionable to the patient to apply it to the second and precluded its proper application. In my improved construction, however, the patient blows into the mouth-tube and causes the medicine to enter both nasal passages simultaneously and, if desired, in varying quantities, and the nostrils being practically closed except through the tubes causes the medicine by the force of the blowing and the position of the valves between the nose and mouth to reach the remotest nasal passages and the seat of the disease, and the mouth upon being immediately thereafter opened, with the tubes still in the nostrils, draws the medicine into the throat-passages for the cure of throat troubles, the application to nose or throat being regulated to a nicety by the relative length or force of exhalation and subsequent inhalation. In order to regulate the quantity of medicine to be received by each nostril, I provide the depression 6 with a web 7, dividing the same into two compartments 8 9, one communicating with one of the tubes 1 and the other communicating with the other of the tubes 1 and both communicating with the mouth-tube 3. Each of the nasal tubes therefore has a depression 6 between it and the inlet-

tube 3, thereby forming two distinct receptacles for medicine merging and extending directly and separately and without intermediate space into the inlet-tube and located 5 below the horizontal plane of the inlet-tube. (See Figs. 1 and 3.) The parts therefore extending from the nasal tubes 1 1 to the inlet-tube 3 form one integral piece of simple construction and utile properties, the blow-tube 10 4, connecting with the inlet-tube, being made flexible, so as to permit the mouthpiece 5 to be readily and conveniently placed in the mouth and directed to suitable position.

In using my device the powder or medicine is introduced through the tubes 1 1 into the compartments 8 9, either in equal quantities or in varying quantities, or into but one of the compartments, as may be desirable for the treatment. By this construction I am 20 enabled to regulate the quantity of and point of application to a nicety.

By applying a separate tube to each nostril simultaneously, with each communicating with the determined quantity of medicine to be applied to that nostril and with both nostrils simultaneously closed to the outside air, 25 the force of exhalation from the mouth through the tubes and inspiration through the nose forces the exhalation and inspiration to pass through the tubes and carries the powder with the current to the seat of the disease. It does not permit breathing the outside air freely through one nostril while application is made only through the other, 35 as in old constructions, which results in inability to reach the seat of trouble.

If it is desired to introduce an equal amount of medicine into each nostril, an equal amount of medicine is placed in each compartment, 40 and the amount thus placed in each compartment is introduced into the nostril, even if the nasal passages of one nostril are more clogged than those of the other, which is not the case in old constructions, the tendency in 45 old constructions being for the medicine to follow the course of least resistance.

My device is simple, compact, is small, and may readily be carried in the pocket, convenient for use at home or away from home.

It is cheap and answers the purpose for which 50 it is intended in a superior manner.

I claim—

1. An insufflator comprising a pair of nasal tubes for taking into both nostrils simultaneously, an inlet-tube 3 extending directly 55 and connectedly therefrom, a depression between each of the nasal tubes and the inlet-tube for the reception of medicine, and forming two distinct receptacles for medicine each merging and extending directly without intermediate space and separately into the inlet-tube, the above constructed into one integral piece, and a flexible blow-tube connected with the inlet-tube, and constructed 60 and arranged for blowing through the tubes for forcing the medicine in the depression into both nostrils simultaneously, substantially as described.

2. The herein-described insufflator comprising a pair of nasal tubes 1, 1, for taking 70 into both nostrils simultaneously and merging into an inlet blow-tube 3; a depression 6 between each of the nasal tubes and the inlet-tube, a web 7 in the depression for forming the two compartments 8, 9, in the depression 75 for the reception of medicine and each communicating with one of the nasal tubes and with the inlet blow-tube, and forming two distinct receptacles for medicine each merging and extending directly without intermediate space and separately into the inlet-tube, the above constructed into one integral piece, and a flexible blow-tube connected with the inlet-tube, and constructed 80 and arranged for blowing through the tubes from the inlet blow-tube and forcing the medicine in each compartment separately through the nasal tube with which it communicates and for simultaneously blowing 85 through both compartments and nasal tubes, 90 substantially as described.

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

HANS HENNERICH GROTH.

Witnesses:

EARLE R. PASSEL,
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