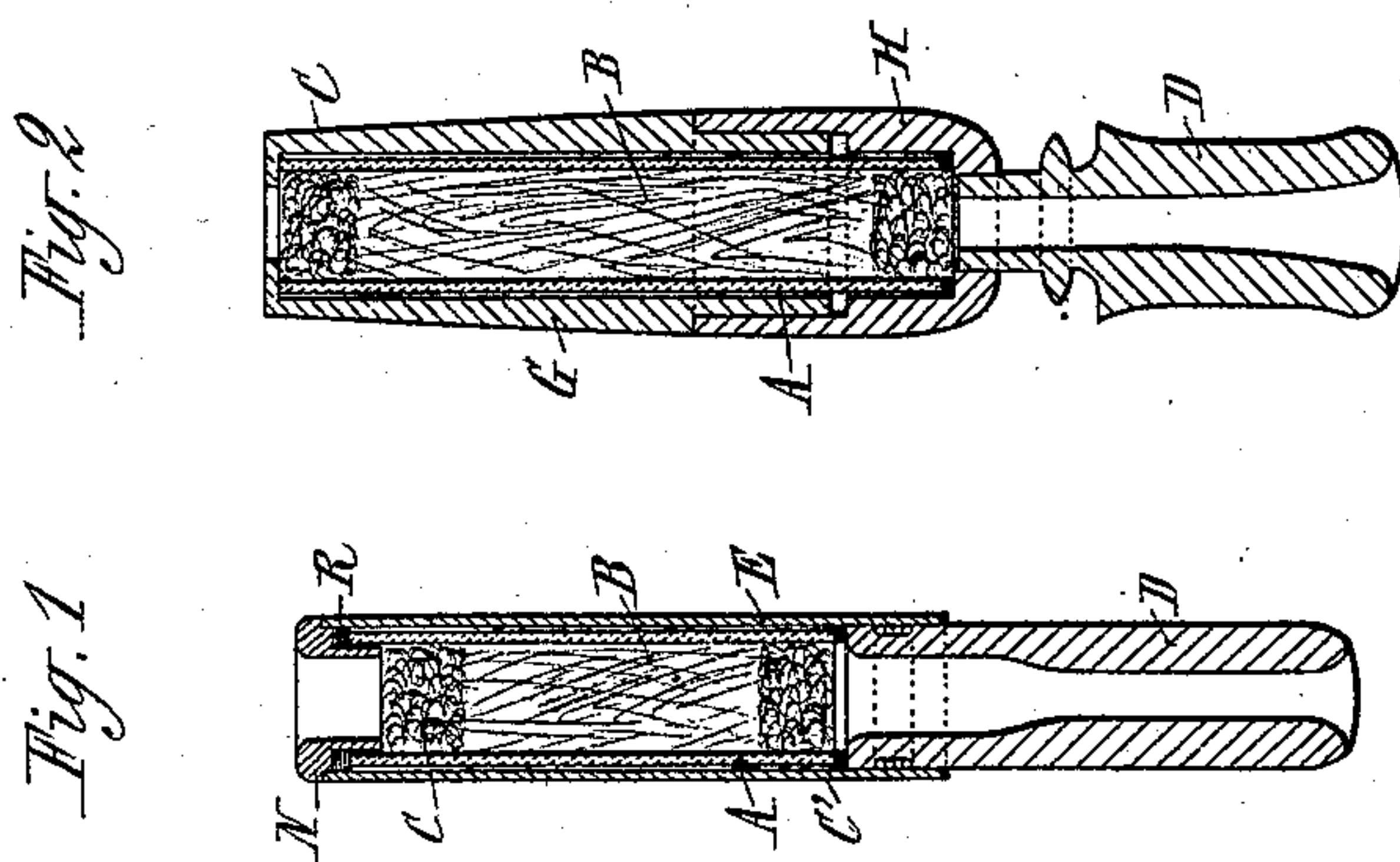


(No Model.)

F. FORNÉ.
INHALER.

No. 533,880.

Patented Feb. 12, 1895.



Witnesses
Thomas Durant.
Abner Meacham

Inventor
Fortune Forné.
By Charles H. Clumish
his Attorneys

UNITED STATES PATENT OFFICE.

FORTUNÉ FORNÉ, OF BREST, FRANCE.

INHALER.

SPECIFICATION forming part of Letters Patent No. 533,880, dated February 12, 1895.

Application filed November 11, 1891. Serial No. 411,600. (No model.) Patented in France August 20, 1891, No. 215,615.

To all whom it may concern:

Be it known that I, FORTUNÉ FORNÉ, a citizen of the Republic of France, residing at Brest, France, have invented certain new and useful Improvements in Pocket-Inhalers, (for which I have obtained Letters Patent of France, dated August 20, 1891, No. 215,615,) of which the following is a specification.

The subject of this invention is an improved portable or pocket-inhaler enabling persons to inhale filtered air, charged or not with various vapors, whenever they require it.

In the accompanying drawings Figure 1 is a section of the improved inhaler inclosed in a protecting case or sheath of metal. Fig. 2 is a section of the same apparatus contained in a sheath of wood, meerschaum, or the like.

The apparatus mainly consists of a glass tube A open at both ends and containing a filter constructed as follows: First, the filtering material proper is placed in the center of the glass tube and consists of a cylindrical body B. It is of mineral origin (mineral or glass wool, asbestos fabric made in the shape of a bag, &c.), and is adapted to contain the substances to be inhaled. Second and third, at both ends of the glass tube are placed plugs of cotton wool or wadding C C'.

The filter C B C' thus formed and the glass tube A in which it is located may previously to being used undergo an antiseptic operation by being heated to a temperature exceeding 120° centigrade, which will cause no alteration in the filtering material.

The central portion of the filter, being of a mineral nature, is not subject to corruption or decay and will therefore serve its purpose for an indefinite period of time. As to the cotton-wool plugs, one is intended to keep out dust and any germs in suspension in the atmosphere while the other re-filters the air charged with the required vapors. New plugs may be substituted for the old ones as frequently as is necessary.

The filter-carrying glass tube A is inclosed in and protected by a case or sheath made either of metal, as shown in Fig. 1, or of wood, meerschaum, or the like as indicated in Fig. 2.

To the metal sheath E (Fig. 1) are fitted two nozzles or canulæ, one of which (D) forms the mouthpiece the other N being applied to one of the nostrils.

The mouth-piece D of the inhaler whatever its shape is practically similar to an ordinary cigar-holder from which it only differs in the diameter of the central opening which is four or five times larger than that of a cigar-holder, to permit the air drawn in by the invalid or other person through the filter to fill the lungs within the time usually expended on an inhalation, without causing the patient undue fatigue. This mouth-piece enters the outer metal tube E much like a piston enters its cylinder fitting it exactly with frictional contact. The other canula N which may be termed the nose-piece as it is intended to enter or be applied to one of the nostrils of the patient while he is taking inhalations through the nose assumes the shape of a funnel freely entering the glass tube A and adapted to be tightly fitted to the opposite end of the metal tube E. This method of fitting together the protecting sheath or tube E and the nose-piece N permits the employment of the lightest metal existing, viz: aluminium.

It should further be noted that the glass filter-holder is tightly held within the metal tube by the mouth-piece D and washer R which separates it from the nose-piece N so that the air drawn in by the repeated movements of the chest of the invalid necessarily passes through the filter. It will be seen that by this construction the inner receptacle can be withdrawn from the outer casing by simply removing the nose piece N, and another tube containing a new supply or a different substance to be inhaled, inserted. It is also noteworthy that the protecting tube or sheath and the nose-piece being both of metal may be sterilized or made antiseptic by heat.

Where a wooden sheath is used (Fig. 2) it consists of two parts G H fitted one within the other. The portion G in this case forms the nose-piece and the portion H the mouth-piece. In the center of both a cylindrical opening is provided within which the filter-holding glass tube A is inserted.

One of the essential advantages of this improved portable inhaler especially in the form illustrated in Fig. 1, is that it enables inhalations to be taken at will through either the mouth or the nose, without requiring any addition to the apparatus.

By simply separating the two parts G and

If the filter holding glass tube A can be removed, when desired.

In inhalations through the mouth the action of the mouth is the same as in smoking a cigar. The mouth-piece is held between the lips and teeth and air is drawn or sucked in through the inhaler the exhalations issuing in this case through the nose.

Nasal inhalations may be performed according to two methods, viz: either by an ordinary smelling action, the nose-piece of the inhaler being held at a short distance from the nostrils, not unlike smelling salts or a scent bottle; or by inserting the nose-piece N directly into one of the nostrils. In the latter case both the ala of the free nostril and that of the nostril occupied by the nose-piece N are compressed with the fingers in opposite directions toward the partition of the nose so as to secure a perfect occlusion of both nostrils. The exhaled air in this case departs through the mouth.

Whether the inhalations take place through the mouth or nose however the operation of the improved inhaler remains identical. The air drawn in through the inhaler is filtered before reaching the air-ducts of the invalid by passing first through the cotton-wool plug which intercepts dust and germs, then through the intermediate filtering or vapor generating portion B and lastly through the second cotton-wool plug.

The pocket inhaler herein described constitutes a hygienic germ filtering respirator chiefly intended for persons who are habitually in good health but desirous of having constantly a light apparatus of small size near at hand in case they should temporarily find themselves in a place filled with impure air.

Owing to the shape of the nose-piece the inhaler may be readily arranged to act by either suction or ventilation, which is another exceedingly important feature of this invention as invalids may thus be spared the effort and fatigue attending the inhalation of air through the filter of the inhaler in consequence of the resistance the air has to overcome in being filtered.

I claim—

1. In an inhaler, the combination with the outer casing, the mouthpiece at the lower end of said casing, the tube carrying the filtering material, within the casing, resting at its lower end against the mouth piece, and means, substantially such as shown, for holding the tube within the casing at the upper end, whereby when the parts are assembled, the tube will be held firmly in place within the casing, as and for the purpose set forth.

2. In an inhaler, the combination with the inner tube carrying the filtering material, the outer casing, the mouthpiece at the lower end of said casing and upon which the inner tube rests, the funnel-shaped plug extending into the upper end of the tube and fitting tightly upon the outer casing, the washer interposed between the plug and inner tube, whereby when the parts are assembled the tube will be held tightly within the casing between the mouth piece and washer; substantially as and for the purpose set forth.

In testimony whereof I have hereto set my hand in the presence of the two subscribing witnesses.

FORTUNÉ FORNÉ.

Witnesses:

JEAN ROBELET,
L. SULLIGE.