

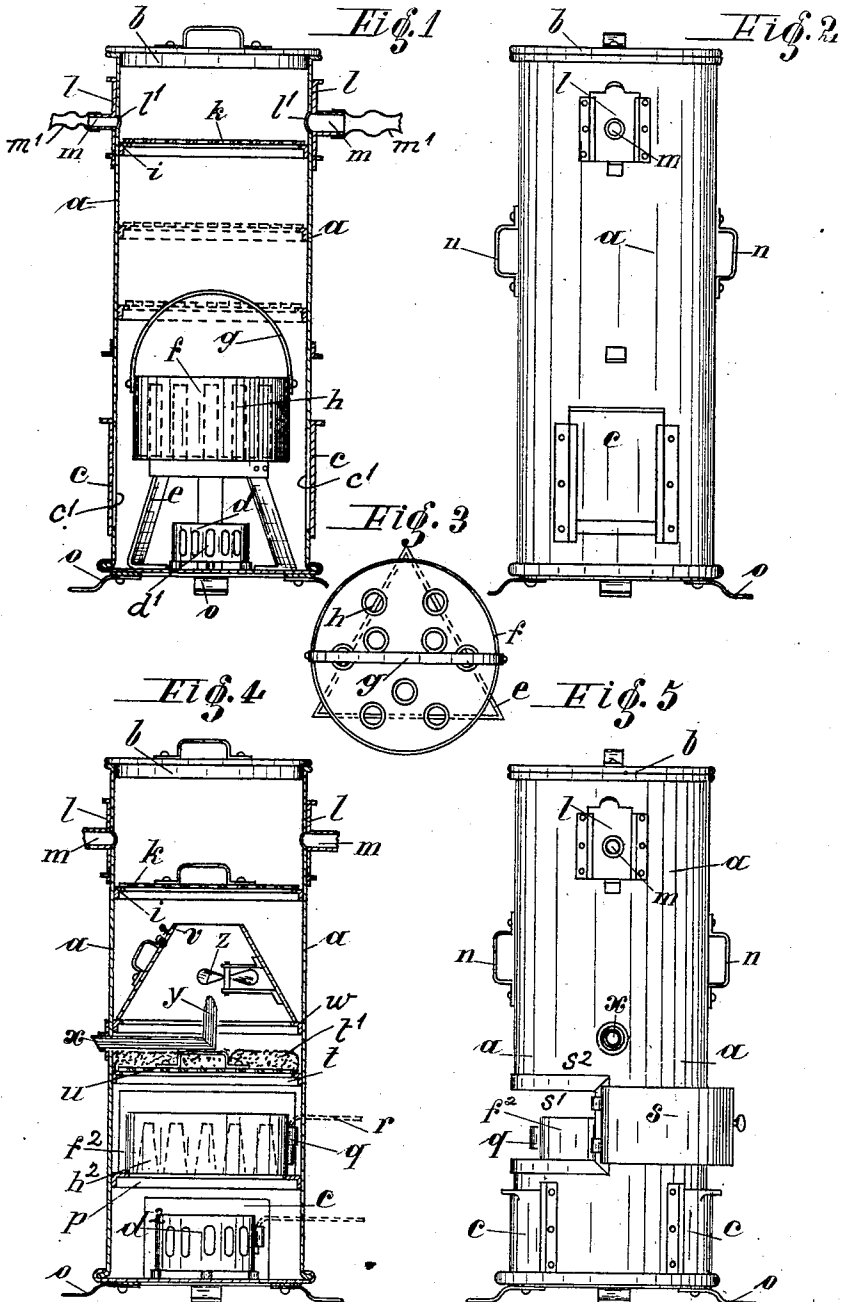
O. IMMERMANN.

FUMIGATOR.

APPLICATION FILED APR. 26, 1909.

977,312.

Patented Nov. 29, 1910.



Witnesses
A. J. Hadden
A. H. Hathaway

Inventor
Otto Immermann
 by *R. H. Hadden*
 Attorney

UNITED STATES PATENT OFFICE

OTTO IMMERMANN, OF HALLE-ON-THE-SAALE, GERMANY.

FUMIGATOR.

977,312.

Specification of Letters Patent. Patented Nov. 29, 1910.

Application filed April 26, 1909. Serial No. 492,119.

To all whom it may concern:

Be it known that I, OTTO IMMERMANN, a subject of the German Emperor, residing at Halle-on-the-Saale, in Germany, have invented certain new and useful Improvements in Fumigators, of which the following is a specification.

This invention relates to apparatus for fumigating purposes and for the treatment of diseases, for example, diphtheria, tuberculosis, asthma, influenza and the like, by the inhalation of gaseous products of combustion, and vapors, which act as disinfectants and destroy the bacteria or bacilli to which such diseases are due.

One of the objects of the invention is to provide improved means for separating sooty particles and the like from the gaseous products of combustion.

Another object is to provide apparatus wherein heat due to the combustion by which the gases are generated is used for generating steam or vapor for admixture with the said gases.

Another object is to provide improved means for mixing the gases and vapors generated.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a vertical central section of an apparatus, Fig. 2 is an elevation of the same apparatus and Fig. 3 a plan view of certain internal parts thereof. Fig. 4 is a vertical central section and Fig. 5 is an elevation showing another form of construction.

Like reference letters denote like or equivalent parts in all figures of the drawings.

Referring in the first place to Figs. 1, 2, and 3 the apparatus comprises a cylindrical casing *a* with a removable cover *b*. In the lower part of the wall of the casing there are two apertures *c*¹ *c*² diametrically opposite each other, with slidable shutters *c*. A receptacle *d* which can be inserted through either of the apertures referred to, is placed in the bottom of the casing, the disinfectant or medicinal substance to be burned being placed in this receptacle *d*, the wall of which is perforated at *d*¹ for the admission of air. The admission of air to the casing is regulated by means of the shutters *c* acting as dampers. A tripod *e* supports, over the receptacle *d*, a vessel *f* having a bail *g*. This vessel containing water is inserted into the casing from the top. Tubes

h open at both ends, extend through the bottom of the vessel *f* and upward therein. These tubes increase the heating surface of the vessel and give passage to the products of combustion ascending from the receptacle *d*. A plurality of rings *i* fixed at intervals in the casing, above the vessel *f*, form supports on either of which a perforated plate or foraminous screen *k* can be placed. A single screen or a sieve of screens *k* may be used. Above the uppermost ring *i* there are two holes *l*¹ of unequal diameters in the wall of the casing. Slides or shutters *l*, integral with short tubes *m* open at both ends, are movable in guides on the outer surface of the casing. By adjusting these slides the tubes *m* can be brought into register with the holes *l*¹, or the latter can be partly or entirely closed. India-rubber tubes *m*¹ are joined to the tubes *m*, as shown in Fig. 1. The casing has handles *n* in its sides and is supported on feet *o*.

For using the apparatus the combustible disinfectant or medicinal substance in the receptacle *d* is ignited, the receptacle being, therefore, used as a stove. The hot gases generated by the combustion impinge on the bottom and wall of the vessel *f*, and traverse the tubes *h*, and then mingle above the said vessel with the steam generated by the heat from the water in the vessel. To save time the water in the vessel *f* is preferably heated before the vessel is placed in the casing *a*. The mixing of the gases with the steam causes the sooty particles and the like carried by the gases to be deposited during the passage of the mixture through the screen *k*. The latter acts as a baffle, which retains the solid particles, and causes the gas and steam to become very intimately mixed. The mixture of gas and steam is allowed to issue from the casing through the tubes *m* or through one of these tubes, and is either directly inhaled, or is allowed to mingle with the atmosphere of the room. A disinfectant or perfume may be placed in the vessel *f*, so that the vapors thereof mingle with the products of combustion. If it is desired to use only vapors generated in the vessel *f* a spirit stove or the like may be placed under the vessel instead of the receptacle *d*.

In the modification shown in Figs. 4 and 5 the vessel *f*² rests upon a ring *p* fixed inside the casing *a* instead of upon a tripod,

and the vessel f^2 has no bail, but is provided with a lateral socket q for engagement with a detachable handle v . The receptacle d^2 has a similar detachable handle.

5 The tubes h^2 are conical in this construction. A lateral aperture s^1 with door s is provided for insertion of the vessel f^2 into the casing, the said aperture s^1 being surrounded by a frame s^2 which strengthens the casing at this

10 part. A perforated tray u rests upon a ring t above the vessel f^2 and serves to support a filtering layer t^1 of cotton wool, wood shavings, spun glass or the like. A conical funnel v is supported by a ring w above the

15 tray u . Between the rings t and w a pipe x enters the casing. This pipe has an upwardly directed nozzle y and is connected outside the casing to bellows or equivalent means, not shown in the drawing, for injecting air, oxygen or the like into the casing.

20 Above the nozzle y vanes z are fixed to a rotatable spindle supported by brackets fixed to the funnel v . These vanes, rotated by the current of gas issuing from the

nozzle, assist in intimately mixing the gases 25 and vapors ascending through the funnel.

What I claim as my invention and desire to secure by Letters Patent of the United States is:—

Apparatus for the purposes set forth comprising a casing having an eduction orifice, 30 a liquid receptacle in said casing, a stove for the combustion of medicinal substances or disinfectants below the liquid receptacle, an apertured shutter slidable in front of the 35 eduction orifice, a tube fixed to said shutter and registering with the aperture therein, and a foraminous screen in the path of the gas and vapor ascending from the stove and liquid receptacle. 40

In witness whereof I have signed this specification in the presence of two witnesses.

OTTO IMMERMANN.

Witnesses:

HERM. TAEK,
RUDOLPH FRICKE.