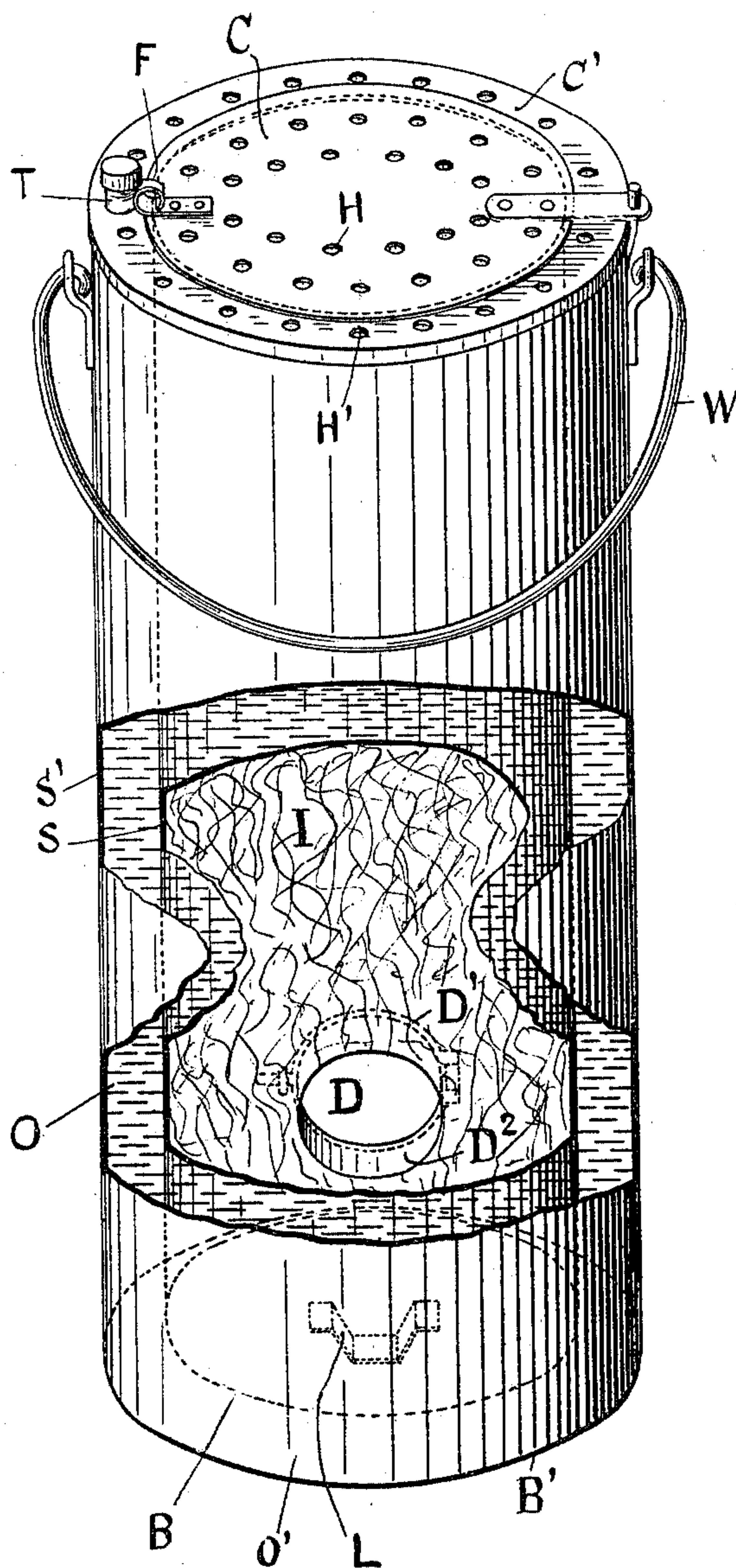


(No Model.)

O. ANDREAE.  
FUMIGATOR.

No. 600,213.

Patented Mar. 8, 1898.



Witnesses  
Chas. Hanemann  
Wm. Jeller.

Otto Andrae Inventor  
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# UNITED STATES PATENT OFFICE.

OTTO ANDREAE, OF CENTRAL VALLEY, NEW YORK.

## FUMIGATOR.

SPECIFICATION forming part of Letters Patent No. 600,213, dated March 8, 1898.

Application filed July 21, 1897. Serial No. 645,356. (No model.)

*To all whom it may concern:*

Be it known that I, OTTO ANDREAE, a citizen of the United States, and a resident of Central Valley, in the county of Orange and State of New York, have invented certain new and useful Improvements in Fumigators, of which the following is a specification, reference being had to the accompanying drawing.

My invention relates to a tobacco-and-sulfur fumigator consisting of a metal can with double sides and bottom. As far as inventive claims are concerned it covers fumigators in general.

The main object of my device is to provide a cheap and durable fumigator for hothouses by which a fumigation by tobacco and sulfur can take place simultaneously. I attain these results by the invention fully illustrated in the accompanying drawing, presenting a perspective view of the apparatus. Certain portions are broken away for the sake of clearer illustration.

In the drawing, S represents the inner wall of the can, while S' is the outer wall, and O the intervening space between them.

B is the inner bottom; B', the outer bottom; O', the space between them, forming with O a complete water-tight compartment.

I is the center fire-chamber, formed by S, the opening D being provided for lighting purposes and also to admit a draft. A door D' may be hinged to regulate the inlet of air.

D<sup>2</sup> is a partition-wall surrounding the opening D and connecting S and S', supporting S in S', together with ring C', and a leg L between the two bottoms. C' is provided with perforations H' to allow for escaping steam, as hereinafter mentioned.

T is a screw-top for filling purposes.

C shows a cover with perforations H, hinged at P and provided with a spring-catch F, closing onto T.

W is a handle whereby the apparatus may be carried from place to place.

The smoking with tobacco is very frequently necessary in hothouses and especially in rose-houses to kill a destructive bug known as the "green fly."

Sulfur fumigation is resorted to in order to prevent or stop "mildew," which is very injurious to the plants if permitted to prosper.

The discharge of fumes for this purpose must take place without igniting the sulfur, as its flames would kill all vegetation.

It has been customary to burn the tobacco in cans constructed so as to give the most possible smoke.

When sulfur fumigations are necessary in winter, good results are attained in painting the steam or hot-water pipes which heat the greenhouse with sulfur and lime. In summer recourse is taken to various devices, none of which, however, give much satisfaction. Gardeners therefore frequently go to the trouble and expense of heating the steam-pipes in summer-time for the above purpose. This method has its merits in winter as far as convenience is concerned, but is most undesirable in hot weather. In practice by the use of my invention these and many other difficulties pertaining now to tobacco-and-sulfur fumigations are avoided and most satisfactory results are obtained through my combination.

By filling the inner chamber I with tobacco, the outer chamber O O' with water through screw-top T, and igniting the tobacco from opening D the water will heat sufficiently to bring about a discharge of sulfur-fumes, the sulfur being either dissolved in the water or painted on the outside of the can in a solution of lime. In the latter instance the intervening water will prevent the sulfur from burning. The double bottom with water between will act as a safeguard, preventing the place where the apparatus may stand from catching fire. While thus the tobacco-smoke escapes through the holes H in the cover, killing the green fly, the fumes of sulfur escaping with more or less steam through the perforations H' (or originating on the outside of the can) prevent or check the progress of mildew.

As the greatest fear from mildew is during the summer months and the gardener is almost constantly troubled to a greater or less extent with the green fly my combination-fumigator exhibits valuable results in the way of convenience and the saving of fuel and labor.

Having fully described my invention, I claim—

1. A fumigator consisting of two cylinders, one within the other, an annular compartment between them, a tubular wall uniting the two cylinders and forming a means of  
5 access into the inner cylinder, and a perforated cover for the cylinders, substantially as shown and described.

2. The combination in a fumigator for the discharge of two distinct fumigating sub-  
10 stances, of two cylinder-bodies, one within the other, in which is formed a door-opening by a tubular wall connecting the two cylinders and communicating with the interior of the inner cylinder, a perforated ring holding  
15 them together at the top, a double bottom, means of support between them, and a perfo-

rated hinged cover, substantially as shown and described.

3. A fumigator consisting of the cylinders S and S', the bottoms B and B', a tubular wall  
20 connecting the two cylinders and forming a door-opening D, the perforated ring C', the perforated hinged cover C, the screw-top T, the spring-catch F, and the handle W, substantially as shown and described. 25

Signed at Central Valley, in the county of Orange and State of New York, this 10th day of July, A. D. 1897.

OTTO ANDREAE.

Witnesses:

HANNCHEN ANDREAE,  
EVA STAHNKE.