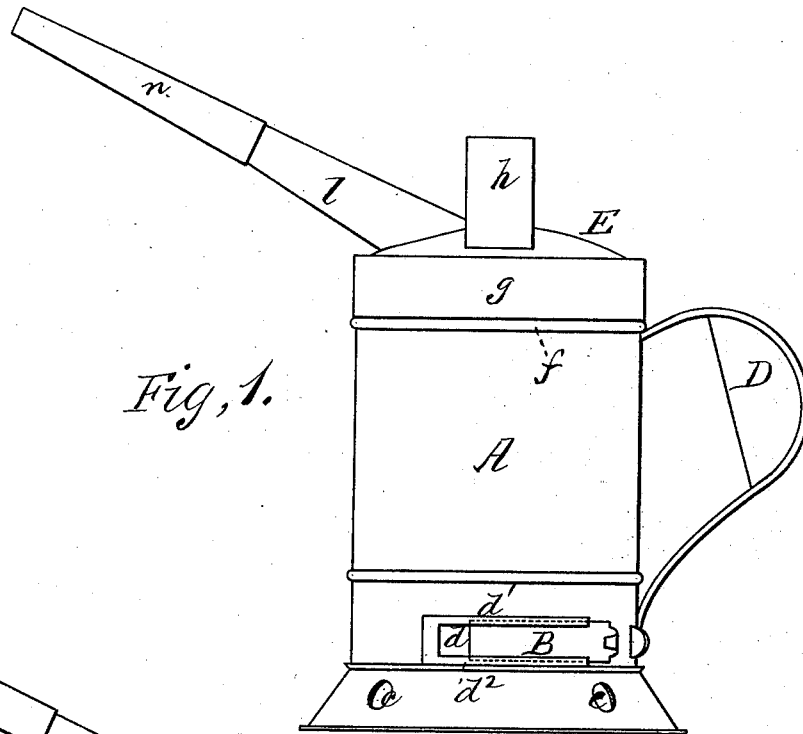
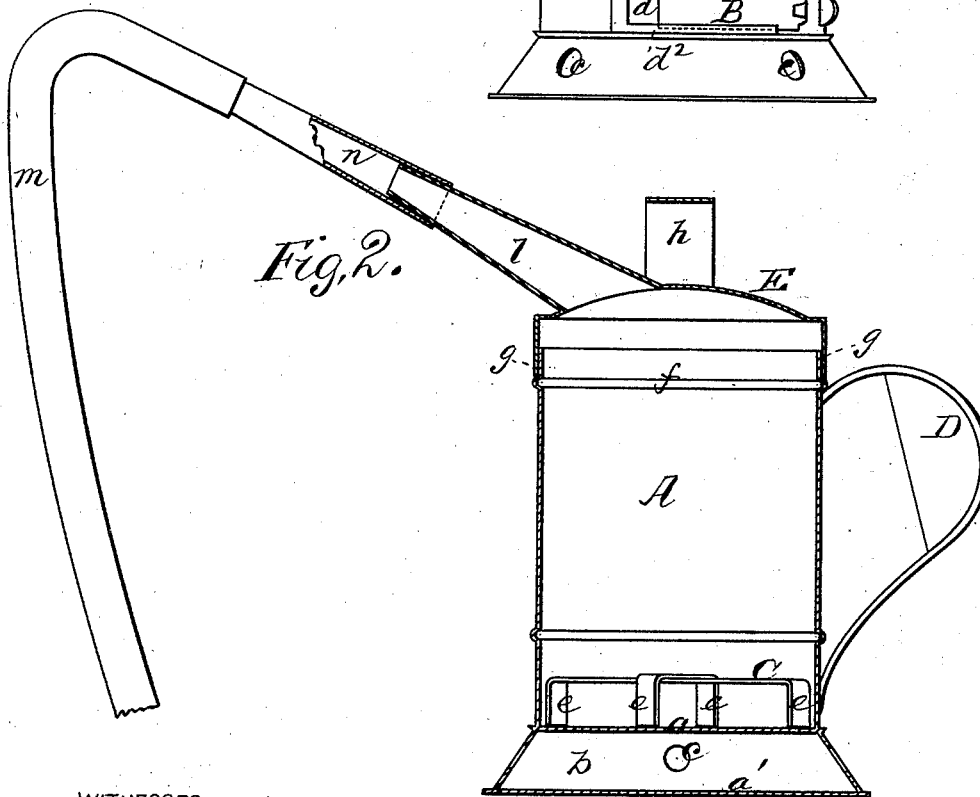


R. B. RATHBUN.  
 Device for Destroying Insects by Fumigation.  
 No. 216,060.      Patented June 3, 1879.



*Fig. 1.*



*Fig. 2.*

WITNESSES  
 Mary S. Atley.  
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# UNITED STATES PATENT OFFICE.

REUBEN B. RATHBUN, OF NORFOLK, VIRGINIA.

## IMPROVEMENT IN DEVICES FOR DESTROYING INSECTS BY FUMIGATION.

Specification forming part of Letters Patent No. **216,060**, dated June 3, 1879; application filed June 15, 1878.

### *To all whom it may concern:*

Be it known that I, REUBEN BROWN RATHBUN, of Norfolk, in the county of Norfolk and State of Virginia, have invented a new and valuable Improvement in Insect-Destroyers for Use on Fruit-Trees and Greenhouse-Plants; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side view of my improved insect-destroyer, and Fig. 2 is a vertical central section thereof.

This invention has relation to means for destroying insects upon trees and plants; and it consists in the construction and novel arrangement, in connection with a portable metallic furnace having a draft-opening and slide at its base, of a cover or lid having a flexible or a sectional or telescopic spout, which may be lengthened or shortened to suit the requirements of the operator, as hereinafter shown and described.

In the annexed drawings, the letter A designates a cylindrical vessel provided with spaced bottoms *a a'*, forming an air-chamber, *b*, which is ventilated through the openings *c* in the wall of the furnace. An oblong rectangular opening, *d*, is made in the side of the furnace or vessel A, just above the upper bottom, *a*, guideways *d<sup>1</sup> d<sup>2</sup>* being provided at its margin, in which is arranged a sliding door, B, by means of which said opening may be closed wholly or partially, to shut off the draft or regulate the same.

Within the vessel is a metallic grate, C, supported upon legs *e*, of sufficient height to raise it above the opening *d*. Upon the side of the vessel A is secured a handle, D, by means of which it is conveniently manipulated.

E represents a tightly-fitting cover, the flange *g* of which fits upon the mouth or top of the vessel A. This lid is provided with a sectional spout, *l n*, and a transverse loop-handle, *h*, whereby the cover may be taken off, or turned upon its flange-bearing, so as to

bring the spout to that side of the vessel which is most convenient for the operator, the spout being in a better position at the side for operating upon low plants, while for trees and high vines it is more conveniently arranged opposite the handle.

The sections of the spout are made of rigid tubing, and enable the operator to adjust its length. By means of these sections the spout may be carried into the center of a closely-growing plant, or to the farther side thereof, without going around it; or it may be brought to bear at a height upon the trunks of trees and high-growing vines, which could not be reached by the operator depending only upon the length of his arm. Sometimes a flexible extension of the spout may be used.

The operation is as follows: A sufficient quantity of live coals or combustible being placed upon the grate with a supply of tobacco thereon, the lid is placed on the vessel and the slide opened. A draft is immediately set up through the slide-opening at the lower part of the vessel, and the smoke from the tobacco comes out of the spout in a steady dense stream of sufficient length to operate at short distances; but as it soon takes the vertical direction, it is necessary, in working upon close-growing plants, trees, and high vines, to lengthen it by means of the sections *n*, the smoke issuing from the length in a thick stream, and preserving its direction or jet force as well as if from the short spout.

The effect of tobacco-smoke is well known to be destructive to insects, and this little device is designed to effect a thorough application of the smoke when needed, and forms an article which will prove of great service, it is thought, to those interested in plants and fruit-trees.

I am aware that it is not new to construct a portable apparatus for generating and applying noxious vapors for destroying insects, such apparatus being composed of a generating-chamber and reservoir having discharge pipes or nozzles for conducting vapors upon plants; but in said apparatus there is combined an air-forcing device to force the fumes upon the plants, &c., to be treated. This is objection-

able, inasmuch as the current produced is of an intermittent character, and the additional fan or blower renders the device not only expensive, but cumbersome, and difficult for one person to handle. To overcome these objections is the object of my invention, and at the same time to afford a neat, compact, and useful article for the purpose designed.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

The portable fumigator A, having a handle,

D, upon its body, a draft-slide near its base, and a turning cover, E, having a spout, *l*, and flexible or rigid spout-sections *n*, whereby it may be lengthened according to requirement.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

REUBEN B. RATHBUN.

Witnesses:

H. C. WHITEHEAD,

R. A. MAPP.