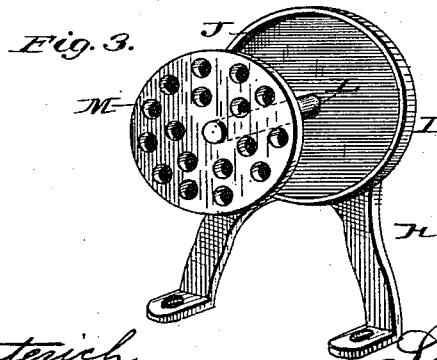
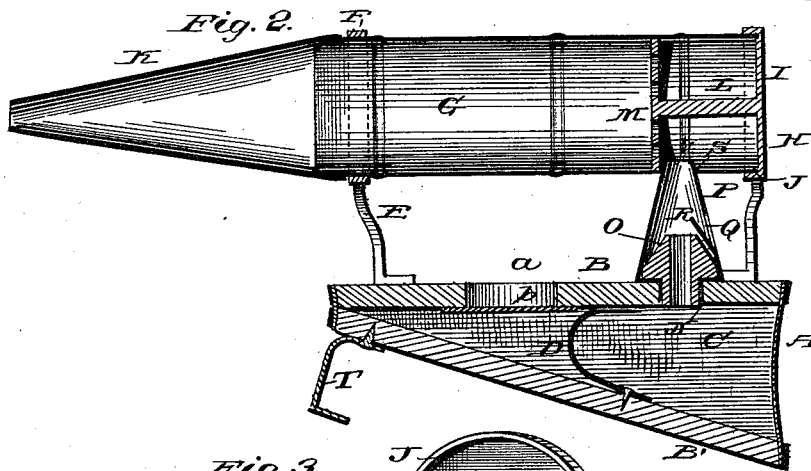
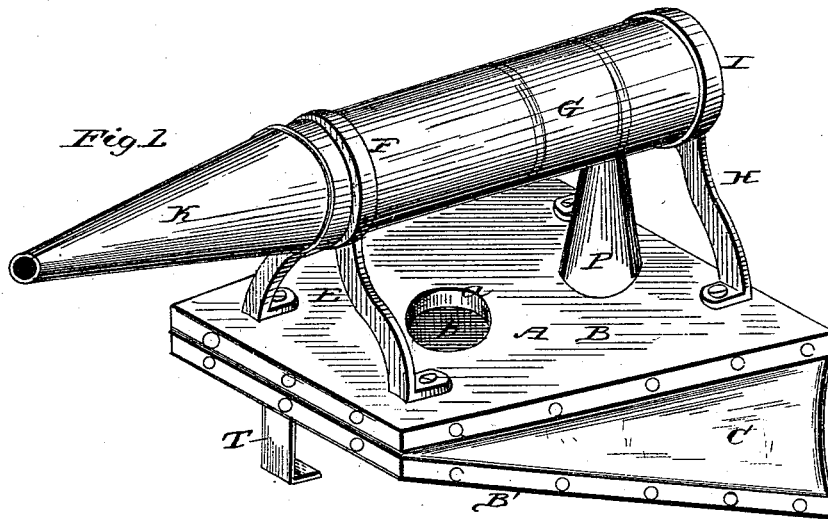


L. C. ROOT.
 Apparatus for Destroying Insects by Fumigation.

No. 213,251.

Patented Mar. 11, 1879.



Witnesses:
 Fred G. Deutrich
 J. R. Sittell.

Inventor:
 Lyman C. Root,
 by C. A. Snow & Co. attys.

UNITED STATES PATENT OFFICE.

LYMAN C. ROOT, OF MOHAWK, NEW YORK.

IMPROVEMENT IN APPARATUS FOR DESTROYING INSECTS BY FUMIGATION.

Specification forming part of Letters Patent No. **213,251**, dated March 11, 1879; application filed January 4, 1879.

To all whom it may concern:

Be it known that I, L. C. ROOT, of Mohawk, in the county of Herkimer and State of New York, have invented certain new and useful Improvements in Device for Quieting Bees and Destroying Insects by Fumigation; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a perspective view. Fig. 2 is a longitudinal sectional view. Fig. 3 is a detail view, in perspective, of the rear, stove-supporting bracket, with the grate or fire-place detached from the apparatus.

Corresponding parts in the several figures are denoted by like letters of reference.

This invention relates to apparatus for quieting bees and for destroying insects by fumigation; and it consists essentially in the construction and arrangement of a detachable supporting-bracket having a plate provided with a stem which carries the grate of the stove, as will be hereinafter more fully described, and particularly pointed out in the claim.

In the drawings hereto annexed, A represents a bellows, constructed of the sides B B', hinged at one end and provided with the usual flexible sides C, which, in order to prevent decay by rust, are secured by japanned nails. The upper side, B, has the air-inlet *a*, provided with the valve-flap *b*, of usual construction, which is such, however, as to enable the sides B B', which are held apart by an interposed spring or springs, D, to be forced quite closely together, so as to expel at each operation of the bellows all the air contained therein.

At or near the front (hinged) end of the bellows is secured a bracket, E, of cast or malleable iron, said bracket forming a ring, F, in which the forward end of the stove G is confined and supported. A bracket, H, secured at or near the rear end of the bellows, has a round, solid plate, I, provided with a recess, J, in which the rear end of the stove G is supported.

The stove, as I term it, consists, as will be seen, simply of a cylindrical body, the forward end of which is contracted to receive a tapering nozzle, K. The plate I, at the rear

end, carries upon a stem, L, a perforated plate, M, which forms the grate or fire-place.

A perforation, N, in the upper side of the bellows, upon which the stove-carrying brackets are secured, is provided with a perforated plug, O, projecting upwardly into a conical tube, P, and past an opening in the latter, Q, which is formed by cutting a slot and bending the tongue R thus formed back into the tube.

The tube P leads through a perforation, S, into the stove directly behind the grate or fire-place.

In operation, after removing the tapering nozzle, fire is dropped upon the grate, and on top thereof the dry or decayed wood, tobacco, or other material which it is desired to use for smoking. The nozzle is now replaced and the bellows operated, the smoke being directed to any desired place. The blast of air produced by the bellows and forced through the conducting-tube P is augmented and increased by the suction produced through the opening Q in the latter, thus producing more smoke than would otherwise be possible.

The rear bracket, which is held by screws only, may at any time be easily detached with the fire-place for the purpose of cleaning the latter, and the front end of the stove being contracted to receive the tapering nozzle the latter may be easily detached and replaced. This last feature is of some importance, considering that the nozzle has frequently to be handled while hot in order to supply fuel.

The device is provided at the front end of the bellows with a hook, T, by which it may be suspended upon the side of the hive or some other convenient place.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

In a bee-smoker, the combination, with the stove G, of the detachable supporting-bracket H, having recessed plate I, stem L, and perforated plate M, forming the fire-place, substantially as and for the purpose herein shown and specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

LYMAN C. ROOT.

Witnesses:

L. W. PETERS,
JONAS SCHALL.