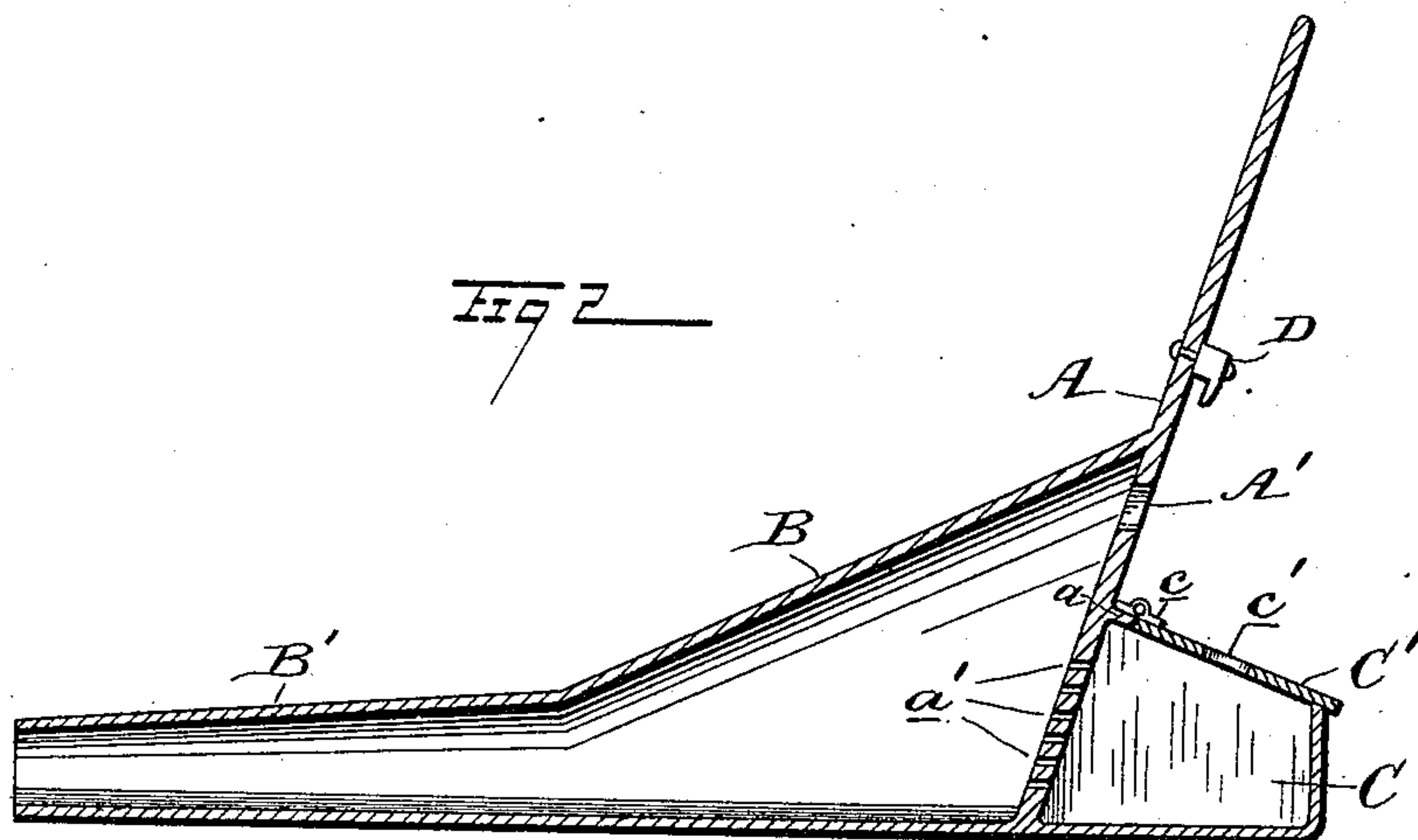
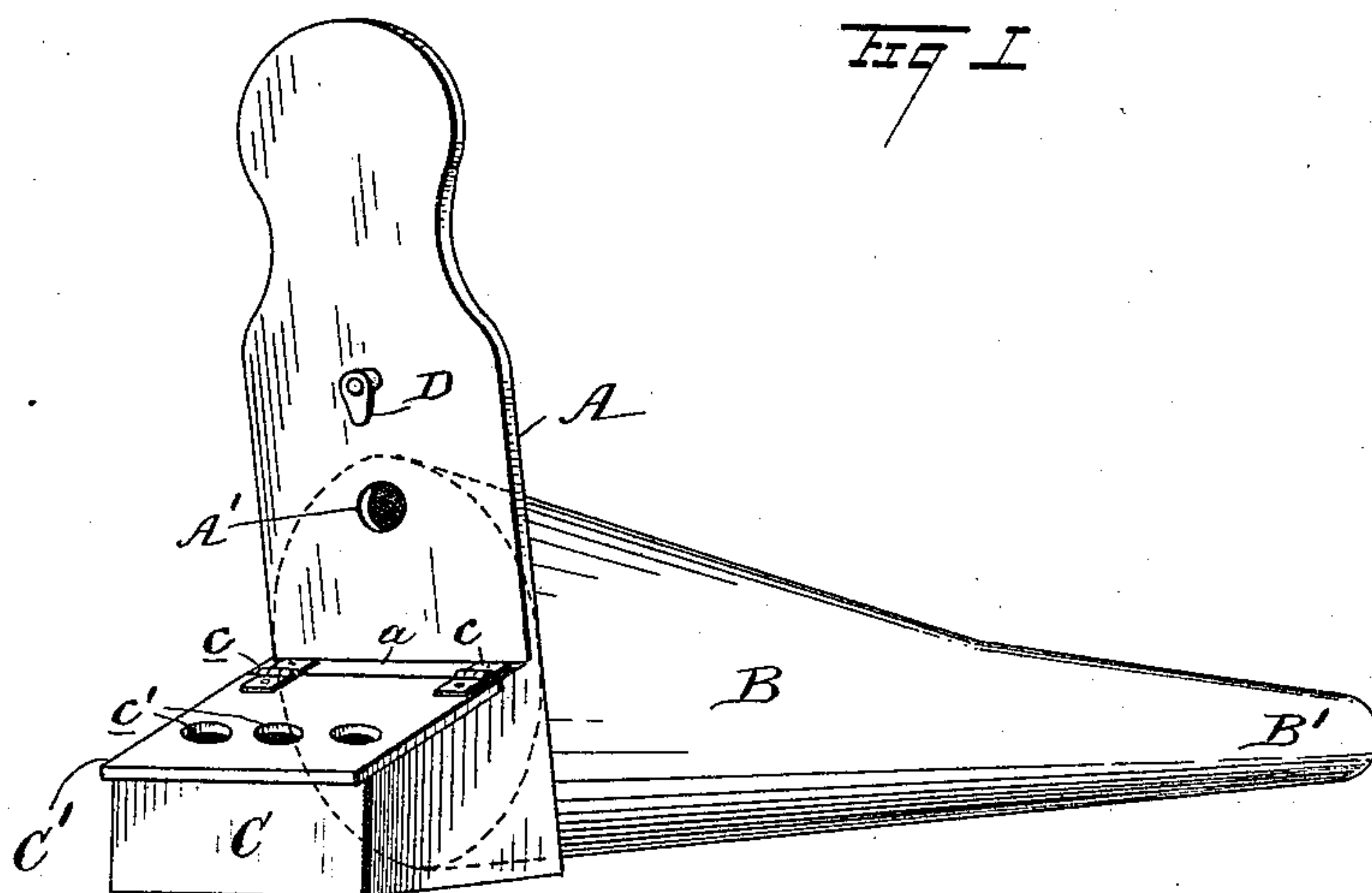


(Model.)

A. McCLAIN.
FUMIGATOR.

No. 441,690.

Patented Dec. 2, 1890.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ANDREW MCCLAIN, OF SAN DIEGO, CALIFORNIA.

FUMIGATOR.

SPECIFICATION forming part of Letters Patent No. 441,690, dated December 2, 1890.

Application filed May 22, 1890. Serial No. 352,751. (Model.)

To all whom it may concern:

Be it known that I, ANDREW MCCLAIN, of San Diego, in the county of San Diego and State of California, have invented a new and Improved Exterminator for Pestiferous Animals, of which the following is a full, clear, and exact description.

The invention relates to apparatus for forcing smoke and fumes into the burrows of gophers and of that species of squirrel that burrows in the ground and of prairie-dogs and burrowing-rats.

The object of the invention is to improve the construction of apparatus of this character with a view of increasing their efficiency.

To the end named the invention consists in the novel construction hereinafter particularly described and defined in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a perspective view of an exterminator constructed in accordance with my invention, and Fig. 2 is a longitudinal sectional elevation thereof.

In constructing an exterminator in accordance with my invention the same is formed with a plate A, which is preferably, though not necessarily, inclined. Secured to the front side of the plate A and projecting in a forward direction is the tapering smoke-conductor B, having a nose B'. To the rear of the plate A, at the bottom, is secured a box C, of which the plate A forms the front side or wall. A suitable cover C' is provided for the box, said cover being hinged, as at c, to the projection a of plate A. A button or catch D on the plate A enables the cover C' to be held raised while charging the box C with material and igniting the same or when emptying the box C.

The plate A is formed below the top of the box C with a series of apertures a' for the passage of smoke and fumes from the box C to the smoke-conductor B, which apertures a' are made sufficiently large and numerous to allow a current of air to pass freely from the box C into the conductor B, and thence into the burrow.

Aperture A' is formed in the plate A out-

side and over the box C and opens into conductor B. The cover C' is also provided with several holes c', sufficiently large to admit the nose of a common hand-bellows.

In practice the cover rests loosely on the box and does not form a tight closure of the box; but said box is otherwise closely constructed, so as to exclude the air at all points except at its top and at apertures a'. The said conductor B is also closely constructed, so as to exclude the air at all points except at apertures a' and A' and at its front end.

The cover C' being raised, short sticks of dry wood or other combustible material are placed loosely in the box C, so as to allow a current of air to pass freely through the burning material down to the apertures a'. An ordinary hand-bellows is operated on this burning material till it is thoroughly ignited, and then sulphur or other material that will produce a destructive fume is added to the burning material, and the cover C' is then let down. The smoke and fume are then carried from the box C into the conductor B, and thence into the burrow in either of the two following methods, the front end of the conductor being inserted, of course, in the burrow and loose earth pressed firmly around it:

First. The nose of the bellows being inserted in the holes c' in the cover C' and the bellows operated vigorously, a current of air is generated, which passes down through the apertures a' into the conductor B, and thence into the burrow. This current of air thus created draws with it the air in the box, carrying with it the smoke and fume in the box. The nose of the bellows is then inserted into the conductor B through aperture A' and a blast is created, which, coming in the rear of the smoke and fume which have been blown into the burrow from the box, carries the smoke and fume with unobstructed force to the remotest recesses of the burrow. The bellows is operated alternately in quick succession, first in the holes c' and then in the aperture A', till the burrow is thoroughly filled with smoke and fume.

The second method is as follows: The burning material being first thoroughly ignited and the fume-producing material thrown into it and the cover C' let down, as in the first method, the nose of the bellows is then in-

serted into the conductor B through aperture A', and by a continuous operation of the bellows at aperture A' a blast is sent through the conductor B, which producing a vacuum in its rear the air in the box rushes into the conductor B through the apertures a', drawing with great force the smoke and fume from the box into the conductor, which smoke and fume, by the continued and uninterrupted operation of the bellows at aperture A', are carried forward to the recesses of the burrow.

Both these methods illustrate the advantage gained by admitting the air to pass freely into the fire-box instead of closing the same, so as to exclude the air which circulates outside the box, as is done in other machines of this class.

When this exterminator is operated in either of the methods herein indicated, nothing hurtful or disagreeable is experienced from the ascent of the smoke and fume from the box into the face of the operator, the cover C' being let down.

This exterminator supplies a needed improvement in this class of inventions, as great force of blast is required to carry the smoke and fume to the remote recesses of the pestiferous animals whose destruction is sought. In the other inventions of this class the force of the blast is largely spent on the burning material, while in my invention the blast proceeding from aperture A' goes with unobstructed force, carrying with it the smoke and fume.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The herein-described exterminator, comprising a box C for the material to be burned and a smoke-conductor B, in communication with said box, said smoke-conductor having an aperture A' in its rear and outside said box for the insertion of a bellows, substantially as described.

2. The herein-described exterminator, comprising a box C for the material to be burned and a tapering smoke-conductor B B', to the

rear of which smoke-conductor said box is attached, the partition-wall between said box and smoke-conductor being apertured, and the said smoke-conductor having an aperture A' in its rear end outside of the said box, substantially as described.

3. An exterminator comprising a box C, a smoke-conductor B B', and a plate A, which plate A forms the rear end of said smoke-conductor, and also at its lower end forms the front wall of the said box, said lower end of said plate constituting a partition-wall between said box and said smoke-conductor, said box and said smoke-conductor having communication with each other through apertures a', formed in said partition-wall, the box C having a cover C', which is supplied with holes c' for the insertion of the nose of a common hand-bellows, the said smoke-conductor B having also an aperture A' outside of the said box for the insertion of the nose of common hand-bellows, all substantially as described.

4. The herein-described exterminator, comprising a box C for the material to be burned, in combination with a smoke-conductor B, which communicates with said box through apertures a', said smoke-conductor having an aperture A' in its rear end, formed in the plate A outside of and above said box, for the insertion of the nose of a bellows into said smoke-conductor, all substantially as described.

5. An exterminator comprising a smoke-conductor B, having in its rear wall apertures a' and A', in combination with the box C, which has a loosely-fitting cover C', with holes c' in the same, said box being attached to the lower end of said wall in the rear of said conductor, and having communication with said conductor through said apertures a', and is situated below said aperture A', all substantially as described.

ANDREW McCLAIN.

Witnesses:

WM. McCLAIN,
JENNIE McCLAIN.