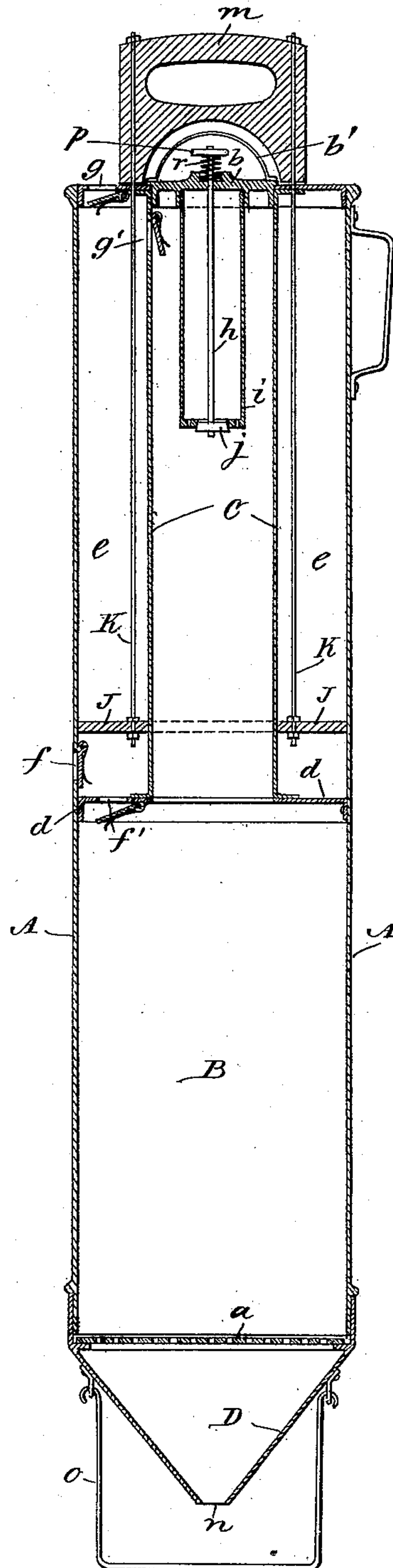


(No Model.)

A. R. BOWKER & J. D. MILLEN.
FUMIGATOR.

No. 428,880

Patented May 27, 1890.



WITNESSES:

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ALBERT R. BOWKER AND JAMES D. MILLEN, OF WINONA, MINNESOTA.

FUMIGATOR.

SPECIFICATION forming part of Letters Patent No. 428,880, dated May 27, 1890.

Application filed November 20, 1889. Serial No. 330,971. (No model.)

To all whom it may concern:

Be it known that we, ALBERT R. BOWKER and JAMES D. MILLEN, of Winona, in the county of Winona and State of Minnesota, have invented a new and Improved Fumigator and Vermin-Destroyer, of which the following is a full, clear, and exact description.

Our invention relates to that class of devices designed to fumigate a building or animal-burrow by filling it with smoke impregnated with any desired chemical for the purpose of disinfecting the same or of destroying the vermin therein; and the object of our invention is to provide a convenient and efficient means of accomplishing this result.

To this end our invention consists in a hollow cylinder provided with a fire-box and grate for burning the fuel that may be introduced into it, a chemical-box above the fire-box to sprinkle the chemicals upon the fire, a piston to force the smoke through an opening in the cylinder, and suitable handles for operating the device.

The details of this construction will be hereinafter described, and more specifically pointed out in the claims.

Reference is to be had to the accompanying drawing, forming a part of this specification, in which the figure is a vertical section of the entire device.

The lower part B of the main cylinder A constitutes a fire-box, and is provided with a grate *a* at the bottom. At the upper end of the cylinder A and above the fire-box B is a cylinder C, which is provided with a removable cover *b*, which shuts into the cylinder and is provided with a handle *b'*. Between the main cylinder A and the smaller cylinder, C is an air-chamber *e*, closed at the bottom by the partition *d*. At the lower end of the air-chamber *e* is a valve *f*, opening from without into the air-chamber *e*, and a valve *f'*, opening into the fire-box B from air-chamber *e*, and at the top of the air-chamber *e* is the valve *g*, opening through the top of the cylinder A into air-chamber *e*, and the valve *g'*, opening from air-chamber *e* and cylinder C. These valves are all closed by a small spring and only open upon pressure of air.

Within the cylinder C and suspended from the cover *b*, to which it is attached by screw-connection, as shown, is a chemical-box *i*,

which may be filled with any desired chemical, and is provided with a perforated bottom and with a valve *j*, which is operated by the rod *h*, so that the contents of the box will be sprinkled upon the fuel in the fire-box B beneath. The rod *h* is attached to the valve *j* and extends up through the cover *b*, and is provided at the top with a thumb-piece *p*, by which it is operated. A spiral spring *r* encircles the rod *h* between the cover *b* and thumb-piece *p*. By pressing down the thumb-piece, the valve *j* will be opened and the contents of the box *i* will be precipitated upon the fuel in the box B, and when the pressure is removed the spring *r* raises the rod *h* and closes the valve *j*. Within the air-chamber *e* is a piston J, to which are attached the piston-rods K, which extend through the top of the cylinder A and are attached to the handle *m*.

At the bottom of the cylinder A is a removable cap D, provided with a vent *n* for discharging smoke, and a stirrup *o* for the foot of the operator. The cap D is made removable, so that the fire-box B may be gotten at and cleaned.

The fire-box B being supplied with fuel which is inserted through cylinder C, the chemical-box *i* with chemicals, and a fire being lighted, the device is operated as follows: The operator inserts the vent *n* into an animal-burrow or room to be fumigated, places a foot upon the stirrup *o*, and with the hands grasps the handle *m*. The air for supplying the fire with oxygen enters through the valves *f* and *g* alternately. The operator now raises the piston J by the handle *m* and rods *k*. This opens valve *f*, closes the valve *f'*, closes valve *g*, and opens the valve *g'*, thus letting air into the cylinder C. The piston J is then forced down by the handle *m*. This closes the valve *f* and forces the air down through the valve *f'* and fire-box B, where it becomes impregnated with smoke and chemicals, and out through the vent *n* into the animal-burrow or surrounding air.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A fumigator consisting, essentially, of a hollow cylinder having a fire-box in its lower end, a chemical-box in its upper end adapted to sprinkle chemicals upon the fire, an air-

chamber communicating with said fire-box, and a piston-valve and rods sliding in said air-chamber and adapted to force the chemically-impregnated smoke into the burrow or
5 surrounding air, substantially as described.

2. A fumigator consisting, essentially, of a hollow cylinder containing fumigating apparatus, as in the one shown and described, and having the cap D, with smoke-discharging
10 vent *n*, and stirrup *o*, for the foot of the operator, removably attached to the bottom of said cylinder, substantially as set forth.

3. In a fumigator, a hollow cylinder containing a fire-box, a chemical-box, with a perforated bottom, suspended above the fire-box and controlled by a valve, in combination
15 with means, as piston J, rods K, and handle *m*, for expelling the smoke into the burrow or surrounding air, substantially as described.

20 4. The combination, in a fumigator, of the cylinder A, having outlet and inlet valves, as

shown, provided at its lower extremity with the removable cap D, having smoke-discharging vent *n* and stirrup *o*, for the foot of the operator, and provided with the interior cylinder C, and perforated chemical-box *i*, suspended in the upper part thereof, with the piston J, rods K, and handle *m*, for expelling the smoke from the cylinder, substantially as described.

5. The combination, with the main cylinder A, having fire-box B, of the cylinder C, adapted to conduct air and fuel to said fire-box and having a removable cover *b*, carrying chemical-box *i*, provided with a perforated bottom and
35 controlled by valve *g*, rod *h*, and thumb-piece *p*, substantially as described.

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Witnesses:

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