

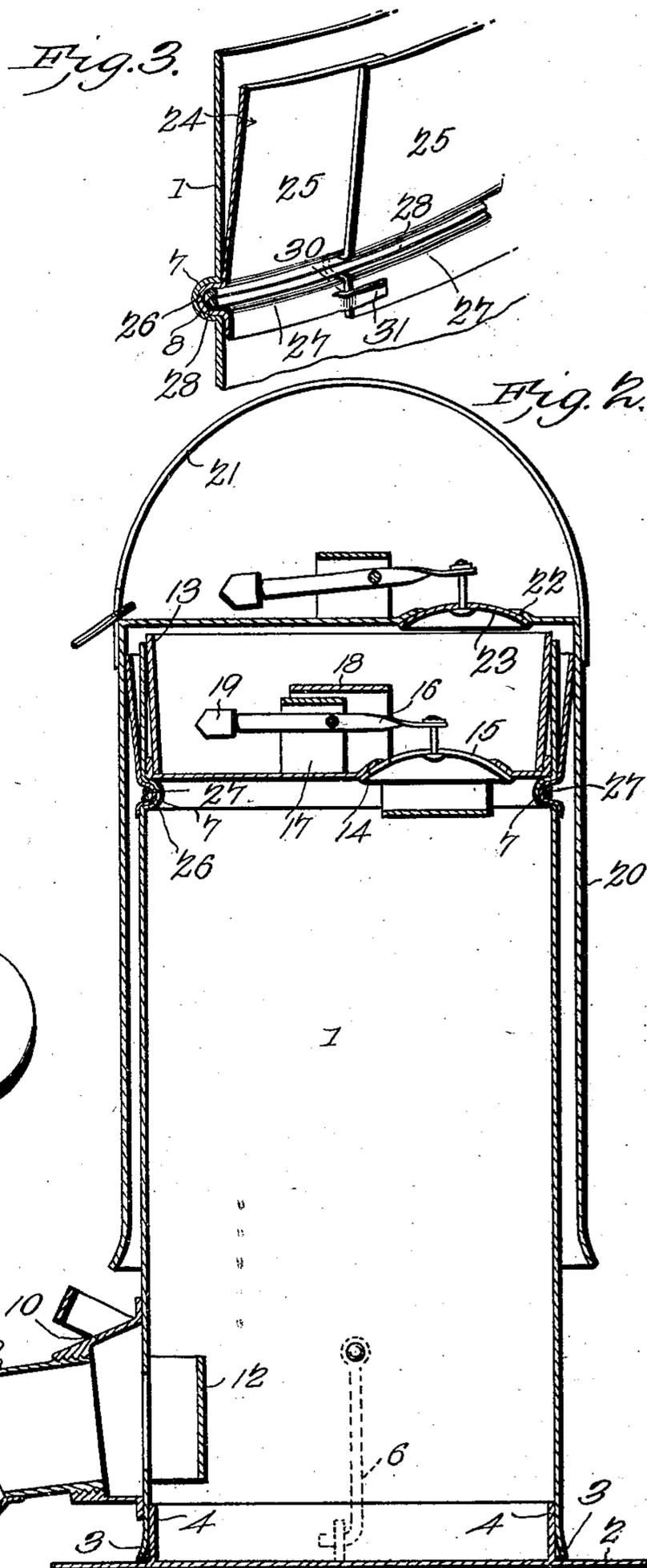
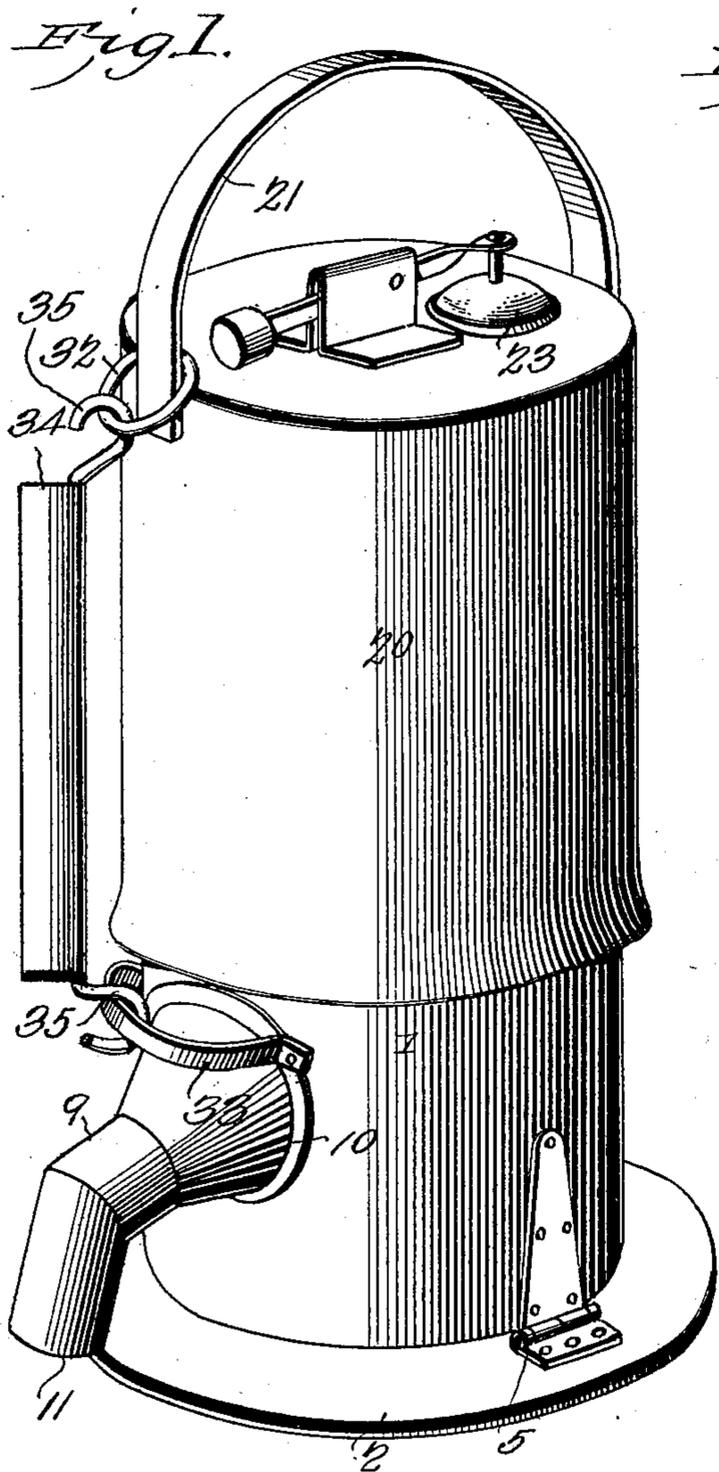
No. 712,321.

Patented Oct. 28, 1902.

T. H. McDONALD.  
FUMIGATOR.

(Application filed Dec. 18, 1901.)

(No Model.)



Witnesses  
*E. J. Stewart*  
*J. W. Garner*

T. H. McDonald, Inventor  
 by *C. A. Snow & Co.*  
 Attorneys

# UNITED STATES PATENT OFFICE.

THOMAS HARVEY McDONALD, OF ELKGROVE, CALIFORNIA.

## FUMIGATOR.

SPECIFICATION forming part of Letters Patent No. 712,321, dated October 28, 1902.

Application filed December 18, 1901. Serial No. 86,435. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS HARVEY McDONALD, a citizen of the United States, residing at Elkgrove, in the county of Sacramento and State of California, have invented a new and useful Fumigator, of which the following is a specification.

My invention is an improved fumigator, especially adapted for use in exterminating squirrels, gophers, and other burrowing animals by forcing smoke and poisonous fumes into the burrows thereof; and my invention consists in the peculiar construction and combination of devices hereinafter fully set forth and claimed.

My present invention is an improvement on the fumigator for which Letters Patent of the United States, No. 634,990, were granted to me October 17, 1899.

One object of my present invention is to effect improvements in the construction of the sectional packing-ring.

A further object of my invention is to effect improvements in the construction of the body of the fumigator and in the combination of the packing-ring therewith.

A further object of my invention is to effect improvements in the construction of the spout, whereby the latter may be disposed at any required angle.

A further object of my invention is to provide the body of the fumigator with a hinged bottom, forming a pan, to facilitate the discharge of ashes and refuse from the fumigator.

A further object of my invention is to provide the body of the fumigator with a removable valved pan, which closes the upper end thereof.

A further object of my invention is to provide a handle-bar to connect the body of the fumigator with the vertically-movable telescoping plunger-section thereof, whereby the fumigator may be readily carried from place to place.

In the accompanying drawings, Figure 1 is a perspective view of a fumigator embodying my improvements. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a detail perspective view showing the construction of the sectional packing-ring and the means to secure the same to the body of the fumigator.

In the embodiment of my invention I provide the body 1 of the fumigator, which is cylindrical in form, with a hinged bottom 2, which has an outwardly-extending flange 3 and an upwardly-extending flange 4, the latter being adapted to fit in the lower end of the body 1, the said hinged bottom, with its flange 4, forming a pan. The hinge 5, which connects one side of the bottom 2 to one side of the body at the lower end of the latter, may be of any suitable construction, and any suitable means may be employed to lock the hinged bottom to the lower end of the body in a closed position. In Fig. 2 of the drawings, in dotted lines, I indicate a hook 6 for this purpose.

The body 1 is provided at a suitable distance from its upper end with a reëntrant annular bead 7, which forms an annular groove 8 in the outer side of the body and extending circumferentially around the same. The said bead and groove may be of any suitable shape, but are here shown as of semicylindrical form. At the lower end of the body 1, on one side thereof, is a spout 9, which comprises the inner section 10, that is fixed on the body 1, and the outer angular section 11, the inner end of which is fitted in the outer end of the inner section 10 and is revoluble thereon, so that the outer section of the spout, through which the smoke and poisonous fumes are discharged when the fumigator is operated, may be disposed at any required angle to correspond with that of the hole or burrow in which it is inserted. A guard or hood 12 is disposed across the inner end of the spout 9 within the body 1 of the fumigator and prevents particles of the fuel from being blown through the spout when the device is operated.

In the upper end of the body of the fumigator is detachably fitted a pan 13, having an opening 14, which is normally closed by a valve 15, which is connected to one end of a counterweighted lever 16, the latter being fulcrumed to a suitable support 17, with which the pan 13 is provided. The said pan 13 has on the upper side of its bottom a handle 18, by means of which the pan may be readily placed in or removed from the upper end of the body 1. The valve 15 moves downwardly to uncover the opening 14 and upwardly to close the same and is normally maintained

in a closed position by the weight 19 on the lever 16.

A plunger-section 20, which is of cylindrical form, with its upper end closed and its lower end open, is telescopically fitted on the body 1 of the fumigator and may be moved upwardly and downwardly thereon, the said plunger-section having a handle 21 at its upper end for this purpose. The top of the plunger-section has an opening 22 for the admission of air on the outstroke of the plunger-section and is provided with a downwardly-opening counterweighted valve 23, which normally closes said opening 22.

In order to effect a packing between the body of the fumigator and the plunger-section, I provide the packing-ring 24, which is composed of a plurality of segmental sections 25, the ends of which are disposed in overlapping relation, and the said segmental sections are provided at a suitable distance from their lower edges with beads 26, which are adapted to fit in the groove 8 of the body 1 and form, when the said sections are assembled to form a packing-ring, a groove 27 in the outer side thereof. A band or bands 28, of wire of suitable size, may be placed in the said groove and tightened around the packing-ring to secure the same to the upper portion of the body 1, as will be understood. Each of the packing-ring sections is provided at one of its lower corners, below the grooved bead therein, with a slit 30 to form a tongue 31, which bears against the outer side of the overlapped end of the next adjacent section. The sectional packing-ring is constructed of suitable metal and is sufficiently resilient to form an effective packing between the body of the fumigator and the movable plunger-section thereof. A ring 32 is loosely fitted on the handle 21.

A suitable keeper 33, here shown as a loop, is fitted on one side of the body 1, near the lower end thereof. A handle-bar 34, which is preferably made of wood or other non-conductor of heat, is provided at its ends with hooks 35, which are adapted to engage the keeper 33 and ring 32 to lock the plunger-section to the body of the fumigator and enable the fumigator to be readily carried from place to place.

To operate the fumigator, a suitable quantity of damp straw or other suitable fuel is placed in the body 1 on the bottom 2 and ignited, preferably at the top, and, if preferred, a suitable quantity of sulfur or other poison may be placed on or commingled with the fuel. The pan 13 is then placed in the upper end of the body 1, the plunger-section placed in operative position on the said body, and the outer end of the spout 11 adjusted to and in the hole or burrow and suitably packed with earth. The operator then moves the plunger-section upwardly and downwardly, hence causing air to be drawn into the upper portion of the plunger-section on the up-

strokes thereof and forced downwardly into and through the body of the fumigator and the burning fuel therein, with the result that the fumes are forced pneumatically into the burrow and the animals therein exterminated.

Having thus described my invention, I claim—

1. In a fumigator, the combination of a body and a plunger-section telescopically movable thereon, one of said elements having a circumferential annular groove, a packing-ring having an annular bead on its inner side fitted in said groove and forming an annular groove on the outer side of and around said packing-ring, and a constricting-band in said groove, to secure the bead of said packing-ring in the bead of said element, substantially as described.

2. The combination of an element having an annular circumferential groove, with a packing-ring comprising a plurality of segmental sections having their end portions disposed in overlapped relation, said packing-ring having a bead on its inner side formed in the sections thereof and fitted in the groove of said element, and a constricting-band around said packing-ring, to secure the bead thereof in the groove of said element, substantially as described.

3. The packing-ring comprising a plurality of separable segmental sections, each having a bead, forming a groove on one side thereof, the said sections having their meeting ends overlapped, their respective beads and grooves fitted together and each section having a tongue to bear on the outer side of the overlapping end of the next adjacent section, substantially as described.

4. A fumigator comprising a body forming a fire-chamber and having a detachable bottom pan to contain the fuel and a discharge-spout, a valved pan detachably fitted in the upper end of the body, and a valved plunger-section telescopically disposed on the body and removable therefrom, whereby access to the fire may be attained by removing the plunger-section and valved pan, substantially as described.

5. In a fumigator, the combination with a body, and a plunger-section thereon, a handle to secure the body and plunger-section together, substantially as described.

6. In a fumigator, the combination of a body and a plunger-section thereon, each having a keeper, with a handle having devices to engage said keepers and thereby secure the body and plunger-section together, substantially as described.

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

THOMAS HARVEY McDONALD.

Witnesses:

SETH A. WILTON,  
JOSEPH HASMAN.