

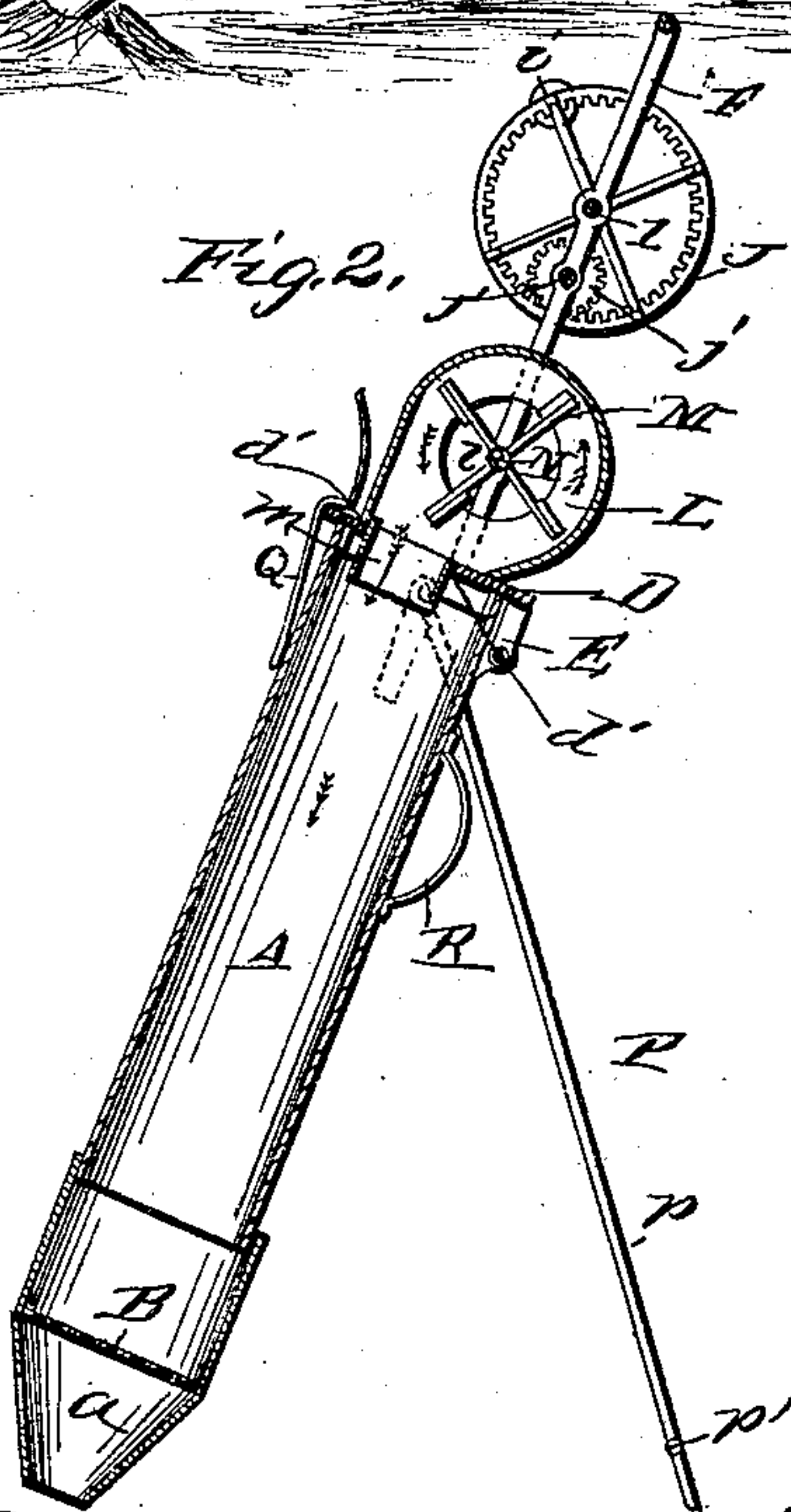
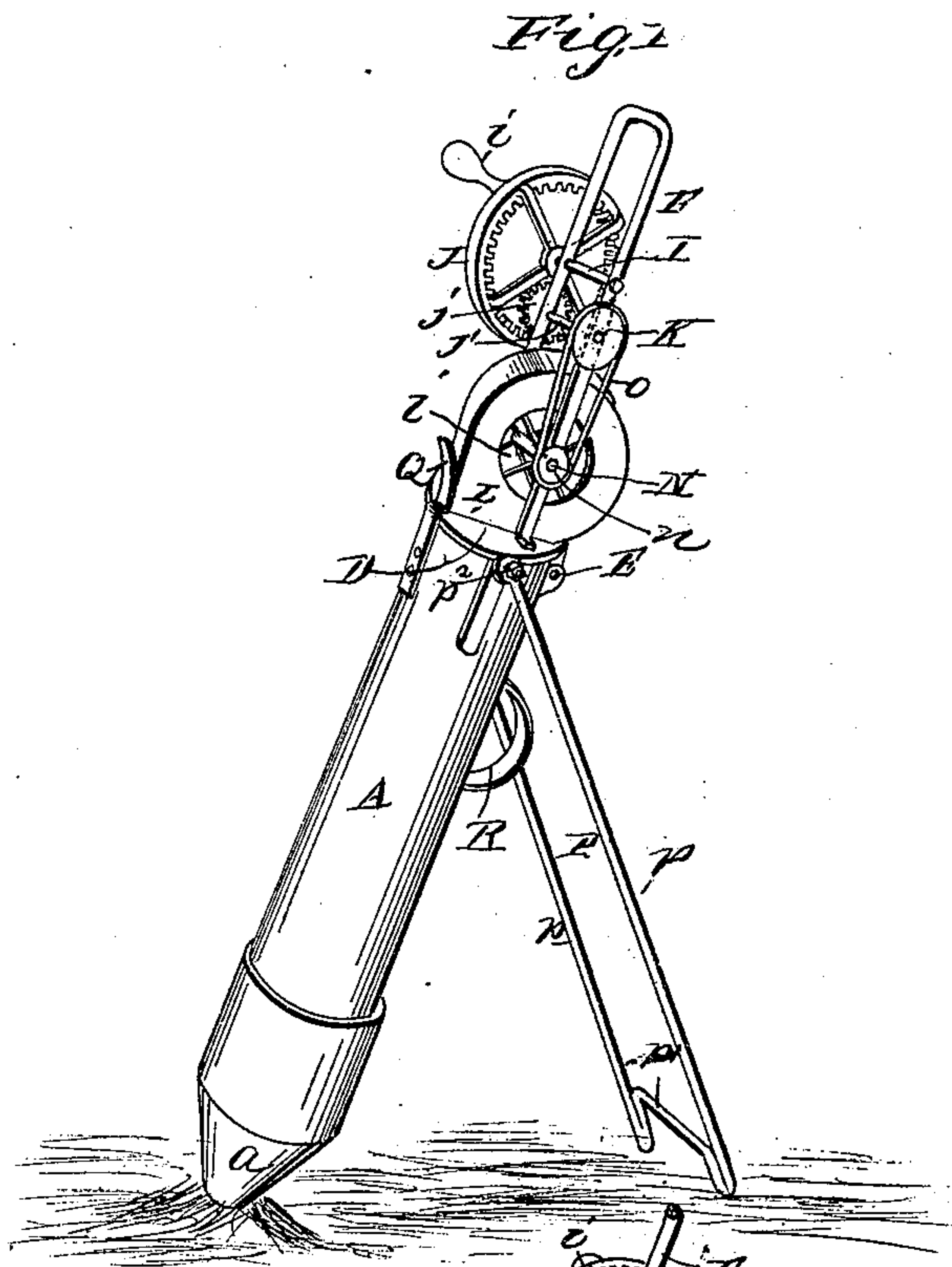
(No Model.)

2 Sheets—Sheet 1.

J. B. PAYNE.
ANIMAL EXTERMINATOR.

No. 356,498.

Patented Jan. 25. 1887.



Witnesses
Chas. L. Taylor,
E. G. Siggers

Inventor
James B. Payne
By his Attorneys
C. A. Snow & Co.

(No Model.)

2 Sheets—Sheet 2.

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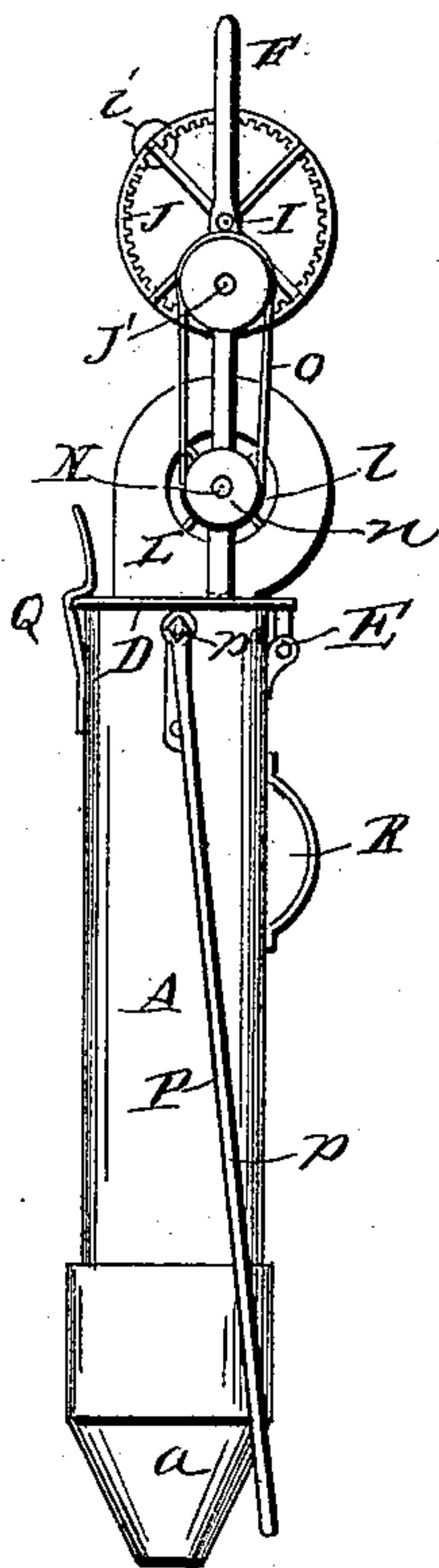


Fig. 3.

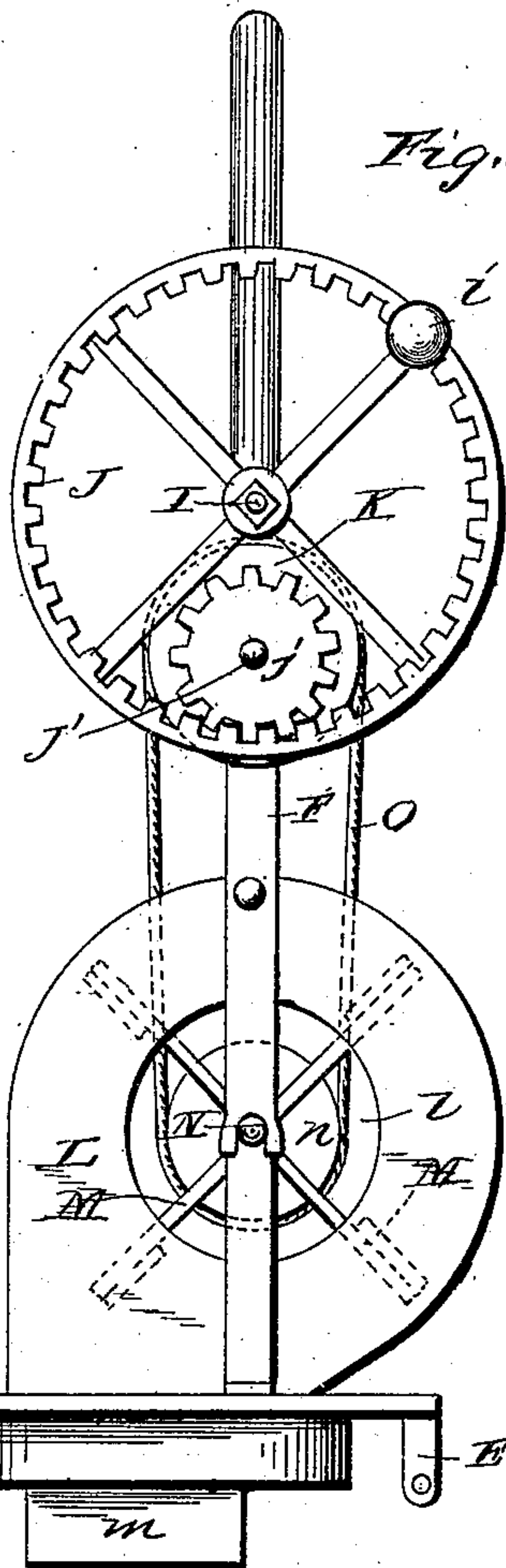
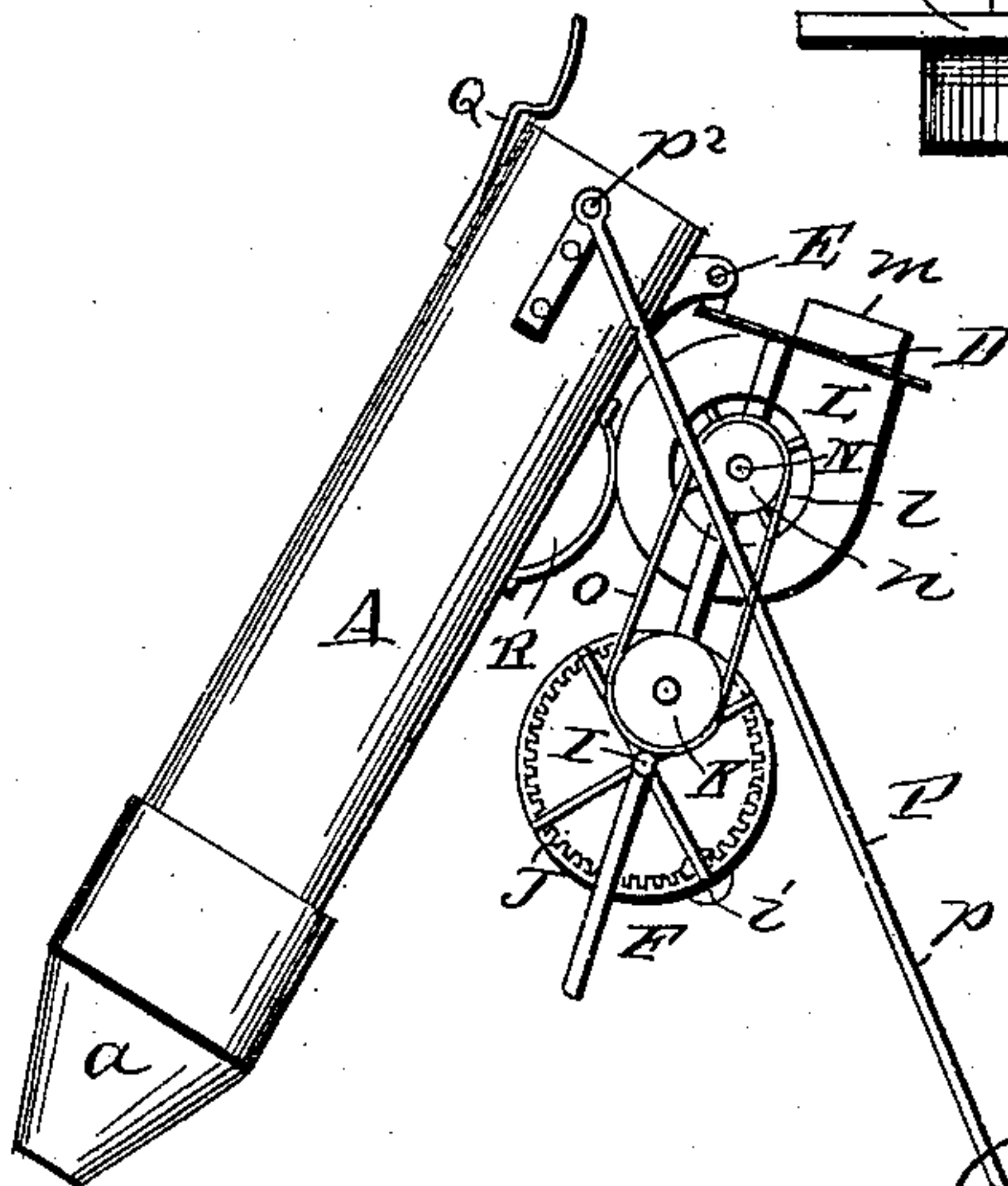
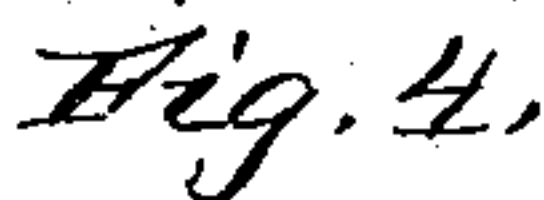


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

JAMES BENJAMIN PAYNE, OF BLANCO, CALIFORNIA.

ANIMAL-EXTERMINATOR.

SPECIFICATION forming part of Letters Patent No. 356,498, dated January 25, 1887.

Application filed November 8, 1886. Serial No. 218,299. (No model.)

To all whom it may concern:

Be it known that I, JAMES BENJAMIN PAYNE, a citizen of the United States, residing at Blanco, in the county of Monterey and State of California, have invented a new and useful Improvement in Animal-Exterminators, of which the following is a specification.

My invention relates to improvements in animal-exterminators; and it consists of the peculiar combination of devices and the novel construction and arrangement of the various parts for service, substantially as hereinafter fully described, and particularly pointed out in the claims.

The primary object of my invention is to provide an improved animal-exterminator which shall force or direct a steady, continuous, unremitting blast of air upon a fire in the lower end of the cylinder, in order to expel the noxious gases and smoke generated by the combustion of suitable fuel into the burrow of the animal in a steady stream, and thereby more rapidly and easily filling the burrow or supplying it with the necessary quantity of smoke or gases to effect the desired end within a shorter space of time.

A further object of my invention is to provide an improved animal-exterminator with means for supporting it at any desired angle, in order to adapt it to be properly held and supported in the terminal ends of burrows of different inclinations; to provide improved means which can be very easily operated to permit of the compact folding of the parts for the purpose of readily and easily carrying the device; and, finally, to improve the parts in minor details, so that it will be very simple and strong of construction, efficient and reliable in operation, and comparatively cheap of manufacture.

In the accompanying drawings, which illustrate an animal-exterminator embodying my improvements, Figure 1 is a perspective view. Fig. 2 is a vertical central longitudinal sectional view. Fig. 3 is a side elevation showing the apparatus folded for transportation. Fig. 4 is a side elevation of the device in the position it assumes before the machine is operated. Fig. 5 is an enlarged detached view of the cover with the connected gearing and fan.

Referring to the drawings, in which like

letters of reference denote corresponding parts in all the figures, A designates the cylinder or shell of my improved animal-exterminator, which is of any suitable length and provided at its lower end with a cone-shaped extension or base, *a*, which is rigidly connected thereto in any suitable manner. The lower end or apex of the cone-shaped extension *a* of the cylinder is provided with an exit opening, through which the smoke and gases generated by the combustion of suitable fuel in the cylinder escape. The lower end of the cylinder is provided with a grate, B, that is located at a suitable point therein, preferably above the cone-shaped extension *a* thereof, and this grate is supplied with the fuel for the support of combustion in the cylinder through the upper end of the cylinder. The upper end of the cylinder is left open, and it is provided with a cast-metal head, *c*, which is rigidly connected thereto, and this open end is closed by means of a cover or cap, D, which is also cast and trued to provide a close joint between the cap and the head of the cylinder, thereby preventing the escape and waste of the smoke and gases generated in the cylinder, as is obvious. This cover or cap D is connected to the upper open end of the cylinder by an intermediate hinge, E, which is of such a length that when the cover is opened and occupies the position shown in Fig. 4 of the drawings the fuel for the fire can be very readily placed in the cylinder through the upper open end thereof and without interfering with the cover and the other parts of the machine connected therewith.

One section of the hinge E is rigidly secured or affixed to the cylinder, while the other and longer section is likewise connected to the cover, and the contiguous ends of the sections are pivotally connected together by a pintle, as shown. The cover is provided with a depending flange or rim, which is adapted to fit within the cast-metal head of the cylinder to secure the close joint, and the cover is permanently and pivotally connected to the cylinder by the hinge E, a central opening, *d'*, being formed in the cover for the introduction or passage of the blast of air through the cover into the cylinder from the fan, as will be more fully described presently.

F designates a bracket or frame, which is

rigidly secured or affixed to the cover at the lower end, as shown. This bracket or frame is moved or adjusted with the cover when the latter is operated to open or close the upper
5 end of the cylinder, and when the cover is closed over the upper end of the cylinder the bracket lies in-line therewith, as will be seen by reference to Figs. 1 and 2 of the drawings.

I designates a driving-shaft, which is suitably journaled in suitable bearings in the bracket or frame F, and one end of this shaft is provided with a suitable handle or crank, *i*, for the convenient rotation thereof by hand. This driving-shaft also carries a master-gear,
15 J, which has a series of internal gear-teeth on its inner periphery, and with these teeth mesh corresponding teeth on a pinion, *j*, that is rigidly affixed to a counter-shaft, J', which is also journaled in suitable bearings in the bracket
20 or frame F, as shown. The opposite end of the counter-shaft carries a pulley, *k*, that is rigidly affixed thereto and rotates therewith when the driving-shaft is operated by the crank or handle.

L designates a fan-casing, which is rigidly affixed or secured in the frame or bracket F of the apparatus or to the cover D, and the heads of this casing are provided with air-inlets *l*, through which the air is free to pass
30 to supply the rotary fan M, arranged within the casing L. The casing is further provided with a contracted discharge-throat, *m*, which opens through the central opening, *d'*, in the cover D, and serves to conduct the blast of air
35 generated in the casing L by the rotary fan through the cover into the cylinder A. This rotary fan M is of any approved or desired pattern, and it is rigidly affixed to a suitable shaft, N, that is extended through the air-in-
40 lets *m* of the fan-casing and journaled in suitable bearings in the frame or bracket F. One end of the fan-shaft is extended beyond its bearings in the frame or bracket and carries a band-pulley, *n*, which is rotated by motion
45 from the counter-shaft, transmitted therefrom through an intermediate belt-connection, *o*, as shown.

P designates a supporting-frame for holding the cylinder A at any desired angle or inclination, which comprises the side bars or legs, *p*,
50 and the transverse bar *p'*, connecting the side bars or legs at their lower extremities. The upper ends of the side bars are arranged on opposite sides of the cylinder, and are pivotally connected thereto, as at *p''*, and by reason
55 of this pivotal connection the supporting-frame can be arranged at any desired angle to the cylinder, and thereby support the latter in any inclined position desired. The trans-
60 verse bar *p'* is curved longitudinally, to adapt it to snugly fit around the periphery of the cylinder, and the frame P is adapted to serve as a guard, in that its side bars prevent the cyl-
65 inder from striking the legs of the person who carries the apparatus, which would be liable to burn or injure them, owing to the heated condition of the cylinder.

Q designates a locking device for securely connecting the cover D to the upper end of the cylinder when the cover closes the same. 70 This locking device preferably comprises a spring metal or other elastic plate, which is rigidly affixed at its lower end to the cylinder, and the upper end of the plate is provided with an abrupt shoulder, which takes over the
75 upper edge of the cover when the latter is closed to prevent the cover from being swung open under the heaviness of the bracket and the various devices carried thereby. A handle, R, is rigidly affixed to the cylinder at a
80 suitable point of its length, so that the apparatus can be conveniently carried and transported from one place to another.

This being the construction of my improved animal-extermiator, the operation thereof is
85 as follows: When it is desired to start a fire in the cylinder, the locking device Q is first disconnected from the hinged cover or lid D and the latter swung open to expose the upper
90 open end of the cylinder, the inclined supporting-frame P having been first previously adjusted to properly support the cylinder and apparatus in a proper position. When the
95 cap or cover D is swung back, the frame or bracket F and the various devices supported therein are also moved with the cover, and the cover, the brackets, and the said devices
100 in the bracket assume the inverted position shown in Fig. 4 of the drawings, so that free access can be had to the open mouth of the cylinder to readily introduce the fuel therein
105 without hinderance from the apparatus. After the proper quantity of fuel has been placed in the cylinder, it is ignited by dropping a lighted match therein, and the cover is then closed.
110 The bracket and the various parts carried thereby thus assume their proper position, and they and the cover are held properly in place by the locking device Q taking over the
115 upper edge of the cover. The crank or handle of the driving-shaft is now grasped and rotated to likewise operate the rotary fan, which forces a steady blast or current of air
120 through the cap or cover into the cylinder, which serves to support the combustion therein and expel the smoke and other gases generated
125 by the fire through the escape-opening in the apex of the cone-shaped extension of the cylinder.

When it is desired to "smoke" an animal out
120 of the burrow in the ground, the cone-shaped extension of the cylinder is fitted in the entrance to the burrow and the frame P adjusted to the proper position to uphold the cylinder
125 at the proper angle. The driving-shaft is rotated and the blast of air is forced into the cylinder to expel the smoke and other gases therefrom in an unrelenting stream, which soon
130 fills the burrow.

When it is desired to transport the appa-
130 ratus from one place to another while the fire remains in the cylinder or the latter is heated, the frame P is folded inwardly against the cylinder until the transverse bar impinges upon

the same, while the cover remains closed to prevent the escape of the smoke therefrom.

The cover and the frame can be readily folded against the cylinder to compactly dispose the parts, which is very desirable in storing or shipping the apparatus.

I do not desire to limit myself to the exact details of construction and form and proportion of the various parts herein shown and described as an embodiment of my invention.

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

1. In an animal-exterminator, the cylinder forming the combustion-chamber, in combination with a cover, a blast-fan carried by the cover, and gearing for rotating the fan in one direction continuously, also carried by the cover, substantially as described, for the purpose set forth.

2. In an animal-exterminator, the combination of the cylinder forming the combustion-chamber, the cover closing the upper end of the cylinder, the bracket or frame affixed to the cover, a fan-casing, a rotary fan inclosed within the casing and having the shaft thereof journaled in the frame, and a driving-shaft, also journaled in the frame and geared to the fan-shaft to rotate the latter, substantially as described, for the purpose set forth.

3. In an animal-exterminator, the combination of a cylinder forming the combustion-chamber, the cover hinged to the cylinder and closing the upper end thereof, the bracket or frame rigidly affixed to the cover, the fan-casing carried by the cover and frame, the driv-

ing-shaft journaled in the frame above the fan-casing, the rotary fan inclosed within the casing and having the shaft journaled in the frame, and a counter-shaft intermediate of the driving and fan shafts, whereby when the cover is thrown back to open the upper end of the cylinder the frame or bracket and the various devices connected therewith are adjusted with the cover and inverted to permit of the free supply of fuel to the cylinder, substantially as described, for the purpose set forth.

4. In an animal-exterminator, the combination of a cylinder forming a combustion-chamber, the cover hinged thereto and adapted to close the upper end of the same, a locking device for detachably connecting the free end of the cover to the cylinder, the blast-fan carried by the cover and communicating with the cylinder when the cover is closed, and gearing connected to the cover for rotating the fan continuously in one direction, substantially as described, for the purpose set forth.

5. In an animal-exterminator, the combination of a cylinder forming the combustion-chamber, a cover hinged to the cylinder and carrying a fan and mechanism for rotating the same, and a device for locking the cover in its closed position, substantially as described, for the purpose set forth,

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

JAMES BENJAMIN PAYNE.

Witnesses:

ALBERT R. CONDON,
GEORGE A. CONDON.