(No Model.)

W. GRAFTON.

INSECT DESTROYER.

No. 290,877. Patented Dec. 25, 1883.

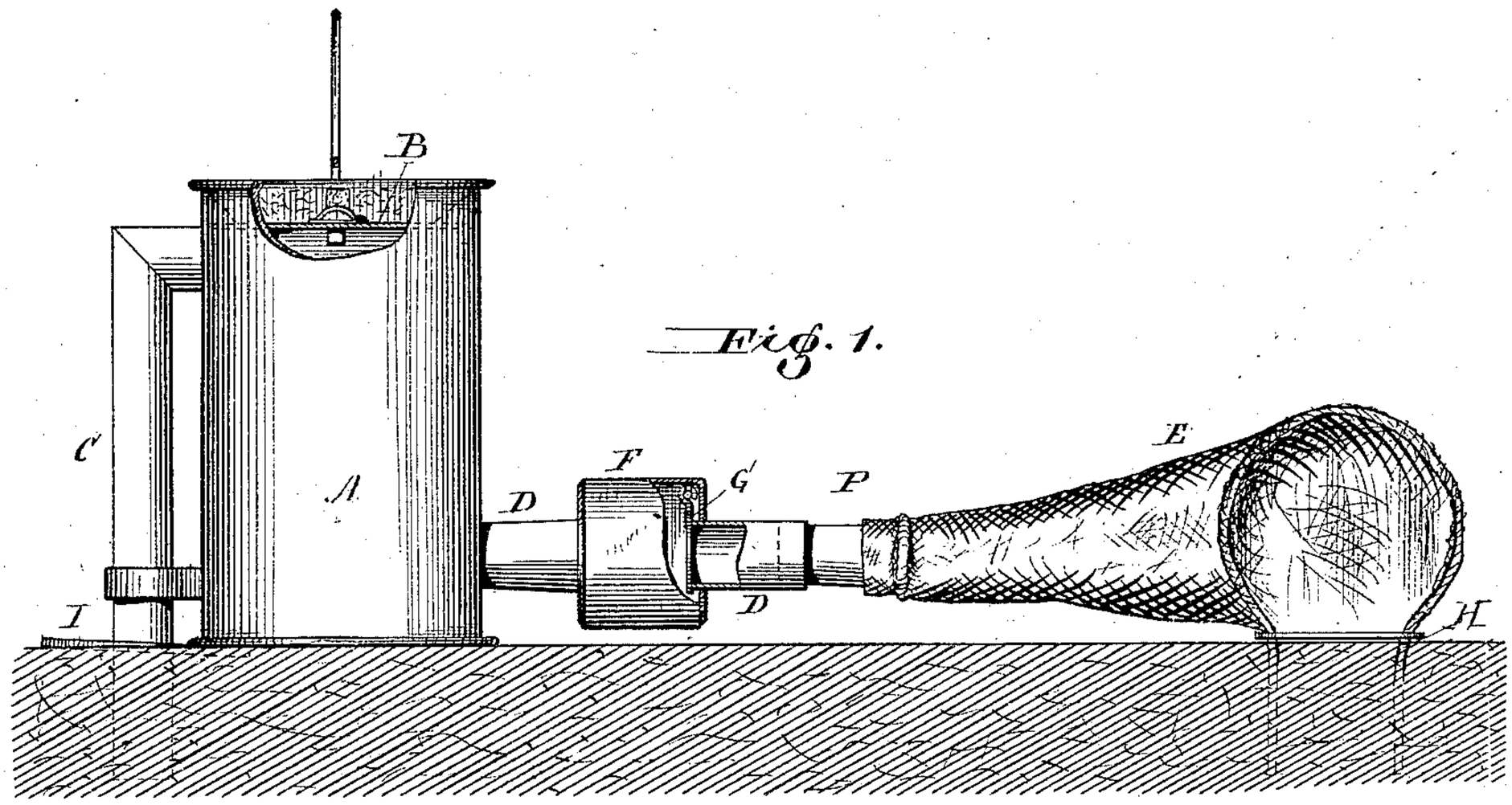


Fig. 1.

Fig. 2.

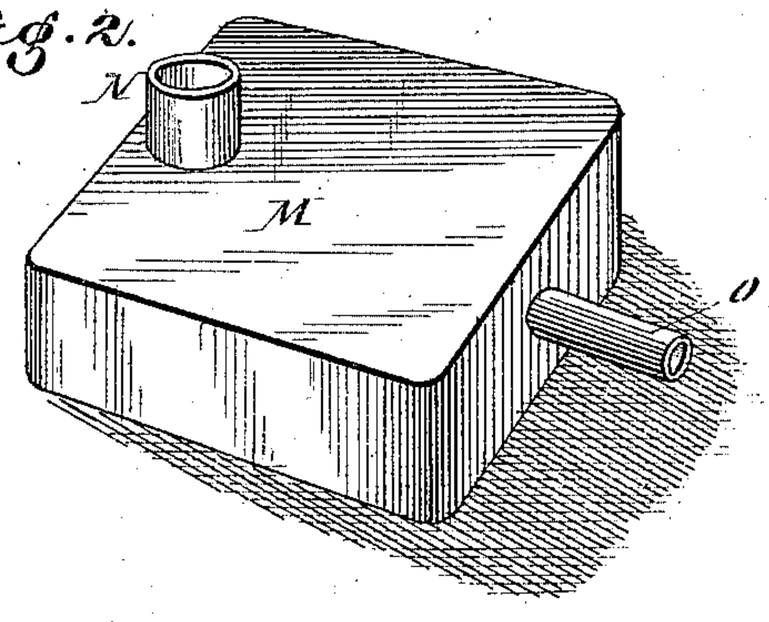
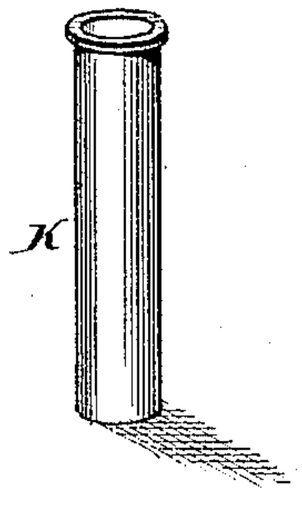


Fig. 3.



Witnesses:
A. M. Strong.
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UNITED STATES PATENT OFFICE.

WILLIAM GRAFTON, OF CUERO, TEXAS.

INSECT-DESTROYER.

SPECIFICATION forming part of Letters Patent No. 290,877, dated December 25, 1883.

Application filed November 11, 1880. Renewed July 16, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GRAFTON, a citizen of the United States, residing at Cuero, in the county of De Witt and State of Texas, have invented certain new and useful Improvements in Insect-Destroyers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

The present invention relates to improvements in that class of devices which are employed for destroying ants, insects, and vermin in general by means of noxious fumes or gases, the patent granted to me on the 27th day of July, 1875, No. 166,083, being a type of an apparatus belonging to the class in question.

The invention consists in the construction and combination of parts, which will hereinafter be more fully described, and then set forth in the claim.

In the drawings, Figure 1 is a side elevation of an apparatus adapted for destroying ants and vermin. Fig. 2 shows the spark-arrester, to be applied to the apparatus when used for destroying weevil in corn and wheat. Fig. 3 is a detailed view of a long earth-tube to be applied to the fixed delivery-tube of the gas or smoke generator.

The vessel A, of cylindrical or other shape, serves as a generator for noxious fumes or poisonous gases, the same being produced by filling the vessel with stone-coal, sulphur, or wood and igniting the same, a top packing of earth and a removable lid or cover, B, fitted into the cylinder, serving to prevent the egress of the fumes or gases except through the discharge or delivery tube C. The combustion of the fuel is supported by means of air entering the cylinder A through the tube D. This tube is located at the bottom of the cylinder or generator A, and is provided at any desired point between said generator and an air-supplying funnel, E, with an enlargement, F, containing a pivoted flap-valve, G. This valve opens only in an inward direction to permit the air to enter the generator, and its object is to prevent the backward passage of the fumes or gases from the generator into the air-funnel E. The air-supply funnel is made in the form of a long tapering bag, provided at its reduced end with a short tube, P, for connecting it with the air-inlet tube D. The large end of the funnel or bag is held open and distended by means of a metallic or rigid rim, which is so shaped as to form two legs, H, which penetrate the ground and serve to support the funnel at a suitable distance above the same, for permitting the air to readily enter the same.

It will of course be obvious that an air-supply funnel of the present construction is only serviceable during the prevalence of wind-currents. In calm weather, or when no wind exists, I propose to connect a bellows or air-pump to the inlet-tube D, as in my Patent No. 166,093, previously referred to. The flexible air-funnel is designed to be used whenever possible, first, because the expense thereof is less than that of an air-pump or bellows, and secondly, the use of an operator for the bellows or air-pump is dispensed with.

When the apparatus is used for destroying red or stinging ants, the discharge or delivery tube C is passed through a plate or flange, I, placed over the mouth of the customary main cell or vertical opening made in the ant-hill. The object of this plate is to prevent the fumes or gases from passing out through the mouth of the cell, and hence they are distributed throughout the nest in a most perfect manner.

It will be obvious that the air-current entering through the funnel is not only sufficient to support the combustion of the fume or gas generating materials, but it also serves to forcibly expel said gases from the generator and drive them through the ant-nest in the manner above stated.

A suitable tool or auger is generally employed for making vent-holes in the ant-nest from the surface of the ground to the cells, whereby the fumes are caused to reach every portion of the nest, and consequently destroy the ants. In certain instances I may employ a detachable earth-tube, K, as seen in Fig. 3, the object of said tube being to convey the gases or fumes deeper into the ground than the tube C.

In order to adapt the apparatus for use in destroying weevil in corn and wheat, or for other fumigating purposes, I make use of a box or vessel, M, which is provided with a neck or socket, N, for connecting it with the discharge-tube C of the gas-generator, and with a short neck or tube, O, for the attachment of a flexible delivery-tube, which may be of any desired length. The vessel is partly filled with water, and its object is to arrest and extinguish sparks issuing from the generator, whereby the liability of setting fire to the cribs or garners in which the grain is gathered is entirely prevented.

The apparatus, with the exception of the funnel, may be mounted on a hand-barrow or wheeled frame, or it can be used without the latter and rest directly upon the ground.

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

The apparatus for destroying insects, consisting of the flexible air-supply funnel E, having end-supporting and mouth-distending rim H, terminating in vertical bottom legs or branches, the gas-generator A, the air-inlet tube having the valve G, and the rigid gas-discharge tube C, as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM GRAFTON.

Witnesses:
T. J. BROWNSON,
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