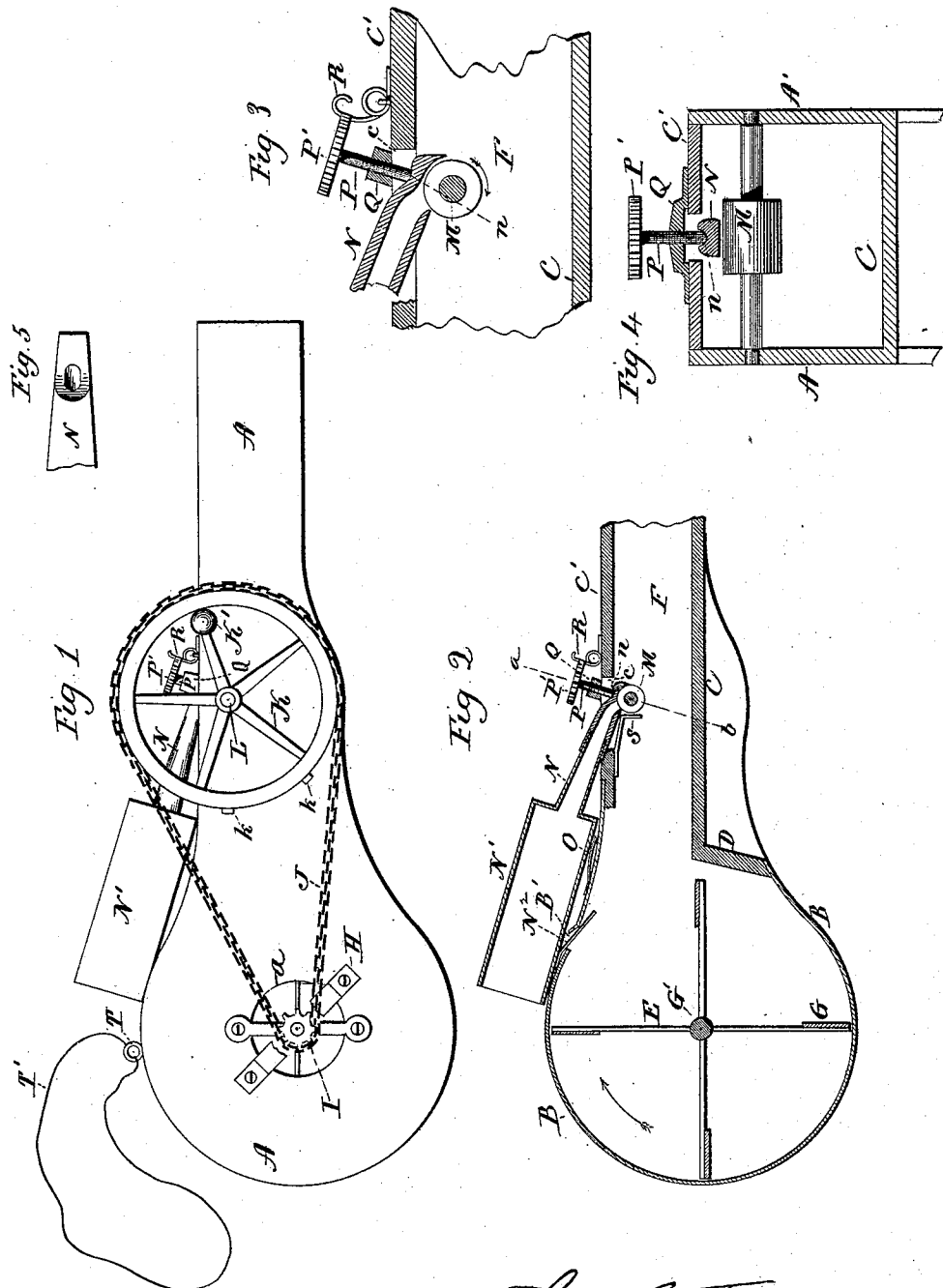


(No Model.)

L. G. TUTTLE.
INSECT EXTERMINATOR.

No. 471,779.

Patented Mar. 29, 1892.



Witnesses
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UNITED STATES PATENT OFFICE.

LEWIS G. TUTTLE, OF NORTH HAVEN, CONNECTICUT.

INSECT-EXTERMINATOR.

SPECIFICATION forming part of Letters Patent No. 471,779, dated March 29, 1892.

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To all whom it may concern:

Be it known that I, LEWIS G. TUTTLE, of North Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Insect-Exterminators; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a view in side elevation of an insect-exterminator constructed in accordance with my invention; Fig. 2, a view thereof in vertical central longitudinal section; Fig. 3, an enlarged sectional view of the feed-spout, distributing-roll, and adjusting-screw. Fig. 4 is a view of the blast-pipe in vertical transverse section on the line *a b* of Fig. 2. Fig. 5 is a reverse broken plan view of the feed-spout.

My invention relates to an improvement in insect-exterminators, the object being to produce a simple, light, and cheap device adapted to distribute a small amount of fine powder over a large area without adulterating it to increase its bulk and to be adjusted to increase or decrease the rate of distribution.

With these ends in view my invention consists in the combination, with a body or case, of means for producing a blast of air therein, a distributing-roll located in the said body within the range of the air-blast, and a reservoir for the exterminating material, having a feed-spout, the end whereof is fitted to the face of the said roll which feeds the material from it.

My invention further consists in certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

As herein shown, the body or case of the device has the general form of a banjo-case and is made of two wooden side pieces *A A'*, a band *B* of sheet metal attached to the peripheries of the enlarged inner ends of the said side pieces, a fixed bottom piece *C*, interposed between the lower outer edges of the said side pieces, a corresponding removable top piece or cover *C'*, and a brace *D*. As thus constructed the case comprises a fan-chamber *E* and a blast-pipe *F*, which is rectangular

in cross-section. The said fan-chamber contains a fan *G*, mounted upon a shaft *G'*, which projects at one end through an air-opening *a*, 55 formed in the center of the side piece *A* of the said body and is there supported in a bridge *H*, extending across the said opening and secured at its ends to the said side piece. A small pinion or cog wheel *I*, mounted upon the said projecting end of the shaft *G'*, receives a driving-chain *J*, which also passes over a large hand-wheel *K*, having cogs *k* upon its periphery and provided with a handle *K'*, by means of which it is turned. The said hand-wheel *K* is journaled upon the projecting outer end of a horizontal shaft *L*, which is mounted in the said side pieces *A A'* and near the upper edge and toward the inner end of the blast-pipe *F* formed by them. A distributing-roll *M*, having a smooth or slightly-roughened surface, is mounted upon the said shaft *L* and thus located within the range of the air-blast through the said pipe. An opening *c*, formed in the removable cover *C'* at a point over and extending to the rear of said roll, admits thereto the outer end of the tapering feed-spout *N* of the reservoir *N'*, the outer end of the said feed-spout being conformed to the curvature of the roll which it fits over. 80 The said reservoir *N'* receives the exterminating material, which will usually be in the form of an extremely fine or impalpable powder. It is removably supported upon the body or case of the device in any convenient 85 manner. As herein shown I have provided it upon its lower face with a tongue *N²*, which enters an opening *B'*, formed to receive it in the upper portion of the sheet-metal band *B* of the body. Under this construction the said tongue is entered into the said opening and the reservoir pushed forward, whereby it is secured in place. A spring *O*, interposed between the said body and the lower face of the reservoir, exerts a constant tendency to 95 lift the extreme outer end of the feed-spout away from the distributing-roll *M* with which it is engaged, this tendency being resisted by an adjusting-screw *P*, mounted in a bridge *Q*, located over the opening *c* and arranged 100 for the entrance of its lower end into a recess *n*, formed in the extreme outer end of the feed-spout *N*. The head *P'* of the said screw *P* is notched to receive a spring *R*, fast-

ened to the said cover C' and employed to hold the screw in any desired adjustment. A fender S, consisting of a small piece of bent sheet metal located directly back of the roll and secured to the under side of the cover C', prevents the air-blast from drawing over the roll. An eye T, fastened to the rear end of the body or case, receives a strap or loop T', passed around the neck of the person using the device, which hangs in an inclined position, so that the action of gravity tends to feed the powder onto the distributing-roll.

The person using the device creates a blast therein by turning the hand-wheel K, whereby the distributing-roll is also turned. Then the outward blast through the pipe F, rushing under the said roll, picks up the fine shower of powder dropping therefrom and fed from the feed-spout by the combined action of friction and gravitation and projects it from the mouth or end of the blast-pipe upon the plants and vines, according to the will of the person using the device. The amount of powder so separated from the body of powder in the spout depends upon the space between the outer end of the spout and the face of the roll, that space, which is always very narrow, being increased or decreased by the adjustment of the screw P in co-operation with the spring O.

By feeding the powder over the surface of a roll, as provided for in my invention, I am enabled to distribute it so gradually that I can make a pound or less of paris-green, for instance, serve to dust an acre of plants, whereas before my invention it has been found necessary to adulterate paris-green by mixing it with plaster in order to distribute it widely enough.

I do not limit myself to constructing my device as herein shown and described. Thus a bellows might be arranged to take the place of a fan for creating a blast, and the reservoir for the exterminating material may be constructed and applied in ways different from those shown, the essential feature of my invention being the location of a distributing-roll in the line of a blast of air and fitting a feed-spout to the curvature of its surface and providing for the adjustment of the spout with reference to the said surface. I have spoken of the location of the distributing-roll within the range of the air-blast, meaning by that its location in relation thereto, so that powder dropping from its surface will be picked up thereby. I would therefore have it understood that I do not limit myself to the exact construction herein shown and described, but hold myself at liberty to make such changes and alterations therein as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. In an insect-exterminator, the combination, with the body or case thereof, of means for producing a blast of air therein, a distributing-roll located in the said body within the range of the air-blast, and a reservoir for the exterminating material having a feed-spout, the end whereof is fitted to the curvature of the face of the said roll, substantially as set forth.

2. In an insect-exterminator, the combination, with the body thereof, of means for producing a blast of air therein, a distributing-roll located in said body within the range of the air-blast, a reservoir for the exterminating material having a feed-spout, the outer end whereof is conformed to the curvature of the face of the roll, a spring tending to lift the spout away from the said roll, and adjustable means for pressing the end of the spout toward the roll against the tension of the said spring, substantially as described.

3. In an insect-exterminator, the combination, with the body thereof comprising a fan-chamber and a blast-pipe, of a fan-wheel located in said chamber, a driving or hand wheel, connection between the said wheels, a distributing-roll, also connected with the said wheels, and a reservoir for exterminating material having a feed-spout, the end whereof is conformed to the curvature of the face of the roll, substantially as described.

4. In an insect-exterminator, the combination, with a body or case comprising a fan-chamber and a blast-pipe, of a fan-wheel located in said chamber, a distributing-roll mounted in the blast-pipe, a hand-wheel mounted on the same center with the said roll, a pinion on the shaft of the fan, a chain connecting the said hand-wheel and pinion, and a reservoir having a feed-spout, the end whereof fits upon the roll, substantially as described.

5. In an insect-exterminator, the combination, with a body or case, of means for producing a blast of air therein, a distributing-roll located in the said body within the range of the air-blast, a powder-reservoir having a feed-spout, the end whereof is conformed to the face of the roll, a spring tending to push the spout away from the roll, and a screw impinging upon the said end of the spout for adjusting it with reference to the roll, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

LEWIS G. TUTTLE.

Witnesses:

FRED C. EARLE,
LILLIAN D. KELSEY,