Feb. 12, 1929. 1,701,674

S. HITOSI

AUTOMATIC INSECT TRAP USING LAMPS

Filed Dec. 22, 1926

Fig. 1.

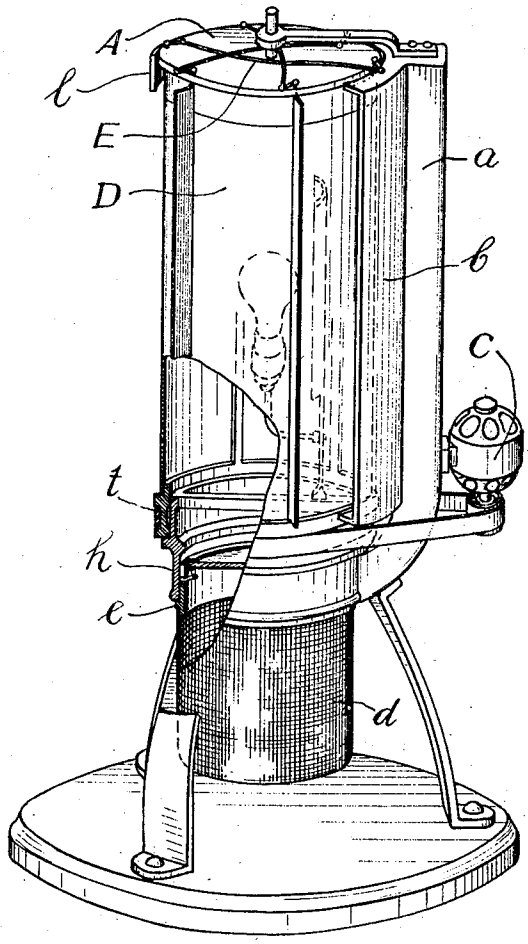


Fig. 2.

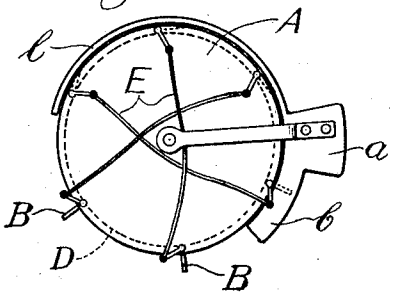


Fig. 4.

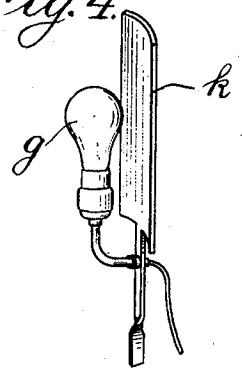


Fig. 5.

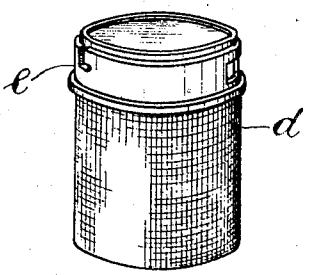
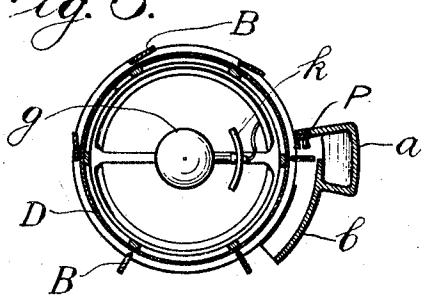


Fig. 3.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC INSECT TRAP USING LAMPS.

Application filed December 22, 1926. Serial No. 156,478.

This invention relates to an automatic insect trap, in which the insects attracted by the light of an electric lamp or the like provided inside a transparent or translucent revolving cylinder and alighted on the surface thereof, are carried beneath a stationary conduit which partly covers the wall of said cylinder; prevented from escaping by the side wall of the conduit on the front and by movable boards pivoted on the surface of the cylinder on the back and compelled to enter a receiver detachably secured at the bottom of said cylinder through the conduit.

The object of the invention is to obtain an ingenious device for exterminating noxious insects by catching them by taking advantage of their habit of gathering around lights especially in summer time and to provide a simple and effective means for catching these insects continuously.

In order that my invention may be clearly understood reference will now be made by way of example to the accompanying drawings, in which

Fig. 1 is a perspective view of one embodiment of the invention.

Fig. 2 is a top view of the cylinder and the conduit, showing the link connection between pairs of boards.

Fig. 3 is a transverse section through the middle part of apparatus.

Fig. 4 is a perspective view of a lamp and a reflector to be attached inside the cylinder.

Fig. 5 is a similar view of a detachable insect receiver.

In the drawing the same reference characters show the same parts, and the parts expressed by big characters act upon the parts expressed by small characters.

Referring to the drawings, (D) is a transparent or translucent cylinder of glass, oil paper or the like, illuminated by an electric lamp (*g*) and reflectors (*k*) (*b*) (*a*), and rotated on its axis by an electric motor (C).

(A) is the lid of the cylinder (D), the inside surface of which is a reflector and to the center of which a rotatable axis of the cylinder is fixed.

On the outer periphery of the lid A there are a plurality of pivotaolly and spacedly mounted blocking boards B. Each of the rotatable shafts of the boards are provided with extending arms and links E disposed on the lid A connect the arms of diametrically opposite boards (the drawing shows the connection of the arms of boards facing each other) so that when one of the boards is turned in such a way as to contact with the cylinder (D), the other will take a position almost perpendicular to the face of the cylinder.

(*b*) is a part of a cylinder spaced from the cylinder (D) just to allow the boards (B) to pass at its upright position, and its interior surface is a mirror.

(*a*) is a conduit to send the allured insects to a receiver (*d*). As shown in the drawing, this conduit is partly opened towards the surface of the cylinder (D), and is closed at both sides and the top. The bottom of the conduit (*a*) communicates with the receiver (*d*) which is detachably secured to the bottom of the conduit. Along the edge of the outlet side wall of the conduit (*a*) a brush *p* is fixed so that the brush is closely in contact with the surface of the cylinder (D) to sweep off the insects alighted on the surface of the cylinder (D).

(*l*) is a semi-circular band fixed to the conduit (*a*) at its end, and is used to keep the boards (B) in contact with the surface of the cylinder (D).

The cylinder (D) has at its bottom a grooved pulley *t* which is rotated at a suitable speed from an electric motor (C) through a suitable driving mechanism.

If desired, the electric motor (C) may be replaced by a clock work and the electric lamp (*g*) may also be replaced by candles, petrol lamps, or the like.

(*d*) is an insect receiver consisting of a bag, a cylinder (*e*) having a bottom of wire cloth or other transparent or translucent material. This receiver is detachably secured to the bottom of the conduit (*a*).

(*h*) is a ring which supports the weight of (A), (B), (D), etc., and is provided with a post at its center for attaching electric lamp (*g*) and a reflector (*k*).

The operation of the apparatus is as follows:—

When the lamp is switched on and the cylinder (D) is rotated by the electric motor (C), the insects will gather around the light and will alight on the surface of the cylinder where it is strongly illuminated.

By the rotation of the cylinder (D) the insects are carried beneath the wall (*b*) where it is more illuminated than the cylinder (*d*) by the reflector provided on the inside surface of (*b*) so that the insects have no tendency to fly back.

On still continuing the revolution of the

cylinder (D), they are introduced under the shadow of the reflector (*k*), where they can not escape as they are disturbed by the board (B) on the back and by the brush fixed on the side wall of (*a*) on the front, and compelled to enter the conduit (*a*) in the bottom of which they again find light passing through the transparent bottom of the cylinder and thus gathered in the receiver.

The bag may then be replaced by a new one and the dead insects are swept away.

The apparatus is very simple in construction and handling so that any person skilled in the art can easily handle it at a small expense.

The apparatus shown in the drawing is only one example of my invention, and it must be understood that any person skilled in the art can make several modifications of the invention without departing from the spirit of the invention within the scope of claim herein described.

Having now particularly described and ascertained the nature of said invention, and in what manner the same is to be performed, I declare that what I claim is:—

An automatic insect trap comprising a transparent revolving cylinder provided with illuminating means within said cylinder, a wall disposed concentrically with said revolving cylinder and forming an annular passage between them, a plurality of sweeping boards rotatable round their axis and means to swing the boards from their retracted position to radially projected position as they approach said wall, said boards sweeping the channel between the rotating cylinder and the wall and driving insects into a trap through vertical channels adjacent to the said wall.

In testimony whereof I have affixed my signature.

SIIO HITOSI (SHIIO HITOSHI).