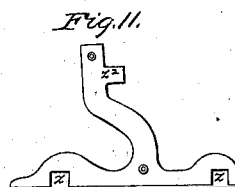
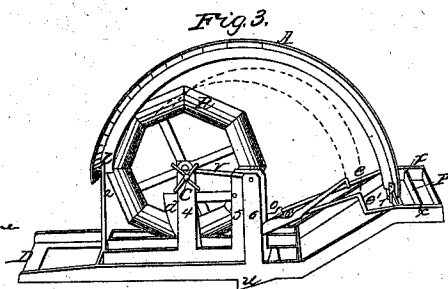
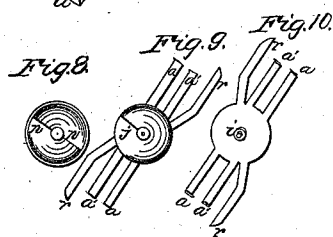
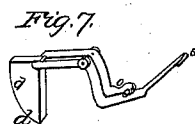
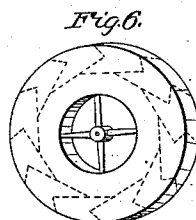
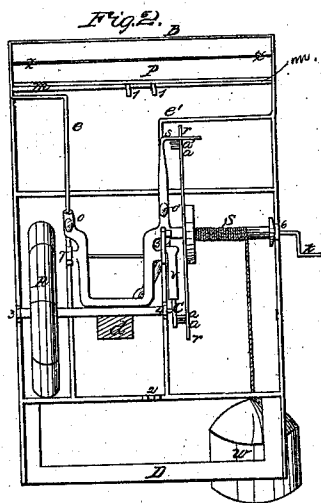
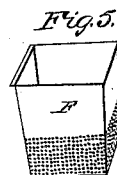
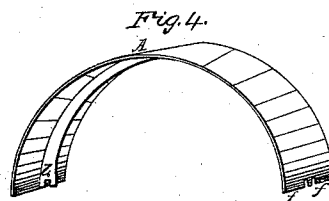
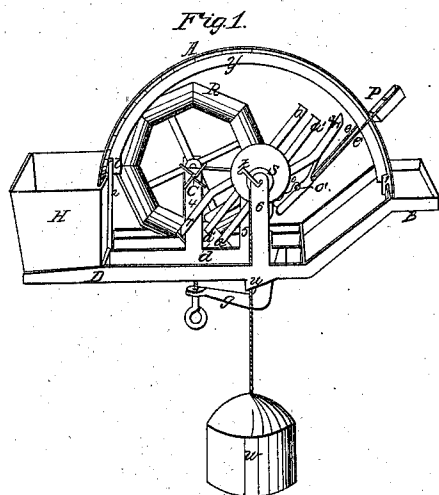


*T. C. Silliman,*

*Insect Trap*

*N<sup>o</sup> 83,666.*

*Patented Nov. 3, 1868.*



*Witness:*  
*Mathias Lane*  
*J. E. Abbe*

*Inventor:*  
*Thomas Cooke Silliman*

# United States Patent Office.

THOMAS COOKE SILLIMAN, OF CHESTER, CONNECTICUT.

Letters Patent No. 83,666, dated November 3, 1868; antedated October 24, 1868.

## IMPROVED TRAP FOR DESTROYING INSECTS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, THOMAS COOKE SILLIMAN, of Chester, in the county of Middlesex, in the State of Connecticut, have invented a new and useful Trap for Destroying Insects; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view.

Figure 2, a longitudinal elevation, without the arch and drowning-box.

Figure 3, a transverse section.

Figure 4, the arch detached.

Figure 5, the strainer.

Figure 6, another form of the regulator.

Figure 7, the weight or cast portion of the sweep.

Figure 8, the barrel or chamber of the driving-shaft.

Figure 9, the short shaft, with arms and spring or click, which is attached to the driving-shaft.

Figure 10, an opposite view of the same.

Figure 11, the hanger.

To enable others skilled in art to make and use my invention, I will proceed to describe its construction and operation.

I make the frame of my insect-traps of cast-iron, casting a bait-box on one end, as shown at B, and a holder for a drowning-box on the other, as shown at D.

I cast the arch, represented at A, with a rib in the centre, on the inside, which is marked *y*, to strengthen it, and widen the rib on both ends, to facilitate the fastening of the arch to the frame. I cast a slot in one end of the rib of the arch, as shown at *l*, fig. 4, and two slots in the end of the arch opposite, as shown at *f f*, which the two short posts on the frame, marked 1 1, enter, and prevent a lateral movement. This end of the arch also enters a groove in the side of the bait-box, marked *m m*, in fig. 2, and is secured to the frame by a pin passing through the two short posts, 1 1, and the rib of the arch. The slot in the end of the rib opposite is entered by the post marked 2, which has a slot in its top, similar to the one in the rib, through the two sides of which, and the rib, a pin passes, securing the arch to the frame. The outer surface of the arch I cover with cloth, to enable it the better to hold bait.

H represents the drowning-box in its holder D. It has a strainer within it. The strainer is a similar box, perforated at the bottom, and is represented by fig. 5, and marked F.

A clamp, with a screw, represented at *g*, is dovetailed into the body of the frame, below the post marked 5, for the purpose of fastening the trap to a table or shelf. This clamp is bent inwardly, to allow the attachment to be made to a narrow shelf. The guide or stop on the frame, shown at *u*, marks or fixes the distance the frame should project to allow the cord which holds the driving-weight to hang plumb.

R represents a regulator, which is an octagonal wheel with a tubular rim, divided into eight compartments internally, by eight partitions located at the angles, in each of which is a small orifice, on the side nearest to the hub. It is balanced, and about three-eighths of the rim filled with liquid. I use kerosene for a liquid, and partially exhaust the air in the rim before sealing.

The regulator may be constructed to operate without sealing, by placing buckets on the inside of a wheel, with wide rims, similar to buckets on the outside of a water-wheel, as represented by fig. 6, in which the dotted lines indicate buckets.

In this case, the end of the bucket having the orifice should be deeper than the other, to concentrate the liquid when it has nearly passed out, and a trough may be substituted for the wide rims.

One bearing of the regulator is supported in the post marked 3; the other in the post marked 4, through which it extends sufficiently to hold the cog-wheel, shown at C, against which the pawl V operates, and prevents the regulator from moving backwards.

At P a sweep is represented, consisting of an oblong dasher, constructed of thin metal, with a bottom made of a net-work of wire, thread, or perforated tin, and divided into apartments longitudinally, by partitions or partition, as shown at *x x*, fig. 2, and connected, by two wires, marked *e e*, to the weight marked *d*.

The part of the sweep I have designated by the term "weight" is represented by fig. 7. I make this of cast-iron, with indentations cast in the arms, as represented at *o o*, to enable the wires to be easily reached, and secured by solder, after the arms are drilled to receive them.

The crank, shown at *s*, enables the sweep to be thrown forward without adjusting the wire *e* for that purpose. The axis of the sweep, in posts 5 and 7, is the centre for the arch A, and the dasher operates close to the outer surface of the arch. The sweep I so balance that it returns to its resting-position, with the dasher in the bait-box, by its own gravitation.

The driving-shaft is represented at S. One bearing of it is secured in post 6, through which the spindle extends sufficiently to form or receive the crank represented at *k*. The other bearing is secured in post 5, to the right, and above, but parallel to, to the spindle of the sweep.

This driving-shaft is made flat or elliptical where it receives the cord, represented as attached to the weight *w*; but the end towards post 5 is round and enlarged, and has a chamber, in which are two ratchet-teeth, opposite, marked *n n*, in fig. 8, by which the chamber is represented.

Between the chamber and post 5 is a short shaft, moving upon the spindle of the driving-shaft, and having a spring, which is represented at *j*, fig. 9. The spring acts as a click, operating in connection with the teeth in the chamber of the driving-shaft, and con-

necting the two shafts together in a forward motion. It has also four arms, bent to a right angle on their outer ends, to strike externally on the cogs of the wheel C, which are marked  $a a'$ ,  $a a'$ , and two longer arms, marked  $r v$ , which drive the sweep.

Fig. 10 is an opposite view of the same, in which  $i$  represents a shoulder on the spindle, preventing the spring  $j$  from forcing the shaft against post 5.

The driving-shaft is placed out of line with the spindle of the sweep, to allow the sweep to return to its resting-position, as shown by the dotted lines in fig. 3, the black curve indicating the sweep of the driving-arms  $r v$ , and the red the sweep of the crank  $s$ .

Fig. 11 represents a hanger, to be attached to a wall by screws. It has a bench or shelf on the lower side, on which the bottom of the back side of the frame rests, secured by the two uprights  $z z$ , and a socket,  $z^2$ , which the top of post 3 enters. This post is made strong, for the purpose of supporting the trap when attached to the hanger.

There are openings back of the uprights and socket, to allow the hanger to be easily moulded.

The trap being attached to a table or shelf by the clamp  $g$ , or to a wall by means of the hanger, and bait being placed in the bait-box B, and distributed over the cloth on the surface of the arch A, and the drowning-box H being partly filled with any suitable destructive liquid, as a solution of soap in water, the operation is as follows:

The driving-weight  $w$  is wound up by the crank  $k$ , and during the process one of the arms  $a a'$  comes in contact with the cog-wheel C, which the pawl V prevents from moving backwards, and the spring  $j$  slips over the teeth  $n n$  in the chamber of the driving-shaft; but when left to operate, the spring  $j$  catches against one of the teeth  $n n$ , and holds the arms,  $a a'$ ,  $a a'$ , parallel to the shorter diameter of the driving-shaft, and the power of the driving-weight is thereby decreased, while the movement is governed by the regulator, which times it, by the liquid in its rim passing through the orifices in the partitions. When the arms  $a a'$  pass beyond the control of the regulator, one of

the driving-arms  $r v$  strikes the crank  $s$ , and throws the sweep forward, the power of the driving-weight operating through the longer diameter of the driving-shaft. As the crank  $s$  has not the same centre of motion as the driving-arm, it passes beyond its reach, and the sweep continues, by its momentum, until the arm  $o'$  strikes the top of post 4, when the dasher deposits in the drowning-box the insects that were feeding through its bottom in the bait-box, and also those feeding on the surface of the arch, the partition  $x x$  preventing them from being thrown to one side by centrifugal force. The sweep then returns to its resting-position.

This trap was designed more particularly for the destruction of common house-flies, but it will destroy other insects, as cockroaches and ants; but when set for small-sized ants, the arch A should be removed, as only those that adhere to the dasher (and they are not liable to be forced off by the action of the air) can be deposited in the drowning-box with the ordinary construction of the trap.

I do not claim the exact form of any of the parts, but the following points, when applied to insect-traps:

1. The regulator, substantially as described, to insure silence, and to simplify the mechanical combination and movement.
2. The flat or elliptical form of the driving-shaft S, to economize power.
3. The placing of the driving-shaft, or the arm or arms for driving the sweep, out of the axial line of the sweep, for the purpose specified.
4. The sweep P, to convey the insects to the drowning-box, or its substitute.
5. The arch A, as located relatively to the sweep, to increase the trapping-surface.
6. The strainer F, to remove the insects from the liquid.

THOMAS COOKE SILLIMAN.

Witnesses:

CATHARINE LANE,  
T. E. ALLEY.