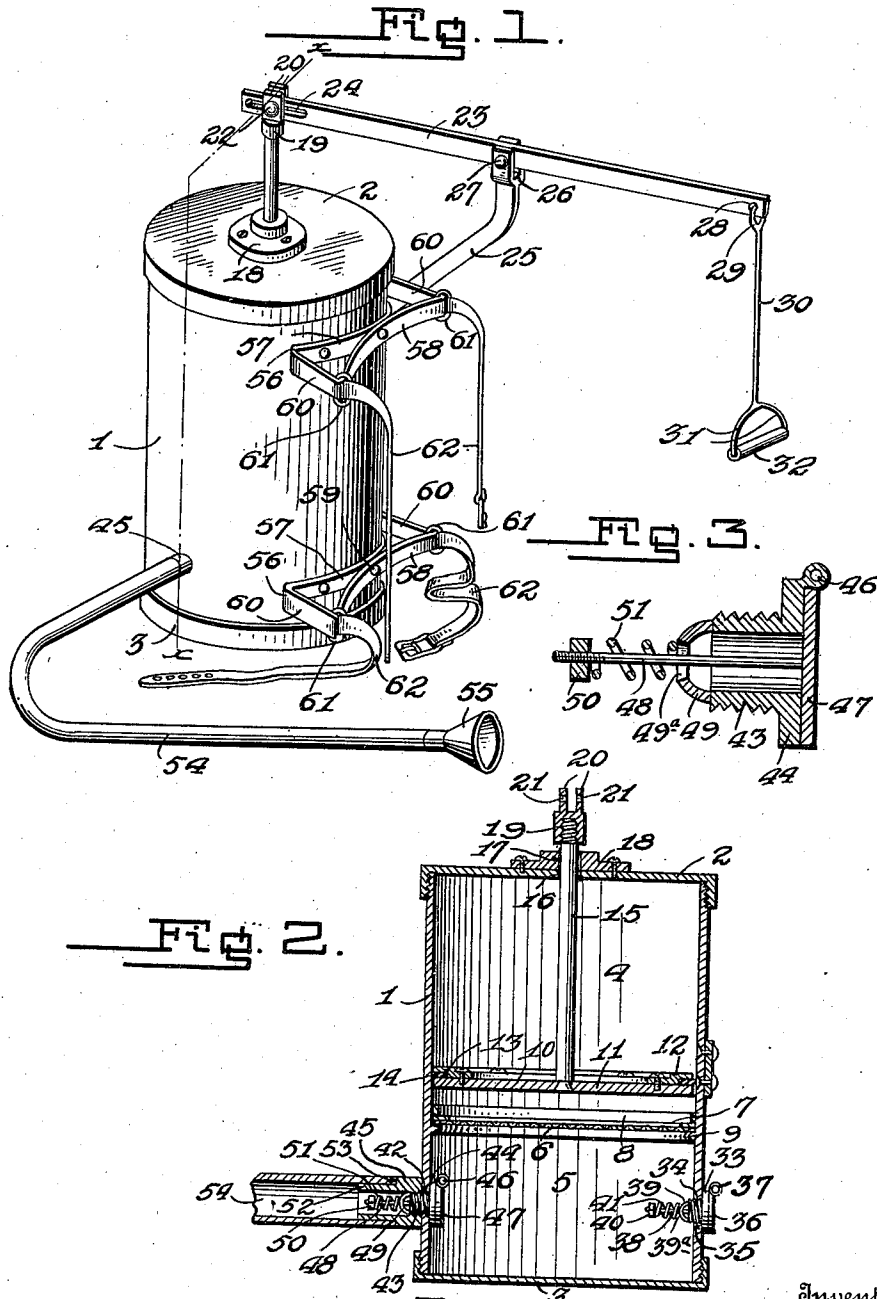


R. J. RUSSEL.
INSECT TRAP.
APPLICATION FILED JULY 18, 1910.

995,911.

Patented June 20, 1911.



Witnesses

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INSECT-TRAP.

995,911.

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To all whom it may concern:

Be it known that I, ROBERT J. RUSSEL, a subject of the King of Great Britain, residing at Flint, in the county of Genesee and State of Michigan, have invented certain new and useful Improvements in Insect-Traps, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in insect traps, and has for its object to provide a simple and inexpensive apparatus by means of which insects can be easily and expeditiously caught and destroyed without the use of poisonous solutions and compounds, which are a source of expense and heavy to carry.

Other objects and advantages of my invention will appear in the course of the following specification.

In the accompanying drawings: Figure 1 is a perspective view of my improved insect destroying apparatus. Fig. 2 is a vertical longitudinal section on the line $x-x$ through the receptacle or cylinder of the apparatus. Fig. 3 is a sectional view through one of the valves.

Referring to the drawings, which illustrate the preferred embodiment of my invention, 1 designates the receptacle or cylinder of the apparatus, which is preferably constructed of light metal with the top and bottom thereof closed by caps 2 and 3, respectively, which are internally threaded and screwed in position. Positioned transversely of and intermediate the top and bottom of the cylinder and separating it into upper and lower compartments 4 and 5, respectively, is a circular wire screen 6, the circumference of which is provided with a right angular rim 7, the upstanding portion 8 of which lies against the inside of the cylinder to which it can be secured if desired. As shown in Fig. 2, the rim 7 of the screen 6 rests on an annular rib or projection 9 on the inside of the cylinder.

Working in the upper compartment 4 above the screen 6 is a circular piston 10 upon the upper face of the body 11 of which is secured by suitable fastening means an annular ring 12. The circumference of the ring extends out flush or even with that of the body 11 of the piston and its under face is provided with a right angular recess 13 in which is secured a leather packing 14 which projects out beyond the circumfer-

ence of the piston and contacts with the inside of the cylinder 1 to form an air tight packing. Secured centrally to the upper face of the body 11 of the piston is a vertical piston rod 15, which passes through a centrally arranged aperture 16 in the cap 2 and a registering aperture 17 in a guide 18 secured to the top of the cap. Threaded on the upper or free end of the piston rod 15 is a cap 19 provided at its top with a pair of upstanding spaced lugs 20 through which are registering apertures 21.

Held between the lugs 20 by means of a bolt or other suitable fastening means 22 passing through the registering apertures 21 is the inner end of a lever 23 and, as shown, the bolt 22 passes through a longitudinally-extending slot 24 near the end of the lever. Suitably secured to the outside of the cylinder 1 is an upwardly projecting support 25, which extends above the top of the cylinder. The upper end of the support is provided with a bifurcation 26 in which at 27 is fulcrumed the lever. The outer or free end of the lever is provided with an aperture 28 in which is secured a ring or loop 29 from which depends a rod 30, which terminates in divergently arranged arms 31 having a connecting bar on which is mounted a handle 32.

In the compartment 5 of the cylinder 1 below the screen 6 is a valve seat 33 provided with a tubular, exteriorly-threaded, rearwardly-extending projection 34 with its passage in communication with the passage through the seat. The projection 34 is screwed into a threaded aperture 35 in the cylinder 1 and projects slightly into the interior of the cylinder. An outlet valve 36 is hinged at 37 at the top of the seat 33 and is adapted to normally rest against and close the passage in the seat. Connected centrally to the inner side of the valve 36 is a rod 38 which extends through the passage in the seat 33 and projection 34 carried thereby. The rod 38 projects through a centrally-arranged slot 39^a in a bow-shaped guide or support 39 which spans the end of the projection 34 and is suitably supported thereon. On the extreme outer end of the rod 38 is threaded a nut 40 and encircling the rod and bearing against the bow-shaped guide 39 and the nut is a coil spring 41, which normally holds the valve 36 on its seat.

Diametrically opposite the aperture 35 in

the cylinder 1 is a second threaded aperture 42 from the inner end of and into which is screwed the rearwardly-extending, exteriorly-threaded, tubular projection 43 of a valve seat 44. The projection 43 extends outside of the cylinder 1 and has threaded thereon a cylindrical tubular connection 45 with its passage in communication with the passage in the projection 43 and valve seat 44. Hinged at 46 to the top of the valve seat 44 is an inlet valve 47, which normally rests against the seat and closes the passage therein. Connected centrally to the inner side or face of the valve 47 is a rod 48, which projects through the valve seat 44, the tubular projection 43 and through a centrally-arranged slot 49^a in a bow-shaped guide or support 49, which spans the passage through the projection and is supported on the end thereof in any suitable manner. Threaded on the end of the rod 48 is a nut 50 and encircling the rod is a coil spring 51, which bears against the bow-shaped guide 49 and the nut 50 to normally hold the valve 47 against its seat 44.

The outer or free end of the cylindrical connection 45 is reduced, as at 52, which reduced portion at its inner termination forms a shoulder 53, and mounted on this reduced portion and abutting the shoulder thereof is one end of a rubber or flexible hose 54. The other or free end of the hose is provided with a bell-shaped nozzle 55 for a purpose to be hereinafter explained.

Secured near the top and bottom of the cylinder 1 and in line with each other are similarly arranged brackets 56. Each bracket comprises oppositely-arranged bow-shaped arms 57 and 58, which are connected together at their centers as at 59, and at their ends by connecting members or braces 60. The bow-shaped arms 57 are secured transversely to the cylinder while the bow-shaped arms 58 are shaped to fit the back of the operator of the apparatus. At each corner of the brackets 56 formed by the juncture of the connecting braces 60 and the bow-shaped arm 58 is a link or ring 61 to which is connected the end of a strap 62 for securing the apparatus to the back of an operator. The straps 62 connected to the upper bracket 56 are passed over the shoulders of the operator and secured, while the straps 62 connected to the lower bracket 56 are passed around the body of the operator and secured.

Assuming the apparatus to be secured to the back of an operator, the operation of the device is as follows: The operator takes the hose 54 near the nozzle 55 in one hand and grasps the handle 32 of the lever 23 in the

other. On pulling the lever down the piston 10 is raised and the air consequently rarefied below the piston, with the result that the hinged inlet valve 47 is raised against the tension of the spring 48 and a suction created through the hose 54 with the result that the insects within range of the nozzle 55 will be drawn through the nozzle, hose and valve seat 44 into the lower compartment 5 of the cylinder below the screen 6. On pushing the lever 23 up the piston 10 is forced down, thereby raising the hinged outlet valve 38 from its seat 33 against the tension of the spring 41 and allowing the escape of the air drawn in the cylinder 1 through the hose 54 on the preceding upward movement of the piston and so on, until the work is finished or the compartment 5 is filled with insects when the bottom cap 3 can be removed and the imprisoned insects destroyed.

What I claim is:—

1. In an apparatus of the character described, a receptacle, a transverse partition in said receptacle forming compartments therein, means permitting communication between said compartments, an inlet and an outlet valve carried by one of said compartments, a piston positioned in the other of said compartments, and means to reciprocate said piston whereby the fluid pressure in said valved compartment is changed to operate said valves.

2. In an apparatus of the character described, a receptacle, a screen positioned in said receptacle and forming compartments therein, means for holding said screen in position, inlet and outlet valves carried by one of said compartments, a piston in the other of said compartments, and means for operating said piston to change the fluid pressure in said valved compartment whereby said inlet and outlet valves are operated.

3. In an apparatus of the character described, a receptacle, a partition dividing said receptacle into compartments, means permitting communication between said compartments, means for holding said partition in position, inlet and outlet valves in one of said compartments, a piston positioned in the other of said compartments, a piston rod connected to said piston, a lever connected to said piston rod, and a handle carried by said lever for operating it.

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

ROBERT J. RUSSEL.

Witnesses:

JOHN H. TYLER,
CHARLES W. BATES.