

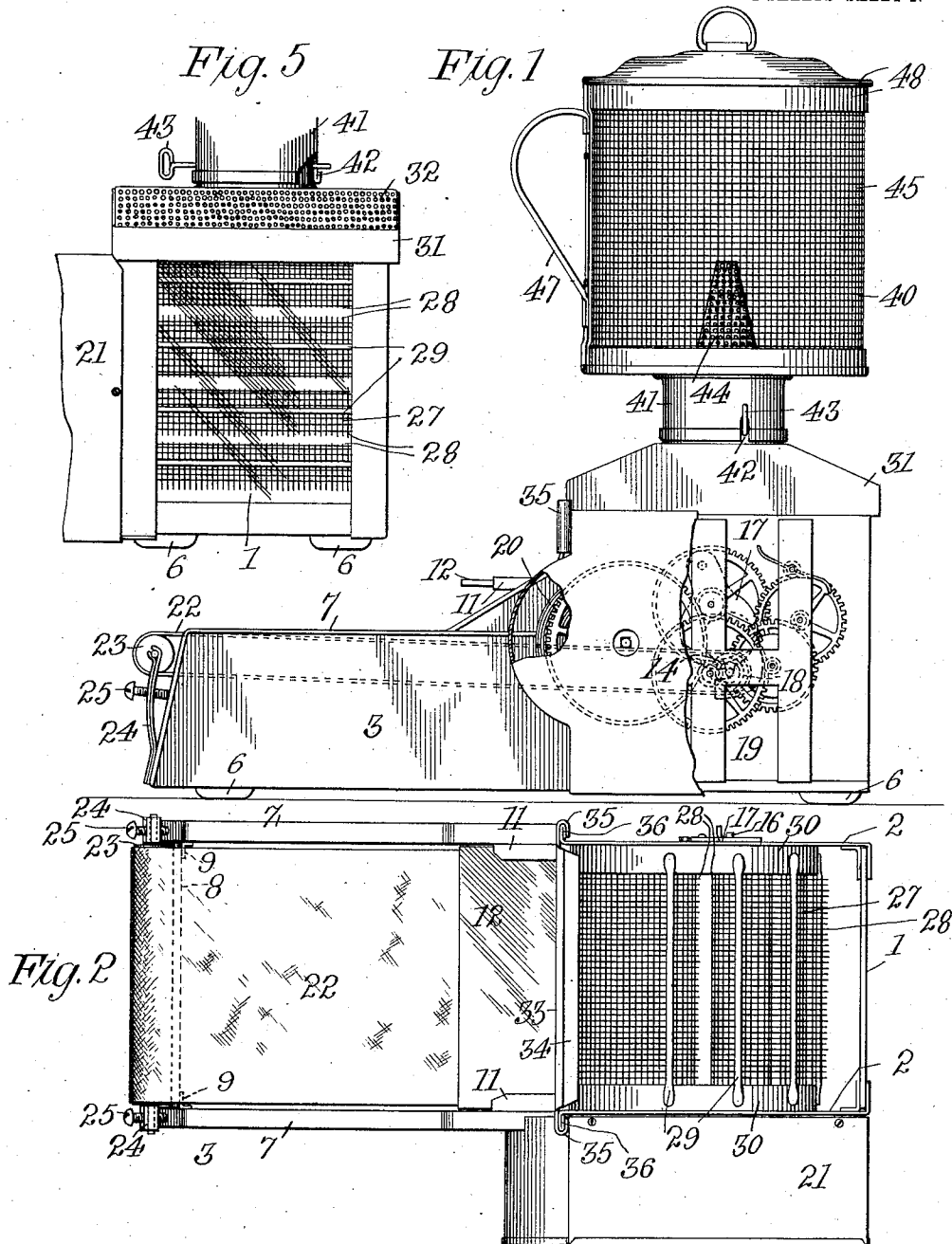
S. KRUEGER.
FLY TRAP.

APPLICATION FILED OCT. 30, 1911.

1,048,082.

Patented Dec. 24, 1912.

2 SHEETS-SHEET 1.



WITNESSES
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Fig. 3

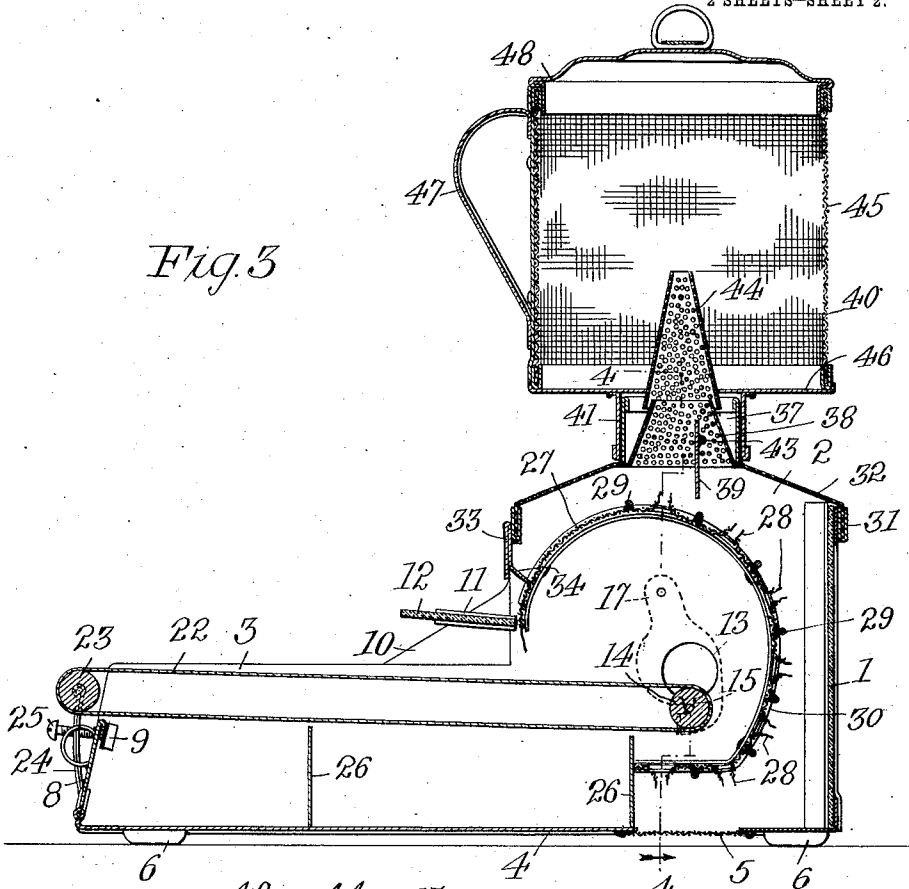
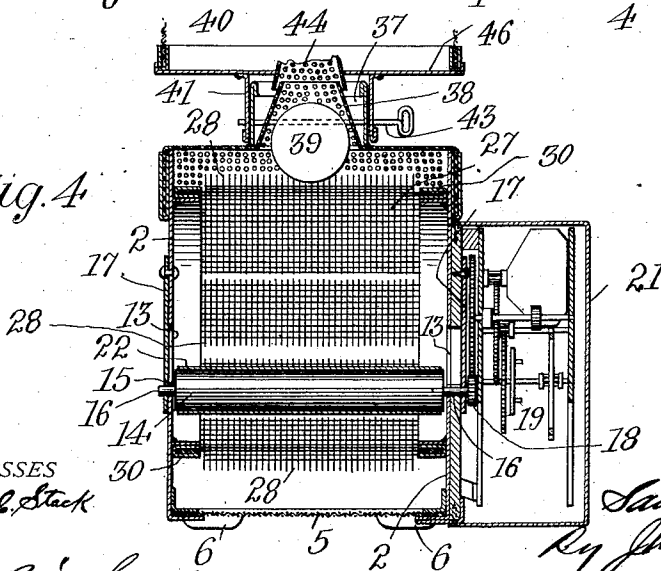


Fig. 4



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UNITED STATES PATENT OFFICE.

SAMUEL KRUEGER, OF FREDERICKSBURG, TEXAS.

FLY-TRAP.

1,048,082.

Specification of Letters Patent.

Patented Dec. 24, 1912.

Application filed October 30, 1911. Serial No. 657,415.

To all whom it may concern:

Be it known that I, SAMUEL KRUEGER, a citizen of the United States of America, residing at Fredericksburg, in the county of Gillespie and State of Texas, have invented certain new and useful Improvements in Fly-Traps, of which the following is a specification.

This invention relates to insect-traps and is designed more particularly for trapping flies, taking advantage of well known habits and characteristics of these insects in order to accomplish their destruction.

The invention seeks to provide a device of simple and inexpensive construction by which the flies will be drawn into a casing from which they cannot escape except to pass into a receptacle which may readily be removed when the flies are to be destroyed.

The invention also seeks generally to improve the construction and efficiency of insect-traps, and other incidental objects of the invention will appear as the description proceeds.

A typical embodiment of my invention is illustrated in the accompanying drawings, which are to be taken as a part of this specification, and the peculiar nature of the invention will be hereinafter fully described, the novel features thereof being subsequently particularly pointed out in the appended claims.

In the drawings, Figure 1 is a side elevation of my improved fly-trap with parts broken away; Fig. 2 is a plan view with the receptacle and top of the casing removed. Fig. 3 is a central vertical longitudinal section. Fig. 4 is a transverse vertical section on the line 4-4 of Fig. 3, the greater portion of the receptacle being omitted. Fig. 5 is a detail rear end view.

In carrying out my invention I employ a casing having a glazed rear end 1 and preferably metallic side walls 2 with long wings 3 extending forwardly from the lower portions of their front edges. The bottom of the casing is preferably formed of sheet-metal, as shown at 4, and is provided with a screen or netting 5, extending across an opening therein near its rear end. Small feet or other supports 6 are preferably provided on the bottom of the device, so as to hold the bottom out of contact with any article upon which it may be placed. The upper and front edges of the forwardly ex-

tending wings or prolongations 3 are reinforced by outwardly projecting flanges 7, and a door 8 is hinged to the front edge of the bottom and extends between the front edges of said prolongations 3, being normally supported in its closed rearwardly inclined position by stops 9 on the inner faces of the said prolongations. Within the angles formed by the front edges of the side walls 2 and the upper edges of the prolongations 3, I secure guards or wings 10 on the inner faces of which are cleats or grooved brackets 11 in which is fitted a piece of glass or other transparent material 12. In the side walls 2, I provide openings 13, through which the rear roller 14 may be inserted, and at the lowest points of these openings I form notches 15 in the walls thereof, which constitute bearings to receive the journals or pins 16 on the ends of the said roller. Latches or keeper plates 17 are mounted on the side walls of the casing and are adapted to extend across the openings 13 and engage the journals 16, so as to hold them in the said notches or bearings and thereby maintain the roller in such position that it will rotate smoothly and not change its angular relation to the casing. A pinion 18 is fitted on one of the journals 16 and is connected by a suitable train of gearing, indicated generally at 19, with a driving spring or other convenient form of motor 20, whereby rotary movement may be imparted to the said roller. The gearing 19 and motor 20 are mounted directly on the side of the casing and are inclosed by a supplemental casing or cover 21, as shown and as will be readily understood.

An endless apron or other carrier 22 passes around the roller 14 and is disposed longitudinally between the prolongations or wings 3, the front bight of the apron being engaged around a roller 23 which is supported in bearing brackets 24 secured on the front members of the flanges 7 and adjustable toward and from the said flanges by means of set screws 25 mounted in the brackets and bearing against the flanges, as shown clearly in Figs. 1 and 2, whereby the apron will be maintained in a taut condition at all times and will consequently be effectually moved when the rear roller 14 is rotated. Rising from the bottom 4 are transverse partitions 26 which extend close to the lower run of the apron, as shown

most clearly in Fig. 3. The chamber or compartment formed between the front partition 26 and door 8 may be utilized to hold any form of bait, the odor of which will attract the flies, while the rear partition serves as a guard or stop which will prevent the escape from the casing of any flies which may have been drawn thereinto. Around the rear roller 14 and spaced therefrom is a reticulated drum 27 which extends between the side walls of the casing and is provided at intervals with out-turned spaced lips 28. The spaces between adjacent lips constitute exits for the flies, but as said lips are close together and their irregular and rather sharp edges afford no footing for the flies the return of the insects will be prevented. This drum is reinforced by transverse braces or connecting bars 29, the ends of which are secured to flanges or rims 30. These rims or flanges are preferably made of sheet-metal and serve to maintain the shape of the drum, which is preferably constructed of fine mesh wire netting. These rims may be secured to or supported by the casing in any preferred or convenient manner, as by being engaged over ribs formed on the inner faces of the side walls of the casing or by being soldered directly to said side walls.

The casing is provided with a removable top 31 which is so shaped as to rest upon the upper edges of the walls of the casing and is constructed with imperforated sides and end portions and a reticulated or perforated top 32, the openings in the said top being of such minute character as to prevent the escape of the flies therethrough, the purpose of this construction being to admit light into the casing, so that flies will be attracted to the top thereof. It will be observed upon reference to Fig. 3 that the front portion of the drum extends close to the transparent plate 12 and depends somewhat below the same, but terminates above the apron 22, so that it will offer no obstruction to the entrance into the casing of any flies which may be upon the apron.

Upon the front edge of the side walls of the casing, I mount a cut-off or guard 33, which consists of an imperforate plate having a rearwardly extending flange or lip 34 adapted to fit against the drum, as clearly shown in Fig. 3, and thereby prevent the passage through the front of the casing of any flies which may have passed from the drum. The lip 34 effectually prevents the escape of the flies without requiring the use of such a wide guard as would perceptibly cut off the light from the cage. The ends of this guard or cut-off plate are formed into hooks 35 which are adapted to slidably engage out-turned lips or flanges 36 on the casing, whereby the said guard or plate may be removed whenever it is necessary to clean

or repair the drum or other parts within the casing.

The cover 31 is provided at its center with a collar 37, within which is secured a cone 38 which is preferably constructed of perforated material and in the said cone is mounted a valve 39 by which the passage of flies through the said cone may be prevented when desired. A receptacle 40 is provided at its lower end with a sleeve or collar 41 adapted to fit upon the collar 37 and is provided with slots or notches 42 which fit over the stem 43 of the valve 39, as will be readily understood. Arranged concentrically with the collar 41 and extending up through the bottom of the receptacle 40 is a perforated conical tube 44, through which the flies may pass and escape into the receptacle. The receptacle 40 is preferably cylindrical having a preferably perforated body 45 and an imperforate bottom 46. It is also provided with a suitable handle 47 and its upper end is closed by a removable cover or lid 48.

In use the apron or carrier 22 is coated lightly with sugar or similar substance which is well known to attract flies, and the motor is set in operation, thereby rotating the roller 14 and imparting movement to the carrier. The speed of the motor is reduced so that the carrier will travel very slowly and, consequently, the flies thereon will be too busily engaged in feeding on the sugar to notice the movement of the carrier. The travel of the carrier will take the flies into the space within the drum and the return of the carrier will then cause such flies as do not drop from the carrier to be scraped therefrom by the upper end of the rear partition 26, the said partition being extended close enough to the carrier to prevent the egress of the flies but not close enough to scrape the sugar therefrom. It will be observed that the drum is fitted against this partition so that the flies can not proceed beyond the partition and as it is well known that flies travel always toward the light, they will pass from the drum through the spaces between the adjacent out-turned lips 28 and will be thereby trapped in the casing, it being also known that while flies will proceed through a conical or contracted passage after having entered the wider end thereof they will not proceed in the opposite direction by entering the narrower end of such passage. Obeying the instinct to travel toward the light and upward, the flies will pass through the conical tubes 38 and 44 into the receptacle where they will accumulate. When a sufficient number of the flies have been caught within the receptacle, the valve 39 is turned to the closed position after which the receptacle is removed and the flies destroyed in any convenient manner, as by immersing the receptacle in a liquid. The dead flies may

obviously be removed from the receptacle by merely taking off the lid 48 and dumping the receptacle.

By providing a screen 5 in the bottom of the casing, and supporting the casing slightly above the table or other article upon which it is placed, any sugar which may drop from the apron as the same turns upon the roller 14 will be permitted to pass from the casing instead of accumulating in the bottom thereof and thereby holding the flies within the casing. The transparent plate 12 is important as it serves as a cover for a portion of the apron and its transparent character prevents the flies from noticing that they are being carried therein, so that they make no effort to leave the carrier until they are well within the drum.

My device is obviously simple in its construction and is composed of a few parts which are all of an inexpensive character. The motor may be designed to run for any length of time without rewinding, and, being preferably a spring motor, will not be costly.

The device has proven very efficient in catching flies in large quantities, and requires very little attention after once being baited and set in motion.

The provision of the drum with its series of outlets which may be distributed over its entire surface greatly increases the capacity of the trap whereby it is capable of catching insects very rapidly. The irregular edges on said outlets serve as additional means for preventing the escape of the flies.

Having thus described my invention, what I consider as novel and desire to secure by Letters Patent is:

1. In an insect-trap, the combination with a casing and a carrier therein, of a drum inclosing the inner end of said carrier, a bait chamber arranged in said casing below the outer end of said carrier and separated from the remainder of the casing, and a door for access to said bait chamber.

2. In an insect-trap, the combination of a casing having a raised reticulated bottom, a carrier, means for operating the carrier and a drum within the casing surrounding the inner portion of the carrier and spaced from the same and from the bottom, top and back of the casing, said drum having exits leading therefrom into the casing, said exits being protected against the return of insects through them and arranged at intervals over the entire surface of the drum.

3. In an insect-trap, the combination with a casing, of an endless carrier therein, means

for operating the carrier, and a drum in the casing surrounding the rear bight of the carrier, said drum having exits arranged below, above and in rear of the carrier and leading into the casing, and means for preventing the return of insects through said exits.

4. In an insect-trap, the combination of a casing, a carrier therein, means for operating the carrier, a drum within the casing inclosing the inner portion of the carrier, and a transparent plate supported on the casing above the carrier and adjacent the front portion of the drum and projecting forwardly therefrom.

5. In an insect-trap, the combination with a casing and a carrier therein, of a partition extending upward from the bottom of said casing and terminating close to the under surface of said carrier, and a drum inclosing the inner end of said carrier from a point on its upper surface to said partition, there being passages in the drum which permit egress of insects therefrom into the casing but which prevent the return of the insects through them.

6. In an insect-trap, the combination of a casing having an open front, a carrier mounted in the casing and extending through said open front, means for operating the carrier, a collar upon the top of the casing, a conical tube within said collar, a receptacle removably fitted on the collar, and a conical tube extending through the bottom of the receptacle fitting over the conical tube in said collar.

7. In an insect-trap, the combination with a casing, of a drum therein, a carrier extending into the drum and having its inner portion inclosed thereby, means for operating the carrier, and a removable guard closing an open space provided between said casing and drum for cleaning the interior of the trap.

8. In an insect-trap, the combination with a casing, of a drum therein spaced from the top, back and bottom thereof, and provided with a series of passages for the insects opening into the casing, a receptacle removably supported on the casing and communicating therewith, a carrier extending into the casing and having its inner portion inclosed by said drum, and means for operating the carrier.

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

SAM. KRUEGER.

Witnesses:

F. J. MORGAN,
LOUIS HEIMANN.