

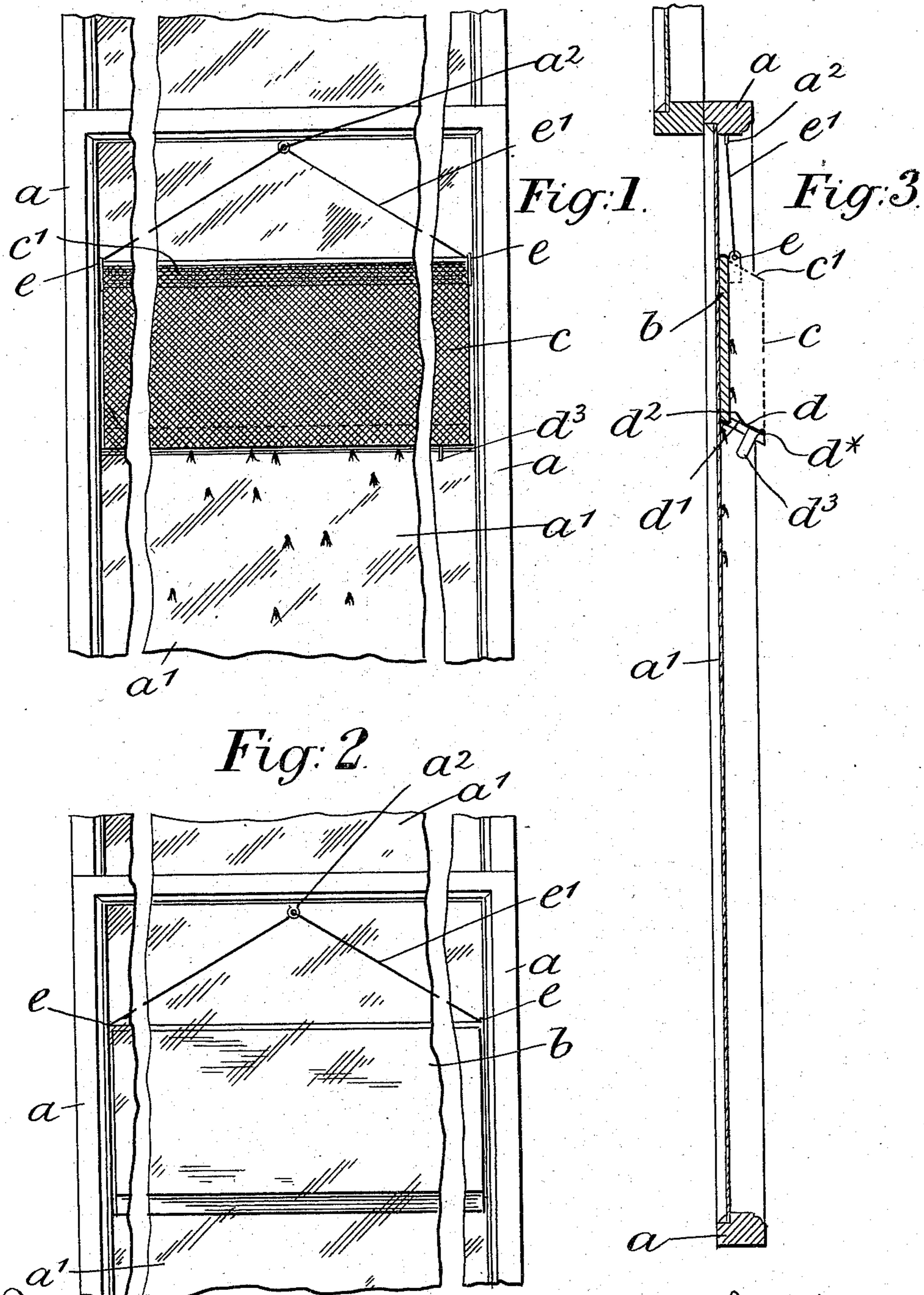
(No Model.)

3 Sheets—Sheet 1.

A. TUFFNELL.  
FLY TRAP.

No. 557,919.

Patented Apr. 7, 1896.



Witnesses.  
Walter E. Allen.  
Edward Q. Knight

Inventor.  
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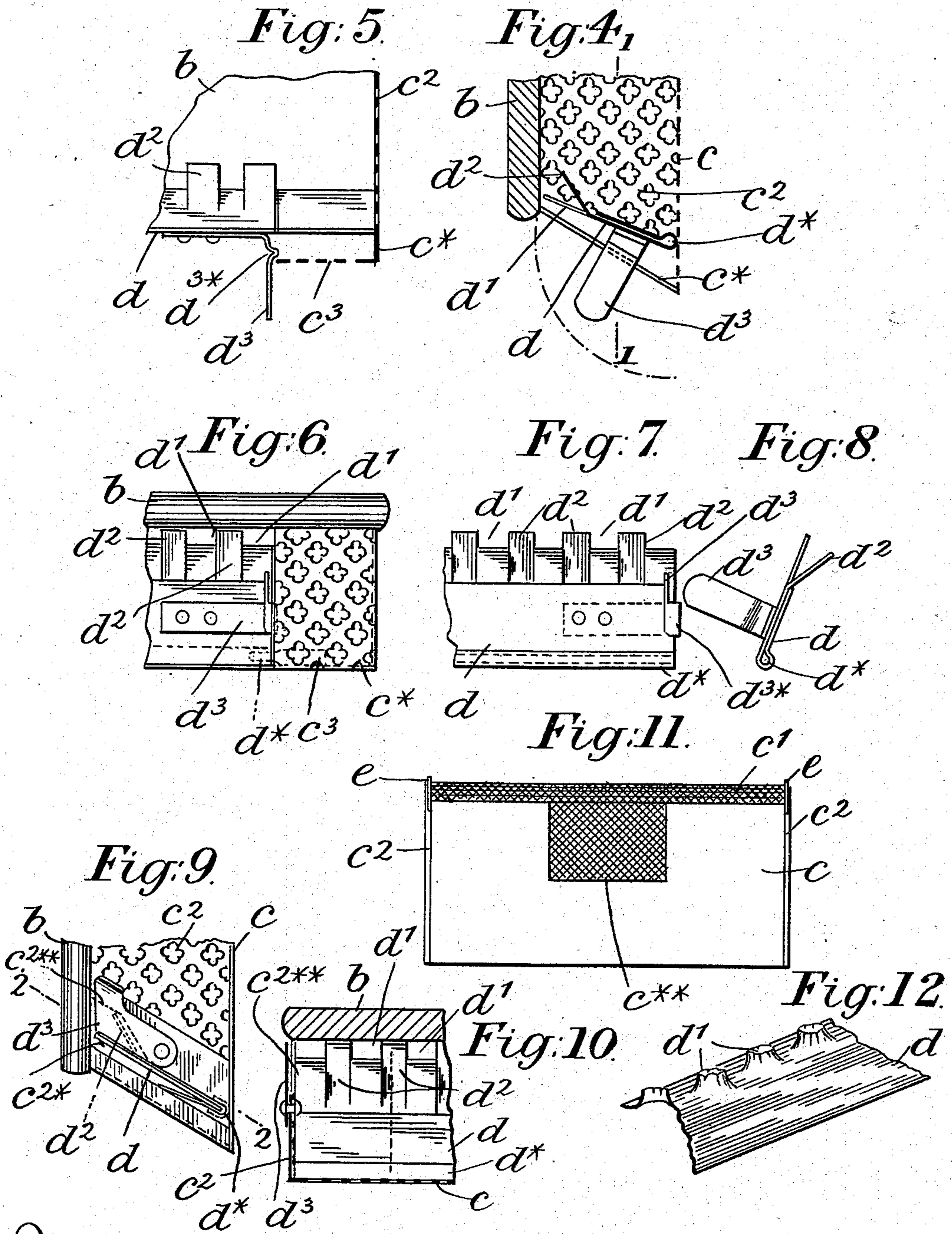
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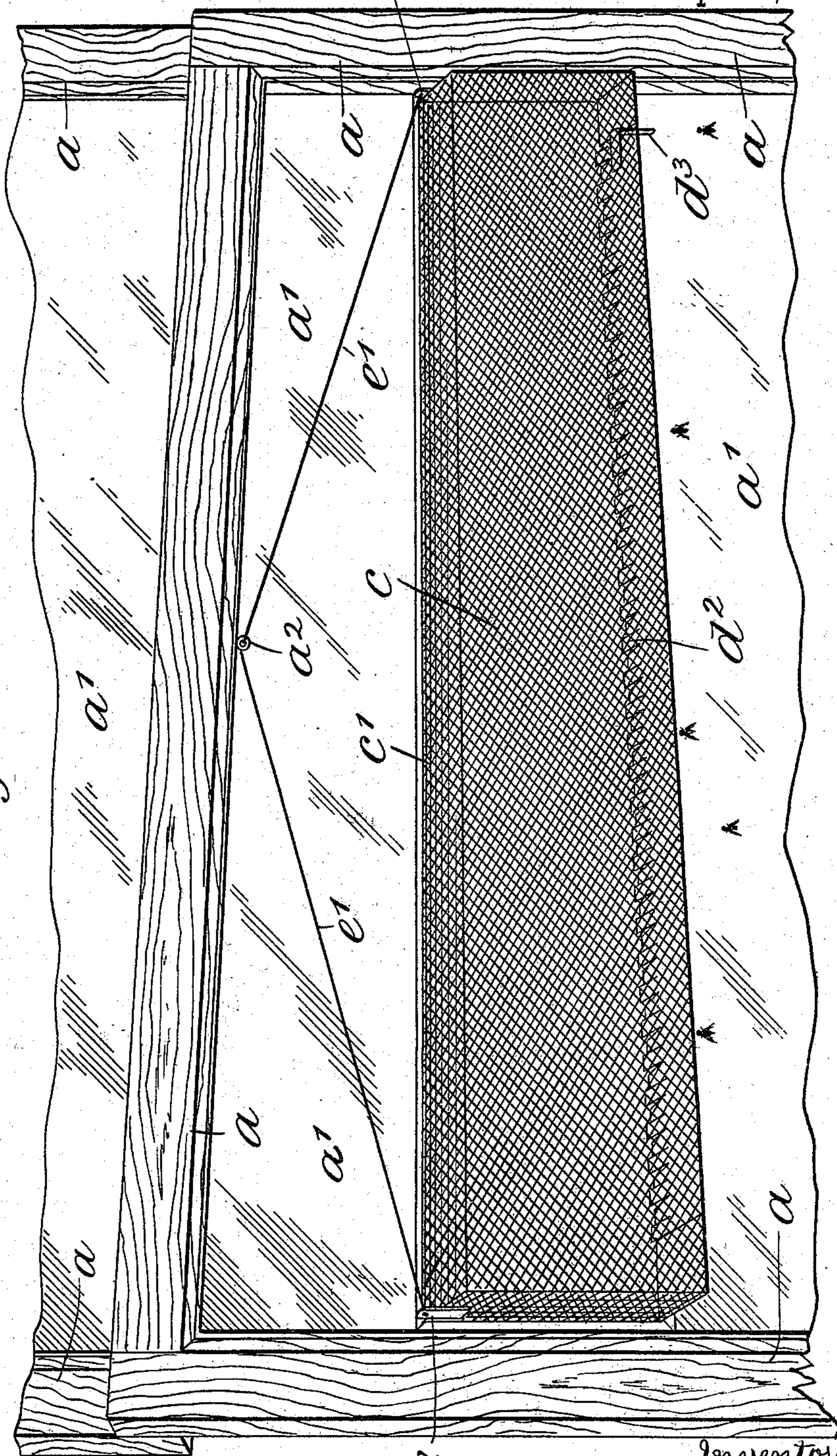
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Fig. 13.



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# UNITED STATES PATENT OFFICE.

ALBERT TUFFNELL, OF CHICAGO, ILLINOIS.

## FLY-TRAP.

SPECIFICATION forming part of Letters Patent No. 557,919, dated April 7, 1896.

Application filed January 12, 1895. Serial No. 534,710. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT TUFFNELL, gentleman, a citizen of the United States, of Manhattan Building, Chicago, Illinois, but at present residing at 122 Alderney Street, South Belgravia, London, in the county of Middlesex, England, have invented certain new and useful Improvements in or Connected with Fly-Traps, of which the following is a specification.

The invention relates to improvements in or connected with fly-traps.

Many devices have been suggested for catching or destroying flies and such as poison-papers moistened with water or papers coated with a sticky substance; but these devices, although to some extent effective, are objectionable for various reasons. For example, the poisoned flies from the former lie about the table and fall into the food, added to which they crawl about in a helpless and unpleasant manner, while the latter device has such an objectionable appearance that it is seldom employed on that account. A further device consists of a bell-like vessel mounted upon feet and provided with a trough of poison or other fluid. But all of these devices are only adapted to be placed in situations where flies are least likely to be attracted.

Now by studying the habits of the fly I have discovered that it is attracted by light, especially daylight, and flies toward the window, and there gradually crawls upward until its progress is arrested by the ceiling or some other obstacle, when it flies away and returns to the window, but in a different position, and again commences its upward movement. Now I have taken advantage of this peculiar habit of the fly to construct my trap in such manner that it can be placed against the window in a suitable position to intercept and capture the fly in its upward movement.

In carrying my invention into effect I form the trap with a solid front or base, which may be of wood, metal, or other suitable material and opaque, or of glass and transparent or semiopaque or translucent, and the back, top, and sides of the cage I form of zinc or the like, perforated in an ornamental manner, or of other perforate material, for the purpose of admitting light to the interior of the cage, or the back may be formed partly of imper-

forate material. The top of the cage I form at a suitable inclination or angle with the front in order to lessen the quantity of metal employed, and thus cheapen the cost of construction, and at the same time give an ornamental appearance to the device, and the bottom of the cage I shape to a corresponding angle with the top; but instead of forming it of perforated or like metal I form it out of tin plate or other material having a bright surface adapted to attract the fly, and I leave the bottom bright on its under side, so that in approaching the trap the fly will be attracted, while I blacken or dull its upper side, so that when trapped the fly will not be attracted in the direction of the ways or inlets. Along its inner edge—that is to say, at its point of junction with the front—I form the bottom with a number of slots or openings constituting ways through which the flies can enter the trap, while the pieces of metal displaced in forming the slots are turned up in the shape of tongues, which project upward in an angular direction and act as detents to prevent the return of the flies through the ways.

The bottom of the trap is formed inclined, and the perforated zinc or the like forming the back and sides of the trap descends a short distance below the bottom, so that immediately the fly in its upward crawl gets above the lower edge of the perforated metal it is virtually confined thereby and by the inclined formation of the bottom and compelled to crawl through one of the ways into the trap above, which he is in no degree reluctant to do, inasmuch as he can see the light above the ways.

The bottom of the trap is hinged to the front or back in such manner that it may be readily opened in order to remove the captured flies when desired.

I find by experiment that a curious feature of this trap is that the flies for some reason that at present I am unable to explain do not live more than a few hours after finding their way into the trap.

The trap is intended to be placed in a window, and for this purpose it is hung from its upper part by means of a wire or cord or a chain, which is attached thereto in such a position that the lower edge of the front by

the weight of the body of the trap will be held close against the glass of the window in a position best suited to intercept the flies crawling thereon.

5 The front of the trap, which, as hereinbefore stated, may be of wood, metal, glass, or other suitable material, if intended for public houses, restaurants, hotels, shops, or other public places has painted or otherwise marked  
10 thereon a name or other advertisement or device, and in some cases the back may be similarly marked.

The trap may be formed of any suitable dimensions, according to the area of the window in which it is to be placed; but in order  
15 to be thoroughly effective it should extend across the window from side to side thereof; but in other respects the dimensions of the trap need only be comparatively small.

20 In order that the said invention may be more clearly understood and readily carried into effect, I will proceed, aided by the accompanying drawings, more fully to describe the same.

25 In the drawings, Figure 1 is an inside elevation of part of a window having suspended therein a fly-trap constructed according to the present invention. Fig. 2 is an outside elevation thereof. Fig. 3 is a vertical transverse section thereof. Fig. 4 is a vertical  
30 transverse section of a portion of the fly-trap separately. Fig. 5 is a vertical longitudinal section taken on the line 1 1 of Fig. 4. Fig. 6 is an under side view thereof. Fig. 7 is an under side view of the bottom of the cage separately. Fig. 8 is an end view thereof. Fig. 9 is a vertical section representing a slight  
35 modification, and Fig. 10 is a section taken on the line 2 2 of Fig. 9. Fig. 11 is a back elevation of a fly-trap, representing a further slight modification; and Fig. 12 is a perspective view, partly in section, of the bottom of the device, representing a modified formation of holes or inlets. Fig. 13 is a perspective  
40 view of the complete device shown and described with respect to Figs. 1 to 8.

45 In the several figures, in which like parts are indicated by similar letters of reference, Figs. 4 to 10 and 12 and 13 are drawn to an increased scale with respect to Figs. 1, 2, 3, and 11.

Referring to Figs. 1 to 8,  $a$  represents the frame of the window-sash, and  $a'$  represents the glass mounted therein, and  $a^2$  represents  
55 an eye or hook from which the fly-trap is suspended, as hereinafter described.

$b$  represents the front or base of the fly-trap, which is formed solid or imperforate and of wood, metal, or other suitable material, and necessarily opaque, or it might be  
60 formed of glass, celluloid, or the like, and transparent or semiopaque or translucent.

The back  $c$ , top  $c'$ , and sides  $c^2$  of the cage are formed of zinc or the like perforated in  
65 an ornamental manner, as represented at Fig. 4, or of other perforate material—such,

for example, as wire-gauze, as represented at Fig. 1—so long as the openings or perforations are of such area that they will admit an efficient supply of light to the interior of  
70 the cage.

The top  $c'$  of the cage is formed at a suitable inclination or angle with the front  $b$ , in order to lessen the quantity of metal employed in the construction of the device, and thus  
75 cheapen the cost of production thereof, while at the same time the inclination of the top  $c'$  gives an ornamental appearance to the device. The bottom  $d$  is shaped or arranged to an angle corresponding with the top  $c'$ , so  
80 that it will act as a well to receive the dead flies; but instead of being constructed of perforated or like metal it is formed of tin, tin-plate, or other suitable material having a bright surface adapted to attract the fly, and  
85 the bottom  $d$  on its under side is left with its bright surface exposed, so that in approaching the trap, as hereinafter explained, the fly will be attracted thereby, while the upper or inner side of the bottom  $d$  is blacked or dulled,  
90 so that when trapped within the cage the fly will not be attracted in the direction of the ways or inlets hereinafter referred to.

Along its inner edge—that is to say, at its point of junction with the front  $b$ —the bottom  
95  $d$  is formed with a number of slots or openings  $d'$ , constituting ways through which the flies can enter the trap, while the pieces of metal  $d^2$  displaced in forming the slots  $d'$  are turned up in the shape of tongues, which  
100 project upward in an angular direction, as shown more particularly at Fig. 4, and act as detents to prevent the return of the flies through the ways  $d'$ .

The perforated zinc or the like forming the  
105 back  $c$  and sides  $c^2$  is caused at  $c^*$  to extend a short distance below the bottom, and the perforated metal is at  $c^3$  continued a short distance underneath the bottom, so that immediately that the fly in its upward crawl  
110 gets above the lower edge of the perforated metal  $c^*$  and the part  $c^3$  it is virtually confined thereby and by the inclined formation of the bottom  $d$  and compelled to crawl through one of the ways  $d'$  into the trap above, which  
115 he is in no degree reluctant to do, inasmuch as he can see the light above the ways  $d'$ , which is admitted into the cage through the perforated material forming the top  $c'$ , back  $c$ , and sides  $c^2$ .

The bottom  $d$  of the trap is hinged to the back  $c$  at  $d^*$ , or it might be hinged to the front  $b$  in such manner that it may be readily  
120 turned upon its hinge in the direction of the dotted lines, as indicated at Fig. 4, in order to open the cage and facilitate the removal of the captured flies, while in order to retain the bottom or door  $d$  in its closed position a spring-catch  $d^3$  is employed, which is fixed  
125 with the bottom  $d$  and formed with a nose  $d^{3*}$  to engage the descending part  $c^3$ , thus holding the bottom  $d$  securely locked in its closed  
130

position until it is desired to open the cage, when by pressing upon the part  $d^3$  the bottom  $d$  may be readily released.

When the cage or trap is formed of considerable length, it is desirable to employ a spring-catch  $d^3$  at each end of the device, as will be readily understood.

The trap is intended to be placed in a window, and for this purpose it is provided at its upper part with ears  $e$ , to which a cord or chain  $e'$  is attached, by the aid of which the device may be suspended from a hook or eye  $a^2$ , fixed with the window-frame, as shown at Figs. 1, 2, and 3, and the ears  $e$  are fixed in such a position with relation to the body of the cage that the lower edge of the front  $b$  by the weight of the body of the trap will be held close against the glass  $a'$  of the window in a position best adapted to intercept the flies crawling thereon.

The front  $b$  of the trap, which, as hereinbefore stated, may be of wood, metal, glass, or other suitable material, if intended for public houses, restaurants, shops, or other public places, may have painted or otherwise marked thereon a name or other advertisement or device, and in some cases the back  $c$  may be similarly marked, as hereinafter described.

The trap may be formed of any suitable dimensions, according to the area of the window in which it is to be placed; but in order to be thoroughly effective it should extend across the window from side to side thereof—that is to say, as far as the sheet of glass is continuous—but in other respects the dimensions of the trap need only be comparatively small.

In the example given at Figs. 9 and 10 the device is substantially the same as that represented in the previous figures; but in this case the bottom or door  $d$ , instead of being hinged to the body of the trap, is formed to slide into position through an opening  $c^{2*}$ , formed in the side  $c^2$ , and in order to hold it in position a trough-shaped guide  $d^*$  is fixed with the back  $c$ , into which one edge of the bottom  $d$  is adapted to slide, the other edge being supported by resting against the front  $b$ , and in order to prevent the bottom  $d$  becoming accidentally detached from the body of the trap a turn-button  $d^3$  is employed, which engages the end of the bottom  $d$  and retains it in its closed position, and the turn-button  $d^3$  at the same time closes an enlarged opening  $c^{2**}$  in the side  $c^2$ , provided to permit the passage of the tongues  $d^2$ .

In the example given at Fig. 11 the back  $c$  of the trap is formed generally of imperforate material, but with an opening therein covered by a sheet of perforated metal  $c^{**}$ , the sides  $c^2$  and top  $c'$  being formed in the manner hereinbefore described with respect to the previous figures, and in this case the back  $c$ , in addition to the front  $b$ , affords a surface

upon which advertisements or announcements may be displayed.

In the example given at Fig. 12 the openings  $d'$  in the bottom  $d$  are formed by piercing or displacing the metal by means of a suitable tool, so that the displaced metal stands up in the interior of the case somewhat in the form of a broken truncated cone, and in this case the tongue  $d^2$  is dispensed with, the displaced metal being sufficient to prevent the escape of the imprisoned flies.

By means of this invention a simple and inexpensive device is provided by the aid of which a room, shop, store, dwelling, or other place may be kept free from flies without any of the unpleasant consequences arising from the employment of less effective devices, such as poison-papers or the like, as hereinbefore set forth.

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

1. A fly-trap constructed to admit light to its interior, shaped to lie close against the glass of a window with an opening provided in the bottom of the cage near to the front edge for the admission of the flies and means for preventing the return of the flies through such openings and means for suspending the device in a window substantially as herein shown and described and for the purpose stated.

2. A fly-trap of substantially the character specified, shaped to lie close against the glass of a window, and having sides descending below the bottom and openings, in the bottom near to the front for the admission of the flies with means for preventing the return of the flies through such openings, substantially as shown and described and for the purpose stated.

3. A fly-trap comprising a cage adapted to lie against the glass of a window, and a bottom inclined downwardly and outwardly in a direction away from the window with openings provided therein near its upper edge, adjacent to the window for the admission of the flies, and means for preventing the return of the flies, substantially as herein shown and described and for the purpose stated.

4. A fly-trap comprising a cage formed to admit light to the interior and at the front shaped to lie close against the glass of a window, a number of openings in the bottom near to the front for the admission of the flies a tongue overhanging each opening in order to prevent the return of the flies and means for suspending the device in a window substantially as herein shown and described and for the purpose stated.

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