

K. HAWKINS.
 4-WAY BEE ESCAPE.
 APPLICATION FILED MAY 23, 1921.

1,414,696.

Patented May 2, 1922.

Fig. 1.

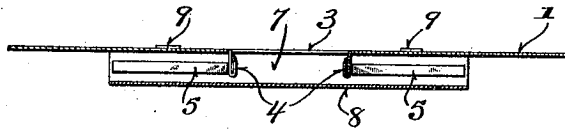


Fig. 2.

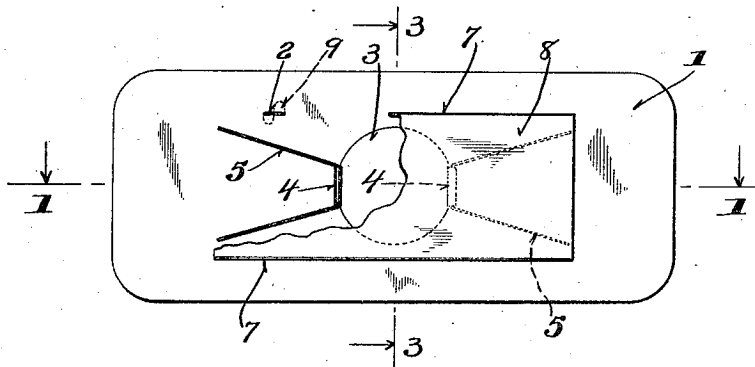
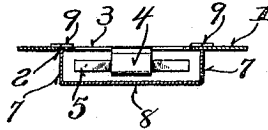


Fig. 3.



Witness:
 Robert E. Weber

Inventor:
 Kenneth Hawkins
 Young & Young
 Attorneys

UNITED STATES PATENT OFFICE.

KENNITH HAWKINS, OF WATERTOWN, WISCONSIN, ASSIGNOR TO G. B. LEWIS COMPANY, OF WATERTOWN, WISCONSIN.

4-WAY BEE ESCAPE.

1,414,696.

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To all whom it may concern:

Be it known that I, KENNITH HAWKINS, a citizen of the United States, and resident of Watertown, in the county of Jefferson and State of Wisconsin, have invented certain new and useful Improvements in 4-Way Bee Escapes; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention refers to 4-way bee escapes, particularly of that type such as disclosed in my application for Patent, filed June 29th, 1920, Serial No. 392658.

The object of my present invention is to simplify the construction of 4-way bee escapes, whereby the cost of manufacture is cheapened, and to also produce a device wherein accuracy as to dimensions of the escape openings is assured.

Specific objects of my invention are:

To provide an apertured base plate, the walls of the aperture being formed with integral clips.

To form the clips of a width equal to the width of apex sections constituting the central portions of V-shaped spring members, which form yieldable walls of the bee escapes, such construction rendering the positioning of the free ends of the springs accurately with relation to the fixed walls of a runway housing.

To dispense with soldering of the separable parts, whereby they may be cheaply and accurately assembled by positive clincher connections.

With the above and other minor objects in view, the invention consists in certain peculiarities of construction and combination of parts, as are hereinafter set forth with reference to the accompanying drawings and subsequently claimed.

In the drawings:

Figure 1 represents a longitudinal sectional elevation of a bee escape embodying the features of my invention.

Figure 2 is a bottom plan view, with parts broken away and other parts in section to more clearly illustrate structural features, and

Figure 3 is a cross section of the same, the section being indicated by line 3-3 of Figure 2.

Referring by character to the drawings, 1 represents a flat rectangular base plate having sets of elongated perforations 2 and

a central circular ingress opening 3. The walls of this opening, upon opposite sides, and longitudinally of the plate, are stamped out to form clips 4, which clips are folded upon themselves to firmly grip flat apex stretches 5 of V-shaped springs whereby the spring members are assembled. Owing to the fact that the flat stretches of the spring are the same width as the clips, they will be accurately centered with relation to the side walls 7 of a runway housing.

The runway housing is formed from a single blank, with its edges folded upwardly to develop the side wall 7. The bottom 8, which connects the side walls, forms the floor of an otherwise open ended runway housing. The flanged edges of the runway housing have integral clincher burrs 9 extending upwardly therefrom, which clincher burrs are adapted to enter the perforations 2 of the base plate. The said burrs are divided and folded over the upper surface of the base plate in opposite directions to thus firmly rivet the housing in accurate position with relation to the yieldable ends of the V-shaped springs, whereby said yieldable ends, in connection with the walls, form choked entrance throats of four runways, whereby the bees entering the base plate opening will travel toward the ends of the restricted throats, the ends will yield and expand so that the bees cannot return.

It is understood that the legs of the springs will divide the depth of the runway in such manner that bees cannot climb over or under said springs in their travel to the discharge ends of said housing. Thus it will be seen that a simple and accurate device is produced, whereby the parts, when assembled, do not require any soldering, and owing to the interlocking assemblage of the various parts, they will come together accurately so as to develop the proper dimensions of runway throats in connection with the ends of the springs and side walls of the housing.

I claim:

1. A 4-way bee escape comprising a centrally apertured base plate, looped clips constituting part of the base plate and extending from the edge walls of the aperture, a V-shaped spring having a flat apex stretch engageable with the looped clips, whereby the springs are rigidly held, an open ended

runway having side flanges attached to the base plate, the side walls of the runway in connection with the free ends of the springs forming choked entrance passages.

- 5 2. A 4-way bee escape comprising a centrally apertured base plate, the edges of the aperture being extended at two points to form foldable clips, the said base plate being provided with sets of aligned perforations, V-shaped springs having flat apex
10 stretches fitted into the clips, whereby they are secured, and an open ended runway having flanges terminating with clincher burrs engageable with the base plate perforations,
15 the side flanges of the housing forming restricted throats in connection with the free ends of the springs.

3. A 4-way bee escape consisting of a base plate made of one thickness of metal

having a central aperture, a pair of metallic 20 strips adjacent said aperture integral with said base plate and directed at right angles thereto then bent and extending back substantially at right angles to the base plate and forming a pair of loops, a pair of V- 25 shaped springs, each having a flat apex strip engaged in said loops whereby the springs are rigidly held, an open ended run-way having elongated straight side flanges attached to said base plate, the side flanges 30 of the run-way in connection with the four free ends of the springs forming four choked passages.

In testimony that I claim the foregoing I have hereunto set my hand at Watertown, 35 in the county of Jefferson and State of Wisconsin.

KENNETH HAWKINS.