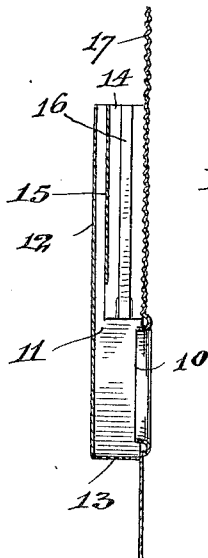
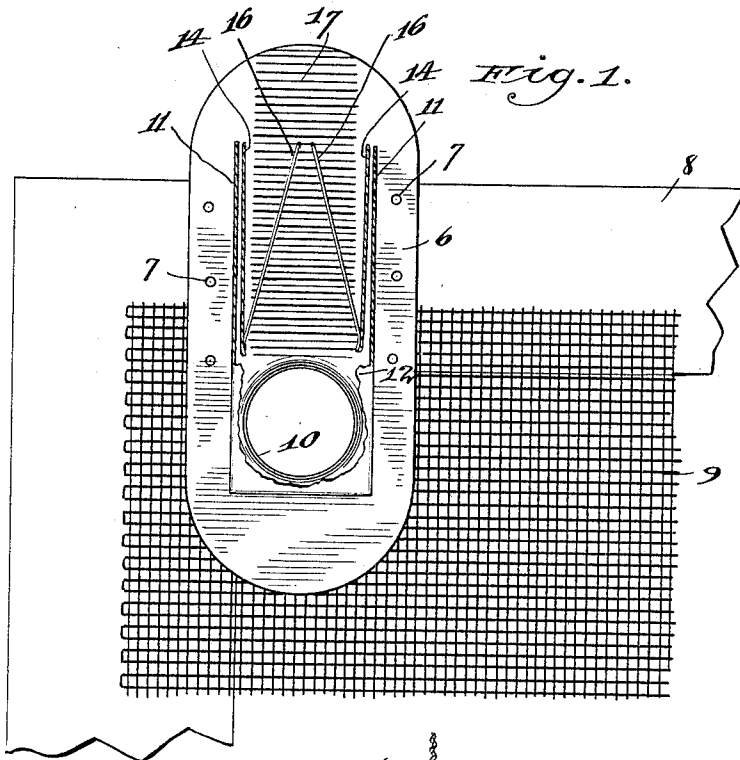


H. D. ROGERS.
 BEE ESCAPE.
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1,089,157.

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UNITED STATES PATENT OFFICE.

HERBERT D. ROGERS, OF LEWISTOWN, ILLINOIS.

BEE-ESCAPE.

1,089,157.

Specification of Letters Patent.

Patented Mar. 3, 1914.

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To all whom it may concern:

Be it known that I, HERBERT D. ROGERS, a citizen of the United States, residing at Lewistown, in the county of Fulton and State of Illinois, have invented certain new and useful Improvements in Bee-Escapes, of which the following is a specification.

My invention may be considered as an improvement over the construction and arrangement shown in Patent No. 489,754, of January 10th, 1893, to Rufus Porter.

The principal object of my invention is to provide a bee escape wherein the bees may pass rapidly from the inlet opening to the outlet opening.

Bee escapes of the character to which my invention relates generally consist of metal, such as tin, and are provided with spring escape members so that the bees not only have to travel along the smooth metal surface leading to the outlet opening, but also have to use some little force to spread the escapement members. The smooth metal surface affords an insufficient foothold for a bee and this is particularly true when the bee escape is so disposed as to bring the runway into a vertical position.

The anatomy of a bee's foot makes it not only necessary but highly desirable to provide means for aiding the bees to pass rapidly through the runway. The foot of a bee is composed primarily of two organs. For moving over rough surfaces bees use their claws which, by reason of the sharp tips, are able to enter the smallest depressions so as to obtain an exceedingly firm foothold. Since the claws would slip on smooth surfaces another organ of fixation is provided which is situated between the claws and is called the pulvillus. The pulvillus is a fleshy lobule which is almost smooth on its under surface and gives out a glutinous secretion causing it to adhere to a smooth surface. When not in use the pulvillus is folded up and stands above the claws. Within the pulvillus there is an elastic rod so that when this is brought down the pressure expands the pulvillus and spreads it over the smooth surface, the secretion and pressure on the outside causing it to adhere. This secretion, which is oily in its nature, dries slowly so that bees cannot, therefore, walk with rapidity upon any smooth or moist surface where their claws cannot take hold. On the other hand, the claws have no foothold upon a smooth surface and, conse-

quently, the progress of a bee through a metal bee escape or one composed of other material that is smooth, is necessarily slow. My invention, therefore, resides in providing a bee escape with a suitable surface affording a firm foothold for both the organs of fixation in the foot of a bee and primarily adapted for the claw.

My invention will be more clearly understood by referring to the specification and the accompanying drawing in which,

Figure 1 is a plan view of my improved escape showing it applied to a compartment from which the bees are to be removed; Fig. 2 is a longitudinal sectional view of my improved escape.

Referring now more particularly to the drawing, the escape comprises a base 6 preferably made of metal, such as tin, and provided with marginal openings 7 for enabling it to be secured to the walls 8 or wire screening 9, or other parts of a compartment in various positions. The base 6 is provided with an inlet opening 10. Arranged longitudinally upon the base is an inclosure frame consisting of side walls 11, top 12, and rear end piece 13 which may be secured to the base by soldering or otherwise, leaving one end open so as to provide an outlet opening. Within the inclosure frame is a U-shaped guide frame consisting of side walls 14 and a top 15, the side walls being secured to the base, the base forming the floor or run-way for the guideframe. The escapement members 16 in the form of very light springs are secured at their inner ends to the opposite walls 14 by soldering or otherwise, and the free ends of the escapement members come quite close together at the outer end of the guide frame so that the bees in passing from the inlet opening 10 through the guide frame must push the springs apart, but intruding bees cannot enter between the springs in an opposite direction.

The particular feature of my invention resides in providing a suitably roughened or corrugated surface upon the floor or run-way of the frame. In the construction shown I form ribs or corrugations 17 on the base 6 which ribs or corrugations may extend only from the inlet end to the outlet end of the guide frame or may be continued to the end of the base 6 as desired. These corrugations provide adequate and efficient foothold for the bees.

Having thus described my invention, I claim as follows:

1. A bee escape comprising a base adapted to be secured to a support and having an inlet opening therethrough, a guide frame extending from said inlet opening toward the end of the base and comprising a top wall and side walls, the side walls being secured to the base and the base forming the floor of said guide frame, elastic escapement members secured to the inner ends of said side walls and approaching each other adjacent the outer ends of said walls, and ribs or corrugations formed in the base to provide adequate foot hold for bees passing through said guide frame.
2. A bee escape comprising a base having an inlet opening at one end and having a section extending from the opening to the end thereof corrugated or ribbed, a U-shaped guideframe applied adjacent the inlet opening and over the corrugated section

and with its longitudinal edges secured to the base, and escapement members extending into said frame, said corrugated section providing adequate foot hold for bees passing through said frame.

3. A bee escape comprising a sheet metal base adapted to be secured to a support and having inlet opening through one end thereof, a longitudinal section of said base from said inlet opening to the end thereof being corrugated or ribbed, an inclosing frame secured to said base to bridge over said inlet opening and corrugated section, said corrugated section forming the floor giving adequate foot hold to bees passing through said frame from the inlet opening to the end thereof.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."