

G. Calvert

Bee Hive

N^o 91,712.

Patented Jan. 22, 1869.

Fig. 1

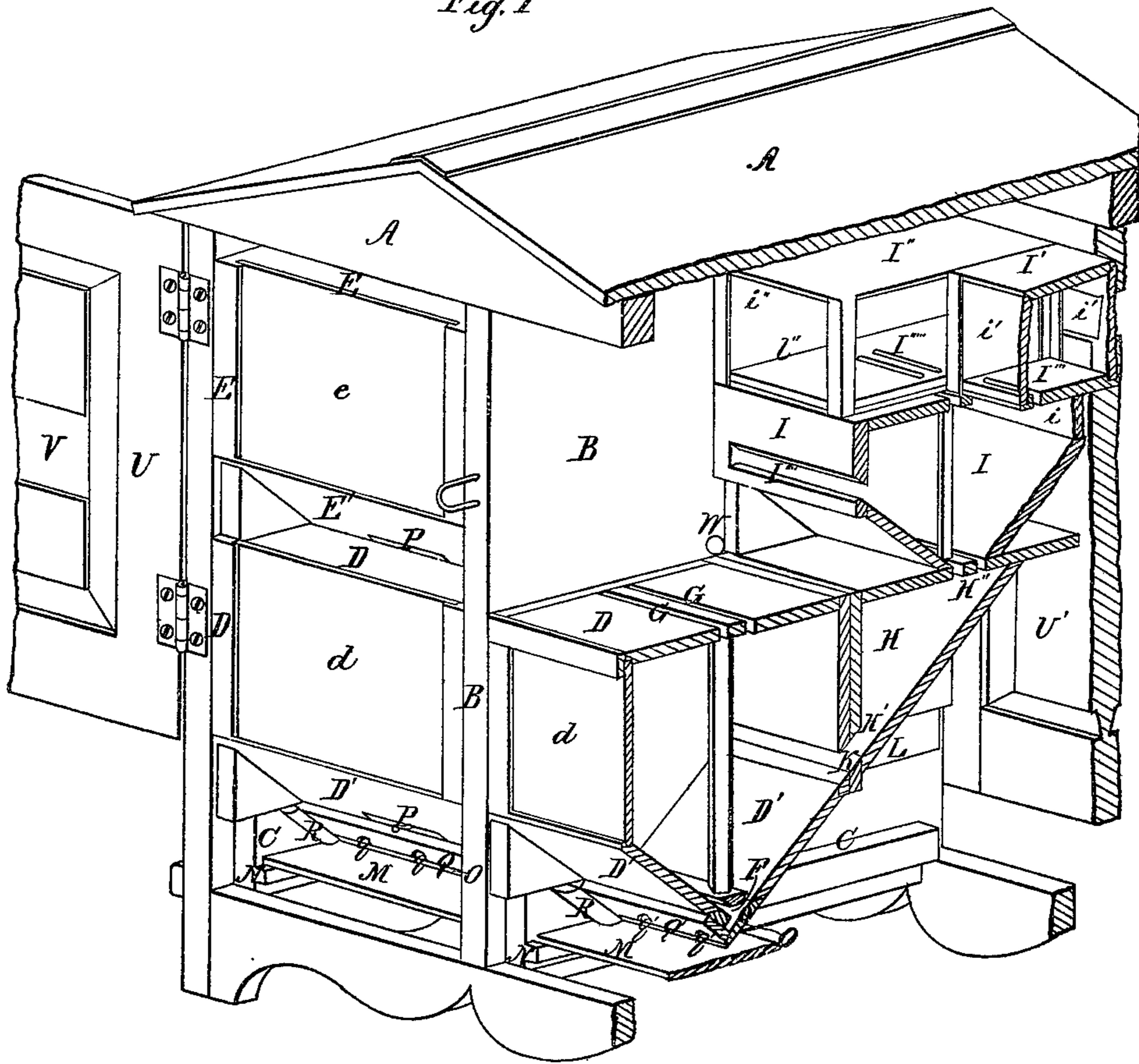
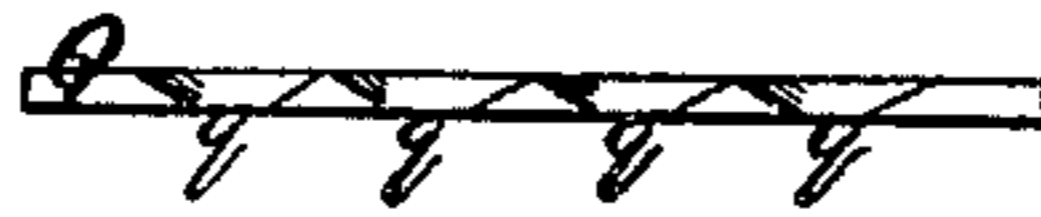


Fig. 5



Witnesses
 Wm. H. Breerton Jr
 J. E. Ewing

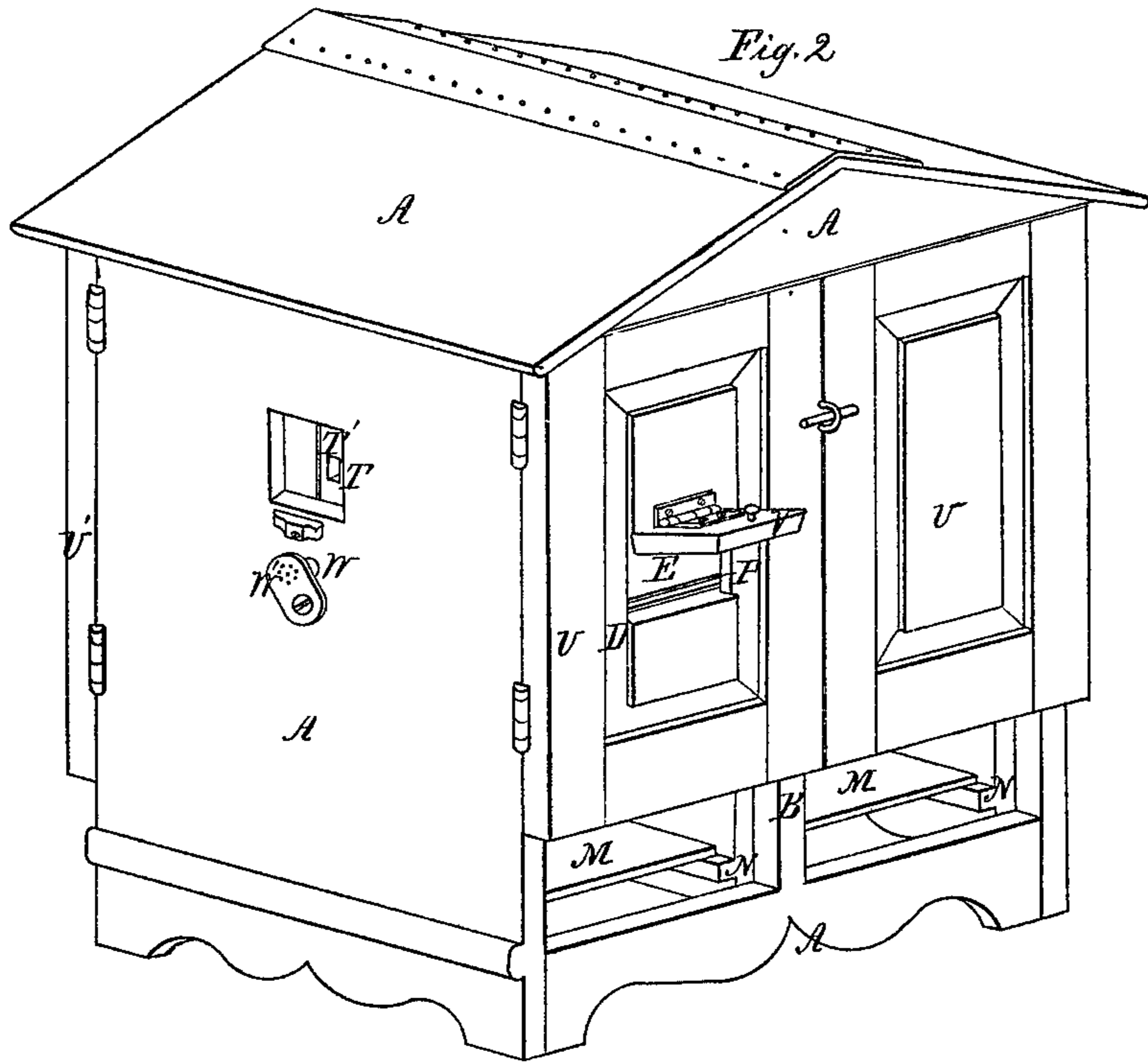
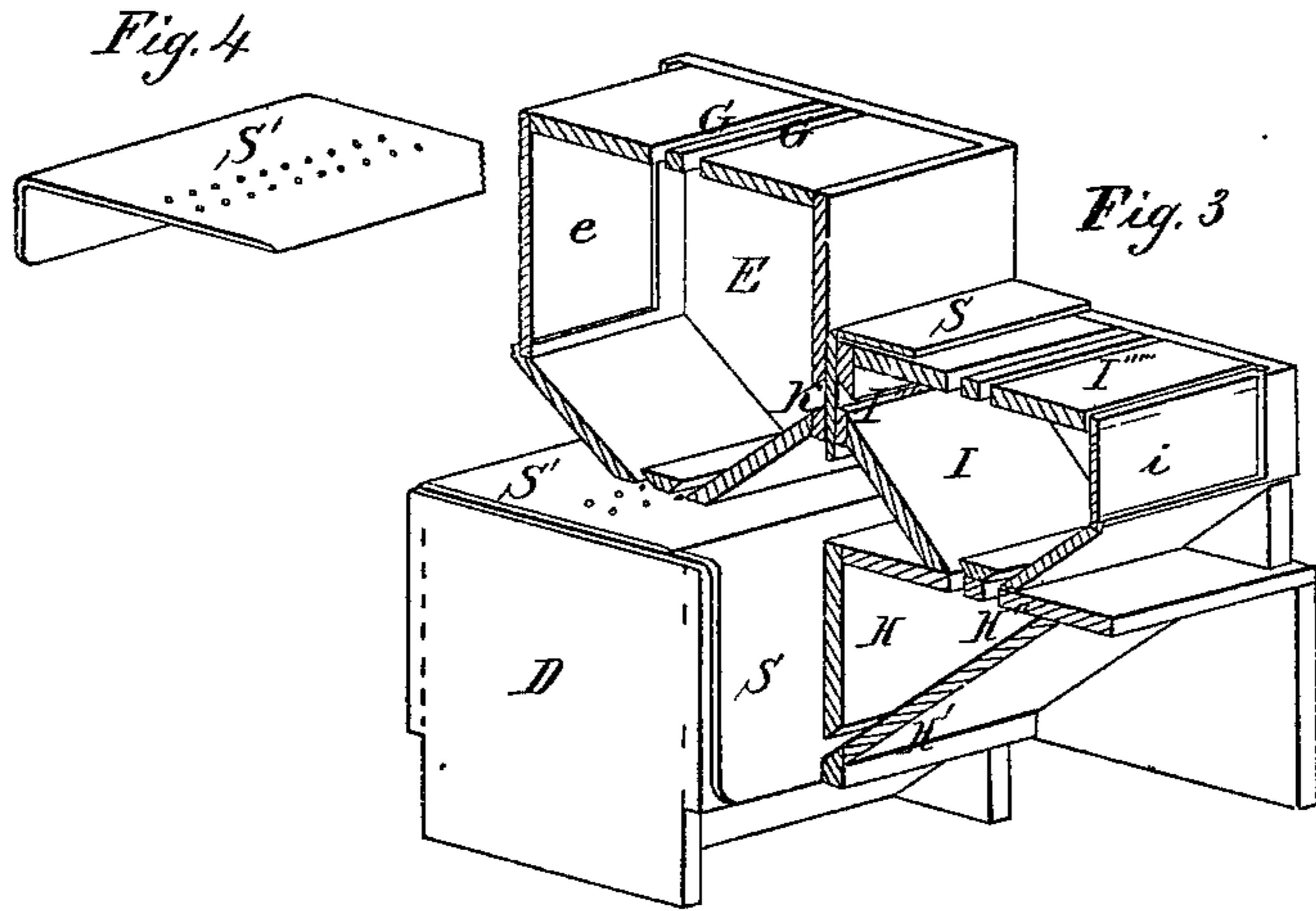
Inventor
 Geo Calvert
 by Knights & Co
 Attorneys

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 Wm. H. Brewster Jr.
 J. E. Ewin

Inventor
 Geo. Calvert
 by Knight & Co.
 Attorneys

United States Patent Office.

GEORGE CALVERT, OF UPPERVILLE, VIRGINIA.

Letters Patent No. 91,712, dated June 22, 1869.

IMPROVEMENT IN BEE-HIVES

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE CALVERT, of Upperville, in the county of Fauquier, and State of Virginia, have invented certain new and useful Improvements in Bee-Houses; and I do hereby declare the following to be a sufficiently full, clear, and exact description thereof to enable those skilled in the art to which my said invention appertains, to manufacture and use the same, reference being had to the accompanying drawings, making part of this specification.

My improvements relate primarily to the bee-house for which Letters Patent of the United States were granted me, November 1, A. D. 1853.

The object of my invention is to produce a perfect alternating and brood-uniting bee-house, or palace, adapted for self-protection and automatic cleansing, for taking the honey in the most safe and convenient manner, without injury to the bees, and to provide suitable internal and external ventilation of the hives and honey-boxes, as required.

My improvement consists in certain novel constructions, combinations, and arrangements of parts hereinafter set forth.

In the drawings—

Figure 1 is a sectional perspective view of my improved bee-house, with the front doors open, and one of the hives removed.

Figure 2 is an external perspective view, taken from a different stand-point from fig. 1.

Figure 3 is a sectional perspective view of a number of adjoining and communicating hives removed, and viewed from still another different stand-point.

Figure 4 is a perspective view of one of a number of similar-perforated slides employed in uniting swarms.

Figure 5 is an edge view of one of a graduated series of entrance-protectors and heat-regulators, employed at each entrance to the hives.

A A, figs. 1 and 2, represent different parts of a house, of suitable material, form, and dimensions, for the reception and protection from the weather of the hives, and provided with the customary doors, U U, U' U', front and back, for access to its interior. It is constructed without floor, and is divided by a central vertical partition, B, parallel with its sides, into two compartments, for the reception of two similar series, or nests of hives, hereinafter described, being further provided with suitably-located cleats, or sills, C L, for the support of the different hives.

O O represent entrances, or cut-offs, suitably secured between the partition B and the sides of the house, with their upper surfaces on a level with that of the lower cleats C, as represented in fig. 1. They are of V-form, in cross section, as shown in said figure, and are provided with suitable passages, F, for the bees to pass in and out through, for the discharge of refuse or litter, and for the entrance of air to the interior of the hives.

D E, D E represent pairs or vertical series of hives, of precisely similar size and form, designed for use, the lower ones as brood-hives, and the upper as store-hives, their similar size and form adapting them to be alternated when desired or required, or for uniting swarms, as hereinafter more particularly described; being further separately adapted to be withdrawn for taking the honey, or for other purposes.

These hives are all supported on the cleats C, the lower ones resting directly thereon, and the others on top of them, and occupy, preferably, the immediate front of the house, the entrances, or cut-offs O being arranged centrally beneath them, as shown. They are each constructed with bottoms, D' E', representing two inclined planes, sloping to or toward the centre, where a space of sufficient size is left, extending from side to side, for the passage of the bees, said openings being adapted to register with those, F, of the entrances, or cut-offs O, as shown at D, in fig. 1, when in the lower position. They are further provided, in their tops, with a pair of suitable openings, G, adapted to register, when below, with the openings in the bottoms of the ones placed above them, to form a passage for the bees between them, and for the discharge of the refuse or litter from the upper hives; and when above, to afford means for introducing sirup for the bees to feed on, when it is desired to unite the swarms, as hereinafter set forth, or at other times, if required. They have, further, in their backs, openings, K, to afford communication between them and the store-hives and honey-boxes in the rear.

H H are store-hives, or boxes, arranged in rear of the lower hives D E, and supported on the elevated cleats L, they having inclined bottoms, registering with the rear parts of the bottoms of the lower ones of said hives, and openings H', immediately above their bottoms, registering with the openings K of said hives, as shown, to allow the bees to pass back and forth between them. Their tops are on a level with the tops of said front hives, and are provided with openings, H'', similar to those, G, in the tops of said hives, for the passage of bees, to hives and boxes for virgin-honey, above, said hives, or boxes H forming passages, or ante-rooms thereto. Their primary object, however, is to contain a stock of honey for the use of the bees in winter.

I I are hives, constructed similarly to the hives D E, and similarly perforated, and supported on the store-hives H, communicating therewith, by means of the openings H'', with honey-boxes I' I', by means of openings I''' I''', and with the upper ones of said hives D E by means of openings I''''.

The hives D E, I, and boxes I' I', may be made with glass fronts, *d e i i'*, or the boxes with sides and ends of glass, as shown.

It will be seen, by reference to fig. 1, that the bees, entering the hives through the entrances, or cut-offs

O by means of the passages G K H' H" I' I" I"', may find access unto all the hives and honey-boxes.

To isolate, or separate the hives to any desired extent, I employ slides, S S', of tin or other thin sheet-metal, by placing which between the hives, or boxes which it is desired to separate, as shown in fig. 3, the passages between said hives, or boxes may be readily closed.

P P, fig. 1, represent openings provided in the fronts of the hives D E, to afford an additional means of ingress and egress for the bees when said hives are in their upper position, and closed, when not required, by means of suitable slides, as shown.

V is an opening provided in the door of the house, opposite the entrance P of the upper hive, for the passage of the bees to and from the upper hive, by that source, being likewise adapted to be closed by a suitable door when not required. The object of this provision is to obviate the necessity of the bees passing through the lower hives to reach the upper, when that is used as a store-hive, and also to afford convenient means for supplying the bees with food, out of the reach of robbers. It is shown applied to the hives on the left-hand side of the partition B only, but is intended to be applied to both alike.

T represents an opening provided in the side of the hive, in such position as to correspond with openings T' in the sides of the hives D E, when they are in the position of E, and employed as store-hives, so that the bees will vacate the hive when it is desired to take the honey, being closed at other times by means of a suitable door. This provision also is shown on but one side of the house, but is, like that last described, designed to be employed on both sides.

W W represent ventilating openings, formed in the sides and partition of the house, for the passage of air to the space between the tops of the lower hives and the backs of the inclined bottoms of the upper hives, for the purpose of preventing the honey from melting down in hot weather, those parts of said hives, where melting would be most likely otherwise to occur, being thus kept sufficiently cool to effectually prevent it.

The outer ones of the openings W are covered by perforated slides W', to prevent insects from entering. By turning the slide W' aside, the openings may be perfectly closed when required, as in cold weather.

Q Q represent slides employed to regulate the entrance of air through the passages F of the entrances or cut-offs O, to increase or lower the temperature of the hives, and to vary the area of passage, as required, being held between the inclined fronts of said entrances or cut-offs, and parallel cleats R.

These slides are constructed as represented in figs. 1 and 5, with a number (preferably four) of notches q q', the partitions between which are bevelled off from the inner side to points as represented in said latter figure, so as to present no obstruction to the passage of refuse or litter thereby.

I employ three of these slides for each entrance, having notches of varying area.

Thus the notches of one may be one-half inch in diameter, of another three-fourths of an inch, and of another one inch in diameter.

The primary objects or uses of these slides are to so contract the entrance as to enable the bees to rapidly raise the temperature of the hive to the necessary height to cause the wax to stick, which they could not otherwise do, to regulate the temperature of the hives, and to facilitate the expulsion of intruders, or "robber bees."

For the first and last purposes, I employ the slide having the smallest area of passage; in the former case to limit the entrance of air, and in the latter case

to decrease to the minimum the area of passage to defend.

For the purpose of ordinary ventilation, I employ, as indicated, one or the other of the slides, as the size or character of the swarm, the climate, season, or weather may require. To entirely close the entrances for any purpose, I simply insert the slides in an inverted position.

M are alighting-boards, which are supported on cleats N, below the entrances or cut-offs O.

In the use of my improved house, when it is desired to take the honey in the honey-boxes, the passages to them can be closed, and they be readily withdrawn through the doors U'.

The honey in the hives I may be secured in similar manner.

To take the honey in the upper ones of the hives D E, the entrances thereto are closed, and the doors T', in the sides of the house, opened, on the disclosure of which unusual means of egress the bees will readily and quickly vacate, when they may be withdrawn through the doors U without danger or trouble. I am thus enabled to obviate the necessity of the employment of any means of expulsion, which always results in injury to the bees and honey.

To keep separate colonies or swarms in the hives D and E, the passages between them are closed by slides S and the entrances P to the upper hives, and the doors V opened, when the bees will pass in and out through those passages, those for the lower hives passing through the main entrances.

To unite two swarms respectively in D and E of one of the series of the house, a perforated slide, S', is placed between said hives, as represented in fig. 3, so that the smell of the swarm underneath may ascend into the hive above.

The swarm above becoming accustomed to that, the slide S is removed, and the swarms allowed to unite.

The perforated slide S' may be further used to more perfectly and expeditiously effect this object, by placing one of them over the openings G in the upper hive E, and introducing through it scented sirup, which, passing through both hives, and the bees in each feeding thereon, their scent will become assimilated, and their union thus rendered safe, certain, and easy.

To alternate the hives D E, they are taken at a suitable time, their openings temporarily closed, and they are then changed, the lower one being withdrawn, the upper let down on to the cleats C, and the ones that were before below them slid in on top of the others. The stoppages then being removed, the queen will descend into the lower, and make that her brood-hive as soon as the bees have constructed the comb in it. New hives may thus also readily be substituted for either.

The precise number of hives and boxes shown, and their several capacity, may be varied as desired, as may also obviously the angle of inclination of their bottoms, their relative proportions, and other unessential features of construction shown.

Having thus described my invention,

The following is what I claim as new therein, and desire to secure by Letters Patent—

1. I claim the entrances or cut-offs O, constructed substantially as described, in combination with two or more alternating hives, substantially as and for the purpose set forth.

2. I claim the hives D E, alternating and connecting with each other, as described, constructed and arranged substantially as and for the purposes set forth.

3. I claim the combination of the front and rear hives D H, each with the other, and both with the

other parts of the bee-house, all constructed and arranged substantially as and for the purposes set forth.

4. I claim the store or supply-boxes H, constructed and arranged substantially as and for the purposes set forth.

5. I claim the combined arrangement, in a bee-house, of the hives D E H I, and honey-boxes I' I", provided with connecting-passages G K H' H" I''' I'''' I''''', and adapted to be isolated, when desired, by means of slides S S', substantially as herein represented and described, for the purposes set forth.

6. In combination with the hives D E H I, con-

structed and arranged substantially as herein described, I claim the ventilator W, arranged relatively to said hives as represented and described, for the purpose set forth.

7. I claim the slides Q, constructed with inwardly flaring passages q q, and employed and operating substantially in the manner described, for the purposes set forth.

GEORGE CALVERT.

Witnesses:

WM. H. BRERETON, Jr.

J. L. EWING.