

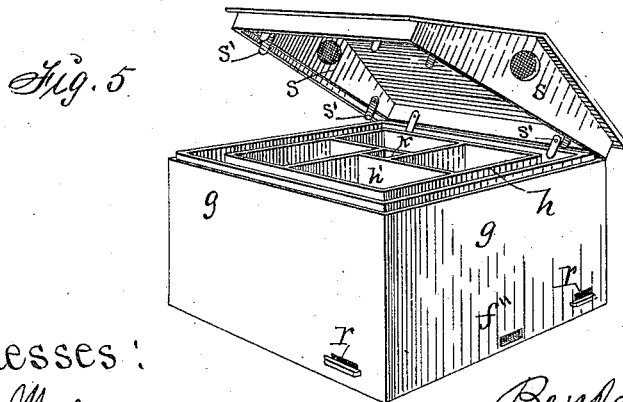
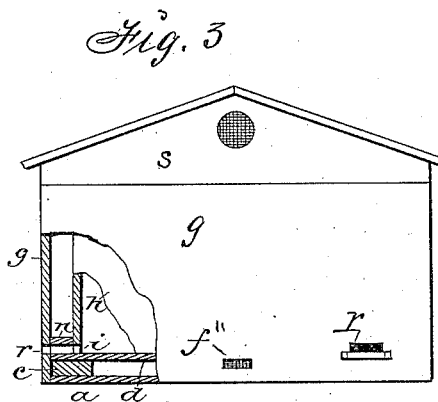
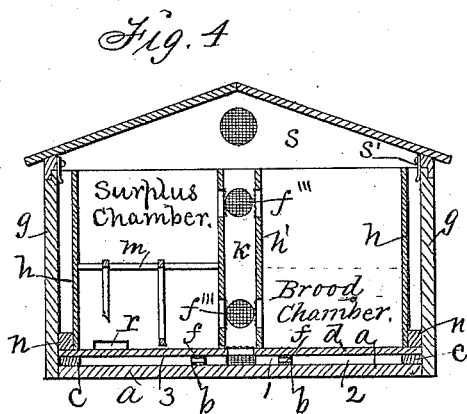
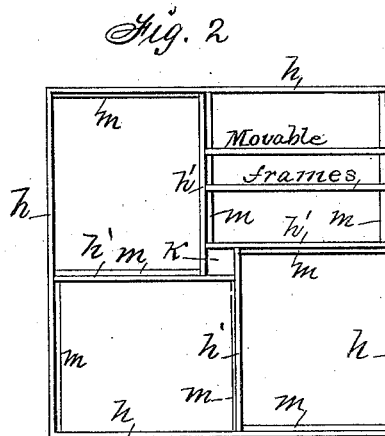
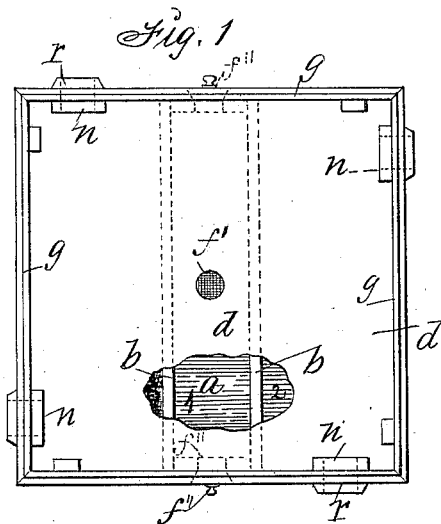
(No Model.)

B. FRANKLIN.

BEE HIVE.

No. 302,834.

Patented July 29, 1884.



Witnesses:
Arva C. Moore.
W. A. Anderson.

Inventor:
Benjamin Franklin,
By Thomas G. Orwig, Atty.

UNITED STATES PATENT OFFICE.

BENJAMIN FRANKLIN, OF BOONESBOROUGH, IOWA.

BEE-HIVE.

SPECIFICATION forming part of Letters Patent No. 302,834, dated July 29, 1884.

Application filed December 31, 1883. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN FRANKLIN, of Boonesborough, in the county of Boone and State of Iowa, have invented an Improved Bee-Hive, of which the following is a specification.

My invention is an improved quadruple double-walled hive constructed, as hereinafter fully set forth, in such a manner as to be adapted to contain four colonies separate and distinct from each other, well ventilated at all times by a central chamber or flue, to keep the bees cool in summer and warm in winter, and to utilize the animal heat of the distinct colonies to aid in mutually protecting each other from frost, and also adapted to facilitate the labor and diminish the care and expense of keeping bees, and the loss incident to wintering them outdoors.

Heretofore double bottoms, double walls, and central vertical ventilating-flues have been used in quadruple bee-hives; but my manner of constructing a double bottom having a transverse air-passage and air-chambers at its side, and my manner of constructing and combining separable walls and four distinct chambers, and a central ventilating-flue that can be jointly moved and adjusted relative to the bottom and outside wall is greatly advantageous.

Figure 1 of my accompanying drawings is a top view of the outside wall of my hive, fixed to a double bottom having ventilating-chambers and air-passages. Fig. 2 is a top view of my inside frame and division-walls, that produce four distinct chambers of uniform size, and a ventilating-chamber in the center. Fig. 3 is an end view of my complete hive. Fig. 4 is a transverse central section. Fig. 5 is a perspective view. Jointly considered, these figures clearly illustrate the construction and operation of my complete invention.

a is the base-board. *b b* are wooden strips fixed on top of the board *a* in parallel position, and on opposite sides of its center. *c c* are corresponding strips, fixed around the edges and upon the top side of the board *a*, and *d* is a board corresponding in size with the base *a*, fixed on top of the strips *b* and *c*. A double bottom is thus produced, and a transverse air-passage, No. 1, between the strips *b*,

as shown in Fig. 1, and dead-air spaces 2 and 3 on the opposite sides of the passage.

f f are air-ports in the strips *b*, covered with wire-gauze, to connect the spaces 2 and 3 with the passage No. 1, as shown in Fig. 4.

f' is a corresponding air-port in the center of the board *d*. The boards *a* and *d* may be formed of sections jointed together, and vary in size, as desired, and the chambers or dead-air spaces between them may be filled with chaff or other suitable material. The outside wall, *g*, of the hive is tightly joined at its corners and fixed to the edge of the double bottom, at its lower edge, by nailing, or in any suitable way, and its top edge rabbeted to receive a tight-fitting cover.

f'' are air-ports formed in the wall *g*, to admit air into the passage No. 1 and chambers 2 and 3, whenever desired. To close them I simply insert plugs or blocks.

The four uniform sides *h* of my inside frame are tightly joined at the corners. Each side has an opening, *i*, formed in its bottom edge for a passage-way for bees.

h' are four uniform partitions, fixed to the inside of the frame *h*, as shown in Fig. 2, to produce four distinct oblong chambers of uniform size and a small chamber or flue, *k*, in the center. Against the inside faces of each of the ends of each of the four chambers is fixed a board or cleat, to produce a shoulder, *m*, to support the ends of movable frames that will depend to near the double bottom and form the brood-chamber in each of the four distinct chambers. The space above the shoulders *m* will constitute surplus chambers, adapted to receive movable racks, frames, honey-boxes, or anything suitable for the reception of surplus stores of honey in summer time, and chaff or other suitable material for protecting the bees from cold in the winter.

f''' are air-ports formed in the partitions *h'*, to connect the four distinct chambers with the ventilating-flue *k*, as required, to carry off heat and moisture from each of the four chambers when occupied by bees.

n are blocks fixed on top of the bottom *d* and against the wall *g*, to engage the lower edges of the inner wall, *h*, when it is placed within the wall *g*, to rest upon the bottom *d*. The blocks that are fixed to the bottom and over

the openings *r*, that extend through the outer wall, are cut away on their under sides, so that bees can pass through the openings *i* and *r*, and in and out of the four distinct chambers, and each of the four colonies has its place of ingress and egress on one of the distinct sides of the quadruple hive, so that they will not be liable to get mixed or to interfere with each other in their operations, while their proximity to each other within the double walls of the complete hive economizes space and promotes convenience and order in the apiary. The space between the two walls may be filled with chaff or any other material adapted to keep the bees warm and dry in winter and cool in summer.

s s are the ends of a detachable cover, fitted to engage the top edge of the outside wall. *s'* are metal strap-pieces or pins fixed inside of each side of the cover, to extend down on the inside of the outer wall, to aid in retaining it in proper position when closed, and also to prevent it from slipping when lifted up at either side or end.

Heretofore corner-posts have projected upward from a hive to engage a cover; but the cover had to be moved vertically on all sides at the same time in putting it off and on. By attaching the pieces *s'* to the cover either side can be lifted separately, and the pieces *s'* on the opposite side will perform the function of a hinge.

I claim as my invention—

1. In a bee-hive, the double bottom composed of the board or base *a*, the strips *b*, having transverse openings *f*, the strips *c*, and the cover *d*, to produce a central air-passage, No. 1, and air-chambers Nos. 2 and 3, in com-

bination with the removable inside frame, *h h'*, having four uniform chambers, and a central flue, *k*, constructed therein, substantially as and for the purposes stated.

2. In a bee-hive, the removable inner frame composed of four uniform sides, *h*, and the four uniform partitions *h' m*, arranged, as shown and described, to produce four uniform and distinct chambers and a central flue, *k*, for the purposes specified.

3. The combination of the movable inner frame composed of four uniform sides, *h*, and four uniform partitions, *h' m*, and four uniform chambers having bee-passages *i*, and a central ventilating-flue, *k*, having air-passages communicating with the surrounding chambers, a double bottom having a central air-passage, No. 1, air-chambers Nos. 2 and 3, and air-passages *f*, *f'*, and *f''*, and fixed blocks *n*, and an outer wall composed of four uniform sides, *g*, having passages *r*, adapted to coincide with the passages *i* in the inner sides, *h*, substantially as shown and described, for the purposes set forth.

4. The improved quadruple bee-hive, composed of the double bottom *a b c d n*, having an air-passage, No. 1, and air-chambers Nos. 2 and 3, separately connected with said air-passage No. 1 by means of ports *f*, the outside wall, *g*, having openings *f''* and *r*, the inside frame, *h h' m*, having four uniform chambers, a central flue, *k*, and bee-passages *i*, and a detachable cover having straps *s'*, substantially as shown and described.

BENJAMIN FRANKLIN.

Witnesses:

D. O. STANFIELD,
S. T. STANFIELD.