3 Sheets—Sheet 1.

P. G. EATON.

Bee-Hive.

No. 206,305. Patented July 23, 1878.

Fig. 1.

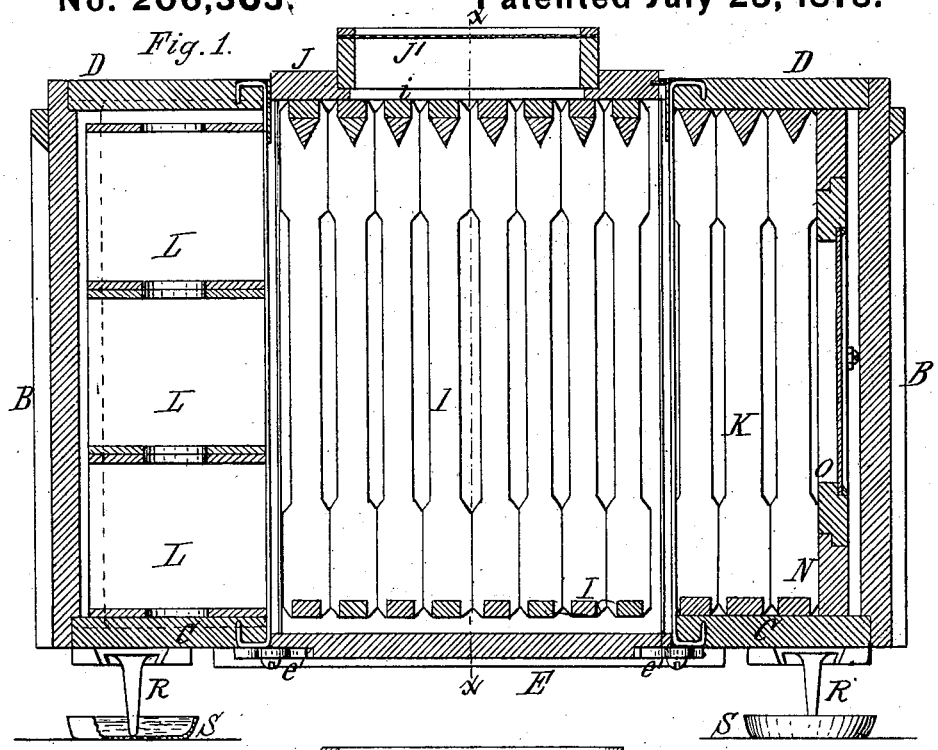
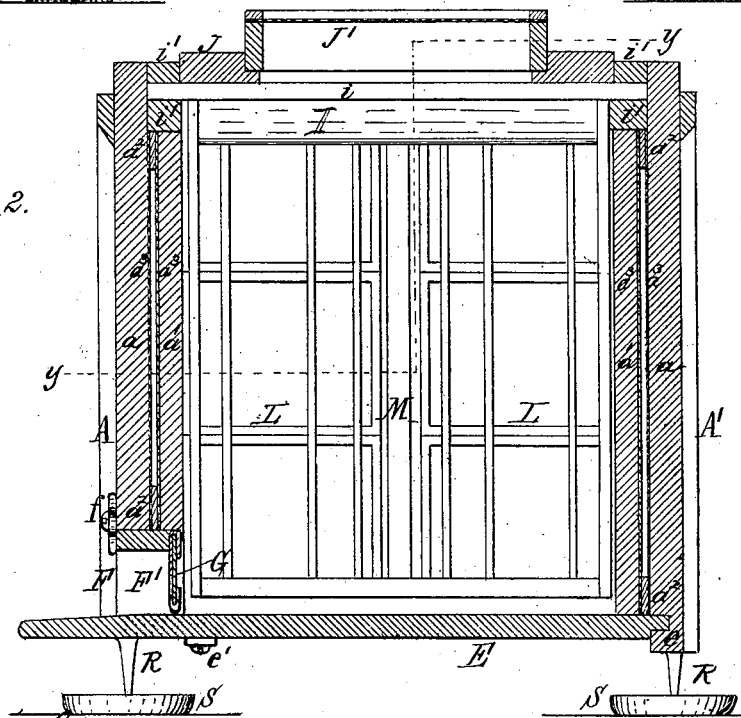


Fig. 2.



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3 Sheets—Sheet 2.

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Bee-Hive.

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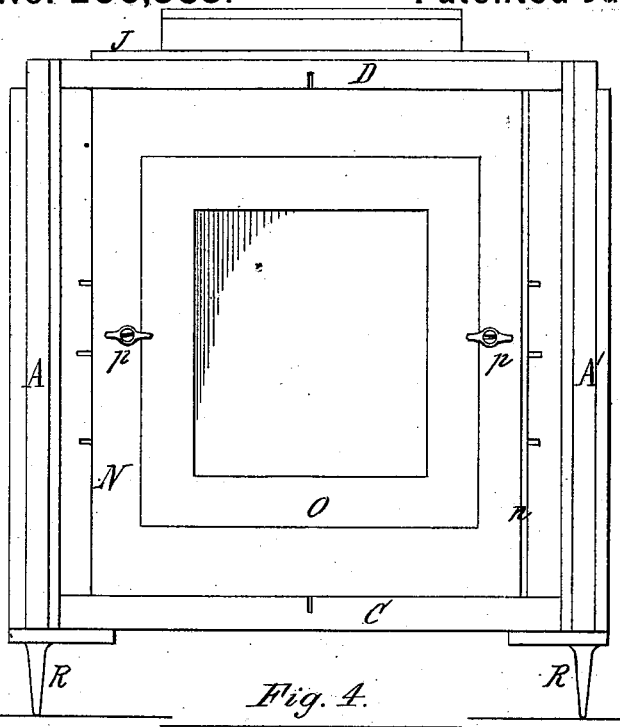

Fig. 3.

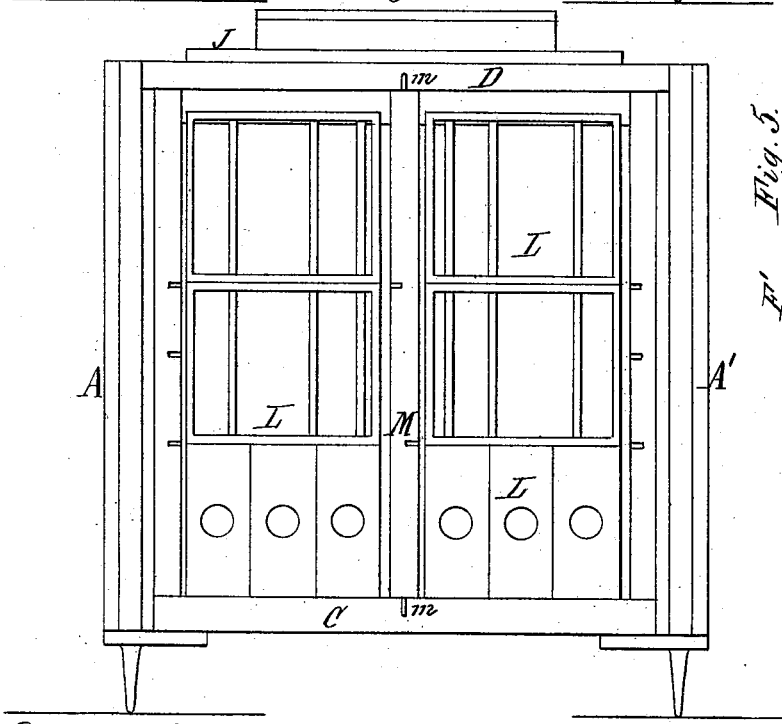

Fig. 4.

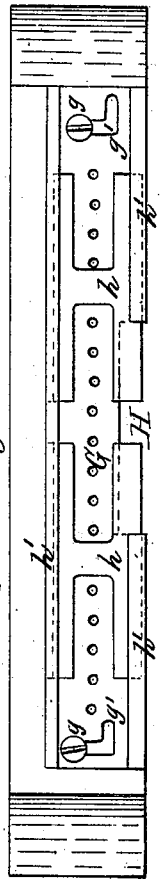

Fig. 5.

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3 Sheets—Sheet 3.

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Fig. 6.

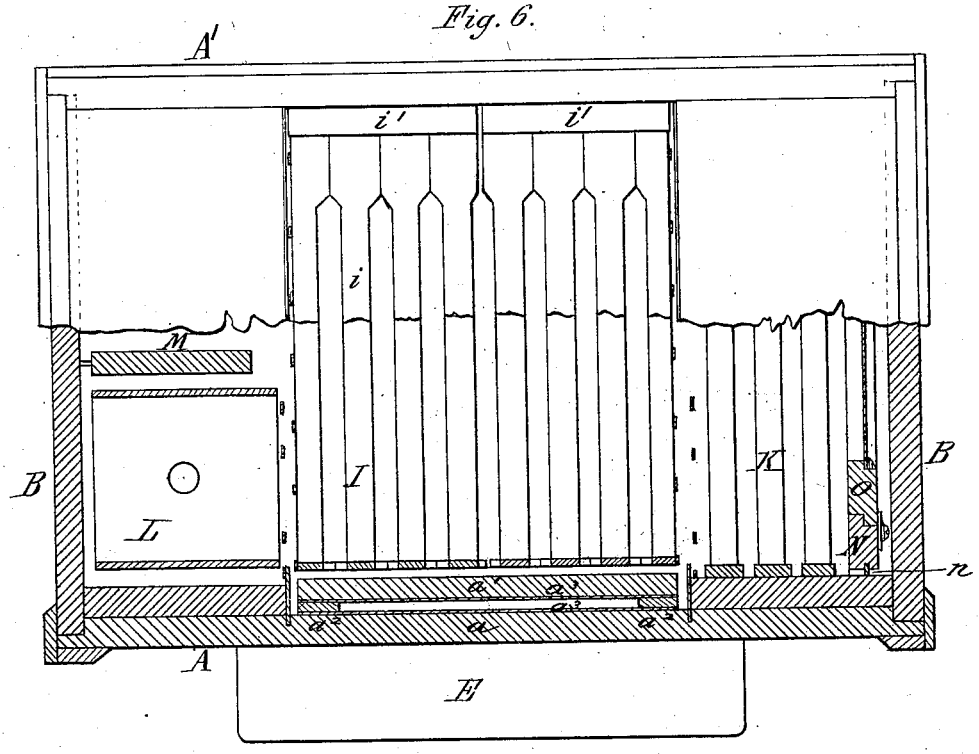
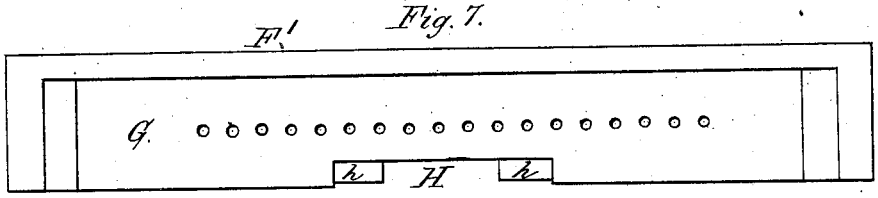


Fig. 7.



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UNITED STATES PATENT OFFICE.

PEREGRINE G. EATON, OF SPRINGVILLE, NEW YORK.

IMPROVEMENT IN BEE-HIVES.

Specification forming part of Letters Patent No. **206,305**, dated July 23, 1878; application filed May 13, 1878.

To all whom it may concern:

Be it known that I, PEREGRINE G. EATON, of Springville, in the county of Erie and State of New York, have invented new and useful Improvements in Bee-Hives, of which the following is a specification, reference being had to the accompanying drawing.

The object of my invention is the construction of a hive in which the bees will be protected from creeping insects, moisture, and changes of temperature, in which the entrance can be nicely regulated, and in which the interior parts are easily accessible, and adapted to be modified in their arrangement as circumstances may require.

My invention consists of the particular construction of the parts, as will be hereinafter fully set forth.

In the accompanying drawing, consisting of three sheets, Figure 1 is a longitudinal section of my improved bee-hive. Fig. 2 is a cross-section thereof in line *x x*, Fig. 1. Fig. 3 is an end view with the outer end board removed. Fig. 4 is a similar view with the inner panels removed. Fig. 5 is an inside elevation, on an enlarged scale, of the adjustable entrance. Fig. 6 is a horizontal section in line *y y*, Fig. 2. Fig. 7 is a front elevation of the entrance.

Like letters of reference designate like parts in each of the figures.

A A′ represent the side pieces of the hive, and B B the removable end pieces thereof. C C are the bottom boards, and D D the top boards, rigidly secured to the side pieces A A′ on both sides of the brood-chamber. E represents the bottom board of the brood-chamber, fitting with its inner end in a groove, *e*, formed in the lower portion of the side piece, A′, as shown in Fig. 2, and held near its front edge by two buttons, *e′*, pivoted to the under side of the rigid bottom pieces, C, so that the bottom board, E, can be readily secured in place or removed as circumstances may require.

F is the entrance-opening formed in the lower edge of the side piece, A, above the bottom board, E. F′ is the wooden frame of the entrance, constructed with inwardly-inclined sides, and arranged in the correspondingly-formed opening F of the side piece, A, wherein it is secured by two pivoted buttons, *f*. G is a plate, of tin or other suitable metal, arranged on the inner side of the frame F′, and provided with the usual air-holes. The plate G is secured to the frame F′ by means of two projecting studs, pins, or screws, *g*, secured to the frame, and engaging in L-shaped slots *g′*, formed in the plate, so that, when the plate G is arranged with the vertical parts of the slots *g′* in engagement with the pins *g*, the plate will rest on the bottom board, E, while, when the plate is moved upward and laterally, so as to engage the horizontal parts of the slots *g′* over the pins *g*, the plate will be supported above the bottom board at a sufficient height to provide a free entrance for the bees under the plate G from one end of the frame F′ to the other.

H is a notch or opening formed in the lower edge of the plate G, so as to form an entrance for the bees when the plate G rests upon the bottom plate, E.

h h represent two sliding gates arranged on the inner side of the plate G in horizontal ways *h′*, so that by moving the gates *h* to the middle of the plate G the opening H can be closed to prevent the egress of the bees, while by moving the gates *h* in the opposite direction the opening H can be fully opened. This construction of the entrance enables the opening through which the bees leave and enter the hive to be either entirely closed or to be made of any desired width until the notch H is fully opened, and, if that is insufficient, to be made as wide as the opening of the frame F′, thereby furnishing a means to regulate the opening in accordance with the varying conditions of the weather and the activity of the bees.

I represents the comb-frames arranged in the brood-chamber. The top pieces *i* of these comb-frames are extended laterally and secured together by two longitudinal strips, *i′ i′*, arranged, respectively, above and below the projecting portions of the top pieces, *i*. The comb-frames I are divided into two sets, each set being secured together by the strips *i′*, independent of the other set, so that, when it becomes necessary to divide the swarm, either set may be removed from the hive with the bees without disturbing the other set of comb-frames, as shown in Fig. 6. The side pieces of the brood-chamber are each composed of an outer board, *a*, forming part of the boards A A′, an inner board, a^1, and an interposed open frame, a^2, forming a dead-air space between the boards

a a^1. Sheets a^3, of paper or other non-conducting material, are placed between the frame a^2 and the boards a a^1, so as to form non-conducting side walls, which will protect the brood-chamber against extreme heat or cold. The lower strips, i, connecting the top pieces of the comb-frames I, rest upon the inner boards, a^1, of the side walls of the brood-chamber, supporting the comb-frames above the bottom board, E, so as to as leave an open space for the bees below the comb-frames. The top of the brood-chamber is covered by a frame, J, fitted between the stationary top pieces, D D, in one direction and between the top strips, i', in the other direction. The frame J is provided with a pane of glass in warm weather, and is covered in cold weather by a removable canvas screen, J′, which frame and screen are readily raised for feeding the bees.

The end portions of the hive between the brood-chamber and the end pieces B may be filled with comb-frames K or honey-boxes L, as may desired. When honey-boxes are used a partition-board, M, is arranged centrally in the end portion of the hive, as shown in Fig. 4. This partition fits snugly between the bottom board, C, and top board, D, and is provided in its top and bottom with saw-kerfs, in which are secured strips of tin m, which slide in corresponding grooves in the bottom board, C, and top board, D. Similar grooves are formed in the sides of the partition M and in the side pieces of the hive, so that horizontal partitions may be used, if desired. By this means the partitions can be readily secured in place when it is desired to use the honey-boxes, or be removed from the hive when comb-frames are to be used.

N is an open frame, fitted in each end of the hive outside of the honey-boxes or comb-frames, and provided in one of its edges with a strip of rubber, n, whereby the frame is securely held in place. O is a secondary frame, fitting within the frame N, and secured thereto by two pivoted buttons, p. The frame O is provided with a pane of glass for summer use, so that the working of the bees can be examined upon removing the end boards, B. For winter use the inner frame, O, is covered with canvas or other suitable material, and the two frames N and O are then arranged in close proximity to the brood-chamber, so as as to reduce the open space of the hive as much as possible, in order to keep the bees warm. The end boards, B, are fitted in suitable rabbets of the side and bottom boards, so as to be held securely in place by ordinary corner-fastenings.

R represents the legs of the hive, made preferably of cast-iron, and secured to the bottom board, so that they can be readily removed for shipping the hive. The legs R are set in cups S filled with water or other liquid to prevent ants and other creeping insects from entering the hive. The legs support the bottom of the hive at such a height as to permit a free circulation of air under the bottom, thereby keeping the latter dry.

My improved hive is comparatively simple in construction and very convenient for use, being easily adapted to the varying requirements of the bees.

I claim as my invention—

1. The combination, with the entrance-frame F′, provided with studs g, of the plate G, constructed with the notch H in its lower edge, and having L-shaped slots g', for raising and lowering the plate G, and sliding gates h h, for covering or uncovering the notch H, substantially as and for the purpose set forth.

2. The comb-frames I, having projecting top pieces, i, secured together by longitudinal strips i' i', arranged respectively on the upper and lower sides of the projecting portions of the top pieces, i, substantially as and for the purpose set forth.

3. In a bee-hive, the open frame N, provided with rubber strips n, in combination with the inner frame, O, covered with glass or canvas, and secured in the open frame by pivoted buttons p, substantially as and for the purpose set forth.

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