

J. R. MADISON.
Bee-Hive.

2 Sheets—Sheet 1.

No. 218,822.

Patented Aug. 26, 1879.

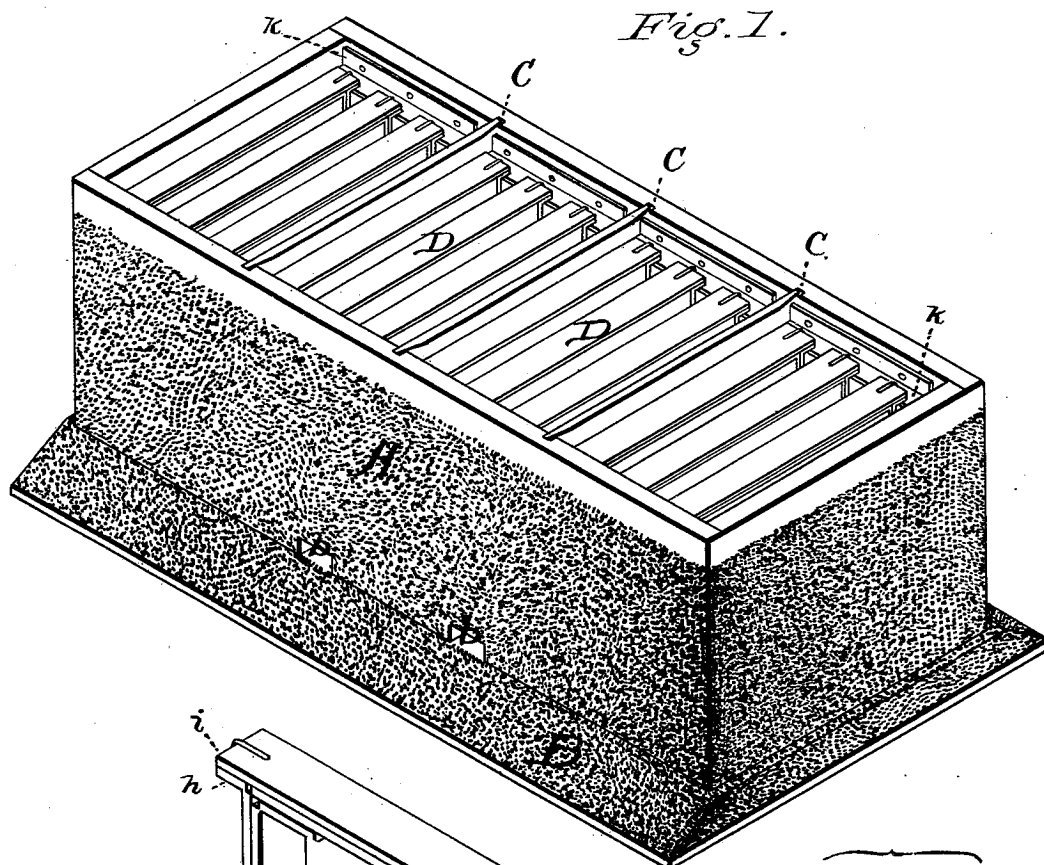


Fig. 1.

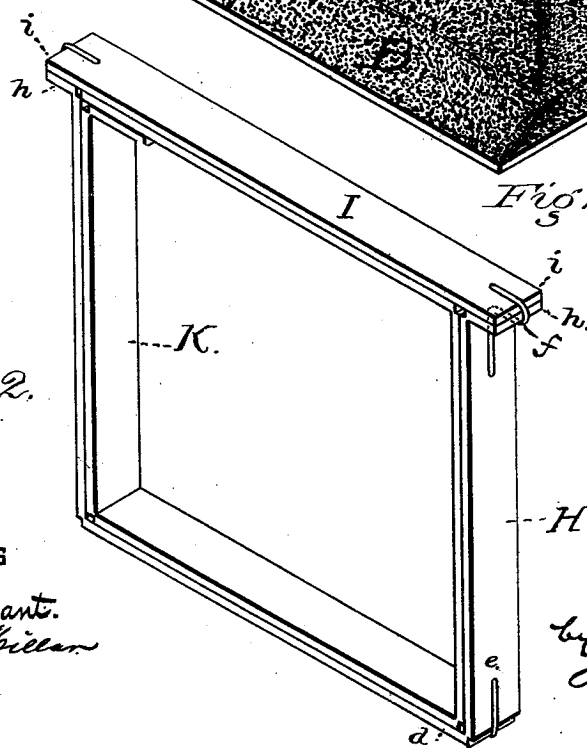


Fig. 2.

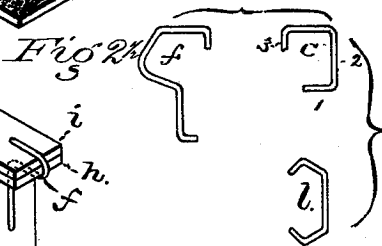


Fig. 2a.

WITNESSES

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Fig. 3.

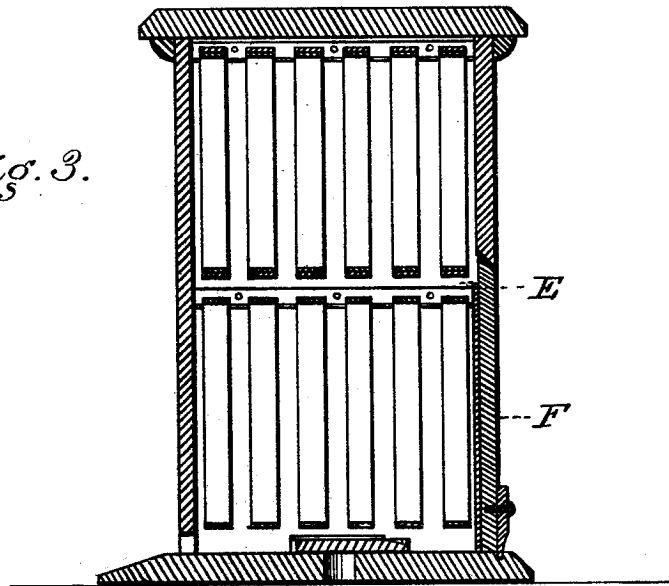


Fig. 4.

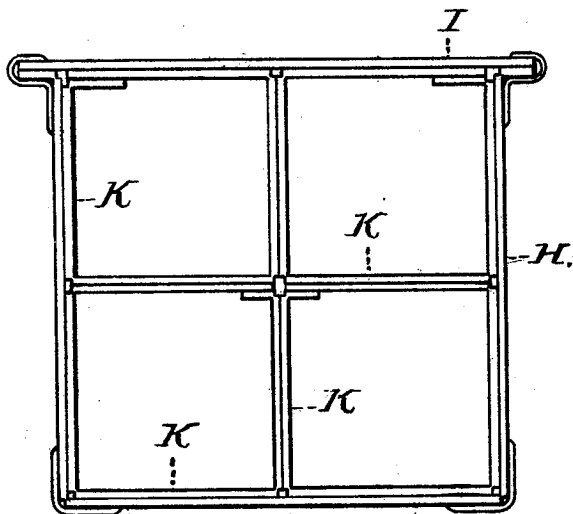
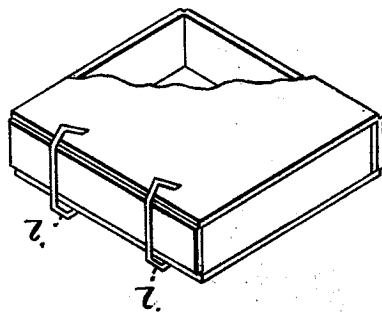


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

JAMES R. MADISON, OF BEDFORD, IOWA.

IMPROVEMENT IN BEE-HIVES.

Specification forming part of Letters Patent No. 218,822, dated August 26, 1879; application filed March 5, 1879.

To all whom it may concern:

Be it known that I, JAMES R. MADISON, of Bedford, in the county of Taylor and State of Iowa, have invented new and valuable Improvements in Bee-Hives; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a perspective view of the bee-hive with the top removed. Fig. 2 is a perspective view of the comb-frame and section-box. Fig. 2½ is a view of the fastening devices. Fig. 3 is a vertical central sectional view of a two-story hive. Fig. 4 is a side view of the comb-frame, showing four section-boxes in position. Fig. 5 is a perspective view of a section-box packed for market.

This invention relates to certain improvements in bee-hives; and the novelty consists in covering the landing-board and other parts of the hive with a compound consisting of sharp sand, emery, and ground glass to form a rough surface against the attack of the moth; also, it consists in constructing the comb-frames of bent wood, in combination with the wire fastening device, as will be hereinafter more fully set forth.

In the annexed drawings, forming a part of this specification, the letter A represents the box or casing of the hive, and B the bottom board, projecting a short distance around the box, substantially as shown.

The outer surface of the box, including the top and the projecting portions of the bottom board, especially that portion in front of and surrounding the bee-entrance to the hive, is covered with a compound, mechanically mixed, consisting of sharp sand, emery, and ground glass. This material is applied to the exterior part of the hive and its projecting parts while the paint is still green—before it dries—whereby a rough surface is formed, rendering it impossible for moths to cross in attempting to gain an entrance to the interior of the hive. This coating forms a rough surface, of such a character that the moths cannot cross or crawl on, as their bodies are very sensitive, while

the bees can travel over the surface without any inconvenience.

The hive shown in Fig. 1 of the drawings is divided into four apartments by means of the removable partitions C, fitting into recesses in the front and rear wall of the hive. The two middle apartments, D D, are the breeding-chambers, and the end apartments contain the spare honey boxes or frames. Communication is established to the central apartments by means of the openings *b b*, forming bee-entrances at the lower end of the front wall of the hive. Whenever the swarm is large, or there are two or more swarms, the partitions C are removed and the apartments formed into one chamber.

The hive shown in Fig. 3 of the drawings is an upright two-story hive, with a glass partition, E, separating the upper and lower comb-frames. The bees pass from the lower to the upper chamber through a slot or slots in the glass partition, or the glass partition may be removed to enable the bees to work in the upper chamber. This hive is provided at one side with a door, F, so that the lower comb-frames in the bottom apartment may be removed when desired.

The letter H represents the main comb-frame, (see Figs. 2 and 4,) the sides and bottom of which are formed of a single piece and bent at the kerfed points to the desired shape to conform with the interior of the hive.

At the kerfed and bent portions of the comb-frame a wire fastening device, substantially like that indicated by the letter *c* in Fig. 2½, is used.

The end 1 of the fastener is passed through the bottom piece, *d*, and clinched, the horizontal and vertical parts 2 are passed around the corner or bent portion, and the end 3 passed through the vertical piece *e* and clinched, thus assisting and maintaining the relative position of the bottom and vertical walls of the frame.

The upper ends of the bent bar are bent outwardly and connected to the top bar, I, by means of the fastening device indicated by the letter *f*, applied in the manner substantially as shown in Fig. 2.

The outwardly-projecting ends *h* of the bent bar and the extended ends *i* of the top bar, I, form bearings for the comb-frame when the

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