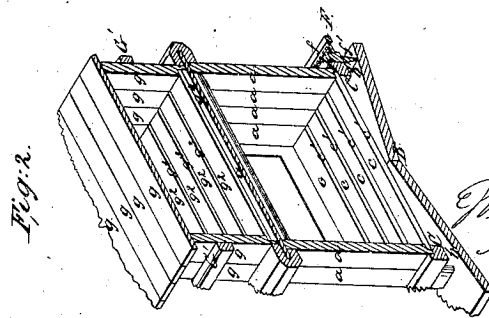
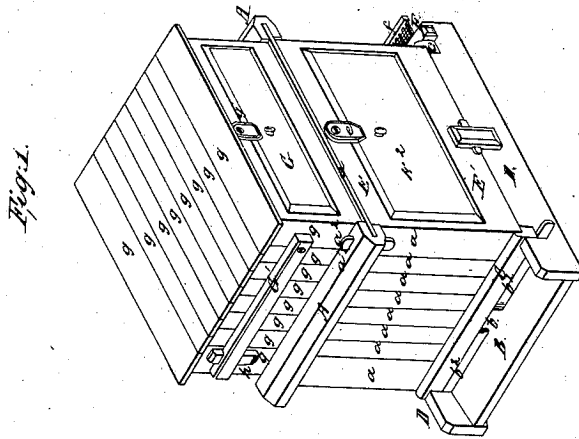
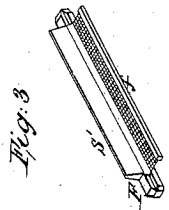


W. R. Clark.

Honey Comb Frame.

N^o. 44,707.

Patented Oct. 18, 1864.



Witnesses
C. D. Smith
Richard J. Falemer

Inventor
Wm R. Clark
Munn & Co
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM R. CLARK, OF PIQUA, OHIO.

IMPROVEMENT IN BEE-HIVES.

Specification forming part of Letters Patent No. 44,707, dated October 18, 1864.

To all whom it may concern:

Be it known that I, WILLIAM R. CLARK, of Piqua, in the county of Miami and State of Ohio, have invented certain new and useful Improvements in Bee-Hives; and I do hereby declare the following to be a full, and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of a bee-hive embodying my invention. Fig. 2 is a vertical section of the same, illustrating the form of the bottom or platform, hereinafter more particularly referred to. Fig. 3 is a detached perspective view of a device for ventilating and closing the hive.

Similar letters of reference indicate corresponding parts in the several figures.

The chief object of this invention is to produce a hive which, while having novel provisions for insuring the effectual and uninterrupted work of the bees is made capable, by the employment of peculiar devices, of being enlarged or diminished with facility and expedition, and also of having a portion of it detached for the purpose of forming additional swarms.

The invention further includes the employment of a novel device for ventilating the hive, this device also serving to close the ventilating aperture in the cold season, all as will be hereinafter fully explained.

In order that others skilled in the art to which my invention appertains may be enabled to fully understand and use the same, I will proceed to describe its construction and operation.

The hive proper is formed in sections *a*, of which there may be any desirable number. These sections are each composed of three strips of wood, which are so attached as to form three sides of a square, and which are conjoined with the edges of the upper horizontal strips overlapping those at the sides, in order that when the sections are placed together they may be readily united by clamps *A A*, which consist of pieces of wood having each a longitudinal slot for the reception of the projecting edges of the upper portions of the sections *a*, as clearly shown in the drawings.

The slot in each of the clamps *A* terminates and is dovetailed at one end before reaching

the extremity of the clamps, a shoulder being thus formed at this end, but at the other end said slot extends entirely to the extremity, and at this end last spoken of the clamp is provided with an aperture, *a'*, into which may be inserted a key, *a²*, which, when inserted, also occupies an aperture or key-hole in the section at the end of the hive, the section at the other end of the hive being cut away and dovetailed at each side to conform to the termination of the slots in the clamps *A*. Thus the clamps may be applied without difficulty, and securely retained by the keys *a²*. By withdrawing the keys *a²* the clamps *A* may be detached from the sections to admit of the removal of a section or sections for the purpose of dividing the bees and stocking new hives to avoid the loss incurred in the natural swarming, new sections being substituted for those taken away, or the hive undergoing a diminution in size, according to the number of sections removed. The upper horizontal portions of the sections *a* and those which constitute the top of the hive are made narrower than the side strips of the sections, so that while the latter are in contact and tight joints formed between them the horizontal strips will have spaces between them sufficiently large to permit the passage of bees, for the purpose to be presently explained. At their lower ends the side pieces of the sections *a* rest upon the horizontal strips *C C*, secured to the bottom pieces, *D D*, which latter are joined to the platform or bottom *B*. This platform *B* slopes or inclines from the center toward the apertures or openings *b b'*, as shown in Fig. 2. This causes all filth and refuse to have a tendency to pass out of the hive as soon as deposited, and adapts the same to be cleansed with ease of any matter which may accumulate. The sides of the hive are closed by stationary pieces *E E'* and adjustable pieces *E²*, behind which latter may be inserted panes of glass to admit of the inspection of the hive when desired, the pieces *E²* being held in position by buttons *e*.

To the lower ends of the side pieces of the sections *a* is attached a slat floor, *c*, between which are spaces *c'*, through which the filth passes into the platform *B*.

The size of the aperture *b*, through which the bees have ingress and egress, may be varied to any required extent by the slides *b² b²*. These slides being brought together entirely

close the passage *b* and prevent the bees from passing out in winter and the predatory incursions of vermin. The aperture *b'* forms the ventilating medium, and may be closed by either the gauze or grating *f* or the shutter *f'*, both of which are attached to the piece *F*. The ends of this piece *F* are so formed that it may be inserted in notches in the pieces *D* in two positions, so as to bring either the grating *f* or shutter *f'* over the opening *b'*, and hence by merely reversing the position of this piece the hive may be ventilated in warm weather or entirely closed in the winter. The gauze or grating *f*, while admitting of free circulation of air throughout the hive, is adapted to exclude vermin, insects, &c.

g represents the sections whereof a separate apartment or honey-box is composed. This box is mounted upon the hive proper, *a*, and is designed to contain the honey which is to be removed from time to time for use. The parts of the sections are connected together in the same manner as the sections *a* with the edges of the upper horizontal strip of each section projecting outward beyond the side pieces, in order to afford a ready hold for the hand when any of the sections are being removed, which is done either for the purpose of taking honey when the same has been accumulated to a sufficient extent to justify its removal or to supply the bees with food when the stock has become exhausted in the winter. It is apparent that by this contrivance honey may be removed from or supplied to the honey-box with the greatest facility. The sides of this honey-box are closed or boarded up in any suitable manner, and behind the adjustable pieces *G* are panes of glass, through which the condition of the interior of the honey-box may be readily ascertained. The pieces *G* are held in position by buttons *g'*. The honey-box occupies a position between the clamps *A A*, and the sections *g* are secured together by bars *G' G'*, which are fastened to one of the

outer sections, *g*, at one end, and at the other end provided with slots to adapt them to take over and be secured to catches *h*. (One shown).

Near the lower ends of the vertical pieces of the sections *g* are attached comb-supporters *g²*, which have spaces *g³* between them that communicate with the spaces between the upper horizontal pieces of the sections *a* of the hive. The ends of the vertical pieces of the sections *g* project below the comb-supporters *g²*, so that between the honey-box *g* and hive *a* there is a shallow chamber, *g³*, which affords communication for the bees from front to rear of the hive. The horizontal pieces of the sections *g* and those of the sections *a* are provided with suitable comb-guides to prevent the bees from working diagonally or from so forming their comb that it will be supported within two of the frames, *a* or *g*, instead of within one.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. The sectional hive *a*, when provided with the sloping platform *B* and secured together by the grooved clamps *A*, substantially in the manner and for the purposes herein set forth.
2. The combined ventilator and shutter *F f f'*, constructed in the manner described, and employed to permit air to freely circulate throughout the hive in summer, or to close the same in winter, as explained.
3. In combination with a hive, *a*, and its appurtenances, constructed as herein described, the sectional honey-box *g*, held together by the bars *G'*, and having a shallow chamber, *g³*, between its comb-supporters *g²* and the top of the hive, substantially as herein specified.

WILLIAM R. CLARK.

Witnesses:

J. F. MCKINNEY,
S. S. MCKINNEY.