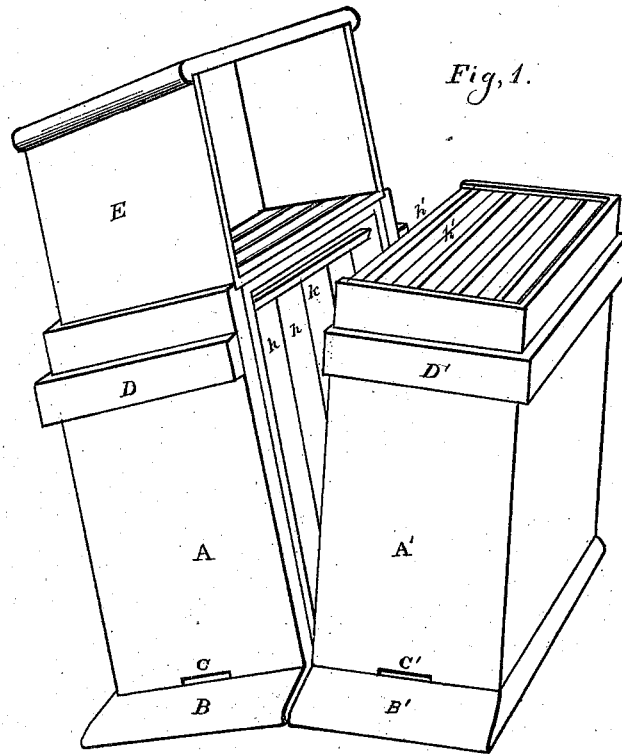


Leffel & Harrison, *2. Sheets, Sheet 1.*

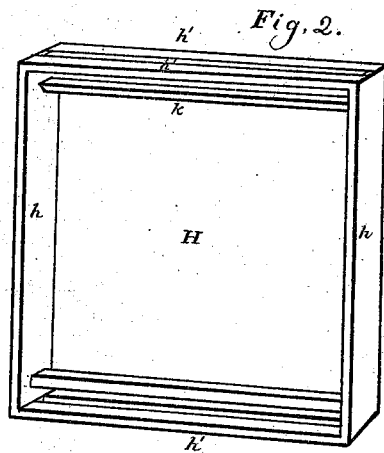
*Bee Hive.*

*No. 107,792.*

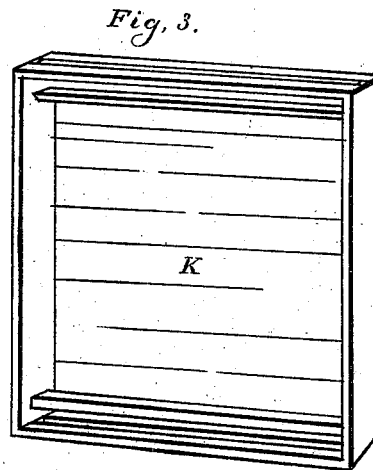
*Patented Sept. 27, 1870.*



*Fig. 1.*



*Fig. 2.*



*Fig. 3.*

*Witnesses*  
*J. W. Meester*  
*H. A. Daniels*

*Inventor*  
*J. Leffel & E. Harrison*  
*By C. Whitman atty.*

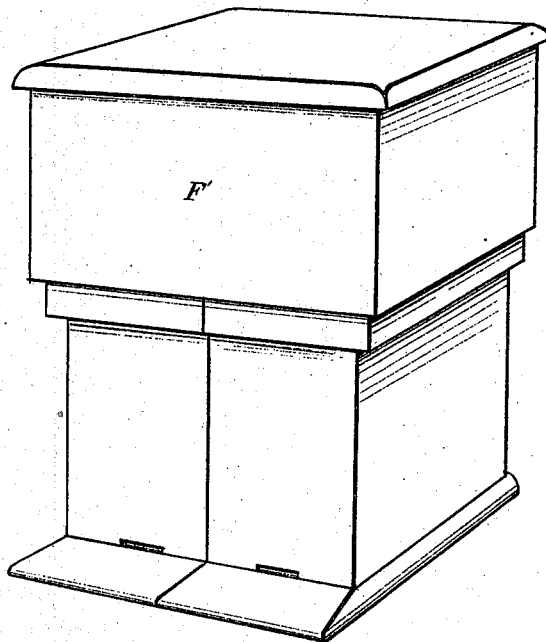
*Leffel & Harrison,* 2. Sheets, Sheet 2.

*Bee Hive.*

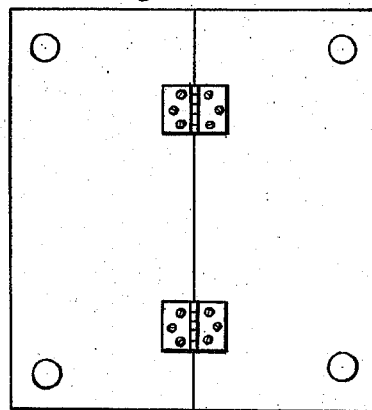
*No. 107,792.*

*Patented Sept. 27. 1870.*

*Fig.*



*Fig.*



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*J. W. Austin*  
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*Inventor,*  
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# United States Patent Office.

JOSEPH LEFFEL AND EDWARD HARRISON, OF SPRINGFIELD, OHIO.

Letters Patent No. 107,792, dated September 27, 1870.

## 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 we, JOSEPH LEFFEL and EDWARD HARRISON, of Springfield, in the county of Clark and in the State of Ohio, have invented new and useful Improvements in Bee-Hives; and do hereby declare that the following description, taken in connection with the accompanying drawing hereinafter referred to, forms a full and exact specification of the same, wherein we have set forth the nature and principles of our said improvements by which our invention may be distinguished from others of a similar class, together with such parts as we claim and desire to secure by Letters Patent.

Our invention relates to that description of hives in which detachable honey-boxes are made use of, and movable comb-frames used; and

The nature of our invention consists in certain modifications in the details of the same, whereby—

First, the hive may be opened and its entire inner contents examined by dividing it into two sections by a vertical plane.

Second, in providing a novel arrangement for the comb-guides, and other parts entering into the construction of the hive, whereby certain important results are obtained, as hereinafter more fully described and shown.

In the accompanying drawing which illustrates our invention and forms part of the specification thereof, and in which corresponding parts are represented by similar letters—

Figure 1 is a view, in perspective, of the hive, partially opened, with portions of the same removed, in order more fully to illustrate the arrangement of the interior;

Figure 2 is a side view of one of the comb-frames;

Figure 3 represents a comb-frame, boarded upon one of its sides, which we term a condenser;

Figure 4 is a front view of the hive complete and closed; and

Figure 5 represents the bottom of the hive, showing the manner in which the bottom boards are hinged.

The construction and relative arrangement of the parts constituting our invention are as follows:

The cap F is of the ordinary form, and of such a size as to be fitted with facility over the top of the hive in any of the usual methods.

The body or main portion A A' of the hive, however, is divided by a vertical plane, after the removal of the cap F, into two parts, which are hinged together at the bottoms thereof in such a manner that each may be freely revolved from the other, or made to stand ajar at any angle from each other within the arc of one hundred and eighty degrees.

The lower or breeding-chamber A A' is fitted upon

the bottom board B B', and provided with two entrances, *c* and *c'*, and near the top of the said breeding-chamber are the cleats D, upon which rests the cap of the hive, and upon the inner and upper edges of the said breeding-chamber are cut rabbets or rectangular grooves, upon and within which rests the bottom of the honey-box E.

Rabbets are also cut upon the detachable cover F, to fit the corresponding upper edges of said honey-box.

Both the lower chamber, and the honey-box above the same, are provided and filled with comb-frames H. The sides of the said frames are rectangular in form, and may be packed closely together with their edges touching each other.

The cross-bars K' are also rectangular in form and parallel to each other, having between them longitudinal apertures or slots.

The comb-guide K is of the form of a triangular prism, the flat surface of which presents a parallel plane to the opening between the bars, and is arranged at a distance from the said opening equal to about the width of the same.

The said cross-bars K' are flush with the top of the breeding-chamber, there being no space between them and the bottoms of the corresponding strips or slats which form the bottom of the honey-box.

The condenser K is of the same construction as the comb-frames, except that one side of the same is boarded over in order that the dimensity of the hive may be limited by a lateral movement of the condenser. The side of the condenser may be made of wood, glass, or other suitable material.

The operation of our invention is as follows:

When it is desired to handle the comb-frames in the breeding-chamber, the honey-box should be taken off; but when it is wished merely to inspect the center or remove the queen, it is not always necessary to remove the honey-box. The advantages of this central vertical opening are obvious.

Usually in examining a hive of bees, it is the center or heart that the operator has most to do with. The queen is more frequently found on the center combs than anywhere else. We look there for brood, queen-cells, &c., and also to ascertain the healthiness of the colony or stock.

The frames are constituted so that the bees are required to pass over the comb-guides to gain access to the honey-box. This arrangement of the comb-guides has a tendency to prevent the bees building crooked, by leaving the guide for the bars adjoining, as in ordinary movable comb-hives.

The arrangement of the bars and comb-guides also prevents a direct draught of cold air among the bees and brood during the time of winter, upward ventila-

tion; and during the honey season this arrangement gives just enough passage-way to the supers.

The condenser, the construction of which has been hereinbefore described, is for the purpose of keeping small swarms and nuclei in a proper compass, and thus economize the heat which is so necessary to their welfare.

I do not claim, generally, the dividing of hives into two independent sections, irrespective of the manner in which the said sections are combined and operated; but

I claim as new, and desire to secure by Letters Patent—

1. A hive, the body of which is divided into two

sections by a vertical plane, when the sections are hinged together at the bottoms thereof, as and for the purposes described.

2. Fitting the comb-guides under the cross-bars of the comb-frames, as herein described and shown.

In testimony that we claim the foregoing we have hereunto set our hands this 22d day of December, 1869.

JOSEPH LEFFEL.

EDWARD HARRISON.

Witnesses:

JACOB R. MCGARRY,

C. S. L. BAIRD.