

(No Model.)

2 Sheets—Sheet 1.

L. V. HOPKINS.  
BEE HIVE.

No. 427,993.

Patented May 13, 1890.

Fig. 1.

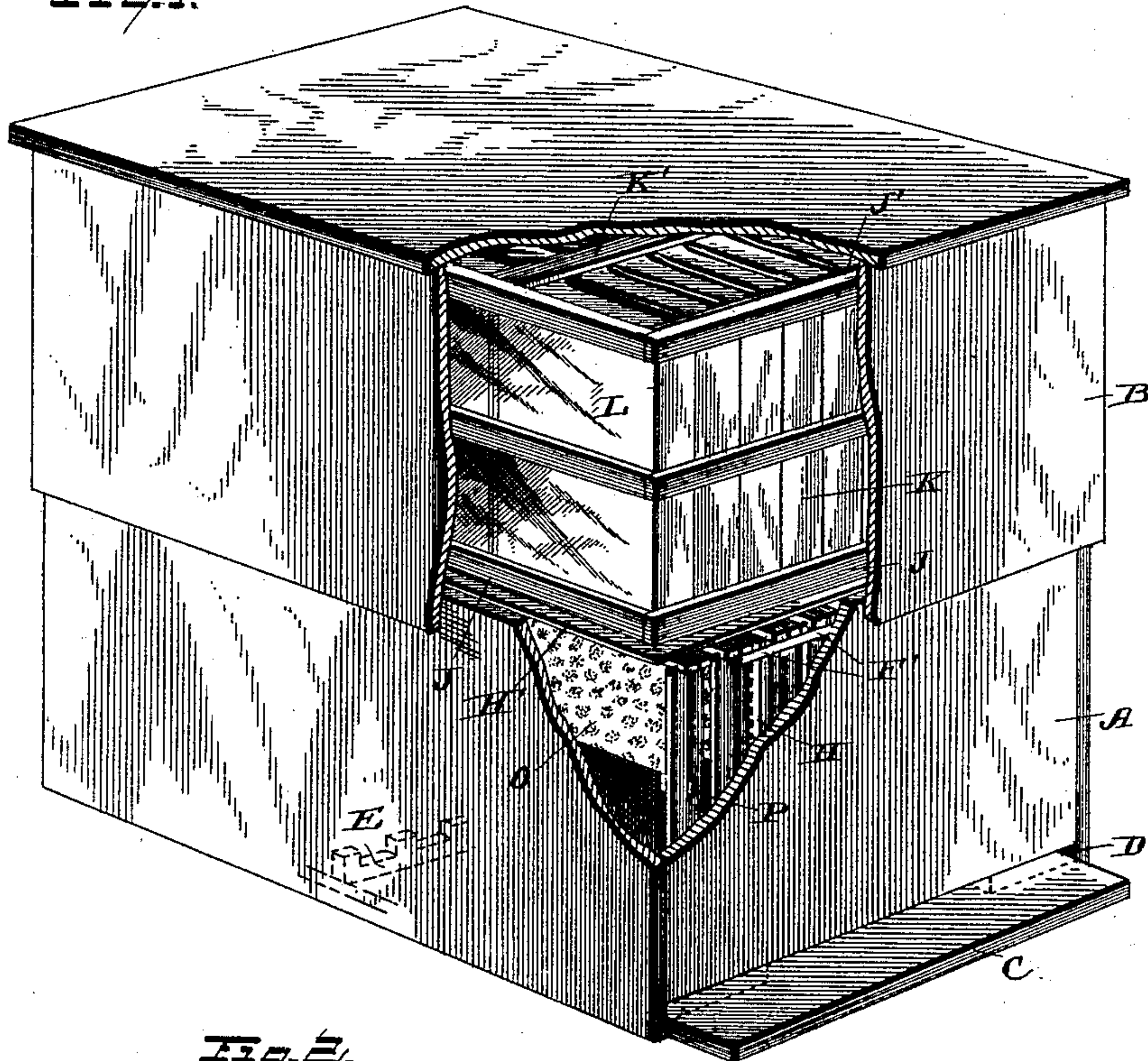
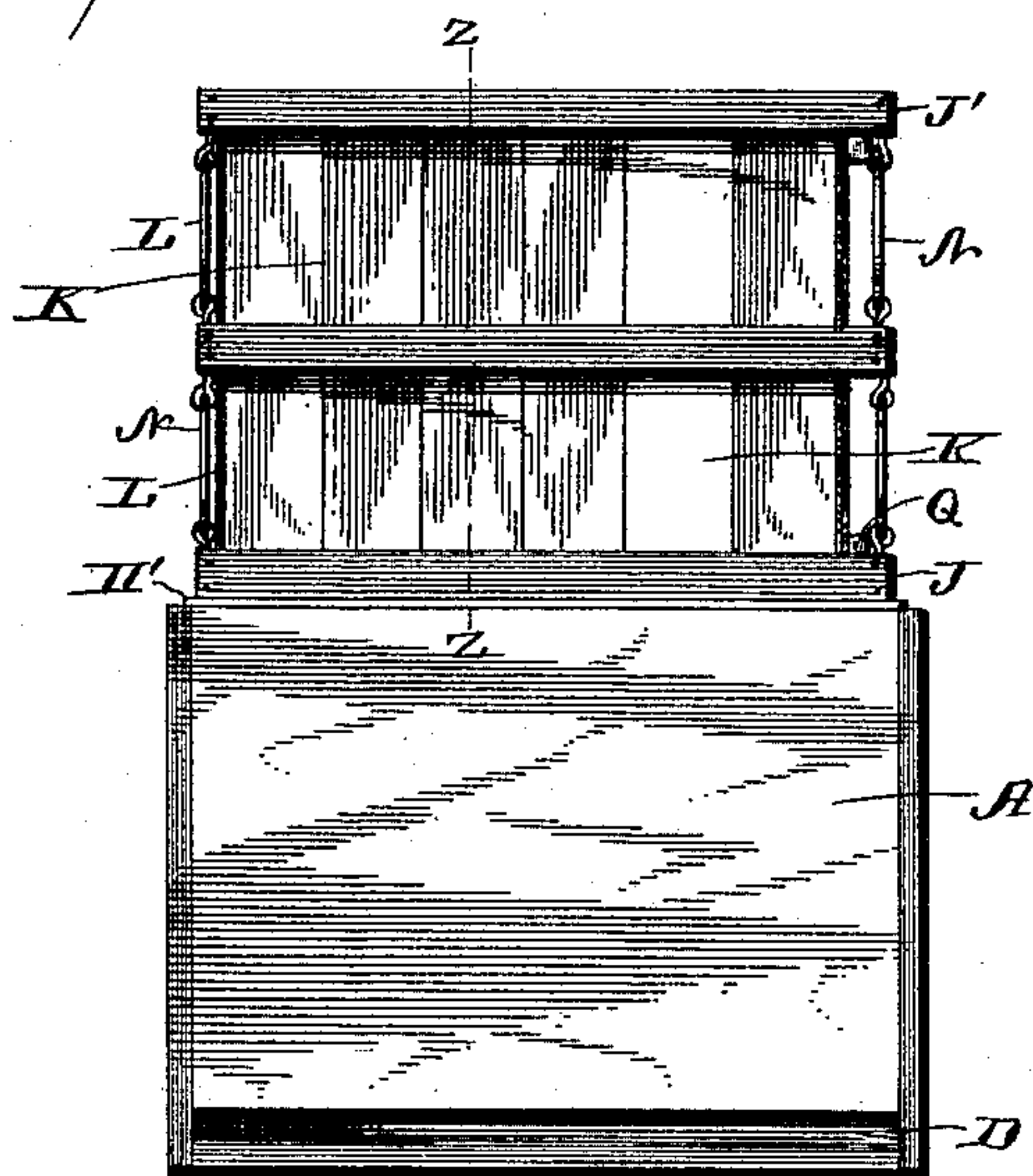


Fig. 2.



WITNESSES

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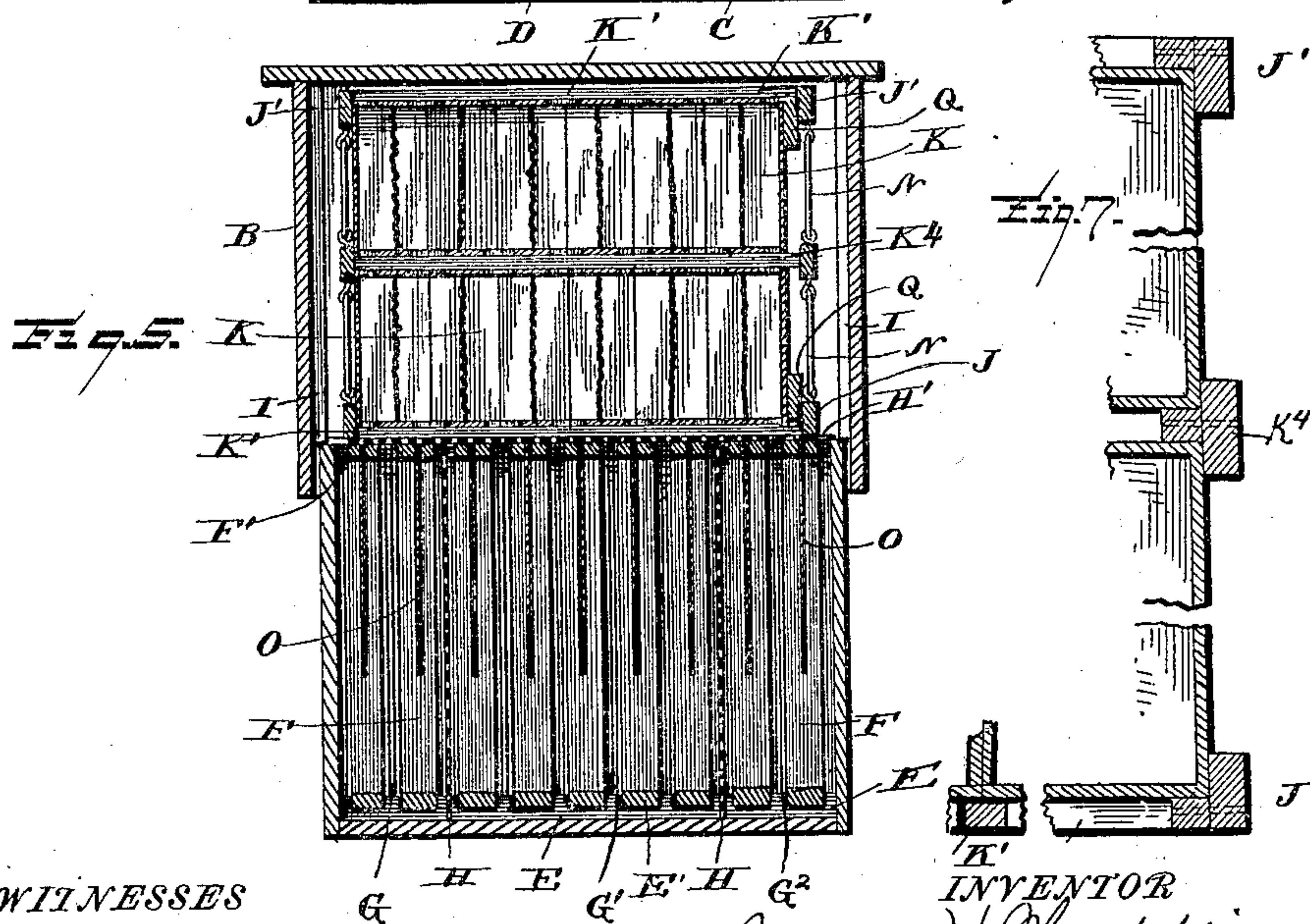
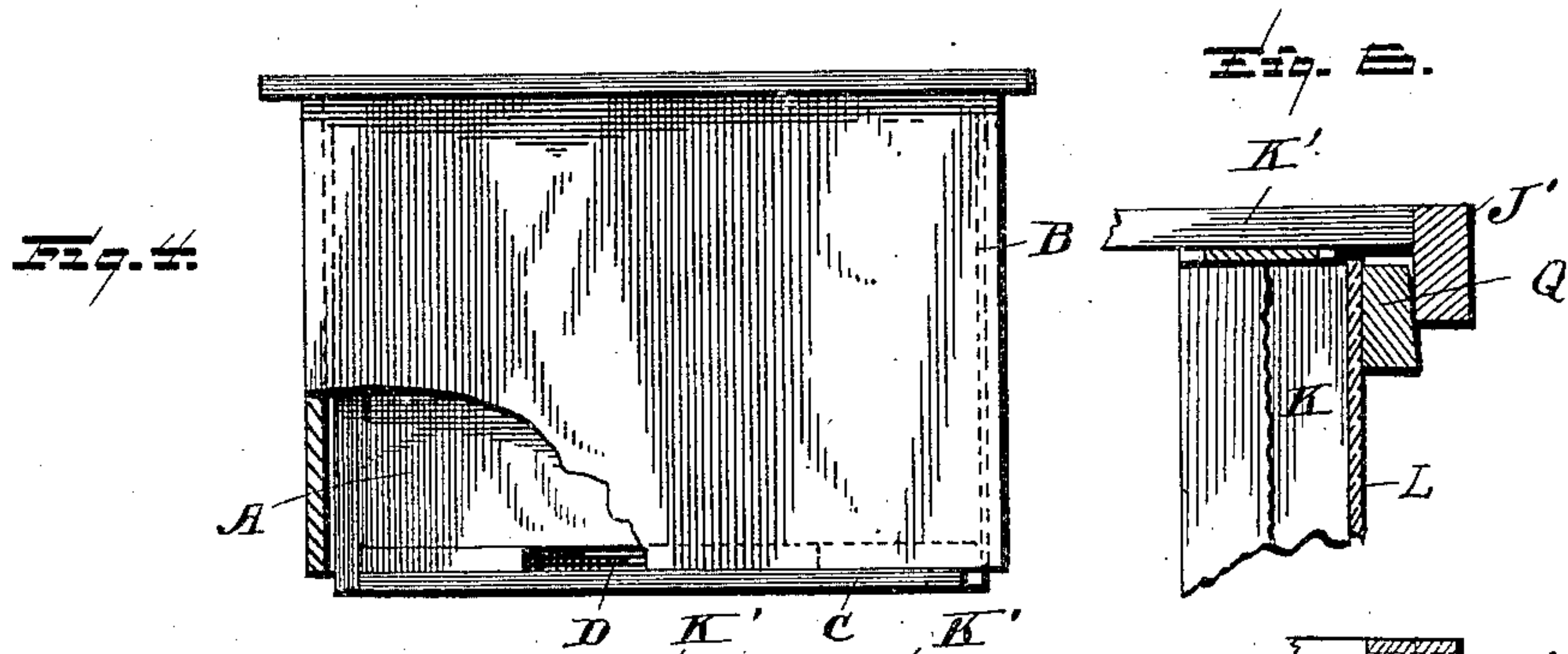
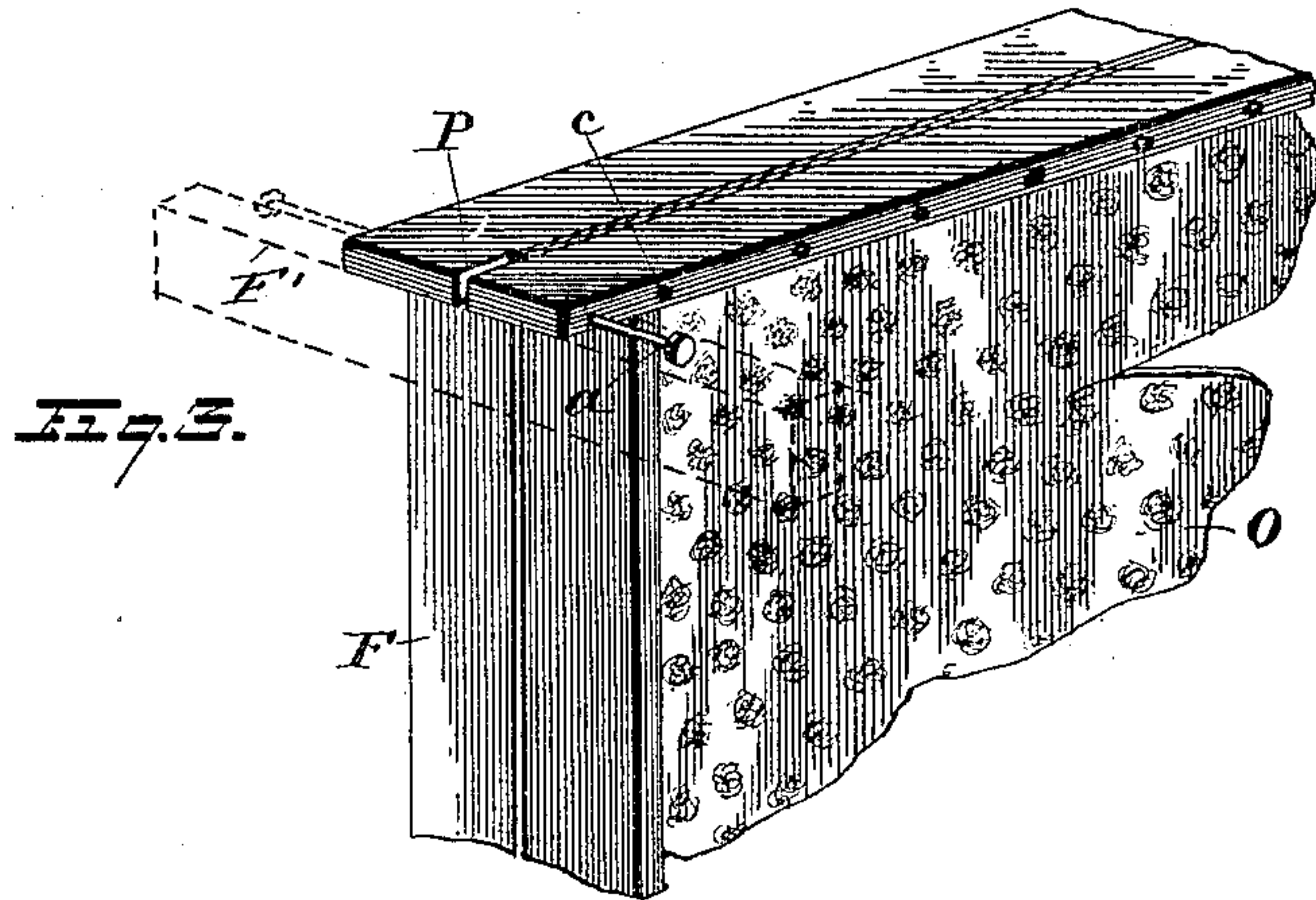
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INVENTOR

Leonard V. Hopkins  
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his Attorney



# UNITED STATES PATENT OFFICE.

LEONARD V. HOPKINS, OF MAXWELL, INDIANA.

## BEE-HIVE.

SPECIFICATION forming part of Letters Patent No. 427,993, dated May 13, 1890.

Application filed November 2, 1889. Serial No. 328,996. (No model.)

*To all whom it may concern:*

Be it known that I, LEONARD V. HOPKINS, a citizen of the United States, residing at Maxwell, in the county of Hancock and State of Indiana, have invented certain new and useful Improvements in Bee-Hives; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in bee-hives, and more particularly to that class of bee-hives in which the body of the hive is divided into several compartments, one of which serves as a brood-chamber.

The novelty resides in the peculiar combinations and the construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view of a bee-hive constructed in accordance with my invention, parts being broken away in order to better illustrate the construction and arrangement of other parts. Fig. 2 is a front view of the hive with the cover of the upper section removed. Fig. 3 is a detailed perspective view of one of the frames removed. Fig. 4 is a front view of the hive as it appears when converted into a winter-hive. Figs. 5 and 6 are details, more particularly hereinafter referred to. Fig. 7 is a section on the line *z z* of Fig. 2, on an enlarged scale, with parts broken away.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates the lower and B the upper section of the hive, the bottom C of the hive being extended a short distance beyond the vertical front face of the hive, as is usual in bee-hives of this class, and a nar-

row slot D is provided for the entrance of the bees.

E is a strip of wood, which is nailed to and extends transversely across the center of the bottom of the interior of the lower section or brood-chamber of the hive, the upper face of the strip being provided with a series of notches or recesses E' for the reception of the bottom edges of the brood-frames F, while the strips F', which are nailed to the upper faces of the lower section or brood-chamber, near their upper edges, as shown in dotted lines in Fig. 3, serve to retain the said brood-frames in position, as will be readily understood.

The brood-chamber is divided into three sections or compartments G, G', and G<sup>2</sup> by the queen-excluding plates H, the perforations in said plates being of such size as to permit the working bees to pass readily from one compartment to another, but too small to admit of the passage of either the drones or queen bees.

The upper edges of the brood-frames are kept the desired distance apart by means of the separating-pins *a*, which extend laterally from the upper corners of the said frames upon opposite sides thereof, as shown.

Each of the brood-frames is provided with a starter O, which is held in position within a saw-kerf P, which extends through the upper bar of the frame and for a portion of the length of the vertical bars thereof, the said starter having its upper edge held in the kerf in the said upper bar and the ends of the starter held in the saw-kerfs in the said vertical bars, suitable means, as the tacks *c*, being provided to hold the starter securely in place. This forms a very easy and quick way of placing the starter in position in the brood-frame.

Directly above the brood chamber and frames is placed the perforated honey-board H', which is supported upon the upper edges of the lower section or brood-chamber.

The cover of the upper section of the hive is slightly larger than the brood-chamber, so as to permit the same to be lowered to form an outer covering for the body of the hive when the same is fitted for winter use. The cover of the upper section is provided within



each of its inner corners with blocks or posts I, which may be of any desired length, depending upon the number of tiers of honey-sections which it may be desired to use, the said blocks resting upon the upper corners of the brood-chamber and serving to retain the upper section in position.

The upper section of the hive consists of the crate and the honey-sections K, contained therein.

In the crate the lower rectangular frame J is designed to rest upon and be supported by the brood-chamber directly above the honey-board H', which frame is composed of the two parallel side pieces, two parallel end pieces secured together in any suitable manner, and the transverse slats K', parallel with the end pieces and arranged with their outer faces flush with the outer faces or edges of the side and end pieces, as shown. The end transverse slats form a rabbet on which the honey-sections rest. A similar frame J' is provided at the top of the crate, only, of course, reversed, with the upper faces of the transverse slats flush with the upper faces of the end and side pieces, and the end transverse slats forming rabbets, against the under side of which the honey-sections abut. When only one tier of honey-sections is employed, these two frames will be held together by means of detachable hooks N, which serve to hold the parts together securely, and at the same time permit of their being quickly and easily separated when necessary.

When two tiers of honey-sections are employed, I employ a separating-frame K<sup>1</sup>, which consists of the two parallel side pieces, the two parallel end pieces, and the transverse slats, which slats, however, instead of being arranged with one face flush with one face of the side and end pieces, are arranged so as to form a shoulder upon each side thereof, which serve to form a support for the adjacent sides of the honey-sections in the two tiers and prevent side movement thereof. When this separating-frame is employed, the hooks will be

arranged so as to hold the parts in their proper relative positions, as shown.

This form of crate is readily reversible when desired.

Both frames J J' and separating-frame K<sup>1</sup> are slightly wider than the length of the series of honey-sections contained therein, and when the said honey-sections have been arranged within the crate the wedge-shaped strips Q are inserted between the inner edges of the side pieces of the frames and the glass plates L, and the plates are thus held in position and the parts retained in place.

What I claim as new is—

1. As an improved article of manufacture, a brood-frame having a kerf in its upper bar and extending for a portion of the length of the vertical bars and a starter having its upper edge and ends held in said kerf, substantially as shown and described.

2. In a bee-hive, a crate consisting of two rectangular frames having front and rear rabbets, and each provided with transverse slats whose outer faces are flush with the outer edges of the side and end pieces of the frame, and a central separating-frame provided with transverse slats arranged to leave a shoulder upon each side thereof, and hooks detachably holding the three frames together, substantially as shown and described.

3. The combination, with the honey-sections, of the frames J J', having front and rear rabbets, each frame being wider than the honey-sections and held together by detachable fastenings, the glass plate L, and the wedge-shaped strips Q, inserted between the inner edges of the frames and the glass plates L of the honey-sections, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

LEONARD V. HOPKINS.

Witnesses:

WILLIAM M. LEWIS,  
MILTON G. ALEXANDER.