2 Sheets—Sheet 1.

G. W. WAGEONER.

Bee-Hive.

No. 199,005. **Patented Jan. 8, 1878.**

Fig. 1.

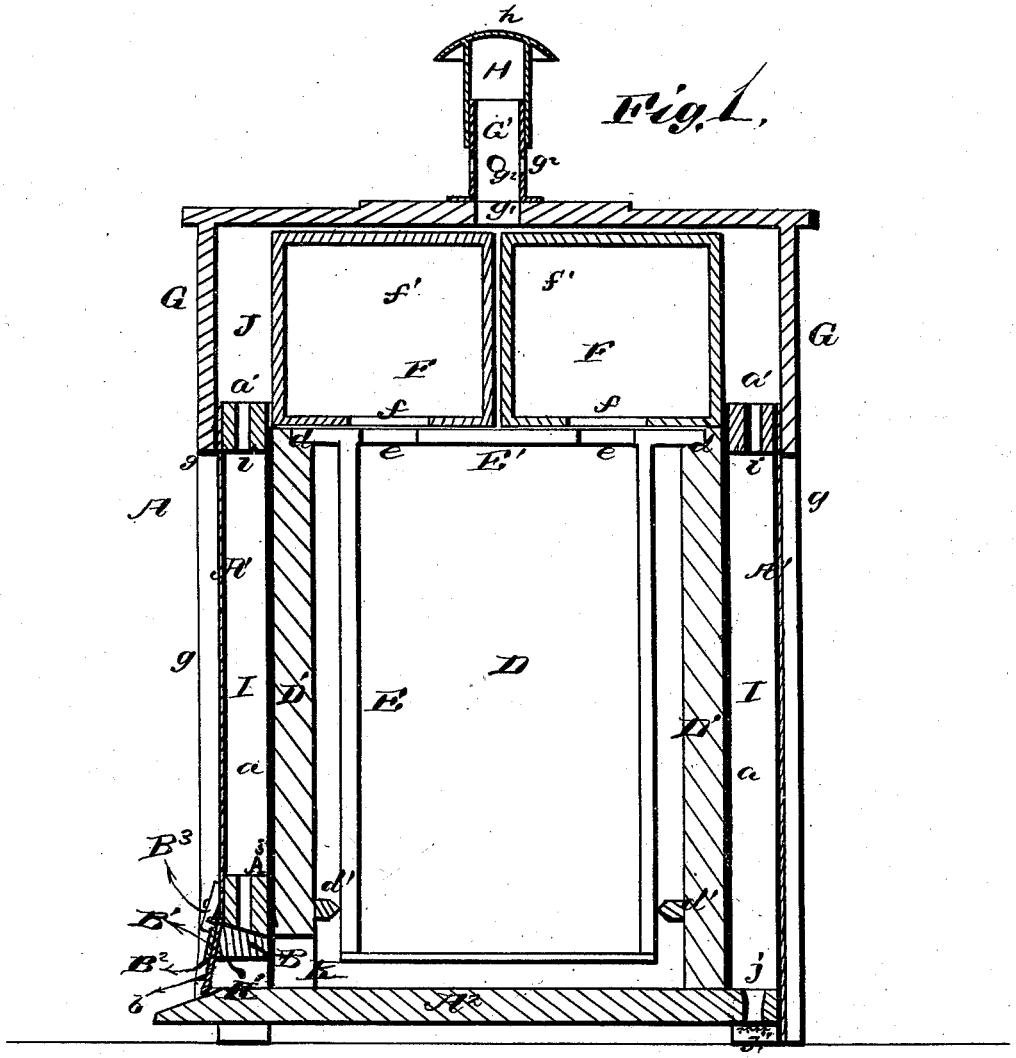


Fig. 4.

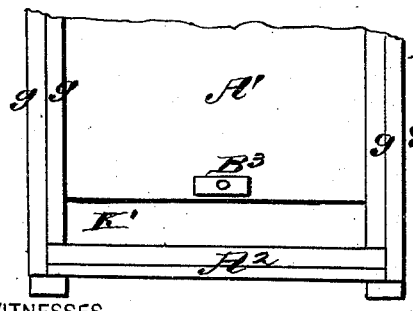


Fig. 6.

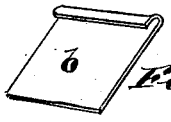
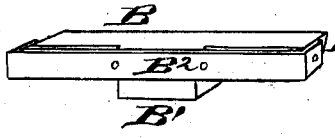


Fig. 5.



WITNESSES

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2 Sheets—Sheet 2.

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Bee-Hive.

No. 199,005. Patented Jan. 8, 1878.

Fig. 2.

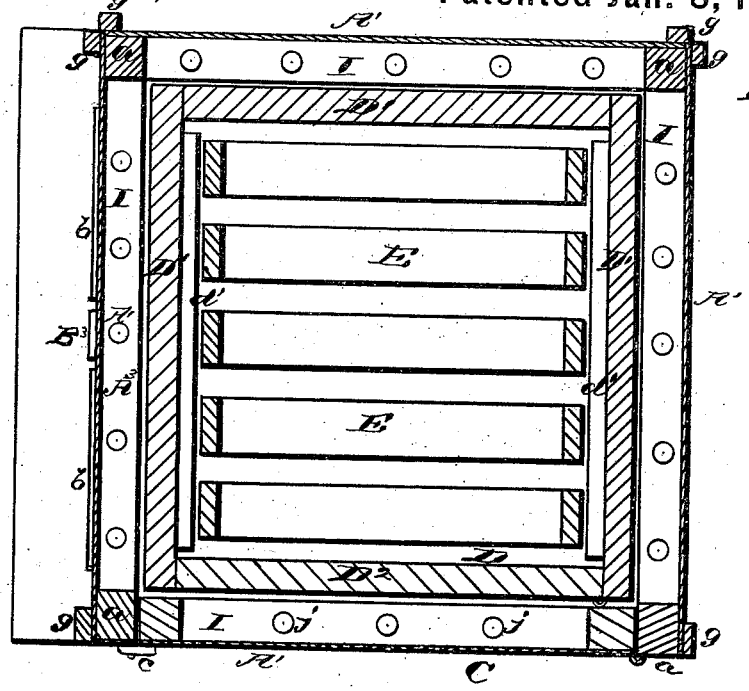
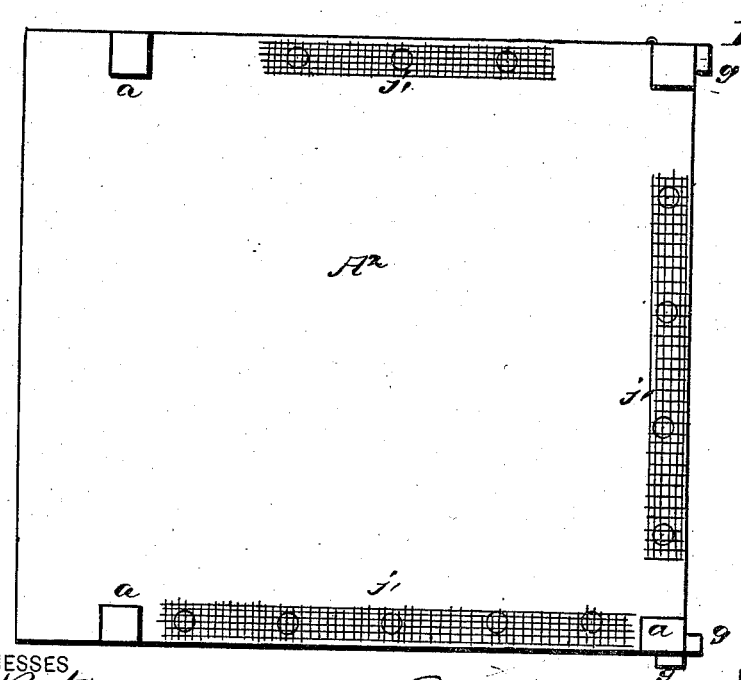


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE W. WAGEONER, OF MEMPHIS, MISSOURI.

IMPROVEMENT IN BEE-HIVES.

Specification forming part of Letters Patent No. **199,005**, dated January 8, 1878; application filed March 3, 1877.

To all whom it may concern:

Be it known that I, GEORGE W. WAGEONER, of Memphis, in the county of Scotland and State of Missouri, have invented a new and valuable Improvement 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 longitudinal vertical section of my bee-hive. Fig. 2 is a transverse sectional view of the same. Fig. 3 is a bottom view thereof; and Figs. 4, 5, and 6 are detached views.

This invention consists in the peculiar construction of a ventilating-tube and double walls for bee-hives, constructed and arranged substantially as hereinafter set forth.

In the accompanying drawings, A designates the outer box of my double-walled bee-hive, having paper sides A^1 and wooden bottom A^2. Said paper sides are supported by a frame consisting of standards *a* and top pieces *a'*, which are attached to one another and to bottom A^2, so as to form three frame or skeleton sides to said box A. A horizontal cross-bar, A^3, is fixed to two of said standards, and attached to one of said sides A^1, and that part of said side below said cross-bar A^3 is removed, so as to leave a considerable opening. In this opening sets a detachable piece, B, which is provided in the middle with a supporting-block, B^1, that rests upon said bottom A^2. The rear or outside of said piece B is provided with a plate, B^2, which serves as a guide for two vertically-sliding doors, *b b*, which work across the openings on each side of said supporting-block, so as to prevent the ingress or exit of the bees whenever desired. When said doors are raised they allow the bees to pass freely in and out of the hive. A button, B^3, attached to said box A, serves to fasten said piece B to its place. The fourth side of said outer box A is formed by a door, C, hinged to one of the aforesaid standards *a*, and fastened, when closed, by a button, *c*, attached to another of said standards.

D designates an inner box, having three wooden sides, D^1, and a hinged door, D^2, forming its fourth side, but no bottom. Within said inner box D are several detachable vertical honey-frames, E, which are provided with flat top pieces E'. Said top pieces touch at the sides, forming a continuous platform or table, and their projecting ends rest upon shoulders *d*, formed on the inside of said inner box, near the top thereof. On the inside of said inner box, near the bottom thereof, are formed horizontal ribs *d'*, which receive said frames between them, and prevent their displacement. Said top pieces E' are recessed, so as to form openings *e*, whereby the bees are allowed to pass upward into detachable honey-boxes F, which rest upon the platform formed by such top pieces E'. These boxes have openings *f* in their bottoms and glass ends *f'*.

G designates a hollow top piece or cover, supported by vertical beads *g*, attached to standards *a* on the outside thereof, and extending above said boxes F. In the middle of said top piece or cover is an opening, g^1, from which a fixed tube, G', extends upward, said tube being provided with ventilating-holes g^2.

H designates a sleeve or exterior tube, which is closed at the top by a cap, *h*, and may be forced down over said inner tube, so as to close said ventilating-holes, or raised, so as to open the same or a part thereof.

The inner box D touches the inside of the frame of the outer box A. As the paper sides A^1 are attached to the outside of said frame, there is a space, I, between said paper sides and the inner box. This space communicates at the top with space J under said cover G by means of perforations *i* through cross-pieces *a'*, and at the bottom with the outer air through perforations *j* in bottom piece A^2. These latter perforations are covered with wire-gauze *j'*, as shown in Fig. 3, to prevent the bees or other insects entering through them.

The above-described construction of the hive allows a current of air to pass up or down through the walls of the same, equalizing the temperature at all seasons. One side of the inner box D is recessed at the bottom at K, next to detachable piece B, to allow the bees to pass in and out.

By the employment of paper for the sides of the outer box of the hive several advantages are attained.

It is well known that paper is an excellent

non-conductor of heat, and hence by its employment the bees in the hive will be kept cool in summer and warm in the winter, the animal heat of the bees being retained in the hive by the non-conducting properties of the paper.

Paper is also a cheaper and lighter material than that ordinarily used for the sides of the hive, and can readily be replaced when torn.

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

The outer box A, constructed as described, and provided with ventilating-holes in its top and bottom, in combination with the inner box D, having a surrounding air-space, and hollow top G, provided with the fixed perforated tube G′ and adjustable sleeve H, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

GEORGE W. WAGEONER.

Witnesses:

ANDREW P. CUSHMAN,

J. A. CUSHMAN.