

J. WILLIAMS.

Devices for Making Artificial Honey-Comb.

No. 134,411.

Patented Dec. 31, 1872.

Fig. 1.

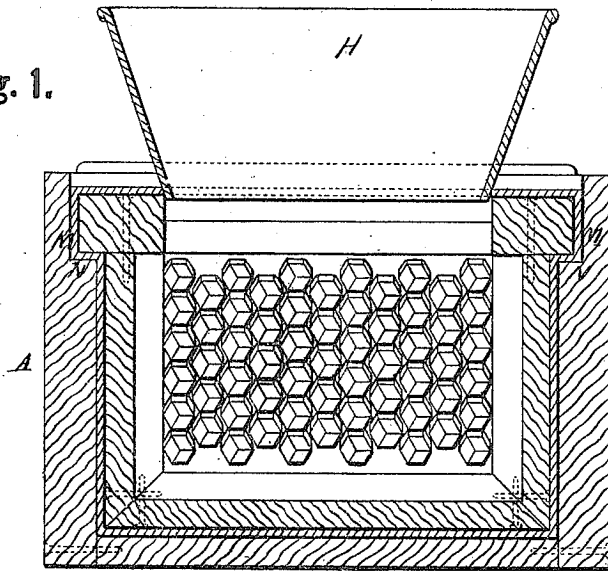
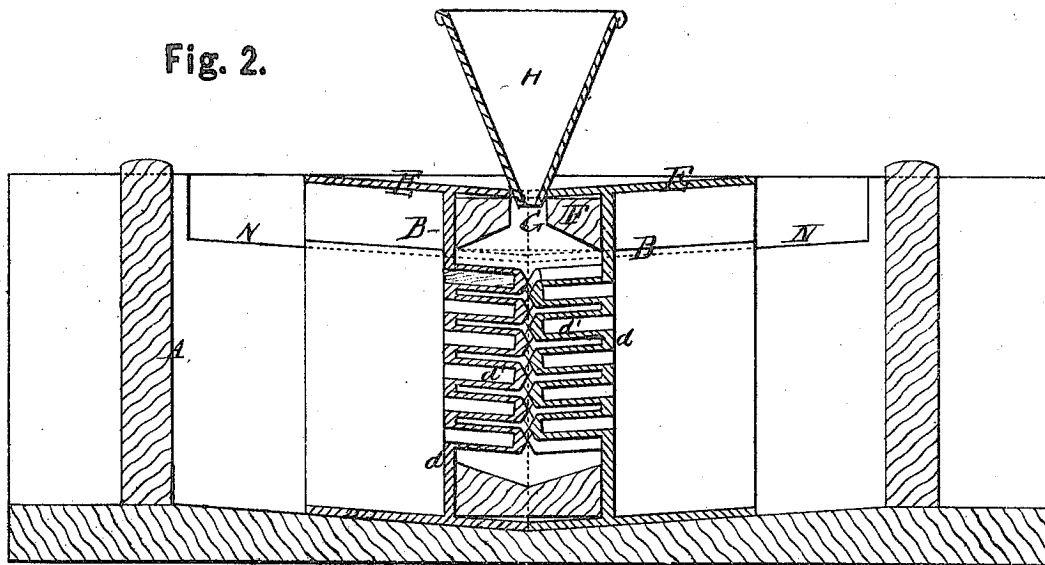


Fig. 2.



WITNESSES.

*Villette Anderson*  
*G. E. Upham.*

INVENTOR.

*Joseph Williams,*  
*Chippewa Falls, Wis.*  
*Atty.*

# UNITED STATES PATENT OFFICE.

JOSEPH WILLIAMS, OF BEAN'S STATION, TENNESSEE.

## IMPROVEMENT IN DEVICES FOR MAKING ARTIFICIAL HONEY-COMB.

Specification forming part of Letters Patent No. 134,411, dated December 31, 1872; antedated December 24, 1872.

*To all whom it may concern:*

Be it known that I, JOSEPH WILLIAMS, of Bean's Station, in the county of Grainger and State of Tennessee, have invented a new and valuable Improvement in Apparatus for Constructing Honey-Comb; and 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 drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a vertical transverse, and Fig. 2 is a vertical longitudinal, section of my invention.

My invention has relation to the production of artificial honey-comb. The novelty is embraced in the construction of a mold or dies for the manufacture of said artificial honey-comb, and also in the product thereof, as a new article of manufacture.

The accompanying drawing shows a simple device which I employ in the formation of said honey-comb.

A represents a box; B B, a set of metallic dies, each die consisting of a plate, *d*, armed with a large number of six-sided projections, *d'*, corresponding exactly in size, form, and arrangement with the cells of a honey-comb. These dies are fitted, for convenience, within casings E, which are adapted to fit close together and hold, or allow between their inner and adjacent edges, a frame, F, within the borders of which the artificial comb is to be formed. This frame may be the comb-frame afterward, to be placed within the hive.

When the dies have been properly arranged for use the projections *d'* of the opposite dies lie close together and within the frame F. The honey-comb is now produced by pouring through an opening, G, in the top of the die-casings and frame F, melted bees-wax. This fills the dies, and, when the latter are separated, a perfect honey-comb appears.

This comb may be then placed in the hive, and will be used by the bees, thus saving the

insects the labor of building combs, and causing them to spend the time otherwise appropriated to the above work in the gathering and storing of honey.

By the use of this artificial comb the hives may, in proper season, be supplied with combs made from pure clean wax, and the necessity of old combs being used year after year dispensed with.

In molding the comb I prefer using a frame, F, having its interior surfaces beveled from both edges to an angle, so that the wax will be more securely held in place.

The melted wax is poured into the mold through a suitable funnel, H.

As will be seen in the drawing, I so arrange the parts of the mold that the cell-forming projections shall have a slight inclination toward the center of the comb-frame. Hence, when the comb is molded, the cells shall lie as the bees would have them—that is, inclined toward the center of the comb.

I do not limit myself to any precise method of constructing or arranging the parts of an apparatus to produce this inclination; or, in fact, to produce a honey-comb in every material respect resembling the work of the bees; but in order that others may be enabled to construct an apparatus for the purpose, I have shown the molds set on an inclined or beveled base, and their projecting flanges M also resting on beveled shelves N. Such an arrangement will produce the desired result as to the inclination of the cells.

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

Molds, dies, or equivalent devices, adapted to the production of artificial honey-comb from melted wax, substantially as specified.

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

JOSEPH WILLIAMS.

Witnesses:

GEO. E. UPHAM,  
PHIL. C. MAST.