

Nov. 17, 1936.

J. E. WALKER

2,061,295

FORMER FOR MAKING CELLULAR STRUCTURES AS HONEYCOMB AND THE LIKE

Filed July 2, 1935

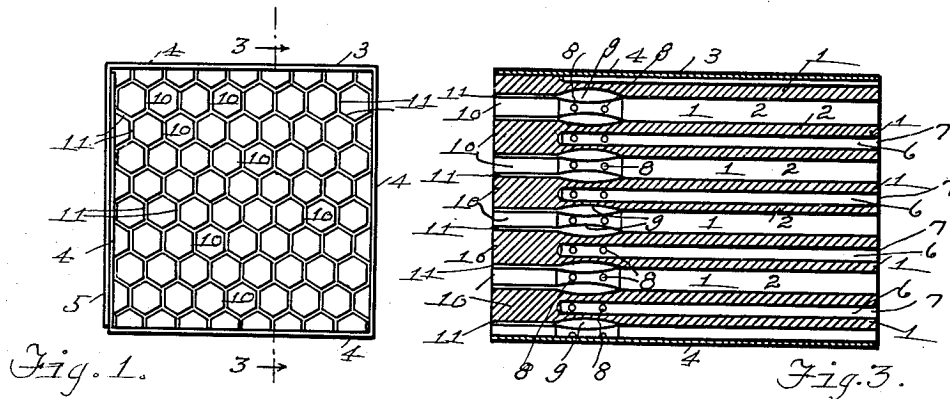


Fig. 1.

Fig. 3.

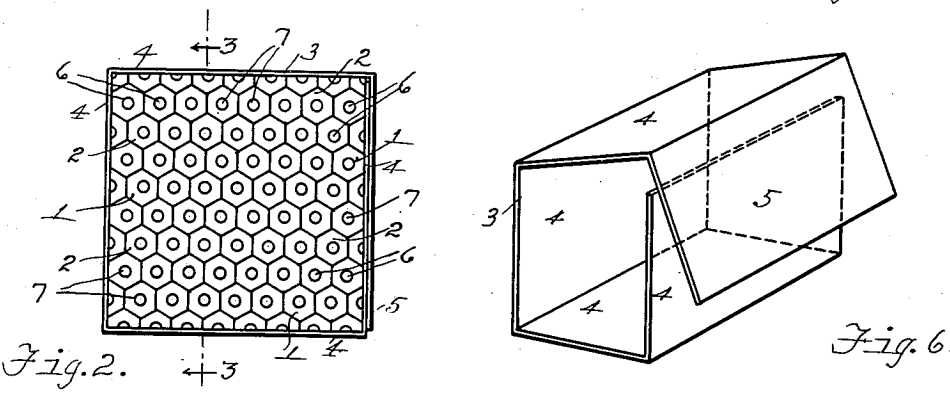


Fig. 2.

Fig. 6.

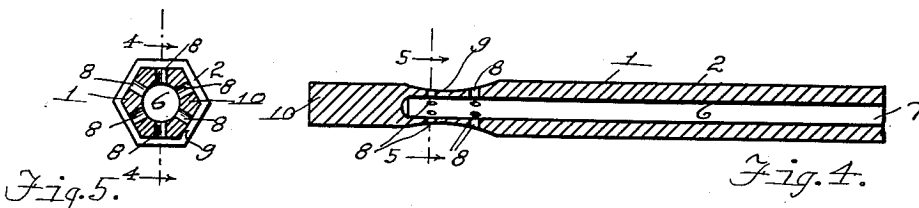


Fig. 5.

Fig. 4.

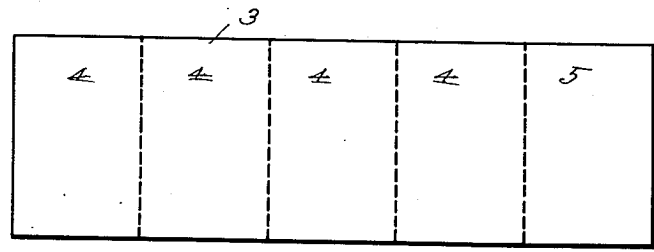


Fig. 7.

INVENTOR.
Joseph E. Walker
BY Rice and Rice
ATTORNEYS.

UNITED STATES PATENT OFFICE

2,061,295

FORMER FOR MAKING CELLULAR STRUCTURES AS HONEYCOMB AND THE LIKE

Joseph E. Walker, Grand Rapids, Mich.

Application July 2, 1935, Serial No. 29,520

4 Claims. (Cl. 6—11)

The present invention relates to formers for making cellular structures, such as artificial honeycomb to be used in hives for containing the honey made by the bees; and its object is to provide an improved device of this character, simple and economical in construction and effective for the intended purposes.

This and any other and more specific objects hereinafter appearing are attained by, and the invention finds preferable embodiment in, the structure particularly described in the body of this specification and illustrated by the accompanying drawing, in which:

Figure 1 is a discharge-end view of a former for making cellular structures, particularly artificial honeycomb;

Figure 2 is an intake-end view thereof;

Figure 3 is a longitudinal or axial sectional view of the same taken on line 3—3 of Figures 1 and 2;

Figure 4 is a longitudinal or axial sectional view of one of the tubular elements of which the former may be made, taken on line 4—4 of Figure 5;

Figure 5 is a transverse sectional view thereof taken on line 5—5 of Figure 4;

Figure 6 is a view of a sheet member used to hold said elements together;

Figure 7 is a view thereof in flat form.

Although my former may be of various types and its parts of various shapes for making cellular structures of different kinds, the particular embodiment of the invention illustrated by this drawing shows a former of the type employed for making artificial honeycomb to be used in hives for containing honey made by the bees; and in said embodiment separate tubular elements are employed for effecting simplicity and economy of construction, ready replacement of parts, etc.

In this illustrated embodiment the former comprises a plurality of such separate tubular elements 1 cross-sectionally hexagonal, their main portions 2 being held in side by side mutually contacting relation by suitable means as by the sheet 3 bent as indicated in Figures 1 and 2 so that its portions 4 and flap 5 embrace said elements side-wise to hold them closely and securely together.

These elements 1 have in their main portions 2 axially extending passages or bores 6 with inlets 7 at their outer ends constituting the intake end of the former. These passages have angularly spaced outlets 8 extending laterally from adjacent their other ends through the walls of said elements and venting into their shallow annular grooves 9. Forming members 10 extend

beyond the passages 6 and the grooves 9, being portions of said elements but cross-sectionally reduced from their main portions 2 so as to provide spaces 11 between and around said members. These forming members are of that cross-sectional formation and relative disposition which corresponds with the cross-sectional form of the cellular structure to be made, in the illustrated former for making honeycomb structure said members being hexagonal and disposed correspondingly with the cells of natural honeycomb as seen in Figure 1. The passages 6 communicate through their lateral outlets 8 and annular grooves 9 with the spaces 11 as shown.

The material for making the desired cellular structure, as beeswax for making artificial honeycomb in the illustrated embodiment of the invention, in a proper state of consistency is caused to flow smoothly and uniformly through the former from its intake end, to and beyond its discharge end, any suitable force or means being employed to cause such flow.

In passing through the spaces 11 this material is pressed between the forming members 10 into the required shape and emerges from the discharge end of the former in that shape or formation.

Desired lengths of the protruding product may be severed, honeycomb structure made of beeswax being severed as by a hot wire or knife and placed in the boxes usually employed in hives for containing the natural honeycomb. It is evident that great speed and economy in honey production may be attained by the use of such artificial honeycomb.

The invention being intended to be pointed out in the claims, is not to be limited to or by details of construction or arrangement of the particular embodiment thereof illustrated by the drawing or hereinbefore described.

I claim:

1. A former for making cellular structures, having a plurality of parallel passages with inlet ends and lateral outlets adjacent their other ends, and laterally spaced structure-forming members extending beyond the passages respectively and of the cross-sectional formation and relative disposition which corresponds with the cross-sectional formation of the structure to be made, said outlets venting into the spaces between said members so that the structure-making material may be forced through the former passing through its passages and their outlets and between said members and being formed thereby into said structure.

2. A former for making honeycomb structures, 55

having a plurality of parallel passages with inlet ends and lateral outlets adjacent their other ends, and cross-sectionally hexagonal structure-forming members extending beyond the passages respectively, laterally spaced and relatively disposed correspondingly with the cross-sectional formation of a natural honeycomb, said outlets venting into the spaces between said members so that the structure-making material may be forced through the former passing through its passages and their outlets and between said members and being formed thereby into honeycomb form.

3. A former for making cellular structures, comprising a plurality of separate tubular elements held in side by side mutually contacting relation, each element having an axial passage with an inlet end and a lateral outlet adjacent its other end, and a cross-sectionally reduced structure-forming member extending beyond the passage, said members being laterally spaced and relatively disposed correspondingly with the cross-sectional formation of the structure to be made, said outlets venting into the spaces between said members so that the structure-making material

may be forced through the former passing through its passages and their outlets and between said members and being formed thereby into said structure.

4. A former for making honeycomb structures, comprising a plurality of cross-sectionally hexagonal tubular elements held in side by side mutually contacting relation, each element having an annular groove and an axial passage with an inlet end and a lateral outlet adjacent its other end venting into the groove, and each element having a cross-sectionally hexagonal structure-forming member extending beyond the groove, cross-sectionally reduced to provide spaces between adjacent members, hexagonal and relatively disposed correspondingly with the cross-sectional formation of natural honeycomb, the grooves communicating with said spaces so that the structure-making material may be forced through the former passing through its passages and their outlets and the grooves and between said members and formed thereby into honeycomb form.

JOSEPH E. WALKER.