

[54] **HONEYCOMB FRAME OF A BEEHIVE**
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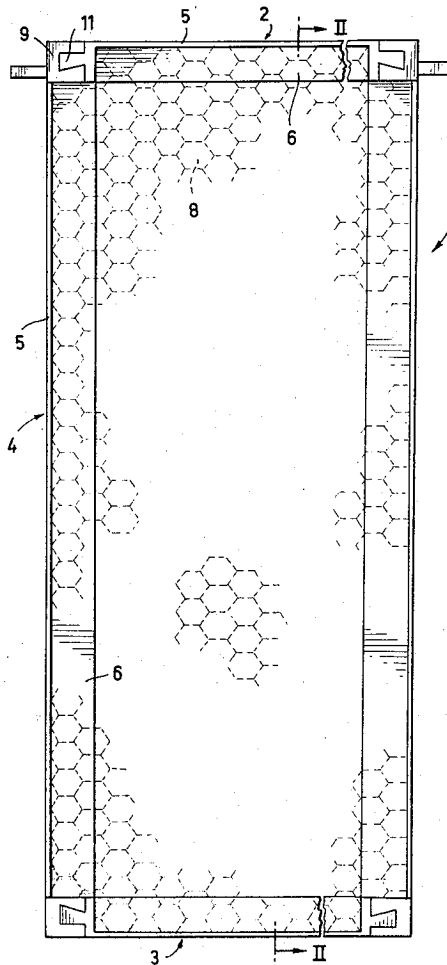
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[57] **ABSTRACT**

A rectangular honeycomb frame of a beehive, comprising four T-section ribs and joint members at the ends of the ribs. The web section of the ribs is directed inwards and the frame can be assembled and disassembled at the said joint members manually without tools.

[56] **References Cited**
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2 Claims, 4 Drawing Figures



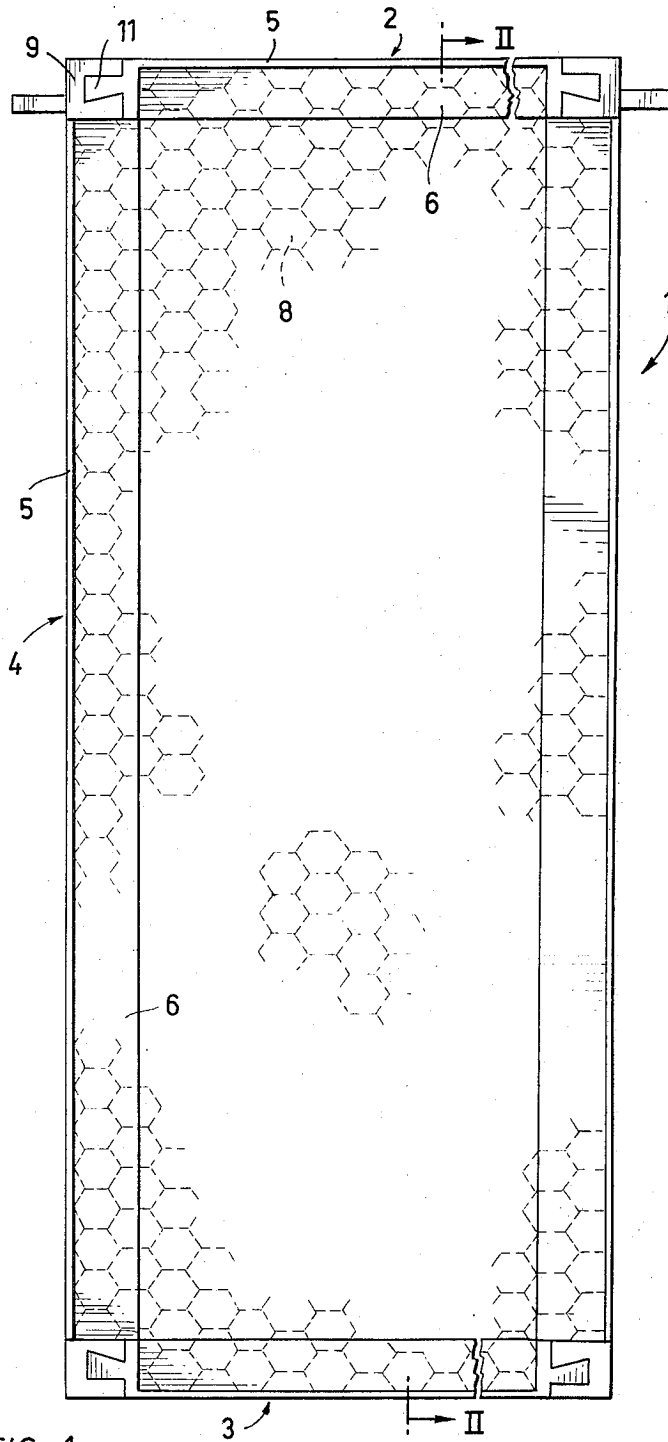


FIG. 1

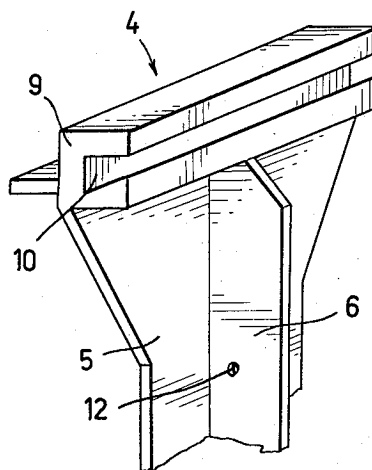
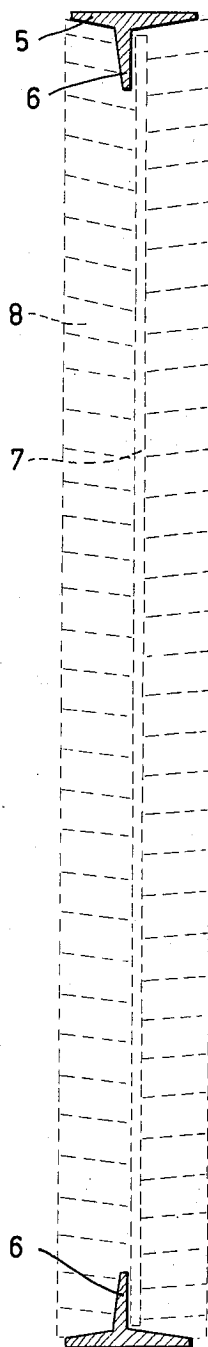


FIG. 3

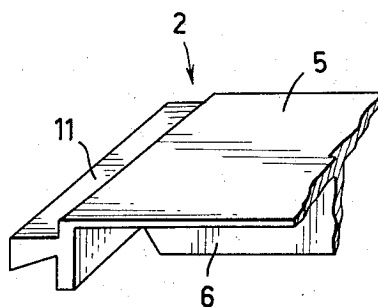


FIG. 4

FIG. 2

HONEYCOMB FRAME OF A BEEHIVE

The present invention relates to a honeycomb frame of a beehive.

From the German Pat. No. 827,439 a honeycomb frame for a beehive is known in which the top and bottom rib of the frame have a T-shaped section and made of metal strip. The side ribs of the frame are rectangular-section wooden ribs, at their ends provided with slits into which the web section of the T-section top and bottom rib is pressed. The ribs are fastened to each other by means of nails. In such a honeycomb frame the thick wooden ribs take a lot of space, so that the effective surface area on which the bees can construct their cells is only about 90 percent of the total area limited by the outer faces of the frame. A further disadvantage of such a honeycomb frame is that it is designed as a fixed unit, so that its storage, transport, maintenance, repair, and even its use has been difficult and uneconomical, because a broken frame that has become unsuitable for use has, as a rule, had to be discarded and replaced by means of a new frame.

A purpose of the invention is to provide a honeycomb frame in which the effective surface area is almost equal to the total area limited by the outer faces of the frame, i.e., about 98 percent of the total area. This is achieved thereby that all the ribs of the frame have a T-section, whereby the honeycomb can extend right to the flange section of the frame rib.

Another purpose of the invention is to provide a honeycomb frame that can, if necessary, be assembled and disassembled manually, without tools and loose joining clips, whereby storage, transport, maintenance, and renewal of components of the frame can be accomplished easily and economically.

This is achieved thereby that the honeycomb frame consists of four ribs the ends of which are provided with joint members that allow connecting of the ribs together and disconnecting them from each other manually without any tools whatsoever.

The other advantages and characteristics of the preferable embodiment of the honeycomb frame in accordance with the invention come out from the following detailed specification, in which reference is made to the attached drawing.

FIG. 1 shows a partial side view of a collapsible honeycomb frame of a beehive in accordance with the invention,

FIG. 2 shows a cross section of the frame along the line II—II in FIG. 1,

FIG. 3 shows a perspective view of the top end of a side rib of the frame, and

FIG. 4 shows a perspective view of one end of the top rib.

In the drawing the reference numeral 1 denotes the rectangular honeycomb frame comprising a top rib 2 and a bottom rib 3 and two equal side ribs 4. As comes out in particular from FIG. 2, the ribs have a T-section, whereby they comprise a flange section 5 forming the outside edge and a web section 6 forming an internal support and reinforcement beam. The web section is

somewhat shifted in relation to the center line of the flange section so that the wax base 7, on which the bees construct their cells 8, comes to lie at the middle of the flange section. The honeycomb construction consisting of the cells 8 continues right to the flange section 5 of the frame ribs, whereby the inner effective surface area of the frame is enlarged decisively as compared with the frames in use at present, so that the effective surface area in the use of the frame in accordance with the invention is about 98 percent of the total surface area of the frame.

FIGS. 3 and 4 show a more detailed view of the joint between the ribs. The side rib 4 accommodates a thicker end 9 provided with a wedge-shaped groove 10, into which groove a corresponding projection 11 of the top rib 2 fits tightly. The ribs are fastened to each other so that the groove 10 and the projection 11 are positioned on the same straight line, whereupon the projection is pushed into the groove.

By means of the present invention the frames can be made such that they can be assembled easily without tools and loose joint clips. If necessary, the support wires of the base wax can be installed through the holes 12 in the web section, and the base wax 7 can be secured firmly to the web section 6 in ways in themselves known, for example by soldering by means of molten wax. Frame ribs made of plastics or similar materials can be cleansed easily, for example, by means of the hot-water method, so that the frame is hygienic and has a long service life.

The present invention makes it possible to replace broken components of the frames, to store and to forward components and, in general, to transport the frame as collapsed into components, in which case it requires only about one tenth of the storage or transport space that is taken by a frame of a rigid construction.

The frame in accordance with the invention can be used together with known frames, because it has equal outer dimensions.

What I claim is:

1. A honeycomb frame for a beehive comprising four T-section ribs each having an external flange section and an internal web section and each also having a cross member at each of its ends with its length at right angles to the web section, and extending internally of the flange sections, said cross members on two of said ribs being shaped to provide grooves and said cross members on the other two of said ribs being shaped to provide cooperating tongues, the grooves and tongues extending along the length of the cross members, whereby the frame can be assembled manually by inserting the tongues in corresponding grooves with the external flange sections of the ribs located outwardly and the internal web sections extending inwardly.

2. A honeycomb frame according to claim 1 in which the internal web sections of said ribs are displaced with relation to the center line of the external flange sections, so that a wax base when placed and fixed in position is located at said center line.

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