

**WO 2006/085124 A2**

## BEEHIVE LID

This invention generally refers to a beehive, specifically to its lid which has a top that opens and closes and under this exist containers and an opening with removable cover, has air intake holes with shutters that open and close, it has a special way to tie its woods together, and a  
5 special take off board at the bottom of the beehive.

In the beehives up to this time the lid covers the body of the hive and enables air circulation through the air intake holes. In order to work with the bees the lid has to be taken off with force because it has been  
10 glued with "propolis" by the bees. This fact stimulates and stresses the bees demanding much time and work by the apiculturist, and makes smoking the bees a necessity. The smoking though has the disadvantage of transferring all toxic substances to bees' products. The stimulation has the side effect of consuming honey and pollen by the bees, some bees'  
15 deaths, as well as looting from nearby beehives. Additionally in the lid and in the hive in general, nails and screws are being used to hold the wooden boards together resulting in the boards to loose tie and crack. The take off board is an extension of the bottom of the hive.

20 The beehive lid according to the current invention not only covers the body of the hive but also enables all the works inside the hive to take place under all weather conditions, without taking the lid off and without the need to smoke the bees, which results to less time and work needed by the apiculturist. This way we don't stimulate the bees, avoiding the  
25 consumption of honey and pollen, as well as the looting from nearby beehives. Using this lid we are able to watch the bees inside the hive

without disturbing them. The lid of this hive has to be taken off only when we have to work with the boards inside the hive. By adjusting the shutters of the air intake holes the apiculturist helps the bees to overcome any weather conditions. The lid and the body of the hive don't crack,  
5 don't loose tie nor rot because the sideboards are using dovetail joints to be held together and not nails nor screws. The space needed for the transportation of the hive is reduced because the take off board of the bottom flaps upwards blocking the main door and not permitting the bees to exit but allowing the air intake because of its riddled construction. The  
10 size of the take off board (82) can be lengthened in order to help the flying of the bees.

Arrangements of the above type are known for example from  
US4546509 A/ HUETTER patent refers to a beehive, which permits  
15 more than one colony of bees in the same beehive with separate queen to collect and store honey, and is irrelevant to my invention.

US2340219 A/G.B. LEWIS COMPANY refers to beehives of generally conventional construction having improved rests or frame supporting members and is irrelevant to my invention.

20 US129464 A / CUNNINGHAM refers to the general construction of the beehive and not to a lid that opens and therefore is irrelevant to my invention.

US4736479 A / LAGERMAN refers to a method of beekeeping and not the lid of the beehive and therefore is irrelevant to my invention.

25 GR20020100010 A PANAGIOTAKIS K. refers to a mechanism of honey extraction and therefore is irrelevant to my invention.

US4199832 GLASSCOCK ET AL. refers to a beehive constructed with special material as foam e.t.c. and therefore is irrelevant to my invention.

US2300772 A / BORLAND refers to beehive body and frame construction and therefore is irrelevant to my invention.

My invention differs from all the above inventions because it has a lid that splits open and has internal mechanisms of feeding attending and watching the bees, because it has shutters on the air intake holes, because it uses dovetail joints to hold the sidewalls together and because it uses a folding take off board so is irrelevant to all inventions mentioned before.

In my invention the top of the lid is connected to its body with a connecting mechanism allowing it to open and close. The surface under the top has two sections, the one has containers where liquids are placed and in the other there is an opening through which we watch, feed and do whatever work needs immediate contact with the bees. A removable cover covers the opening. The air intake openings are being covered with shutters attached to the top of the lid with a connecting mechanism. The hive has a take off board attached to its bottom with a folding mechanism allowing it to open and close. The hive uses dovetail joints on the sidewalls.

Figure 1 shows a whole beehive with all the details of the invention.

Figure 2 is a longitudinal section of the lid at the point where it touches the cover of the internal opening from point A to B.

Figure 3 is a section of the lid of the hive from point C to D in the middle of the internal opening.

Figure 4 is a section from point E to F in the middle of the containers.

Figure 5 is a section of the top and the sidewalls of lid from point G to H.

Figure 1 shows the top of the lid (10) open and connected to one side of the body (99) of the lid with a connecting mechanism enabling it to open

and reveal the containers (8), the opening (9) the cover (48) of the opening (9) and the upper surface (2) of the body (99) of the lid .

In the containers (8) we place any liquid we want the bees to take. The liquid is being transferred through the gap (34) and fills the space (7) of the containers where the bees can take it from. The removable cover (48) fits to the groove (33) as shown in figure 3 of the surfaces (23,24,25,27) shown in figures 1,2,3.

The surface (26) is the extension of the surface (27) inclining into the containers shown in fig. 1,2 leaving empty space (34) between (26) and the bottom (30) of the containers (8). The empty space (34) is of such a construction allowing the liquids to pass through to empty space (7) while prohibits the bees to exit the hive. The side (35) of the container is lower than the other sides allowing the bees to enter the empty space (7) of the containers fig. 2. On the sides (35,26) of the empty space (7) there are stripes (36) helping the bees to clime up easily from space (7) after they take the liquids from the containers and return to inside the body of the hive without drowning. The surfaces (23,24,25,3) hold the containers and the removable cover (48) in the body of the lid and prohibit the bees to contact the top of the lid as shown in fig. 1,2,3,4.

The top of the lid (10) is covered by a metallic sheet (21), which emerges around the top of the lid (10) in order to protect the lid from the rain and wind. The sheet comes down to cover the gap (78) between the top (10) and the body (99) of the lid as shown in fig 1, 5.

The front and the back of the body (99) have air intake openings (12).

The shutters (11) are attached to the top (10) of the lid with a connecting mechanism (44) allowing them to open and close in front of the air intake holes (12) in order to cover them if needed. On the shutters (11) there are nails (50) that go into the air intake holes (12) holding the top

(10) of the lid down, so it cannot be opened by the blowing wind when the shutters are closed. Those nails are only on the shutters (11) of the opening side of the top of the lid. The mechanism (13) holds the body (99) of the lid with the body (94) of the hive. There are two of those mechanisms (13) each on an opposite side. The front side (52) of the containers (8) is inclined so as it leaves a gap between the container and the front panel of the body (99) of the lid. This gap allows the air to pass through to the body of the hive. The projections (55) on the four corners of the grooves (33) of the opening shown in fig. 2 are holding the removable cover (48) a bit higher than the lower (56) part of the grooves (33), to the same height of the surfaces (27,24,23,25) leaving a gap between the grooves and the removable cover (48) so as the propolis can be removed with the use of a thin knife. The gap (40) is smaller than the bee, not allowing it to exit towards the top (10) of the lid. The space between the surface of the removable cover (48), the containers and the top (10) of the lid provides an extra isolation layer because of the air trapped in.

The joints between the sides of the hive are made with dovetails (15,16) as shown in fig. 1 and use some glue. The folding take off board (85) is held on the bottom of the hive with a mechanism (88), may be longer (82) than usual helping bees to fly and their return to the main entrance (84). During the transportation of the hives it doesn't take any space because of its ability to fold in front of the main entrance of the hive. This way it blocks the main entrance not allowing the bees to exit. Because of its riddled construction it allows air circulation.

## CLAIMS

1. Beehive lid that has a splitting off top that inside holds containers for placing liquids and a horizontal surface with an opening and a removable cover over it, the one side of which surface inclines inside the containers,  
5 **characterized in that** has a splitting off top (10) that opens using a connecting mechanism (1), under the top cover there is a surface attached to the sidewalls (2) of the lid which has an opening (9) that is being covered by a removable cover (48) and containers (8) for liquid placement, the one side (26) of the surface is inclined coming  
10 down into the containers leaving a gap (34) between its end and the bottom (30) of the container through which gap the liquids are being transferred inside the body of the lid (99) to the space (7), has stripes (36) on the walls of space (7) to help the bees to climb up easy, because the bees do not have immediate contact with the top  
15 of the lid they do not glue it with “propolis”, gives the ability to have immediate access to the liquids placed in the containers without having any contact with the bees, gives the ability by opening the removable cover (48) to place or take anything inside, on the top of the lid there are shutters (11) that open having the  
20 ability to their position to be adjustable helping that way the bees to overcome any extreme weather conditions, when the shutters are closed they cover the air intake holes(12), all the above are being done without taking the lid off and without smoking the bees avoiding this way to transferring the toxic substances of the smoke  
25 to bees’ products.
2. Beehive lid, according to claim 1, that has an internal removable

cover (48) **characterized in that** under the removable cover we can slide in a clear or riddled cover after lifting it off in order to watch the inside of the hive without the bees to exit.

- 5 3. Beehive with a splitting off top according to claim 1, is holding a take off board (85) **characterized in that** it is folding, attached to the bottom of the hive with a folding mechanism (88) enabling it to fold upwards gaining space during transportation, it has a riddled construction (83) giving ability of air intake, it has the ability of  
10 extending the size of the side (82) because it doesn't take extra space.
4. Beehive that uses dovetail joints to withhold the sidewalls is being  
15 **characterized in that** by the use of glue withholds the sidewalls and avoids the rotting of the wood.



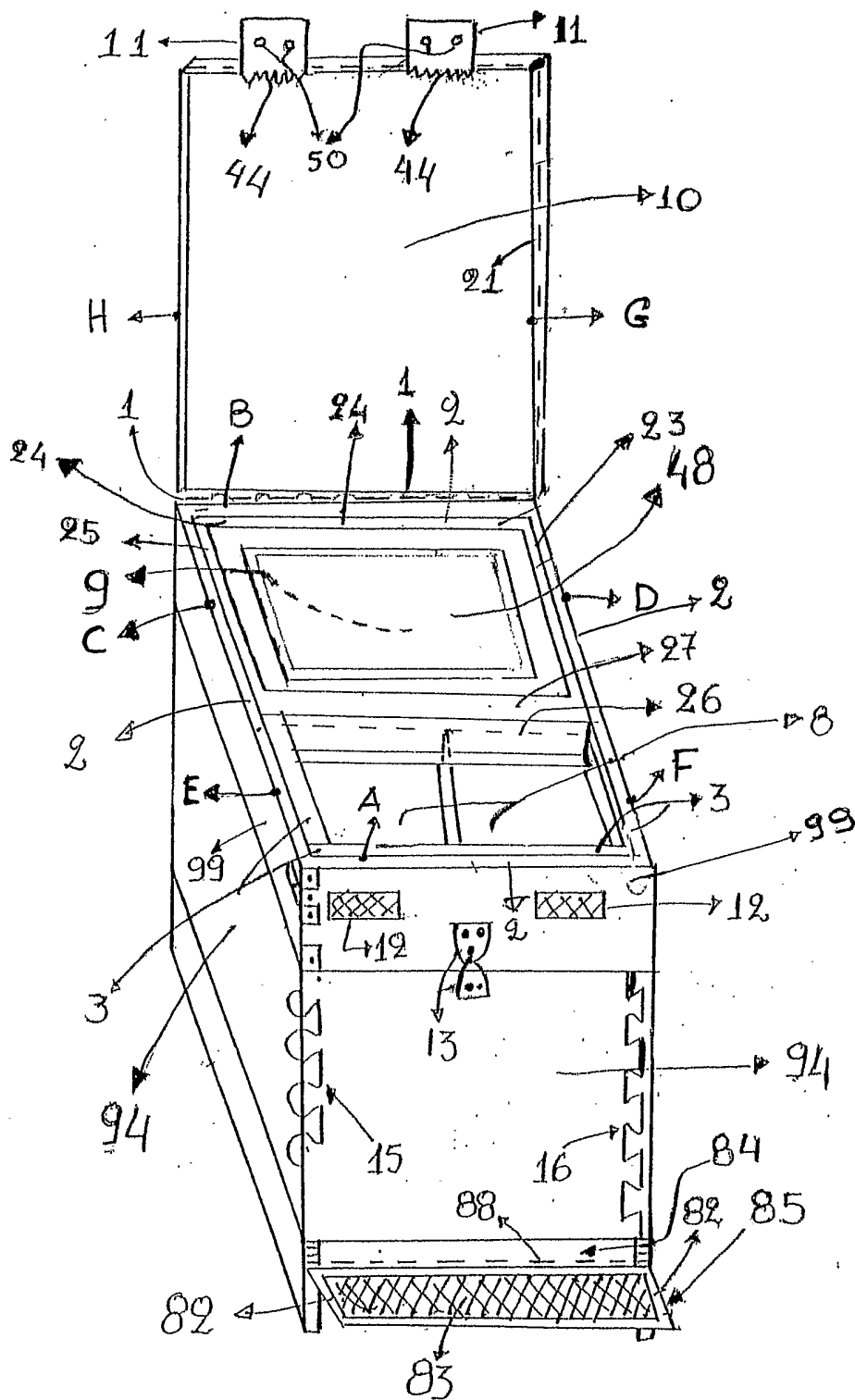


Fig. 1

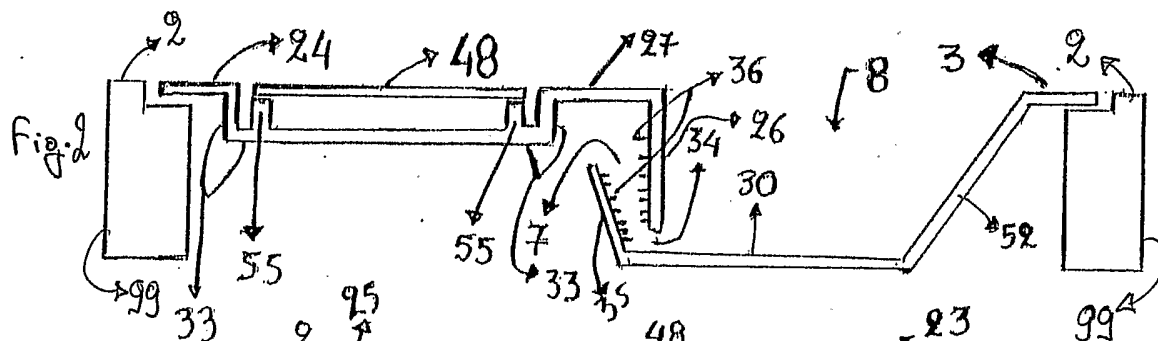


Fig 3

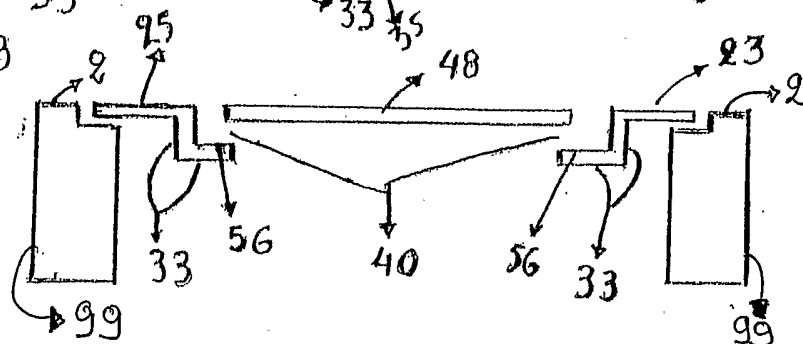


Fig 4

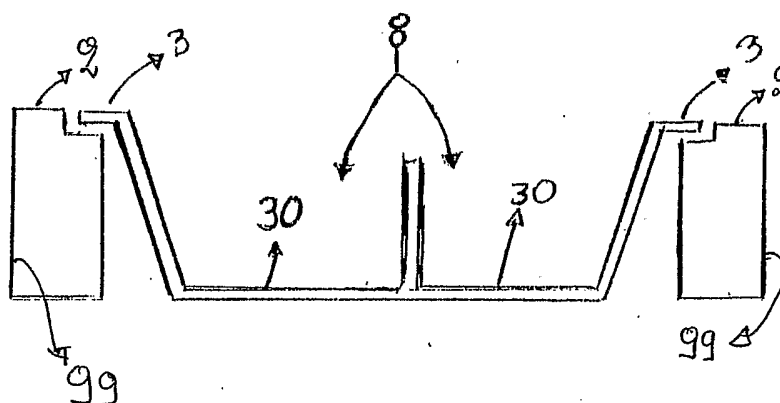


Fig 5

