

Construction of the People's Hive with moveable frames

(Translated by David Heaf from pages 60 to 69 *L' Apiculture Pour Tous – Manuel-Guide Des Fixistes Et Des Mobilistes* (Beekeeping For All – A manual for fixed comb and mobile frame beekeepers) by Abbé Warré, Bureau du 'Travail au Grand Air', 17 Rue Littré, 17 Tours, France, 5th edition, 1923.)

On page 46 Warré writes:

Nowadays, I recommend without hesitation the People's Hive with fixed combs, even for very large enterprises. [...] However, out of respect for the freedom of my readers, I will describe the People's Hive in its three forms: fixed comb, ordinary frames, open frames with closed ends.*

* no bottom-bar, see page 7

OBSERVATIONS – The construction of the *People's Hive* with moveable frames is very similar to that of the *People's Hive* with fixed combs. I thus follow the same order of presentation.

I will not avoid repetition so that the reader does not have to turn over pages to recall some of my advice.

In my presentation of this construction I look to economy. Thus I make the walls 20 mm, the minimum thickness they should have. This thickness is however sufficient if one covers the walls with a mat as I would advise.

If you do not want to cover the walls with a mat, you should make them 24 mm thick.

If the wood at one's disposal requires it, quite another thickness can be given to the walls but don't forget to enlarge accordingly the external dimensions of all parts of the hive, as the internal dimensions should be retained and that the mat is always useful whatever the thickness of the walls.

Constructing it with double walls also gives better results. In this case we use boards from 10 to 15 mm thick and leave between them a void of 15 to 20 mm. It is important to keep stationary air there.

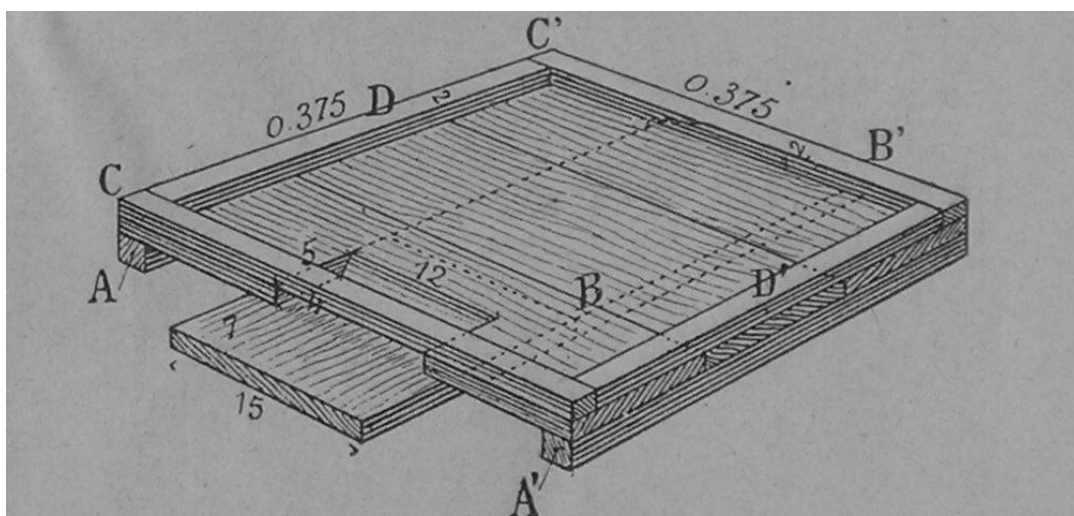


FIG. 24. — Plateau de la Ruche Populaire à cadres mobiles.

FLOOR – The floor comprises one or several boards, of a thickness of one or several centimetres, forming a square 375 x 375 mm (fig. 24). At the extremities two battens of about 20 x 20 mm

strengthen this square (fig. 24, A & A'). On one side of the floor, in the middle, a notch is made to provide an entrance for the bees. This notch is 120 mm wide and 40 mm deep at the bottom, and 50 mm deep at the top. This difference in depth forms a ramp to enable the bees to climb up more easily.

Below this notch is placed a board which serves as an alighting board. This board is at least 10 mm thick and 150 mm wide. It must project 70 mm from the edge of the floor. It will thus have a length of 150 mm if one wishes to stop at B, or 445 mm if it is extended to B' to strengthen the floor.

At the edge of the floor are placed battens C, C', D, D'. The battens C and C' are 375 mm long. The battens D and D' are 335 mm long. The battens must be 20 mm wide, the width of the walls of the boxes. These battens form a void between the floor and the frames of the lowest box in order to allow passage for the bees under the frames. The battens must thus have a thickness of 10 to 15 mm.

BOXES – The boxes we are about to describe rest directly on the floor, or on top of one another, without any nesting. They can be fixed to the floor or each other by some article of ironmongery or simply by two nails linked with wire on two or three sides. Except when moving, these measures are unnecessary. The weight of the boxes does not allow the wind to displace them. Moreover, the bees all too often fix them with propolis.

There should be at least three boxes. Two boxes comprise the brood nest in winter as well as in summer. The third box is added only during the main flow. All three boxes have the same dimensions.

The inside of the boxes are 207.5 mm high and 335 mm wide and long (fig. 25). At the outside, the dimensions are 207.5 mm high and 375 mm wide and long (fig. 25). We are always assuming that the walls are 20 mm thick.

But the walls of the boxes may be made in different ways, or with a single board of 20 mm (fig 25, A) or a board 10 mm thick covered with two boards 10 mm thick placed horizontally (fig 25, B) or a board 10 mm thick covered with several boards 10 mm thick placed crossways vertically (fig 25, C). This system of construction therefore allows small pieces of wood to be used.

In the corners of each box we can place battens (fig. 25, D). These battens are the height of the box, 207.5 mm, 5 mm thick and 17.5 mm wide. These battens serve as points of abutment for the spacers that can be put on the frames to keep them the right distance apart, if the spacers are 6 mm and eight are used per frame. If, instead, for separating frames one uses nail spacers of 12 mm, about which we will speak, and numbering four per frame, these battens D do not need to be put in the box.

CLOTH – On the top box is placed a cloth to stop the bees sticking the frames to the roof, to the quilt, etc. (fig. 25 L).

The cloth can be cut from an old sack. It should initially have the dimensions of at least 390 x 390 mm. In case one needs to feed the colony, it is good to cut a square 40 mm x 40 mm in the middle of the cloth. The hole is closed with metal mesh 60 x 60 mm (food safe mesh) fixed in place with thread (fig. 25 I). On top of this metal mesh is fixed a square of cloth 100 x 100 mm (fig. 25 J). To stop the bees fraying the cloth, it is coated with flour paste. To give the cloth the necessary shape and size it is placed still wet on the box. When it is dry it is cut by following the outside edges of the box. If the cloth is finally cut before wetting it will no longer be possible to make it the right size.

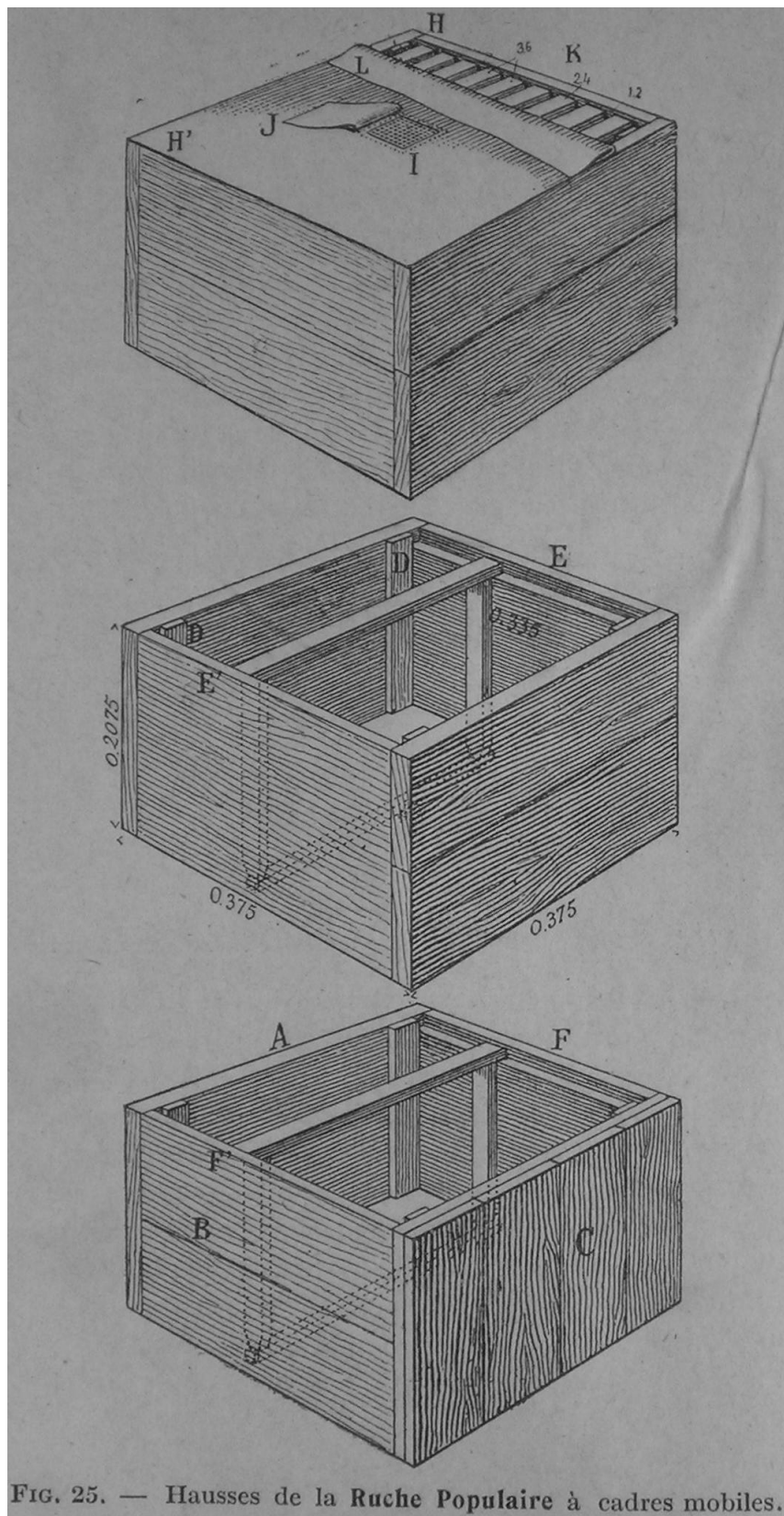


FIG. 25. — Hausses de la Ruche Populaire à cadres mobiles.

FRAMES – Each box should have 9 frames. The interior measurements of these frames are 180 x 300 mm. They are made of four pieces of which two are identical: the top-bar (fig 26 A), the two sides B and B', the bottom-bar C. The top-bar A has a thickness of 10 mm, a width of 24 mm and a length of 350 mm. The bottom-bar C has a thickness and width of 10 mm and a length of 330 mm. The two sides, B and B' are 10 mm thick, 24 mm wide and 180 mm long.

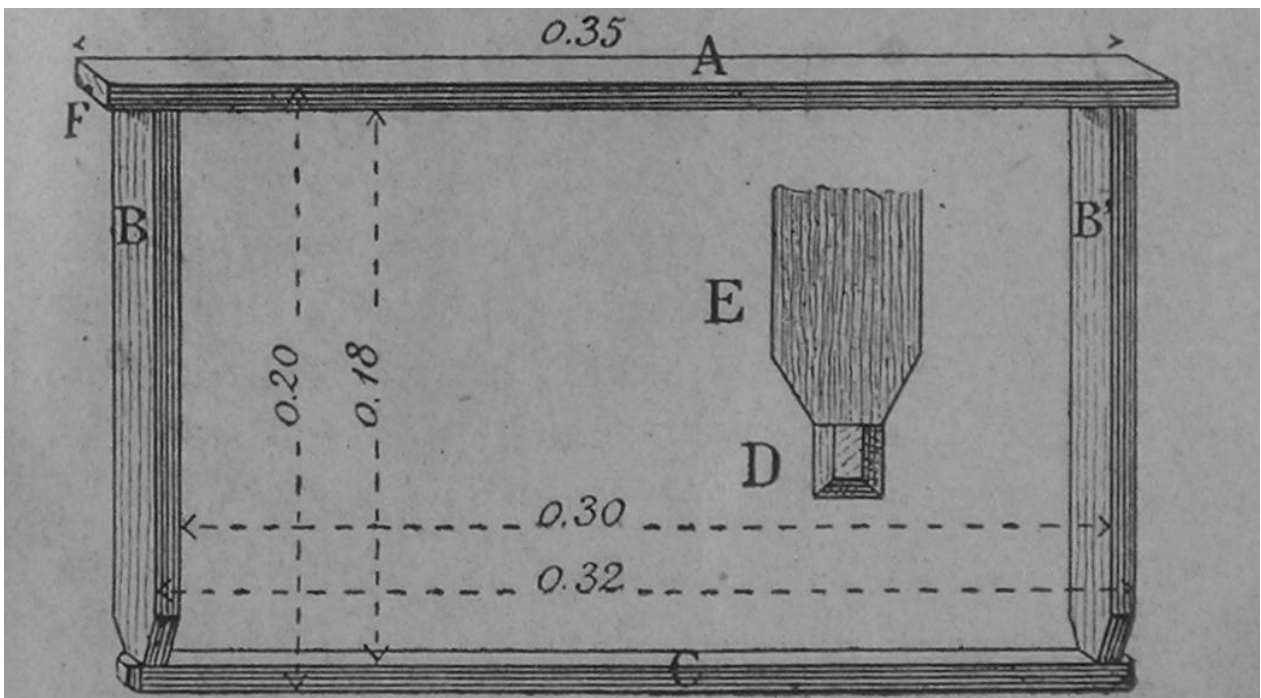


FIG. 26. — Cadre de la Ruche Populaire à cadres mobiles.

The bottom-bar C extends 5 mm beyond the sides B and B'. The square at the two ends of the bottom-bar is reduced by three cuts to 5 mm (see inset, fig. 26 D). At the ends of both sides B and B' at E, two cuts are made to reduce the width to 10 mm, the same width as the bottom-bar C.

The frames rest on their ends in two rebates cut in the upper edges of the boxes (fig 25 E and E'). These rebates are 10 mm wide and 15 mm deep.

The rebates can be made either by passing two saw cuts along the upper, inner edge of the walls which have a thickness of 20 mm (fig. 25 F') or by reducing by 15 mm the height of the inner board of a wall made of two boards of 10 mm (fig. 25 F).

The frames are positioned 36 mm between centres (fig 25). Between each there is a gap of 12 mm for the bees to pass. There is also a 12 mm gap between the end frames and the adjacent walls. This gap allows the full construction of the end combs.

Note that the top-bars of the frames have a groove of about 4 x 4 mm (fig. 26, F). This groove is to hold sheets of wax.

This groove can be made with a special joinery tool. It can also be made with a saw, a knife or a chisel. It does not need to be regular, on the contrary. But it is sufficient that this groove is made right in the middle of the top-bar.

ROOF – The roof comprises two parts, A and B (fig. 27). Part A is made of several boards of at least 10 mm thick forming a square of 380 x 380 mm. This square is surrounded by a batten about 10 mm thick (fig. 27 C & C'). This batten projects 20 mm downwards to enclose the upper box and to better secure the roof during windy weather. On the part A of the roof are placed two battens. One of them (D) should have a minimum thickness of 20 mm and a height of 60 mm. Its length is 380 mm at the bottom and 480 mm at the top. The other batten (E) should be 20 mm thick and 20 mm high. Its length is 480 mm. It is on these two battens that the part B is fixed. In fig. 27, the parts A and B are separated so the details are visible. Moreover, the difference in height between D and E gives the necessary slope to part B which has to receives the rain.

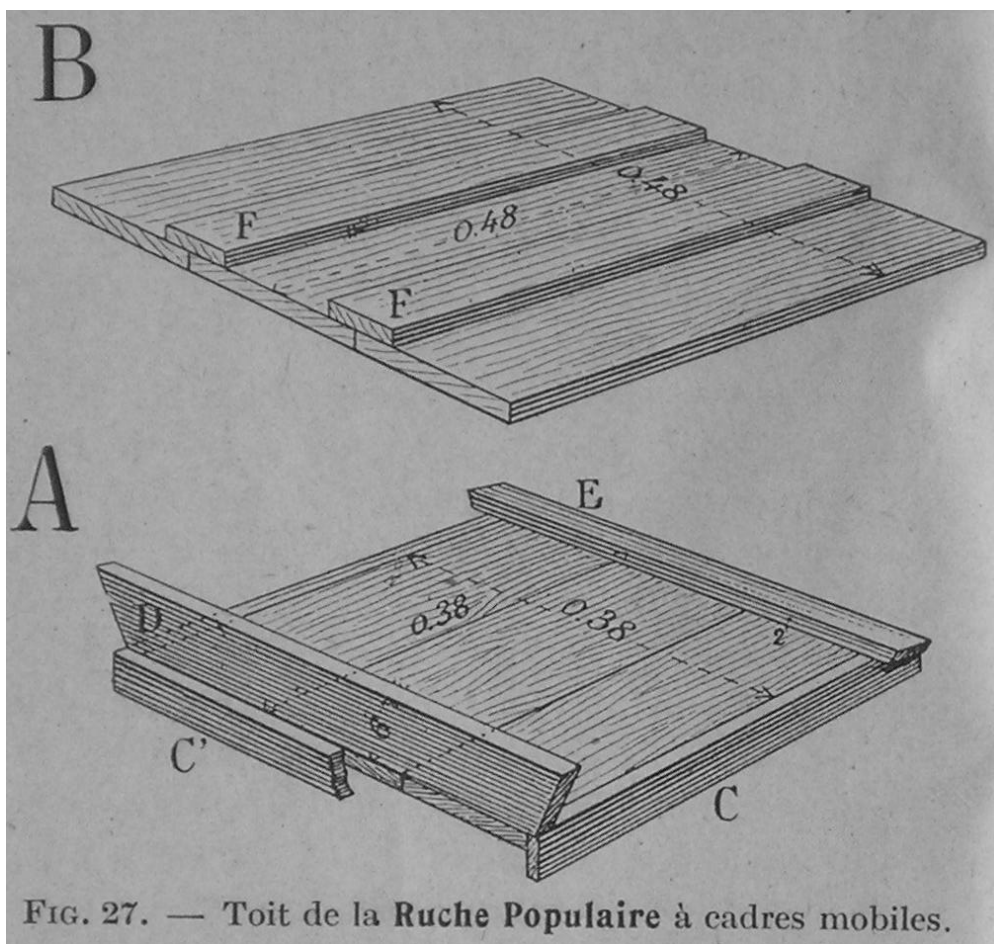
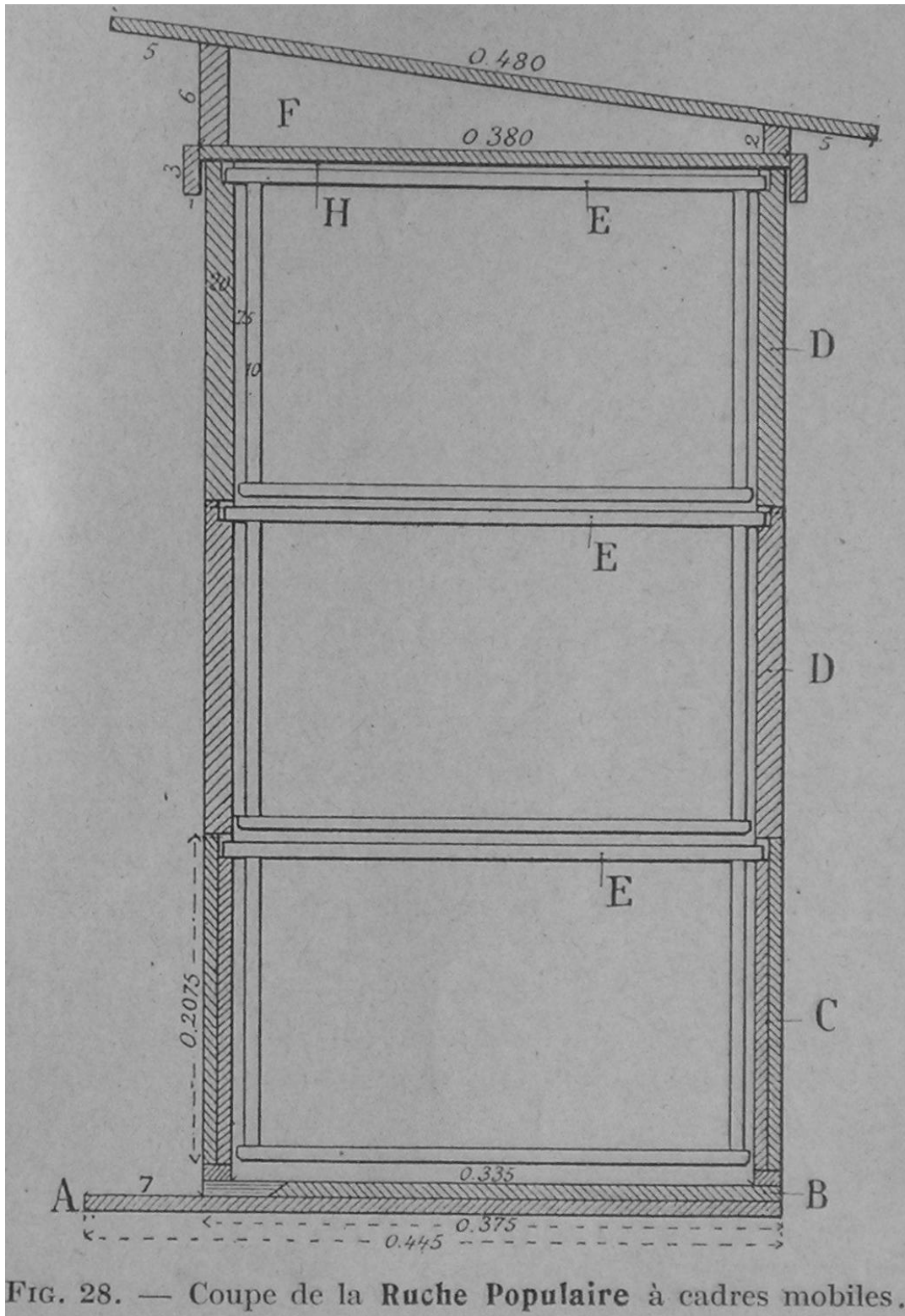


FIG. 27. — Toit de la Ruche Populaire à cadres mobiles.

The part B of the roof comprises one or several boards of a minimum thickness of 10 mm. It should be 480 mm square. This part B of the roof can be painted, or covered with zinc or other sheet metal, bitumenised sheet or the joints simply covered with slats (fig. 27, F).



Key to figure 28

A – Alighting board projecting 70 mm and extended to the back of the floor. B – Floor with a notch sloping 40 to 50 mm for the bees to enter. C – Walls formed from two boards 10 mm thick. D – Walls formed of one board 20 mm thick. E – Frames resting in a rebate. F – Roof in which is enclosed the top box. H – Roof covering the top box.

Construction of the People's Hive with open frames

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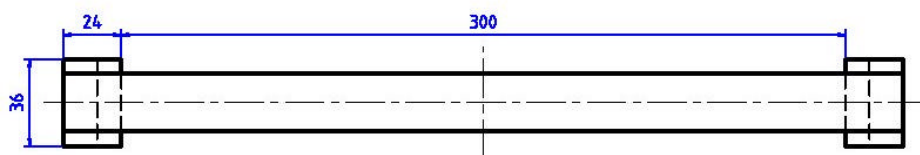
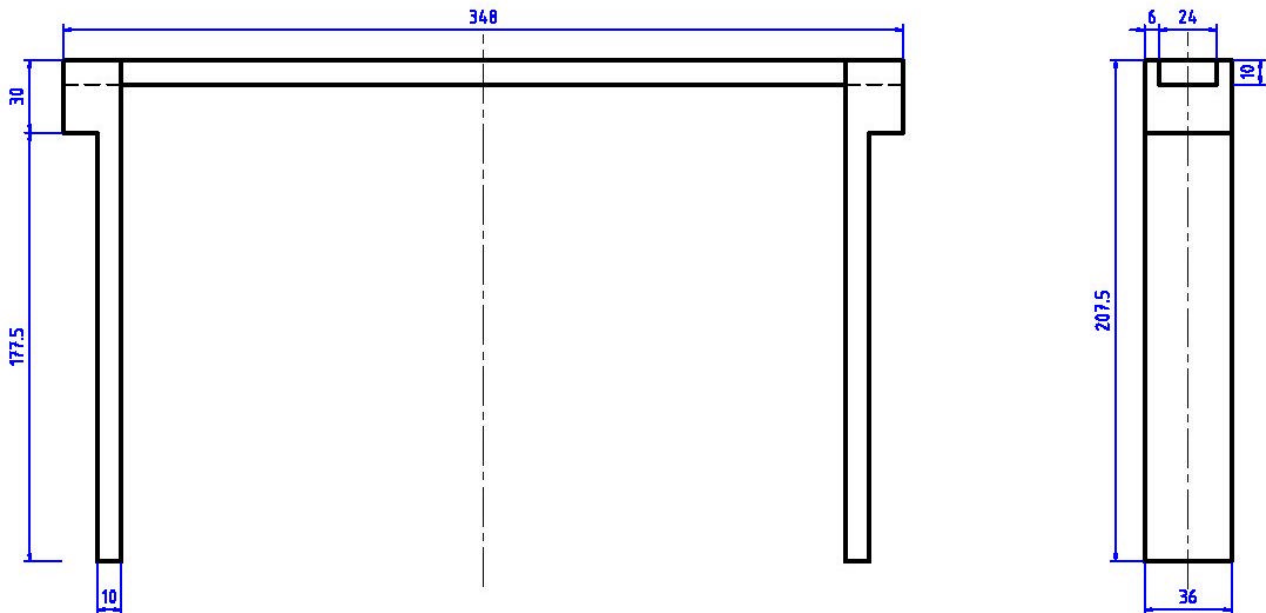
The special frame of this hive requires significant modification of the floor and boxes, which moreover are inevitably double walled.

The arrangement of the roof and quilt remains the same, but their sizes obviously have to be adjusted to the exterior dimensions of the boxes.

FRAME – The bottom-bar is eliminated. The top-bar remains the same except that it does not extend beyond the side-bars. The side-bars are totally changed.

These side-bars are 207.5 mm high. They should be 36 mm wide. Their thickness should be 24 mm. At the top and over the full thickness a groove is made 10 mm deep and 24 mm wide to receive the end of the top-bar. The end of this top-bar is fixed to the side-bar with two 27 mm nails inserted vertically and two 12 mm nails inserted horizontally on each side in the parts of the side-bar left by the groove. These parts are 6 mm thick and 24 mm wide.

At 30 mm from the top of the side-bar, its thickness is reduced to 10 mm to allow it to be supported by a batten and to provide the cavity of a double wall. (see illustration below kindly provided by Paul N)



Cadre / Frame
Warre Mixte
xxx
by Paul N

BOXES – The boxes are single-walled made of boards of 13 to 15 mm thick. Their interior measurements are 350 x 350 mm and 210 mm high. They are 2.5 mm deeper than the side bars of the frames. Thus a void is created at the bottom of the boxes. Two battens of 10 mm are placed on two inside surfaces to support the frames. On the two other surfaces, parallel to the frames, two partitions [follower boards *Tr.*] are fixed to rest against the frames with a spring. I prefer one side of the double wall fixed and the other a partition with a spring. There will of course be only eight frames.

FLOOR – The floor has to stop the extension of the combs as in the hive with fixed combs. It must also allow the exit of the bees which may occur between, on the one hand, the walls and, on the other hand, the sides of the frames and the partitions. The floor of the hive with fixed combs (fig. 20, see *Beekeeping For All*, page 44) gives an idea of how the floor of the *People's Hive with open frames* should be.

The notch, 120 mm wide, instead of stopping at 40 mm should be extended to the edge of the floor where it is closed with a batten of the same thickness as the exterior board of the walls of the box.

This notch is closed underneath by the alighting board, which is also extended to the edge of the floor. If this board is placed lengthways, it of course has to be strengthened with battens.