

A BEEKEEPING GUIDE

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published by

**VOLUNTEERS IN TECHNICAL ASSISTANCE, INC.
1815 North Lynn Street, Suite 200
Arlington, Virginia 22209-2079 USA**

Fourth printing, 1989

ISBN: 0-86619-154-2

this Bulletin. Although these hives differ in size, both have basically the same parts.

Langstroth Hive

Figure 1 shows the Langstroth hive and its parts as follows:

1. Bottom board. This is the floor of the beehive and can be made by using a piece of wood 55.88cm long X 41.28cm wide X 1.91cm thick (22" X 16-1/4" X 3/4"), or by joining two wooden boards together and nailing them in position.

Along the bottom edge of both sides is nailed a wooden strip 55.88cm X 1.91cm X 1.27cm (22" X 3/4" X 1/2"); and another wooden strip 37.46cm X 1.91cm X 1.27cm (14-3/4" X 3/4" X 1/2") is nailed along the back edge.

The front is provided with another strip of wood that is 37.47cm X 1.91cm X 1.27cm (14-3/4" X 3/4" X 1/2") and has an entrance 7.62cm long X 0.97cm in height (3" X 3/8"). If necessary, the entrance opening can be made larger.

2. Brood chamber. This provides space for eggs and brood although sometimes the queen will lay eggs in a few combs in the honey super. The brood chamber is a rectangular box without a top or bottom and is made of 1.91cm (3/4") thick wood.

Its length on the outside is 50.80cm (20") and on the inside 46.99cm (18-1/2"); its width on the outside is 41.28cm (16-3/4") and on the inside 37.47cm (14-3/4"); and its height is 24.46cm (9-5/8"). A rabbet (shelf) 1.27cm (1/2") deep and 0.97cm (3/8") wide is cut along the entire inside top edge of both width boards. The "side view" of Figure 9 (see page 18) shows how the wooden frames rest on this shelf.

3. Honey super. This is the storage area for surplus honey. Wooden frames support the wax comb. More honey supers are added to the hive if the bees need more space.

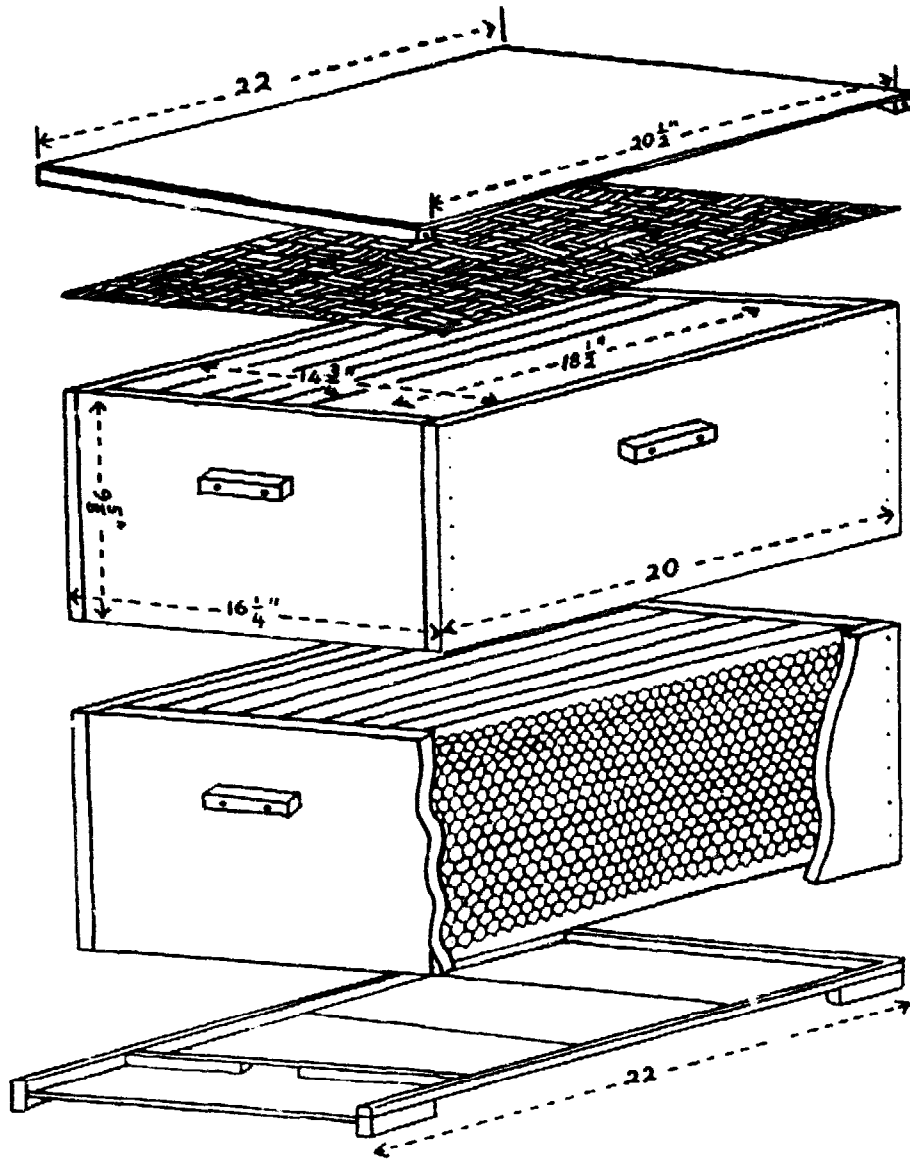


Figure 1. Langstroth beehive

The dimensions of the super and the super frames should be the exact size of the brood chamber and brood chamber frames.

4. Wooden frames [for brood chamber and honey super]. Nine frames are usually used in each brood chamber and honey super, although each is capable of holding ten frames each. This extra space makes it easy to move the frames around when inspecting the hive or to take the frames out when extracting honey. Once the nine frames are filled, most beekeepers usually add the 10th. By this time, there is less need for routine examinations of the frames.

Figure 2 shows the staple-spaced frame. Frames should be made from good, clean lumber. The frames must be carefully made so they will fit easily into the hive.

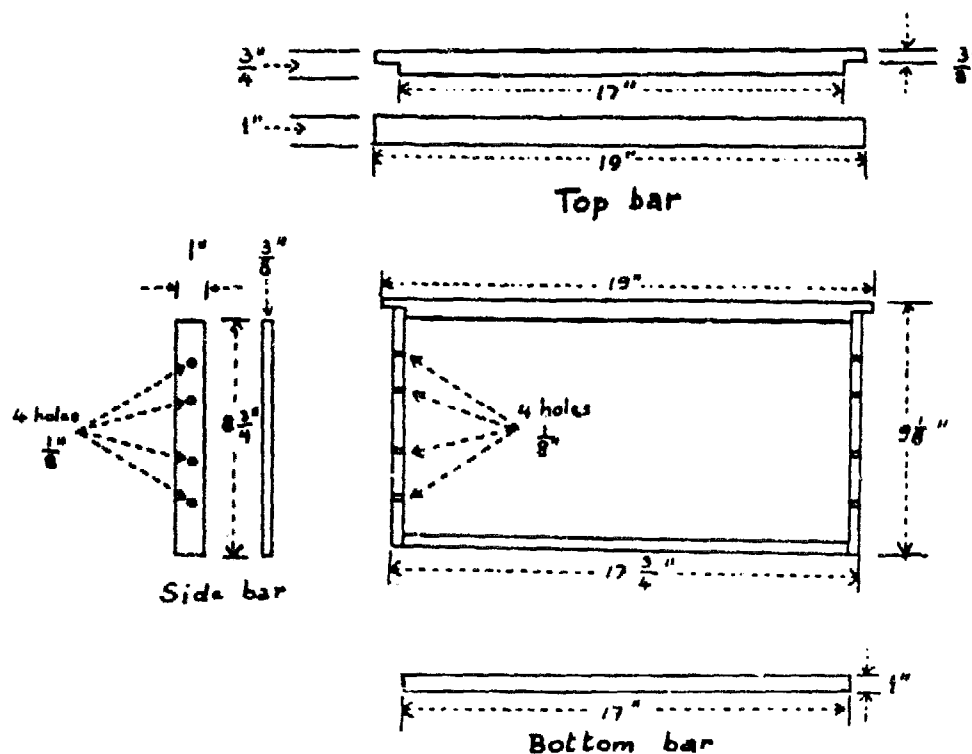


Figure 2. Langstroth frame

The frames can be wired so they will support wax comb or sheets of wax foundation. This can be done by drilling three or four holes in each side bar and then stringing tinned wire (28 gauge) tightly through the holes (see Figure 3).

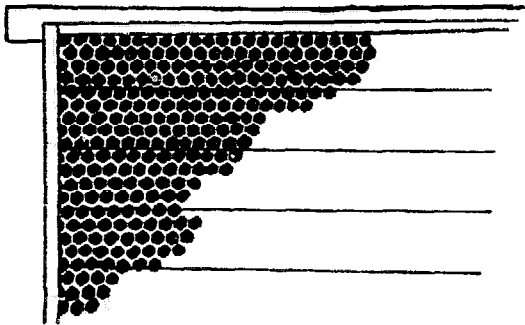


Figure 3. Sheet of foundation wax

Good wiring prevents the foundation and combs from sagging and allows the beekeeper to handle the combs at any time. If beeswax foundation sheets are available, they should be used. Combs built on foundation sheets are very sturdy. Brood combs and honey super combs can be used for several years and are very important to the modern beekeeper. Wax foundation sheets are attached to wired frames by dripping a

thin layer of melted beeswax along each wire and pressing to the foundation sheet. Wax foundation sheets can be attached to wires with a small tool called the "spur embedder" (see Figure 4).

The spur embedder is heated in hot water and then rolled along each wire, which is pressed to the foundation sheet. The hot, metal "wheel" of the spur embedder melts the wax foundation all along the length of each wire. The melted wax foundation quickly cools leaving the sheet nicely secured in the frame. To make the job of wire-embedding easier, many beekeepers start by fastening an edge of the foundation sheet with melted (heated) beeswax in the groove on the lower side of the top bar.

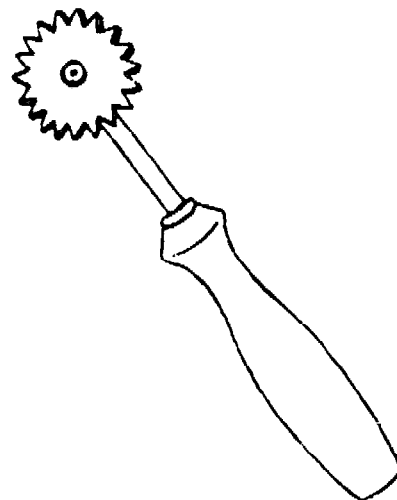


Figure 4. Spur wire-embedder

Figure 2 shows this groove. If the frame is used again, the groove may be cleaned with a nail or piece of hard wire. New foundations are now available that have built-in reinforcement and requires no wire. If wax foundation is not available, pieces of old comb from a wild hive can be tied to the frames to help the bees start storing honey and rearing brood (see Figure 5).

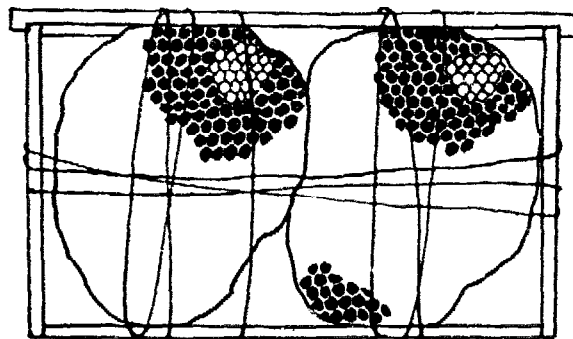


Figure 5. Tying old comb to a frame

Dimensions for the staple-spaced frame are:

- . Top bar: 48.26cm long X 2.54cm wide X 1.91cm thick (19" X 1" X 3/4"). It is cut to 0.97cm (3/8") thickness on both

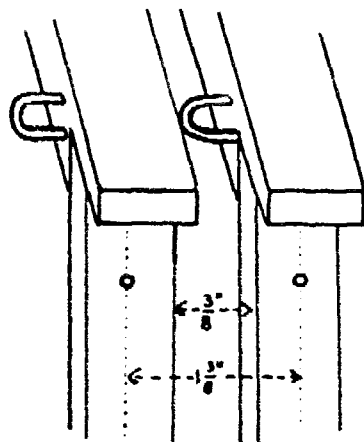


Figure 6. Staple-spaced frame

ends for a length of 2.54cm (1"). It has a groove in the middle of its lower side for affixing the comb foundation sheet. Two 1.60cm (5/8") staples or "U-nails" should be driven in the top bar on its opposite sides, at opposite ends, leaving only 0.97cm (3/8") of each U-nail or staple on the outside. This will allow for a 0.97cm (3/8") spacing between frames (see Figure 6).

- . Side bar: Each is made of 0.97cm (3/8") thick wood and is 22.23cm (8-3/4") long and 2.54cm (1") wide. There are four holes in each side bar for wiring the frames (see Figure 2, page 12). These holes should be drilled before assembling the frame.

 - . Bottom bar: 43.18cm long X 2.54cm wide X 0.97cm thick (17" X 1" X 3/8").
5. Inner cover. This helps insulate the bees from heat and cold. It also keeps bees from building comb and propolis under the outside cover. The inner cover is made from wood, fiber mat, or jute sackcloth cut to the same length and width as the honey super.
6. Outside cover. This protects the frames and supers underneath. A flat-top cover can be made of 0.97cm (3/8") thick boards nailed to a rectangular frame 5.08cm (2") high, all covered with galvanized sheet metal, tar paper, or other waterproof material. A simple, flat-top cover is shown in Figure 1, page 11. The boards are nailed to two strips of wood made to overlap the front and back top edge of the honey super. Any cracks are filled neatly with coal tar spread from the outside surface of the cover. Clay, putty, or other crack sealants can also be used.

A sloping-top cover is shown on the Newton beehive (see Figure 9, page 18). This type of cover can be used with either the Langstroth or Newton hives. Many beekeepers prefer a sloping cover, which sheds rainwater quickly. It is usually made to fit loosely over the hive and is provided with a 2.54cm (1") diameter screened ventilation hole on the front and back.

7. Handles. For ease in handling, one handle should be placed in the center of each side of the brood chamber and honey super--a total of four handles on each chamber or super.

Most beekeepers prefer to place their beehives off the ground on a wooden, rock, or brick stand so the bees can better