

Assembling Woodenware

Perspective of a furniture maker who happens to be a
beekeeper, too.

About the club - Warren County Ohio Beekeepers

(In normal times)

- January - Beginning Beekeeping School
- Rest of year - monthly meeting on 2nd Sunday at Lebanon Presbyterian Church 1:30 pm
- Meetings consist of a presentation, Q&A, working with mentors
- Observation hive at Caesar Creek Nature Center
- Facebook page **Warren Co Ohio Beekeepers**
- Web site <http://www.warrencountyohiobeekeepers.org>

Our goal is to share beekeeping knowledge

About me -- Keith Mealy

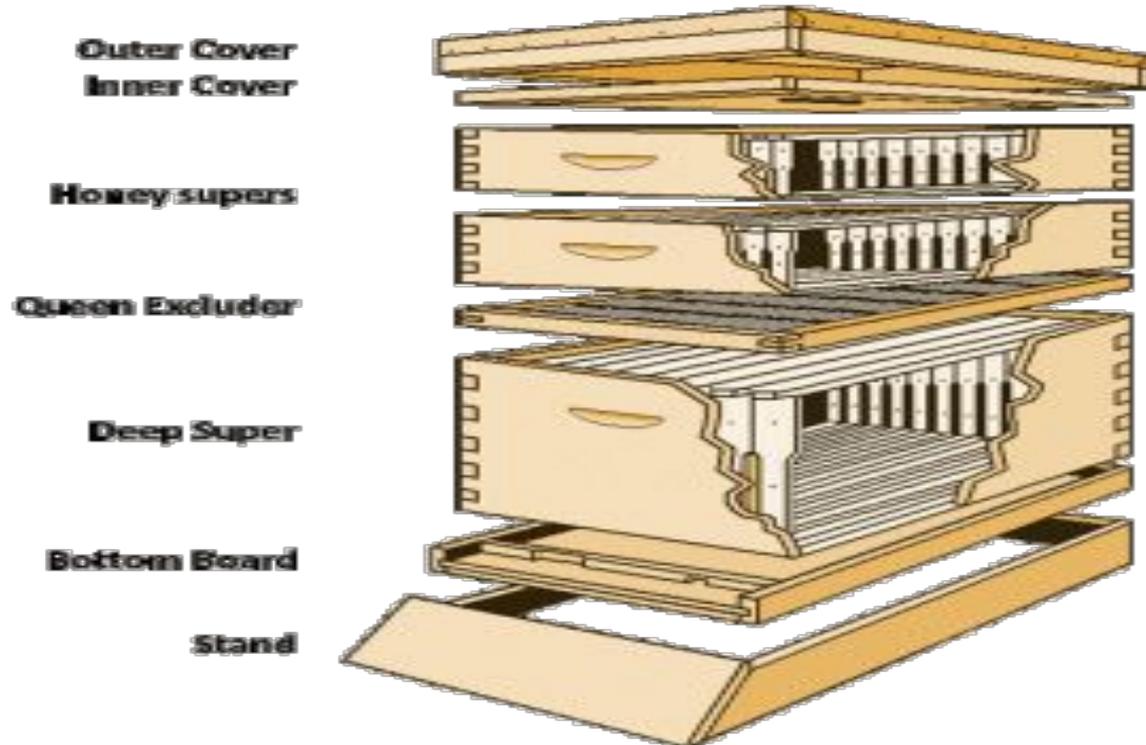
Beekeepers' club treasurer for 3 years

Started hobby beekeeping in 1981, but 20 years off due to location

Woodworker that has made thousands of things over 40 years

- Bedroom sets, dressers, beds, desks, loft beds, bunk beds
- Tables & chairs
- Bookcases & cabinetry
- Wooden toys
- Picture frames
- Bentwood boxes, jewelry boxes, sewing boxes, tool boxes
- Theater sets & props
- Retired from 18 years running furniture & cabinet repair and refinishing business
- Taught classes in woodworking and wood finishing
- Mission trips to Canada, Mexico, & 4 states doing building carpentry
- President of Cincinnati Woodworking Club

Parts of a Hive



Basics – three things

- Slight variations based on manufacturer
- There are various styles – we will cover
Langstroth
en.wikipedia.org/wiki/Langstroth_hive
- 8, 9, or 10 Frame options,
5 frame = Nuc(leus)

Kit vs. Pre-Assembled three things

- **Cost** – cheaper to buy kits
- **Time** – amount of time to assemble your own
- **Skill Level** – do you have basic woodworking skills and tools

Basic Principles

three things

- **Square** – boxes must align, frames need bee space
- **Secure** – must withstand prying and weight
- **Sizes** – different vendors vary slightly. Need bee space ~ $\frac{1}{4}$ to $\frac{3}{8}$ inch

Basic Construction Steps

three things

- **Hive boxes** – assemble sides and ends
- **Frames** – assemble frames with top, end and bottom bars
- **Foundation** – Insert and secure wax foundation (many options here)

Hive Boxes

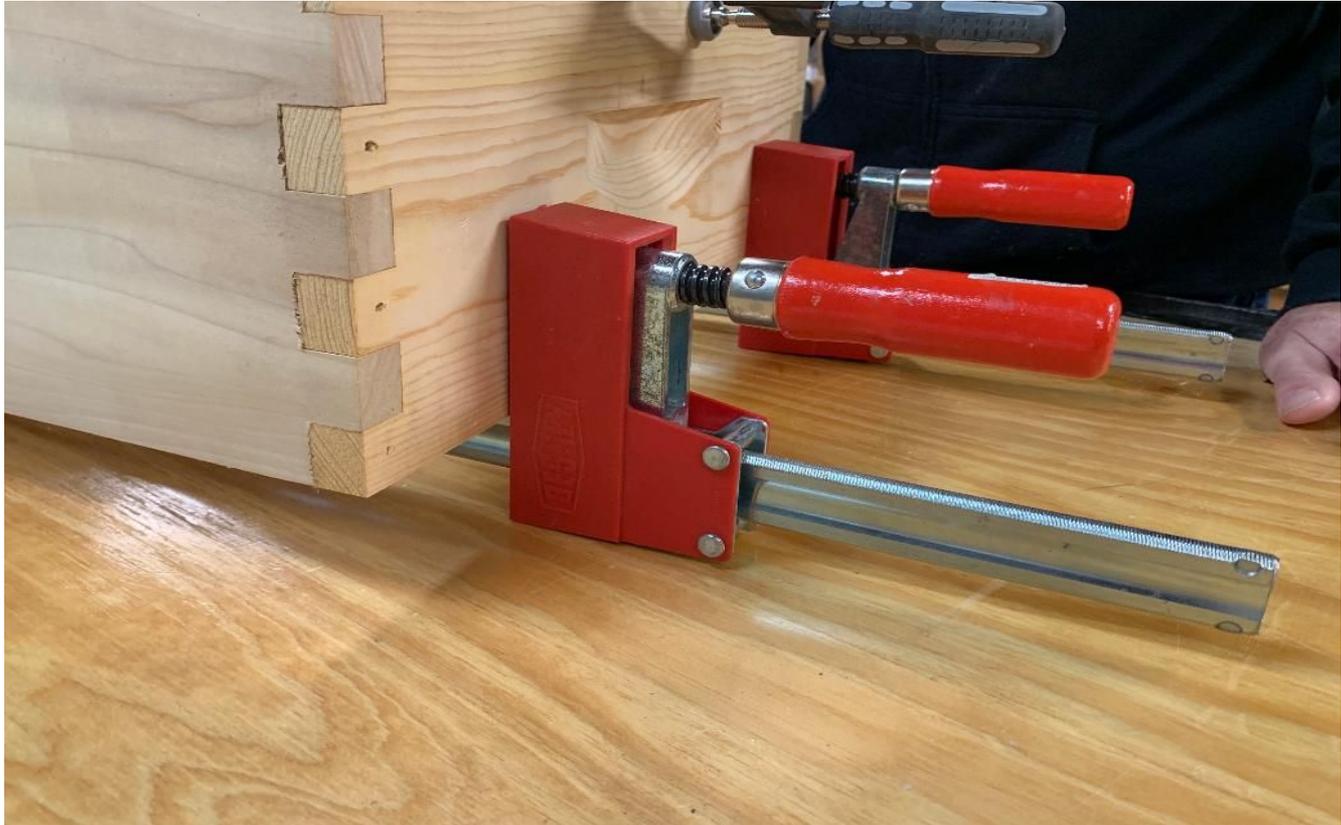
three things

- Shallow – used for honey production 5 $\frac{3}{4}$ "
- Medium (AKA Illinois) dual purpose 6 $\frac{5}{8}$ "
- Deep – usually for brood chambers 9 $\frac{9}{16}$ "

1. Assembling Hive Boxes

- Finger jointed corners
- Dry fit before final assembly
- Orient inside & outside surfaces!
- Reinforced with nails, screws, or staples
- Can be glued with exterior glue, e.g., Titebond III
- Paint on outside only

Finger Joints



Orient inside/outside, Top and bottom



Exterior Rated Glue



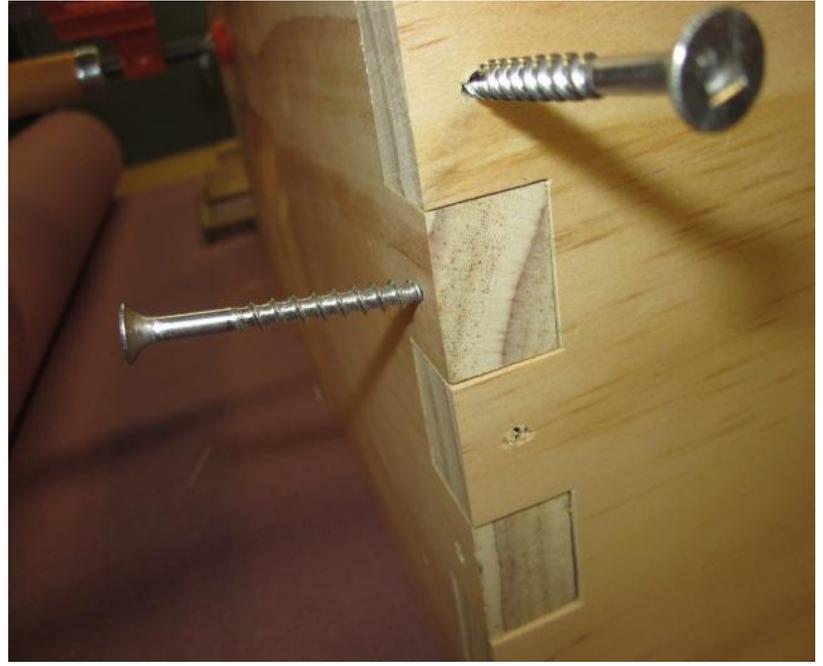
Square !



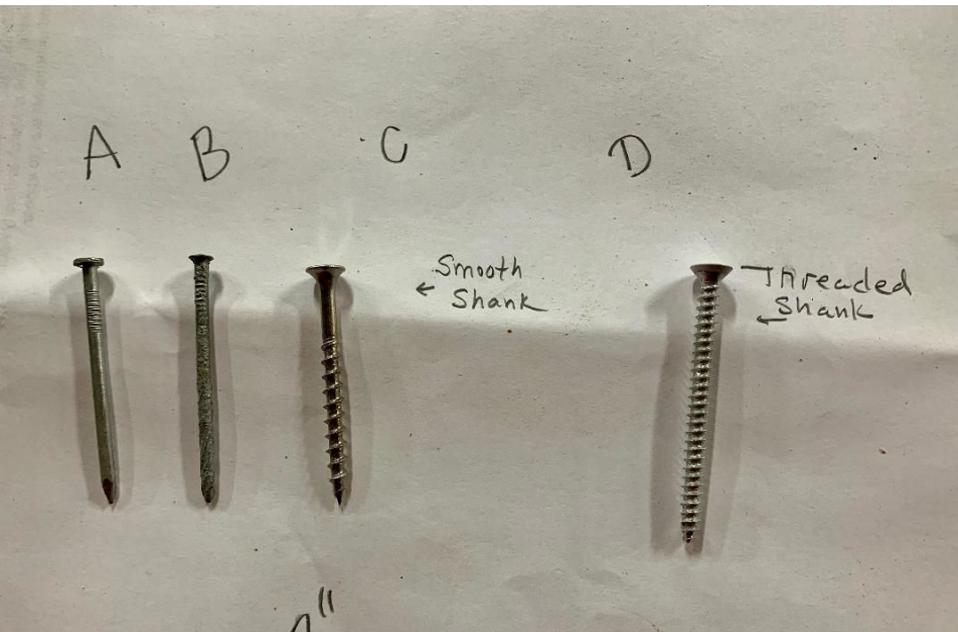
**Square !
(equal diagonal measure)**



Nail or Screw Corners



Nail or Screw Options



Video 1

2. Assembling Frames

- Usually 10 per box
- Make & use a simple jig to hold and keep square
- Different styles on top & bottom bars
- Assemble with nails or (narrow crown pneumatic) staples and glue

Parts of the Frames



Box o' Frames



Simple Frame Jig to Hold & Square



Simple Frame Jig to Hold & Square



Nail or Staple Frame Top & Bottom



Video 2

3. Foundation

- Different types
 - Plastic
 - Wired
 - Unwired
 - None at all
- How to put in depends on frame type
 - Groove top
 - Wedge top

Add Wire Reinforcement for Frames (Optional)



Grommets & Insertion Tool



Add Nails & Grommets



Thread & Secure Wire Tight



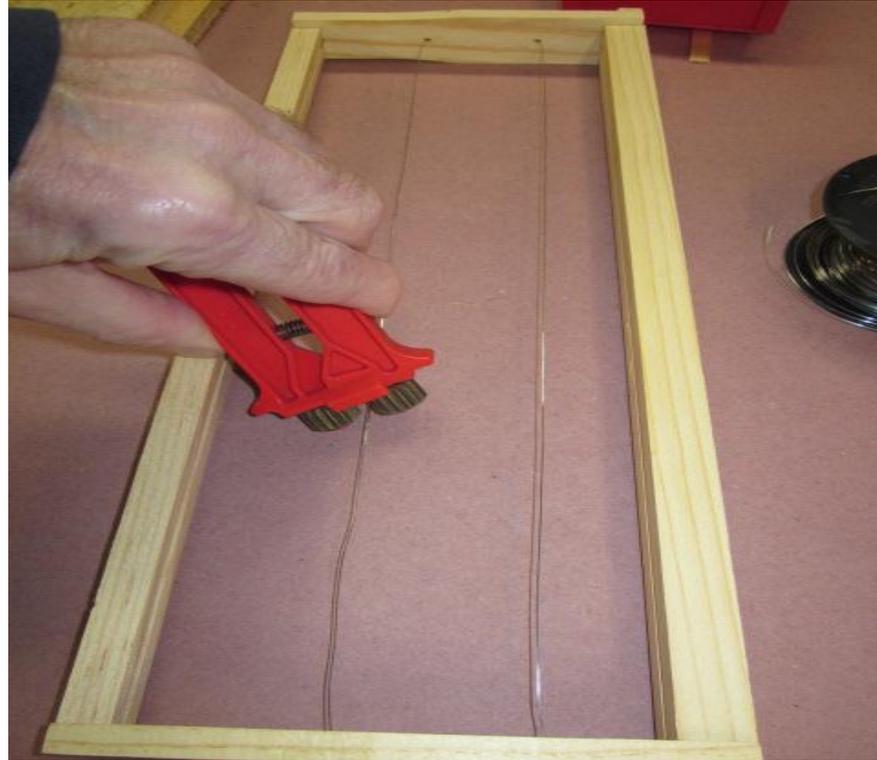
Trim & Embed Wire



Wire Crimper and Embedder



Crimp Wire



Insert Foundation - Bottom Grooved Bar Type



Embed Wire with support from below

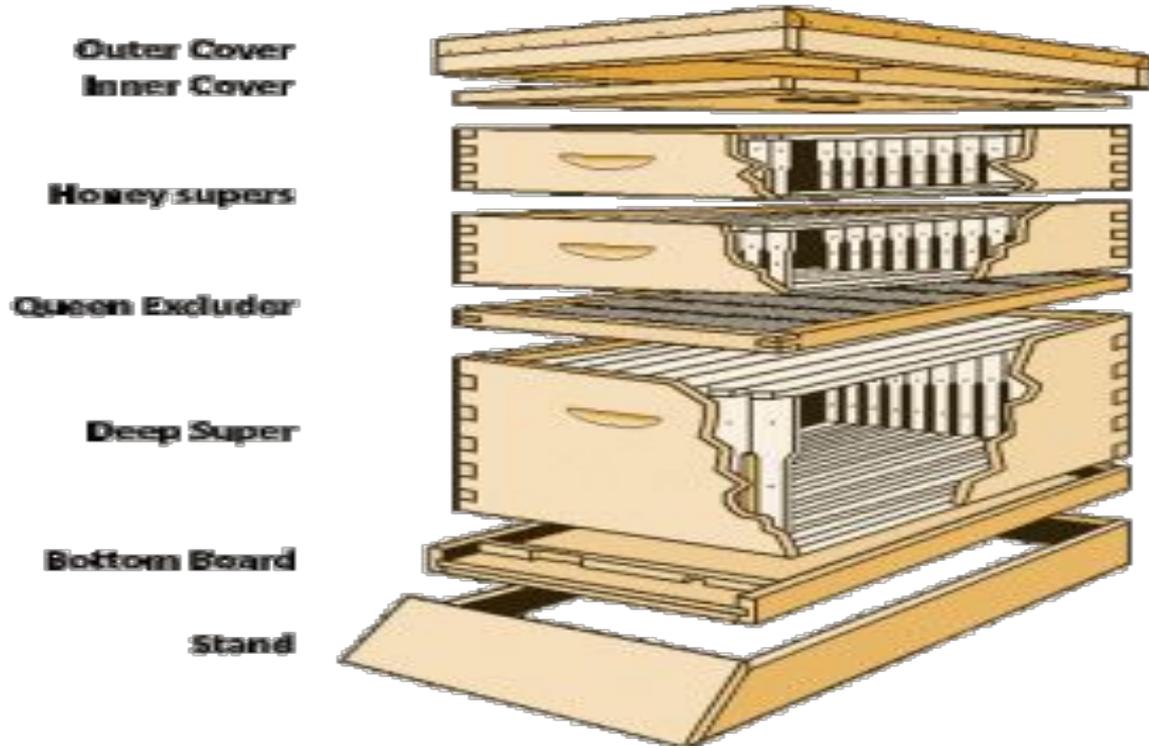


Video 3

Other Parts of Hive three things

- Outer cover
 - Inner cover
 - Bottom board
-
- Usually pre-assembled
 - Various options and materials available

Hive Box Arrangement



Pre-assembled Accessory Parts

Various options and materials available

- Queen Excluder
- Bee Escape
- Sugar water feeder
- Candy Board (giant sugar cube)
- Moisture Quilt
- Entrance Reducer - Mouse Guard
- Swarm catcher

Summary

- There are lots of options
- Ask three beekeepers how they do something and you'll get five opinions
- Now is the time to order and start getting equipment ready. End of March and early April packages and swarms will start to appear.
- ohiostatebeekeepers.org/beekeeping_class/

Q & A

- Thank you for attending
- Questions? Answers will reflect my opinion and experience.