

Beekeeping Equipment Section Overview

In this class we will cover what equipment you will need to keep bees. From woodenware to sting protection to honey extraction. We will also distinguish the essential equipment from the not-so-essential equipment (there is much more in the latter group). Some beekeeping equipment may even be detrimental to bees and beekeepers. An assembly demonstration of some of this equipment will be conducted.

First Lessons in Beekeeping corresponding chapter #3 beginning page 29

Class Notes



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The Hive

There are several different types of hives you can acquire, though the Langstroth is most common. It is a good idea to research and talk with other beekeepers before deciding which to choose. Investing in an apiary can get expensive, it is a good idea to start small and grow. Beehives can be bought or made - if you are a skilled woodworker you can find free plans all over the web. The following information and most references on this site are using a Langstroth hive.

Screened/Bottom Board - a stand made of wood where the hive rests. Some are solid others have a screen in the floor to allow debris to fall to the ground. Bottom boards should be set on a stand like bricks or concrete to keep it off the ground.

Hive body or brood chamber - a box usually called a "super" which holds 10 frames of comb.

Frames and foundation - wooden frames used in holding beeswax foundation imprinted with the shape of hexagonal cells. These are used by bees in building straight combs.

Follower boards - Solid wooden boards used on the outsides of the frames, allowing the beekeeper to adjust the number of frames used a super. Using follower boards simplifies manipulating the hive and provide better air circulation.

Queen excluder - a device used in order to keep the queen in the brood nest, not in the honey supers.

Honey supers - these are shallow supers wherein bees store excess honey.

Inner cover - bees will be prevented from attaching comb to outer cover.

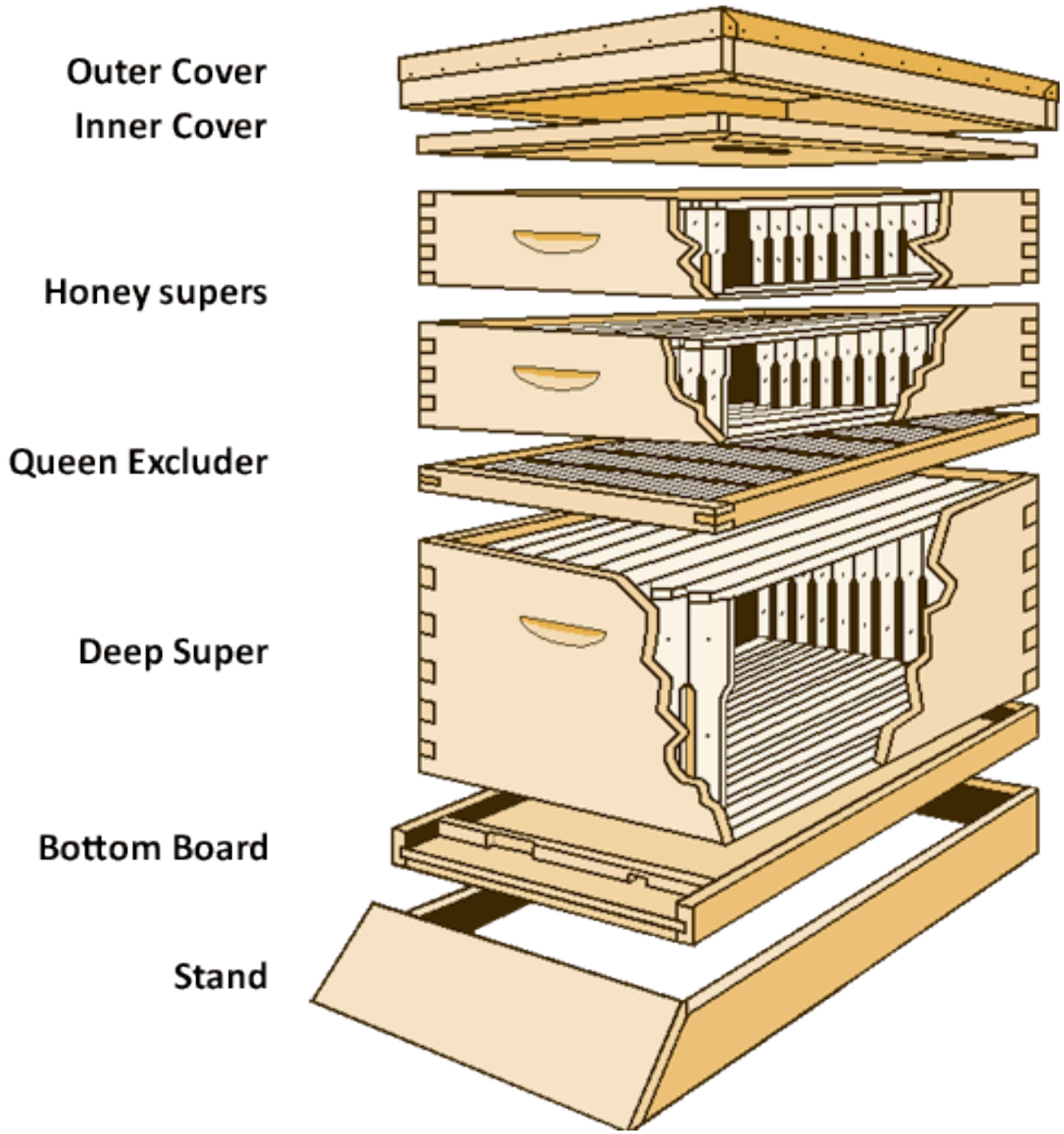
Outer cover - serves as protection from the weather.

You can buy all of this and other equipment from a local bee equipment supplier. Hive body parts come in kits or pre-assembled, again if you have woodworking talents it could be more cost effective to build yourself.

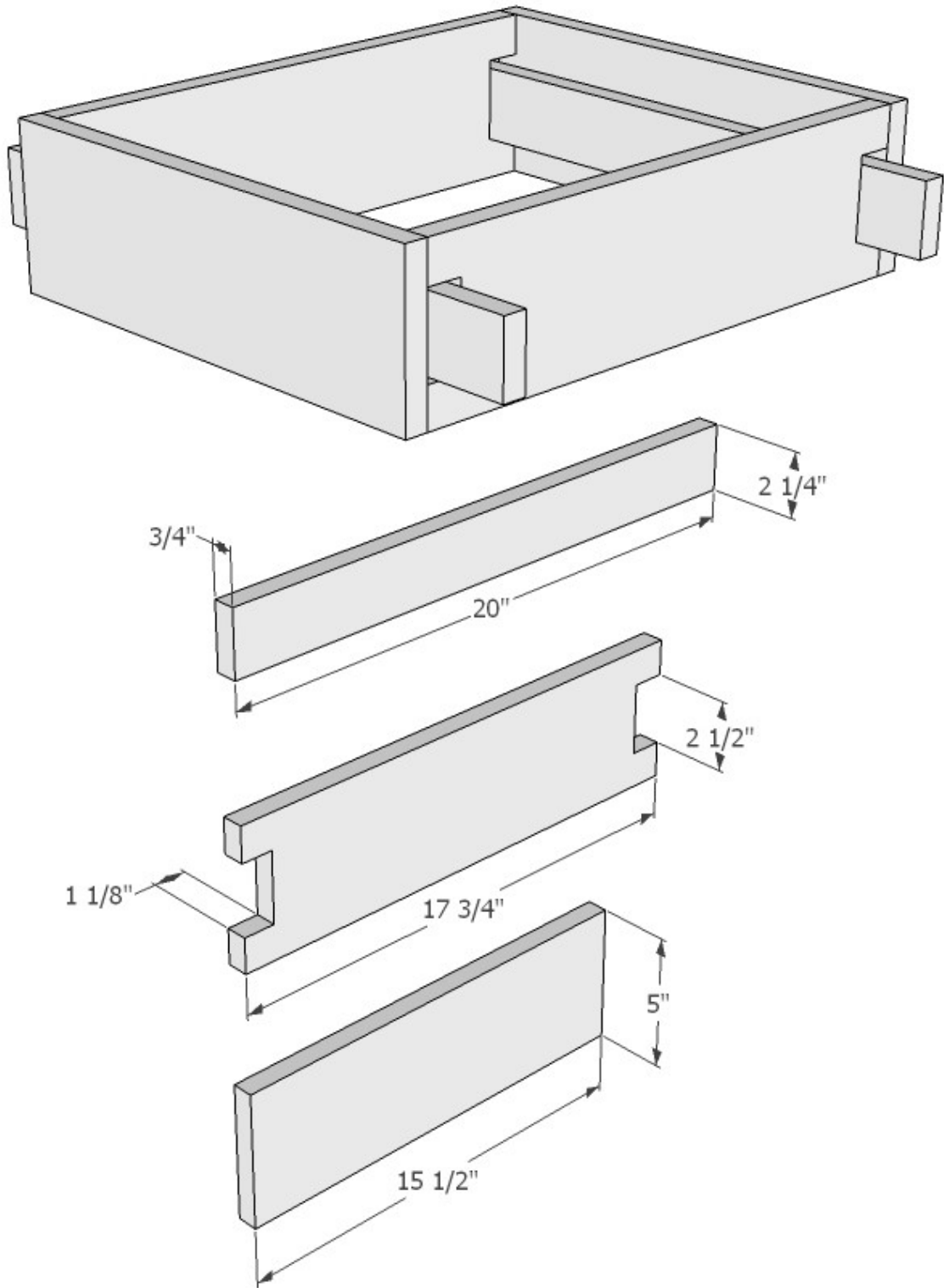
Additional hive parts might include:

Entrance reducers - wooden blocks that partially close hive entrances to prevent robbing or entrance of mice. Robbing screens allow continuous ventilation of the hive while prohibiting entry of robbing bees.

Feeders - There are different reasons that you might have to feed your bees as well as different kinds of feeders to feed them with. A top feeder is a box with trays in it to hold syrup and fits on top of a deep in the stack of your hive. There are also entrance feeders, where you place a mason jar with syrup into a plastic holder allowing the syrup to drip.



Frame Assembly Jig



Adapted from design at www.myoldtools.com

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Lighting the Smoker

Lighting a beekeeping smoker isn't always as easy as you might think. Between poor or wet fuel, wind, or improper equipment, getting a bee smoker lit can be frustrating at times. Follow these simple rules to get your smoker lit and burning easily every time.

 	<p>Step 1 - Assemble your Materials You will need the following materials to light your smoker:</p> <ul style="list-style-type: none">■ Starter Fuel - shredded paper works best, but pine needles, dry leaves, newspaper or any other dry kindling material will suffice■ Final Fuel - dry, compressed wood pellets are ideal; you may also use strips of burlap, twigs or chips of hardwood, bark, or other slow-burning material. Stay away from wood containing a high sap content, such as pine, cedar or juniper■ Flame - A long-stemmed lighter is the easiest method of lighting, but long kitchen matches or a burning twig work fine as long as you have very dry, fast-lighting kindling <p>The selection of your starter fuel should be determined by how easily the fuel will light and how fast it will burn up. We have found that shredded paper is ideal, as it lights readily and burns quickly. The final fuel needs to be quick-lighting, slow-burning, produce non-toxic, cool smoke and not contain a high sap content, to minimize tarring of your smoker. Compressed wood pellets seem to work best, but use any material that has all these properties.</p>
	<p>Step 2 - Prepare your Smoker Your smoker should be free of excess debris and soot before you use it again. Remove the kindling tray and clean out your smoker. When replacing the kindling tray, make sure the posts of the tray do not obstruct the air hole at the base of the smoker. Wait to light your smoker as the last step before opening the hives. Preferably, fill and light your smoker at the apiary; it's much more convenient than carrying a lit smoker to the apiary and worrying about it falling over and spilling the fuel.</p>
 	<p>Step 3 - Add the Kindling Add whatever quick-lighting, fast-burning kindling you have available. Shredded paper works best, but pine needles, dry leaves, newspaper or any other dry kindling material will suffice. You should only need about a handful to generate enough heat and flame to light the final fuel.</p>



Step 4 - Light the Kindling

Using your lighter, set the kindling aflame. Stoke the kindling to cause it to burn quickly by squeezing the smoker bellows until the flame from the kindling comes out the top of the smoker lid.



Step 5 - Light the Final Fuel

After the kindling is burning hot with a flame coming out the lid as you work the bellows, add a handful of final fuel on top of the kindling. Dry, compressed wood pellets are ideal; you may also use strips of burlap, twigs or chips of hardwood, bark, or other slow-burning material. Stay away from wood containing a high sap content, such as pine, cedar or juniper.

Immediately after adding the first handful of final fuel, stoke the fuel to get it burning by squeezing the bellows repeatedly. Keep working the bellows until you get thick smoke coming out the lid of the smoker.



Step 6 - Fill the Smoker

Continue to add handfuls of final fuel to the smoker, pausing between handfuls to work the bellows until thick smoke comes out the lid. Do not add more fuel until the previous handful has begun generating thick smoke.

Stop adding fuel when the smoker contains from one-half the three-quarters fuel. Too much fuel in the smoker only means that burning fuel will likely fall out the nozzle when you tip the smoker into or over the hive to apply smoke to the colony. Never overfill a smoker.





Step 7 - Ready to Smoke

Close the lid of the smoker and work the bellows until you get a thick stream of white smoke shooting out the nozzle. Work the bellows every few minutes while you're in the apiary if you're not using it, to ensure the final fuel remains burning steadily.

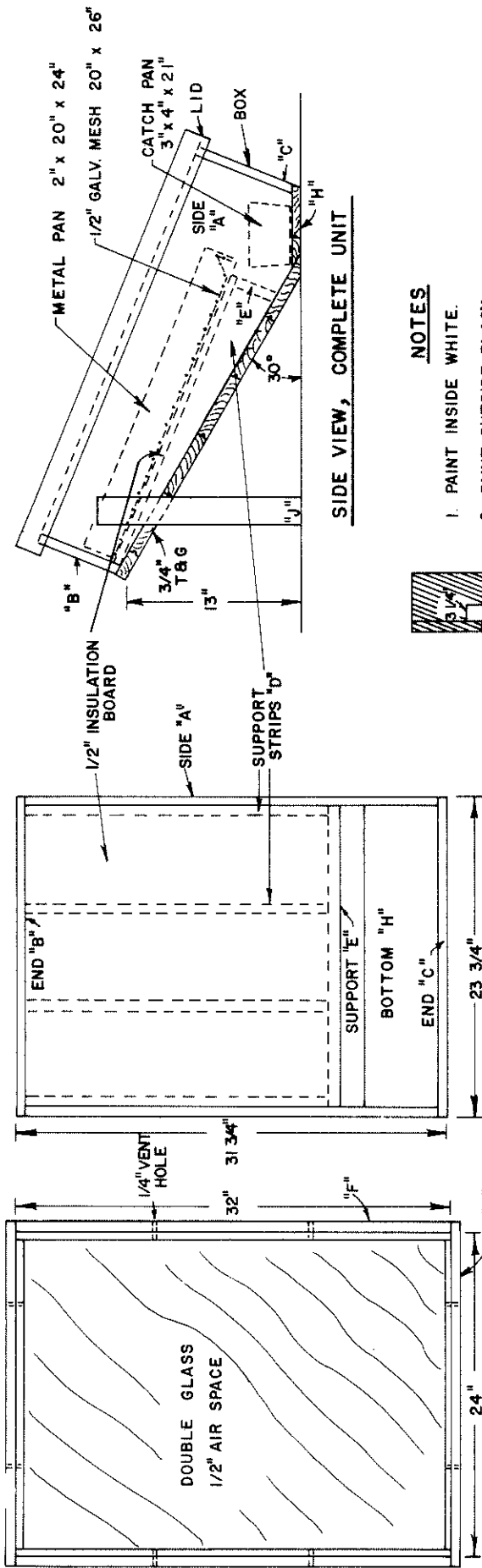
Tip: Take an extra jug of water with you to the apiary to extinguish the smoker fuel when you are finished working the hives.



Bellows Replacement (what not to do): Never take a smoker that has been smoldering overnight and try to light it back up (you should have extinguished it after using it anyway). The embers will have burned down to the bottom of the smoker, so adding fuel and trying to stoke it back up by working the bellows will likely cause the hot embers at the bottom to shoot a flame out of the air entrance, straight into the bellows! The flame will burn a hole in your bellows, rendering your smoker useless. If you're lucky, your bellows won't burn up completely. If you have the misfortune to ruin your bellows, you'll need to order a shiny new set.

Source: www.beecare.com

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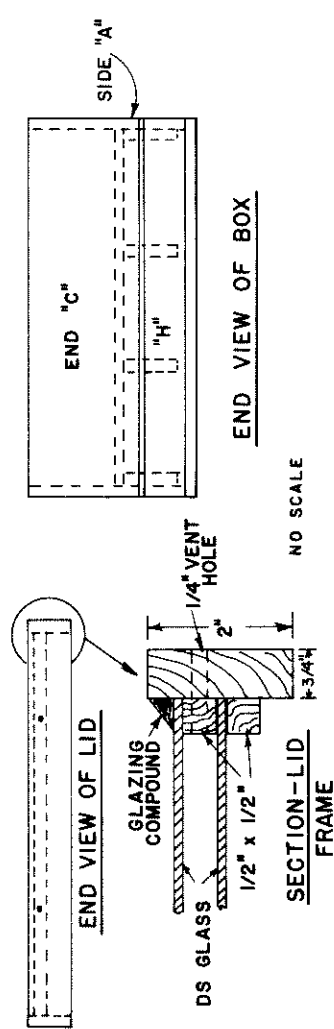


TOP VIEW OF LID

TOP VIEW OF BOX

NO SCALE

NO SCALE

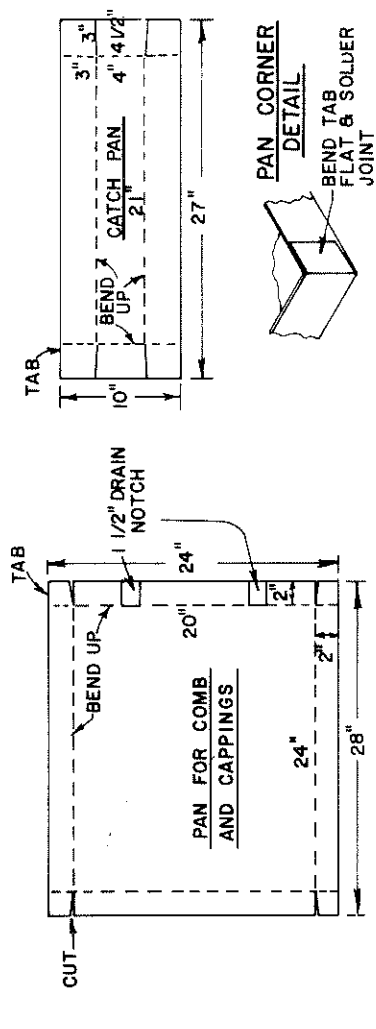


END VIEW OF LID

END VIEW OF BOX

NO SCALE

NO SCALE



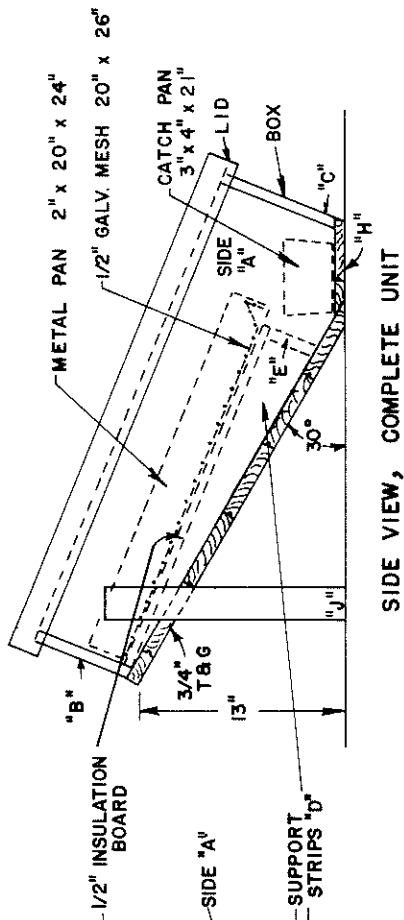
SECTION-LID FRAME

PAN FOR COMB AND CAPPINGS

PAN CORNER DETAIL

NO SCALE

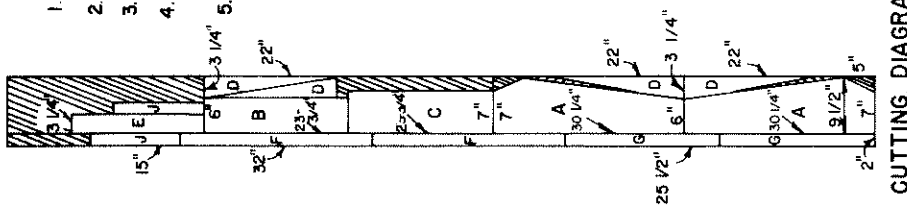
NO SCALE



SIDE VIEW, COMPLETE UNIT

NOTES

1. PAINT INSIDE WHITE.
2. PAINT OUTSIDE BLACK.
3. SEAL ALL CRACKS.
4. PLACE IN PROTECTED PLACE ON SOUTH SIDE OF A BUILDING.
5. REMOVE WAX AND HONEY WHEN MOST COMBS ARE MELTED. THE HONEY SHOULD BE DISCARDED.



CUTTING DIAGRAM

1" x 12" x 12" BOARD --
(3/4" x 1 1/2" x 12")

NO SCALE

BASED ON: PENN STATE UNIV.
PLAN NO. 790-301

COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS	
UNITED STATES DEPARTMENT OF AGRICULTURE COOPERATING	
SOLAR BEESWAX EXTRACTOR	
PA '77	6 2 6 5 SHEET 1 OF 1

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Beekeeping Equipment Resource Listing Beekeeping Supply Houses

Betterbee, Greenwich, NY • www.betterbee.com • 800-632-3379

Dadant and Sons, Inc, Hamilton, IL (local Branch: Chatham, VA) • www.dadant.com
• 1-800-220-8325

Mann Lake Supply, Hackensack, MN • www.mannlakeld.com • 1-800-880-7694

Rossman Apiaries, Moultrie, GA • www.gabees.com • 1-800-333-7677

Near by NC Beekeeping Suppliers

Bailey Bee Supply

147 Boone Square Street
Hillsborough, NC 27278
Office: (919)-241-4236
<http://baileybeesupply.com>

Beez Needz Beekeeping Supplies

3662 Edgar Rd
Sophia, NC. 27350
(336) 431-2339
<http://beezneedz.com>

Miller Bee Supply

496 Yellow Banks Road|
North Wilkesboro, NC 28659
(336) 667-7513
Toll free (888) 848-5184
<http://www.millerbeesupply.com>

Triad Bee Supply, LLP

4062 Evergreen Drive
Trinity, NC 27370
(336)-475-5137
<http://www.triadbeesupply.com>

Online Resources: <http://alamancebeekeepers.org/beekeeping-supply-companies/>

Bee Source • www.beesource.com

Information, articles, equipment plans and an active forum.

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Beekeeping Equipment Class Review

Please rate the level with which you agree with the following statements:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
This class was interesting and stimulated my interest in the subject matter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The instructor answers questions carefully and completely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The class materials reflected the subject matter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The quality of the visual aids were good and appropriate to the subject matter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was able to follow along and keep up with the subject matter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This class met my expectations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What did you like about this class?

What didn't you like about this class?

What topics should have been covered and were not?

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