



# Gadget Garage

for New Beekeepers



# Note

- ❑ This presentation is available for download

<https://www.bkcorner.org>

- *Search for presentations, it will appear in the search results*



# But.. there is another 'fun' side of beekeeping

- ❑ We have a beekeeping side hobby...
  - *The Gadget Garage is a fun side of beekeeping for us*
  - *It started with one gadget and built from there*
- ❑ So, let's visit the "Gadget Garage"
  - *Some are ours, some we have been shown along the way, and most can be credited to the ingenuity of others*

CRAZY  
ABOUT  
BEEKEEPING





# Hive Tool

## □ Hive Tools

- *Hive tools come in many shapes, designs, sizes, and colors.*
  - We recommend you have at least one or two common brightly colored hive tools in your kit.
  - Start with the basic design first, until you get the sense of how to use it.
  - There are some unique and useful designs. Given a hive tool is something that is very personal (it is akin to how you touch and work a hive) do consider trying out other variations in time to see what works best for you.







# Frame Hanger (aka Frame Perch)

❑ Used to hold one or more frames

- *When doing hive inspections, the first frame is set on this device*
  - The frame hanger is designed to hang on the side of a Langstroth box
  - During inspect you pull one frame to create a gap and this is better than placing the frame somewhere on the ground.



# Smoker

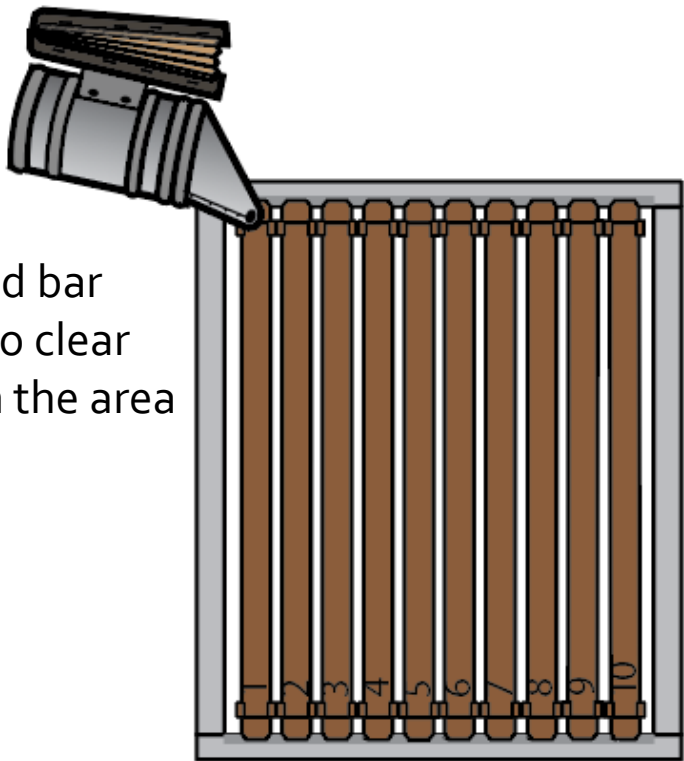
Note the  
classification

## □ Smoker Sizes

- *They come in different shapes and sizes. What you buy is personal preference. Typically, **a mid-sized** one is a good choice to start.*
  - Small ones can burn through the fuel before you are finished with a session
  - Big smokers are sometimes awkward to work with, especially if you have not developed the dexterity to work with one through experience.

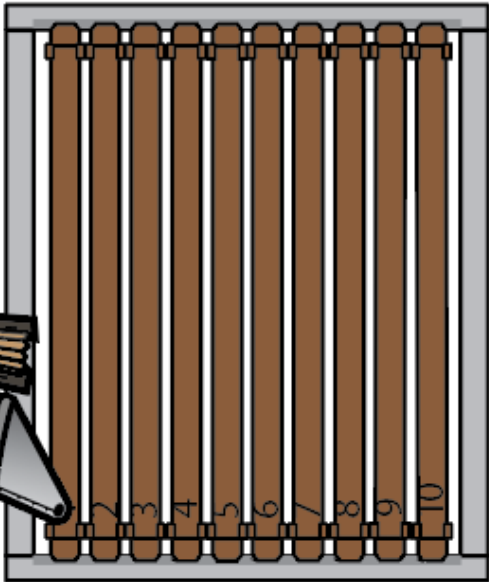


# Clearing the Bees



Smoke the end bar of Frame #2 to clear the bees from the area

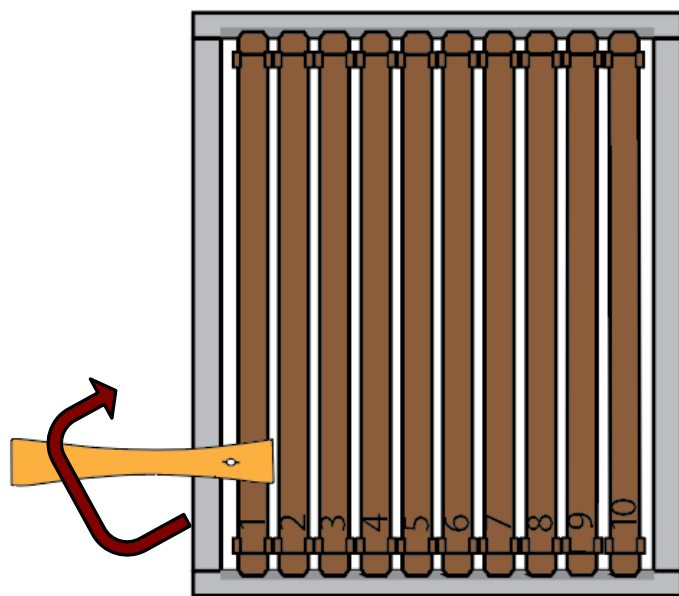
*Back of the hive*



Smoke the same area on the other end of the end bar on Frame #2

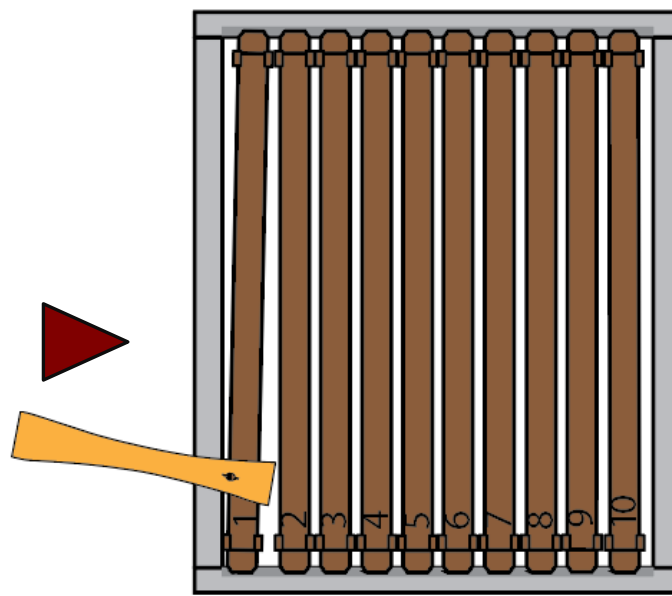
*Back of the hive*

## Pull #1 away from Frame #2, using a twisting hive tool motion: blade down



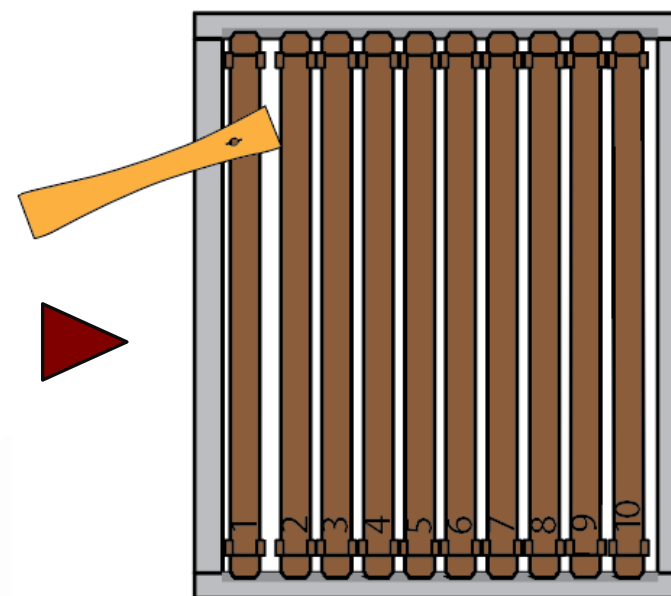
*Back of the hive*

Rotate the hive tool  
and use the blade to  
separate the frames



*Back of the hive*

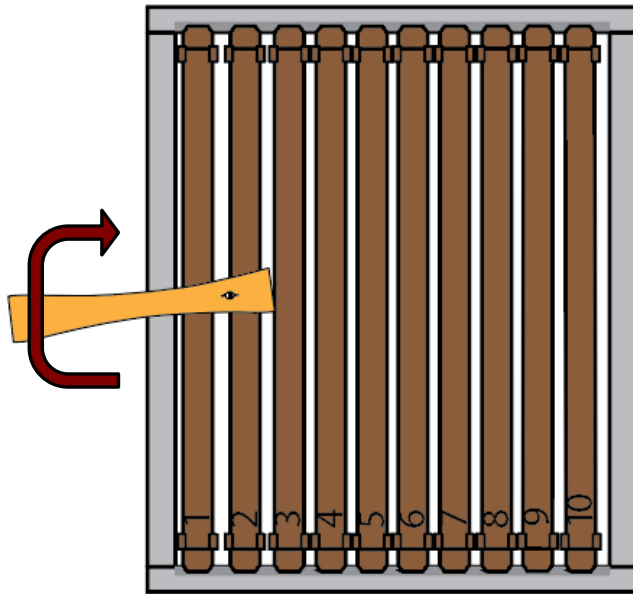
Separate #1 from #2,  
make space



*Back of the hive*

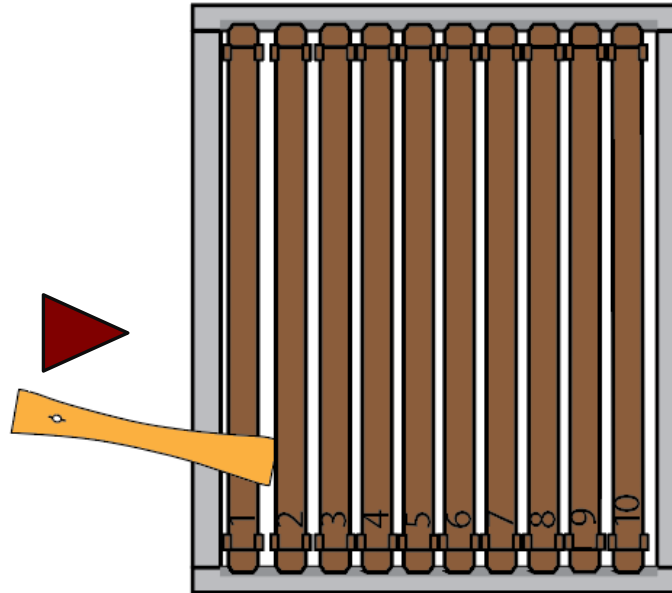
Pull #1 against the wall  
and away from #2

## Pull #1 away from Frame #2, using a twisting hive tool motion: blade down



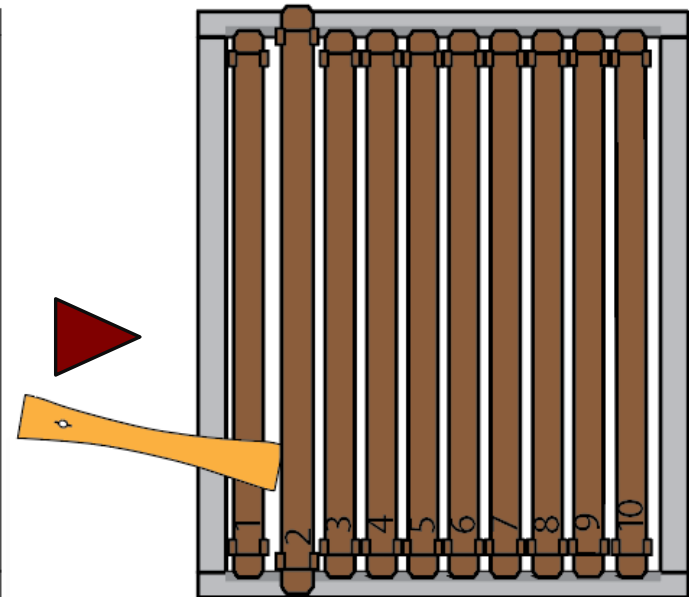
*Back of the hive*

Rotate the hive tool to pull #2 into the gap



*Back of the hive*

Use the blade end, placed over #1 to pry the top bar up

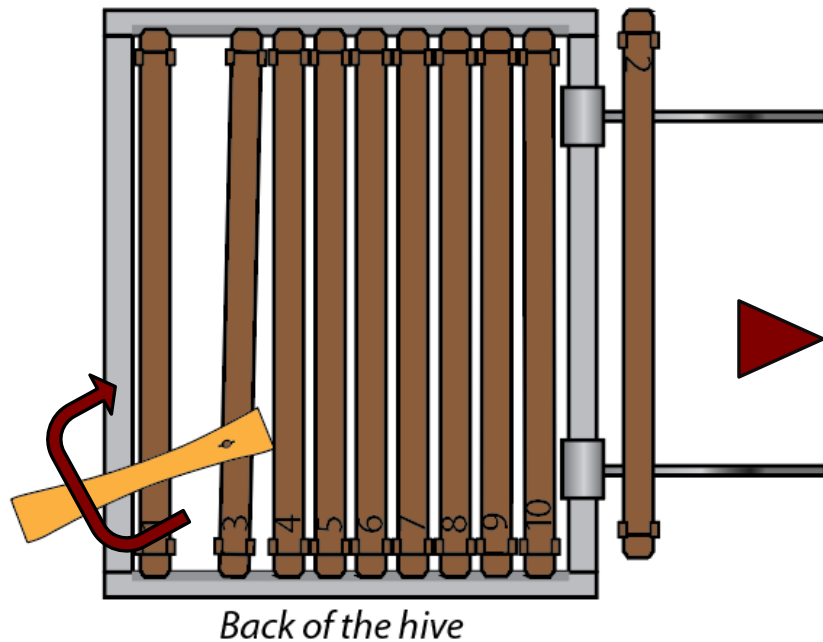


*Back of the hive*

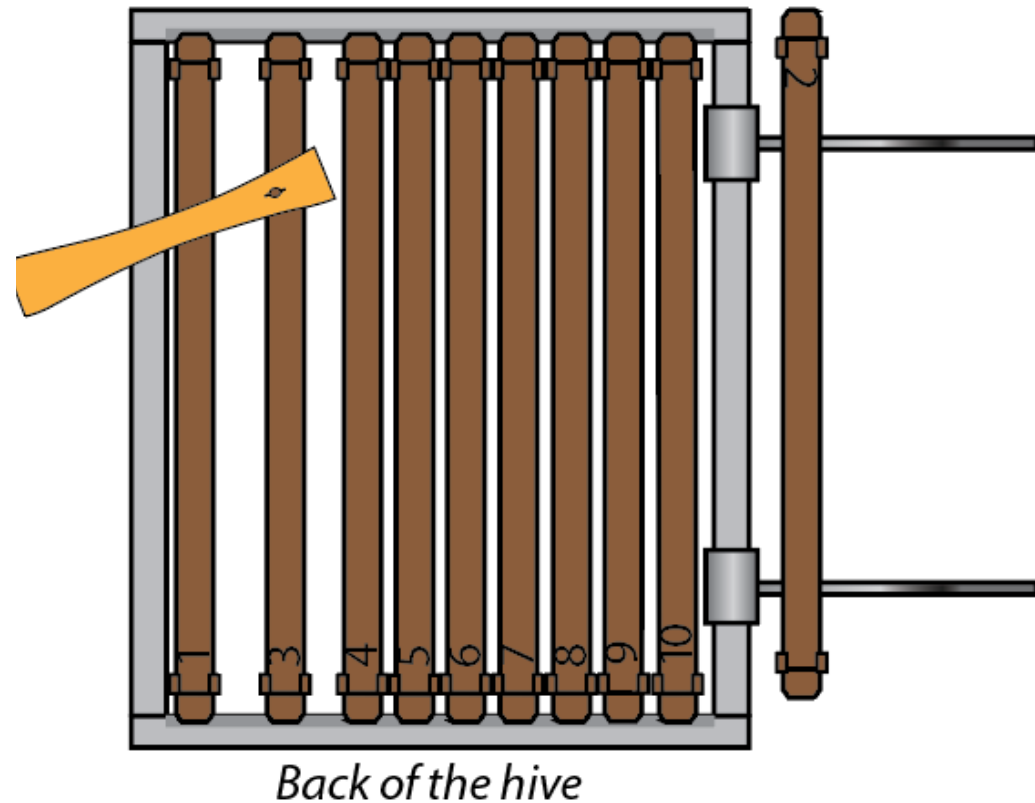
Pull #2 out of the hive **and inspect it.**



## Pull #3 into the gap so it can be extracted for inspection



Twist the hive tool  
blade to pull #3 into  
the gap



Do the same for the  
other side



# Water Delivery



There are *dozens* of devices in this world designed for the purposes of providing a water source to bees. These are just a few simple water delivery devices for inspiration.



**Credit:** Nick Rozak – Green Stinger Beekeeping



## Homemade Drone Brood Frame

### ■ Drone Brood Culling

- No special equipment needed. Just affix a bar 1/3<sup>rd</sup> of the way down and the bees will put drone below
  - *Incidentally, bees often put honey above in the small space*



Store bought version

# Portable Aluminum Work Platforms

## ❑ Hive Box Stands

- *30"/40 Aluminum Portable Work Platforms*
  - Sold at box stores, Harbor Freight, Northern Tool, etc.



SLIP RESISTANT

EASY TO CARRY

225 LBS. WORKING LOAD

12 IN. X 40 IN. SURFACE AREA

20.5 IN. STANDING HEIGHT



LIGHTWEIGHT  
only 11 lbs.

NON-MARRING FEET



## Bee Yard Hive Bench

- Set this behind your hives
- It is designed to hold several boxes and frames

<https://www.bkcorner.org/bee-yard-hive-bench>



80-pound test Fishing wire

Pre 'Wired First side. Second side pins in place, ready to be wired after comb is nested within.



**Cutout Comb Holding Frame**



What it looks like with  
both sides wired

Pins are staggered on the second  
side to provide more 'cradling'

## Cutout Comb Holding Frame



# PVC Hive Stand

## ❑ BKCorner Hive Stand

- Plans at [www.bkcorner.org](http://www.bkcorner.org)
- Advocate argument for how strong they are; he put his car on it







## ❑ Virginia 2018 EAS Hive Stand

- *The apiary hives at EAS Virginia were on these substantial wooden stands*

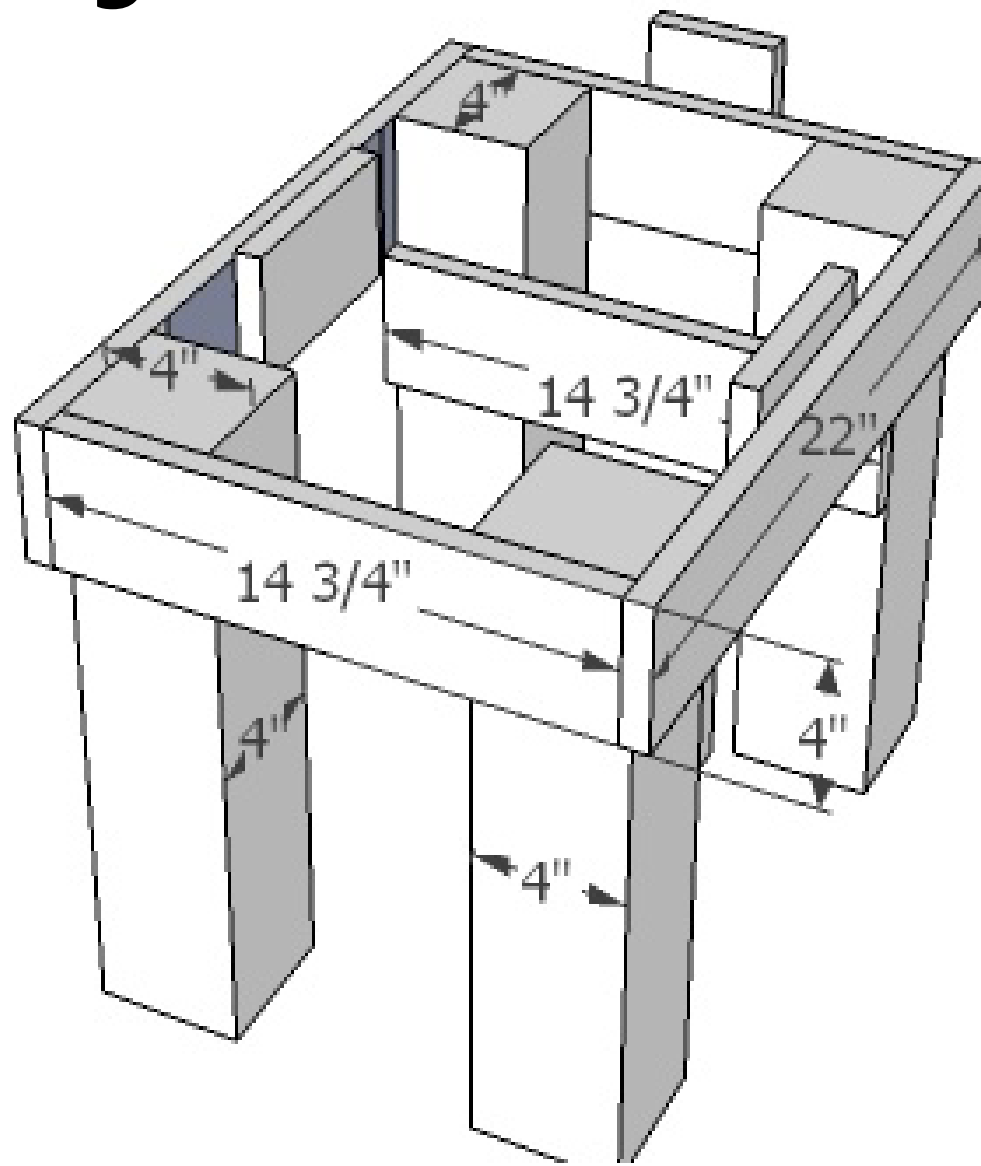
**Wooden Hive Stand**



# Little House on the Big Hill Hive Stand

## □ Simple Wooden Stand

- *This website has the plans to make this device*
  - Some use it just as is, others get creative and tweak it to their liking
  - We have something like this in our NWNJBA teaching apiary, they are very good stands





B



# Simple Swarm Catcher Pole



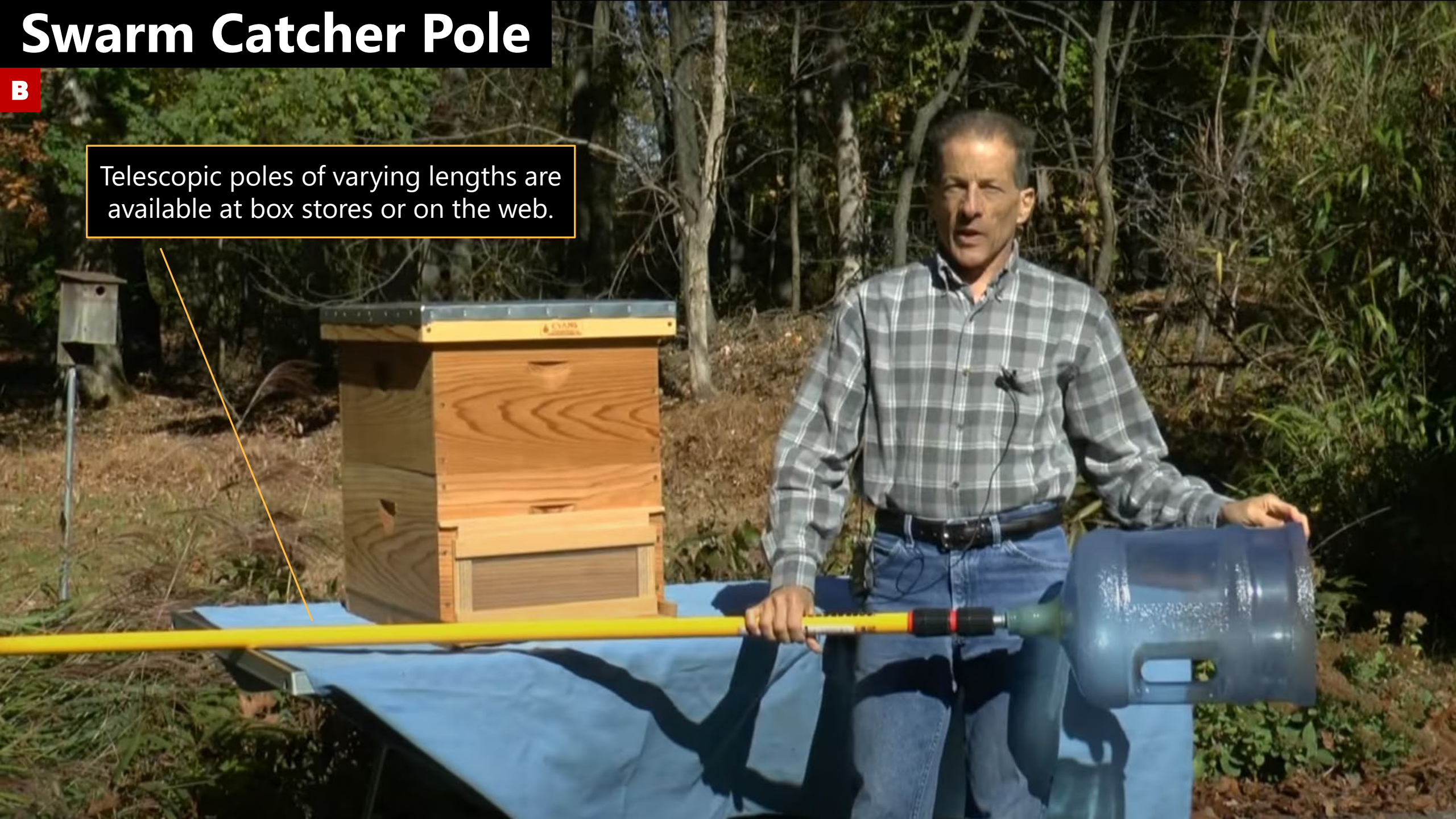
Other Variations of this design are out there for consideration



# Swarm Catcher Pole

B

Telescopic poles of varying lengths are available at box stores or on the web.





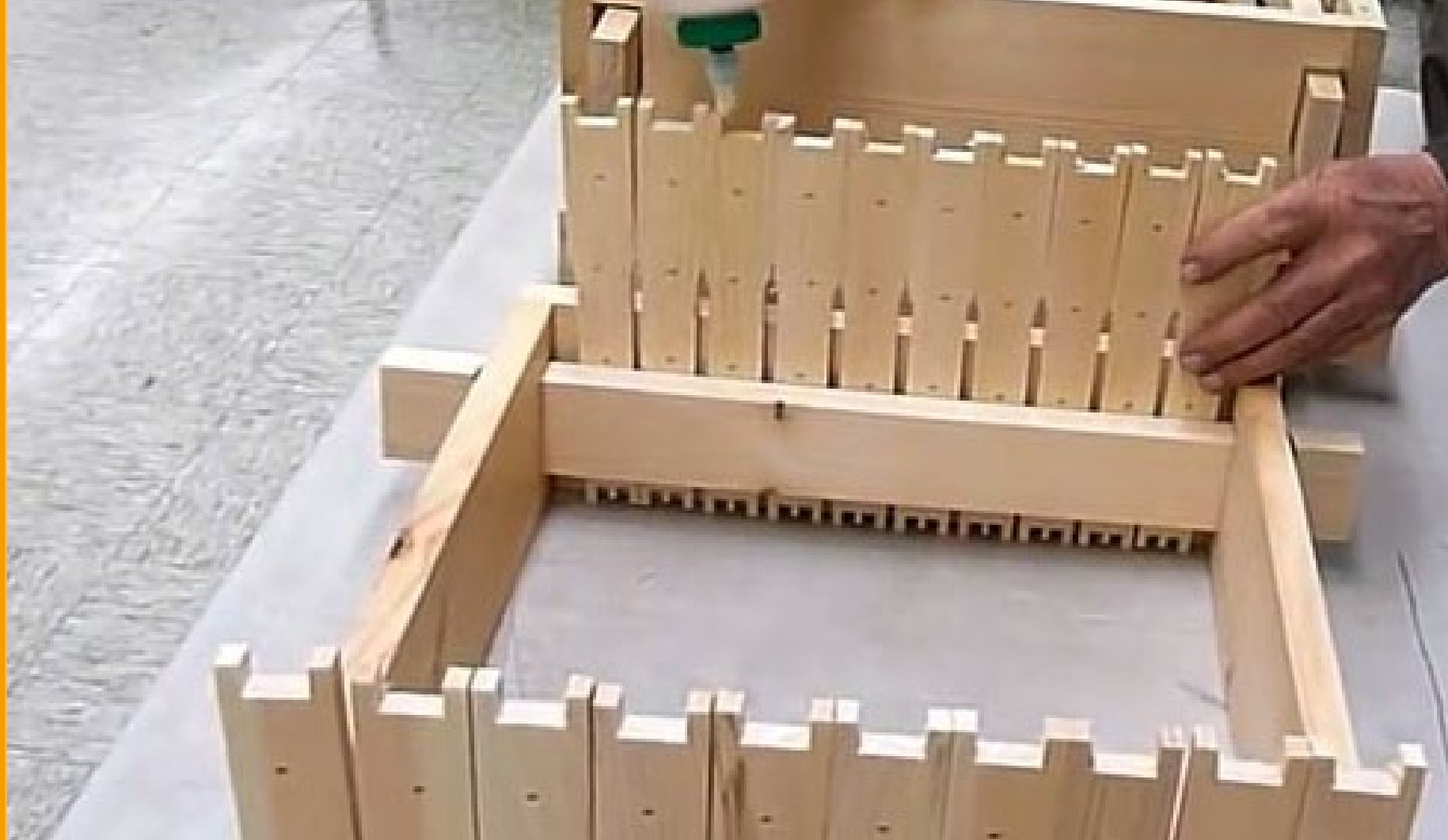






# Frame Assembly Jig

*Source  
Robo Bushkill*



- **Langstroth Hive Frame Assembly Jig**
  - *Makes quick work of building frames top to bottom*
  - *Like an extra set of hands and far more efficient than building one at a time.*



# Hive Manipulation Cloth

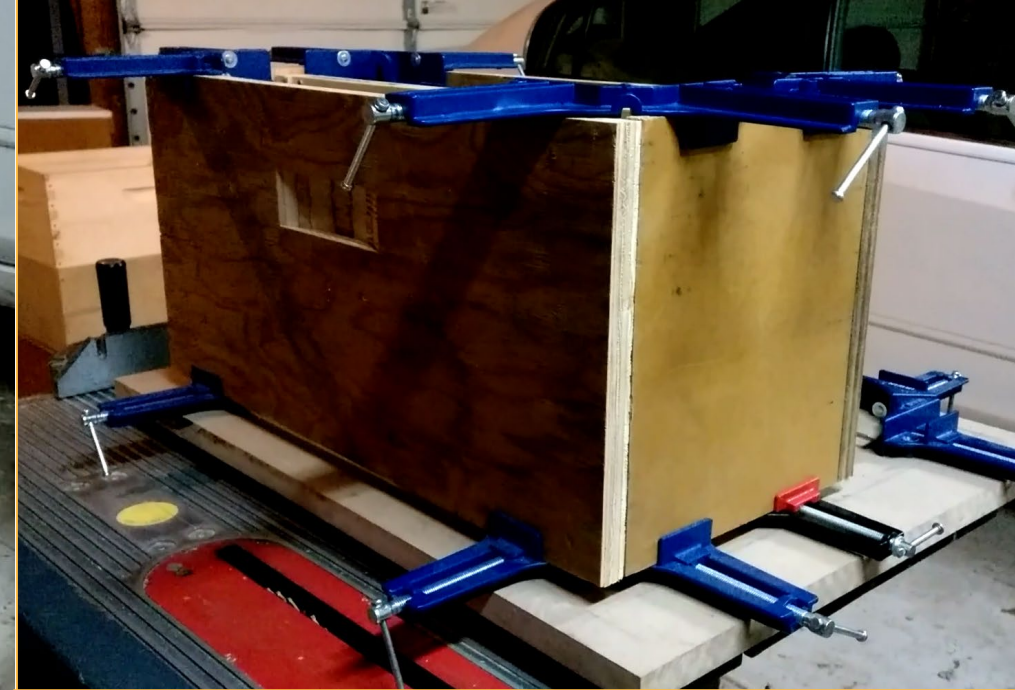
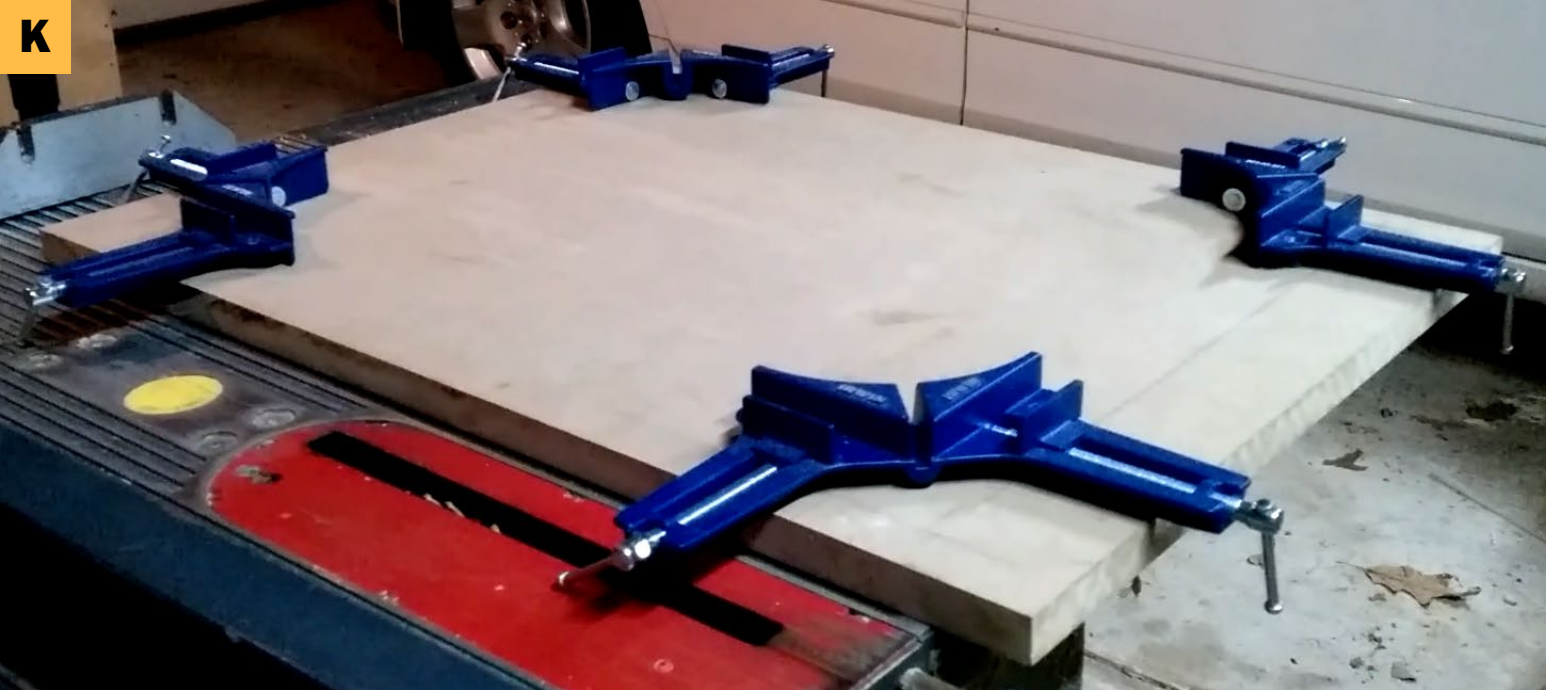
- Keeps the bees quiet by covering the frames you are not working on.
- You Slide the ring right and left to cover the frame you want to expose



B

Dave is mimicking  
pulling a frame  
for this demo





## Box Building Jig: Nuc and/or Full

- **Jig to build boxes square and true**

- *Would be best to use a solid base that will not 'warp' or 'twist in time. This one uses wood; not optimal*
  - The clamps have preset holes to mount to the base
- *Enhances speed and ease for creating boxes.*

*Note: Buy better quality clamps... These particular IRWIN clamps proved to be cheap and the tabs broke off very easily*





# K Hive Tool Holster

- Beekeepers usually go one of two ways...
  - Build their own
  - Repurpose some other device
- Possible Sourcing Options
  - Garden tool holders
  - Knife holsters
  - Tool Belt add-ons
  - Beekeeper Inventions
  - Build your own

SOG P37  
Knife  
Holster



CLC 418  
Plier  
Holder



Holy Grail Item







# Crush and Strain Setup

## ❑ Two food grade buckets

- *Honey set in overnight strains through to the bottom pail*
- *The large holes are necessary, or the flow will become clogged*



Search for: **Crush and Strain Walkthrough** (YouTube)



# Conventional Mite Sampling Tub

*Using 1/2 cup  
Measure*



Photo Credit: **Randy Oliver**



# Varroa Mite Sample Collection Device


## □ Frame Inserted in the Chamber

- *Bees are shaken down to the bottom, and then tipped into the collection device*





# Varroa Mite Sample Collection Device



This plastic container originally held powdered drink packets. It is marked with a pre-measure capacity of  $\frac{1}{2}$  Cup for collection

Extra Width for accommodating a frame loaded with Bees

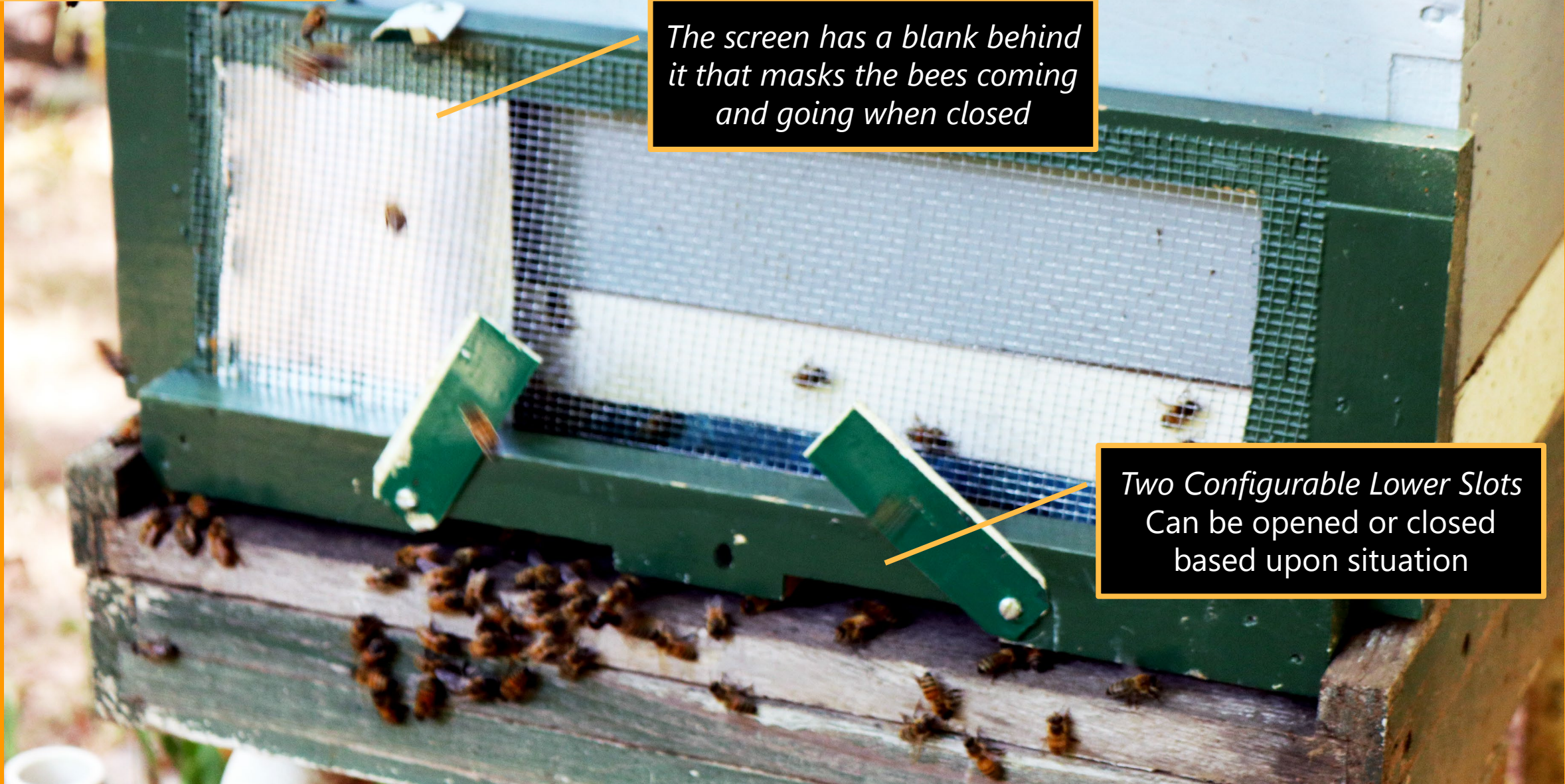


# Robbing Screen Device

*Top Entrance Slot*  
Currently Shown as open...  
Can be closed in an event

*The screen has a blank behind it that masks the bees coming and going when closed*

*Two Configurable Lower Slots*  
Can be opened or closed  
based upon situation



B



# Randy Oliver's method(s)

<https://youtu.be/D8lbm53JS5A>



Cut hole with heated tomato paste can.



Cut #8 hardware cloth to fit.



Weld lids with soldering gun.

**Randy Oliver Links:**  
[www.Scientificbeekeeping.com](http://www.Scientificbeekeeping.com)

Randy's site has info on using this device, based on the PROPOLIS-ETC design (Right)

Randy also speaks of other tools, including an extensive feature on doing mite washes with a solo cup design

MATÉRIEL APICOLE • BEEKEEPING SUPPLIES

Provider of beekeeping equipment out of Canada  
.....Website is in French



BEE SHAKER

\$19.00

- 1 +



## ➤ Political/Real Estate Sign Panels (Coroplast)

### ❑ Invaluable Uses

- *If you can source some of these sign panels, they have dozens of uses in a beekeeping operation*

*Some Examples...*

- Set under and over a hive box on the side to keep the bees quiet
- Use to cover honey boxes when pulling boxes off for honey harvesting
- Set under hive boxes in garage



# Any Questions

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is available for download**

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# Additional Bonus Items Below

Bkcorner





# Imirie Shim

*Source  
George Imirie Pink  
Pages*

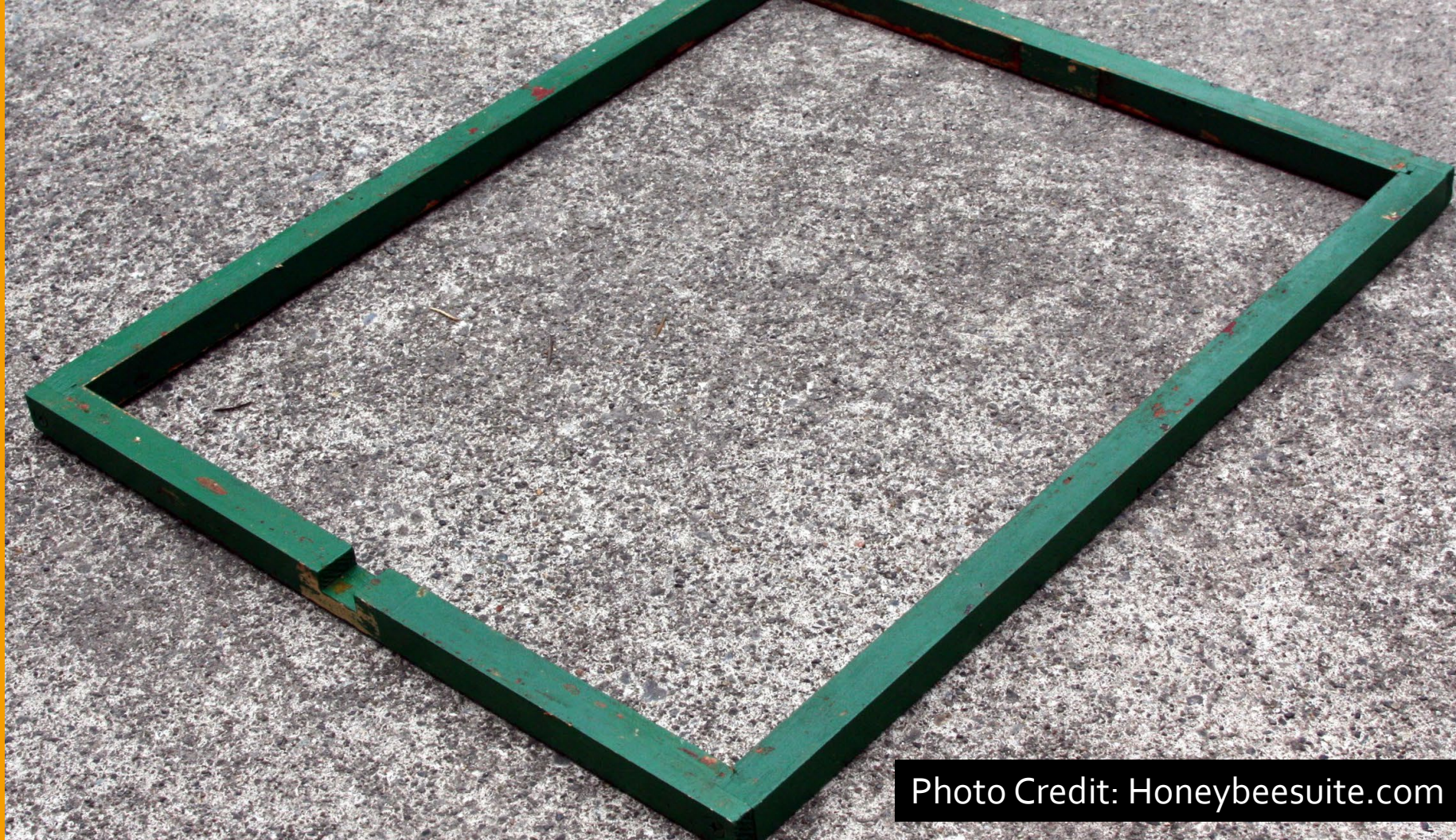


Photo Credit: Honeybeesuite.com

- **Imirie Shim**
  - *Simple middle entrance to give easier access to honey chamber*



## Simple Solar Wax Melter

*Source  
Linda Tillman*





## Water Pan in the Bottom





# Wax Vessel





## Second Storage Tray to hold the Wax





## ■ Glass or Plastic

*Great for small*







**More Robust Solar Wax Melter**



# Hinged Window





# Wax Drip






# Collection Tray



- **Aluminum Chaffing Dish**
  - *The floor is flat and level. When water is added and the wax floats.*





Mounted on an  
old wheelchair



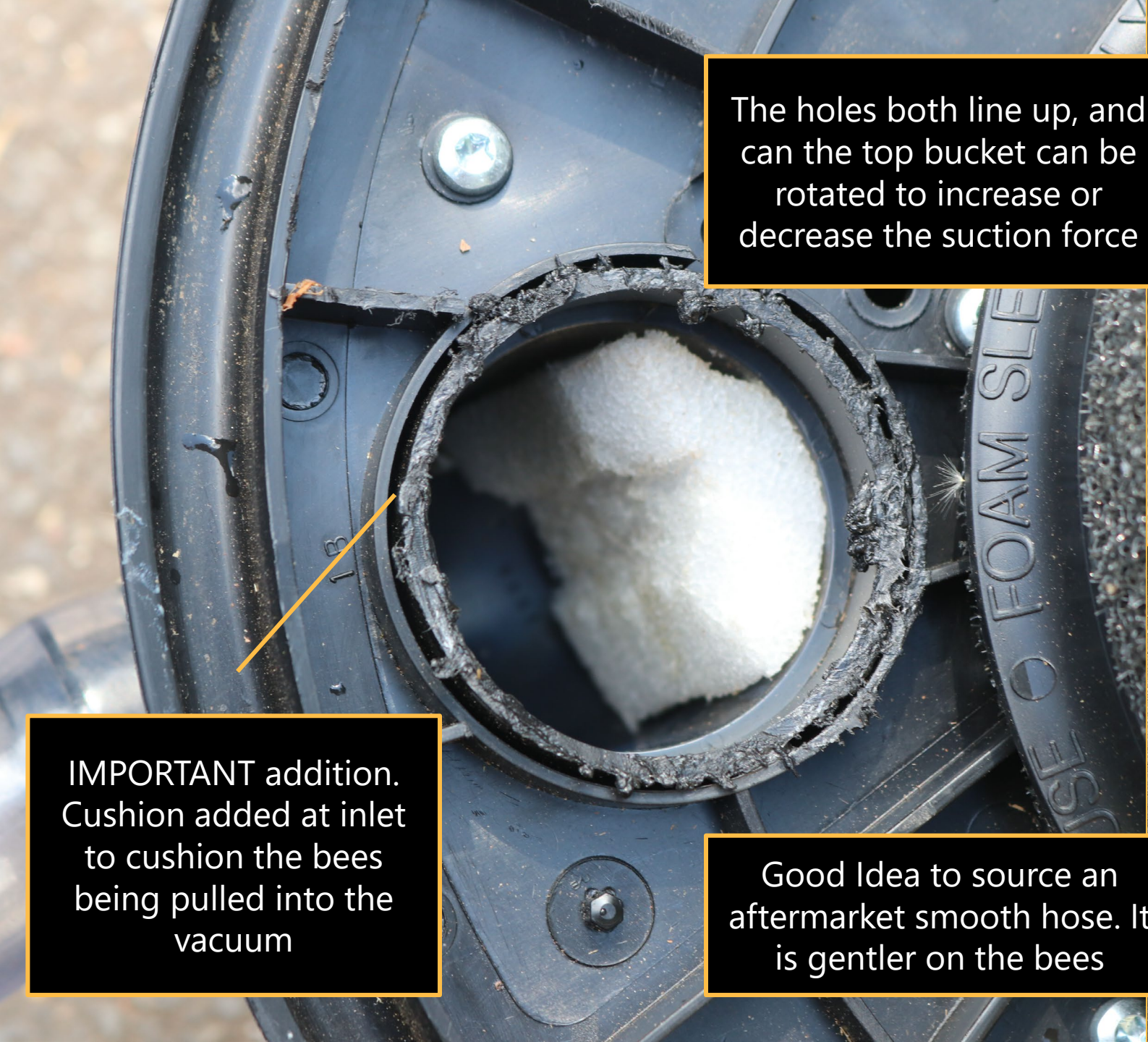
# Swarm Vacuum



## ❑ 5-Gallon Bucket Vacuum

- *Combined with nested buckets*





The holes both line up, and  
can the top bucket can be  
rotated to increase or  
decrease the suction force

IMPORTANT addition.  
Cushion added at inlet  
to cushion the bees  
being pulled into the  
vacuum

Good Idea to source an  
aftermarket smooth hose. It  
is gentler on the bees





# Quilt Box

- Like an inner cover with an extended top
- Fill with insulated foam or bag with fill..
  - It has a raised edge underneath, like an inner cover, and a slot for the bees to get out.
  - Place under an inner cover and roof





# ➤ Candy Board

- *Similar Idea – Using a queen excluder*
  - It is a queen excluder sandwiched between a frame and an Imirie Shim.
  - This can be set under the inner cover and you can place fondant on it.
    - This could also be used similar to a mountain camp feeder system for delivering dry sugar and pollen patties

Image Credit: Honeybeesuite.com

