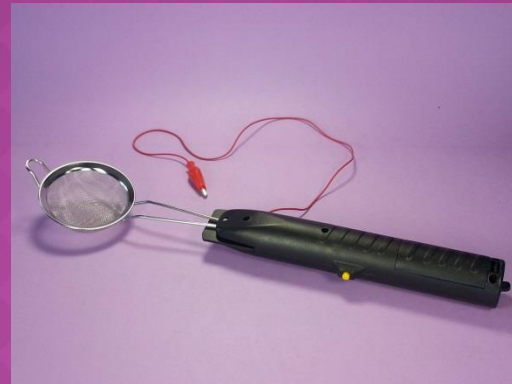


MAKING & USING A STATIC GRASS APPLICATOR

Bruce Bowie



THIS CLINIC WILL REVIEW THE FOLLOWING:

- ◉ Materials
- ◉ Costs
- ◉ Recommended Tools
- ◉ Disassembly
- ◉ Modifications
- ◉ Wiring
- ◉ Re-assembly
- ◉ Examples from the Lake Erie & Cold Creek
- ◉ Buy or Build??
- ◉ Demonstration w/ Tips & Tricks

MATERIALS

Sources

- Electronic Fly Swatter
 - Harbor Freight, Ebay, Amazon
- Small Metal Kitchen Strainer
 - Ollie's, Dollar General, Drug Stores
- (2) D Cell Batteries
 - Anywhere
- Insulated Alligator Clip
 - Radio Shack, Big Box Home Improvement Stores, Ace Hardware
- 18-20 Ga. Stranded Wire
 - Radio Shack, Big Box Home Improvement Stores, Ace Hardware
- 1/8" x 1 1/2" x 2" Plastic or Wood Spacer
 - Big Box Home Improvement Stores, Ace Hardware, Craft Store
- 3/32 Shrink Tubing
 - Radio Shack, Big Box Home Improvement Stores, Ace Hardware
- 3/16 Steel Washer
 - Big Box Home Improvement Stores, Ace Hardware



COSTS

Well Below \$10 including batteries

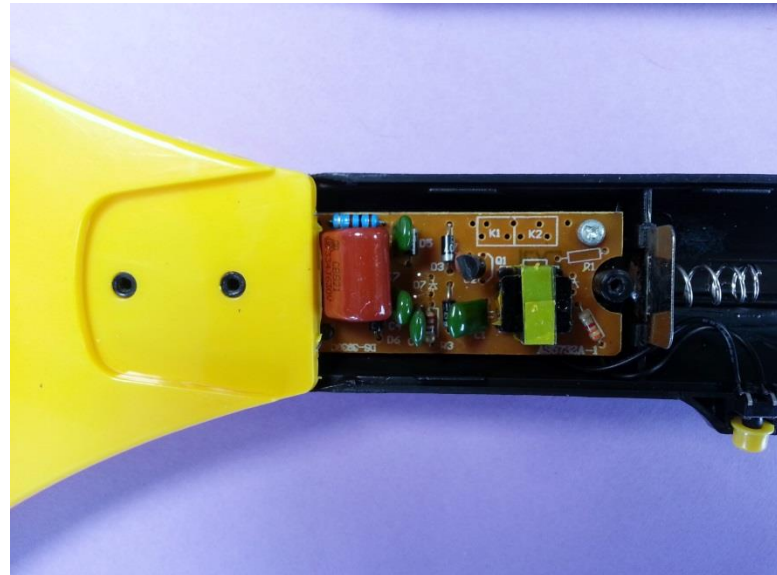
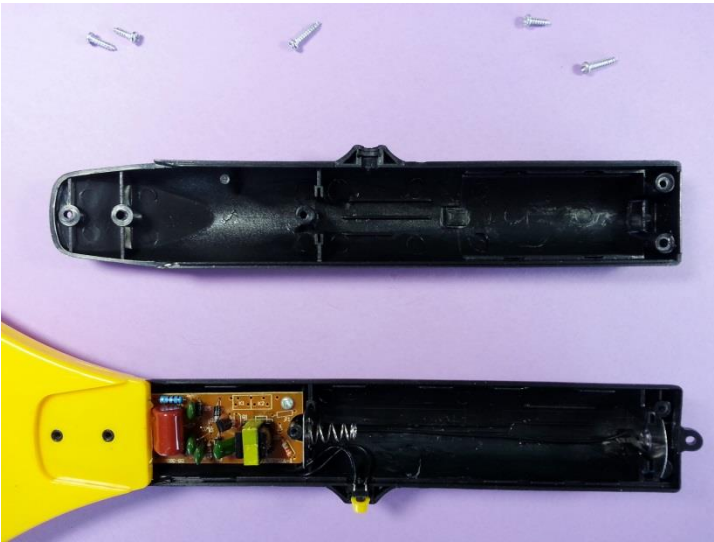
- Electronic Fly Swatter
 - \$3.49 - \$7.50
- Small Metal Kitchen Strainer
 - \$1 - \$1.50
- (2) D Cell Batteries
 - \$2
- Insulated Alligator Clip
 - \$0.35
- 3/32 Shrink Tubing
 - \$ Minimal
- 20 Ga. Stranded Wire
 - \$ Minimal
- 1/8" x 1 1/2" x 2" Plastic or Wood Spacer
 - \$ Minimal
- 3/16 Steel Washer
 - \$ Minimal

TOOLS

- ◉ 20-40 Watt Soldering Iron
- ◉ Soldering Flux
- ◉ Rosin Core Soldering Paste
- ◉ Alligator clamps or other clamps to act as heat sinks
- ◉ Wire Cutters
- ◉ Wire Strippers
- ◉ Crimpers
- ◉ #1 Phillips Screwdriver
- ◉ Medium Straight Screwdriver
- ◉ Permanent Marker

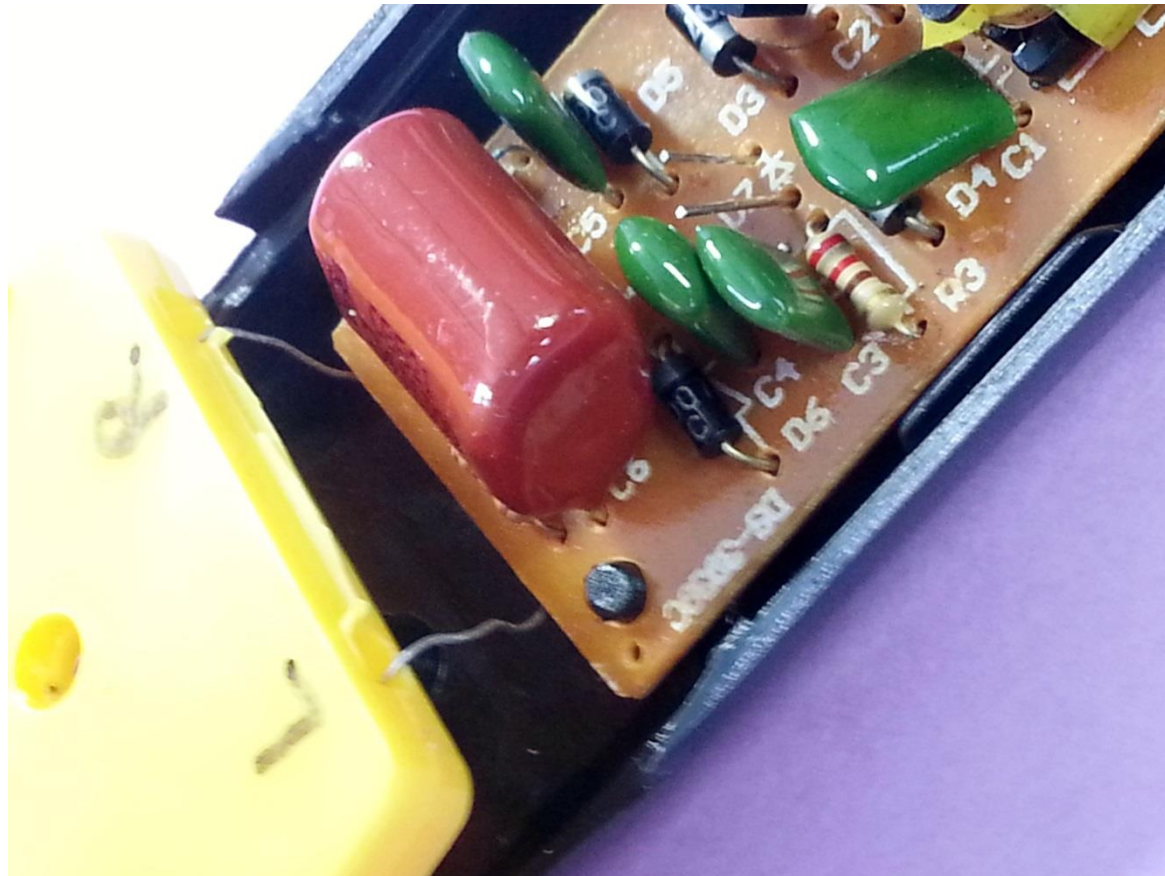
DISASSEMBLY

Remove screws holding handle together and separate top half of handle, leaving head and lower half of handle together.



DISASSEMBLY

Gently pull head loose from lower handle, then using permanent marker, mark head for LEFT and RIGHT where wires enter head



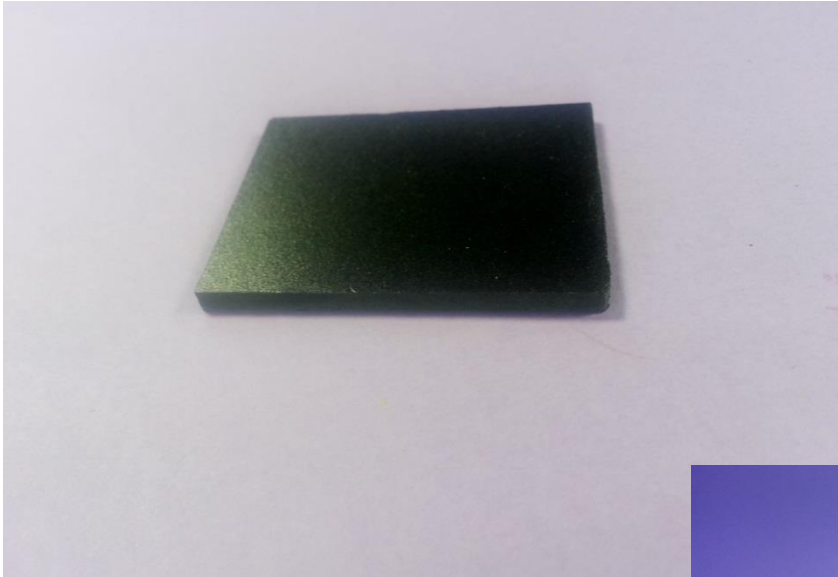
DISASSEMBLY

Trim the two wires close to the head. These two wires will be used to connect the new leads later on.



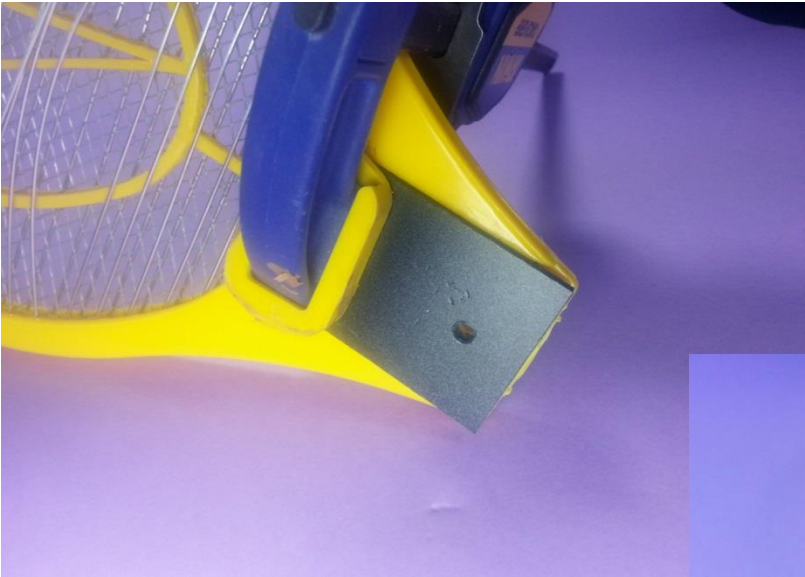
MODIFICATION

Clamp 1/8" thick plastic or wood spacer to the head.



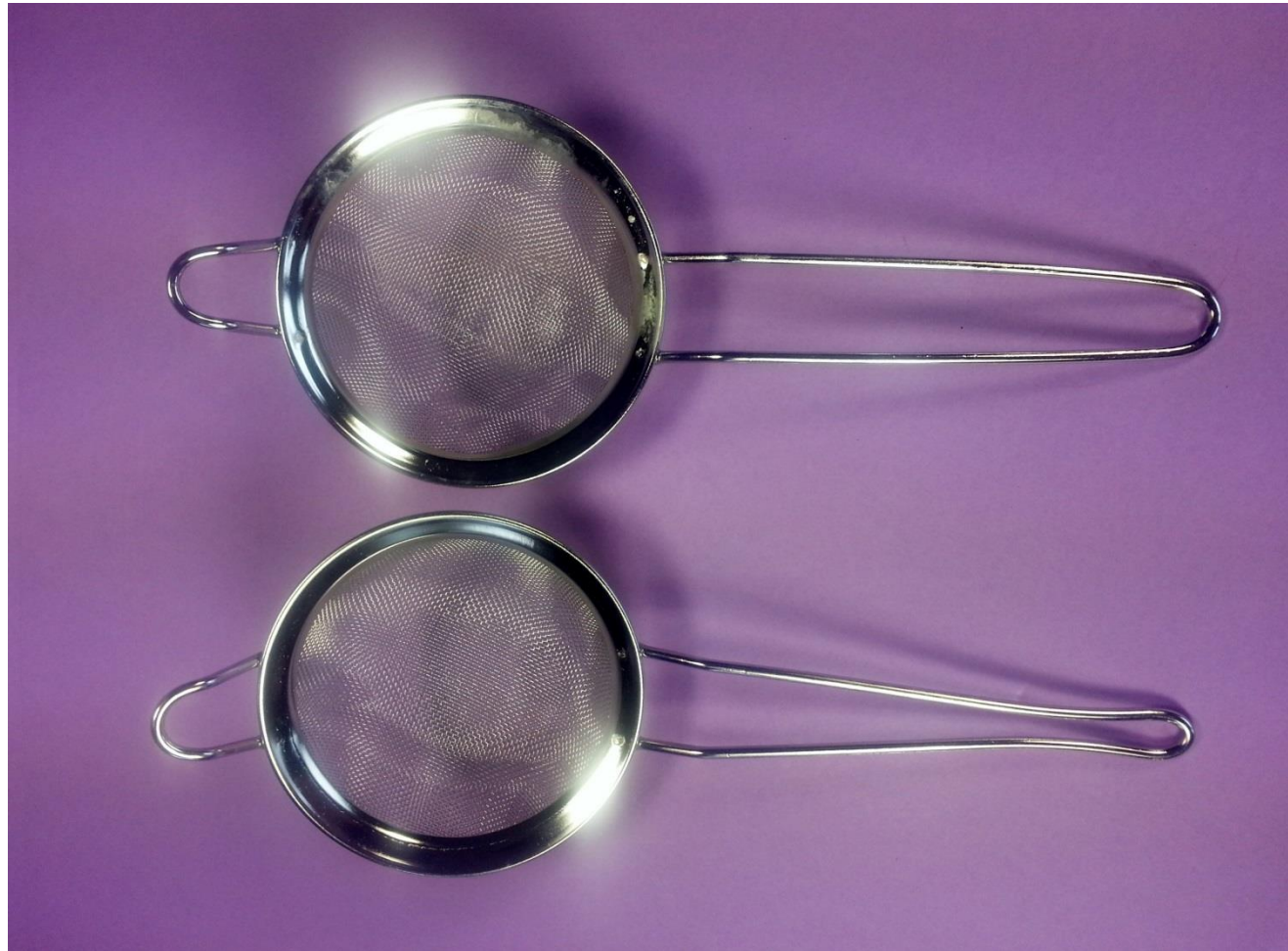
MODIFICATION

Drill 1st hole using existing hole in head as a guide, insert bolt and nut in 1st hole, then drill second hole again using existing hole as a guide.



MODIFICATION

Squeeze strainer handle until inside dimension matches posts inside bottom handle (approximately 3/16”).



WIRING

Flux and tin the two wires making sure to use a heat sink between the area being tinned and the end connected to the board.



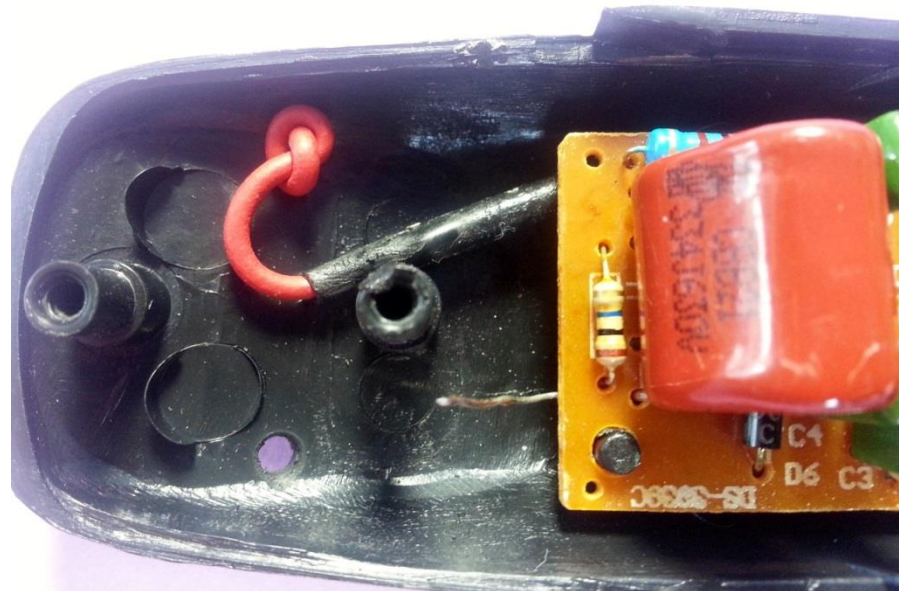
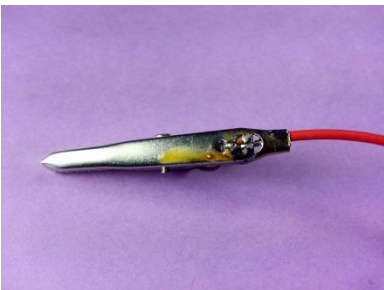
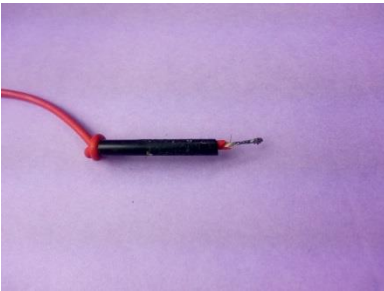
WIRING

Remember marking the head prior to cutting the wires? Use a flat bladed screwdriver to open the head. See which wire goes to the inner fine mesh and which goes to the two outer meshes.



WIRING

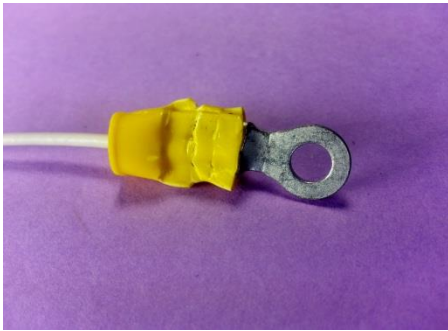
Now with heat sink still in place, solder the long wire to the wire originally connected to the outer meshes. Use heat shrink tubing to protect the connection. Drill a 3/32" hole in line with the long wire. Tie a knot to act as a strain relief, then push wire through previously drilled hole. Solder an insulated alligator clip to the other end of the long wire, remembering to put the flexible insulator on the wire first (not pictured...guess why)!



WIRING

Crimp a ring connector to one end of the short wire. Crimp connector should have a bolt hole large enough to allow it to fit over the mounting post. Again with a heat sink and shrink tubing in place, solder the short wire to the wire connected to the inner fine mesh.

It is also possible to solder this wire directly to the steel strainer handle. by first filing off the plated surface.

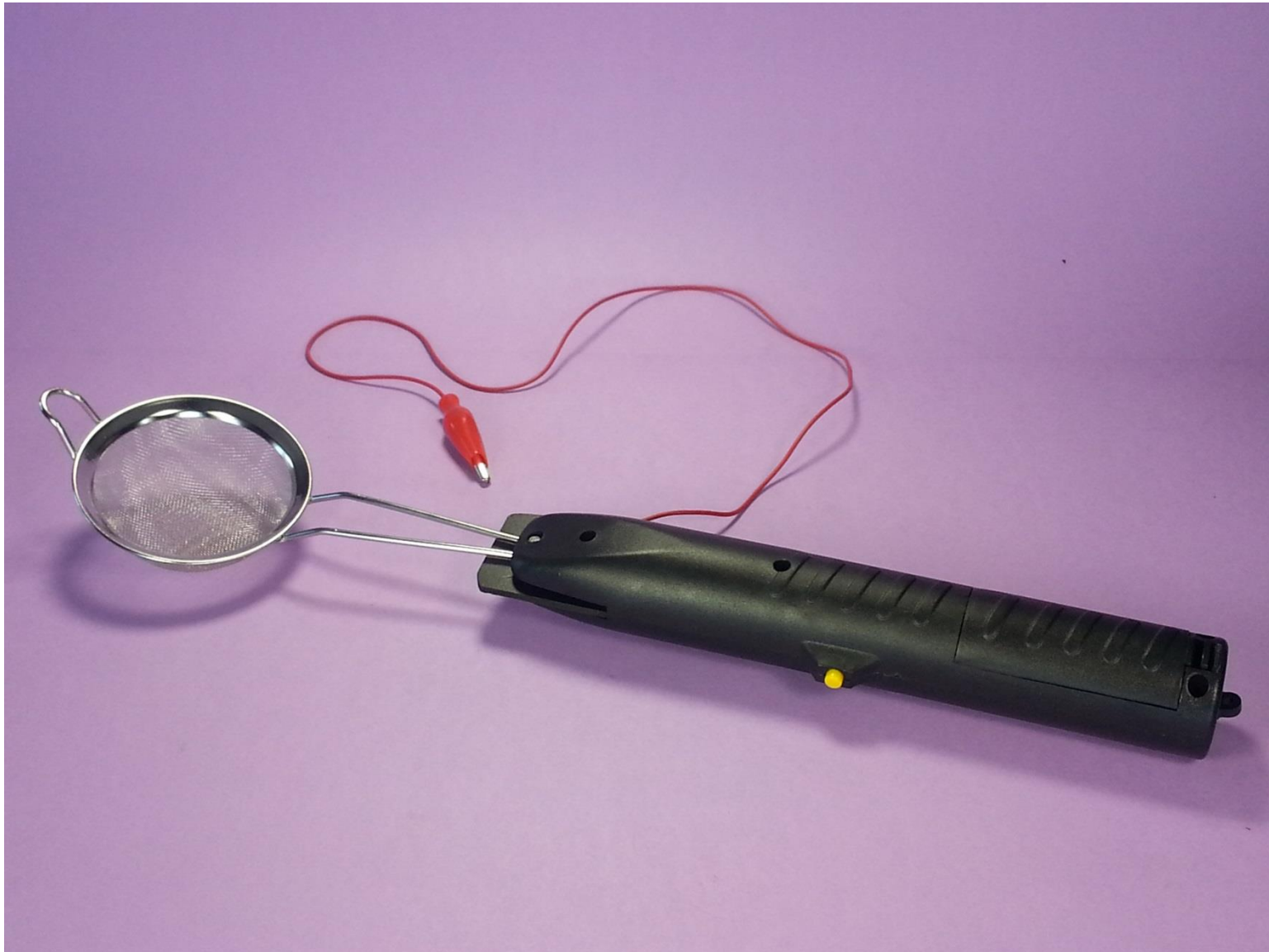


ASSEMBLY

Put a steel washer on one post and the crimped connector on the other post. Holding the strainer as shown, put the handle together and secure with the original screws. The washers help ensure the strainer is held firmly in place when the unit is assembled. I have also successfully solder the wire directly to the steel strainer handle after filing the plated coating off.



DONE!





LAKE ERIE & COLD CREEK RAILROAD by JIM MOORE



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LAKE ERIE & COLD CREEK RAILROAD by JIM MOORE

BUY OR BUILD??

SCENIC EXPRESS

FLOCKSTAR PROFESSIONAL STATIC GRASS SYSTEM

Item Number: HK9500

Unit Price: \$189.98



BUY OR BUILD??

MICRO-MARK

Economy Static Grass Applicator by Grass Tech USA

Item #: 85305

Our Price: \$39.95

LOOK
FAMILIAR??





**WHY BUY WHEN
YOU CAN BUILD
YOUR OWN FOR
LESS!!**

**USE THIS TOOL TO ADD
AMAZING GRASS TO YOUR
LAYOUT AND ENJOY THE
SATISFACTION OF HAVING
BUILT THIS INEXPENSIVE TOOL
YOURSELF!**

**MODEL RAILROADING IS
TRULY FUN!!**

DEMONSTRATION W/ TIPS & TRICKS

- ◉ Place slightly damp paper towels or newspaper around work area to collect loose materials.
- ◉ Wet area to be “grassed” using tap water with drop of dish soap in a spray bottle. **NEVER use alcohol as static charge could set your area on fire!**
- ◉ Matte medium, diluted and full strength white glue will work as adhesive.
 - Full strength white glue recommended for longer fibers.
- ◉ **DO NOT THROW AWAY** mixed sizes and/or colors.
 - Put in baggie, label MIXED, and use again.
 - Mixtures add realism.
- ◉ Use “concentrator”, i.e. funnel, to narrow placement area.
- ◉ Long fibers may be trimmed using small scissors or nose hair trimmers.
- ◉ After adhesive dries, fiber color may be modified with spray paint, dry brushing and chinks.
- ◉ *After turning off power, touch alligator clip to strainer to ensure no residual charge. Remove batteries to ensure power is not accidentally turned on!*

WARNING: THE STATIC CHARGE BETWEEN THE STRAINER AND THE LONG WIRE IS POTENT AND WILL GET YOUR ATTENTION IF YOU OR SOMEONE YOU LOVE GETS BETWEEN THEM!! DON'T ASK HOW DO I KNOW??