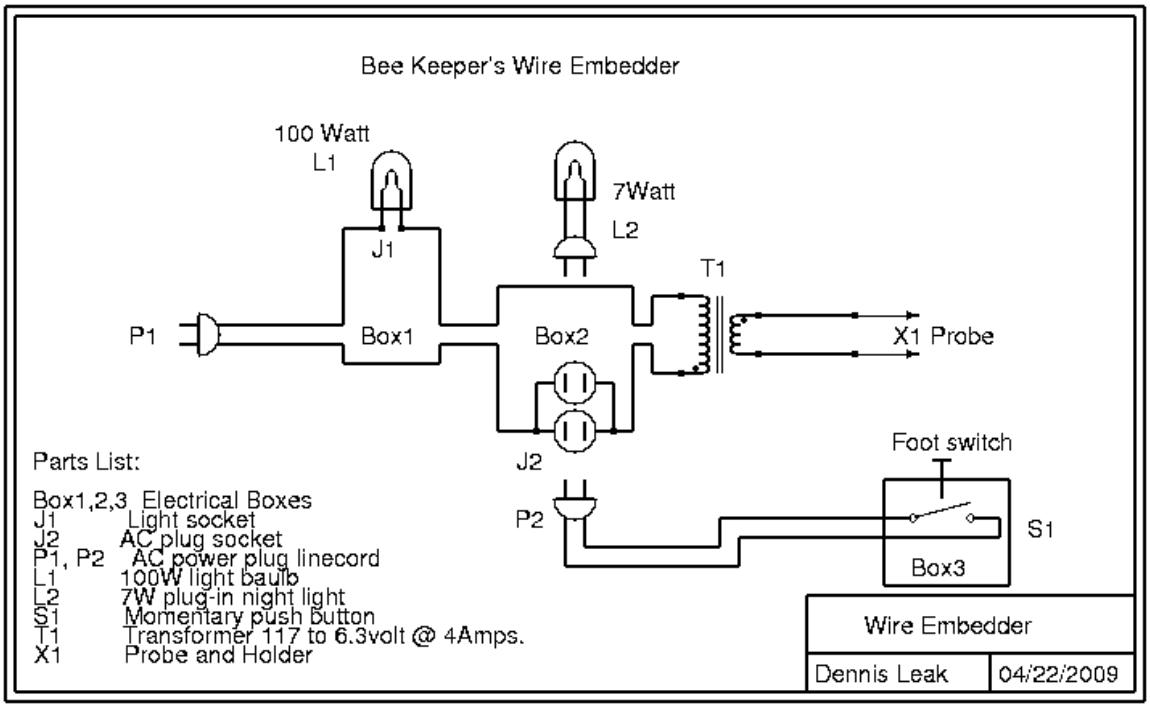

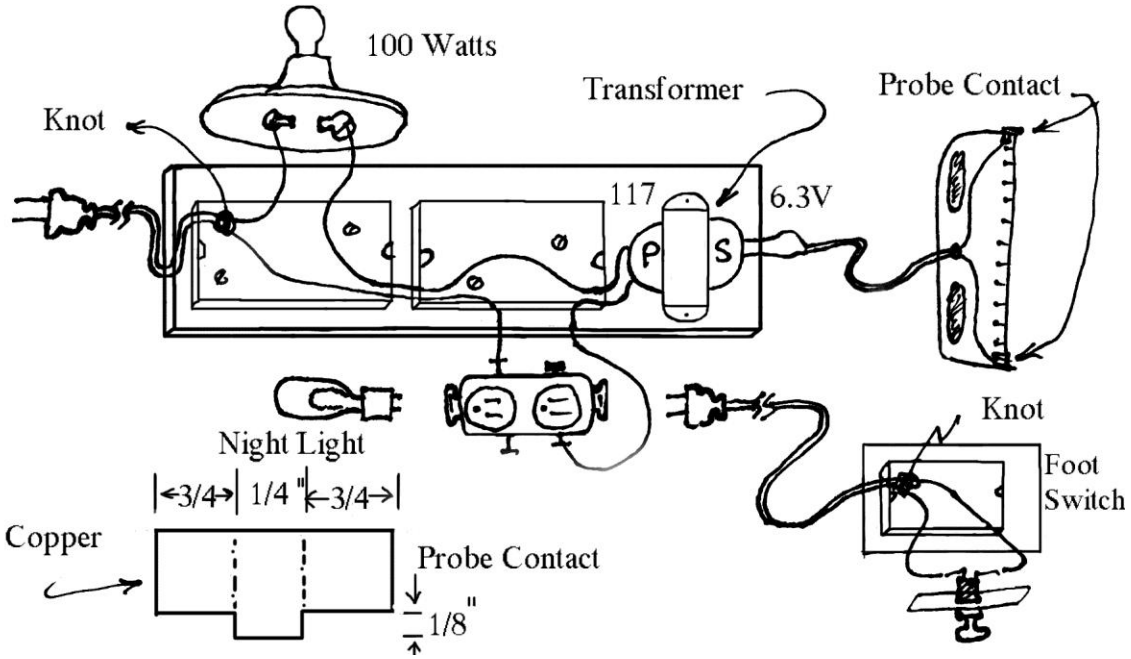

Wire Embedder Pictorial View

Parts List:

	Qnt	each	Cost
1. Power cord 9Ft 16 GA.	3	1.97	5.91
2. Night Light (7W plug-in)	1	4.98/4	1.25
3. Push Button Switch	1		1.00
4. Electrical Plastic box	3	0.25	0.75
5. Light Bulb Socket (S1174W)	1		1.39
6. Power Outlet (270W)	1		0.49
7. Power Outlet Cover	1		0.22
8. Metal Box Cover	1		0.57
9. Board 1"x 4"x 5"	1		1.77
10. Board 1"x 4"x 14"	1		-.--
11. Board 1/4"x 4" x 16 3/4"	1		1.94
12. Copper Ground Strap 3/4"x 6"	1		2.27
13. 100Watt Light Bulb	1	0.78/4	0.20
14. Transformer 117VAC to 6.3V @4A	1		-.--
Misc. 8-#8x1/2" screws, 2-2" deck screws, foundation wire, terminals.		Total	17.76

Transformer is an old 6.3V Filament at 4 Amps ranging in cost from EBAY, 6 to 20 dollars. Got mine from a Hamfest for $1.

Building the Foot Switch:

1. Remove the nails from the 3 plastic electrical boxes.
2. Cut one box down to 1 1/4" (from the bottom).
3. Drill a 1/2" hole in metal cover for push button.
4. Remove screws from metal cover plate.
5. Bend push button terminals so they are straight out.
6. Cut off the receptacle end of all the 16 GA cords.
7. Strip off 1/4" from the wires of all cords.
8. Attach two crimp on terminals to one of the cords.
9. Punch out one wire entrance of the "cut down box" and insert the wire with the terminals.
10. Tie a knot in the wire 8 inches from terminals.
11. Mount push button in the hole in the metal plate.
12. Mount plate onto plastic box to the 1"x 4"x 5" wood board with the two 2" deck screws.

Building the Probe Contact Board:

1. Drill 1/16" holes every 1 inch along one long side of the 1/4"x 4"x 16 3/4" board 1/2" from the edge.
2. In each hole run a short piece of foundation wire around the side of the board and twist it tight. Try to shorten the ends and push then in the hole, since they are sharp. This will push the hot wire into the wax without flattening the wax.
3. In the center of the board, 1 inch in from the side opposite the wires, drill a 5/16 inch hole. I also cut some hand slots, but this is not necessary, if you don't want to.
4. Cut off the plug end of one power cord, and strip 1/4 inch insulation from the wires. Attach to the low voltage, 6.3V secondary “S” side of the transformer, by soldering or crimping.
6. On the other end of the line cord, strip the insulation and attach two ring terminals that can fit on a #6 screw.

7. Cut out the 2 Probe tips from the copper strap. See picture. Bend them into a square bottom "U" and fit to 1/4" board, on both ends of the side with the foundation wire loops.
8. Place the probe tips with the tab extending past the board about 1/16 inch. Drill 1/8" hole through copper/board/copper away from the probe tip. You can file a shallow “V” in the probe tip, to help center the foundation wire.
9. Route the wire terminals though the 5/16" hole and attach each wire to the copper probes, with two #6 screws.

Building Main Embedder Board:

1. Mount the two electrical boxes end to end on the 1"x 4"x 14" board, with enough room to mount the transformer.
2. Add on wires to the primary “P” of the transformer so you have at least 12" to work with.
3. Knock out one plastic entrance of the box near the transformer and route the transformer wires through it. Mount the transformer to the board using the #8x1/2" screws.
4. Attach one transformer wire to the electrical outlet.
5. Punch out two plastic entrances adjacent to each other and run the other transformer wire through them. Attach that to the light socket.
6. To the remaining Power Plug Strip 1/4" of insulation and route the wire through a knocked out plastic box entrance that is farthest away from the transformer. Tie a knot in the wire 1 foot from the stripped end for strain relief.
7. Attach one power cord wire to the remaining terminal on the light socket. Route the other wire though the entrance that has the transformer wire coming through it.
8. Attach the wire to the remaining connection of the power outlet receptacle.
9. Attach the light socket to it's box and do the same for the power outlet. Put the socket cover on to the power outlet and screw it down.
10. Screw in the Light bulb, and plug the Night Light in one of the socket plugs. Plug the Push button Foot switch in the other one. It is now complete.

Testing the Wire Embedder:

1. Plug in the Wire Embedder.
2. The Night Light may glow dimly.
3. If you push the foot switch, the Nigh light should go out but the 100 Watt light bulb should remain out.
4. If the above doesn't happen, unplug it and check your wiring.
5. If everything is OK so far, put a piece of foundation wire across the Probe Contact board, and the Night Light should brighten.
6. Depress the foot switch and the Night Light should go out and the 100 watt light bulb should Glow, and the foundation wire should get hot.
7. It is ready for use.

Using the Wire Embedder:

1. Place a Bee Frame that has the foundation wired up, over a ¾" thick board cut to the foundation size.
2. Put the Probe Embedder board over the wire and press down, the Night light should glow.
3. Depress the Foot switch and the 100W light Bulb should Light up, count to three and release the foot switch.
4. Count to ten before releasing the board from the frame to give the wire and wax time to cool.

NOTE: If you find the wire is getting too hot, you can put in place of the 100 watt a 75 or 50 watt bulb, it is the load resistor for the circuit.