Bowl Bulbs

# Introduciton

This article is about bowl bulbs that I designed.



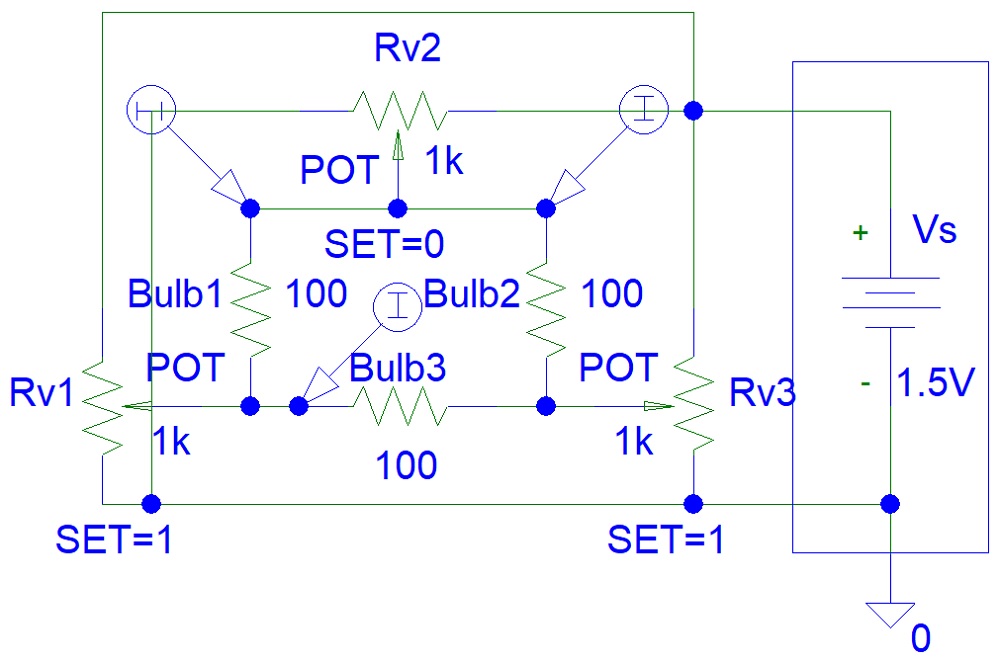
**Figure 1:** Light Bulb Toy.

I used a recycled Ricotta Cheese plastic bowl to save money on ordering a plastic box.

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# 2. Step 1: Design the Circuit

The circuit is designed with three 1.5 V bulb miniature light bulbs.

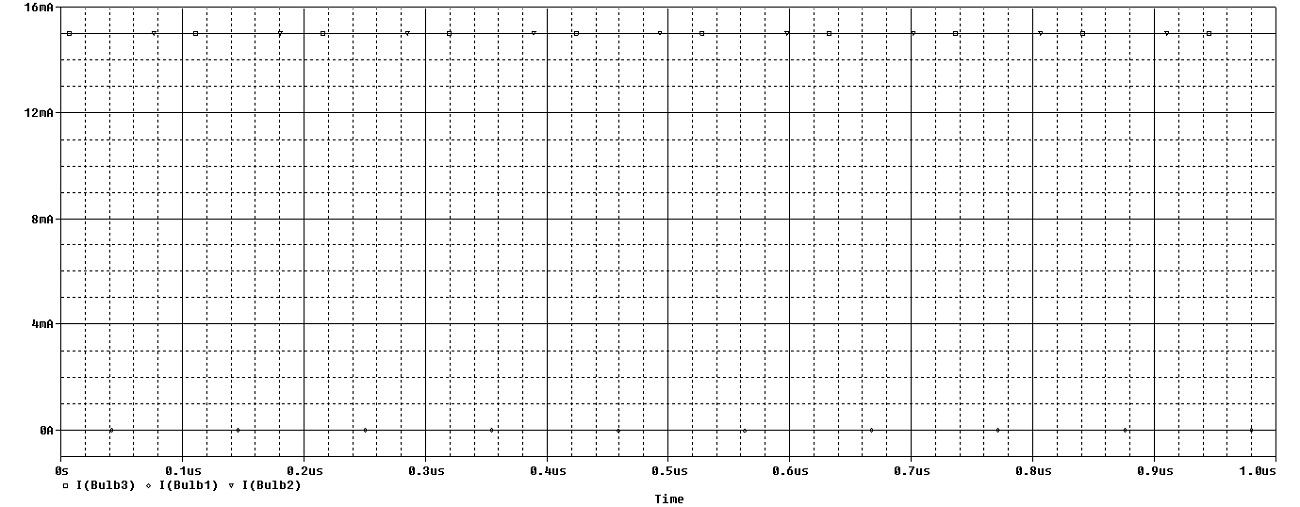


**Figure 2:** Circuit Design.

You can see that I used a 1.5 V battery in my design. You can try using a 3 V battery and bright LEDs with a 100 ohm resistor in series for each bright LED.

# Step 2: Simulations

The old PSpice simulations software was quick to simulate the circuit.



**Figure 3:** Simulations.

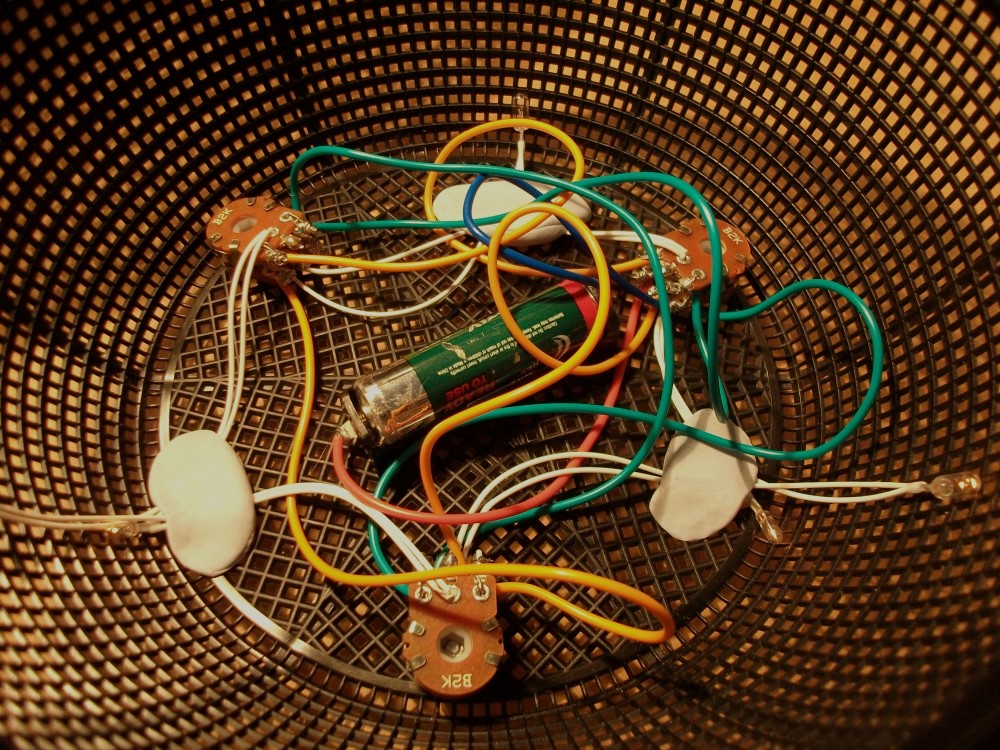
The maximum light bulb current (15 mA) depends on the light bulb resistance when ON and the potentiometer resistance.

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# Step 3: Make the Circuit

You can see that three bulbs are connected to three nodes in the circuit. However, because I used three 2 kohm dual gang potentiometers, each bulb is isolated from the other two bulbs.

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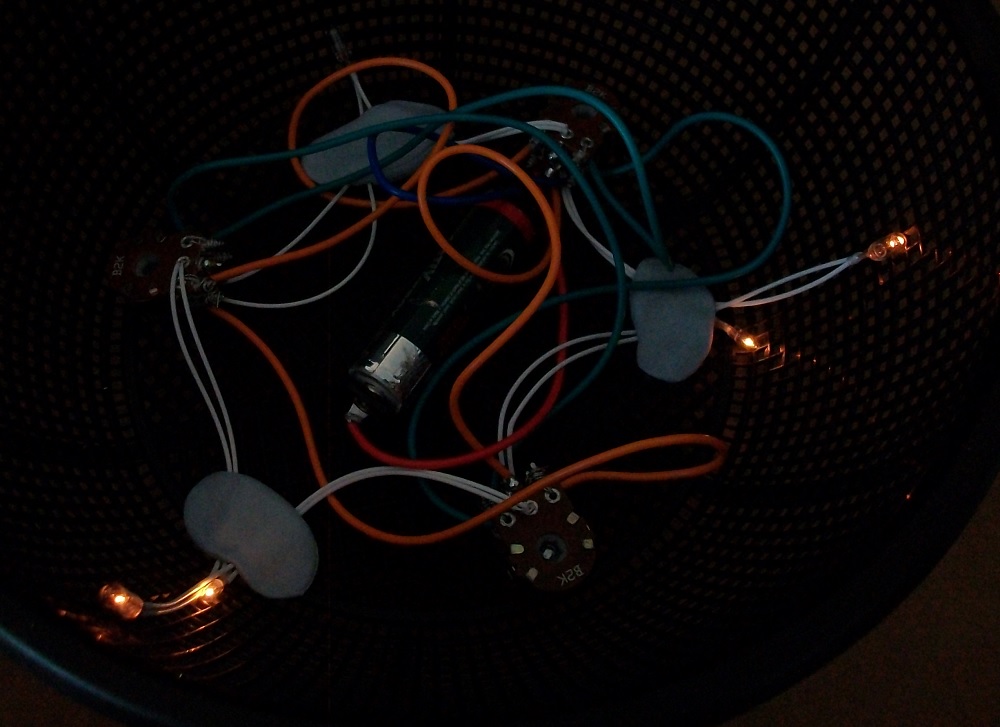
**Figure 4:** Make the Circuit.

You can try using a 1 kohm single gang potentiometer as shown in my circuit, connecting all three light bulbs together and see what happens.

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# Step 4: Testing

Testing the circuit involved finding bad joints. I tried to avoid using my soldering iron. However, in the end I soldered the light bulb connections to potentiometers only and not the power supply connections to potentiometers.



**Figure 5:** Testing.

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# Conclusion

This is my final outcome of this minor project:



**Figure 6:** Finished Device.