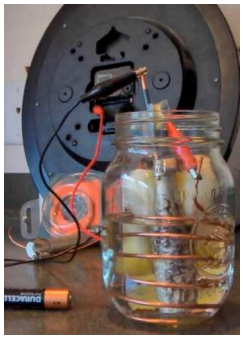
NOW YOU CAN BUILD A HOMEMADE BATTERY
THAT WILL LAST A LIFETIME

By T. M. Lamb



Note: this battery pictured does NOT have 20 turns of the copper wire

List of Supplies you will need:

1 small fruit (canning) jar

1 sheet of copper 5" by 10"

(or you can use a 10' length of 10 gauge copper wire, wrap this bare copper wire around the foam encasing the Magnesium rod about 20 times)

1 Magnesium rod about 1/2" in diameter and 5 1/2" tall

1 piece of 1/2" foam 5" by 8" (or you can use plumbing insulation foam and cut to 5" length)

3 or 4 wire ties

1 alligator clip with about 2’ of black wire attached.

2’ of red wire

1 plastic canning jar lid

1 small hose clamp (to attach to the top of the Magnesium rod to attach the Positive wire to)
add water (you don't need distilled water but it will stay cleaner longer)

List of tools you will need:

A small flat screwdriver (for the small hose clamp)

Metal snips

½" drill

sharp pointed knife (to poke a slotted hole in plastic lid)

volt meter to check voltage

NOW what you do is wrap the foam around the Magnesium rod (or if you are using pipe insulation insert the Magnesium rod into the foams center hole) You can now apply the plastic wire ties to hold the foam in place.

While holding the foam around the Magnesium rod wrap the copper sheet around the foam. What I do is tear small holes in the foam so water can react with the Magnesium rod unimpeded, but not large enough so the copper can touch the Magnesium rod.

Next cut a ½" slot about 2" down the side of the copper sheet then cut up about 1 ½" up to the top of the copper sheet so you dog ear the corner of the copper sheet and have a piece of copper sheet to pull up (bend up) out of the water.

Take this piece of copper you cut and bend it up so it stands taller then the flat edge of the copper sheet. (You DO NOT want to attach the alligator clip IN THE WATER) as metal of the alligator clip will adversely effect the polarity of your project.

You will need to cut and pull a corner of your copper sheet up out of the water to attach the alligator clip to.

The small hose clamp is attached to the top of the Magnesium rod and you attach a positive wire to it.
Now place this into the jar and add water to cover the foam.
Some people add electrolyte to increase the amperage and this will work but it will diminish the life of the magnesium rod. Some people have used Orange Juice, Grapefruit Juice etc. And you can experiment and add some vinegar to your water if you like.

And some people have
experimented using a Zinc or Galvanized rods these will help but they shorten the life of the battery. And our goal was to produce a cheap battery that will last a lifetime. With using the Magnesium rod and water you only have to clean the Magnesium rod and copper sheet with a light sanding with steel wool about every 9 or 10 months, but it will keep on producing low grade power without any other changes or additions.

If you want to make the battery fairly water tight you can run your Magnesium rod through a hole in a plastic lid and silicone around it to make it water tight.

Also the copper sheet, you can cut a corner of the copper and pull it up so it will protrude through a slit cut into the plastic lid and silicone around that as well. This way you can make the battery semi water tight. When you are doing this be sure you use ONLY a plastic lid as a metal lid will make connection with your terminals and short out your battery.
You may also need a rubber gasket to also make the unit water tight.

Now for the bad news
Although the power IS 1 (one) volt the amperage is less than 100 milliamps, so you will need 4 or 5 of these cells to power a single LED light. Yes you can wire 12 of these jars so that will end up with 12 volts but the amperage will be low and you will need to wire several banks of 12 cell (jars) to get the kind of power required to power anything significant.

That said, if you were to lose power and your expensive solar panels were in the dark for an extended period of time, you just might be very happy you had these as a back-up at least for emergency lighting.

(Just make sure your copper NEVER touches the Magnesium rod)

Hey after all it's cheap and you can't beat cheap.
This unit will replace a AAA battery and after your expensive AAA batteries are all gone this just might be your fix for replacing your AAA batteries.

This is an easy build and it does work but do not expect a lot of power. The best part of this project is a lot of these materials you should have laying around your house so you will not have to buy many materials to do this project.

This is a great project to build with your young Son or Daughter. And this is great to experiment and play with.

I do not know this for a fact but it stands to reason the more copper you have in the water the more amperage you will have. Also the more Magnesium you have in the water the stronger the amperage you will have. This is only a theory but it sounds good and reasonable.

So if you compare a small pint jar compared to say a gallon jar filled with copper and a huge Magnesium rod (in theory) you should have a lot more amperage but the voltage will stay the same, (IN THEORY).

Good luck with this and have fun. I know this works as I have built several.