Instructions for the "PWNY" Glock-17 magazine spring winder

This tool is specifically for 9mm pattern magazine springs, but the design is simple so it would be easy to adjust the components for almost any box magazine spring.

Print the "Base", "Arm", "Washer" and "Guide" components with their largest side down. I used PLA with 3mm wide walls and 25% infill. You will notice some ¼ inch through holes on the Base and Arm. These are for optional bolts and nuts to provide compression to those components and reduce the likelihood of the layers separating under spring winding force.

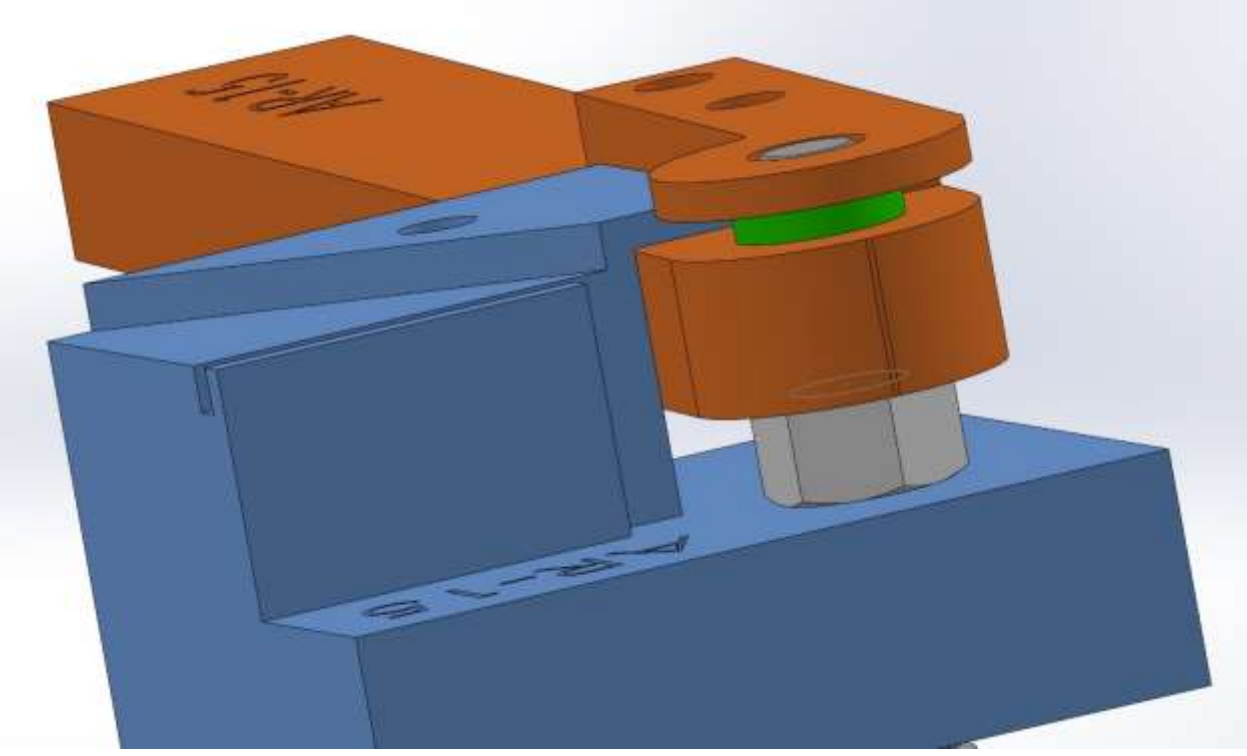
You will also need a 3/8-inch bolt about 2 inches long (longer is ok) and a matching nut.

Additional ¼-20 bolts for the clamping features and the spring length guide are optional

You will need some 0.055-inch diameter music or piano wire. I used this: https://www.amazon.com/Carbon-Smooth-Diameter-Precision-Tolerance/dp/B002M3JQGC/ref=sr_1_34?qid=1561658204&s=musical-instruments&sr=1-34

You will need some pliers, vice grips or some other strong clamping tool and some strong wire cutters.

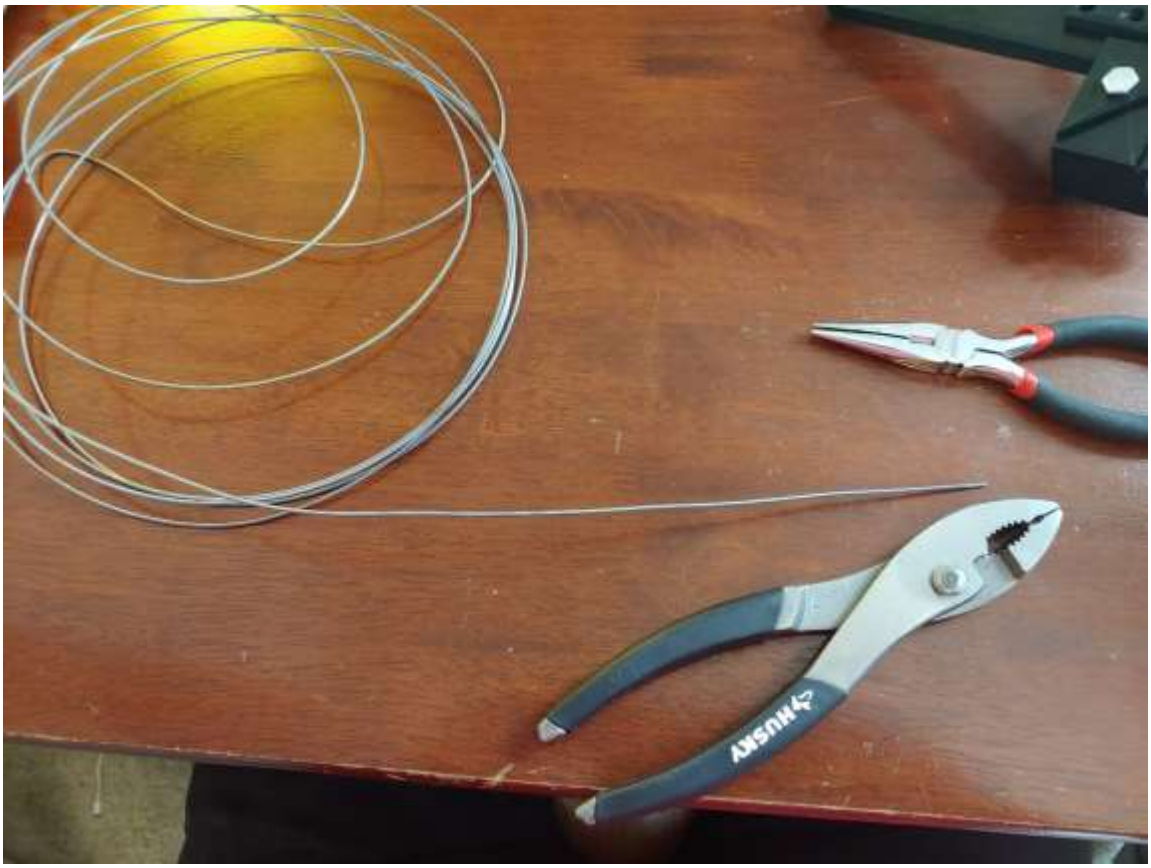
The assembled Spring Winder with the base in blue, the Arm in orange, the "washer" bend radius adapter is in green and the 3/8 bolt and nut visible.



Step 1: Assemble the spring winding tool and gather your other tools.

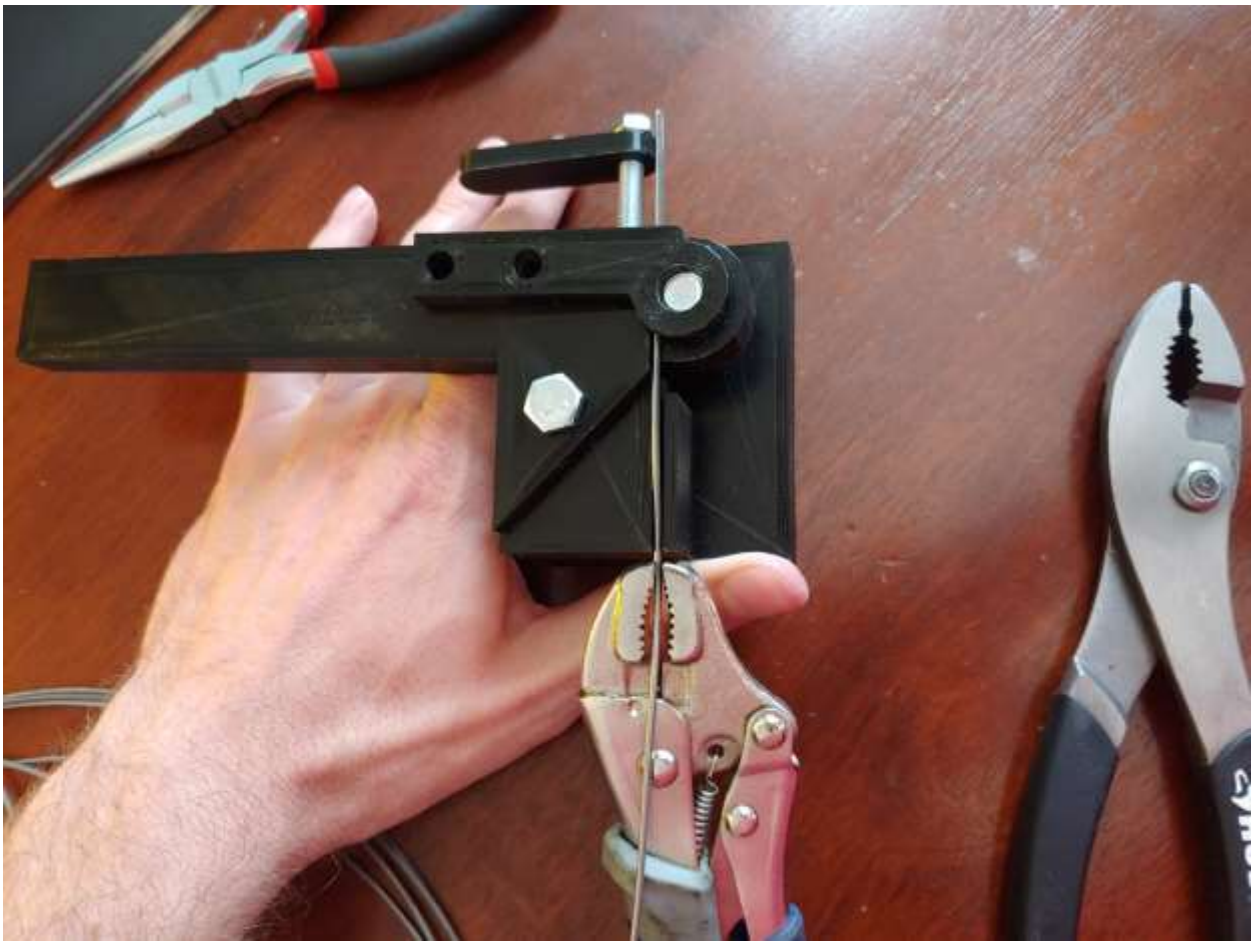
Step 2:

Straighten some wire. You can either straighten all that you'll need or straighten as you go. I like to use pliers, but you can also use your hands. The wire needs to be straight before you bend it into shape or you'll get a wandering spring profile.



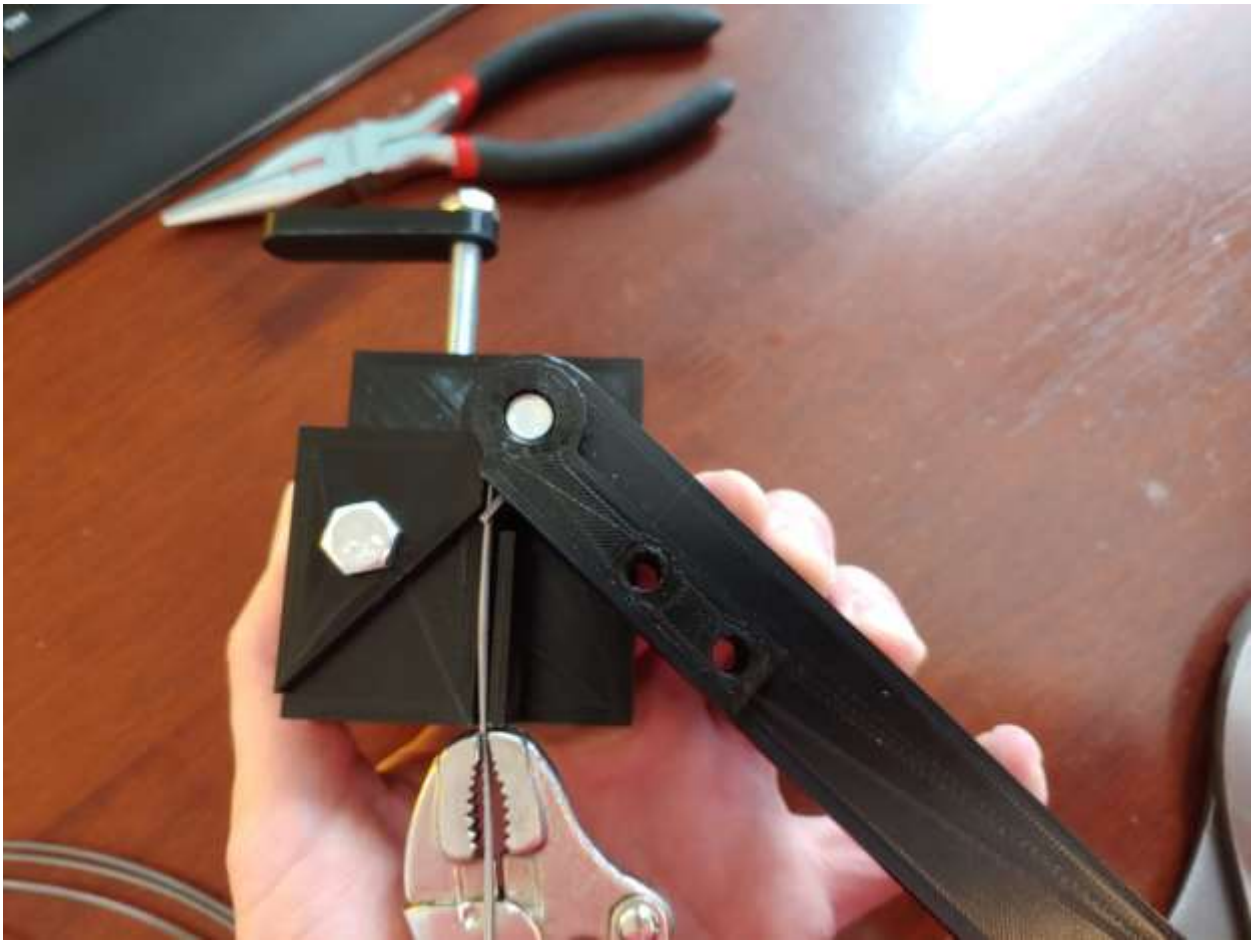
Step 3:

Stick some wire through the jig as shown and clamp off the end of the wire. This clamping is to prevent the wire from pulling through the jig as we operate it. We want to only bend the wire sticking out the top.



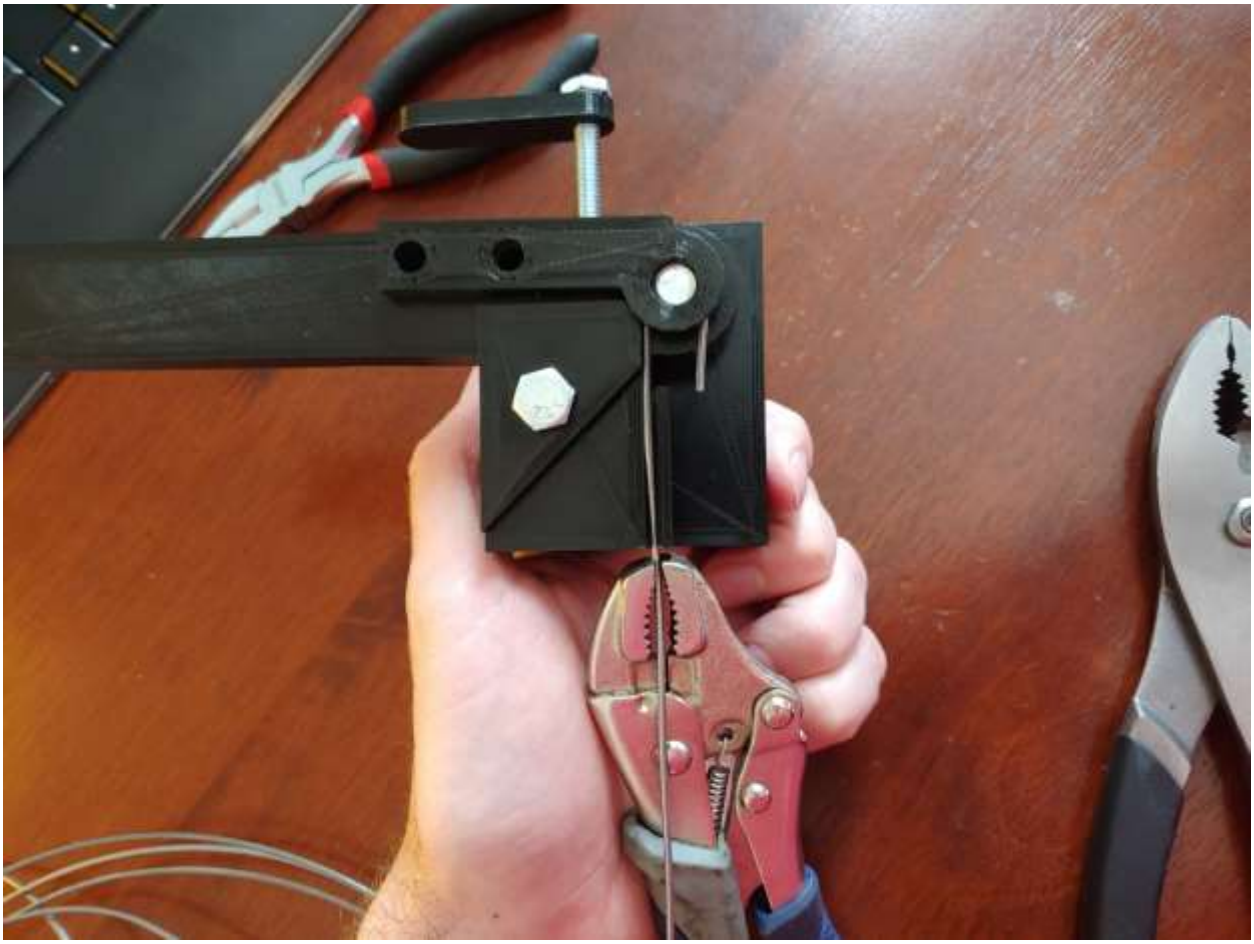
Step 4:

Swing the Arm around as far as it will go. Since there will be some residual springiness to the wire, we need to wrap it past 180 degrees.



Step 5:

Rotate the Arm back and you should see this. The wire relaxed back to a nice 180 degree bend.

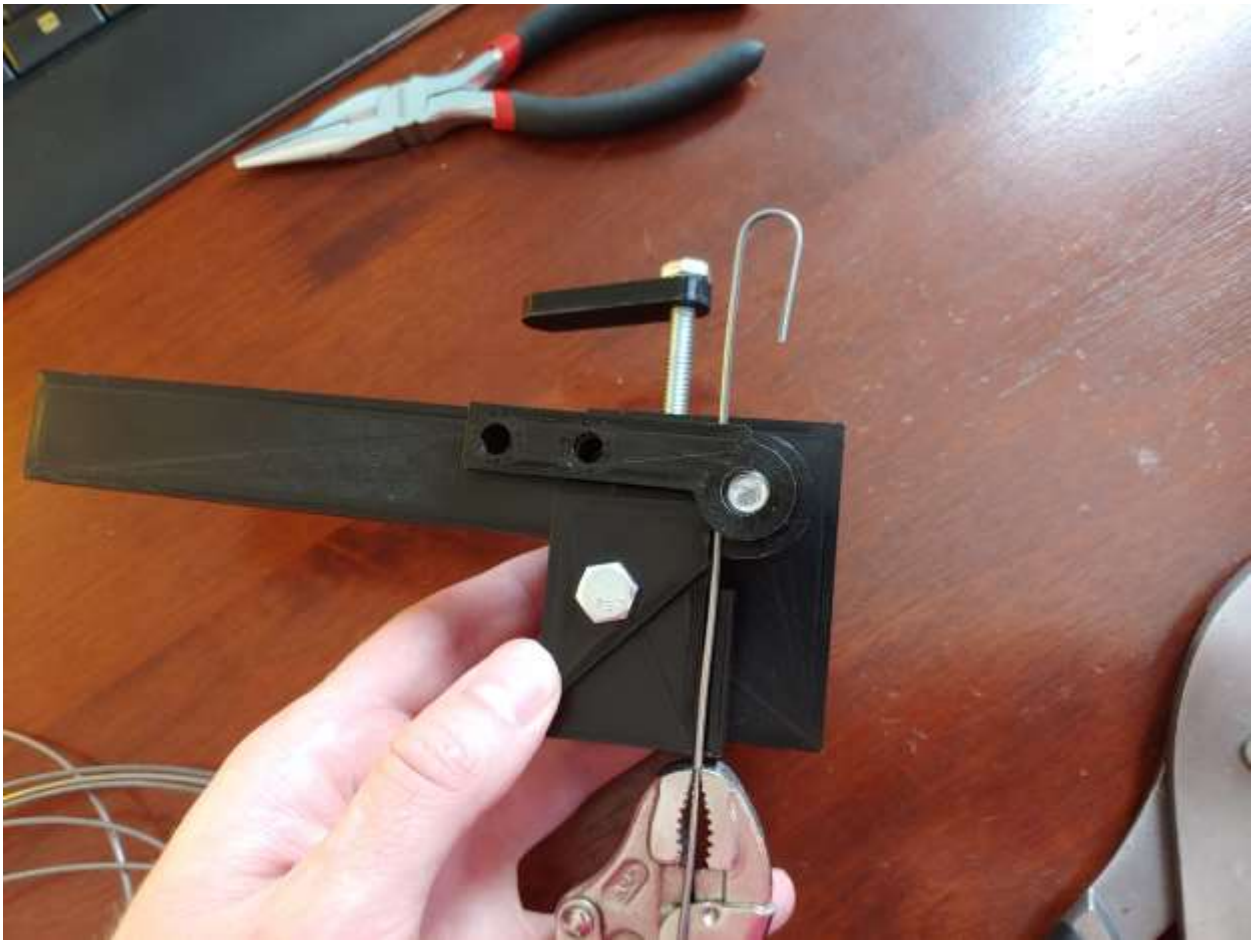


Step 6:

Release the vise grips and push more wire through the jig. It is useful to have another magazine spring to compare to to set the spacing. Remember that the bending operation will consume about ~0.5” of the wire sticking out the top end.

Step 7:

Clamp again.



Step 8:

Bend again, making sure to lift the already bent wire section out of the way so that you can get full rotation of the Arm.

Step 9:

Repeat the process until you have as many coils as you need. Make some extras so that you can trim off any ugly ones.

Step 10:

Stretch the coils apart until they match the spacing of your reference spring. Trim off any ugly coils like the ones on the right side of the lower spring.

Final Step:

Temper the springs to remove any residual stresses and increase their toughness. 500F for 4 or so hours in your oven or toaster oven ought to do it. Turn the oven off and let it cool with the door closed until it is back near room temp. Then assemble into your favorite 3D printed magazine and enjoy.