

# Making the Patrick Pelgrom Tongs

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I made the tongs in figure 1 based on an article in the German metalworking magazine Hephaistos (<http://www.metall-aktiv.de/>). The tongs were developed by Patrick Pelgrom, a Belgian blacksmith who travels a lot by airplane. In order to reduce the weight of his luggage, he developed a pair of tongs that would be able to securely hold square, round and flat stock. This way, he was able to reduce the number of tongs he carries with him. His tongs were inspired by how one would hold a piece of (cold) metal with three fingers. The V-angled bottom takes on the functionality of the index and middle fingers and the rounded top that of the thumb. Notice the notch in the rounded top which is designed to give good grip.

While they are in essence v-bit tongs, they excel at holding flat and irregularly shaped stock. They also work well in situations where you need to hold two pieces to forge weld.



Figure 1: Three-quarter view and front view.

In this article, you will find construction notes on how to make these tongs. I find it easiest to rework old tongs as it saves time. While I like to use flat tongs as a donor, any tongs will do provided they have enough material to be reworked. I have made two pairs of tongs, the one described here started out as pick-up tongs in which the business end was approximately 1/2" square. They are going to be on the small side, to be used with 3/8" and 1/2" stock.

Start by cutting the rivet. Next, grind off any burrs and sharp edges. Now is also a good time to remove any excess materials so as to lighten the tongs. Figure 2 shows the result of this step.

In case your donor tongs are pick-up tongs, cut the business end so that you are left with about 2" of material. If you start out with flat tongs, you may skip this step. To make the V-bit bottom, draw the business end to about 1" wide, 1/8" thick and 2" long. If you start out with pick-up tongs, first spread them to about 1" wide and if they are still too thick, spread them out lengthwise. If you start out with fairly thick flat tongs, first draw the bit lengthwise so that it is

equally thick. Then draw it out to a width of 1" and a thickness of about 1/8". Next cut the bit to length, about 2".

Now, it is time to form the V on a 45 degree V-groove of a swage block. It is important that the V-bit is slightly concave lengthwise, otherwise, the piece to be held by the tongs may wobble. Small imperfections can be removed by grinding them away later on.



Figure 2: Tongs separated, sharp edges removed and trimmed for weight.

To make the rounded top, draw the business end to 1/2" wide, by 3/16" thick by about 2 1/4" long. Figure 3 shows the result of forging the top and bottom. Notice that the top is actually too long.



Figure 3: Forged business ends.

Next, clean-up the pieces with an angle grinder and cut the top to size and add a small V-notch. The length to which you cut the top determines the stock size you can hold comfortably. You may wish to experiment with that by dry fitting the tongs. The ones I made for this write-up open up to 5/8" from the inside of the top notch to the inside of the bottom V. This was measured with the ends of the reigns opened up to about 2 1/2". They hold 3/8" to 1/2" square and round stock as well as 1/2" flat stock.



The medium sized tongs that I made prior to writing this article open up to about 1 1/8", measured from inside of top notch to inside of bottom V, with the ends of the reigns opened up to 2 1/2". These tongs work well with 3/4" and 7/8" square and round stock. However, I primarily use them for knife making where I need to hold flat stock. They comfortably hold 3/4" to 1" flat stock. The medium sized tongs have the following dimensions. Bottom V: 2" long, 1 1/4" wide, 1/8" thick. Rounded top: 2 1/4" long, 5/8" wide, 1/4" thick. Notice that they have the same lengths as the smaller tongs. This is partly due to the different design of the donor tongs. Figure 4 shows the two pieces after clean-up.

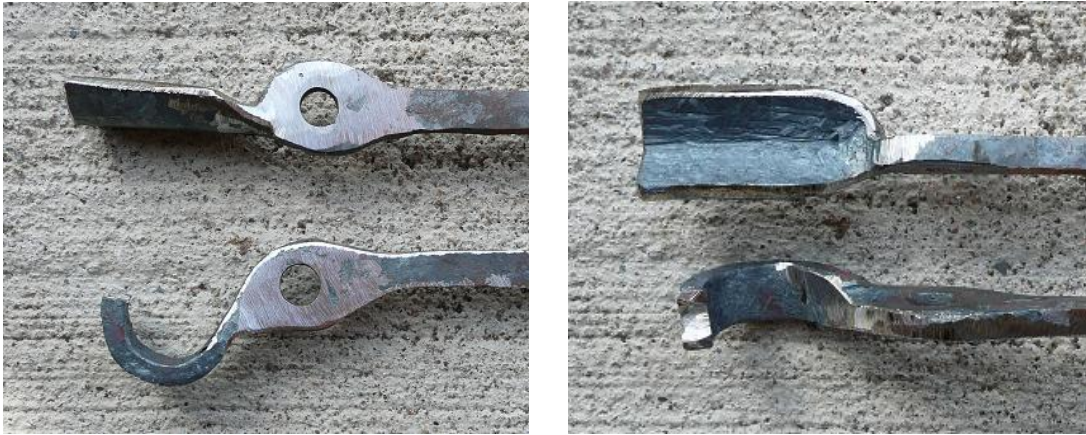


Figure 4: After clean-up.

When putting together the tongs, I like to insert a thin piece of cardboard between the pieces, such as from a cereal box. This prevents over tightening of the tongs when setting the rivet. I just burn off the cardboard piece when finished and tighten the tongs if necessary. Figure 5 shows the medium sized tongs holding the small sized ones.



Figure 5: Big brother holding little brother.