



How To Make Raku Tongs For Under \$10

A PHOTO ILLUSTRATED GUIDE

Frank Colson

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During the raku process, work must be retrieved from the kiln while still glowing hot and thrust into organic material.

How do you handle this chore? The best way is by using iron tongs. For less than ten dollars, you can make your own using a single length of flat iron. (Technically, “flat iron” is steel, but I shall use its common name, which is “flat iron”.)

Since flat iron is commonly found in 6-foot lengths, you will need one length of flat iron that is 6-feet long by 1 inch wide and approximately 3/16” thick. You will cut this in half to make two 3-foot lengths. If you want extra long tongs, start with an eight-foot piece and cut it in half.

The following materials are needed:

- A length of flat iron about 6 feet long, by 1 inch wide and approximately 3/16" thick. For extra-long tongs, start with an 8 foot piece of iron. The iron may be regular or galvanized)
- One round head bolt 3/4” long x 1/4” diameter.
- One 1/4” nut, with iron washer.

The following hand tools and equipment will also be needed:

- Hack saw
- Drill
- Quarter inch diameter drill bit
- Center punch
- Screw driver
- Monkey wrench or crescent wrench (medium large size)
- Ruler
- Marking pen
- Medium weight hammer
- Medium sized vise

Now that you have all your tools assembled, let’s begin.

First, cut the flat iron in half to make two pieces.

Next, take the two pieces of iron and mark a horizontal line 2" from each end. See Figure 1.

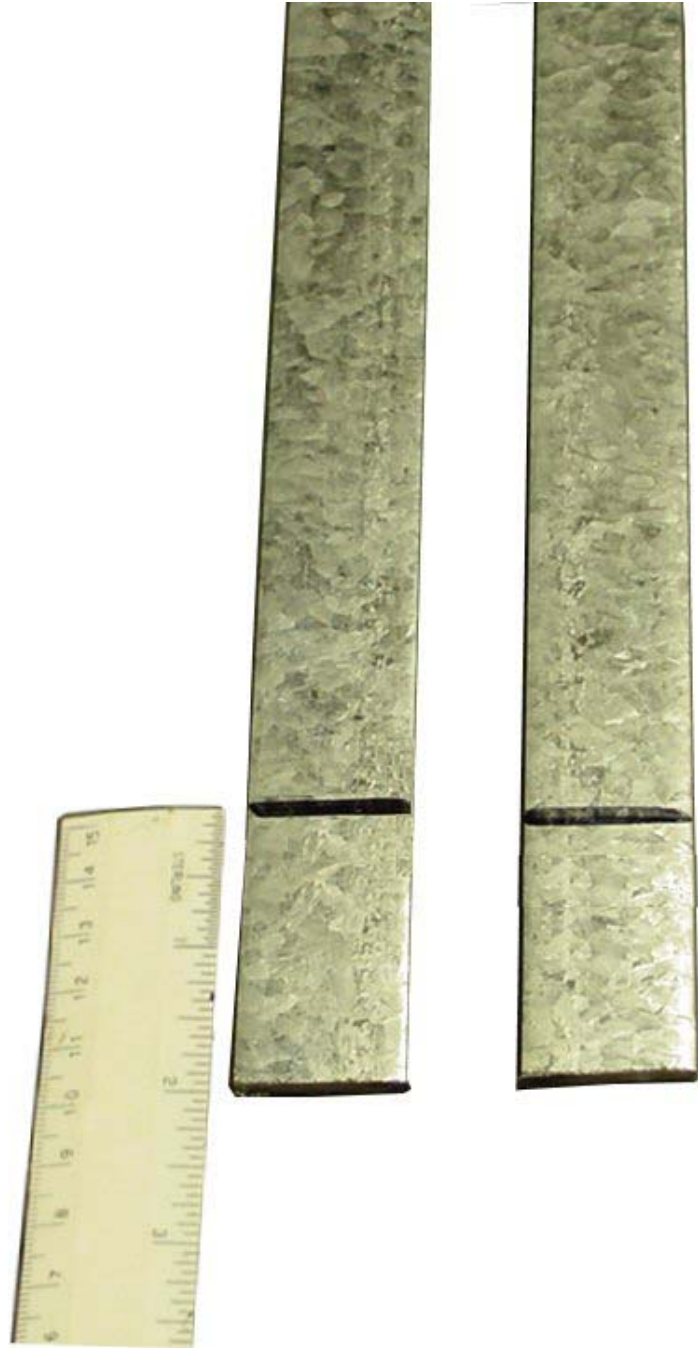


Figure 1 Measuring for the cuts.

Then, from the center of each line, draw a "V". One of the V's is going to be right side up; the other is going to be upside down. See Figure 2.

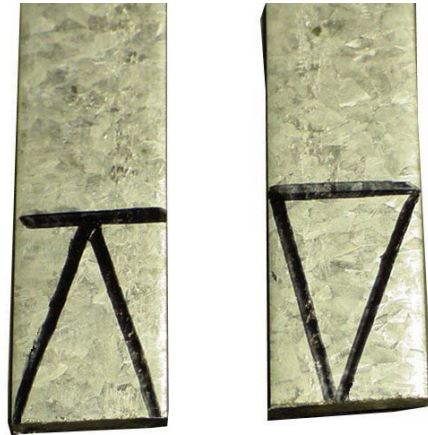


Figure 2 Marking the cuts.

Now, using a hacksaw cut the iron away from the sides of the upright V, creating a point. Figure 4.



Figure 3 Sawing the iron.

On the second piece, cut out the upside down V, creating the shape of a fork. Figure 4.

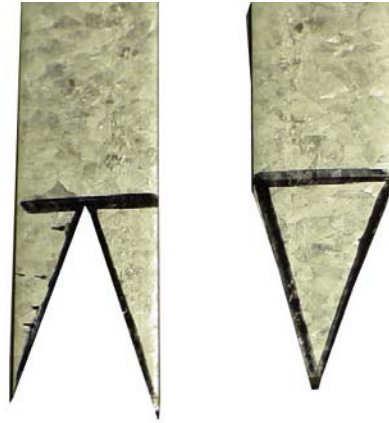


Figure 4 The finished cuts.



Figure 5 Hammering the bend.

One at a time, place the iron pieces into the vise, clamping down at the horizontal line previously marked. One at a time, hand-bend each iron into a right angle, hammering the top of the bend until it is flat. Figure 5.

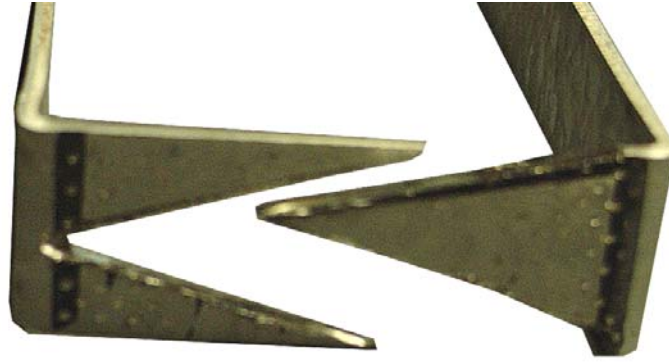


Figure 6 The finished bends.

Next, place the two irons together so that the fork and the pointed end face and fit into each other. Figure 6.

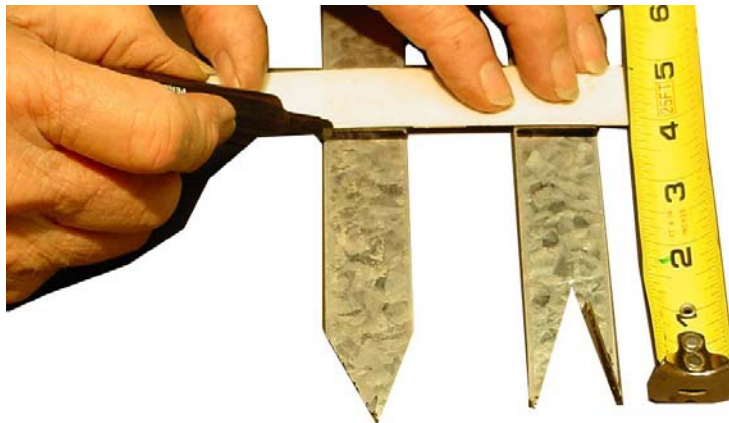


Figure 7 Locating the first twist.

Next, measure 4 1/2" from the tips of the two irons: draw another horizontal line. Figure 7.

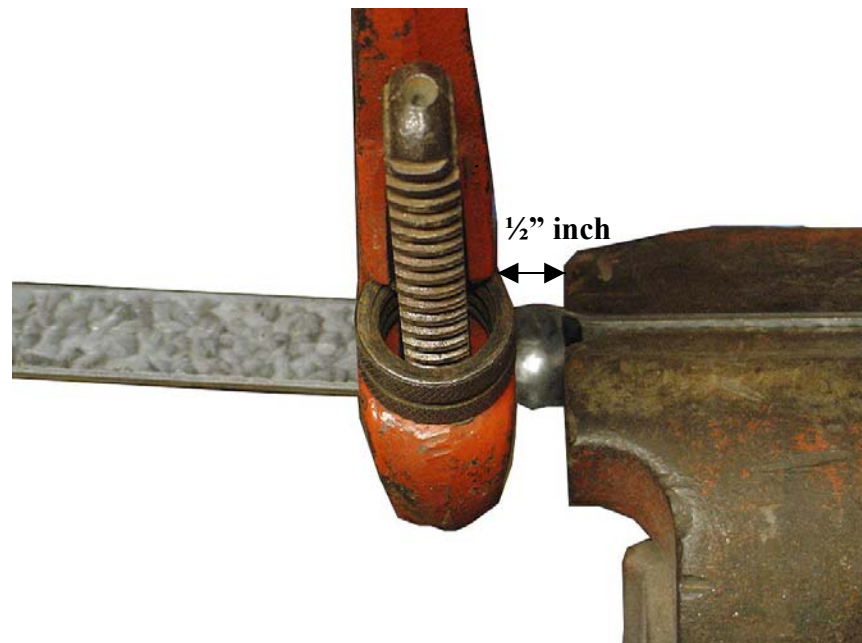


Figure 8 Making the first twist.

Place the cut end of one of the flat iron pieces two inches into the vise, at the line. Clamp the jaws tightly. Then place your wrench $\frac{1}{2}$ " away from the jaws of the vise.

Grasping the entire face of the flat iron, twist the iron half a turn towards you. (This is going to be a "cold" twist, requiring serious elbow grease!) Be sure to get the flat iron at a true right angle to the remaining part of the iron.

Now, repeat the process with the forked tipped iron. (First, put it two inches into the jaws of the vise with the fork inside the vise; next, place the wrench $\frac{1}{2}$ " outside of the jaws of the vise; cold twist the iron half a turn towards you. Figure 8.

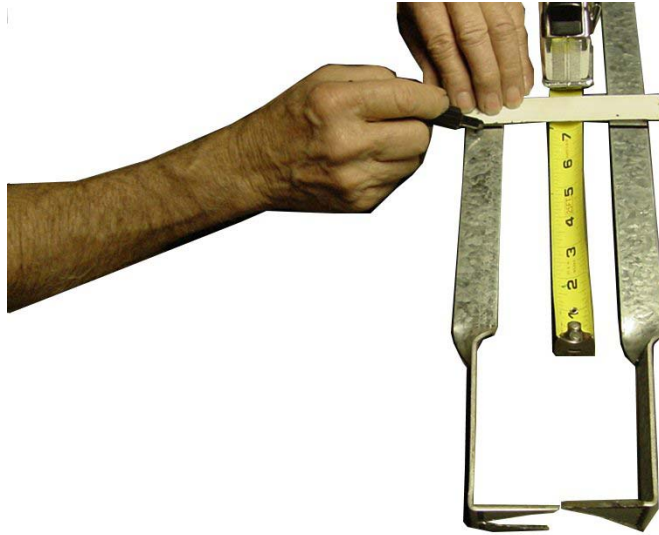


Figure 9 Marking the second twist.

Now, place both pieces of iron down next to each other with the fork and dagger facing. Figure 9.

Mark a straight line on top of the two pieces seven inches from the cold twists you just made.



Figure 10 The second twist.

One at a time, place the pieces into the vise jaws at the seven-inch mark: make another half twist, pulling the iron down toward yourself. Figure 10. (Notice that the wrench is placed 1/2" ahead of the end of the vise: this prevents the metal from binding or splitting during the twisting action.) All twisting actions are now complete.



Figure 11 Locating the position for the drilling hole.

Lay the two pieces down across each other so that the prong and dagger meet. Figure 11.

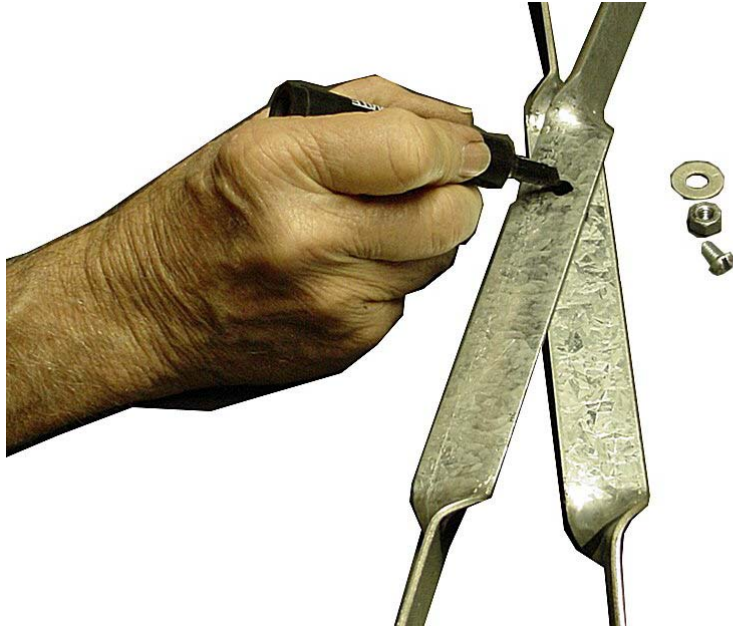


Figure 12 Marking the drilling hole.

When drilling holes through the irons, the holes should be slightly reamed out, so that the $\frac{1}{4}$ " bolt will go through both pieces easily. (Note: to "ream", means to slightly angle the drill bit while cutting through the metal. This causes the hole to be enlarged by a small degree.) Figure 13.

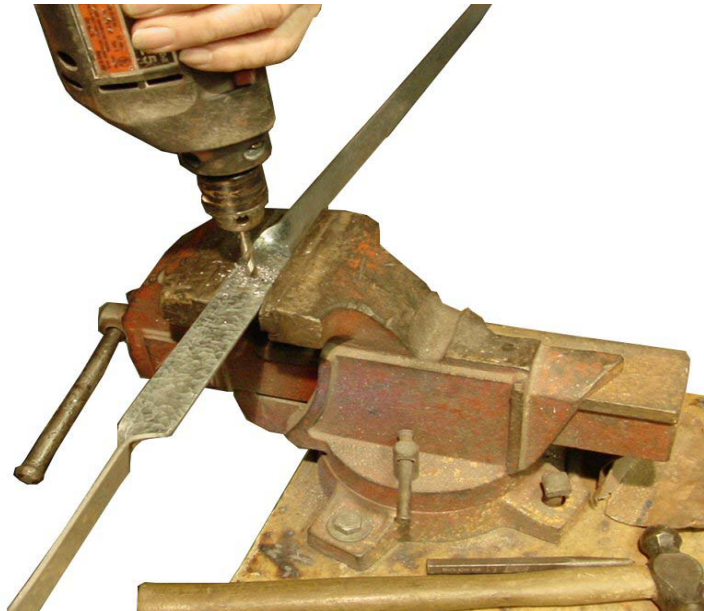


Figure 13 Reaming the hole.

Finally, the two flat irons are "hinged" together with the bolt, washer, and nut. The nut is placed over the washer and tightened down just enough to allow the tongs to open and close freely.



Figure 14 Ready for bolting.

As a safety measure, it is important to lock the nut in place over the washer so as to prevent the tongs from separating unexpectedly during usage. This is easily done by using a center punch to hammer several small nicks into the end of the bolt just inside the face of the nut).



Figure 15 Locking the nut.

Your raku tongs are now operational.



Figure 16 The finished tongs.

TONG VARIATIONS:

Using a 6-foot piece of iron, the finished tongs should be 34" long. Tongs can be made longer by starting with an 8-foot piece of iron. Use the same instructions, but make the handles further away from the bolt hinge.

Many commercial raku tongs have arch or loop bottoms below the bolt hinge. You can add this feature by hammering the lower extensions of your flat iron over a round pipe. Bend the ends of each half loop straight so they meet when closed like clasped hands together.

Should you wish to construct larger, heavier tongs for large raku pieces, use flat iron that is thicker and wider. The directions would remain the same.

TIPS: If you do not have a vise to twist flat iron, most hardware stores, or even auto service stations, have such a vise. Since standard lengths of flat iron are normally available in hardware stores, they often will make the twist for a small fee on request. If that approach fails, some iron suppliers and machine shops stock flat iron. Consult your local yellow pages directory.

Follow these simple directions: you will save time and money, and be happy with the sturdy tongs you have created!

Other eManuals By Frank Colson

These eManuals can be ordered from www.r2d2u.com

1. Rocky Raku	How to make your own portable raku kiln for about \$50. 11 pages. 523K.	\$16.00
2. Caterina Catenary	How to make a professional catenary kiln. 29 pages. 1319K.	\$22.00
3. Freddie M. Furnace.	"M" is for melt. How to make a portable melting furnace for about \$50. 19 pages. 645K.	\$16.00
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8. How to Make Painted Tiles	From the Tiles By Hand series, a photo illustrated eManual. 14 pages. 891K.	\$14.00
9. How to Make Majolica Tiles	From the Tiles By Hand series, a photo illustrated eManual. 12 pages. 649K.	\$14.00
10. How to Make Raku Tongs	Raku tongs for about \$10. 15 pages.	\$12.00
11. How To Do Smokeless Raku	All the striking effects, without the smoke. 11 pages.	\$12.00

Colson Studio

www.colsonart.com • www.r2d2u.com

1666 Hillview Street Sarasota, Florida 34239

Toll free 888-211-3740 • 941-366-2662