

Easy Slot Jaw or RR Spike Tongs

Good tongs are an extension of your hands, allowing you to securely hold pieces that would otherwise be too hot to handle. There are a larger variety of tongs than any other tool, each size being sized to hold primarily one size and shape of material.

Note: The word “Tongs” is a noun and is the proper way to refer to one or many pair of these stock holding tools. The word “Tong” is a verb and refers to the act of using the “Tongs” or to “tong or pick up a piece of material.”

Properly forged tongs need to hold work securely... or they are dangerous!

Slot Jaw Tongs are very good for flat stock of a certain size and can be used to hold round or square stock also.

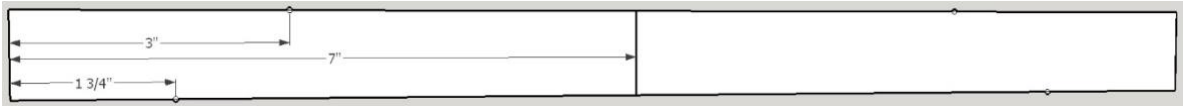
Railroad Spike Head Tongs are specifically made for holding the head of a RR spike and are very good for that purpose however that is about the only thing they can be used for.



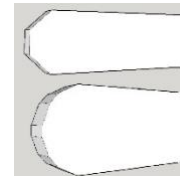
These tongs are made from flat bar with a twisted jaw and the final step of forming the bits is what determines which style of tongs they are.

- Start with 14” of 3/8” X 1” laying out the location of the bits at 1 3/4” and boss at 3” with a center punch on both ends.

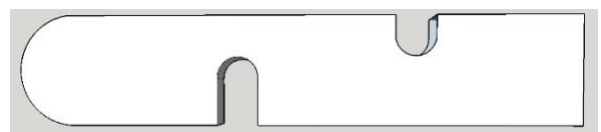
Note: Holding the center punch as close to the edge as possible will cause a small dimple to protrude from the side of the flat bar making it easier to locate the mark when the stock is hot.



- Bring the stock to a yellow heat at the end and round off the end of the bits. Start by hammering a 45-degree angle on each side, then hammering the corners down to round.



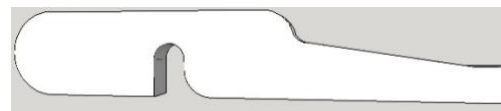
- Bringing the stock to a yellow heat and using a piece of 3/8” round bar or fuller, drive it down at the 1st punch mark leaving about 3/8”. Turn it over and at the 2nd punch mark drive it down about 5/16” deep.



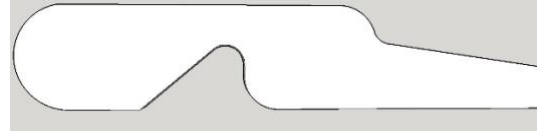
- Once again bring the stock to a yellow heat and draw down behind the 2nd fuller mark to start the reins. Start this at the far side of the anvil on a rounded corner drawing down to the bottom of the fuller as is displayed in the illustration. Also round off the corners of the section between the two fullers or the “boss.”



- Then draw down gradually from the fuller for about 4” or so down to approximately 3/8” square ending up close to 10” total for each rein.



- Next at the near edge of the anvil, also on a rounded corner with the stock at a good yellow heat draw down from the first fuller at a sharp angle as is shown in this illustration.



Note: Forge down to the bottom of the fullers carefully as to not leave a cold shut where the bottom of the fuller meets the drawn down section.

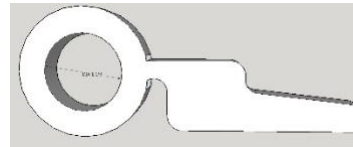
Note: At the point of forging after forging down the fuller at the back of the boss and prior to tapering down to 3/8", the stock can be cut then drawn down and scarfed for forge welding on 3/8" round bar for reins. Refer to the "Welding on Reins" section at the end of this document.

- Now also at a yellow heat and using a slot punch, punch a slot in the bit. This can be done in two parts to create a longer slot that also extends down into the transition



between the bit and boss. This step can also be accomplished by using a round punch to punch a hole at each end then a hot cut chisel to slit between those two holes. Using this method however will leave some rough scarf that will need to be cleaned up with a file.

- Now once again working at a good heat, drift the slot just now forged round and forge it into a circle that between 1 1/8" and 1 1/4" at the inside diameter.



- Take a good yellow heat on the shank of the bit (between the bit and boss) and twist the bit 90 degrees. At this time the direction does not matter.

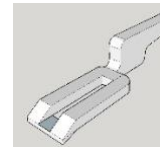


This is the point where we are either forging Slot Jaw or RR Spike Head tongs (or possibly Bottle Opener Tongs 😊.)

For Slot Jaw Tongs;

- Forge the circle just forged for the bit and flatten it lengthwise to a width just slightly wider than the stock that will be held with the tongs aligning the center of the slot with side of the boss on the same side of the hand in which you hold tongs while forging. So, for a right-handed smith (swinging the hammer with your right hand) center the slot even with the left side of the boss. Note: The alignment of the center of the slot with the side of the boss is important however to which side is not as much.

- Taking a short heat on the very end of the bit and over a rounded edge on the far side of the anvil taper and round the end just enough to expose the slot to the end of the bit. So that when you look right at the end of the bit with the rein away from you, you can see the entire depth of the slot.



For Railroad Spike Head Tongs;

- Forge the circle back to the boss so that the slot is almost perpendicular to the rein leaving a slot wide enough to fit over the rim of a RR spike head. For the Railroad spike to be centered on the tongs when held forge about 1/4 of the ring to one side of the bit and 3/4 to the other.



Continue for either style of tongs;

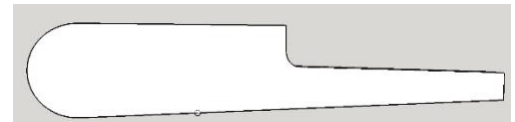
- Take a good yellow heat and in the center of the boss punch and drift a 3/8" hole. (Or to whatever size of rivet that will be used.)
- Perform all of the above steps on the opposite end of the original stock then draw out the rein area completely.
- Cut the reins in at the midpoint.
- At this point make sure each half of the tongs are formed identical.
- Then rivet the two halves together.
- Using the size of stock that these tongs will hold align and forge to fit that stock.

Welding on reins

A couple of things I have found that helps me is 1, I start my forging on the bits at the final punch mark or at the back end of the boss then draw this down and get it ready for welding. This helps ensure that the small areas of the forged down bits don't get damaged when reaching welding heats in the fire. (It also is easier to scrap the piece when I mess it up since I haven't done all of the bit forging already.) Also 2nd a piece of 10" long 3/8" round bar is approaching to hot to hold when forge welding onto the bit so to not need to use two sets of tongs for the weld I leave the 3/8" stock 20" long and then cut it at the mid-point when I'm ready to finish up the tongs prior to riveting.

As these instructions are not meant to state how to forge weld, I will not elaborate on the finer points such as how to scarf.

- Step one is to take a short heat on each end of the 3/8" round bar and upset the ends to prepare them for the weld unless the reins are in two pieces then of course just upset the end being welded on to the bit.
- After upsetting scarf each end in preparation of the weld.
- On the section of the bit just behind the boss, draw the stock down from the fuller to a width of just about 3/8". This section should draw out to about 3" or so. Then scarf that end also.
- Bring both the rein and bit to a welding heat and good luck.
- Perform the same steps to the other bit and then continue with your forging as is detailed above.



Now use these tongs to make more tongs!