How I Sharpen a Handheld Rip Saw

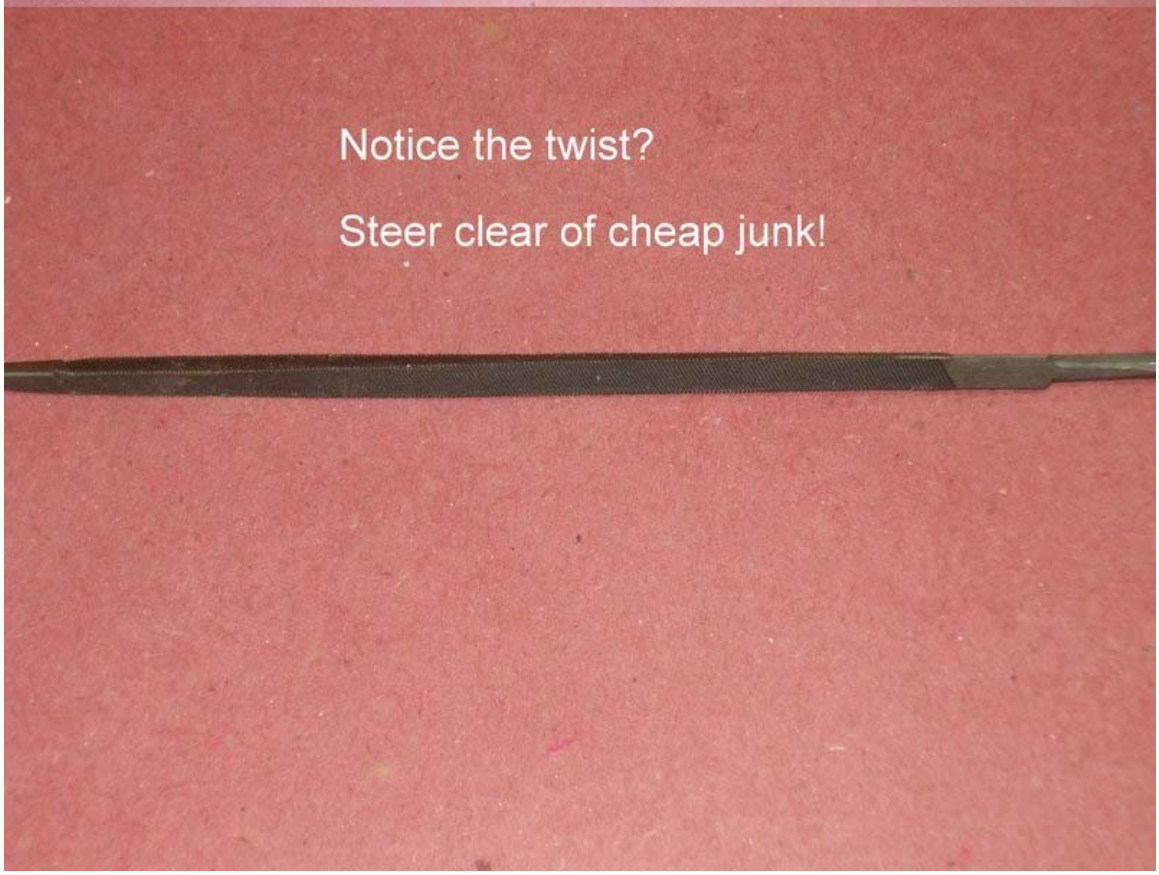
By Victor Skellett, August 18 2010

For friends and family. A few days ago some members of the family requested a photo tutorial on saw filing. I had reservations due to the fact that, while I consider myself a fairly competent saw sharpener, I don't get paid to do this. Everything I know about saws I learned from books, the Internet or hands on experience. If you are looking for a much more thorough and technical discussion of the fine art of saw filing, please, let me recommend you check out these web pages.

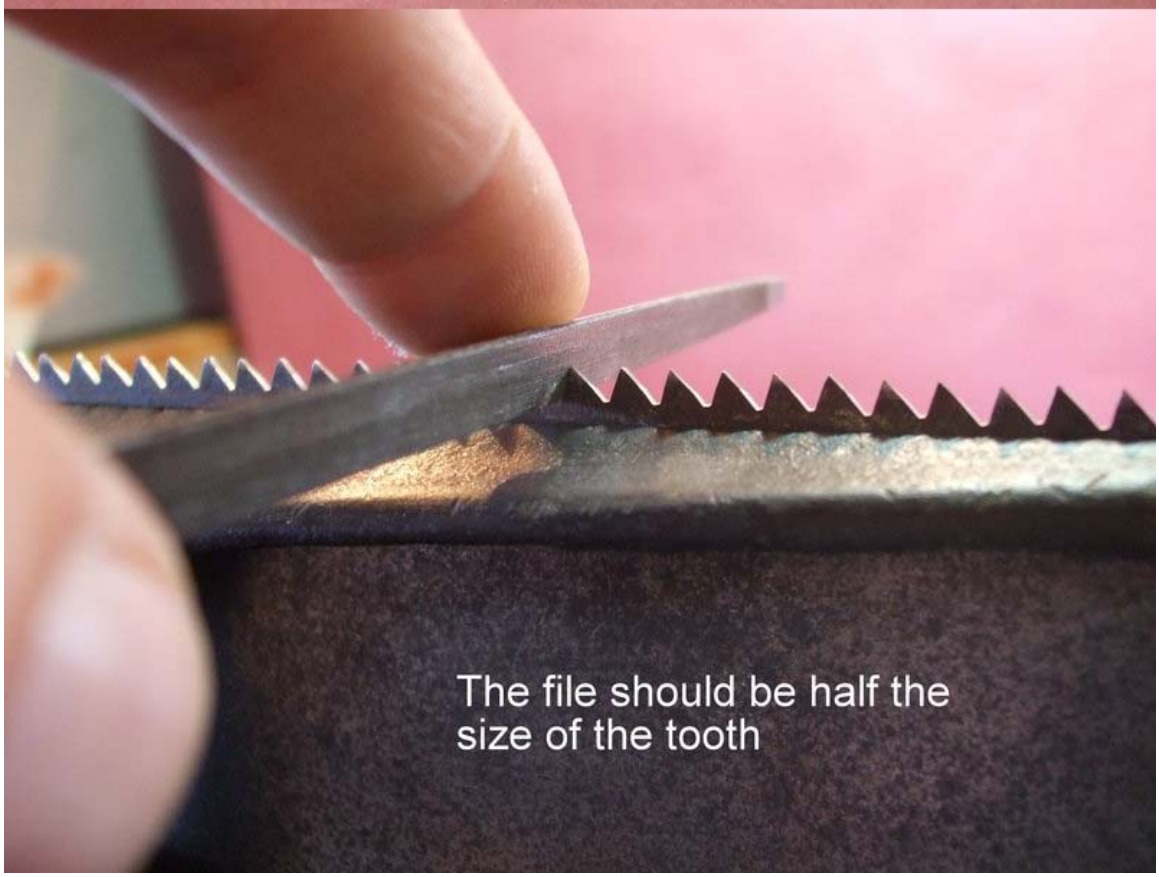
* http://www.wkfinetools.com/tCare/toolCare-index.aspx
* http://www3.telus.net/BrentBeach/sawjig/
* http://www.vintagesaws.com/cgi-bin/f...mer/sharp.html
* http://www.cianperez.com/Wood/WoodDo...ngHandsaws.htm
* http://norsewoodsmith.com/content/sharpening-hand-saws

In addition to their saw filing information these sites have loads of goodies for galoots. It is my hope that my tutorial will remove some of the mystery surrounding this topic and give people the confidence to file their saws.
One last thing before we begin. With the exception of the files you will see I have no money invested in any of my equipment. All of my tools and saws were given to me.
Oh wait! I did pay $8.00 for my light (gloat).
And so lets go.
First up tools.


You'll need 1 mill file and
1 of the others depending
on the saw
Mill File
6“ Slim Profile
Cheap Junk
4“ Extra Slim
Needle Files

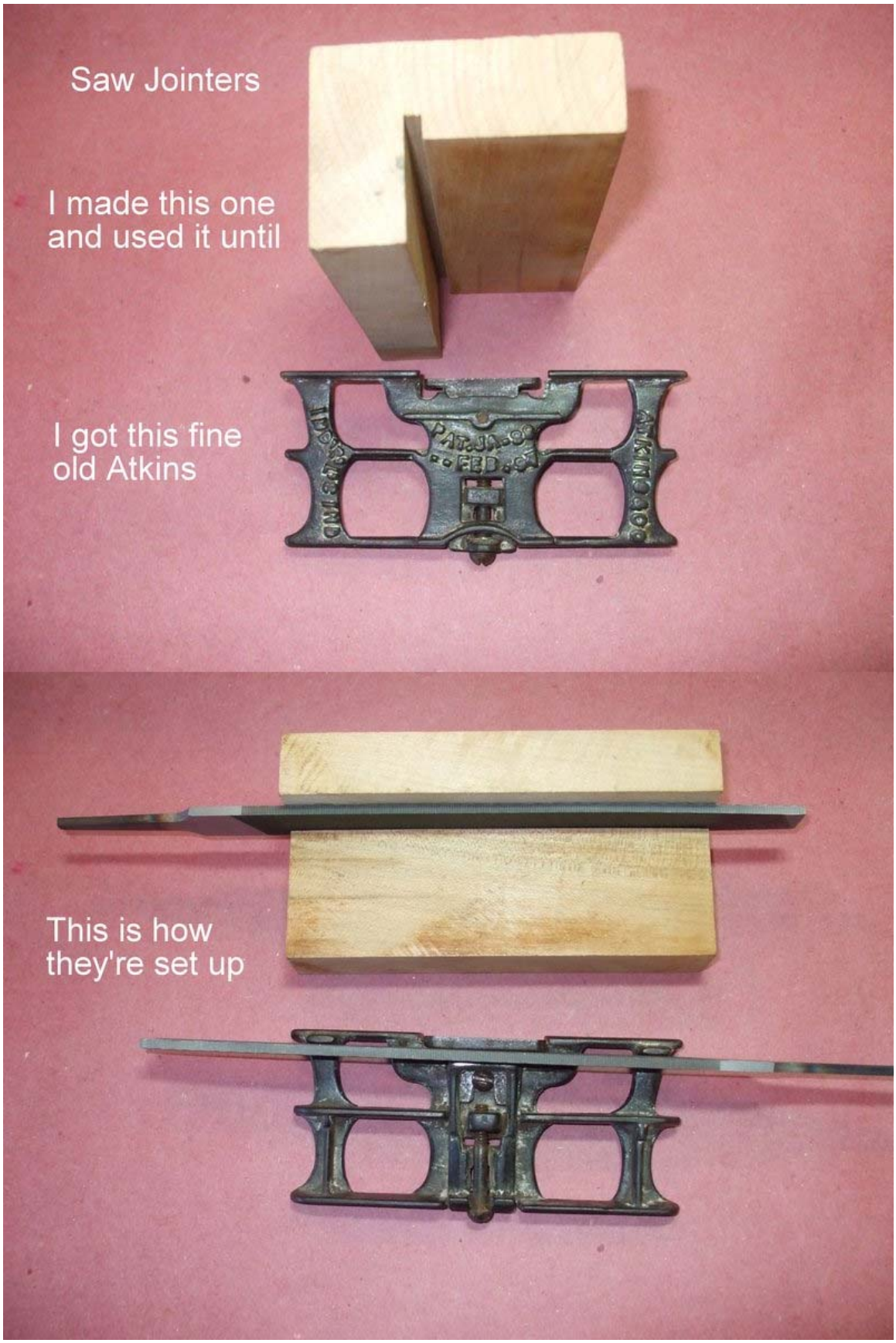

Notice the twist?
Steer clear of cheap junk!


You'll also need one of these
I like this one


The file should be half the size of the tooth

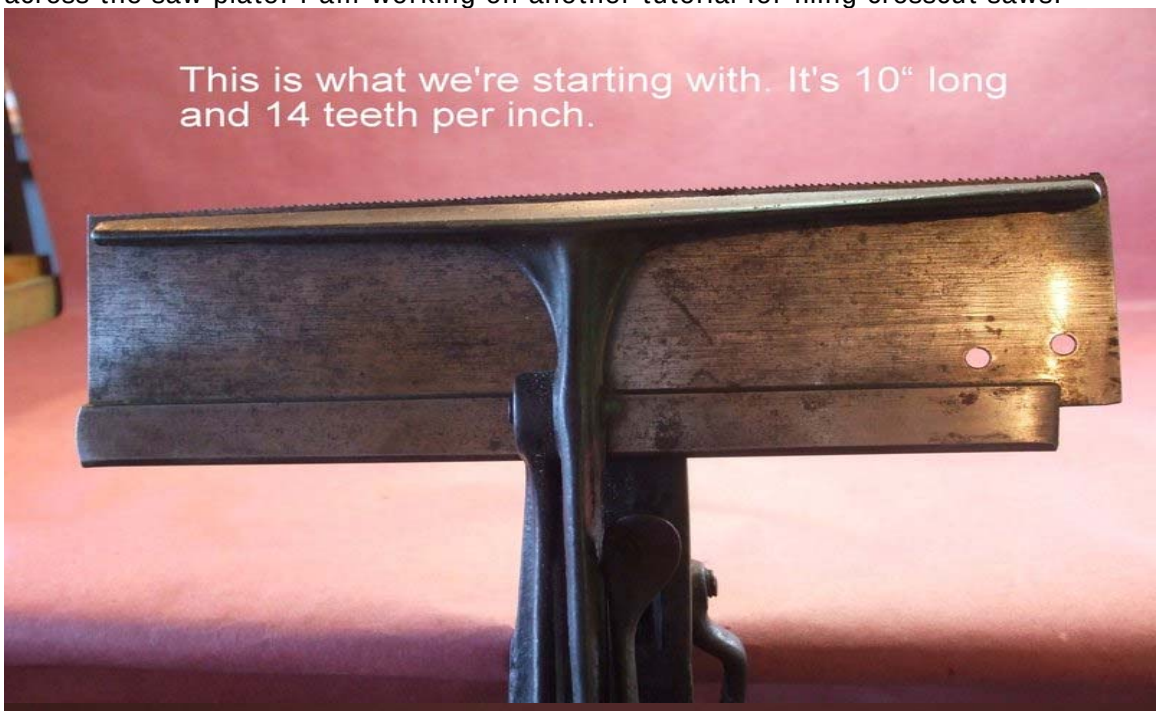

Too small of a file quickly
wears them out

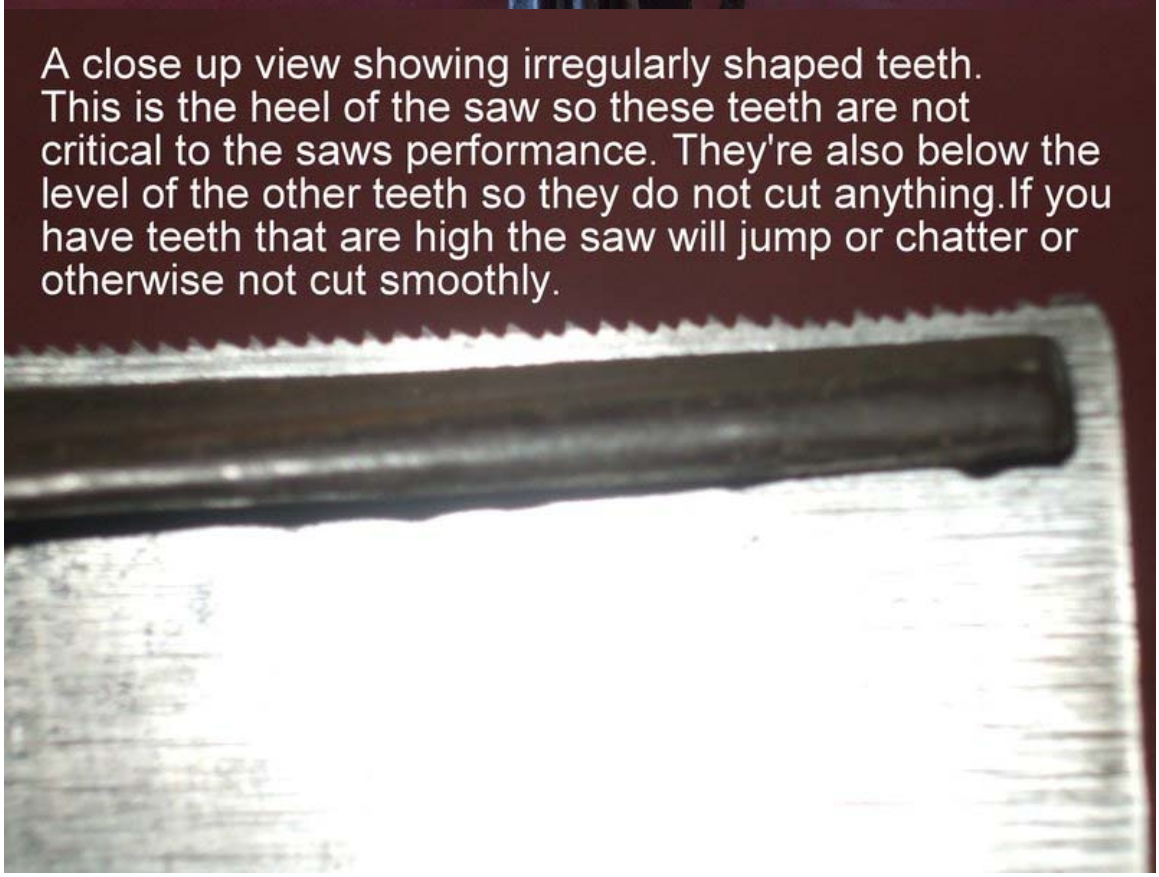

File brush is used to
keep filings at bay


Saw Jointers
I made this one and used it until
I got this fine old Atkins
PAT. JAN. 8
FEED
This is how they're set up


This is my saw vise
Sharpie
Permanent Marker
Chisel Tip
I'll use one of these to helpme keep track of where I am filing.

Lets do some shaping.
Before we start let me emphasize this is a rip saw and all filing is done straight across the saw plate. I am working on another tutorial for filing crosscut saws.



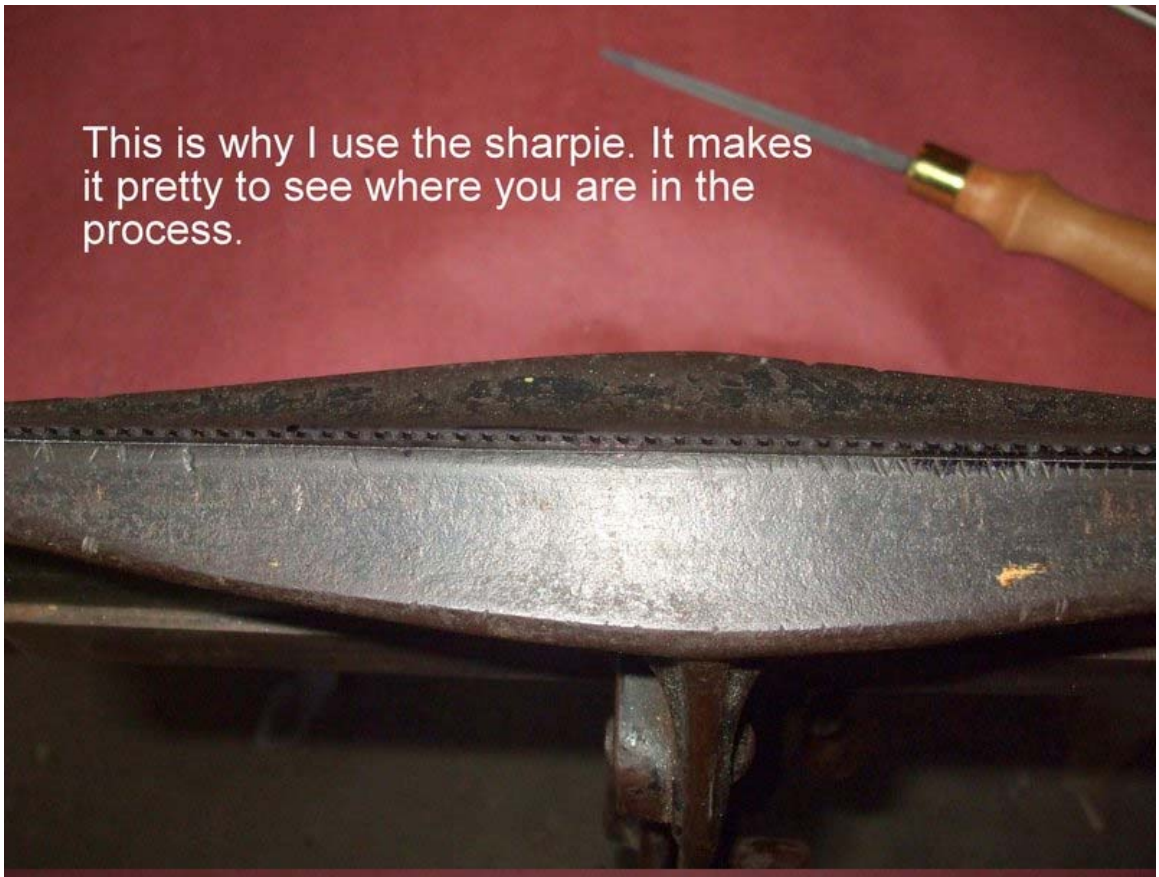


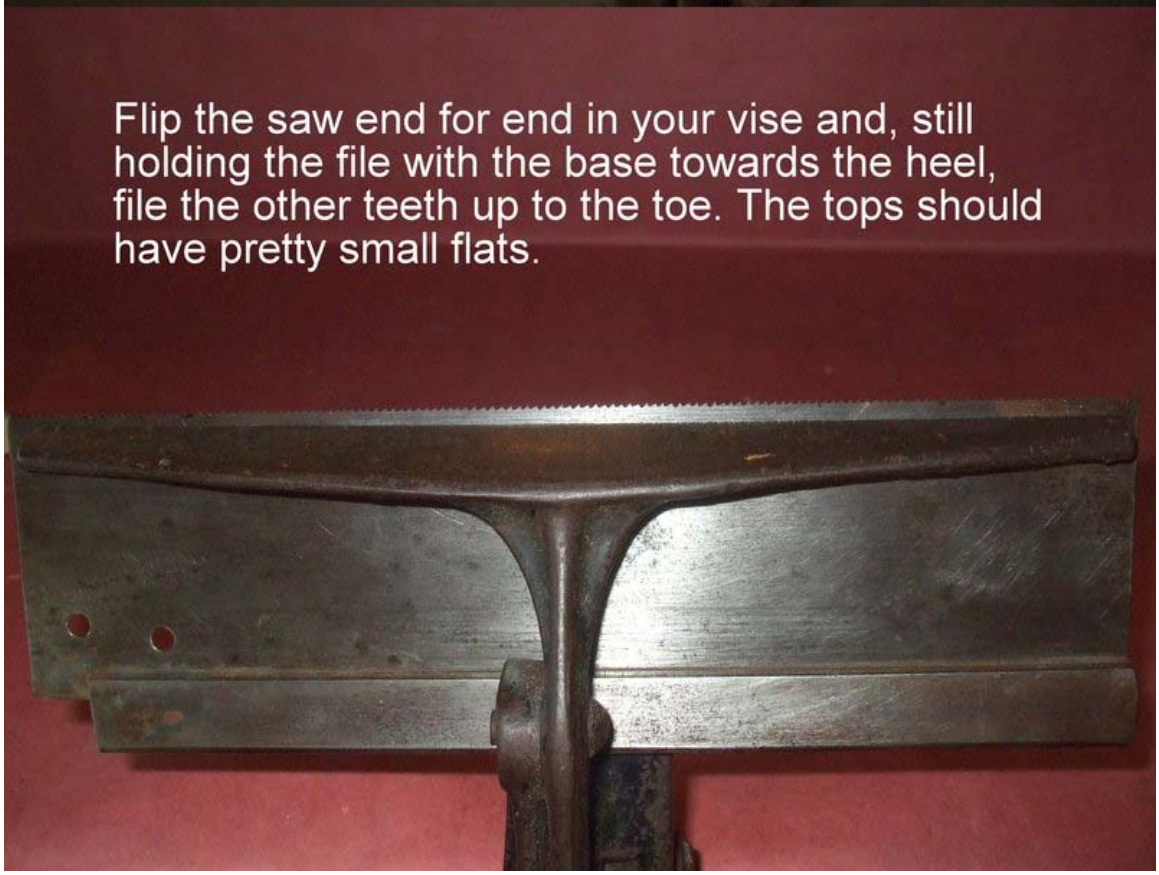

First we joint. With a large saw like this Atkins rip we could joint in the vise like this.
INDIANA IND
PAT. JA. 8
FEB. 9
ATKINS & SON


Or this.


But with this small saw I remove the handle and joint freehand.
After jointing. Can you see where the lowest teeth were just barely touched.


You need good light to file saws.
I like my $8.00 Ott-Lite. A light with a magnifying glass would be helpful
OK This is where we are. Now we'll refine our teeth some more. I use the sharpie to color the flats so I'll know where I'm at during the next step.


This is why I use the sharpie. It makes it pretty to see where you are in the process.

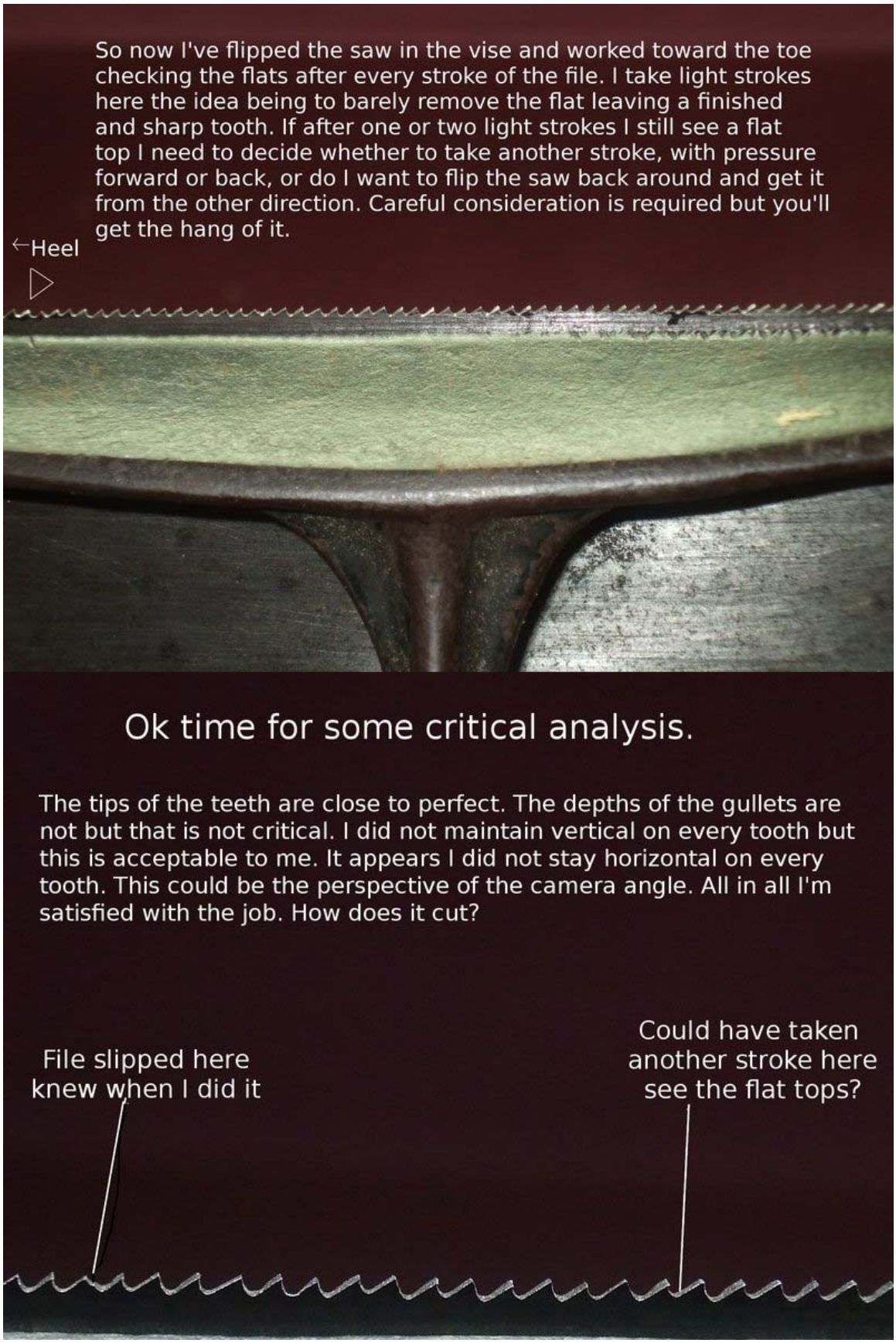

Flip the saw end for end in your vise and, still holding the file with the base towards the heel, file the other teeth up to the toe. The tops should have pretty small flats.

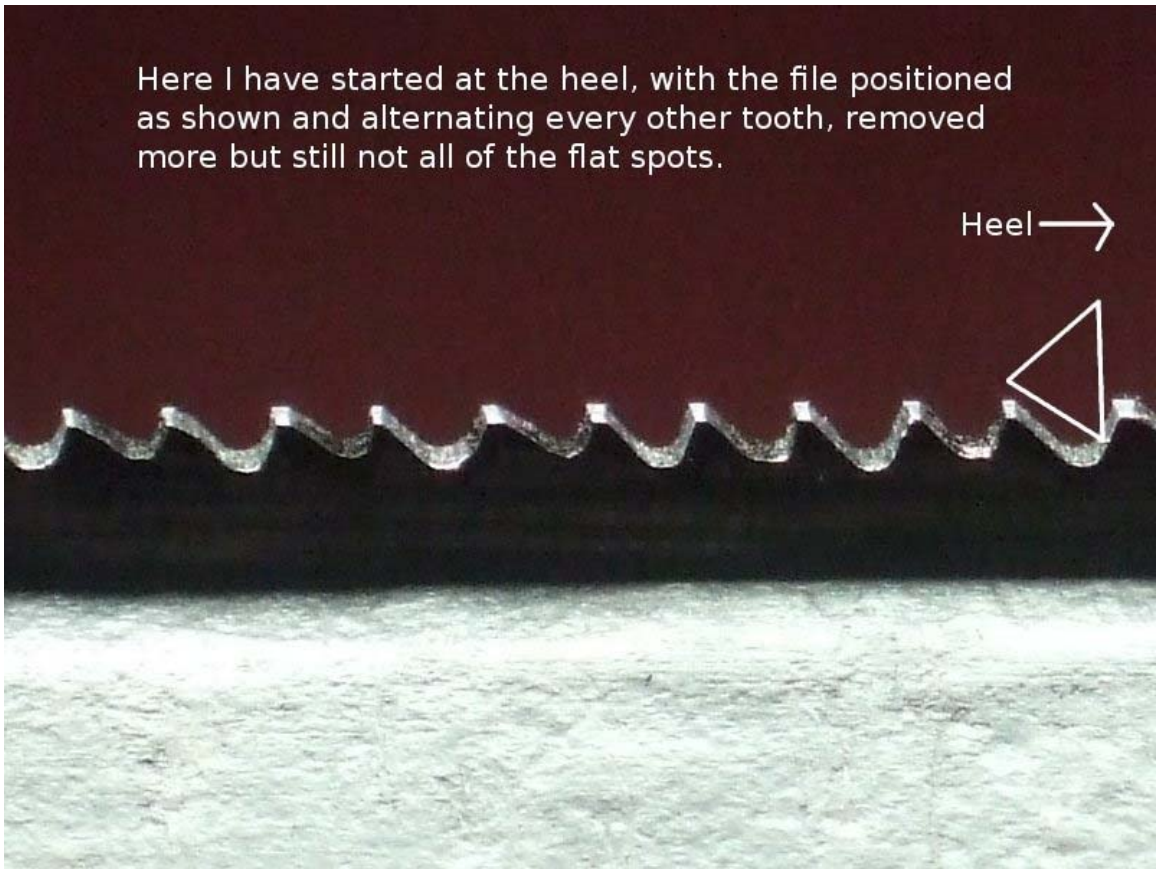
Well it cuts real good. These cuts are not terribly perpendicular but that is technique. After all the handle is far too small for me. I could only get two fingers in it. The wood is rock maple 1“ thick. Time to make a handle and add it to my kit.

So here we are. I colored the teeth and gullets with the sharpie and then made a light pass with the jointer to highlight the flats.

If you only had to sharpen your saw, and did not need to reshape, then this is where you would be starting.

Oops! I meant starting after jointing.


So now I've flipped the saw in the vise and worked toward the toe checking the flats after every stroke of the file. I take light strokes here the idea being to barely remove the flat leaving a finished and sharp tooth. If after one or two light strokes I still see a flat top I need to decide whether to take another stroke, with pressure forward or back, or do I want to flip the saw back around and get it from the other direction. Careful consideration is required but you'll get the hang of it.
←Heel
Ok time for some critical analysis.
The tips of the teeth are close to perfect. The depths of the gullets are not but that is not critical. I did not maintain vertical on every tooth but this is acceptable to me. It appears I did not stay horizontal on every tooth. This could be the perspective of the camera angle. All in all I'm satisfied with the job. How does it cut?
File slipped here knew when I did it
Could have taken another stroke here see the flat tops?



Addendum: In the previous "Improvement" thread I reversed myself when it came to setting the teeth. After testing this saw today I am going to reverse myself again. The saw cut very smooth in both cherry and hard maple without adding any set.

I enjoyed making this tutorial. It usually only takes about a half hour to file a saw. But this project occupied me for 2 days! I like that. I hope you do too.

So folks! Get your kit together and file some saws.

Victor Skellet