

An Improved Homemade Brake, Version 1.0

By R. G. Sparber

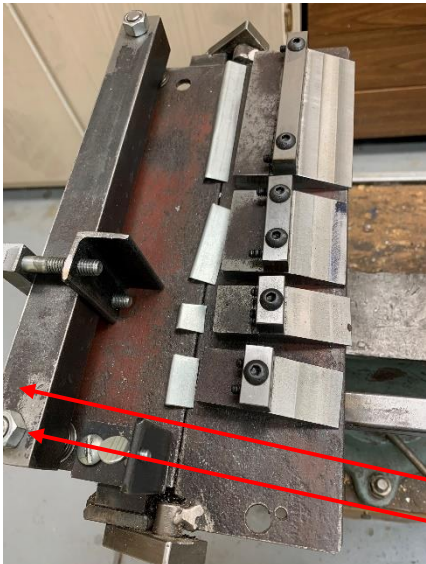
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I built this “Thrown Together Brake²” ten years ago. It was fun to make, but I have to admit, I didn’t use it. The tool simply didn’t come to mind. It took me a while to realize that I was avoiding this brake because it was not useful.



Yes, I made a full set of fingers, but it was a hassle to position them correctly before each bend.

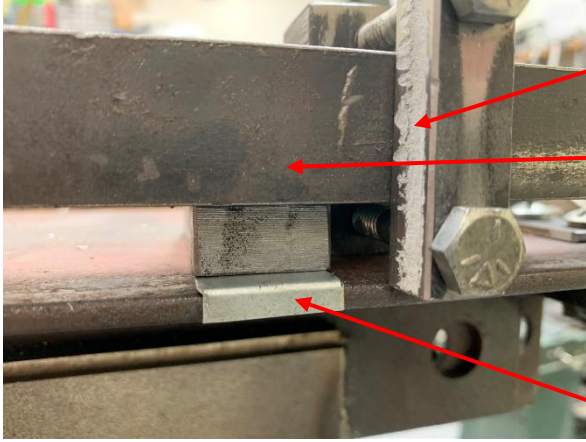


When the time was right, I addressed the deficiencies and am now happy. My bends are easy to set up and are repeatable.

The clamping bar has springs under each end, and the nuts are adjusted to provide a sliding fit to the fingers.

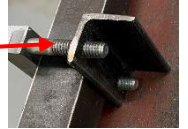
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² See <https://rick.sparber.org/smf.pdf>

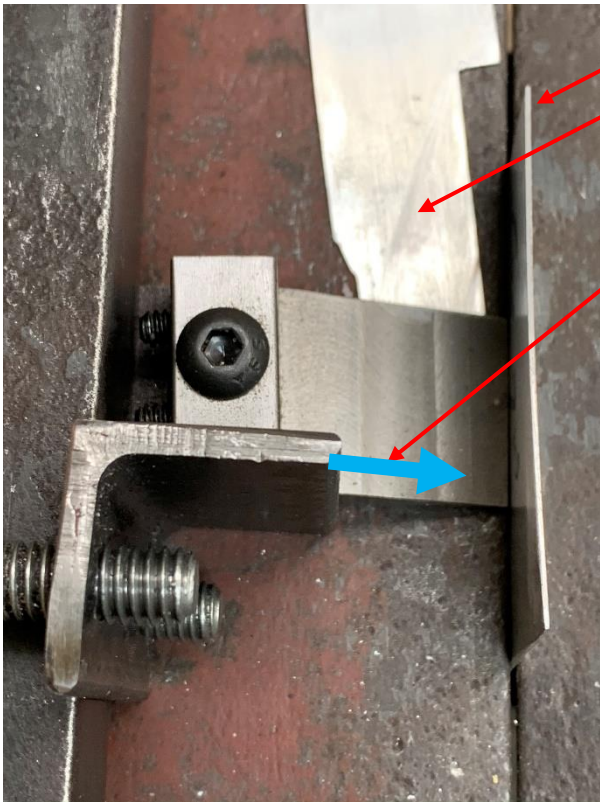


I start by setting up my lateral finger stop.

Because the clamping bar is not perfectly parallel to the apron's hinge, I can't let the fingers move along the bar. Doing so would change the distance between the end of each finger and the bend line.

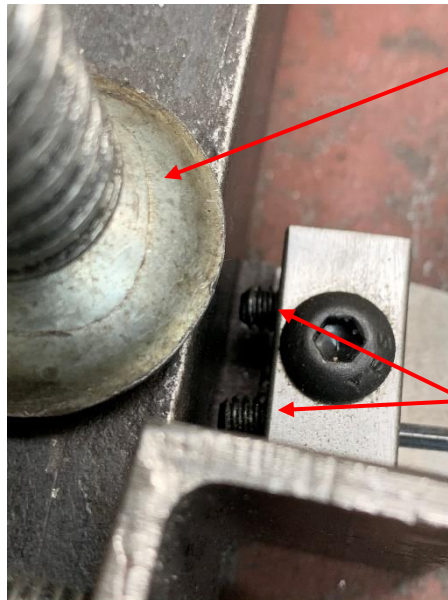


I place a shim under the back end of each finger that has the same thickness as the material I plan to bend. This causes the finger to be level when the stock is fed in from the front. If the stock is long enough, I don't need the shim.



One piece of scrap stock is clamped in the joint while another piece goes under the front of the finger. Together, they simulate the stock being bent.

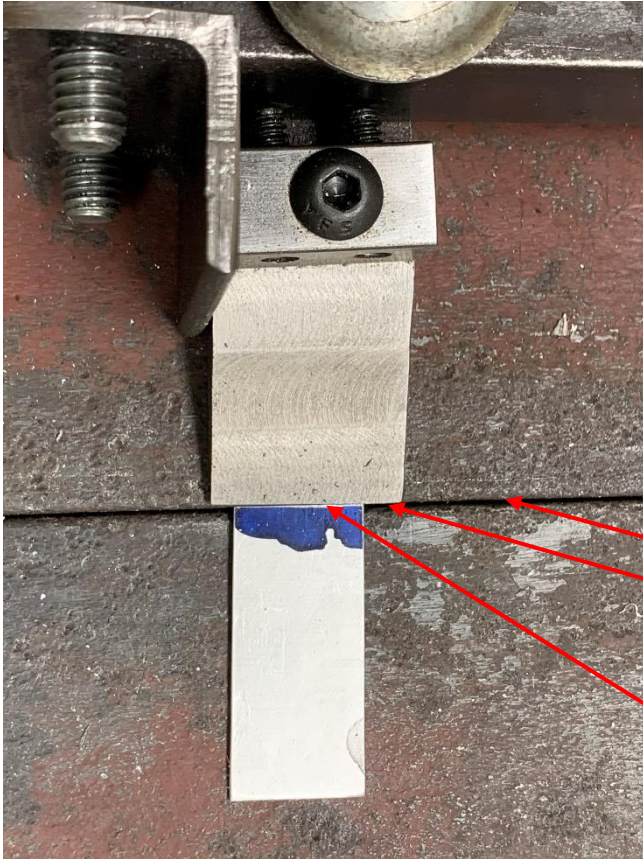
I then push the finger forward until the front edge hits the vertical piece of scrap.



Next, I place a C-clamp around the bar directly over the finger. When tightened, the finger is locked in position.

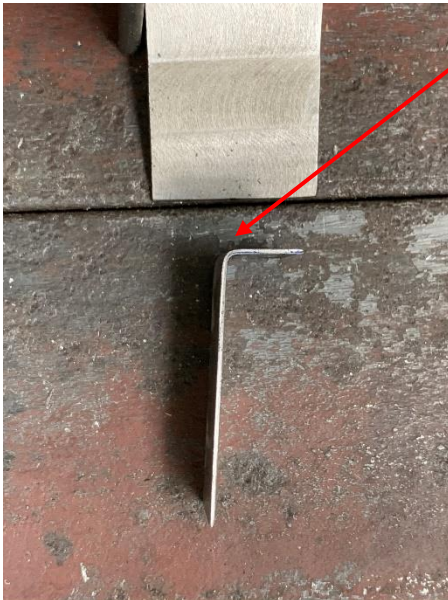
Then I turn the two setscrews until they are snug against the bar.

I can now remove the finger, and when placed back, it will be in the same position.



If you look closely, you will see that the only thing that is parallel to the pivot line is the front edge of the finger. Well, that is all that matters.

My bend sample's sight line is barely visible, so I'm ready to go.



A single bend is not terribly impressive. But this brake was used to make a nice project box³:



I think I will be using this tool a lot more.

³ See <https://rick.sparber.org/DesigningProjectBox.pdf>.

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