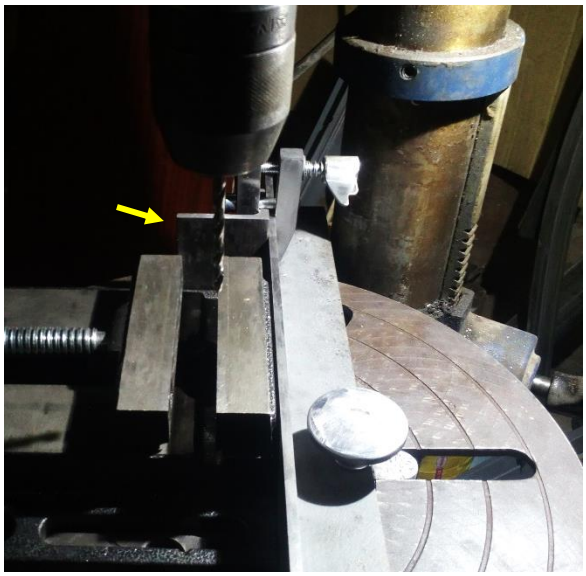
A Drill Press Fence, Version 1.0

By Владимир (Vladimir) as told to R. G. Sparber



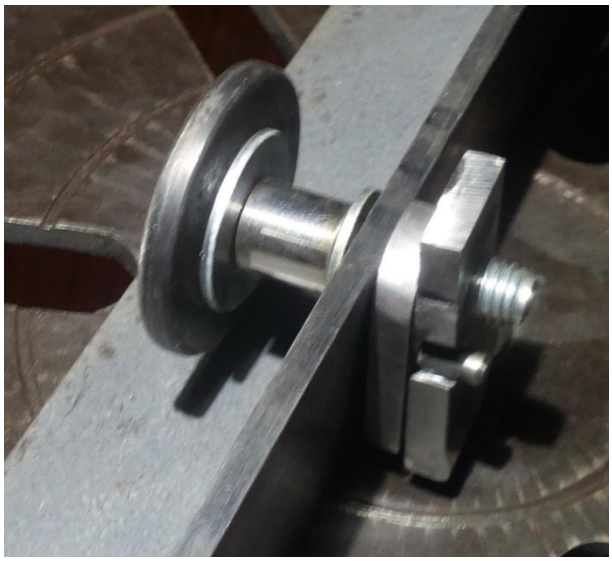
A fence permits me to drill a series of holes all on the same line. The stock is secured in my drill press vise, which is pressed against the fence. I can then slide the vise along the fence.

A feature of this fence is the movable stop (yellow arrow). I can drill a hole and then slide the stop so it touches the vise. Next, I slide the vise forward, add a block of known thickness between the stop and the vise, and slide the vise back so they all touch. My drill is now located on the same line as the first hole at a distance equal to the block's thickness.

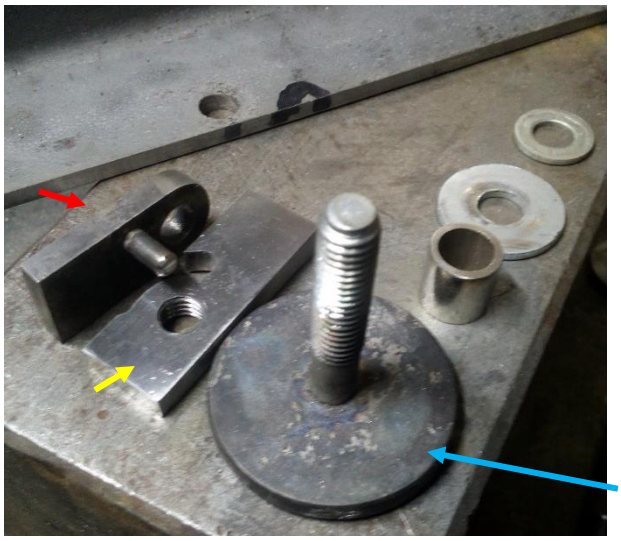
The fence consists of three assemblies

- The lock
- The bar
- The stop

The Lock



The lock is custom-made to fit my drill press table. I drop it into one of the four radial slots, turn the knob about half a turn, and the fence is secure.



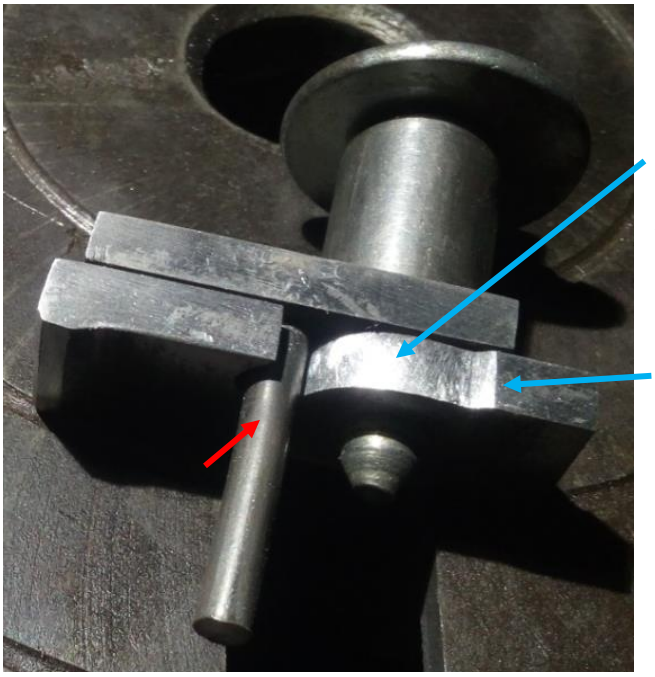
The guide (red arrow) is a sliding fit in the table slots. Its rounded end prevents jamming as it slides towards the center of the table.

The pivoting lock (yellow arrow) is narrow enough to pass through the slot. When it rotates 90°, the lock is secure.

The knob with bolt has two washers and a spacer on it, as shown above.

Here is the partially finished lock. With the guide and locking bar in alignment, they can drop through a slot in the table. I did have to file the slots, so they have a uniform width.

Turn the knob, and the locking bar rotates about 90° as it is drawn into the table's underside.



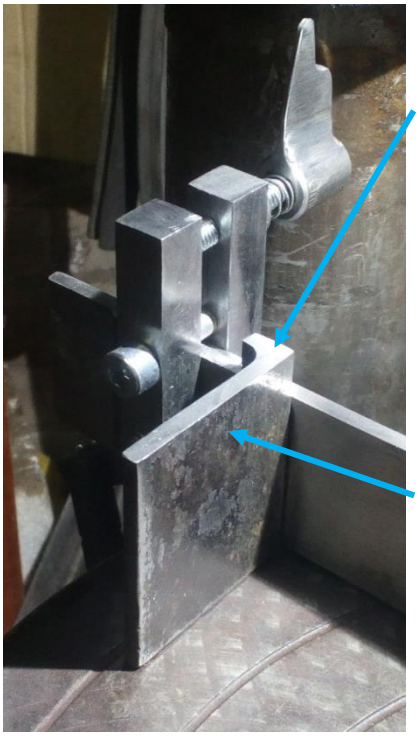
The locking bar has a complex cut in it. In the unlock position, the rod (red arrow) prevents the locking bar from rotating too much. As the bar rotates into the lock position, the rod travels an arc until it hits this stop.

The Bar

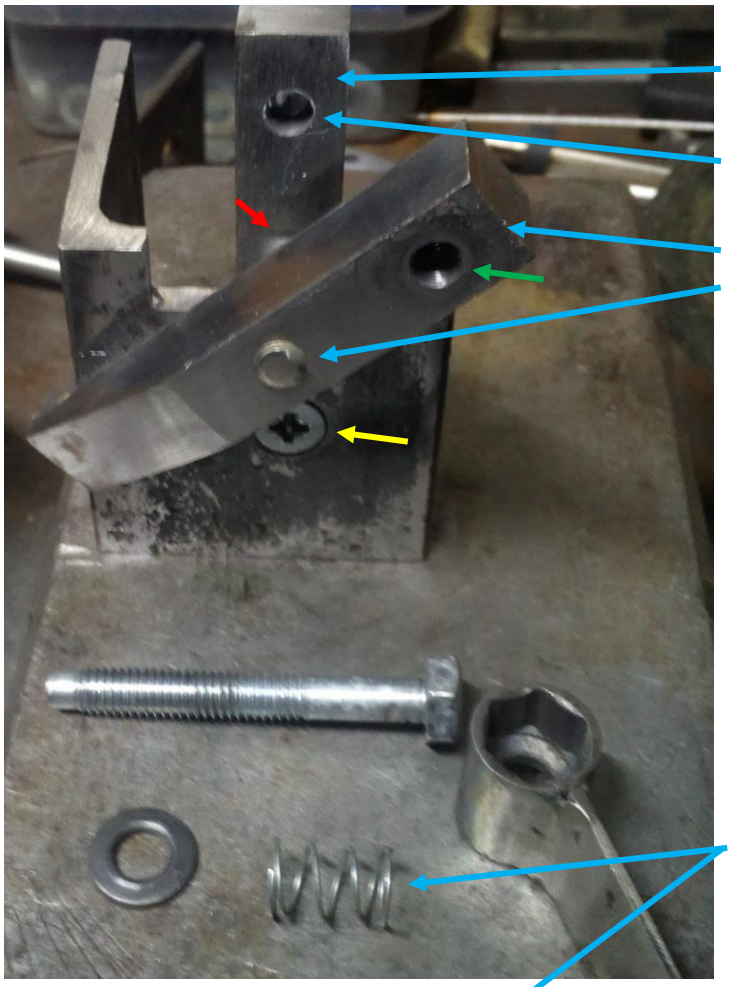
The bar is a piece of angle stock with a hole drilled into it to accept the locking mechanism. It was selected to be straight and smooth.

The Adjustable Stop

The adjustable stop can be positioned anywhere along the bar and then locked in place.



The lock is secured to the piece of angle that provides a vertical surface to contact the side of the vise.

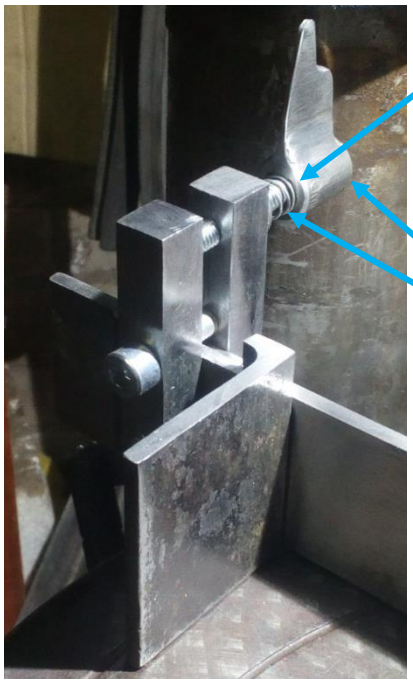


The clamp consists of two bars. The rear bar is secured to the stop (yellow arrow) and has one threaded hole (red arrow) and one blind clearance hole.

The front bar has a threaded hole that lines up with the rear bar's clearance hole plus a clearance hole (green arrow) that matches up with the rear bar's threaded hole.

The screw that engages the bottom holes draws the front bar into the fence. The screw that engages the top hole pushes into the blind hole to very slightly pivot the bar and apply locking pressure.

The spring tends to pivot the front bar away from the fence for easy release.



The handle has a hex recess that mates with the hex bolt occupying the top holes. The handle can be repositioned during tightening and then removed if it is in the way.

The Back Story

Владимир (Vladimir) is a member of the homemadetool.net community. He is Ukrainian and speaks Russian, I speak English. Through the magic of an online translation tool, we were able to exchange ideas. The text was not always crystal clear but the pictures filled in the gaps.

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