

*There is a set of proven recommendations concerning the height of the vise, the body posture, the arm motion and the viewing angle to optimize the evenness of the filing motion. But all these cannot eliminate a tendency of **rocking the file** which results in curved or inclined surfaces*

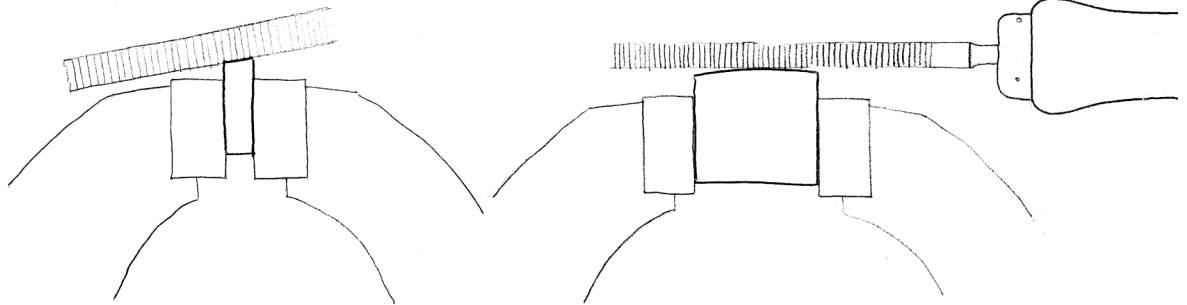


Fig. 1

*I have seen a number of filing rests for turned workpieces still clamped in the chuck to file flats or hexagonal shapes.*

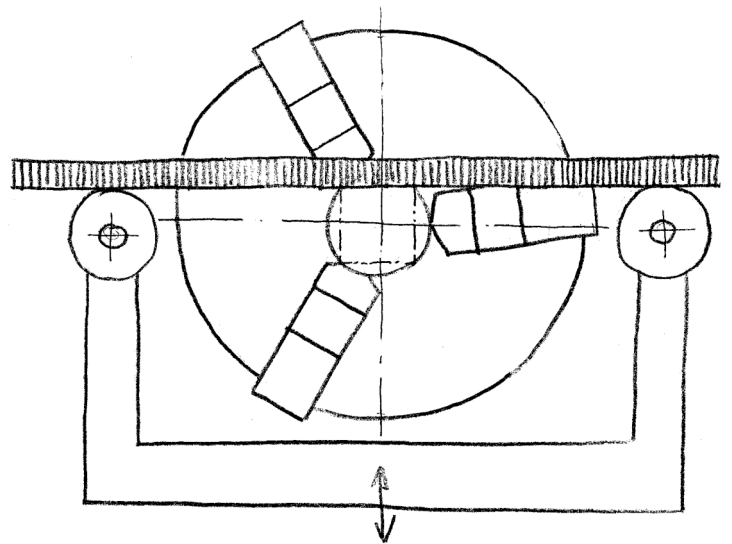


Fig. 2

*I have never seen filing rests adapted to a vise. They could be too complex to adjust.*

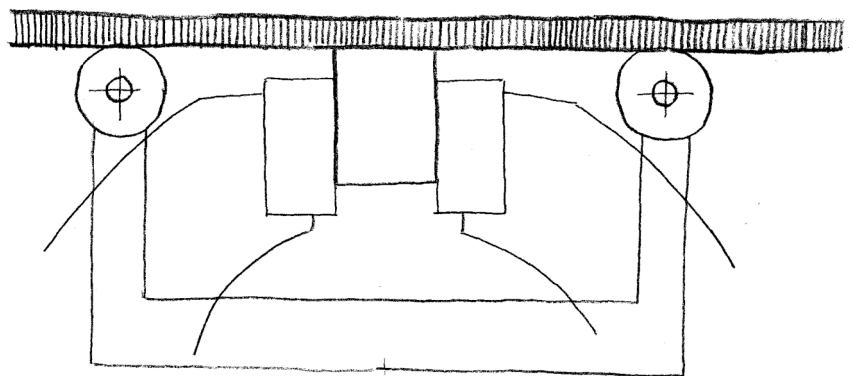


Fig. 3

*You can omit one roller if you replace it by an adjustment of the workpiece by means of a bubble level. The vise has to be level in both horizontal directions. For your motoric memory this is very helpful anyway.*

## Filing rest for vise

by Ulrich Viebahn

June 30th 2021

*I started with a half-rest and it was a first good compromise between flatness/precision and adjusting the workpiece.*

*The jaws of the vise have to be more or less perfect as they serve as references for visual reckoning while adjusting.*

*It involves a good eye for symmetry, straightness and right angles.*

*Adjusting is an undiscrivable iteration circle between bubble level and visual reckoning. Here: Stop filing when file is level.*

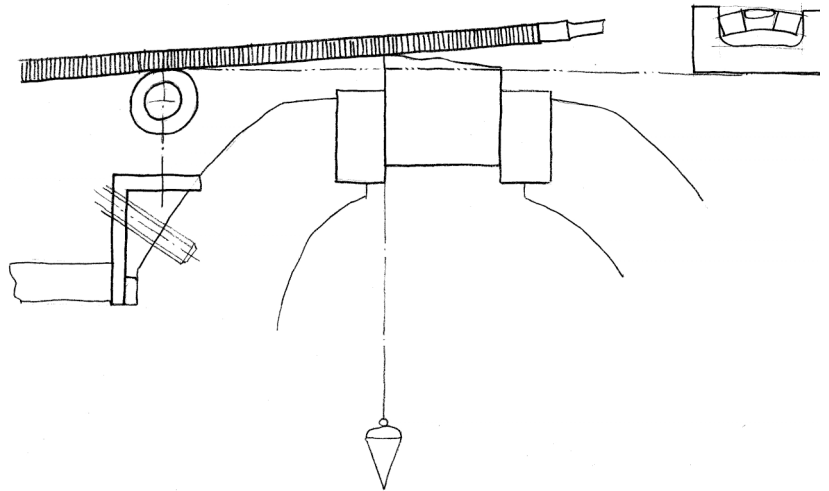


Fig. 4

*The filing rest can be improvised with small chunks out of your steel remainders box.*



Fig. 5

*It has to be screwed ruggedly onto the back of the vise.*

*Mounting / unmounting should be easy.*

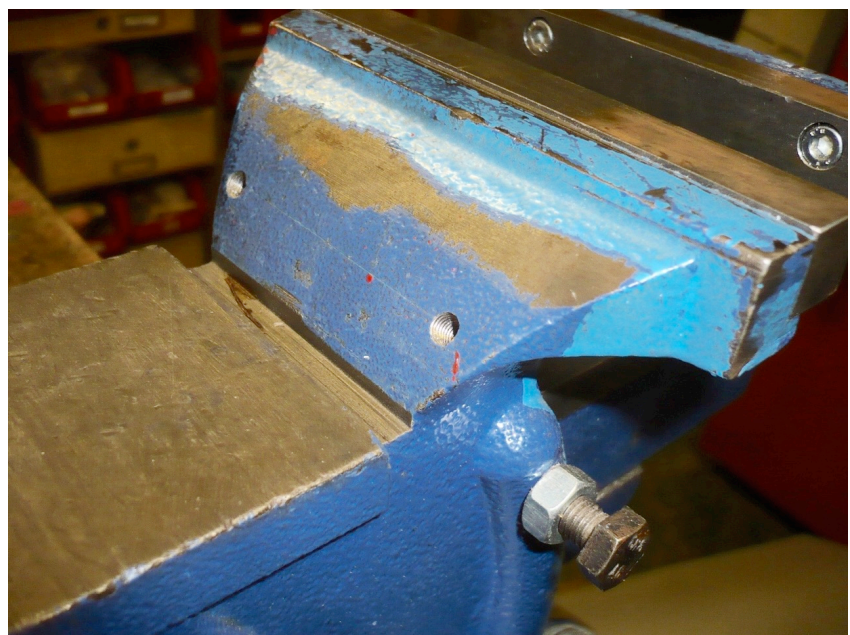
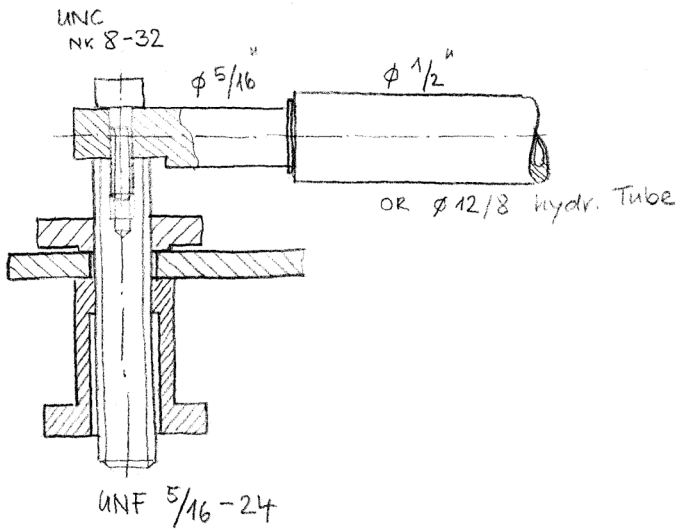


Fig. 6

# Filing rest for vise

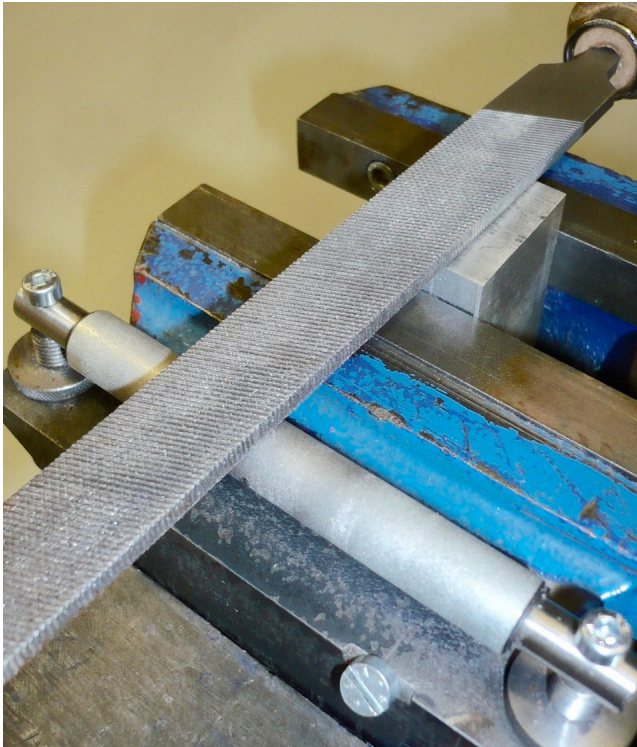
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On each side of the roller assembly is one knurled nut to adjust the height of the roller and a second one to lock the position. The adjusting threads have to have an easily ,computable' pitch of 40, 20 or 24 per inch or 0.6, 1.2 or 1mm respectively. Then you may mentally convert fractions of a turn to height differences. No tools nor wrenches recommended. The roller should be cut of hydraulic tube, say 12x2mm, sitting (grease please) on a  $\phi 8$  round drawn bar. The relatively soft tube doesn't damage the file and is easily replaceable.

Fig. 7



New and strange: The filing pressure has to act on the workpiece, not the roller.

Use chalk and a file brush.

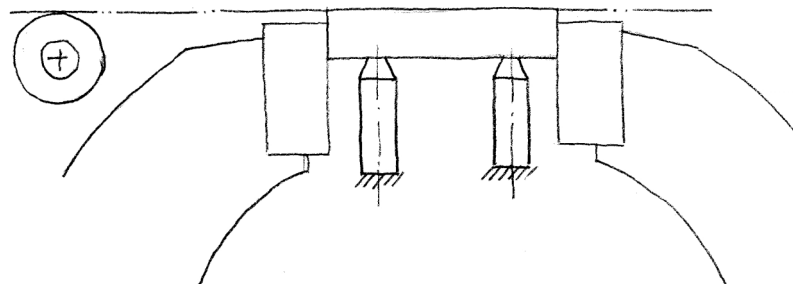
With the jaw faces strictly vertical und the file level you get nice right angles. With an experienced good eye you peek (from the side) if the angle is really a right. If it apears not to be ,right', adjust the height of the rollers. If you are a good-eye-apprentice, unclamp the workpiece and use a knife-edge square.

Fig. 8

More often than you like you have to unclamp the workpiece in order to check a dimension. Then you lose your adjustment. So it would be desirable to have various indexing stops within the vise.

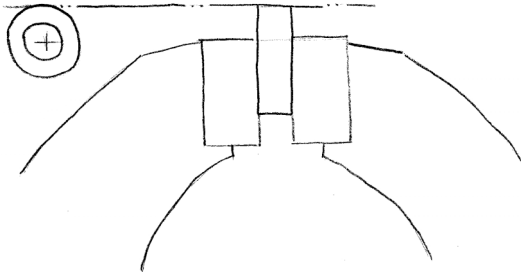
If you make a run of equal or similar pieces then an indexing solution is rewarding.

Fig. 9

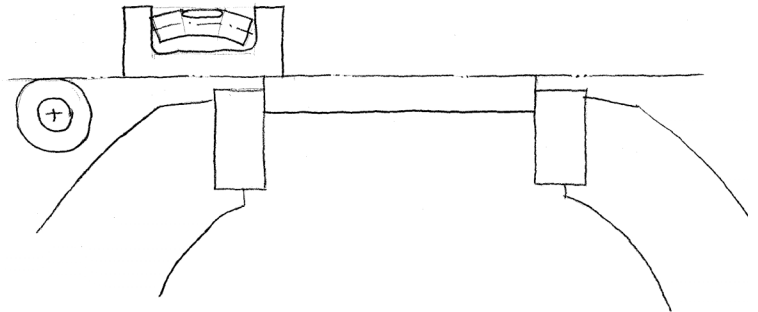


*What are the main tasks that can you do with a half filing rest?*

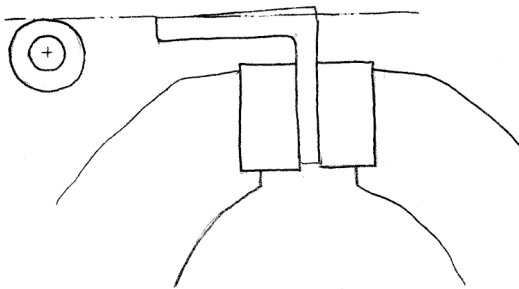
*1. good looking and exact faces*



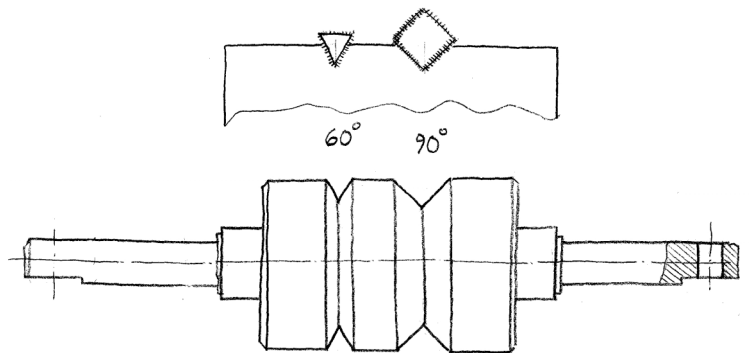
*2. flat surfaces*



*3. correcting hot rolled steel profiles*



*4. precision V-grooves (very difficult without an aid)  
inventing a special roller*



*With a filing guide your workstyle becomes more relaxed. The results are more precise and predictable.*

*Yet an indexing solution which permits to set the workpiece repeatedly in a certain position would be very welcome. Think of filing a workpiece clamped in a machine vise or CNC vise. Or clamp the workpiece in a jig or fixture and then both in the vise.*