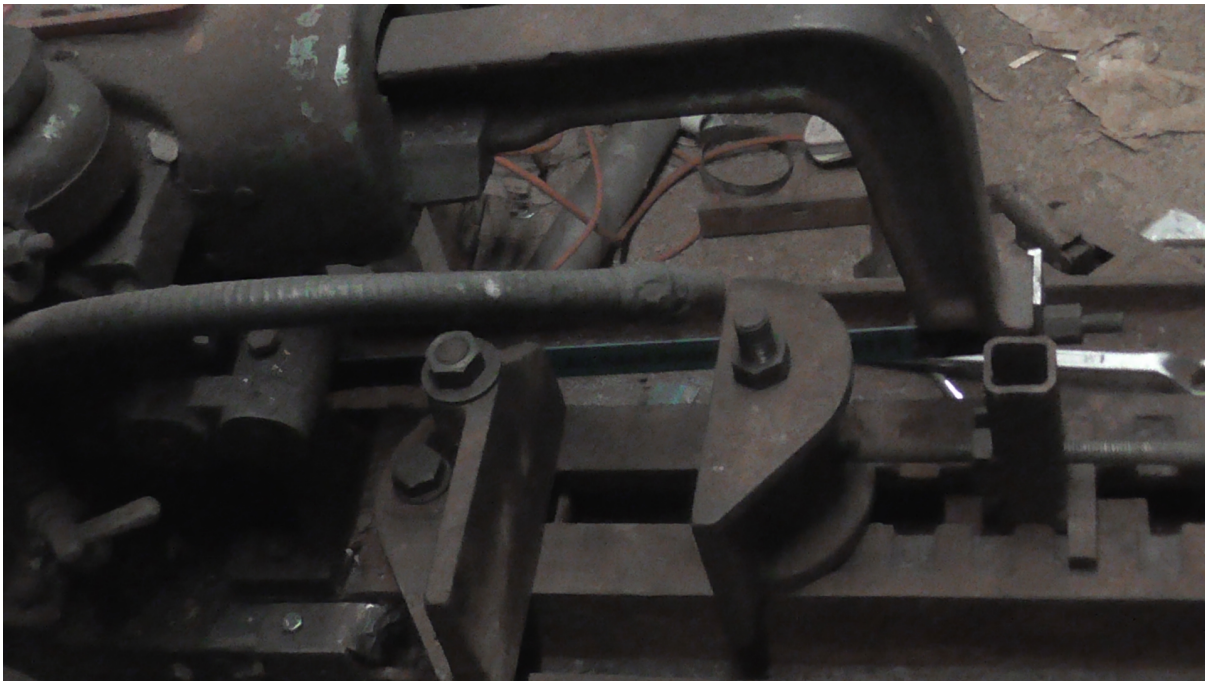
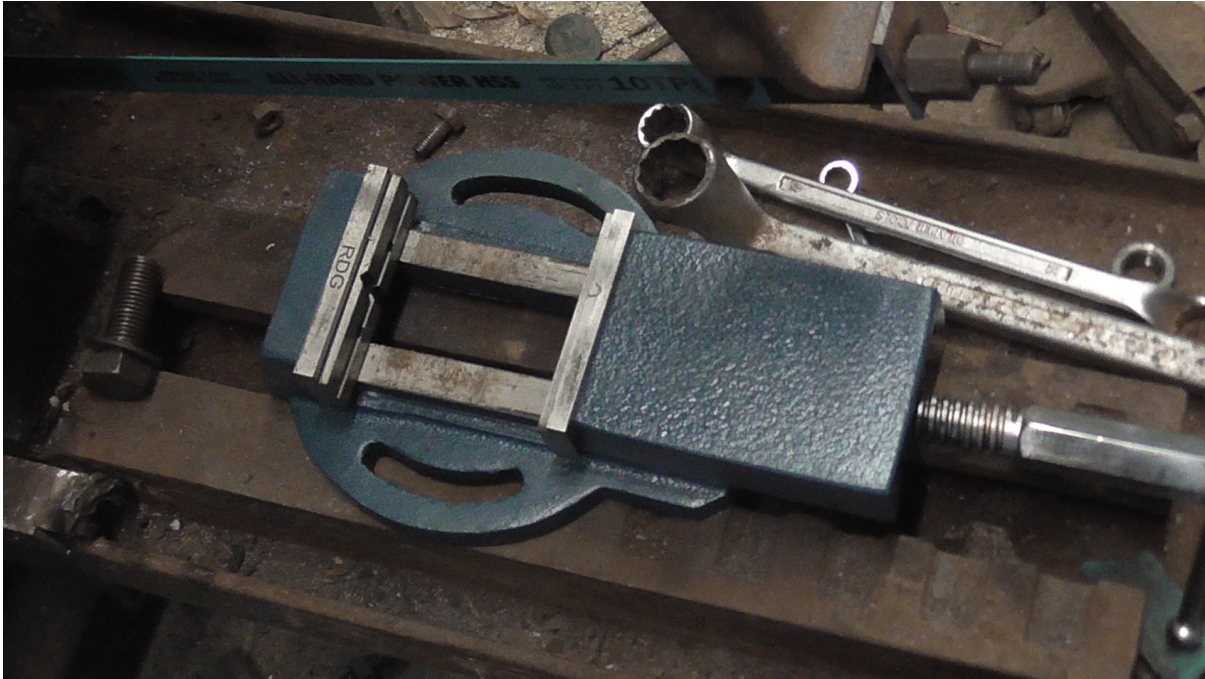


Living with the AJAX AJSD6

Being lucky enough to inherit a mechanical hacksaw being chucked out by a local engineering concern I was determined to get the best out of it. Anyone familiar with these saws knows the disadvantages of the clamping method employed. The job goes between two big blocks which are compressed against each other by a screw engaging with a rack. The size of the jaws means the force is distributed over a wide area and the back jaw tends to move on tightening. The job may move about during the sawing operation, if movement becomes excessive the blade may break. The existing jaws are more suited to clamping large girders in place. I wanted to be able to saw small pieces of metal, angle iron and be able to make up to 45 degree cuts. In a small workshop every machine has to be multi-use.



I purchased a low profile machine vice. However mounting it was a problem. Holes would have to be drilled in the old faithful, I was not sure where, to enable it to cut angles. One mounting hole would hang over the edge of the rack so a piece of angle iron would have to be fastened to the racks edge.



I had bought a machine vice which had not solved this problem. Never mind it would be useful on the milling machine.

Would a simple piece of 3 inch angle iron bolted down to the top of the rack suffice? Then G clamps could be used to clamp the work against it and it could be rotated to at 45 degrees at the most. I tried this using the large hold down associated with the back clamp surely this should suffice. Sawing a light piece of angle iron all was going well until it appeared to break loose rotating back and forth. The blade broke !! Close inspection revealed that the hold down had loosened because the bit on the underside of the rack had not been correctly located in the slit. It would have seemed to be tight but not correctly located. Ugh ! I will not make that mistake again.



The picture shows an adjustable arm stopping the angle iron from rotating as it tends to do on the power stroke.

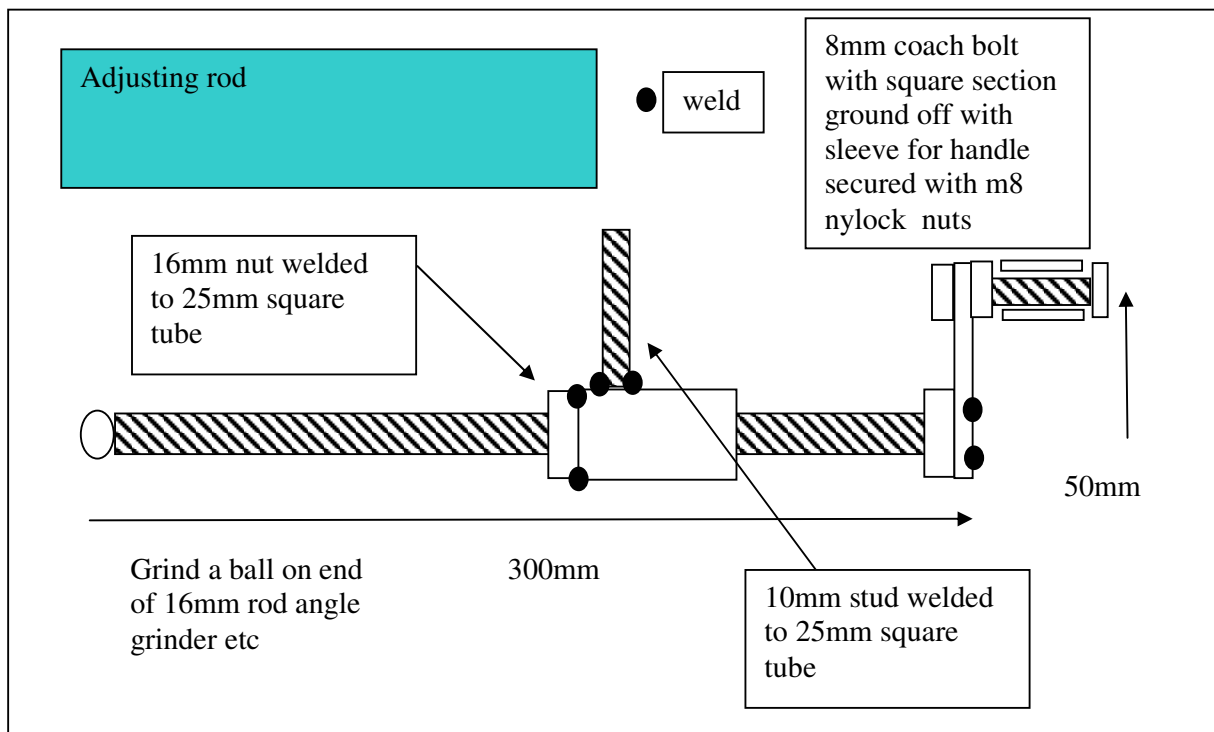
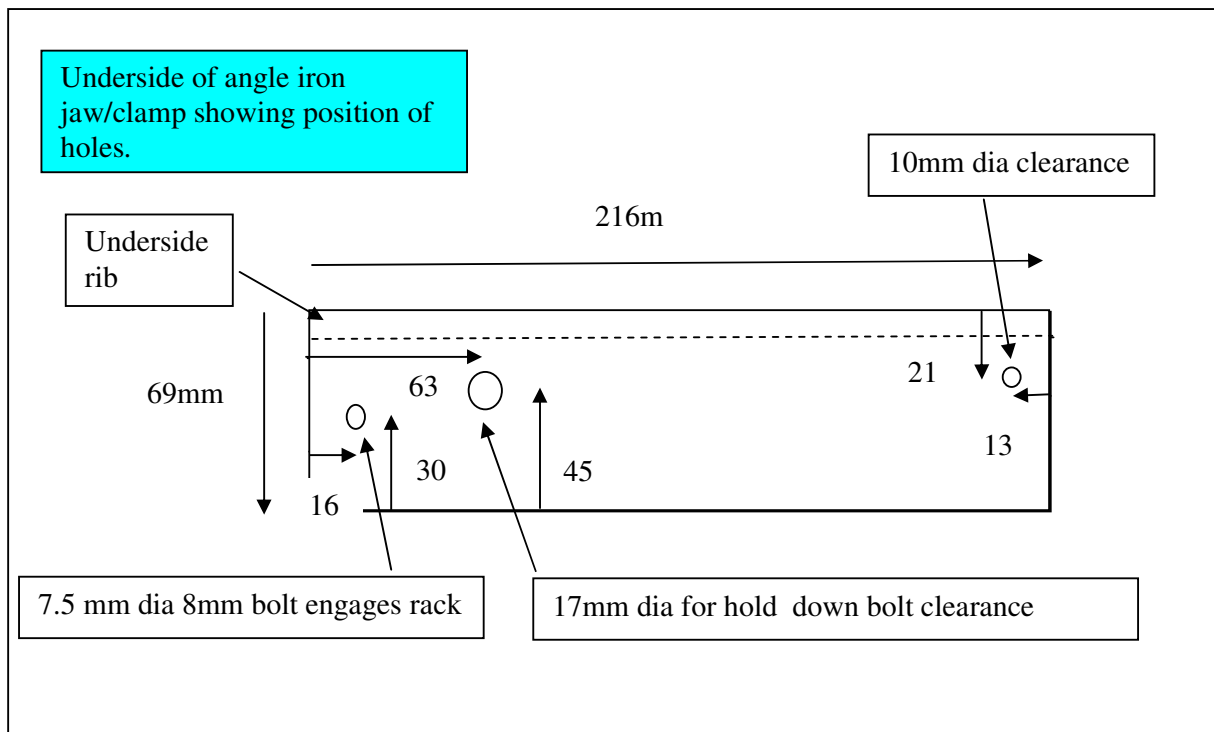


It is made up of a length of m16 threaded bar threaded through a length of 1 inch square tubing with an m16 nut welded on the end. A m10 stud is welded to the side of the tube to engage with a hole at the end of the angle iron. A ball end is ground into the remote end which fits nearly into a convenient corner of the saw casting. A fabricated fork keeps this in place.



The threaded rod enables the angle iron rest to be adjusted to angles up to 45 degrees whilst impeding the twisting rotating action caused by the power stroke. To facilitate adjustment the threaded rod was fitted with a fabricated handle.



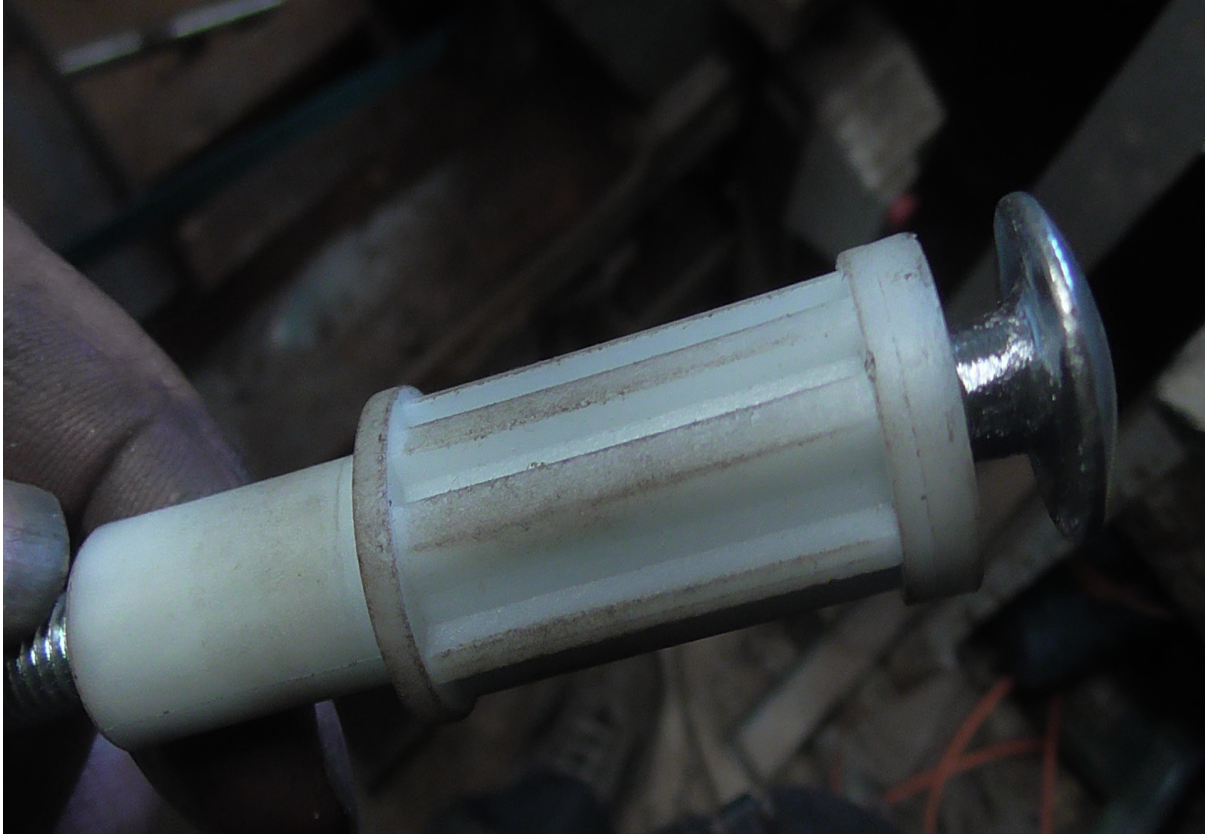


The diagram shows an extra hole drilled and tapped to take an 8mm bolt which was available with a knob. This is for extra security it engages with the rack slots. This makes the angle set-up more difficult but it is still possible to set-up using either of two available slots. The fork to engage

the ball joint is made of a 60mm piece of angle iron and held in place with a single 6mm bolt on the saw casting.

Materials m16 x 300mm 31489 screwfix
M16 nuts 7735p screwfix
Also tool station for other bolts etc

Handle sleeve wooden tube local manufacture or-----



These handy plastic tubes were on hand. They are actually from the temporary transit mountings in new washing machines.



The finished clamp set for a right angle cut.



The finished clamp set for 45 degree cut.

Reflections on metal saws used in industry.

The first metal saw was an 18 inch disc chop-saw from Aldi, this so scared me that I gave it away. This was a cheap imitation of the Evolution slow speed metal circular saws which largely superseded both the AJAX and band-saws. I also have a band-saw which was thrown out and as far as I can see that also has problems with clamping.

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