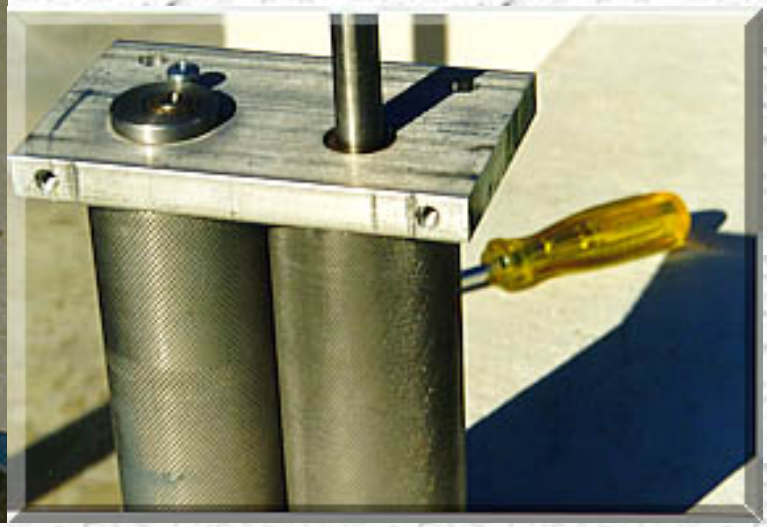
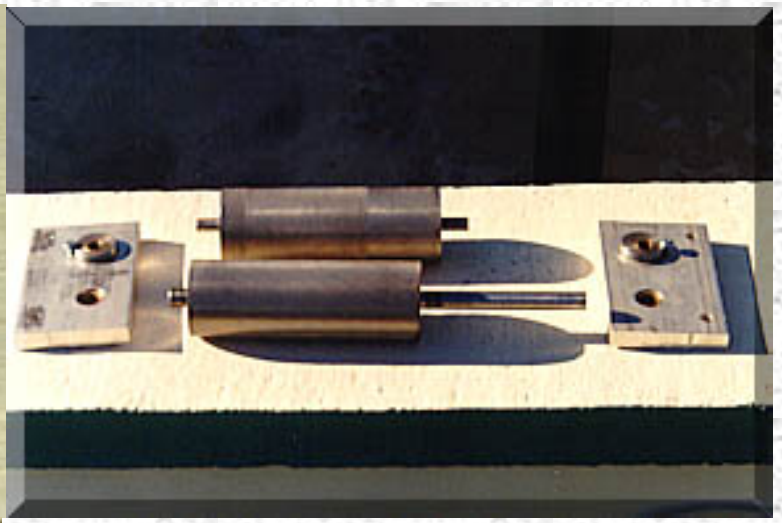
The HHHoagie Milling Company grain mill is a simple, sturdy self drafting, fully adjustable mill of the two-roller design. It is constructed with 2"diameter rollers, (one live and one dead roller), to provide a low enough nip angle (the angle from the center of the roller axle to the point where the grain contacts the roller surface) to ensure malt will be drawn into the rollers.

The malt passing through the rollers transmits motion to the dead roller, eliminating the need for gears or a rubber friction ring. A medium diamond knurl surface was applied to each roller to insure good husk integrity. This, I am told, is possible with 2" diameter rollers.



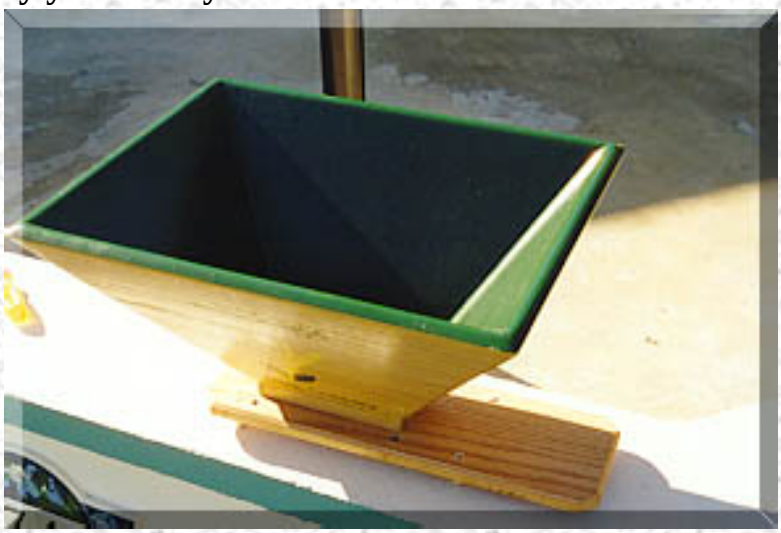
The roller axles are an integral part of the dead roller while the live roller incorporates one integral axle and one stainless steel attached drive axle and all axles ride in oil impregnated bronze bushings. The live roller is a stationary mounted roller with a 1/2" diameter axle extending out 5" to provide for a drive system, (crank attachment or motorizing appliance). The dead roller incorporates 5/16" diameter axles mounted in 1" diameter eccentrics, affording user adjustable mill gap spacing from zero to 3/16".The frame is constructed from two 1\2"X3"X5" Aluminum plates. There is an axle bushing bore and an eccentric bore in each aluminum plate to provide for the mounting of the rollers. Additionally there are two 1/4"X20 threaded holes in the top of each frame plate used to attach the draft plate.



The draft plate, a very busy part of the mill, is constructed from a piece of 3/4"X6"X18" oak board and has a 1 1/2"X5 3/4" rectangle opening in it used to draft the malt into the rollers. It also is used to attach the mill to a workbench or to set atop a plastic bucket. Further this board provides lateral spacing of the frame.

The Hopper, constructed of 3/4”X12” oak lumber, is attached to the draft plate and aligned with its draft hole. Malt is placed in the hopper, drafts through the draft hole into and through the rollers and falls into a bucket.

Art work was also done by yours truly.



Tools required (Power)
Engine lathe and suitable attachments.
Drill press and an assortment of drills.
Radial arm saw and sufficient accessories.
Hand drill motor (3/8”)

Tools required (Hand)
1/4” 20 tap and correct drill
#10 32 tap and correct drill
Good assortment of drills

	Materials	My cost
2	2X8 Round stock Cold roll steel Roller material	5.00
2	1/2X3X5 Flat bar Aluminum Frame material	4.00
1	1/2X8 Round stock Stainless Steel Live roller axle	0.00
2	1 1/2X4 Round Stock Cold roll steel Eccentrics	0.00
2	5/16X1/2X1/2 Bushing (flanged) Bronze Dead roller bushing	1.15
2	1/2X3/4X1/2 Bushing (flanged) Bronze Live roller bushing	1.63
4	1/4 20 X 1 1/4 Cap screw / flat washer Grade 5 + Draft plate attachment	0.00
1	3/4X6X18 Board Oak Draft plate	0.00
4	3/4X12X12 Board Oak Hopper material	23.00
?	Glue/screws/finish material Wood working material	?.??
	This total was my costs ___?	35.+

This was a fun project and I ended up with a tool that I am proud of and that works as good as a $100.+ mill.

If I would of had to farm out the machine work and pay full prices for the materials it would have been cost prohibitive. If you have the tools to do the job yourself then by all means build a malt mill, you'll love yourself for it.