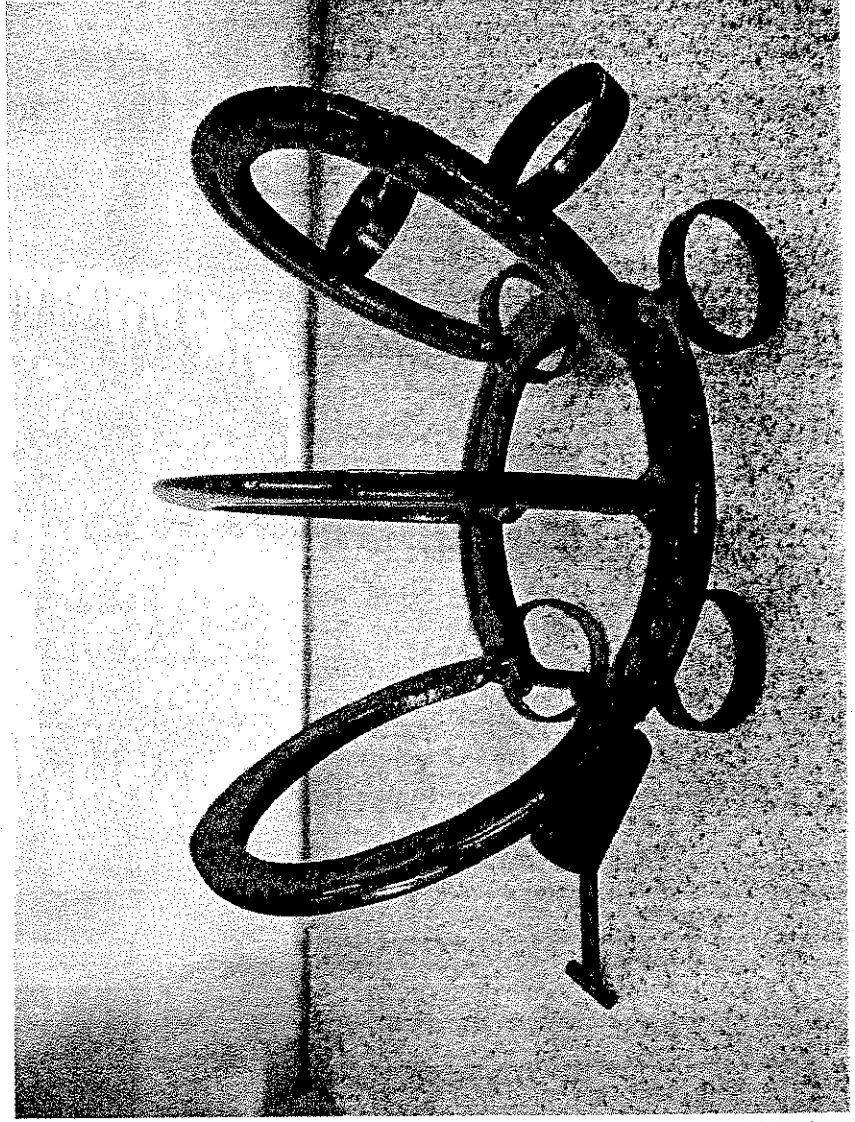
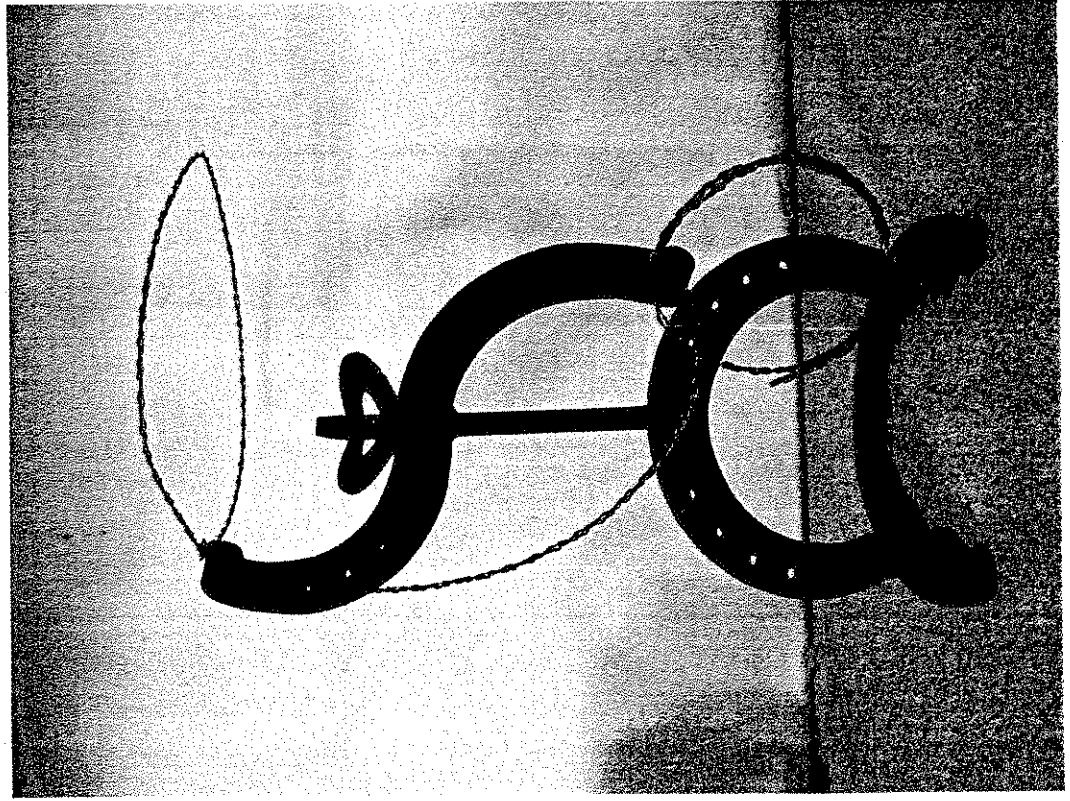
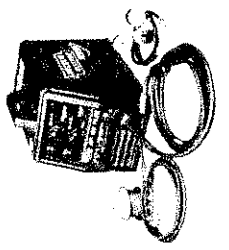
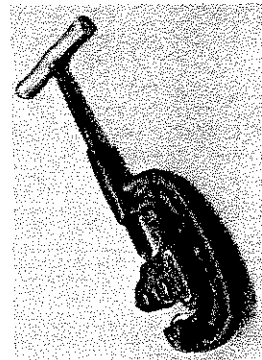
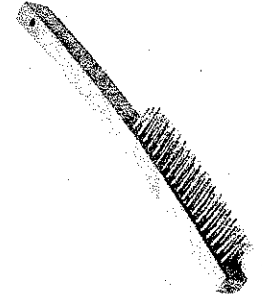
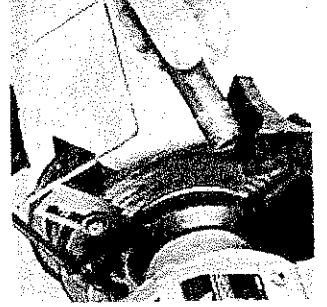
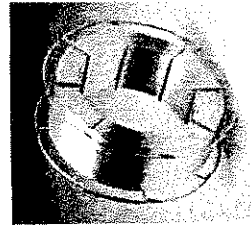
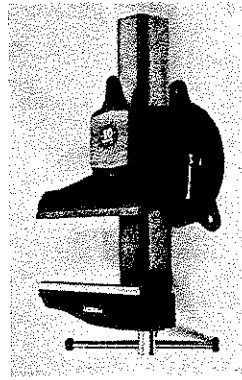
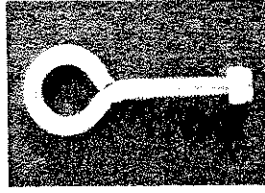
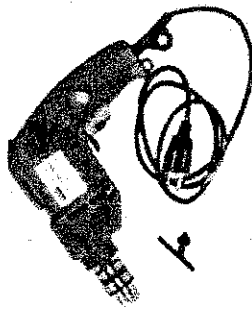


Cowboy and Wagon Project

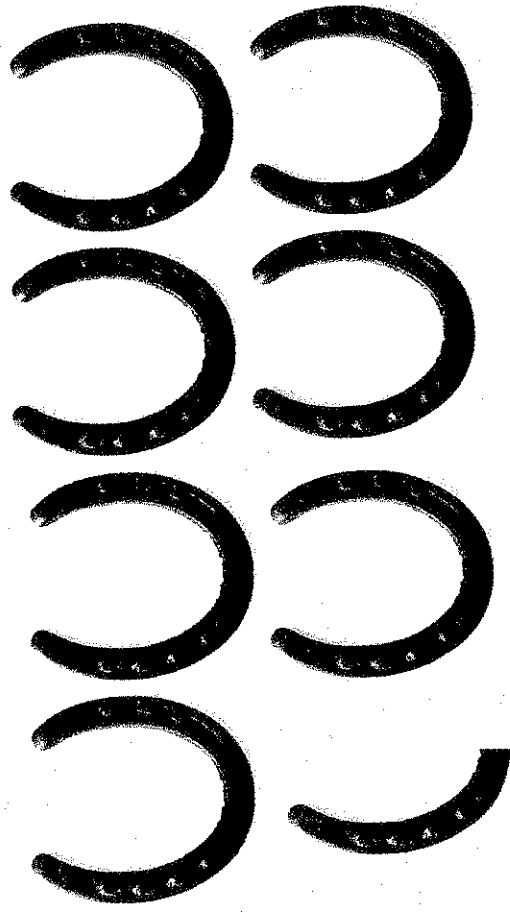


What Supplies and Equipment are Used for Both Projects



Where to Begin

- You will need to get 7 1/2 horse shoes. If they are clean, you can skip a lot of steps. If they are dirty, you can save a lot of labor by adding one 5 gal. bucket of shoes to 1/2 a bucket of wet sand and gravel in a cement mixer. Tumble for about 1 hr. This will remove/loosen most of the nails and save clean-up time on the rust and "organic" material that is stuck to the shoes.



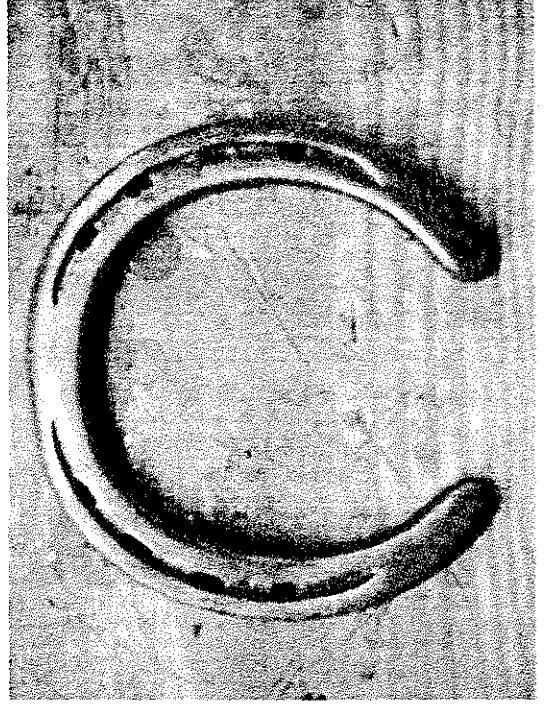
Pacesetter
SUPER DRIVE
HORSE NAILS

Pacesetter
SUPER DRIVE HORSE NAILS
COURTESY OF THE HORSE WORLD
PO BOX 10000
DALLAS, TX 75210-0000



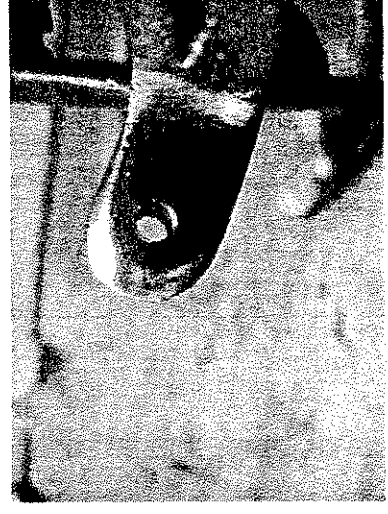
More Clean-up

- Have the students remove any remaining nails with a center punch.
- Use 20d nails as picks to remove “organic” material and sand that has accumulated in the nail groove.
- A wire brush will remove most of the other accumulation and will save your wire wheels from certain destruction.
- Cleaning the shoes for the wagon is very important because the wagon is a salt, pepper, tooth pick and napkin holder. A good paint job can only seal to a point!



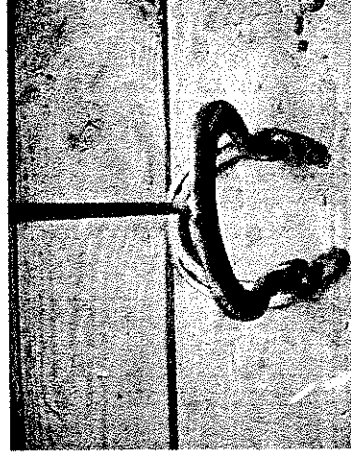
Making a Cowboy

- Select the largest shoe for the base. The tallest shoe for the body and the others for the legs and arms on the cowboy.
- The arms and legs are bent with a hand sledge and a **VERY STRONG VISE**. Bend them to a 90 degree angle. They should be bent by striking the flat side.
- 1" of material is enough for the hands and feet.
- Using a metal cut-off saw, cut the arms and the body shoes in half and remove the bur with a grinder or file.
- These pictures show how the shoes are bent.
- Drill a hole in both hands large enough to accept 2 strands of .045 welding wire. 3/16" is more than enough. Again, remove the bur.



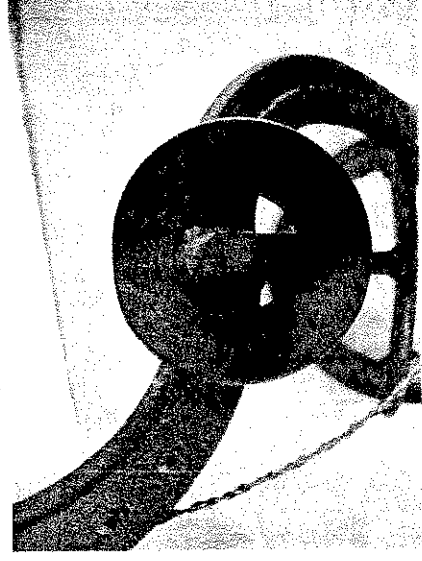
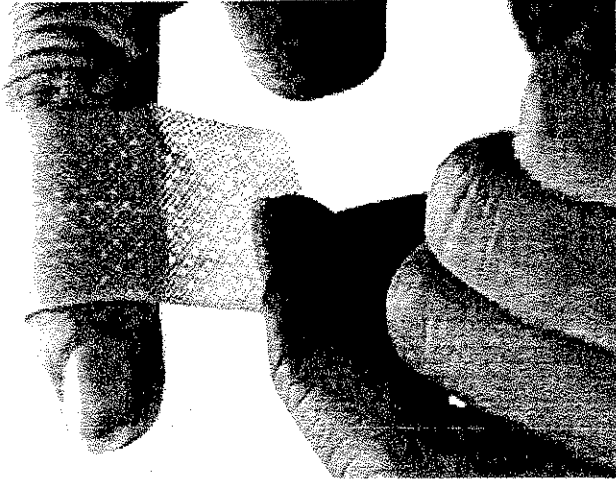
Welding the Cowboy

- Position, as shown, and tack weld the legs to the base at a slight angle to compensate for the weight on top. If not, it will fall over.
- When tack welding, try to have the head of the cowboy slightly over the front. (See example)
- The body gets one tack weld at the top edge.
- It is easiest to tack the lower arm first to get a reference point for the other arm.
- Tack the upper arm to line-up with the lower arm at the shoulders.
- Once you are happy with the position, weld it up.



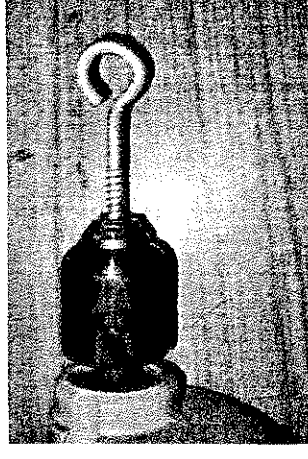
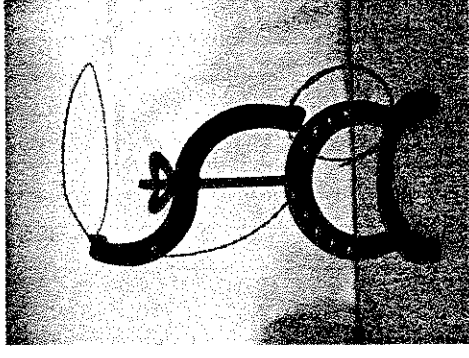
Clean-up the Welds

- I hate sharp edges and so do grandparents, moms and dads. Nothing would be worse than your grandmother cutting herself on a present that you made for her. Remove any spatter, slag, etc. etc.
- The student will get a 5/8" flat washer when the cleanup is done. This is used for the hat. Bend it in a vise with a few blows from a hammer. You can choose what ever shape you want.
- If you want to you can use a large fender washer and make a sombrero.

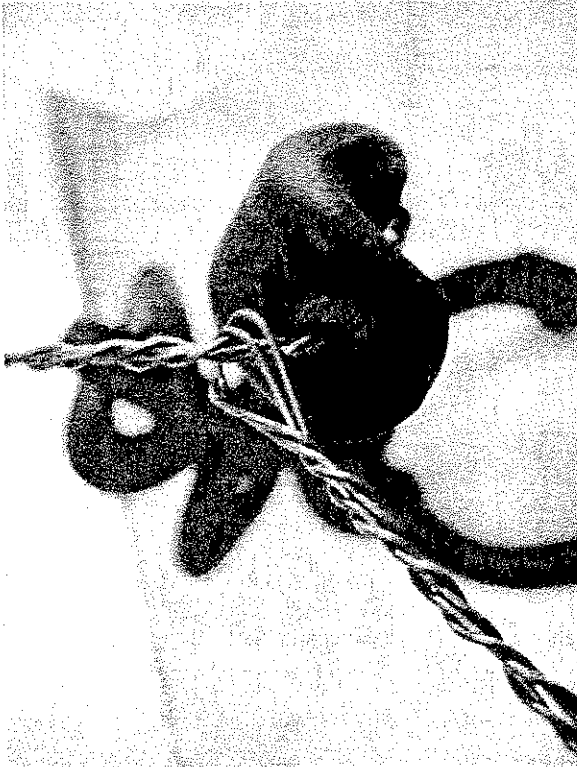
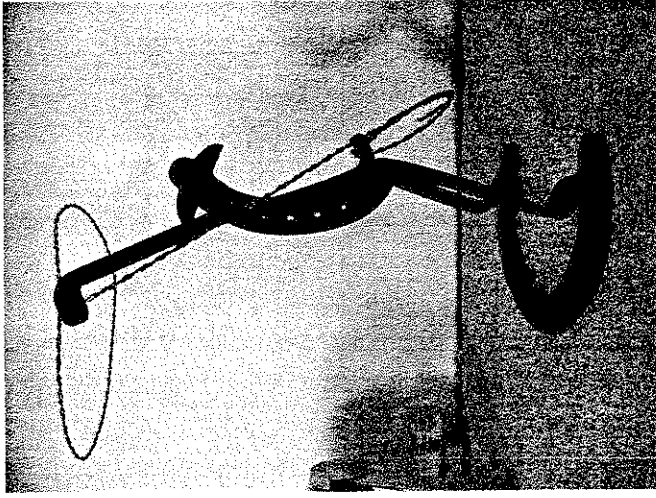


Paint it and Add the Wire

- I use satin black fast dry paint. A few coats should do it.
- Use .045 MIG wire for the rope. It will take 10', YES, 10' of wire.
- Double the wire and put the free ends in a vise to hold them.
- Use a power drill and an eye bolt to twist the wire. The picture at the right shows the loop that forms when you twist the wire.
- Go VERY SLOW and lean back to put tension on the wire. If you do not do this it will break or turn into a rats nest. You will learn how far you can go.
- When you are happy with the twist on the wire, put the drill in reverse and slowly remove the tension from the wire. If you don't, it will hurt your fingers as it unwinds.
- For lacing the rope it is easier to look at the example than to try and explain it.

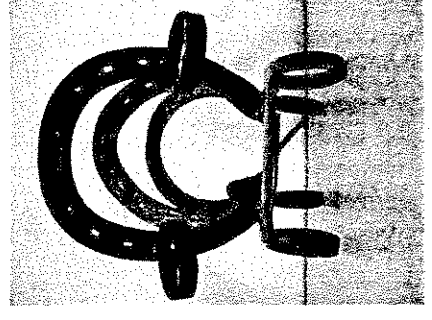
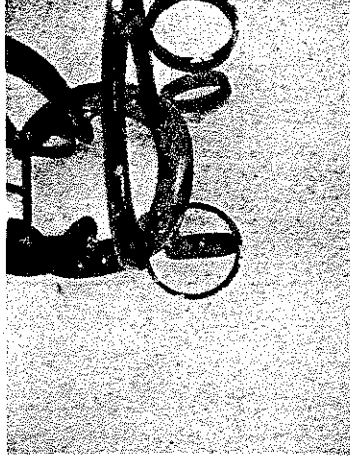
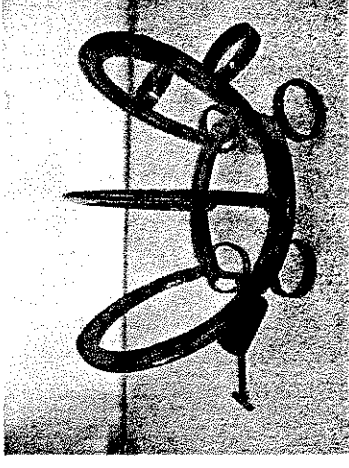


The Loop



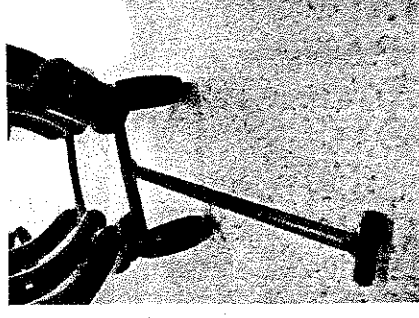
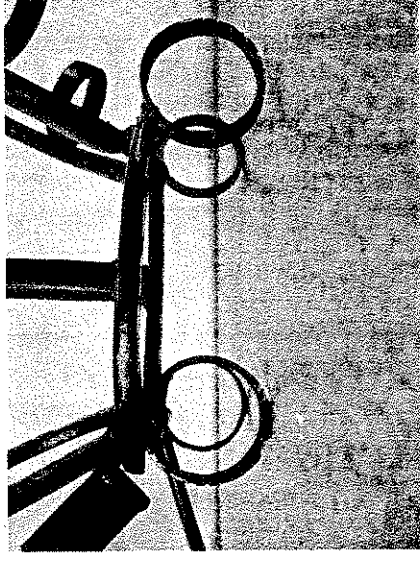
How to Build a Wagon

- First select 4 clean horse shoes. It is best but not necessary to have 2 smaller and 2 larger shoes.
- The base and center upright shoe should be larger. The 2 end shoes should be smaller.
- Tack and weld as shown.
- You will need 4 wheels and 2 rings for the salt and pepper shakers.
- I have found that thin wall 1 1/2" pipe or 1.900" thin wall fence rail from Home Depot works well.
- The tubing should be cut with a pipe cutter from 5/16 - 3/8" wide.
- Place the back rings for the salt and pepper shakers low enough that they will support them upright.
- The rear wheels should be positioned to support the bottom of the shakers.



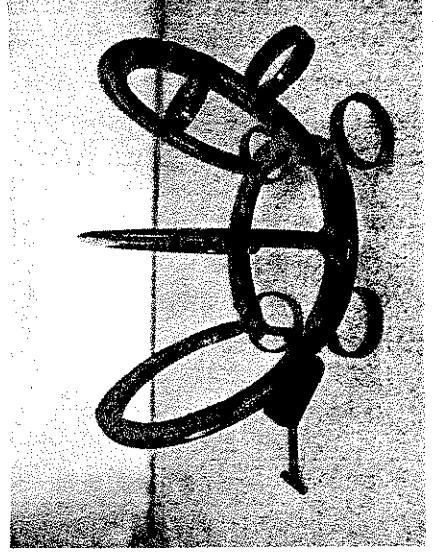
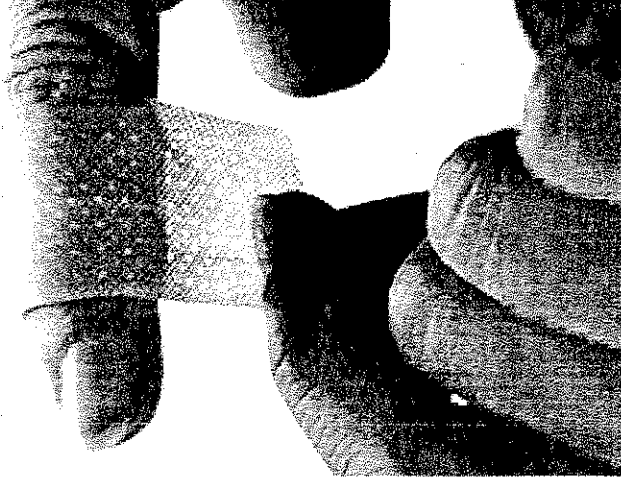
How to Continued

- The tooth pick holder is made from 1/2" black pipe 1 1/2" long. It is capped off on the bottom with a knockout from an electrical box.
- The tooth pick holder can be cut on the lathe or with a pipe cutter.
- Before the knockout is given to the student for welding, the pipe must be smoothed on the wire wheel.
- Weld the holder as shown.
- The tongue is made from 1/4" rod that is left over from the meat turner project. It is about 5" long with the end about 3/4" long. The back part is custom fit to the horse shoes.
- If you want it can come out straight or at a slight angle. The three pieces should be welded together before welding to the horse shoe.



Clean-up the Welds and Paint

- I hate sharp edges and so do grandparents, moms and dads. Nothing would be worse than your grandmother cutting herself on a present that you made for her. Remove any spatter, slag, etc. etc.
- I use satin black fast dry paint. A few coats should do it.

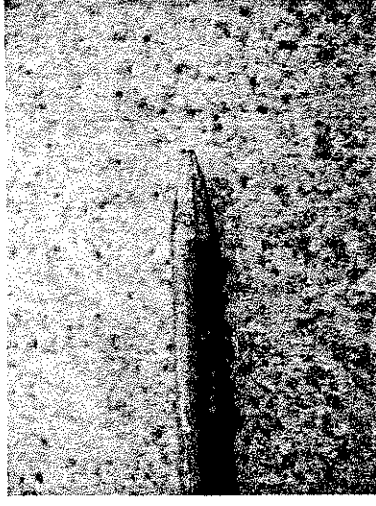


Meat Turner Project

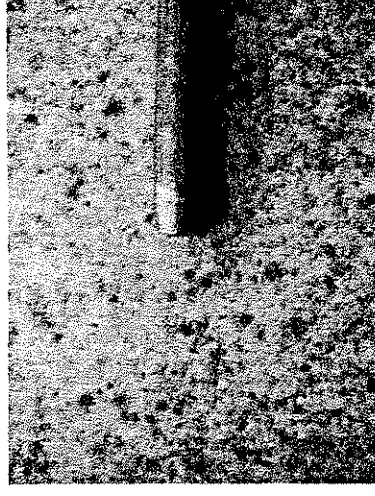


Grinding and Threading

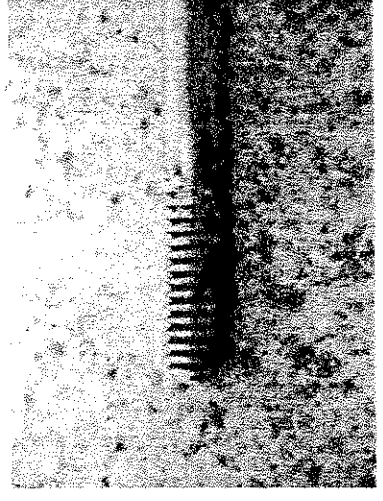
- For the meat turner project, you will need to start with 20" of hot roll 1/4" rod. Cold roll would be better and gives a better finish but, it is not necessary.



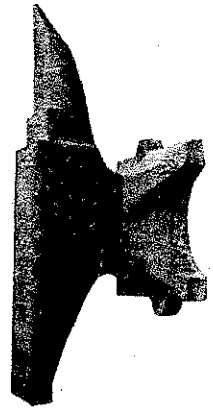
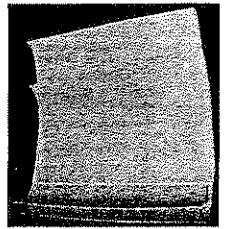
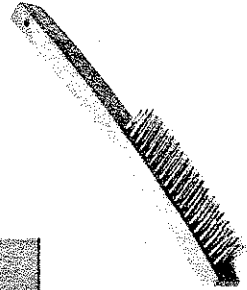
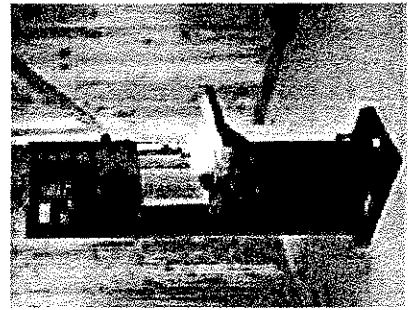
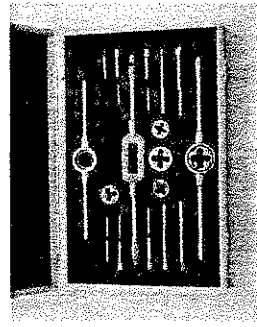
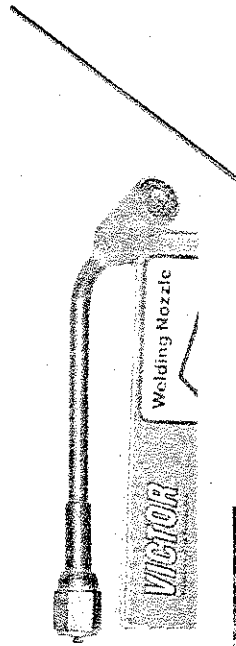
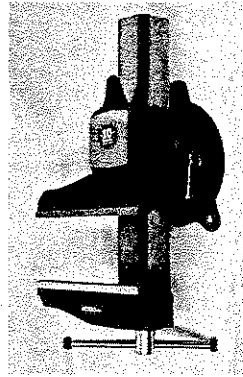
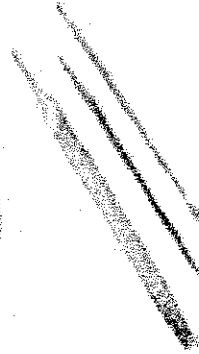
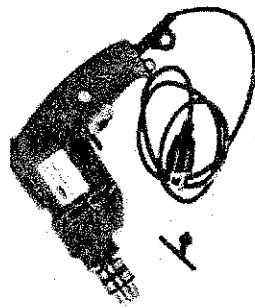
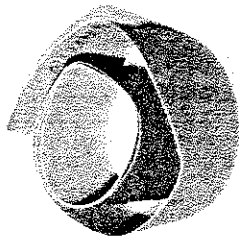
- On one end, grind a point in the shape of a bullet. This should be approx. 3 times the dia. of the rod. This will be smoothed out later with a file and emery cloth. On the other end, grind a slight bevel so that the 1/4" x 20 TPI die can get started.



- The threads should be cut for approx. 2". This will give enough bite in the wooden handle to prevent it from loosening up from use.

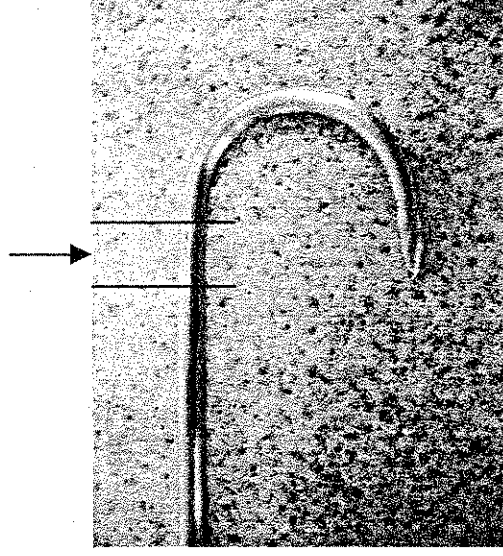
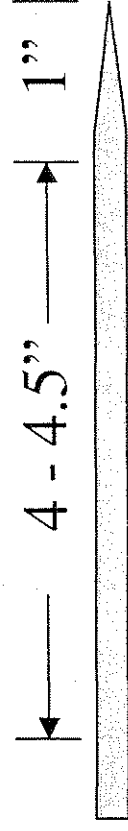


What Supplies and Equipment are Used for the Meat Turner Project



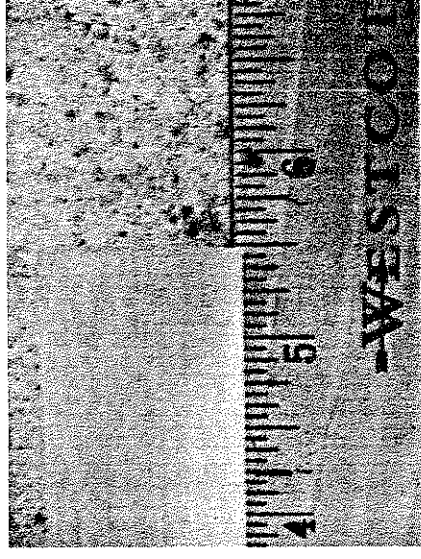
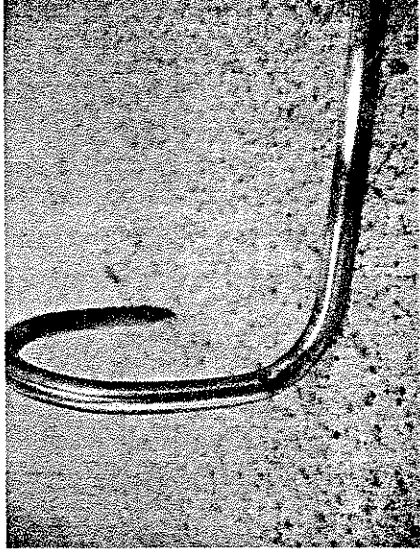
Shaping the Hook

- Heat up an area starting 1" from the point for approx. 4 - 4 1/2" with an Oxy-Acet Torch until it is an even orange hot. The torch must be moving all the time or you will get hot spots. These hot spots will cause a misshapen bend. An anvil with a 1/2" hole works well to pull the heated rod into a "U" shape.
- If the rod is not a satisfactory shape, use a hammer to GENTILY shape the hook on the anvil. Any dents put into the hook should be removed by filing and smoothing with the emery cloth.
- When the hook is cool enough to touch, bend it 90 degrees by heating an area 3 times the dia. of the rod at the point shown. Depending on which way it is bent will determine if it is for a right handed person or a left.



The Completed Hook and Handle

- This what you should get.
- Using a file and emery cloth, cleanup the entire metal part of the project.
- The handle is a dowel that is from 3/4" to 1" in dia. This up to you what you prefer to use. It should be 5 1/2" long.
- Find the center of the dowel on one end and drill a hole with a #6 drill bit or one that is slightly larger that is available.
- Using a tap, thread the wood so that when you thread the rod into the handle it won't split. Both ends of the dowel should be slightly rounded to prevent chipping. I prefer that the non-threaded end be rounded like a broom handle. A pattern can be added with files, grinders or any tools that you prefer. A burning tool can be used to add initials.



The Completed Project

- This meat turner was carved and flames were added. It was not finished completely. The plan was to stain the carved area with dark stain and the rest with natural stain.
- Seal the handle with Shellac when it is finished.
- If you want, drill a hole in the handle and add a leather lanyard. This is also a nice way to complete the project.

