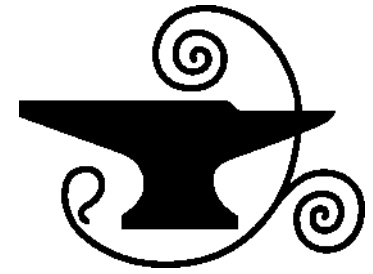




Pittsburgh Area Artist-Blacksmiths Association



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PAABA-demic !

If you have not viewed the PAABA website recently, take time to look it over. We have a page entitled "PAABA-demic", which shows many of our members' completed or in the process projects they have tackled while they have had some extra time. We guarantee you will be impressed by the variety, expertise and inspiration they will give you! There are wonderful additions to their blacksmith shops, tooling, equipment etc. You will see buildings, remodeling, gardening improvements and even a car from the ground up! If you have a personal project you are pleased to put on the "That's Done Finally" list, send a few photos and a short description to paabasec@gmail.com and it will be posted. This is a list you WANT to be on!!!!

(If you are not a computer savvy person, ask a friend or relative to show you the site, it's amazing!)

Welcome New & Returning PAABA Members

From PA:

Cindy Lou Fiorina-Latrobe

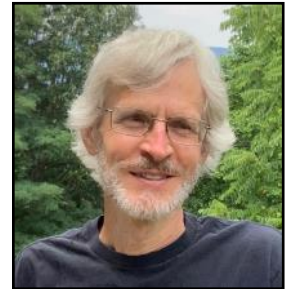
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Cool Your Jets!

EARTH, AIR, FIRE...WATER! By Glenn Horr

Building a side blast water-cooled forge has gone from an interest, to a research project, to a search for the parts needed. And now assembled, it has proven to be quite an improvement to my 35 year old forge lately held together by rust. Having used coke as a fuel over the past several years, it seemed that this type of forge would be the best choice to keep the fire pot from continually burning out with the higher heat of the coke fire. I first heard of this type of forge discussed at conferences. Probably the first was Stuart Hill at the ABANA conference in Ripley in the early 1980's. Many of the smiths from the UK use coke and hence side blast forges. More recently I talked to Mark Asprey and Gerald Boggs and have found other information in newsletters and videos online. There is a 1909 Machinery's Handbook in Google Books that shows a water-cooled side blast. A tuyere is a method of getting air into the fire. A side blast has the advantage of eliminating the build up of clinker where the air is introduced. Making it water cooled keeps it from continually glowing red and thereby burning out. I decided stainless would be preferable so I had to work on my welding skills to be able to fabricate the parts. I also found a stainless steel beer keg at our local recycling center that has made a perfect water tank. Some tanks are integrated with the tuyere. With the keg, I made it separate.



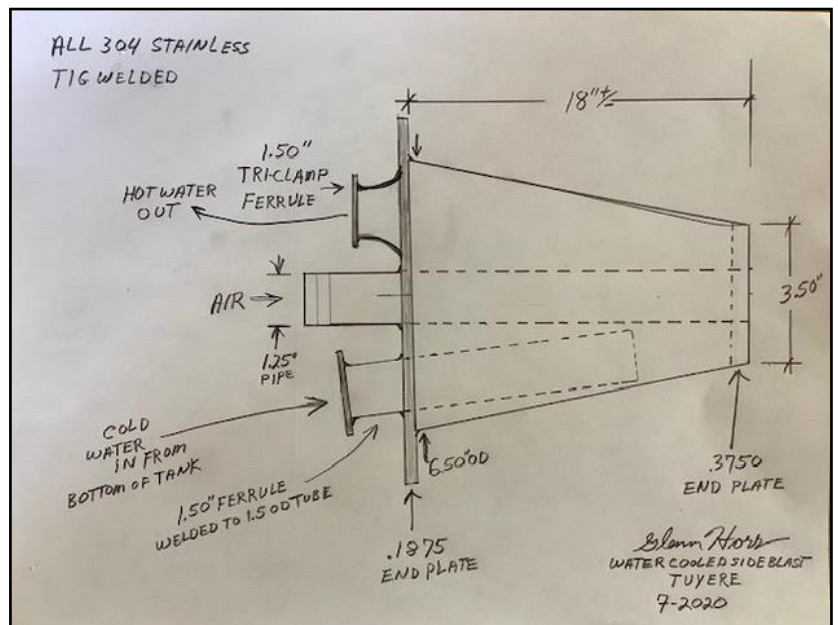
How it works:

The tuyere is the method of getting air into the fire and if introduced from the side the air pipe eventually burns off. Making a water jacket around the pipe keeps it cool enough so that it doesn't do this. Industrial blast furnaces use this method. The water jacket around the air supply pipe is a truncated cone shape so that it won't trap air bubbles that could turn into steam pockets. It works on an open thermo-syphon principle so that as the water gets hot in the cone it will rise and cool water from the tank will take its place. The air control valve is located before the cone. The tank holds 15 gallons of water. (I used rain water so that there are no impurities.) The clinker settles below the air supply in the forge. The forge itself is lined with fire brick and I formed a bowl shape made of sand and ash beside the air supply for the fire. (Cont. p.3)



Materials (Five years worth of scrounging):

- 18" truncated stainless cone - (made and rolled at a fab shop)
- 2 pieces of stainless plate for ends of cone
- 24" length of 1¼" stainless pipe (sch 40) for air tube
- Hoses for water hook-up
- 5 tri-clamp fittings (1½") for water hook-up– also called tri-clover clamps (Search online for locating these special clamps)
- Water reservoir (beer keg, with a drain in the bottom of it)
- Radial forge blower
- Butterfly valve for air control
- Pan for table - 10" deep lined with fire brick, sand, clay, wood ash (Centerline of tuyere about 3½" below the top edge of forge pan)
- Side-draft flue, stainless (adapted from drawings on AnvilFire website)
- Control cable for air control is the same type used on mower etc., for throttle control.



Glenn really appreciates the information shared with him by other smiths regarding this project. A good reference book he recommends is: The Blacksmith & His Art by J.E. Hawley. Questions, contact Glenn: glennsforge@me.com and view his web site <https://glennsforge.com> Phone 304-258-4058