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To: HABA Distribution List

Re: The March Meeting Of The Proposed Houston Area Blacksmiths' Association (HABA)

## **SUMMARY**

HABA met at the Tudor Forge on March 21, 1998. Twenty people attended including two out of state guests, Paul Koenig from Wisconsin and Dale McKissick from Virginia.

What a day! The morning was cool. The sky was clear. There were demonstrations conducted by Bill Bastas of Austin, andirons signed by Samuel Yellen, flower forms by Tim Cowden, doughnuts from Byrom Wehner and lots of hot coffee.

Things got underway about 9:00, the usual start time. Dave Koenig opened things with a quick business meeting and an introduction of Bill Bastas, the featured demonstrator. Bill wasted no time. He opened with a warm-up demonstration of his unique hammering technique. This was followed by demonstrations using mild steel, wrought iron, chainmascus, (welded chain) and bronze. In addition, Bill brought a new gas forge he made a few days earlier. He used the gas forge in the afternoon for making the chainmascus and forging the bronze.

Bill worked hard at the forge and explained exactly what he was doing from about 9:30 until 3:00. We did break for lunch around noon. The doors of the forge closed about 4:30. This was a really an informative meeting!

## **BUSINESS MEETING**

Dave Koenig opened and closed the business meeting in just a couple of minutes. ( He's getting good at short meetings. Let's hope he remembers how to do that.) Highlights of the business meeting include:

The April meeting will be at the Brazos Forge in Needville, TX. on April 18. The start time will be 9:00.

Some February HABA Letters included a notice asking people to let us know if they were still interested in receiving the HABA Letter. We have not heard from about half of the people on the mailing list during the last six months. Those we do not hear from will be dropped from the mailing list.

Cash on hand at the start of the March meeting was \$228.75. The March meeting took-in \$26.00 from the HABA Hat and \$127.00 from the Raffle. The estimated ending balance after expenses for February and March HABA Letters, usual meeting expenses and an honorarium for Bill leaves us with a closing balance at the end of March of about \$158.00. No additional work was done on the draft HABA Bylaws.

There may not be a June meeting because of the ABANA Conference.

## **GUEST DEMONSTRATOR**

Bill Bastas teaches metalworking at Austin Community College. In years past he taught blacksmithing at the college too. The experience of communicating technical skills and art with words and actions comes through in Bill's demonstrations. He is a very prepared teacher and demonstrator. The demonstration time is filled with forging techniques and words that make a person think 'there is nothing to all of this'. This is a common trait of prepared demonstrators but I think Bill added a fundamental and critical twist. He made a real effort to point out all the nuances of his forging and his thought process as he forged.

Any lack of questions at this meeting did not seem to be so much the result of people being lost but rather people understanding and processing what they were seeing and hearing.

Bill started off showing us a hammering technique that is different for a couple of major reasons. One is that the hammers he uses and makes are short handled and have square heads with a blunt cross peen. The hammer mass is packed into a relatively short area between the hammer and peen faces.

The other big difference is that Bill stands parallel to the anvil face. That is his feet are parallel to the anvil face instead of pointing towards the anvil face. The change to this technique did not come easily and he has no plans to change back to the old way. It does not mean that he won't but rather that he finds the change more productive and easier on his body.

### **Hammering**

Bill demonstrated two basic forging techniques while explaining his unique style. The first was drawing a point on a half inch square bar. The difference was that he made sure the heated part of the bar extended over the end of the anvil when he began. He did not start forging at the point but back from the point and worked towards the point. This allowed the bar to remain hot longer. Only the part of the bar being forged is in contact with the cold anvil. The part of the bar to be forged is in the air staying warmer than if it is in contact with the anvil.

The second technique had to do with using a cutoff hardy. When doing a hot cut over a hardy, cut part way through the stock from all four sides or from all around a round bar. In this way, the

odds of striking the hammer face on the hardy is greatly reduced. The final cut on the bar will take place in the center of the bar rather than at the top surface of the bar.

And, if you are thinking ahead, the bar can be cut off in the center of the bar while at the same time forming a tapered point at the end of the bar. To do this, simply lower the stock you are cutting below the surface of the cutting edge of the hardy. The lower the piece is below the cutting-edge of the hardy the shaper the point.

### Tong Clip

Bill needed a tong clip. From a piece of quarter inch or three-eighths inch round rod, Bill formed an eye about two inches from the end. This eye becomes the center of a C-shaped tong clip. The eye ends up on the outside of the C. Once the eye is formed, it is a simple task to form the other two ends into a C. The clip works very well. It is light and it is decorative.

### Finials

Next came two finial designs.

From the end of a half-inch round bar that Bill hot cut to a short taper with a hardy, he fullers about a half inch knob at the end of the bar. He dulls the taper a little. That left the bar with pretty much a rounded profile. The fullering is done with the hammer and the edge of the anvil. Next the knob is flattened to about a quarter inch. The result is a nice circular form at the end of the bar.

In the center of the form he punches a clean hole. NOTE: When punching a hole, come in first from one side and then the other. When the iron is at a black heat, punch out the blank. Iron is more brittle at a black heat and the blank is likely to break out cleanly.

The second finial was an eye at the end of a half-inch round. First a rat-tail is forged on one side of the bar. Next, on the offset portion of the bar, Bill uses his cross peen to flatten and pull the offset end of the bar out about the bar's diameter. He then completes the eye. The result is a new finial 'with a twist' so to speak.

### Leaf

Every blacksmith needs to know how to make a leaf and then demonstrate it to an audience. Bill took the opportunity to share one of his leaf forms.

He starts with a half-inch square, draws out the end to a point, fullers for the stem, flattens the square on the corner and spreads the leaf with the peen. Next comes the leaf veins. For the veins Bill used a hardy made from a piece of mild steel bar stock maybe two by three by one half inch. In the top of the bar he cuts in leaf veins with a chisel. The forged leaf is then heated and placed on the bar with the veins. The leaf is driven down into the bar. The result is a leaf with veins. He then forms the leaf over different parts of the anvil to give it some life.

## Hook With Nail

Next came a hook with a nail. No, this is not forged all in one piece. First came the nail. For this Bill used a nail header. His header is much heavier than others I saw. The secret to a good nail header is the tapered hole with rounded corners. The rounded corners prevent the nail from developing metal slivers in the forging process. If the corners are clean, the finished nail will fall out of the header with very little urging. And Bill's did.

The hook followed. The design is what he called a 'museum hook'. He made a few of these for the people who came through the National Ornamental Metals Museum blacksmith's shop last year. Bill was the artist in residence at the museum for one year. He returned to Texas early this year.

The hook is very simple and elegant. From a half inch round, he forges a short taper. About ten inches or so up the bar; he rounds the corner a little and uses a half face blow to flatten the end into a round shape. He punches a hole, bends the hook, adds the nail and the hook is ready for mounting.

## Horse Head

The horse head starts with a piece of quarter by one inch flat bar. Bill puts a simple good looking horse head at the end of the bar in very little time. I do not remember all of the steps, but I will give it a try.

First an end of the bar is drawn out to form the horse's nose. On one side of the bar the edge of the anvil is used to define the nose and the neck. An ear is raised with a chisel. The jaw is spread with the hammer's peen. The nose and eye are punched and the mane is spread and chiseled-in.

## Snail

Well lunch was coming up fast and to get us in the mood for some fine dining, Bill forged a snail from a piece of wrought iron. Bill also had a few pieces of wrought iron for sale for those of us who wanted to try our hand with some real wrought iron.

Forging wrought iron is a lot easier than forging mild steel. It moves easier and welds easier. The snail is a good demonstration piece.... especially before lunch...

The snail will be a little easier to describe because I have it here in front of me. During the Raffle, Paul Bonner was kind enough to ask if I would like to switch my Raffle ticket for his. I said yes and we switched. Thanks much Paul. I hope I can return the favor some day.

The snail started from a piece of half inch round. Bill drew out a gentle taper and rolled it about two and one half times. The rolled piece becomes the snail's shell.

Next is the 'foot' which is a flat area behind the shell. To form the foot the rod is bent back on itself so that the shell is on top. The bend should be close to the shell about half to three-quarters

of an inch. Bill heats this section to a welding heat than welds and flattens the foot in one operation.

The final step is to forge the snail's head. The head is an egg shaped piece on the end of the bar connected by a fullered neck. The egg shape is then split to form the antennae. Hmmm don't think snails have real antennae but you know what I mean....

## Gas Forge

After lunch Bill fired up a brand new gas forge he built just a day or two before our meeting. It took him about six hours to build and about a hundred dollars worth of material. The cost included everything between the tank and the fire.

Bill admittedly loves to make tools. Since gas forges are tools, he has made several of them. Each new forge is a little different than the last and he always learns something new to incorporate in the next one.

Bill's forge is about a foot long. The outer shell is a piece of thin wall 10-inch pipe. The refractory on the sides is a lightweight wool. The bottom is a replaceable firebrick. His choice of refractory allows the forge to heat up very quickly and the firebrick at the bottom is easy to replace if damaged.

The front and back doors are two firebricks. The height of the bricks allows enough room for some venting at the top. It is very important for forges to be vented properly. If they are not, fuel is wasted and in some cases the flame front will back up to the tip.

The venturi is from an old water heater burner. The gas orifice is a MIG tip so he did not have to drill a tiny hole to make the gas orifice.

The forge is supported on a stand. The stand has an adjustable sliding bar to support long pieces while they are heating.

The forge works very well. The heat and atmosphere in the forge are controlled by the gas regulator and firebrick doors. Bill used the forge to weld-up some chainmascus and forge a set of bronze tongs.

NOTE: Frank Walters, 713-896-7566, is planning to have a weekend workshop to build some of these forges. Frank will take as many as twelve people in the workshop. He has four signed up right now. If you have an interest in building a gas forge, contact Frank for details.

## Chainmascus Billet

The first big test for the forge was to see if it really could get hot enough to weld. Bill opened the regulator to increase the heat and create a reducing atmosphere in the forge. Feathers of flame could be observed coming out the ends of the forge above the firebrick doors. He placed a chain

welded to a rod into the forge. In just a few minutes we had the answer. The forge develops enough heat to weld.

Bill took about four welding heats on the chain billet and decided to stop. The forge was working well and it was going to take a couple more heats to complete the billet. In the interest of time he switched to another billet that took two heats and a power hammer to complete.

This billet was used to forge a spoon blank. The spoon blade and stem connecting the spoon to the handle is made just like you would make a leaf and stem. The difference is, the blade of the spoon does not have a sharp point and a handle is required at the other end of the stem.

Sharon Heathcock was the Raffle winner of the chainmascus spoon blank and enough billet for a second spoon.

### Bronze Pick-up Tong

Bill finished up his demonstrations for the day by forging beautiful bronze pickup tong. The reason he made them out of bronze was to show us how to forge bronze and to have a tool that could be used to retrieve silver items out of pickle. If any iron gets into a silver pickle container, the next piece of silver put into the pickle will come out copper coated. This is not a good thing if you are working in silver.

Each half of the tong is forged as one piece. It is critical not to get the bronze too hot...like to a red heat and not to forge the piece too cold. At either of these two temperatures the bronze will break. In other words there is no color to use as a heat guide. (By the way, the workshop was held outside.) The correct forging temperature depends more upon experience and the feel of the hammer.

The tong got assembled and Bill was making the final alignment adjustment at the tips. Guess what happened. Remember the part above about working bronze too hot or tool cold. Well his last tap on the tip of the tong broke one side about one half inch from the tip.

The groan of the crowd could be heard a block away. (Half of the noise was the sound of that 'sinking feeling' we all get from time to time. I think everyone of us thought we had our hand on Bill's hammer.)

We all came to learn and went away learning a lot.

By the way, the tong is repairable with a little silver solder.

Bill was even prepared for a tong failure. He brought another bronze tong for the HABA Raffle just in case his demo piece developed a problem.

### **SPECIAL THANKS**

To Bill Bastas for a really informative and professionally conducted day of demonstrations.

To Jason and Lora Neumann, Paul Koenig and Howard Owen for arriving at the shop and getting things set up. It was a really big help since Bill and I were a bit late looking for a propane regulator before 8:00 Saturday morning.

To Byrom Wehner for the supply of doughnuts. (This is the first time there were a couple of doughnuts remaining after the meeting. We're slipping guys!)

To Gary Evensen for the drawing of Kip Coe's *Pepper*. Attached.

To Dean Arnold for donating two twelve by twelve by twenty two inch western cedar blocks for the Raffle.

### **NEXT MEETINGS**

The next meeting will be held at the Brazos Forge in Needville, TX. The date is April 18, 1998 and the start time is 9:00 a.m. Larry Newbern is the shop owner and has an informative selection of demonstrations ready to go.

Over the years Larry created a number of jigs to make his production work a little easier. For those of you who are not familiar with making and using jigs, you will really enjoy this segment. I am not so sure that the real art of production smithing isn't being able to create jigs...or maybe I should say remember what a jig was used for in the first place.

Larry also has a number of twists he would like to share with everyone. There are some pretty fancy ones out there that really stretch the imagination. Who knows, we might just have a twisting contest during the day.

The final thing on Larry's agenda is to help you work through some problems you may be having at the forge. In other words, your questions will become meeting fodder.

There will be a camp stew. The cost is the usual, \$2 for all you can eat.

So, bring your safety glasses with side shields, forge, Show-and-Tell items, Resources you would like to share with others and something for the Raffle.

### **DIRECTIONS TO BRAZOS FORGE**

Go south from Houston on highway 59.

Cross the Brazos River and proceed to highway 36...Richmond-Rosenberg area.

Go south on highway 36 and through the village of Pleak.

Just past the village of Pleak look for a Chevron station on the West side of the road.

Turn west at the Chevron station onto Gerkin Rd.

Go one half mile on Gerkin Rd. and turn south on Fenske Rd.

Go three miles on Fenske Rd. to Foster School Rd.

Turn west or right on Foster School Rd.

Go one half mile on Foster School Rd.  
The Brazos Forge is on the south side of the road.  
The address of Brazos Forge is 4918 Foster School Road, 409-793-4362.  
Enjoy!

## COMING EVENTS

1. The Thirteenth Annual Blacksmith Fellowship will be held Thursday April 30 through Saturday May 2, 1998, 2505 North MLK, San Angelo, Texas

Pat Cheatham's thirteenth effort to gather smiths in San Angelo for a long weekend of smithing will include the following topics:

- How to develop hammer control.
- Discussion of the size of the hammer and length of handle compared to the material being forged.
- Simple forging exercises to develop hammer control.
- Getting the most out of one heat.
- Demonstration of basic tool building i.e. tongs, punches, hot cutters, fullers, etc.
- Forging quick and easily marketable items, such as fireplace tools, candle holders, hooks, etc.

Instruction will be provided by Wayne Phiffer. Wayne is the proprietor of the West Texas Forge of Midland, TX.

For more information about the Thirteenth Annual Blacksmith Fellowship, contact Pat Cheatham, Concho Forge, at 1490 Whitetail Lane, San Angelo, TX 76904. The phone number is:

915-949-0419. The e-mail address is: [cforge@wcc.net](mailto:cforge@wcc.net).

There will be a minimal charge to help cover expenses.

The Gas Forge Workshop. Contact Frank Walters, 713-896-7566, for more information.

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