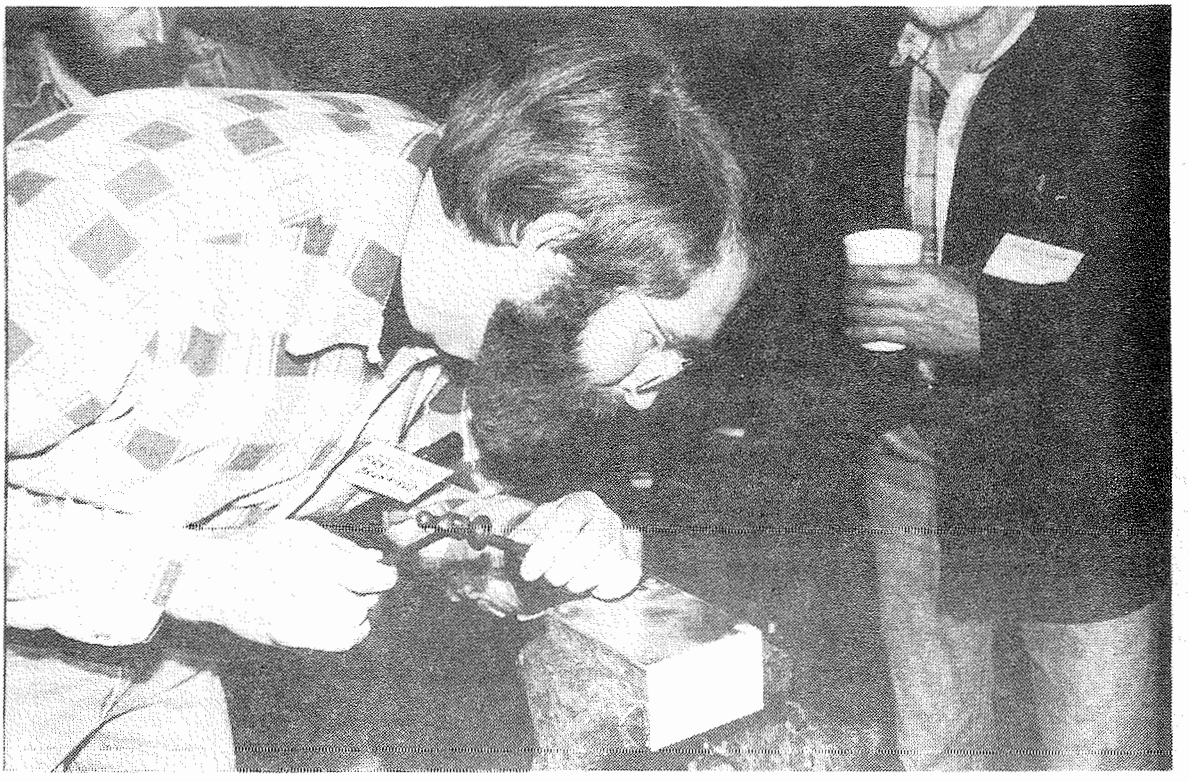
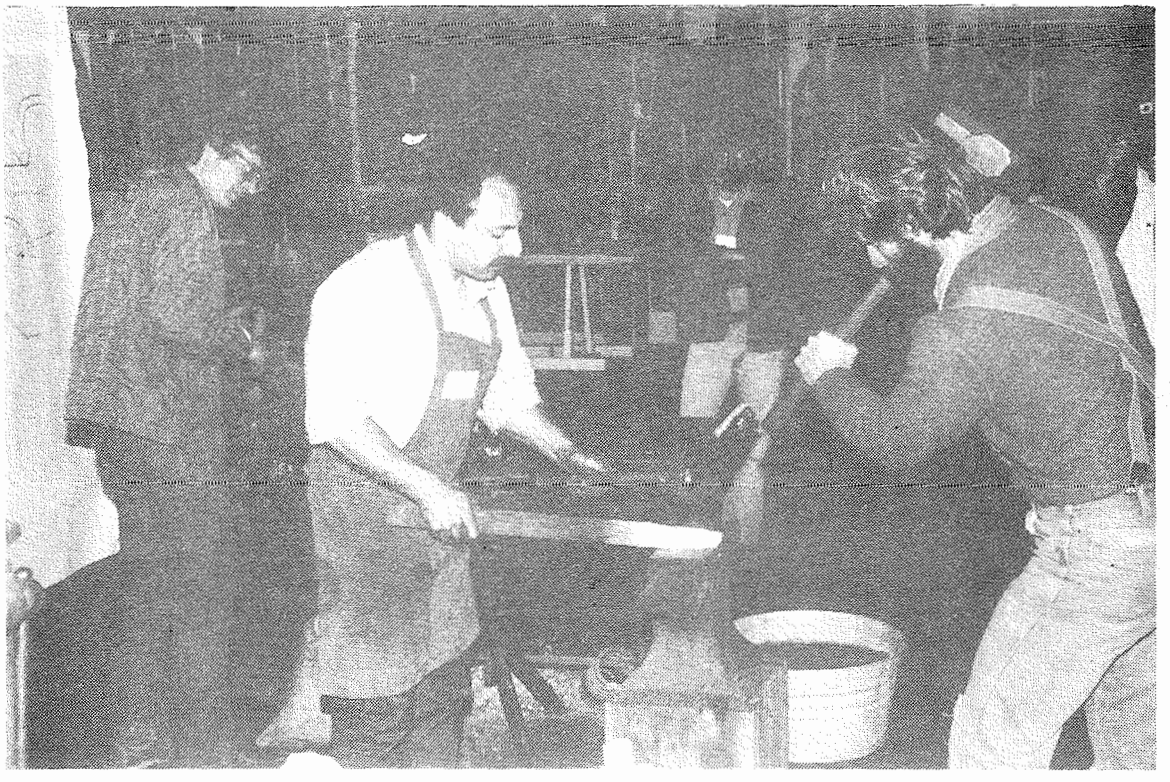
$2.00

NWBA CHAPTER OF ABANA

Hot Iron News

JULY 1986 - Voice of the Northwest Blacksmiths Association





WILIAMSBURG WEEKEND - Photos by Lloyd Hedglin
Top - Gary Brumfield
Bottom - Peter Ross

N. W. B. A.
Box 81041, Seattle, Wa.

1985 Officers and Board Members

President:	Darryl Nelson Rt. 2, Box 292-C Eatonville, Wa. 98328 832-6280	Jack Slack 214 First Ave. So. Seattle, Wa. 623-4085
Vice-Pres.:	Russ Jacqua 1119 Blaine Street Port Townsend, Wa. 98368 385-5272	Jim Garret 722 S. Monroe St. Seattle, Wa. 767-4179
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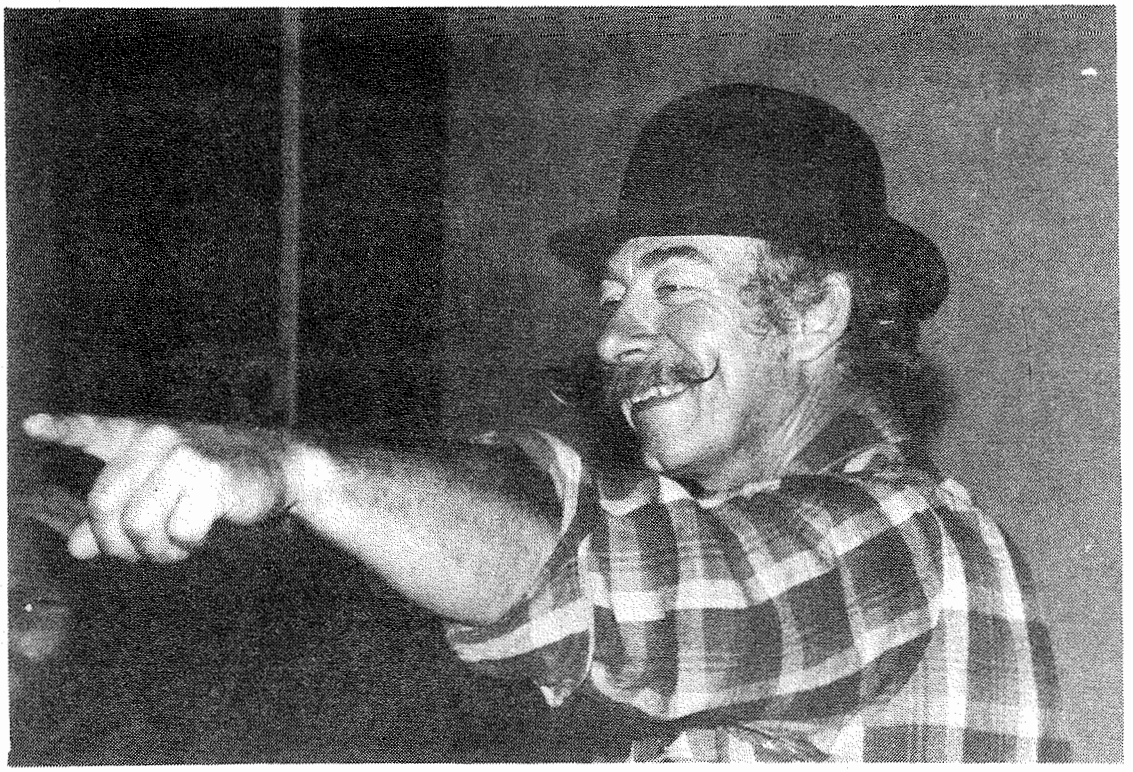
Editor:	Terry Carson Rt. 2, Box 292-C Eatonville, Wa. 98328	Corky Storer 19709 Maxwell Rd. S.E. Maple Valley, Wa.



WE WANT YOU

If your newsletter has a red notice on it, this means you have not paid your dues and this will be the last newsletter you will recieve. PLEASE SEND YOUR DUES NOW.

FALL MEETING

The fall meeting will be sometime in October or early November at Fire Mountain Forge. Activities will include the Cal Gas demo, election results, eating, drinking, blacksmithing demos and the telling of tall tales, etc.. More information in the nest news letter.

IT'S ELECTION TIME AGAIN

Ballots for the election to the NWBA board will be arriving before long, voting will be by mail and conclude at the fall meeting when the results will be announced.

Nominees are as follows:

Darrly Nelson	Russell Jaqua	Howard Swanson
Phil Baldwin	Gary Guy	Thad Adams
Bill Martinez	Corky Storer	Jerry Culberson
Tom Graham	Gene Chapman	Don Kaulitz
Lloyd Hedglin	Terry Carson	

Repousse Workshop

A repousse workshop led by Nahum Hersom will be held Oct. 17, 18 & 19 at Old Cedar Forge in Allyn, Washington. Nahum has spent many years learning these techniques and does some incredible work. The workshop will be kept small so if you are interested contact Darryl as soon as possible.

Since the bladesmithing and Damascus workshops many of us who hadn't already have been converting to gas forges. The reasons are many and include cost, cleanliness, efficiency and availability. I'll try to have an article or two on the construction of this type of forge for the next newsletter.

Notes on Bladesmith Workshop

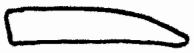
by Hugh Eddy

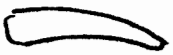
1. Forging vs. stock removal.
   a. Forging
      1) May create shapes.
      2) May improve structure of some steels.
   b. Stock removal
      1) May make more maintenance-free knives.
      2) Some steels cannot be improved upon by forging.

2. Steel Types
   a. General
      1) Find a steel that works well for you, stick with it, and learn how to work it.
      2) Before spending the time on a finished blade, make several test blanks; harden and temper them; bend and break them and note the grain structure, you should strive for a fine grain structure.
      3) If you cut blanks with a torch, anneal immediately as the stock may air harden and crack.
   b. Scrap yard steels suitable for forging.
      1) Circular saw blades - a very forgiving steel
      2) Ball bearings and races - Test to see that they are not just case hardened mild steel.
      3) Automobile flat springs - comparable to 1095
      4) Old Files - comparable to W1 - Anneal and grind all file marks off before forging.

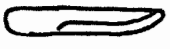
3. Steps

a. Forging

1) Taper end 

2) Reverse curve 

3) Hammer bevel edge

a) Knife will straighten 

b) To minimize warping during heat treat next, hammer equally on both sides.

c) The forging temperature should be 300 - 400° F above critical temperature

d) use the fewest heats possible to minimize carbon loss from the steel

b. Packing

1) Packing is used to refine the grain structure.

2) use light, rapid blows on the beveled edge. You should not move any metal

3) The packing temperature is ~ 1000° F. (A faint red glow in a dark shop).

c. Annealing

1) Annealing is done to relieve stresses.

2) Heat slowly to 1250 - 1300° F ; If set blade too hot will loose the benefit of packing.

3) soak in ashes until cool.

d. Rough grind to 20 - 30% of finished blade

1) Blade edge should be 1/16 to 3/32" thick.

2) Removing scale with an angle grinder will preserve grinding belt life.

E. Heat Treatment

1) Hardening

a) Heat blade to critical temperature - temperature at which the steel is no longer magnetic.

b) Quench in oil bath that has been heated to 90 - 120° F.

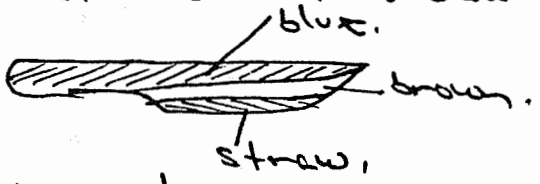
c) Quench on the rising, not falling, heat.

d) Quench point down into the oil - do not swirl as may cause warping.

2. Tempering

a) Temper entire blade shortly after hardening in oven at 325° - check temperature with candy thermometer.

b). Soft draw handle and back to a blue color. The edge should be straw. Best to air cool but if must cool edge to stop temper color from progressing, cool edge in a shallow pan of water.



c) May repeat the above tempering steps for a more uniform temper.

F. Straighten blade - usually will get some warpage but can be minimized by:

a. Forging equally on both sides.

b. uniform heating.

c uniform cooling.

G. Finish grinding - Be careful not to overheat and lose temper.

We had asked Peter Ross to give us a list of the items he makes from some of the sizes of bar stock he uses most often.

Peter writes:

I hope the following will be enough for your newsletter. I'll try to give you common things, no projects.

1/4 x 3/4 - most forks, spatulas, interior door latches, some pintles for hinges (A' la Streeter) etc., a very good size.

1/4 x 1, 1 1/2, 2 - good for many types of strap hinges from 12" up to 30 - 36". Bigger hinges need thicker bar in the wider sizes - for example, we made some 32" hinges of 3/8 x 2 1/2 fairly heavy but nice for a larger door.

The eyes of old hinges are frequently very large diameter even up to one inch pins for fairly light hinges. I usually use 1/2 pins minimum for 1/4 bar. 1/4 x 1/4 - nail rod. Also good for drive hooks, hooks & eyes, small staples, etc.

Some common items:

1. Blacksmith tongs: 3/4 sq. for jaws, 1/2 RD or 7/16 RD for reins. Often we forge the reins from square (3/8 or 1/2) stock to stick to more appropriate methods. Very little round bar available 200 years ago.

2. Dividers: 5/16 or 3/8 square for legs, 1/8 x 3/4 and 3/16 x 3/4 for joint.

3. Pliers: 1/2 x 3/4 (or slightly wider) for female half. 1/2 square for male half, varies with joint size.

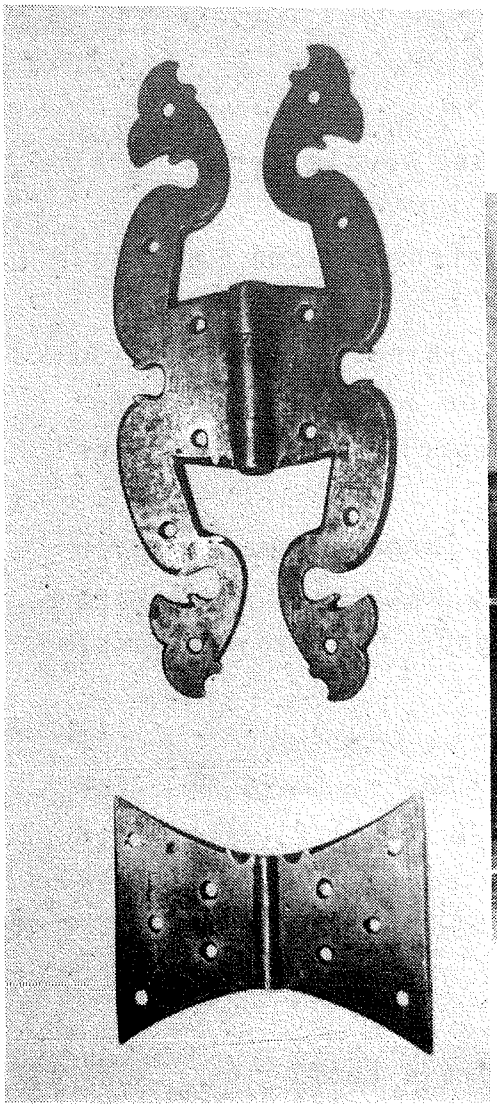
4. Fireplace tongs: 1 square for female joint. 3/4 square for male, 1/2 square for legs (forged round)

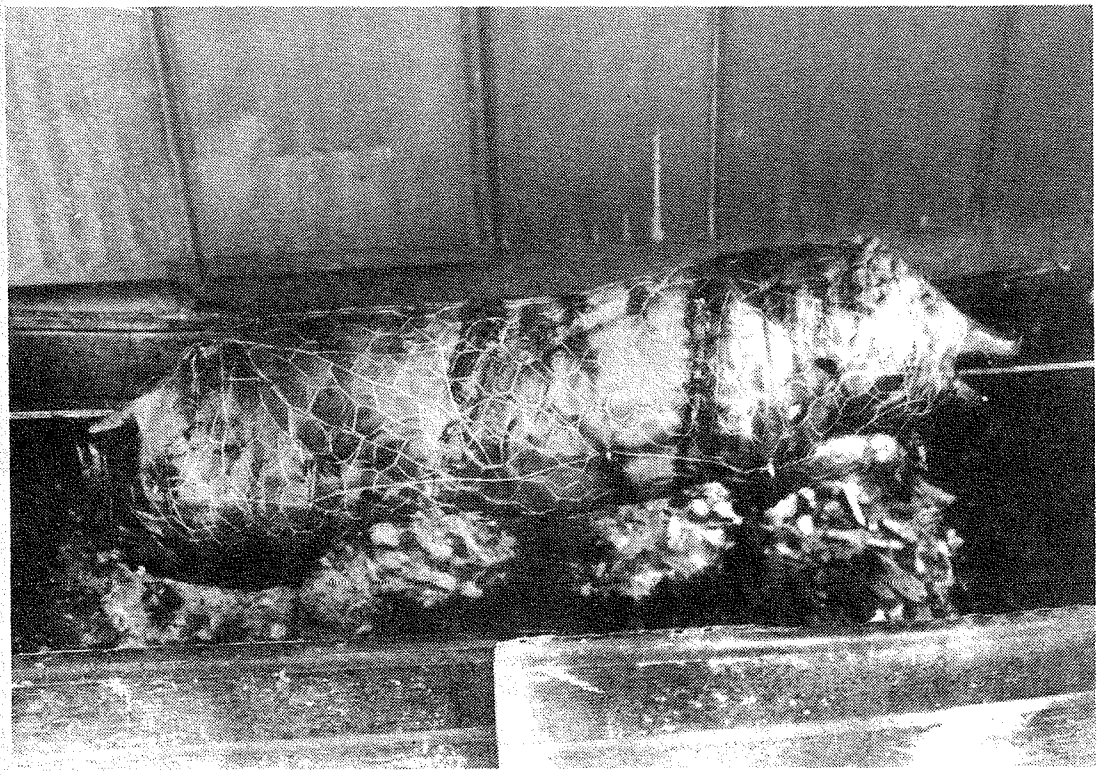
5. Ax: 1/2 x 3 - (drawings for head forging you already have)

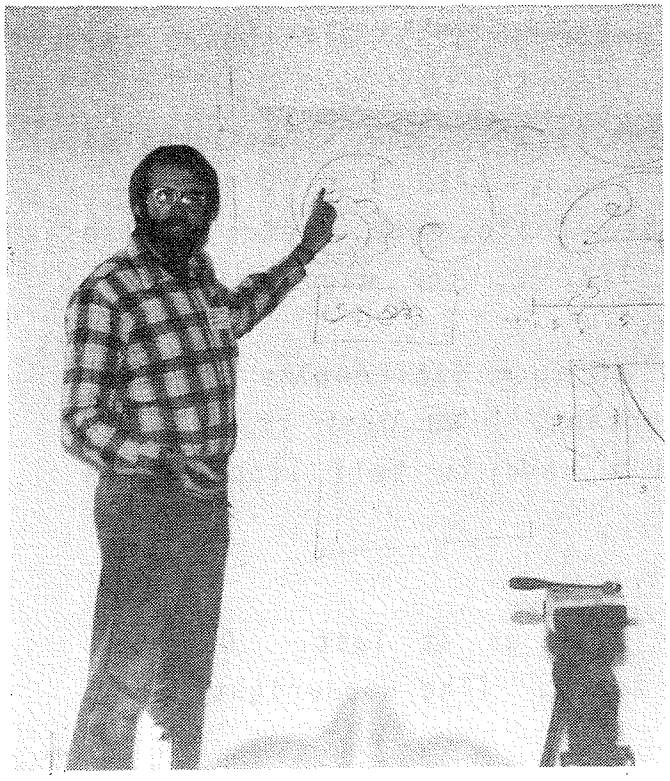
We keep standard square and rounds - 3/8, 1/2, 5/8, 3/4, 1, 1 1/4 for things like bolts, andiron parts, chain, etc., etc. Also flat bar 3/8 x 1, 1 1/2, 2; 1/2 x 1, 1 1/2, 2, for wagon hardware, miscellaneous repairs and general tool making.

I think, in general, we forge the stuff so much (its entire surface) that original stock sizes are not so important. We just try to get something close to make less pounding It's hard to tell stock sizes from our finished pieces.

Summer weather and tourist season are upon us at last. Our new shop is starting to shape up into a nice work space. (The Woodwrights Shop TV Show)







Mr. Robert Owings, Editor
The Anvil's Ring
7 Fourth Street, Suite 8
Petaluma
California 94952
U.S.A.

Dear Mr. Owings,

re: Northwest Blacksmiths Association

On the evening of June 17th, 1986, a group of approximately 14 blacksmiths gathered at Russ Jaqua's shop at Fort Worden to set up in preparation for a four-day workshop on Damascus Steel and Bladesmithing.

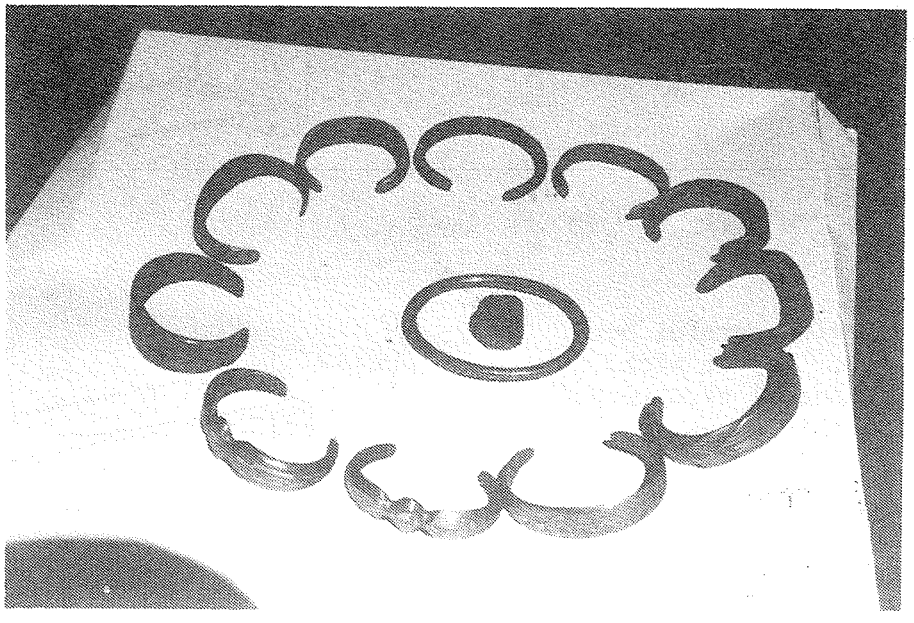
At 8:00 a.m. the following day, the furnaces were lit, and from that moment on we participated in one of the most exciting, noisy, busy, learning experiences I have ever had the pleasure of attending.

Every smith who participated expressed his delight in such a successful, well-run, seminar. Russ is to be congratulated on not only offering his facility, but also taking part and assisting with the teaching of Phil Baldwin from Seattle and Dan Maragni, a bladesmith from New York.

Each and every one of us produced one or two Damascus steel products under their tutelage and came away proud of our achievements. Thank you, Russ, Phil, Dan and Fort Worden.

Yours truly,

F. W. (Derry) Cook

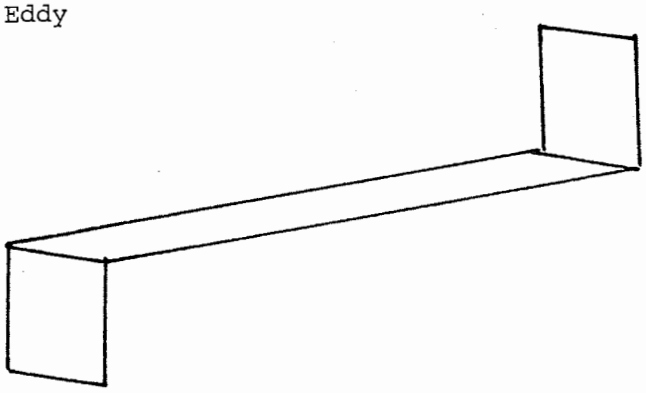


PETER ROSS

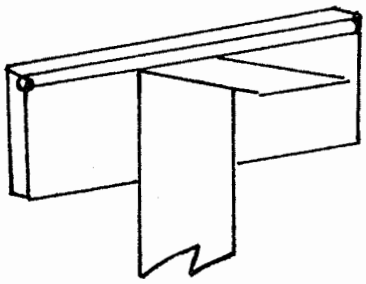
BUTTERFLY HINGE

by Hugh Eddy

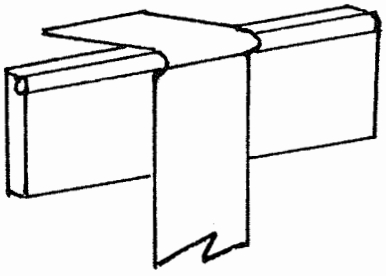
1. Stock: 1/16 x 2 x 16 inches. Bend a right angle 3 inches in from each end.



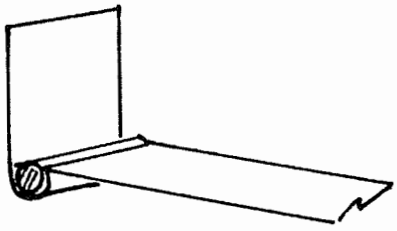
2. Make an eye forming tool by welding a round rod, the diameter of the hinge pin, to a flat bar.



3. Place eye forming tool and stock in vice and bend around cold. Repeat with other end.

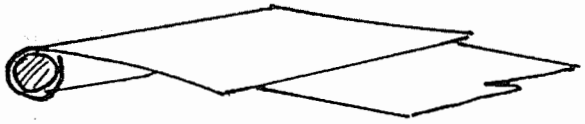


4. Place hinge pin in U-bend, clamp in vice and close eye cold. Repeat with other end.

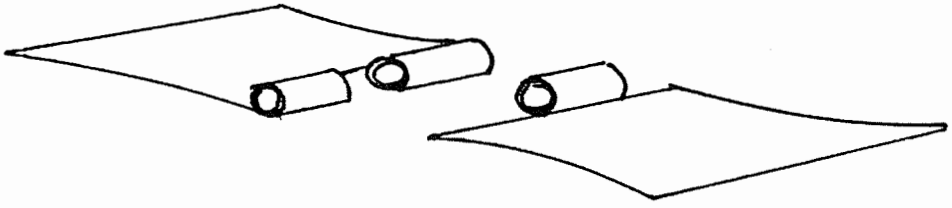


5. Weld the hinge, being careful not to weld hinge pin. Repeat with other end. (A charcoal fire works well for welding thin stock.)

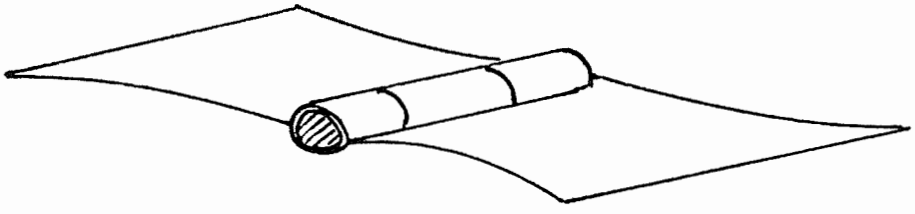
6. With the cross peen widen hinge to butterfly shape. Repeat with other end. Drive hinge pins out.



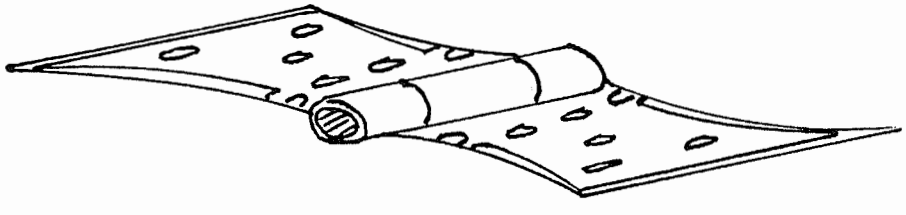
7. Cut off hinges so each half is about 2 inches long. Cut hinge eye with hacksaw and cut away unwanted portion with cold chisel.



8. File fit the two halves together. Place hinge pin and peen ends, close hinge, place in vice, and file two halves the same shape.



9. Punch or drill holes and file edge decoration.



WHY PROPANE INSTEAD OF ACETYLENE?

At the very end of the 1800's and during the beginning of this century, innovators in Europe and the United States developed welding and cutting with the oxy-fuel process. The "fuel" that was used during this development period was acetylene. For the next 30 years, acetylene was the only fuel recognized for this process.

In the 1930's, propane cutting, heating and brazing apparatus was developed by John Harris of Harris Calorific, Cleveland, Ohio. It was developed so that a depression-ridden industry could have the option of using a cheaper fuel than the acetylene. This was a good process for the end-user, but acetylene manufacturers and their distributors enjoyed good profits from acetylene sales.

Throughout time, most major manufacturers of gas apparatus have, in some form or another, been closely linked with acetylene gas sales. If an end-user wanted to use propane, he was told all he had to do was change the cutting tip on his acetylene torch and switch the gas. This is where the "cold" reputation of propane was developed. The torch used in this situation has an oxy-acetylene mixer for pre-heating and when you put propane, which is a denser gas, through the same mixer with the oxygen, it won't mix efficiently. This improper mixture leads to a cold pre-heat and the operator, probably dissatisfied, goes back to buying acetylene.

Harris Calorific, a manufacturer of torches and regulators since 1905, has never been linked to the sales of gases. Harris uses a correct mixing

chamber and tip for propane, thus providing proper efficiency. The results? Faster pre-heats than with acetylene. When mixed correctly, propane has 2,500 BTU's per cubic foot versus acetylene's 1,470 BTU's per cubic foot (BTU's = a measure of a gase's heat transfer capability). Fortunately, it is not the gas that's cold, it's the equipment designed incorrectly for the gas. Harris apparatus, with propane, can out-perform acetylene at cutting, heating and brazing while reducing your gas costs by up to 90%!

Properly designed equipment will bring out the superior heat value of propane while you save money and increase your safety and performance.

This article was contributed by a Cal Gas Corporation representative who has volunteered to arrange a cutting, heating, brazing and safety seminar at our fall meeting.

The ABANA conference is almost upon us, with Alfred Habermann and Francis Whitaker added to the list of demonstrators. A caravan from the Northwest is being planned, if you are driving and have room for a rider or are looking for a ride please contact Darryl Nelson at 832-6280 for more information.

The SNAG (Society of North American Goldsmiths) conference will be held August 9 - 12 at Flagstaff. Some members may be interested in attending both conferences.

Vaclav Jaros of Czechoslovakia and Alfred Habermann currently of West Germany will be doing demonstration tours after the ABANA conference. If we have sufficient interest and cash we may be able to host either or both of these world class blacksmiths.

EXHIBITIONS

by Phil Baldwin

"Exhibitions" will be a regular feature in the "Hot Iron News" starting this issue. The purpose is twofold. First is as an announcement of possible exhibitions and competitions for the membership to enter. Secondly, it will be to provide tips on application procedures, slides and other photographic documentation, jurying and museum display procedures.

The level of skill and artistic development of the NWBA membership is amoung the highest of any blacksmith associatiion in the nation. Yet, this development remains largely unnoticed in the pacific northwest. This is due mainly to a lack of exposure. The Forge and the Crucible has been an excellent vehicle for publicity, but one gallery can do only so much. In other media, including clay, fiber, wood, non-ferrous metals, painting and sculpture, the main vehicle for exposure has been shows in museums and other institutions whose main purpose is to show work to the public. Many people visit museums including architects, collectors, teachers and the general public. If your work is in a museum show for two months the chance is pretty good that at least one thousand people will see it, displayed to its best advantage, endowed with the artistic legitimacy that such an institution can bestow.

It should be noted that the main purpose of museum shows is not sales. Do not be disappointed if after ten shows you have not sold anything. The main purpose of entering such shows for the artist or craftsman is for recognition and the sharing of your work and vision with others.

Exhibitions are separated in to two types, juried and invitational. Invitational shows are put together by the museum director or a curator. Most of the shows put together by Jim Wallace at the National Ornamental Metals Museum are of this type. In juried shows the work in the show is selected by a jury made up of one or more people. Either the work itself, (or more frequently) slides of work are selected by the jurors. Frequently there is an entry fee which is non-refundable. Sometimes there are cash prizes. Juried shows are a means of getting your work out there and getting on the list for invitational shows.

It just so happens that there is a juried show this month of July at the Tacoma Art Museum. Jurying is by the work itself, open to Washington State residents. The following are the details:

Tacoma Art Museum- 12th & Pacific Ave,, 98402
Crafts 1986-Washington State Juried Craft Exhibition
Deliver Work -july 24-26
Fee- $10, cash awards $1000 minimum, for 2 entries.
call the museum for more information.

I hope to see iron make a good showing.

Next time- SLIDES.

"Champion " Forge and blower, good shape, hearth size 35"x24", $175.00.

-also-

High Carbon steel, 7/8" sq. by 9ft. long, 20 bars, 20lbs apiece, $5.00 a bar or 25¢ per pound. Good tool stock.

Berkley Tack
71991 Lentz Rd.
Rainier, OR 97048
(503)556-7975

For Sale: 3/4" and 7/8" Hex. 4140 material. Approx. 3ft. long. 10¢/lb.
Contact: Jim Huiras
Ulven Forging Inc.
P.O. Box 425
Hubbard, OR 97032
503-651-2101

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JULY 26 – 27 AND AUGUST 2 – 3, 1986

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Flea Market **Pancake Breakfast** **Music Hall**

EXHIBITORS – AMATEUR MUSICIANS WELCOME

NON-RENEWED MEMBERS!! THIS IS THE LAST NEWSLETTER OR MAILOUT YOU WILL RECEIVE UNTIL YOUR DUES ARE PAID. PLEASE DO IT NOW!!

NORTHWEST BLACKSMITHS ASSOCIATION
PO BOX 81041 SEATTLE WA 98109

MEMBERSHIP APPLICATION: New ! ! Renewal ! ! Correction ! !

Name_____ Date_____

Address_____

City_____ State_____ Zip_____

Phone (____) ____ - _____ Firm(optional)_____

Please enclose your remittance for $12.00, payable to: NWBA

Jerry Culbertson
Old Cedar Forge
East 220 Cronquist
Allyn, WA 98524

Northwest Blacksmith's Association
P.O. Box 81041 • Seattle, WA 98108

Calendar of Events

August 13-17 ABANA conference

Flagstaff , Arizona

October 17-19

Nahum Hershom repousse workshop

October ? Fall meeting