

NWBA
P. O. Box 81041
Seattle, Wa. 98108

"By Artevelde! What are drums, cymbals, fifes, viols, and bagpipes worth? For heavenly music give me my sledges beating, my anvils ringing, my bellows roaring, my good workmen singing and hammering."

Charles DeCoster,
Flemish Legends

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	Jim Garret
	Jack Slack
	Dorothy Stiegler
	Corky Storer

To The Troops in the Fields:

I just wanted to say THANK A LOT!!! for all the support, fun and energy that was expended and absorbed during Labor Day weekend at my shop in Mt. Angel. You folks are what make things happen. See y'all again soon.

Many, many thanks,
THAD & MARJI ADAMS

P.S. The snake is still smiling!!

The following is a financial report of North West Blacksmith Association activities for 1983. The Board is proud of the fact that due to careful calculating of income and expenses in the cases of conferences and workshops, the monetary numbers come very close, but never go to the minus side. This shows us that we are not under or over charging the members for these events. Also please note that the income for these events does not include income from Iron In the Hat, T-shirts, or other donations. Thanks to the careful calculating, donations such as Iron In the Hat, and particularly the donation of cost free printing of our news letter by member Ike Bay, the NWBA is financially sounder than it has ever been. What this means to you, the membership, is that we can now schedule workshops months in advance without first compiling a list of attendance. This advantage will allow more members a chance to get into what would have been a filled before scheduled workshop.

Thanks to this financial security we have already scheduled for this year four workshops, with a good possibility of more to come. Already scheduled are Francis Whittaker in April, open to ten experienced smiths; two workshops with Tom Joyce, one advanced and one novice, ten participants each (tentative dates for these are the first weeks of May). Also, next fall Jim Wallace will lead a design and execution workshop at Dave Thompson's in Eugene, Oregon, open to twelve members, beginners and advanced.

The Board is very pleased to be able to offer such a variety of workshops to the membership less than a year after the goal to be able to do so was set. It is our hopes that you, the membership, are also pleased with this progress.

Darryl Nelson, President

FINANCIAL REPORT JAN. 1, 1983 to DEC. 31, 1983

NWBA had a successful year in 1983 as indicated by the following report.

BANK BALANCE Jan. 1, 1983 \$ 713.01

INCOME

Membership dues	1500.00
Spring Conference	2204.50
Phil Baldwin Workshop	750.00
Pig Feed III	1164.50
T-shirts	220.00
Iron-in-hat	368.66
Donations - Ike Bay Pig Feed	72.66
Welding Rod	80.00
	<u>6366.32</u>

EXPENSES

Blacksmith Gazette	52.50
State of WA Non-profit Report Fee	5.00
P.O. Box	26.00
Phone	125.98
Spring Conference	2076.01
Phil Baldwin Workshop	700.00
T-shirts	297.05
Ike Bay Pig Feed - Open Forge	34.50
Thad Adam's Open Forge	80.23
Pig Feed III	1104.26
Liability Insurance	221.00
Postage	197.11
Printing	53.05
Bank Charges	51.24
	<u>5023.93</u>

Bank Balance - Dec. 31, 1983 2051.86

This report does not show the great amount of time, effort and expense contributed by many members. They all help to make this a strong organization.

Thank You,
Howard Swanson, Secretary-Treasurer

HOT IRON NEWS: By Corky Storer

Welcome one and all to 1984, ready or not here it comes. Time just won't stand still for anyone - it's always forging ahead. We know this year will be the best yet; more activities, events and lots of group participation. That is what has made this group one of the most active and foremost blacksmith organizations in the country. This group, like so many others, is dedicated to getting the word out; we want to further the revival of the blacksmith craft. We have been doing just that with a full variety of demonstrations, workshops, conferences and open forges. Many of the members are participating in shows, expositions, street fairs county fairs, etc., working to get the message out through the media in newspapers and TV coverage. Blacksmithing is alive and growing stronger every day.

Before I get too much into 1984 I would like to take a moment to reflect back on 1983 - one of our most productive years to date. The action started before winter had really left the Northwest and it was still going strong on the East coast. West Philadelphia was still bitter cold, with frigid winter winds and occasional snow showers when three members of the North West Blacksmith Association climbed on a big silver bird and flew off to participate in what was to be one of the most memorable events of their blacksmithing careers. The first Yellin Workshop to be held at 5520 Arch Street was made possible through a grant of the Philadelphia College of Art and the Yellin Foundation. Terry Carson, Darryl Nelson and myself joined twelve others from all parts of the United States in a workshop for advanced smiths to construct a major architectural piece. Francis Whittaker, Jack Andrews and Fred Christ directed this symphony of hammers, talent and steel. A gate was done in the Yellin style, created in one of the buildings where Mr. Yellin himself had worked on and overseen so many great pieces of blacksmith wizardry. Because of my personal involvement I could go on and on, however I must try to give equal time to the rest of the year.

Our Spring Conference was held in Port Townsend during one of the prettiest times of the year in that part of the country. It was the rhododendron blooming season and the Port Townsend area has a proliferation of wild rhody plants all along the highways and through the forests. It's really a sight to behold. The demonstrators at the spring conference were Steve Bondi and Phil Baldwin, two very interesting and diverse metal workers. Steve Bondi is very much at home with large power hammers and modern sculpture. He has a very good background in traditional iron work also. Phil Baldwin is renowned for his blades in Damascus pattern steel and his teaching of blacksmith courses and workshops. Both demonstrators were well received and the whole outing was an outstanding success.

Labor Day at Mount Hood's Timberline Lodge was a real highlight of the years events. Russell Maugans was our tour guide through the lodge and its fantastic array of iron work created during the Roosevelt Administration and the days of the CCC boys. We were very well received by the staff at the lodge and were invited to a showing of a movie about Timberline Lodge from its conception to completion. We were allowed to visit several of the rooms in the lodge where the very artistic iron work was part of the special theme of the room itself. The party moved from the lodge and Mt. Hood down to Mount Angel where Thad and Marji Adams are the present proprietors of the oldest operating blacksmith shop on the West Coast. The work Thad does is mostly farm related blacksmithing. After some spirited demonstrations and lots of group participation we all partook in a fine meal of one of the blacksmiths favorites - open pit barbecued hog, corn on the cob, and all the trimmings. Thad and Marji really went all out and we greatly enjoyed ourselves. A special

Thanks and Best of Luck to Thad and Marji in 1984.

Just in time, the third annual Hog Feed took place in October. It had been too long since we had gathered as a group. There had been a few inquiries as to what was next on the calendar and they were excited to learn it wouldn't be long till we could all gather round and watch someone heat a piece of metal and show us something new. The hog feed at Fire Mountain Forge is about as good an event as one can find to take the edge off the Cold Iron Blues. There is anticipation, excitement, good food, friends and a heck of a good time.

The first Western States Conference was held in Petaluma, California. It is slated to be a Biannual event, on the off years of our National Conference. Mike Chisham was really the driving force behind the conference. It was held at his forge, and with a lot of cooperation from others, it was a smashing success. 1985 will be our next Western States Conference and it will be held at Mount Hood Timberline Lodge. Preliminary plans are for production of a set of gates for the Lodge and constant ongoing demonstrations aimed toward attracting the public. It will be a good opportunity to direct the use of iron at the public so they can see its many applications. The staff at the lodge was very receptive to our preliminary plans so we are looking forward to a growing success with our second Western States Conference.

November brought the tool workshop at Russell Jaqua's. It was designed to contribute and produce tools for the N.W.B.A. membership so they could have at least two complete work stations for cooperative use at workshops and conferences. It went very well. It always seems that when this group is asked to contribute they are right there, ready to pitch in. There was a good representation of the core of the group and several new faces, which is always an inspiration. This group of smiths and interested folks is growing rapidly. The open exchange of ideas, helpful attitudes, friendly faces, are just a few reasons why we are experiencing such a strong growth. I personally hope this continues for a good long time. It's very inspirational to be a part of it.

If I have inadvertently neglected to mention anyone or anything in this review of 1983, my apologies. That can happen when there is so much going on.

Now for 1984. Of course the National Conference, June 28th through July 1st, in Green Bay, Wisconsin, will probably be the biggest event of the year. Attendance is expected to be even greater than the last blowout in 1982 where there was several hundred more than expected. I doubt that they will get caught off guard twice, so look forward to a great National Conference this year.

Our Spring Conference this year will hopefully feature Frank Turley and be held at the Olympia Farriers College. There is plenty of room there and it has all the basic equipment necessary. We are finishing confirmations on this project so more news to come.

This year on May 26th and 27th will be Ike Bay's second annual Hog Feed and Open Forge. Last year Ike put on a great show. There was a tire shrinking demo, also there was a heavy horse shoeing demo and Russell Jaqua did his best to wear out three strikers. The hog basting in his own juices was a hit at this gathering also. The hog community is probably getting nervous - every time a bunch of bearded fellows in old pickup trucks with coal stained clothes start to gather in one place, one of their cohorts turns up missing from the pig pen. Ike is already planning a big party for this year, and as always, the more the merrier.

One thing we do have firmed up is a Fall Conference, November 3rd and 4th, at Dave Thompson's House of Davids Ornamental Iron in Eugene, Oregon. Phil Baldwin, a Northwest favorite, and Jim Wallace, one of our past A.B.A.N.A. presidents, will be the featured demonstrators. The conference will be followed by a three day workshop, led by Mr. Wallace, dealing with Design and Execution of a project of your choice. The workshop will be limited to twelve smiths on a first come, first served basis. Contact Darryl Nelson at 206-832-6280 to reserve a spot in this workshop.

The fall season is turning out to be great this year - besides getting to watch Phil Baldwin again and having Jim Wallace in our part of the country, the annual Hog Feed Conference at Fire Mountain Forge will be free to the members, that's right, FREE. It will cost non-members and family, but if you are a member "in good standing" as they say, the hog feed and conference is free to you. It will be a one day conference with demonstrators and sweet juicy succulent roast pig, and all for free to paid up members. What a treat.

There will be a workshop with Francis Whittaker in April. It will be ten experienced smiths and Francis building a gate - first come first served.

That's the way 1984 is looking so far. There will be more so read your news letters, keep in touch and happy forging.

MARKET PLACE

For Sale: S2 Chisel blanks. Contact Fire Mountain Forge
Rt. 2, Box 292C
Eatonville, Wa. 98328
206-832-6280

For Sale: Farriers pedestal type forge and 50# mechanical hammer.

Contact: Corky Storer
206-432-1468

The Everett Steel Company
3126 Hill Street
P. O. Box 776
Everett, Washington 98206

They have 1/2" square bars for sale, 16-1/2¢ a pound random lengths, seventeen to twenty feet. They also have some 3/8" plate, real reasonable.

Call: 206-258-4505 Everett
206-682-3166 Seattle

For those who are interested, the J. C. Ross Company is still in operation at 10846 Meyers Way South, Seattle, Wa. 98168, phone 243-3797. Les, the former operator, has retired and Marc Pearce has taken over the operation, which consists of punches and dies of all sorts. It really is our most complete source of hole punching equipment in the area.

Mokume-Gane

Mokume is a Japanese word for woodgrain, which, when suffixed with gane becomes woodgrain-metal. It is also referred to as kasami-uchi, and sometimes as yosefuki. It was adapted from pattern welding ferrous metals to create the Japanese sword, the Mokume used to decorate the sword furniture. Mokume-Gane is made by diffusing non-ferrous metals and related alloys to make a homogenous block of metal which can then be carved and flattened to produce the patterns. Mokume was thought to be a soldering process for years, which hindered its use and effectiveness in a lot of decorative and functional applications. In 1970, however, Eugene and Hiroko Pijanowski observed Mokume-Gane work in Japan and eventually shared the process with other American craftspeople. It has, unfortunately, become as big a fad as Damascus steel, but, with restraint and good design, it is, I believe, another worthwhile "crossover" area for the Blacksmith to explore.

The process is about 300 years old and originated in the skita prefecture by Denbei Shoami. The first piece was made of copper and shakudo (a copper gold alloy, see alloy chart) laminated to produce a Tsuba, or sword guard. The manufacture of Mokume by diffusion rather than soldering eliminates the cracking, peeling, air entrapment, solder corrosion and brittleness experienced in soldered pieces. Soldered Mokume cannot be raised very effectively, although some craftspeople have done it. Diffused Mokume can be forged, raised, twisted, upset, Etc., Etc..

The diffusion will not take place if alloys containing tin, lead, or other lowmelt metals are employed, which leaves out brasses and bronzes. Copper, fine (.999) silver, and related alloys must be employed. The Japanese metalsmith, however, has created alloys and coloration techniques which far surpass our own attempts to bring color and restraint into our work.

Process

Alternating layers of copper, alloys, and/or silver are stacked, usually with a thick slug of copper on the bottom, and heated in a reduction atmosphere until diffused. The heat source can be a torch(not at all reliable, too much oxygen), Kiln w/pyrometer, or a hardwood charcoal/coke forge. Unlike forge welding, no large amount of hammering is required to laminate the metals. The main requirements are: a clean, reducing fire; metals flat and very clean; a torque plate or tight wrapping to hold metals as close as possible to exclude oxygen and dirt and to facilitate diffusion.

Let us start with a thick (1/4") plate of copper, electrical grade, then alternate 6 or more layers of 16 to 18 (BAS) gauge metals. The metals should be straight, cleaned in an acid pickle,

rinsed in distilled water, and not touched with the hands. Handle with a paper towel. Stack the metals, keeping the silver alloys between the higher melting copper ones. The metals should be of the same size and thickness. A steel box or torque plate, slightly rusted, should be employed to hold the pieces. This may be wired or bolted together. Coat the steel where it touches the plates with yellow ochre and water, or, easier still, white stenographer's correction fluid. This will carbonize and prevent the plates from sticking (fusing) to the steel. The edges of the plates can be coated (thinly) with hide glue to further hinder oxidation, but too much will hinder diffusion. get a good clean coke and hardwood charcoal fire going, and place the frame into the fire, allowing one side of the stacked plates to be visible. Use a moderate air blast and WATCH THE MATERIAL!!! The metal will gradually turn to a red orange heat throughout, and a shadow will be observed "blushing" through the piece. Diffusion has occurred. Remove the piece, tap with a leather or wooden mallet, remove wire or bolts and plate and hot forge. If silver or silver alloys are employed, wait until the red color is out of the billet before forging.

To develop pattern, carve or grind into the surface and flatten. You may want to draw out the billet, reclean, re-stack, and re-diffuse for more layers. Some artists carve, flatten, carve, flatten, Etc., to develop the pattern. You may want to create "checkerboard" or "millefiore" patterns by cutting edge slices and re-diffusing. Take your pick.

When the desired pattern is produced, the billet can be flattened to desired thickness and incorporated into a piece of work. Coloration can then be effected. (See Color Chart)

The edges usually will not diffuse for about 1/4" and should be cut off before carving or flattening. Since the billet is a soft, non-ferrous one, the forging process is not at all tedious. A jeweler's rolling mill is of considerable value in rolling the ingot down to desired shape and thickness.

If practicing, use straight copper to test it out. It will give you a non-patterned surface, but when lightly etched, will give a "spalted" wood effect when raised. Good Luck.

Alloy Chart

<u>Alloy</u>	<u>Metals</u>	<u>1st. Qual.</u>	<u>2nd. Qual.</u>	<u>3rd. Qual.</u>
Shakudo	Fine (24k) Gold Copper	4.8% 95.2%	2.5% 97.5%	
Shibuichi	Fine (.999) Silver Copper	40% 60%	30% 70%	23% 77%
Shiro Shibuichi	Fine (.999) Silver Copper	60% 40%		
Kuro Shibuichi	Shakudo Shibuichi	83.3% 16.7%	71.4% 28.6%	58.8% 41.2%
Kuromi-do	Metallic Arsenic Copper	1% 99%		

To prepare alloys, clean by pickling Copper, Silver, Gold in a 20% Sulphuric acid solution (ACID TO WATER, SLOWLY), rinse thoroughly. METALLIC ARSENIC IS POISONOUS, CARCINOGENIC, AND POSSIBLY MUTAGENIC AS WELL. NEVER HANDLE METALLIC ARSENIC WITH THE HANDS, WEAR A MASK, USE FORCEPS. DO NOT PICKLE. AVOID ANY ARSENIC DUST.

Heat a refractory crucible to a red, flux with borax and pour out the excess. When using a graphite crucible, do not flux. Continue heating and add the higher melting metal (in this case, Copper) agitate or stir, then add the lower melting metal, keep stirring. A piece of clean hardwood can be added to absorb the oxygen.

Have an ingot mold prepared by smoking the inside with a dirty acetylene flame, or coat with oil and burn off. Pre-heat the mold to about 400 degrees F., constantly stir the alloy and DO NOT OVERHEAT (the general rule of all metalsmithing), Tilt the mold slightly and pour the alloy into the mold at its lowest melting point. Pour smoothly and evenly, avoid splashes and hollows. When cool, trim and even up all edges and irregularities to avoid stress cracks, anneal and forge or roll out to desired thickness, annealing as needed.

WHEN ALLOYING KUROMI-DO, HANDLE ARSENIC AS SUGGESTED ABOVE, WRAP ARSENIC WITH SEVERAL LAYERS OF LIGHT GAUGE (26-28 B&S) COPPER, ADD THE COPPER TO THE MOLTEN METAL, STIR, AND CLEAR OUT. ALLOY KUROMI-DO ONLY WITH PROPER PERSONAL PROTECTION SUCH AS MASKS, GLOVES, CLOTHING AND VENTILATION HOODS.

The alloy itself is similar to other copper alloys in oxide dangers, but exhibits none of the Arsenic properties.

Always have adequate ventilation and protection.

Coloration Chart

Mokume-Gane can be colored with the following solutions. The true Japanese colors can be realized by using mokusho. The other recipes will work well but the colors will not be as bright and pronounced. All solutions are used at a boil. Dip or immerse the work into the solution until desired color is reached, remove and rinse, wipe with a soft cloth. A coat of beeswax may be applied and the surface buffed by hand with the aforementioned cloth.

Degrease the work before coloring. The surface may be prepared in any fashion you desire, but polishing the surface produces superior coloration and pattern definition. The metals may also be employed alone or soldered with other metals in conventional jewelry systems. Again, it's up to the smith. Good luck.

Rokusho

Copper Acetate	30 Grams
Calcium Carbonate	10 Grams
Sodium Hydroxide	10 Grams
Distilled Water	750 ml.

Dissolve the solids and let stand a week, filter and place into a glass or plastic container. Put the rokusho into a container for boiling and add:

Copper Sulphate	20 Grams
Distilled Water	4.5 Liters

Grind a Daikon radish and add 5 parts Distilled water, bring to a boil. Cover the metal with the radish solution and dip into the rokusho until desired color is reached, rinse thoroughly, dry and wax. This is the traditional Japanese (American adapted) method.

Phony Rokushos

500 ml Distilled Water
 3 Grams Copper Acetate
 .75 Gram Copper Sulphate
 .75 Gram Uniodized Salt

Drain top water, bring to a boil, dip object until color is reached.

OR:

450 ml Distilled Water
 3 Grams Copper Sulphate
 .50 Gram Uniodized Salt

Use as above.

OR:

450 ml Distilled Water
 4 Grams Copper Sulphate

Use as above.

Model & Instrument Works, Inc.

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January 11, 1983

Editor: Newsletter
Northwest Blacksmith Association
P.O. Box 81041
Seattle, Washington 98108

Dear Editor,

We obtained your address from the Blacksmith Shop on 1st Avenue who advised that you will soon be publishing your next newsletter to the Blacksmith Association members. We would like to place an ad in your "For Sale" column in the hopes one of the members will be interested.

The ad should read:

For sale: Antique W.F. & J. Barnes camelback
drill press; electric belt drive with M-3
spindle. \$600. 325-0715 7 am - 4:30 pm
weekdays

Please send us a bill for the expense and we will remit immediately.

Thank you,
Shirley C. Poggi
Shirley C. Poggi
President