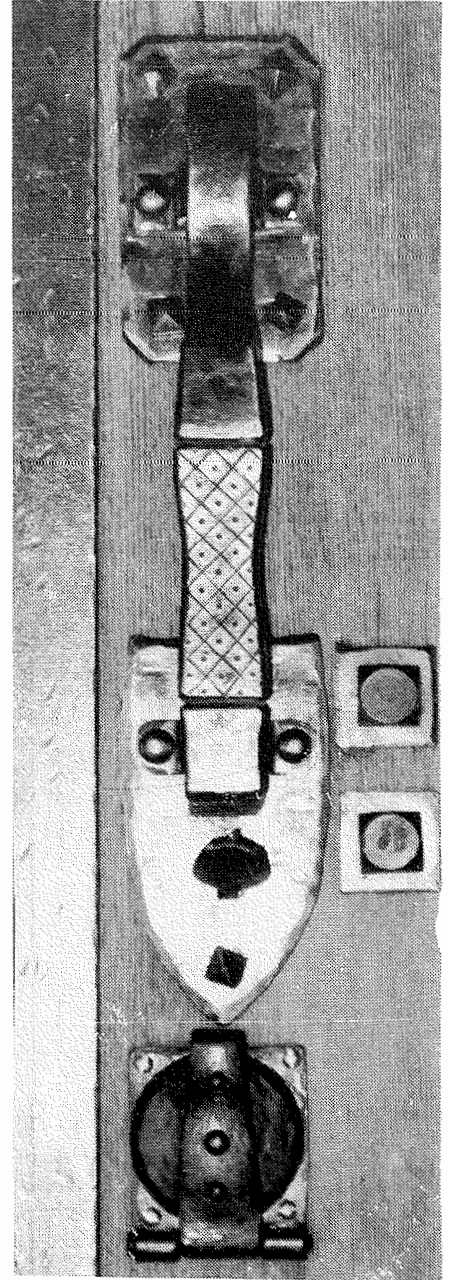




Detailed pictures of woodstov (left) and front door latc (below) installed in the warmin hut above Timberline, Mt. Hood OR. Work done by Maste Blacksmith Darryl Nelson and hi apprentices Joe Elliott and Mik Linn. See inside story.



1991 NWBA OFFICERS AND BOARD MEMBERS

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TO THE MEMBERSHIP:

Spring Conference looks like a real good time. Our demonstrators will be Peter Ross, Williamsburg, Virginia, and Fiddlin' Red, Northport, Washington. Conference will be held at Columbia County Fairgrounds, St. Helens, Oregon April 12-13-14. Tentative schedule is: Fiddlin' Red on Friday pm and Saturday pm and Peter Ross on Saturday am and Sunday am.

There are dorms (barrack style) to sleep in, \$1 per night. Bring your sleeping bag and towel. There are also R.V. hookups for campers, \$4 per night. Details and fees are on the registration form.

We will be having three Board positions up for election this summer. We take nominations starting a Spring Conference for 30 days. So if anyone is interested, see me or any Board member.

We will also be sending out some proposed amendments to the By-Laws for your vote. The Association has grown so big that there are some By-Laws that need adjustment. You should have them in May.

We also need to find out how many of you also belong to ABANA. There is a check off box on the registration form. If you can't make the conference, please drop a post card to me or Tom Graham, if you do belong to ABANA.

Jerry Culberson said he wants to see some demo's for a change, so he is going to retire as Conference Chef. He's done a really great job with the roast beef for a long time. So, anyone who would like to help with cooking at the conference, please see me or any Board member.

We will have the book "The Edge of the Anvil" by Jack Andrews for sale at the conference. Retail is \$18.95, your price is \$15.00. It's a real good book with lots of information and also quite a few of Samuel Yellen's pieces in it. We have about 60 copies, so get your orders in early.

NWBA has purchased five tapes (2 hours each) from Clifton Ralph, a 30-year old industrial blacksmith. The tapes are full of info and tooling for mechanical hammers, Little Giants and Murray types. The tapes will be at conference for viewing and we will work out some sort of a rental library system with them.

As always, we will be having our auction, so bring your things for sale, and also your wallets. The money goes right back into NWBA for conferences and workshops.

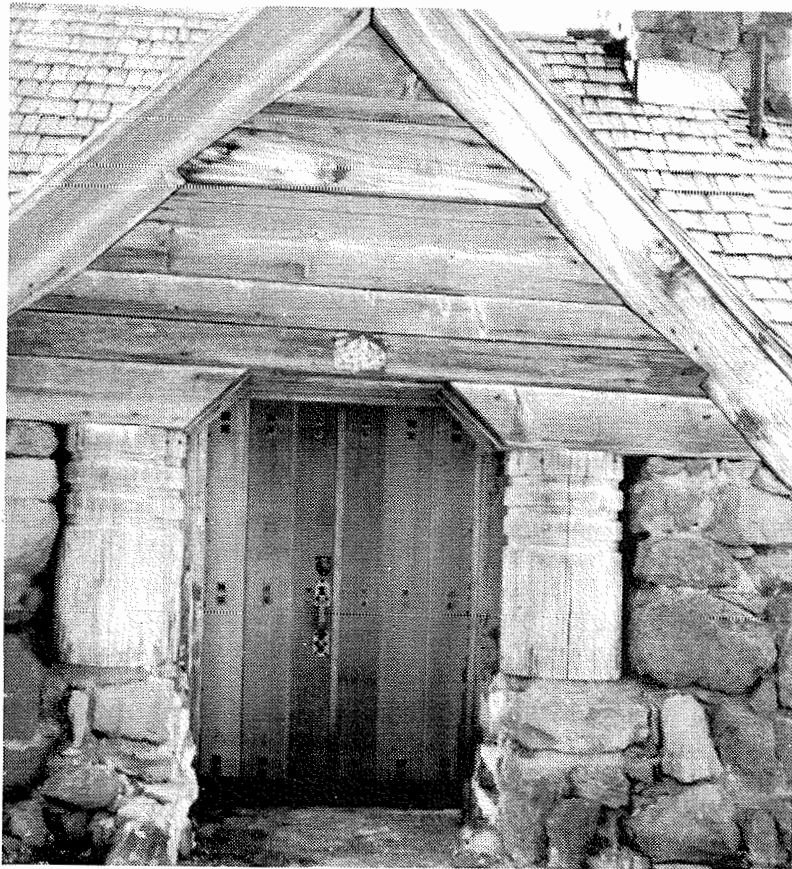
It looks like we have some good workshops coming up this spring and summer. And we are working on more. We need to know what you would like to see. If you have a specific person you would like to see as a demonstrator, or type of metal work, or anything. Please let the Board know. We need your input - it's your organization! Thanks,

See ya at the conference,

Smokey Adams,
NWBA President

In the **February Update** (Item #5) Darryl Nelson was mentioned in connection with Silcox. For those of you who do not know what Silcox is, the following is some information on it. Silcox Hut is the warming hut above Timberline, Mt. Hood, Oregon. This past year it has been in the process of being restored with the help of Mike Platz of the U.S. Forest Service, who worked on the successful grant application for it's restoration of \$60,000. Among all the volunteers, Bob McGown, Lewis McArthur and Dick Pooley spent many hours putting in the electrical wiring and the water works. Yeoman level efforts were put in this past season by Master Blacksmith, Darryl Nelson and his apprentices Joe Elliott and Mike Linn. They installed the new woodstove (front/back cover photos). They have experimented with stove fan hook-ups and presently 250 CFM fans are being fitted for installation. Twelve iron wall light sconces for the bunk room have been forged and are in the building. Eighteen linear feet of 42" height iron railing has been forged and installed around the floor opening between the staff quarters and the bunkroom. Seven hanging iron light fixtures similar to those

in Timberline are currently being forged. They will hang in the stair hall, the bath hall and over the North Entry. Other items being forged this winter include firewood racks, coat rack for the bunkroom, railings for the bunkroom stairs, lockset and window for the original



NORTH ENTRANCE WITH NEW DOORS

south door, wall sconces for staff quarters and bath areas, aisle light covers for bunkroom, access ladders, and hanging light fixtures for the stair hall. Information was taken from **Friends of Silcox Hut**, November, 1990, with permission by Nancy Branham.

THE JANUARY NOVICE WORKSHOP

Several novice workshops later, I am still amazed at the ability displayed by Jerry Culberson, Gene Chapman, Smokey Adams, Joe Elliott and all of the other people involved in these workshops.

When you mix sixteen students at all different levels you would be justified in expecting total chaos. Instead work proceeds, learning takes place, and material is modified into useful objects.

The organization is so fortunate to have so many people of vast talents who are willing to share with the less knowing.

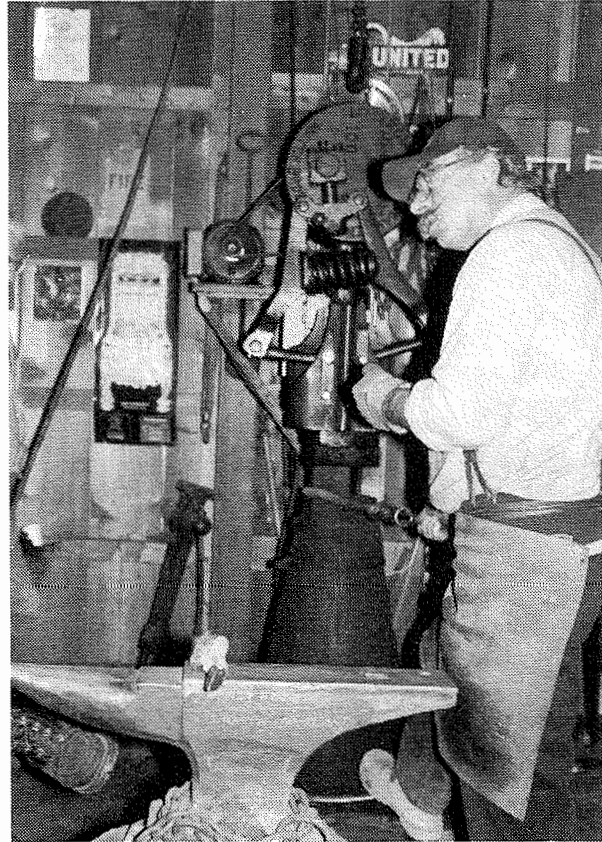
This session was no exception. All of the instructors worked together, each contributing special information. Some of this information, such as Gene Chapman's research into heat treating, is just not available elsewhere. He has taken material that usually is presented in extremely complex, technical terms and reduced it to the essential, basic form.

Not only is Jerry a top instructor with presentation that keeps everybody falling off the edge of their anvil, but he certainly goes beyond the call of duty by opening his shop and house to the students. It is worth the price of admission just to see and eat at the house. It is not one that you will see anywhere else.

And speaking of food... everyone knows of Jerry's ability as chef, but not enough credit can be given to Ina Rattenbury and Vernell Henderson for the hours of effort contributed to the care and feeding of all concerned.

Whether you are a novice or not, you are denying yourself some of the pleasures of life, if you do not attend one of these workshops.

-----Article by Mike Falk, Black Fens Forge and Foundry, Lake Stevens, WA, and photos submitted by Ina Rattenbury.



Demonstrator and host Jerry Culberson stressing an important point about using a 50# Little Giant power hammer in producing a fireplace poker.

MORE PHOTOS OF THE JANUARY NOVICE WORKSHOP
--Provided by Ina Rattenbury

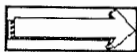


Gene Chapman demonstrating that "one" important blow that puts the signature on a knife blade.

Gene Chapman applies tempil stick to anvil to ascertain heat, as anvil is lifted from tank.

* * * * *

One highlight of the workshop was heat treating a handmade anvil. Here, Jerry Culberson, Smokey Adams, and J.T. Simmons lift anvil into dunk tank.



AND.....MORE PHOTOS... OF THE JANUARY NOVICE WORKSHOP
--Provided by Ina Rattenbury

Results of the
Workshop on
display.



Students and instructors
of Novice Workshop pose
for photo. (Note:
Instructor Joe Elliott is
the one on far right (back
row) with finger up his
nose!



The following article was submitted by Tom Graham. It was taken from Nation's Business, February, 1991.

How A "Hippie In The Woods" Became The Iron Man Of The Ozark Mountains

David Mathews moved from Alabama to Stone County, in the mountains of north central Arkansas, in 1973. He was 19. He and his pregnant wife bought 40 acres of wooded land off a map, for \$111 an acre. They spent \$60 more for a chain saw and \$175 for a 1960 pickup truck.

"I came here wanting to be a farmer," he recalls. "I wanted to grow cabbages and sell them to the local markets. My big thing at that time was to show that you can have a wholesome life without a lot of money. It's a bit of a conflict with who I am now, I guess, but I hope not too much."

What Mathews is now, at the age of 37, is one of the two or three biggest employers in little Stone County (1990 population: 9,749). More than 100 people work for his company, Ozark Mountain Enterprises. Under the name Stone County Ironworks, it produces hand-made iron furniture, fireplace accessories, and other pieces that are sold by such stylish retail stores as Bloomingdale's and Neiman-Marcus.

Stone County Ironworks is a blacksmith's dream come true, but, as Mathews says, he had different dreams when he first moved to Stone County. He re-

fers to his youthful self as "a long-haired hippie in the woods. For a while, people thought I was a drug dealer."

Rural, isolated Stone County fit his requirements because "these people were friendly, they were accepting, and they were still doing what I hoped to do. You could go into a hardware store and buy a well bucket."

He and his wife—they have since divorced—lived very frugally at first, doing without running water and electricity, but finally, he says, "I had to make a living." In 1975 he took a job mowing grass and cleaning rest rooms at the Ozark Folk Center, a state park in Mountain View that showcases the crafts and culture of the Ozarks. The people running the center noticed, Mathews says, that "I had an interest in folklore," so in 1976, when someone quit in the blacksmith shop, "they threw that at me."

Mathews took easily to the job. "I'm a real physical guy," he says. "I like hard physical work. I like to shovel, I like to hoe." But what really attracted him to forging "was the magic of being able to heat a piece of iron red-hot and manipulate it and make it into anything you wanted." An older man at the center

taught him how to make a few things, and he also learned from books, but mostly he learned by doing the work.

The center employed Mathews as an independent contractor and paid him very little, he says, "so I still had the potential of starving to death." To generate income, he made products for sale at the center's craft shop—triangular dinner bells, fireplace pokers, and so on.

In 1979, he left the Folk Center and started his own shop in an abandoned gas station outside Mountain View, and by 1981 he had hired one or two other blacksmiths and a part-time secretary. Every weekend, he drove to craft shows in cities like Dallas and Baton Rouge, La., offering his ironwork for sale directly to consumers. Then he quit selling retail and began exhibiting only at wholesale trade shows.

From there the curve has been steadily up, until last year Stone County Ironworks had sales approaching \$3 million. It is most likely the largest blacksmith shop in the country—large enough, Mathews says, to be "consistent and reliable," and thus appealing to retailers in a way that smaller shops cannot match.

Likewise, Mathews produces ironwork that is not as costly as the "sculpture" some smiths turn out, and yet it is far more elegant and attractive than ironwork of the stamped-out, mass-produced variety. "We're kind of staying in the middle," Mathews says. "Every-

thing we make is functional, yet it still makes an art statement."

Forging is hot, hard, noisy work that does not draw delicate types. The 50-odd smiths work in clusters around propane-fed furnaces, each with his own power hammer, hand hammer, anvil, and vise; they heat iron rods and pound and twist them into the desired shapes. Even with only a few of the power hammers pounding away in the 15,000-square-foot steel building where the forging is done, the din can be ferocious. The pool of potential employees thus tends to be dominated by high-spirited young men.

"Blacksmithing requires a lot of energy, a red-blooded gung-ho kind of a drive in people," Mathews says. "The people here work hard, they live hard—we all heat with firewood, we all fix our own trucks—and that spirit is necessary

in blacksmith work." He says that every year "I have a bigger family of real quality employees," but putting that family together has not been easy. He thinks that the community might esteem him more highly if he had been hiring more genteel workers.

The headaches that come with assembling a work force are a classic growing pain, though, and Stone County Ironworks has been experiencing others. "This place almost got away from us," Mathews says, because production costs were rising faster than production, "but we figured out a way to pull it back in. Now I think we're poised to be a much bigger company." He has even gone back into retail sales, on a small scale, by opening a store on Mountain View's picturesque courthouse square.

Late last year, Mathews hired someone to replace him as president and chief

executive officer—his own title is now chairman—and he hopes that the change will give him more time at the forge. He has always designed most of the company's products, and he still has what he calls a "personal studio, where I go to do prototypes. I'm not real good on paper; I have to go out there and get my hands dirty." But even if he becomes more active as a smith, his role in the company can never be what it was.

"It's been a struggle for me," Mathews says, "because always in the old days, I felt that the way to keep respect on the floor was to work out there with them, and to make sure that when I asked somebody to do something, I wasn't too proud to do it myself. But I've had to forget about that, because I can only work 80 hours a week before I burn out."

—Michael Barrier

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HOW ABOUT AN APPRENTICESHIP PROGRAM?

Al Bart's comments about the BASICS of blacksmithing in the last Hot Iron News gave voice to a question that has been in the back of my mind for a long time. I've got just two questions for him: How do we tell when we're journeymen? Who's going to evaluate and certify us? Given that there are schools where we can learn blacksmithing in a formal academic system, what about those of us who hold a steady job and can't go to school in Colorado? Ok, that's three. I, for one would like to see the novice workshop program continue, but would also welcome a more structured, formal training with both written and practical testing. I am an amateur blacksmith and my blacksmithing "career" covers more than twenty years, but I have no way of knowing or showing what my progress is among my fellow smiths.

Is there an apprenticeship program already available through the NWBA? ABANA? Anywhere? If not, then why not? How many of us would WANT to have a formal journeyman's paper? What if there was an apprenticeship program available, with workshops convening, say, four times a year? At these workshops, formal training could be given and proficiency could be tested. The workshops would be paid for by the apprentices. In this way, those who wanted to could get a good solid grounding in the BASICS on an as-can basis. There are several smiths in NWBA who could qualify as masters, and the old apprenticeship manuals are still available. Maybe there are modern manuals. Keeping the workshops on the local chapter level would keep them affordable. I couldn't afford to go to Alfred, New York for a three or four day class, fer'instance.

What I'm trying to say is that I personally would like to have an apprenticeship program available where I could receive instruction in the art of blacksmithing and "graduate" with some kind of acknowledgment from either my own organization or from ABANA. Yes, I know neither is an accredited school, but it would mean something to ME, and it might mean something to that part of the world that has heard of ABANA.

Before you all start throwing hammers, read on: What I am NOT, repeat NOT advocating in any way, shape or form is that this be a requirement to be a member in good standing with NWBA, ABANA or any other association. Or that any workshops, seminars, gatherings, meetings, etc., be exclusively for "apprentices only", "journeymen only", or any other "only" tag you can think up. Up to now, the one requirement has been interest, and I can't think of a better one.

Well, how about it? Is it a good idea or have I been sniffing propane too long? Has anyone out there ever thought about this? If so, let's hear from you. Al? Any suggestions?

JT SIMMONS



1991 SPRING CONFERENCE

April 12-13-14 at St. Helens, Oregon
Registration and Fees

I am a member of NWBA () I am a member of ABANA ()

Pre-Registered before Friday, April 5th		\$30	_____
After the 5th, or walk-in		\$35	_____
Spouse		\$10	_____
Children	\$5 per child x _____	= \$	_____
		Total	\$ _____

Make your check payable to NWBA and mail to:
NWBA
P.O.Box 81041
Seattle, WA 98108

DISCLOSURE / ASSUMPTION OF RISK

I hereby acknowledge that by attending the NWBA Spring 1991 Conference to be held on the property of the Columbia County Fairgrounds in St. Helens, Oregon, I assume all risks, hazards and dangers that are present on the property by reason of its location, the terrain and the various equipment located on the property. I specifically waive and release Northwest Blacksmith's Association of any liability, loss or damage which may result as a result of my presence on the property.

ALL ADULTS MUST SIGN:

Name: _____	Print same: _____
Spouse: _____	Print same: _____
Child: _____	Print same: _____
_____	Print same: _____
_____	Print same: _____

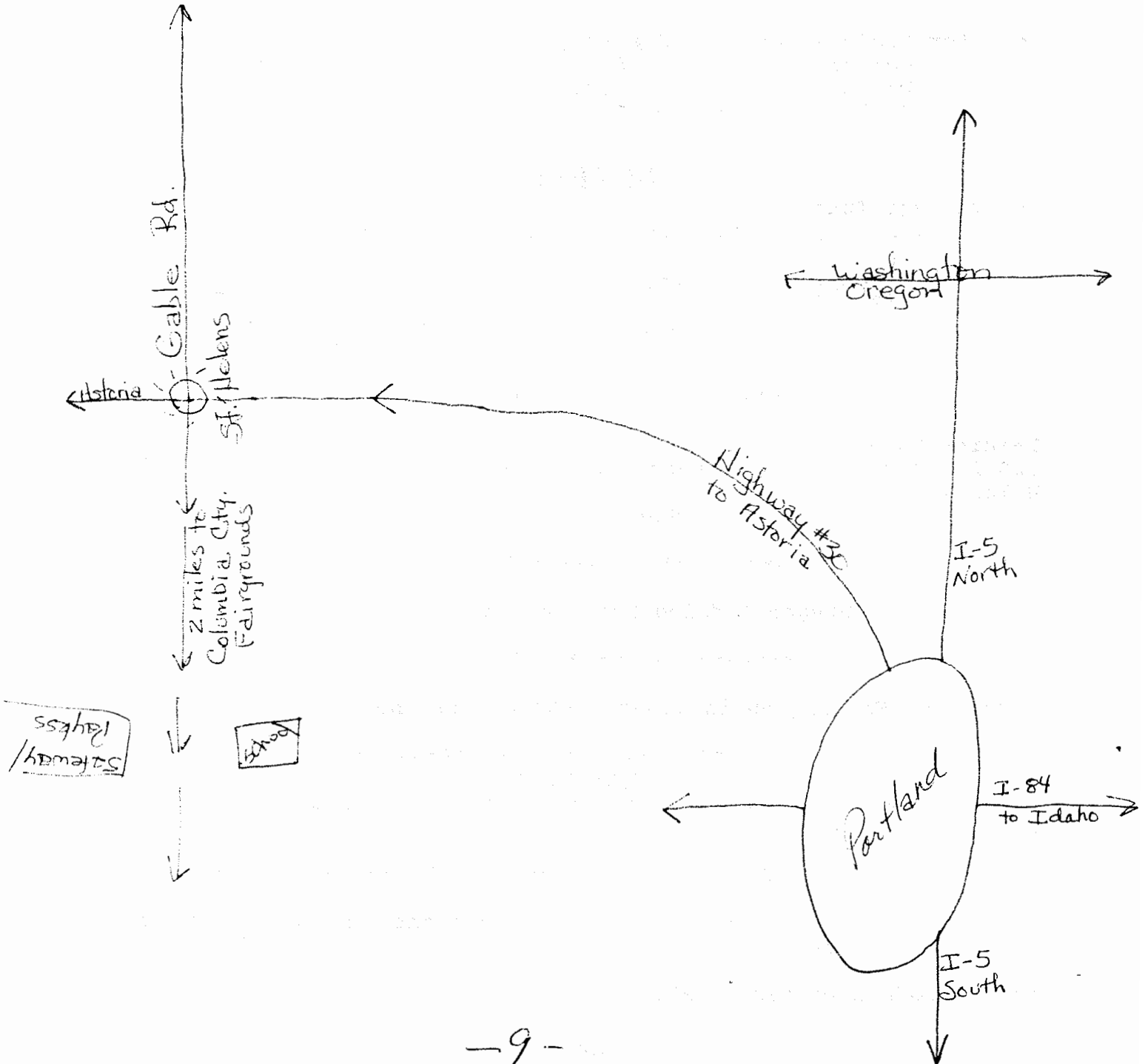
Address: _____

Telephone: _____

rear out

**MAP TO SPRING CONFERENCE
ST. HELEN'S FAIRGROUNDS**

Take Highway #30 from Portland to Astoria - mostly along the Oregon side of the Columbia. St. Helen's is 25 miles from Portland. Watch for Fairgrounds signs and yellow anvil signs to turn South to Fairgrounds.



NWBA 1991 SPRING CONFERENCE

MEALS

As usual, the Association will sponsor the Saturday evening Potluck dinner. This conference, we will be having B.B.Q. chicken. If your last name starts with A-M, please bring a salad or a hot dish. Names N-Z, please bring a hot dish or dessert. We are expecting about 100+ people so bring extra helpings. NWBA will supply coffee and pastry for the mornings, also bread and rolls for Saturday night. Leftovers will go for Sunday lunch. Other meals, you are on your own. There are restaurants and motels close by.

FEEES

Fees for Conference:	<u>Pre-registered</u>	<u>Walk-ins</u>
Members -	\$30.00	\$35.00
Wives -	\$10.00	\$10.00
Children under 12-	\$ 5.00	\$ 5.00

MOTELS

The Village Inn:

535 S. Highway #30, St. Helens, Oregon: (503) 397-1490

<u>1 person</u>	<u>2-persons</u>	
\$28.00	\$30.00	Room with Double Bed
	\$34.00	Room with 2-Double Beds
	\$ 2.00	Each additional

Rainier Motor Inn:

120 A West; Rainier, Oregon: (503) 556-4231 (25 minutes from St. Helens)

\$30.00 Double

Oregon Lodging Hotline: 1-800-365-6343

Longview, Washington is about 25-30 minutes North of St. Helens.

SITE RULES

**NO PETS - Leave them at home or in your motel room, not in your car or tent!

**WATCH YOUR CHILDREN or a Board Member will ask you to do so.

**YOU MUST sign the liability statement attached to the registration form.

**WEAR YOUR name tag at all times.

1991 SPRING CONFERENCE SPEAKERS

FIDDLIN' RED

Our local demonstrator is from the far Northeastern regions of the State of Washington. Fiddlin' Red has demonstrated before when the conference was held at Monte day's a few years back.

Red's blacksmithing is from the fur trade era and before. He forges knives, axes, gun barrels, traps, and trade goods such as firesteels, awls and tools. He also has a great deal of information on iron and steel of that period, along with casting, hardening and tempering. Red will be bringing some of his goods for display purposes. It should be a real interesting demonstration.

--Submitted by Smokey Adams

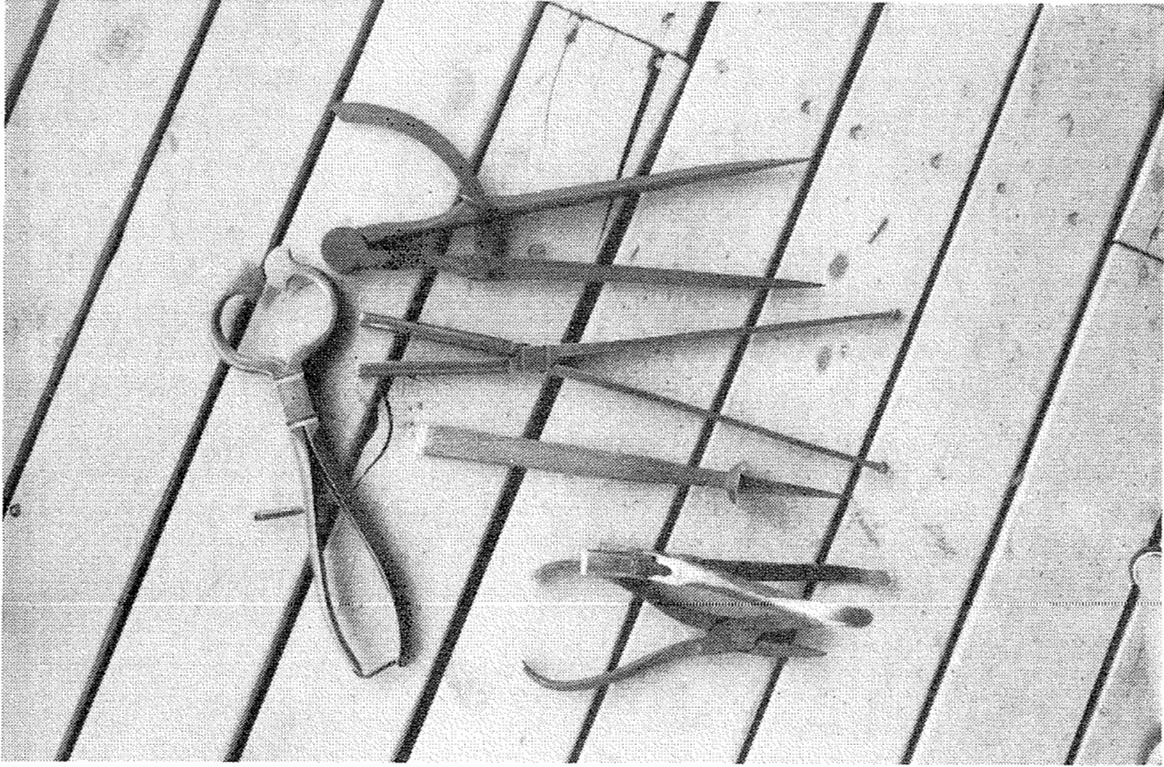
PETER ROSS

Peter Ross is Master of the Shop in Colonial Williamsburg, Williamsburg, Virginia. The restored section of Williamsburg is a trip back in time to the Colonial Era, but it is a living museum that allows you to visit homes, shops, government buildings, stores, churches, etc. all restored and furnished accurately down to the last detail. Peter runs the Blacksmith Shop and with his crew makes tools for the other trades (cooper, silversmith, wheelwright, harness maker, etc.) as needed. He supplies the house items from nails to equipment for the plantation, and from chains to the iron work on a plow. He designed Tom, the weathervane, on the State Capitol Building. Although limited by choice to the mid-1700's technology, he shows us items and techniques that each and every one of us can use no matter what our skill level and sophistication.

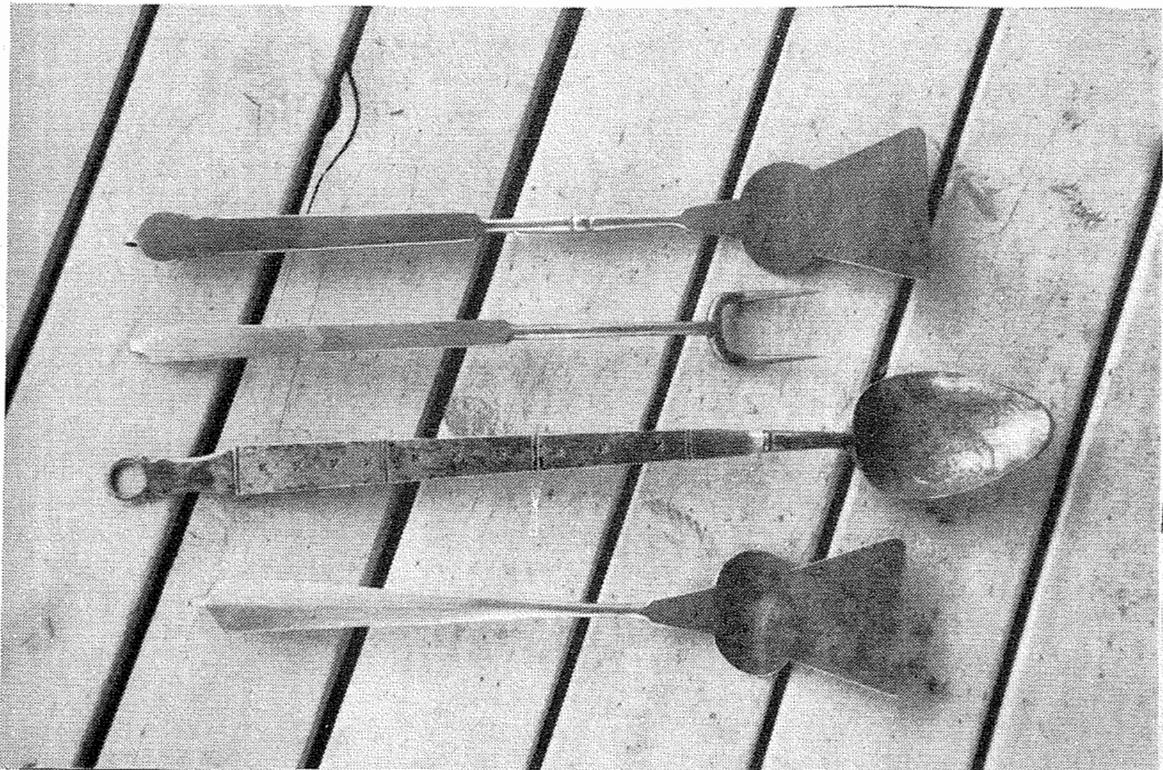
--Submitted by Ike Bay



Sugar tong, box joint plyers, chisel, hair curling iron and Cooper's compass; work done by Peter Ross.



Kitchenware by Peter Ross



OLE RON
(R.V. THOMPSON)
1-15-91
Written by E.E. La Casse

I met ole Ron at the foot of the hill
The one they call Rainier.
We were there with the smiths, their wives and kids
Drinking a little pop and good beer.
We wandered the grounds and looked at displays;
We discussed bending steel, and this and that,
First time I'd ever seen ole Ron, and I was satisfied with that.

We talked of machines, hammers, anvils and such, in the shade of
his V.W. bus,
I looked at pictures of his forge in Duffer, and he invoted me down
for the threshing bust.

Well, next August, I went and it was hotter than Hell, so we sat
in the breezeway of his forge.
He readied his show trailer and fired up the Diesel,
It started off with a roar.

Well, the show went well and I had me some good grub,
and I bedded down by the stream that night.
I slept like a log, and next day I watched the parade,
said good-bye to Ron and drove my camper out of sight.

Sometime later Ron came to Tacoma, and we met at the Ajax Forge.
We tried out the hammers, and looked at the machines,
and on Chili and Lemonade we did gorge.

Ron camped at my place in that ole V.W. bus and ate at my table,
one night before he was to go,
And I feel better for the short time I knowed him,
He left me with a real warm glow.

Well, you never know when you meet a smith,
just how they'll effect you, by and by.
But I'll bet if you looked in the darkness real close,
You could see Ole Ron's forge lighting up the sky.
And the sparks..., the sparks; well, didn't you know,
That they make the night sky glow.

So long Ron.

(Editor's note: Last edition of the **Hot Iron News** there were
articles in memorandum of Ron Thompson's life. Ron passed away in
October of 1990. The above poem arrived too late to be printed in
that edition.)

NWBA BOARD MEETING

12:11 in the afternoon of January 27th at Mike Falk's home, the NWBA Board was called to order by the President, Smokey Adams. Board Members in attendance: Adams, Graham, Falk, and Bay. Proxies given by Wagner (to Chapman), and Day and Sarver given to Adams. Members also in attendance were Culberson and Hedgeland.

1. Secretary's report, no minutes from the mini meeting in the fall of 1990. Secretary was not present. President will provide notes to Secretary so proper minutes can be drawn up.

2. Clifton Ralph tapes - Power Hammer Forging were handed out to individual attendees. Each is supposed to report back to president in two weeks. The Association is seriously considering their purchase (\$200) for the educational use of our members.

3. Book purchase - Anvil's Edge is now back in print - a top book covering the basics. The president has purchased three cases after a phone survey of the Board. One case will be split with the Inland group and the BC group at cost. The remaining books will be sold by us for \$15 each (cost = 12.95, retail = 18.95).

4. Swedge block group purchase. Cost of \$235 per pair, plus transportation. Ike is working on the transportation. Weight is 266 lbs. per pair. Interested members should contact Smokey by phone.

5. Group purchase of double bick anvils and other goodies from Europe. Is there any interest from the membership? Contact Tom Graham by phone.

6. NWBA has spent a lot of money on video recording equipment and sound system. Greater care is needed at demos to insure we get the best quality of reproduction possible. Mike Falk is going to pursue the possibility of grants to cover our taping of special people like Grandpa Hershom in his shop.

7. We need to pole members on ABANA membership. Secretary will take on that job.

8. Board approved St. Helen's site for Spring Conference - April 12, 13, 14 at St. Helen's Fair Grounds. We need to investigate other such sites as we are outgrowing private shops.

9. We need to add a disclaimer to our Hot Iron News title page. Secretary and new editor will see to it.

10. Looking for suggestions for demonstrators for Fall Conference. Need one from inside NWBA and one outside.

11. Need to get away from time consuming "big meat" Saturday dinners at conference. Need means less time consuming to prepare.

12. Want to establish a tribute to ladies list: those who have done much with little or no recognition. Current list includes: Ina Culberson, Betty Hedgeland, Vernel Henderson, Babe Brandon, Nora Carol, Susan Nelson, Kathy Bay; who else do we need on this list. Something should be done at Spring or Fall 1991 Conference.

13. NWBA gas forges being built for demos and workshops.

14. The Newsletter Editor's job was discussed. A vote was taken to reaffirm the change to a new editor. Motion passed.

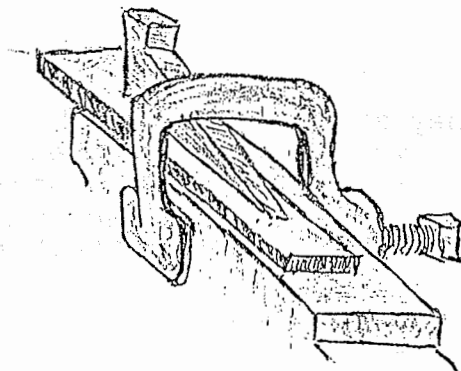
15. Newest Board Member is Grant Sarver, replacing Jerry Henderson, who resigned for personal reasons.

16. President will continue to work on By-Law Updates and will send out discussion drafts to the board.

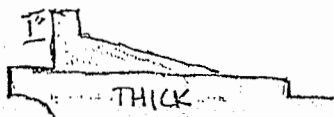
Meeting adjourned.

Footnote: Resignation letter by Karen Wagner resigning from Board was handed out after end of meeting. Kent Rudisil appointed to take her place on the Board. She was serving a one-year term.

HOLD DOWN

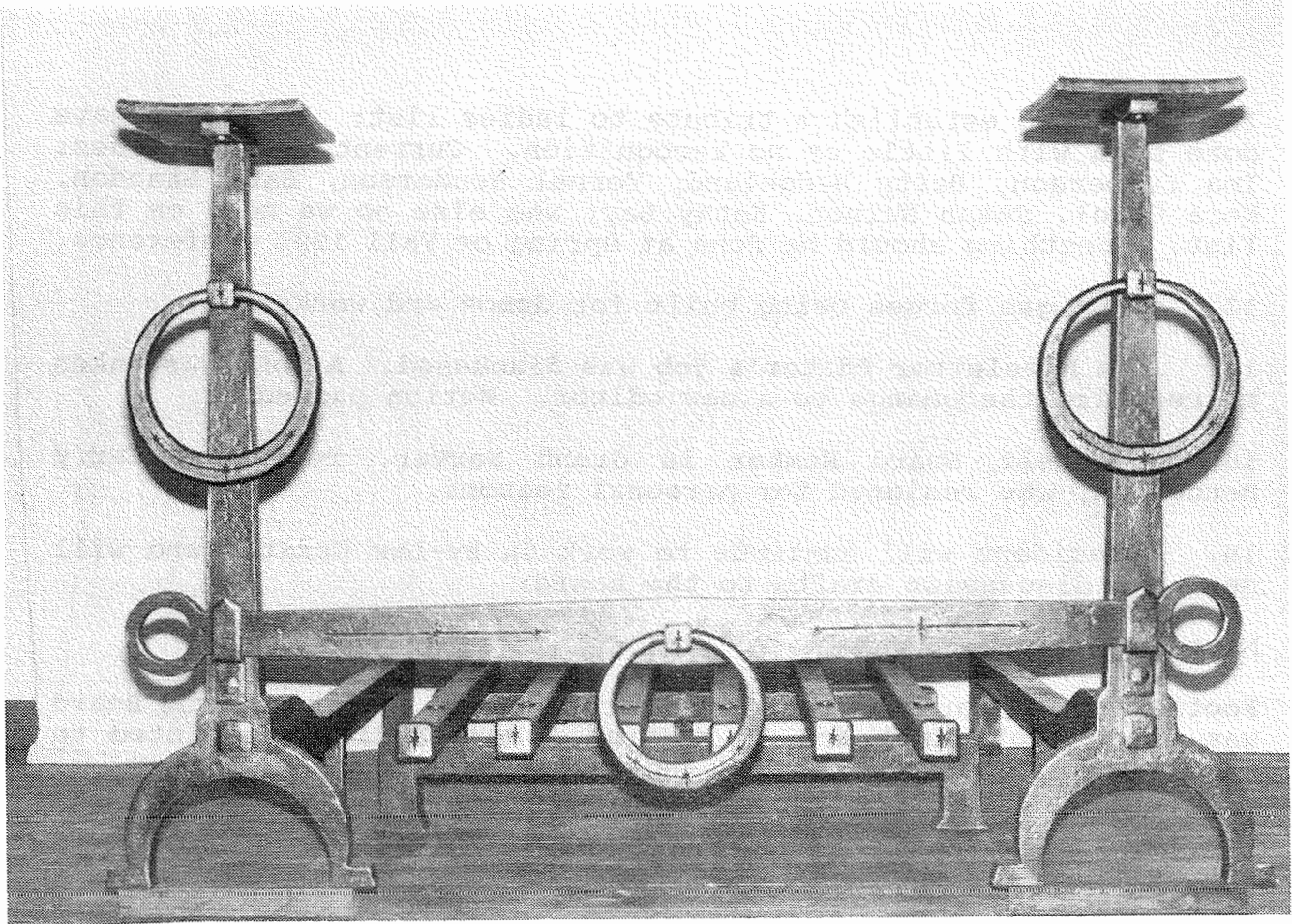


HEAVY DUTY
FITTERS CLAMP



MAKE WEDGE WITH A 1" LIFT ON THE
END TO INCREASE ANGLE FOR WORKING
THIN STOCK, OR LOWER CLAMP.

JERRY BELCRAFT

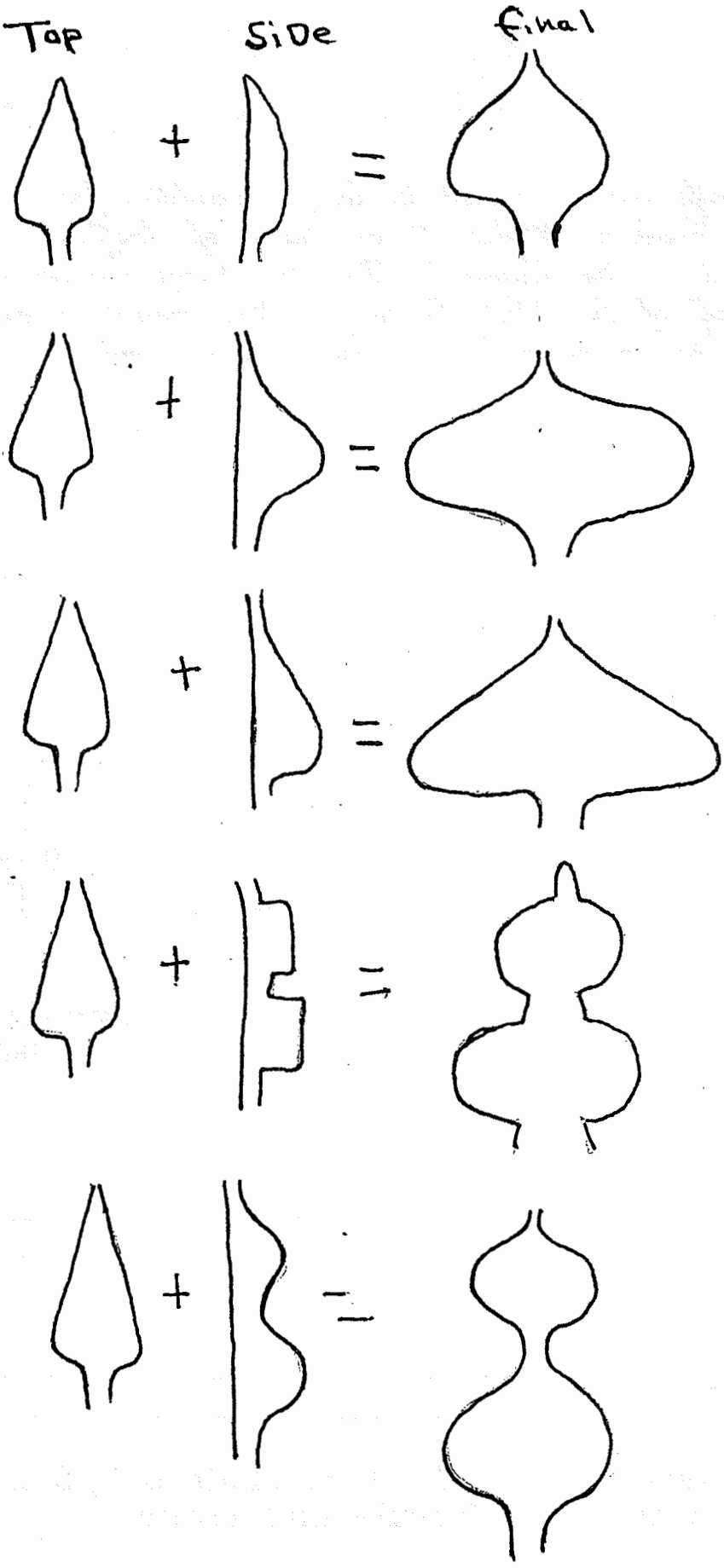


Jerry Culberson's Andirons

Notes on Jerry's Andirons: They are 40 inches tall, 48 inches long, and 48 inches wide. Andirons were cut and forged out of 1 1/4" plate steel. The firegrate was made out of 2" square solid bar: 36 inches wide, and 36 inches long. The top plates on the andirons forged from 5/8" plate. All designed for a 5'x8' fireplace in a private home.

NOVICE WORKSHOP

These have been one of our most popular events. The Second Novice Workshop has not been scheduled for 1991 because we are lacking enough interested students. There will be a sign-up sheet at the St. Helen's Spring Conference in April for those interested. If you are not attending the Conference, contact Ike or Smokey.



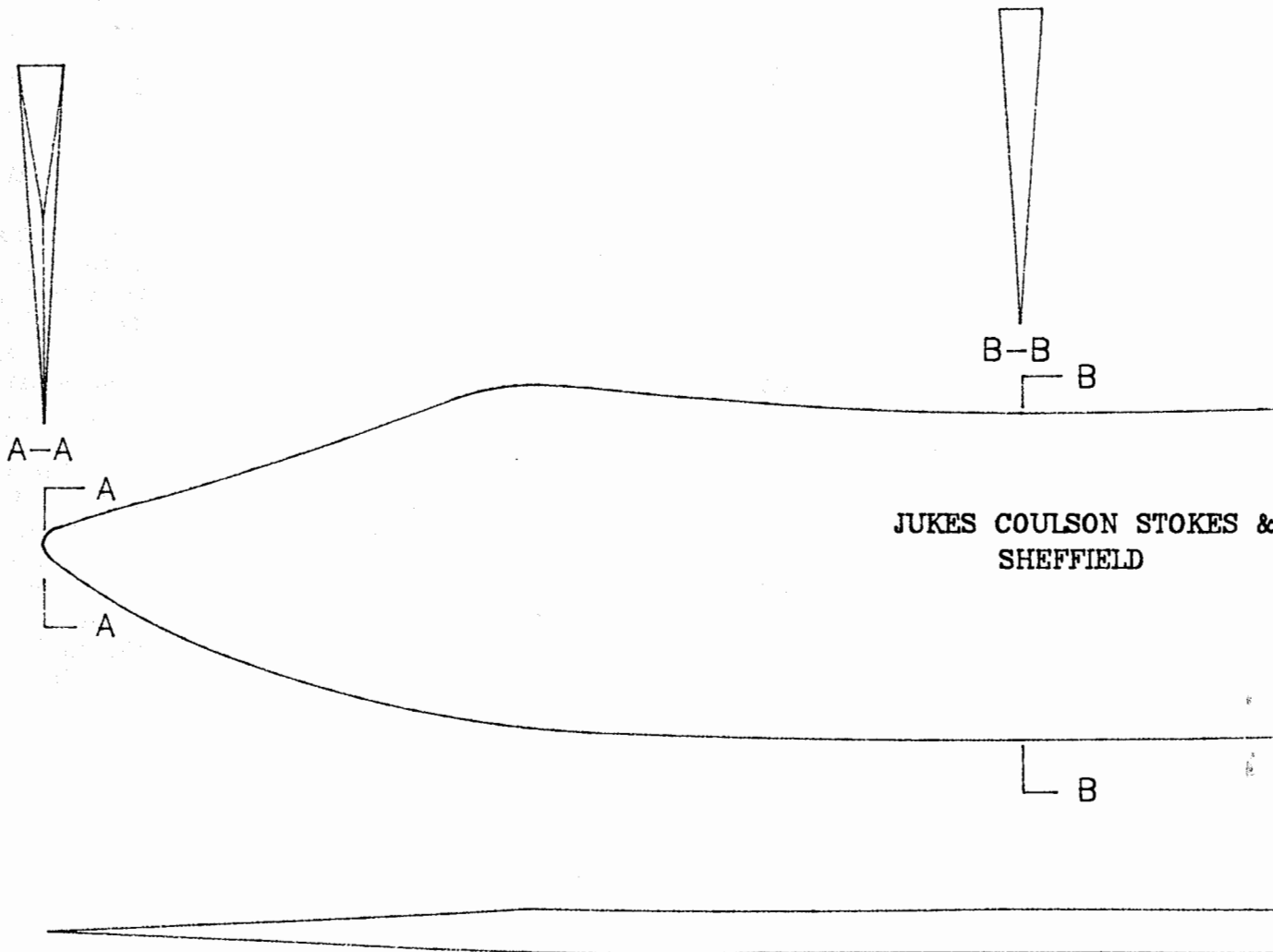
S + M = FFS

The drawings at the side are taken from a Peter Ross demonstration several years ago. The principal he was covering was SHAPE and MASS equals FINAL FORGED SHAPE. He was using the cusp on door latches, and the variations possible to make his point. In forging, all these shapes you start the final peening in the center of the piece, taking it down to almost final thickness and work the outer edges last. There is almost no addition in length - it is all going sideways.

--By Ike Bay

" HUDSON BAY

This knife was imported in large quantities from Jukes, Coulson, Stokes & Company of Sheffield, England by the Hudson's Bay Company during the first half of the 19th Century. The mountain man of this period desired this rugged utility knife



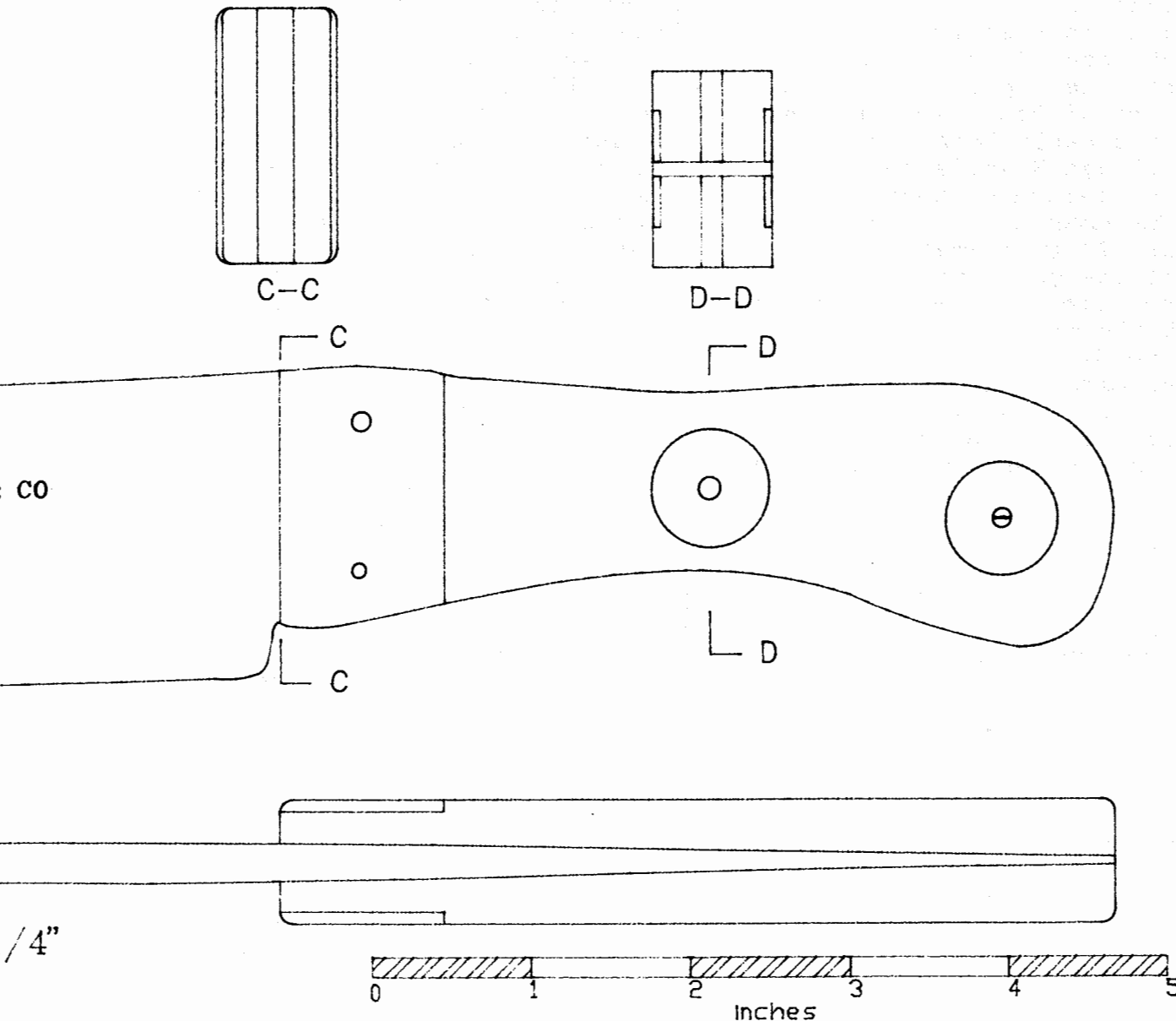
DESCRIPTION: Overall length $14 \frac{1}{8}$; Blade $8 \frac{7}{8} \times 1 \frac{7}{8} \times 1$
Handles: Walnut with brass ferrule and rivets

"J" Camp Knife

and it became known as the "Hudson Bay" knife. This knife was also made by other makers having horn or nickle plated brass handles.

(Reference: *Firearms, Traps & Tools of the Mountain Men* by Carl P. Russell 1967)

This drawing was copied from one made by:
Richard E. Sverdrup, Longview, WA 1971



Wayne Goddard and the "Hudson Bay" Camp Knife at Fort Vancouver
by Bob Race member of NWBA and FVBA

Sometimes people luck out, as we did, when Wayne "Many Knives" Goddard generously donated his time to put on a knife workshop for the Fort Vancouver Blacksmiths' Association at that National Historic Site. Wayne's main objective was to go through the design, layout and construction of the "Hudson Bay" Camp Knife so the volunteers at the Fort would be able to make replicas for display at the site.

Wayne is from Eugene and has been making knives for over 28 years. He has written several articles and handouts, two being HOW TO FORGE YOUR OWN BUCKSKINNING KNIFE for Dixie Gun Works and co-authored MULTIPLE QUENCHING with Ed Fowler for the KNIVES ILLUSTRATED magazine. He also has a copyrighted handout which gives the OPERATION SEQUENCE FOR THE FORGED BLADE in the five steps that are: 1. Forging - including the finishing heat or packing. 2. Normalizing. 3. Annealing. 4. Hardening. and 5. Tempering. This handout also covers quenching and triple tempering.

Wayne had a drawing (see the center fold) of the "Camp Knife" and explained its history, saying that although similar to a Bowie pattern, it came out about 80 years before the famous knife packer's heyday. The small rise from the tip to the back allowed the Skinner to slit the belly skin up the center without piercing the inner muscles. The typical buffalo hunter during the early 1800's would carry as many as 30 knives.

Although Wayne's favorite steel is 52100-B, he relates that the 1000 series of carbon/magnesium is fine because of its low cost and durability. Nor is he adverse to using ball bearings and their races, especially when the balls are 2" in diameter. (This will draw out to a piece .25"xl"xl6".) His favor of the gas forge over the coal is not surprising because it increased his production three-fold, nor will he attempt to do any Damascus forging without his power hammer. One trick he does favor and that is the use of the magnet to determine when the "cherry red" temperature is right and that is when the magnet is no longer attracted to the hot steel.

The whole day revolved around the fabricating of that Camp knife from its rough beginning of a .25"xl.25" piece of flatstock to a finished piece that required no trimming. This estimation only comes from plenty of experience and a good knowledge of how much material it takes to make something just so big. It was a wonderful Winter's day for all of us. Wayne is to return for more workshops and is now an honorary member of our group.

A brief history of Fort Vancouver and the FVBA

Fort Vancouver was originally the headquarters of the twenty five posts of the Hudson's Bay Company in what was known as the Columbia Region. The Fort's blacksmith shop was more of a small factory than the usual 'smithy' as most people knew them. It had as many as 12 to 16 men working from early morning to 6 pm. They provided tools, not only for the fur traders, but also the farmers, loggers, and a small ship yard down on the river, plus all of the ironwork for its buildings. Our goal at the Fort is to educate those who visit the park with the purpose of that shop and to interpret its significance in our history of the Northwest. Interpretation is ninety percent of our obligation. We of the Fort Vancouver Blacksmiths' Association are a group of thirty seven volunteers and can use more members since many can come only for special events or on weekends. There is a growing need for those who can help during the week to converse both to the school and senior groups which tour through as the attendance is up over 10 percent from last year. Anyone interested may contact Michael Darrig, Fort Vancouver National Historic Site, 612 East Reserve Street, Vancouver, WA 98661 (206-696-7688)

CONFERENCES TAKE ON NEW MEANING FOR NWBA LADIES

by Ina Rattenbury

The ladies of the NWBA enjoy accompanying their spouses/partners to the gatherings. But this fall the hostess, Nora Carrell, decided to make it a more meaningful experience for any lady who wished to participate. Nora organized a quilting bee and invited an instructor to come and teach the ladies some of the aspects of quilting.

Charlene Phinney, a quilter for 15 years, introduced herself as "someone who grew up under her grandmother's quilting frame." Learning to quilt was as much a part of her life as going to school or cleaning her room. Charlene resides in Puyallup and is

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q u i l t s u s i n g
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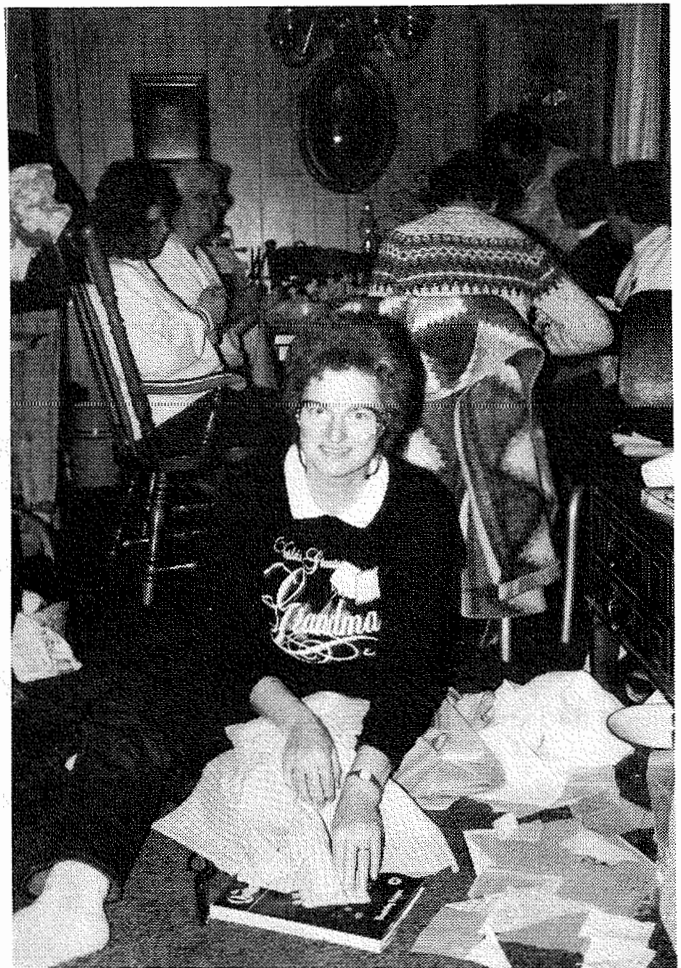
Eager students around Nora's table. Charlene Phinney, Instructor, standing.

are used in more artistic designs and shapes. Blocks don't have to be symmetrical or even in the shape of "blocks". One has only to view Charlene's quilts to realize that she truly gives her

quilting a new look. Using familiar techniques, Charlene's approach is fresh, appealing and different (see photographs). Her artistic expression speaks for itself in whatever pattern she chooses. Her quilts catch your eye immediately and/or you can study them for hours -- the designs, the flow, the colors, the blending of shapes and techniques -- all are there for one to observe.

Nora provided the fabric and other necessities, and Charlene came equipped with samples and templates for whatever pattern one might wish to make. It didn't matter whether one was a beginner or had many years of experience, Charlene had tips for everyone. Each lady chose a block, selected her fabrics and began by cutting out the templates needed for her pattern. What a busy day as we stitched and chatted. Some, like Nora and her mother-in-law, stayed up long into the night cutting, sewing and discussing the day.

On the second day, some of the ladies gathered again around Nora's dining room table. Discussion was lively as the hands kept busy. All agreed that the quilting bee idea was a good one and was something that the NWBA ladies



Betty Hedglin with fabric and pieces for her "basket" block.

could continue to enjoy and expand upon. So we decided to make a quilt and upon completion, will present it to the Association for auction.



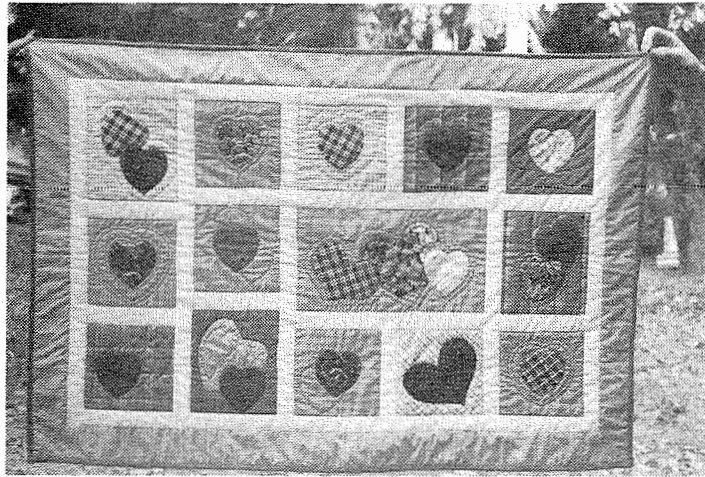
Phyllis Tice and Vernell Henderson working on their projects.

The "charm pattern was chosen as it can be made from any scrap of material (please use calico or cotton fabric only) and no matter what we come up with individually, it will blend nicely into a quilt. The template is provided (see illustration). Cut on solid line, stitch on dotted line. You can either hand stitch or machine stitch the pieces together. The ladies who committed to this project are: Betty Hedglin, Nora Carrell, Ina Rattenbury, Eileen, Babe Brandon, Linda Swyhart, Helen Lagmay, Vernell Henderson, Phyllis Tice, Nancy Adams, and Doris Larson.

Each lady is to cut out 80 charms and stitch them together in blocks of at least 4 per block. When the NWBA meets in the spring, we ladies will bring our blocks and together stitch them into one quilt top. Then we will discuss and decide if and how to finish the quilt. Any lady is welcome to join us any time. If you would like to be a part of this project or have any questions, call Ina Rattenbury at (206) 241-1263 (days 7-4) or evenings at (206)

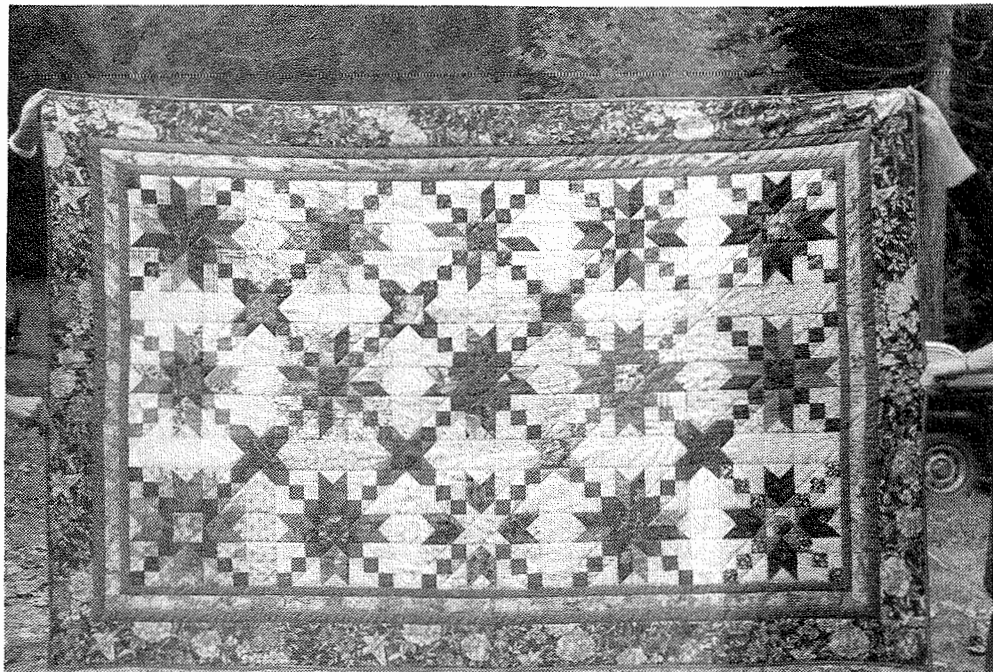
275-6769. Address: Old Cedar Forge, East 220 Cronquist Road,
Allyn, WA 98524. Now when the NWBA has it's meets, the ladies

c a n
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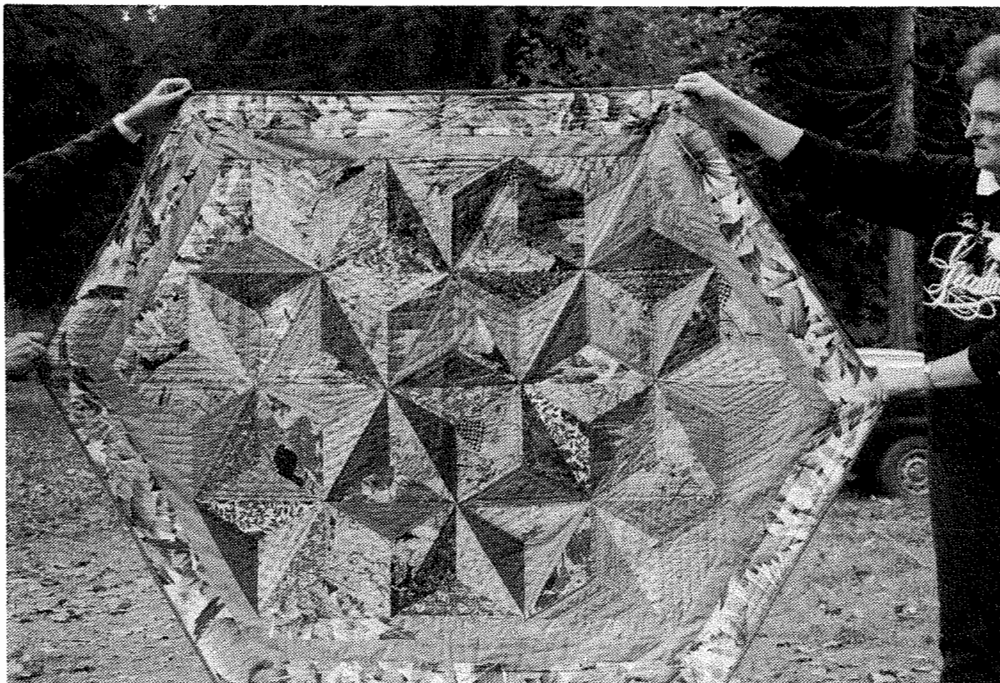
their "Placid Country Hearts" is a free-form piece using
o w n ,
a p p l i q u e d h e a r t s . H a n d a p p l i q u e d a n d q u i l t e d .

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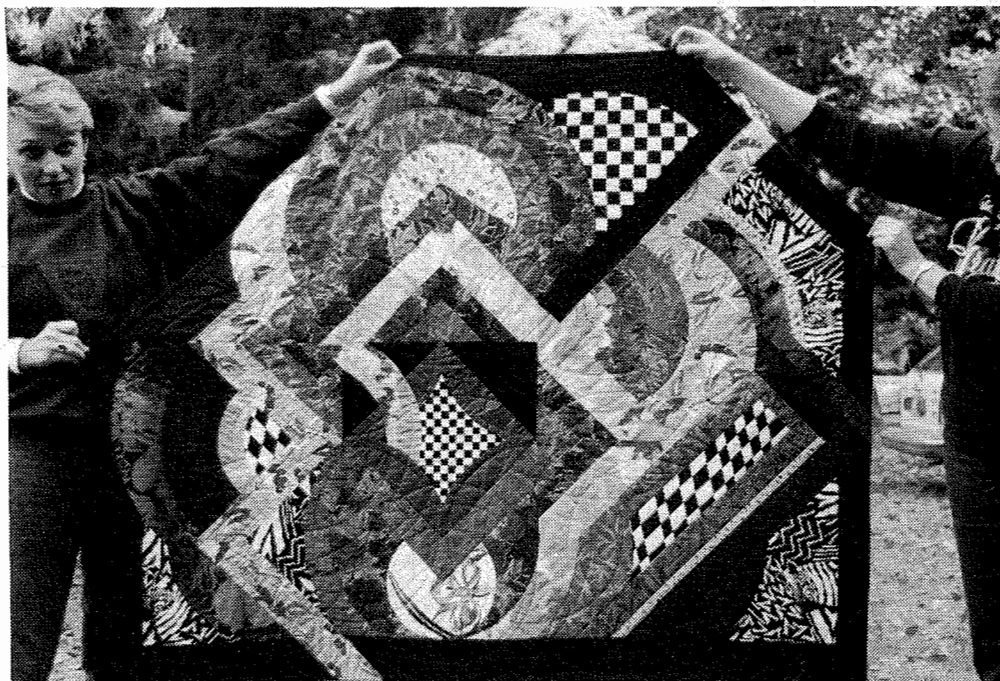


a m e a n i n g f u l
a n d f u n
e x p e r i e n c e .

"Blackford's Beauty" is a study in darks and lights
u s i n g a n y c o l o r t o g e t a c h a i n t o a p p e a r . I t i s
a l s o a s t u d y o f s u b t l e c h a n g e s o f c o l o r p l a c e m e n t
t o c h a n g e t h e b l o c k ' s a p p e a r a n c e . M a c h i n e q u i l t e d .



"Diez Estrellas" -- Ten Stars was made to show depth in a one-template design, and then getting the design to appear and disappear. The lope-sided border is just for the fun of it. Hand quilted with Perle cotton and regular quilting thread.

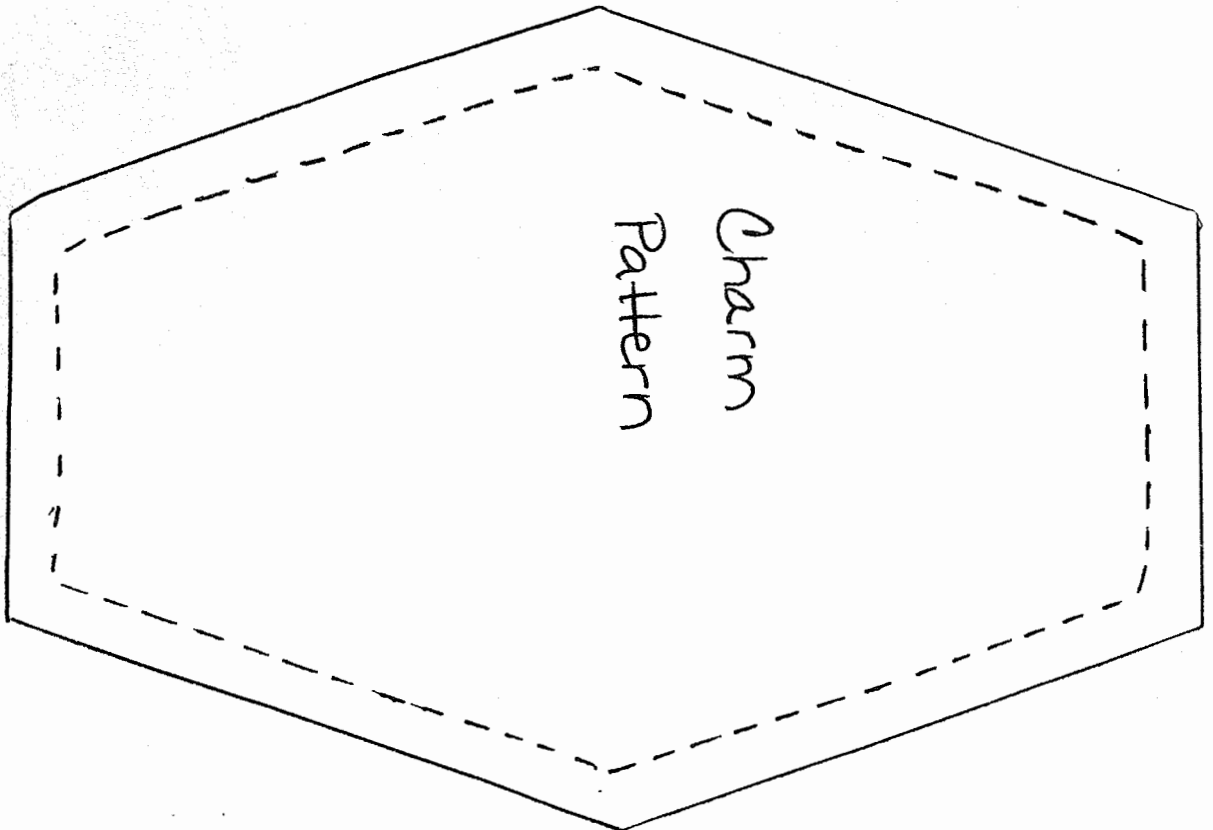


"Circle Maze One" is a contemporary piece to study use of color and fabric placement. Unusual border is to help the design in addition to just being fun to work with. Machine quilted.



"Circle Maze Two" is a contemporary piece studying fabrics and using graduated fabrics in the checkerboard areas. Unusual border is to help the design in addition to just being fun to work with. Machine quilted.

cut on solid line
stitch on dotted line

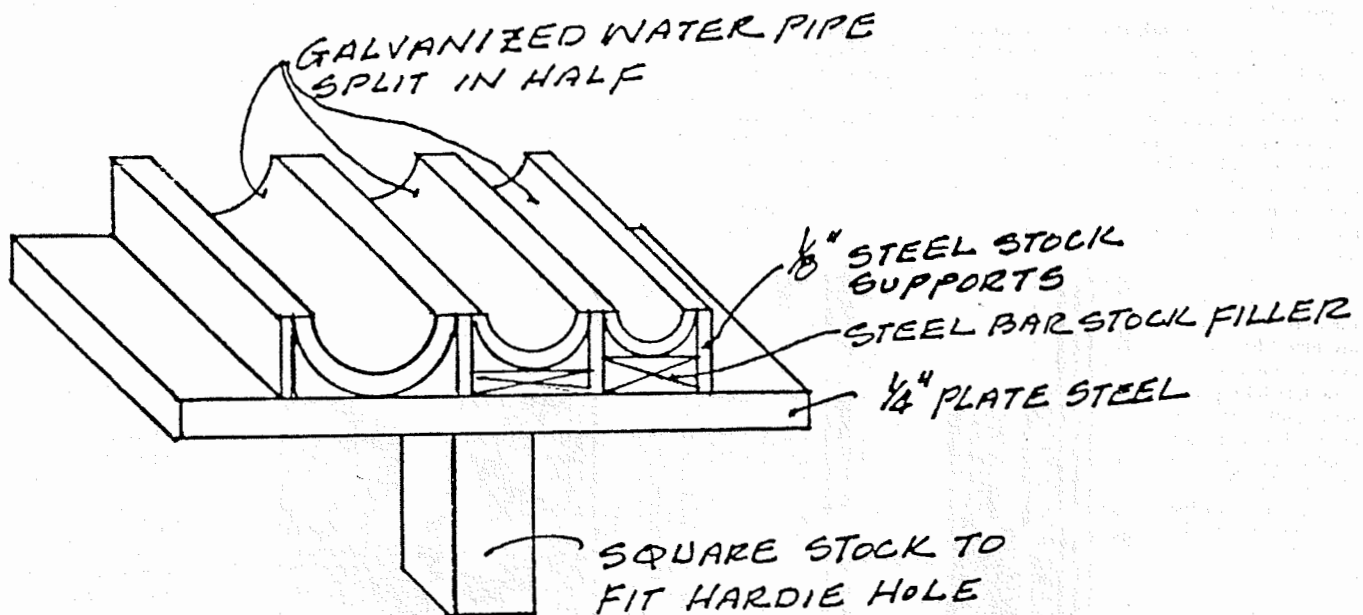


POOR BOY SWAGE BLOCK
Arden Williams

Enclosed is a drawing of a homemade swage block, built for the purpose of forge-welding wire cable. Construction is simple and straightforward. All one needs is galvanized water pipe of different diameters, a small piece of 1/4" steel plate, small pieces of 1/8" steel plate, and square stock suitable to fit the Hardie Hole in your anvil.

CONSTRUCTION:

1. Weld or braze square stock to the center of a piece of 1/4" steel plate used as a base.
2. Split the water pipe longitudinally, cut into appropriate lengths—4", more or less.
3. Attach the water pipe halves, separated by 1/8" steel stock for support, to the face of the steel plate—either by welding or brazing.
4. The voids under the pipes can be filled with lead for more mass and weight.

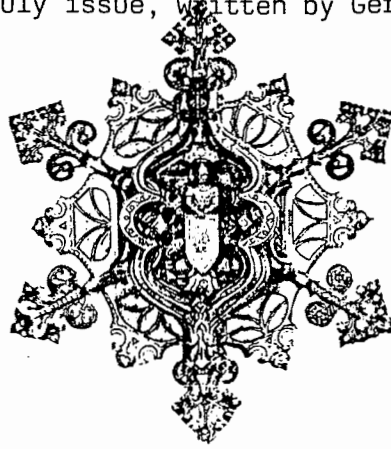


SWAGE BLOCK FOR CABLE WELDING
BRAZE TOGETHER & FILL VOIDS
WITH BRAZING ROD.

This swage block has worked well for me, and I hope others can use this idea to simplify their cable-welding efforts.

Special thanks to my friend, Robert Brown, for the drawing since I can't draw a straight line—thanks "Brownie."

Arden Williams



This unusual knocker is made of three metals—monel for the base, light bronze above it and iron for the overlay traceries. T. L. Koralewsky, craftsman

OLD HARDWARE FOR NEW HOUSES

*The Revival of Medieval Designs Affords a Wide Selection—
The Role of Hardware With Woodwork*

GERTRUDE CAMPBELL

THE revival of hardware for decorative purposes in our 20th Century houses is merely the swinging back of the pendulum to medieval times, for we are rapidly realizing its value, and utilizing it for the beautification of our homes.

As interior woodwork is becoming more and more popular, the cabinet-maker is endowing it with hardware enrichments, each one of which conforms to the period details; and yet none savor of sameness, for the artist-smith realizes, as did our forefathers, that our doors should be made to harmonize with their surroundings. Consequently hardware is a necessary factor in decoration, and care should be given to the designing of escutcheons and all pieces of metal work that pertain to windows or doors. Fortunately for us, there are many fine medieval examples still extant, rich in quaint form and following quaint lines, for the smiths and engravers of those days lovingly put time into the selection and working out of good designs.

Early Designs in Modern Work

It was during the 12th Century that forged and curiously fashioned hammered iron was conspicuous in ornamentation. The Saxon and Norman smiths showed no little perfection in this branch of their calling, displaying the greatest skill and ingenuity in their designs. They often expanded the hinges into beau-

tiful forms until sometimes they actually covered the whole door with elaborate combinations of beautiful and graceful scrolls.

Today these patterns form the basis for original designs, one of which, a rare pattern, is designed for an open mechanism lock, used on an outside door. This shows a snake for a handle, and all the working parts are exposed and entwined around a dragon's head, the key following the same serpent and dragon design.

Often the decoration is composed of different tracings, overlaid plates being used in three different metals, the bottom being of monel metal, covered with light bronze (delta metal) and iron. One very interesting example shows a Crusader standing in the center, the door

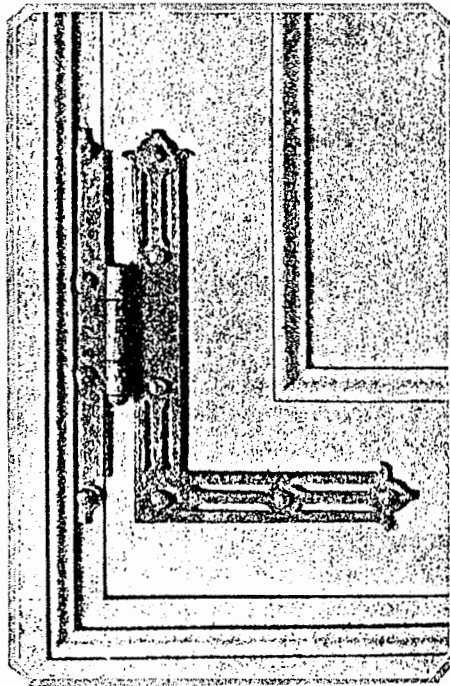
knocker being a dragon's head with tongue sticking out; you take hold of the tongue to lift the knocker.

It was in the 15th Century that hinges received special attention at the hands of the artist-smith. Examples have been found showing designs most elaborate and minute in character.

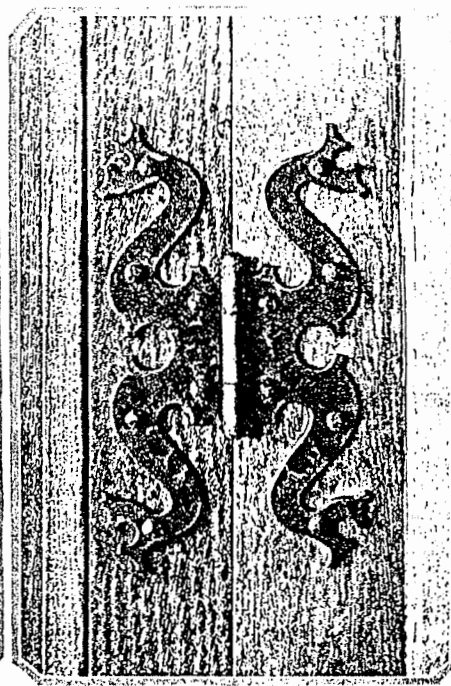
The Metals Used

Some of them are curiously composed of two or three layers of iron or other metal, each plate being cut differently to develop tracery and other kinds of work. There are capped trefoiled flowers placed directly in the center of trefoils, the whole being held in position by a nail driven through the center. These are used over a background of either gilded leather or cloth of some rich color, which has been introduced to act as a relief for the cut work.

This composite style is shown in Gothic architecture. Backgrounds for this type of hardware are absolutely necessary, as a rich subdued coloring brings out the tone of the metal to better advantage—brass or iron is particularly effective for this purpose. They also have the advantage of durability, a quality that is recognized by metal workers. But no matter what background is employed, the ornaments should always be shown in relief, and the design should be even



An elaboration of the Colonial strap hinge is found in this type wrought for a New England house by T. L. Koralewsky



In the same house is found this hinge, an unusual modification of an old design done in wrought iron

in character, so equally balanced that no part of the groundwork stands out more prominently than the rest.

Naturally different processes were employed by the craftsmen according to the nature of the metal, and the character of the design. Some of the simplest of these came into existence during the 12th and 13th Centuries, and the reproductions today are particularly adaptable for our 20th Century homes. They were formed of one piece of iron, so cut and fashioned as to form a nail stem. This was cut, split and twisted into tendrils or other shapes while hot; when cool, it was ready to be affixed to the door with nails. There is a beauty in this style of pattern that justifies the reproducing of this old forged work.

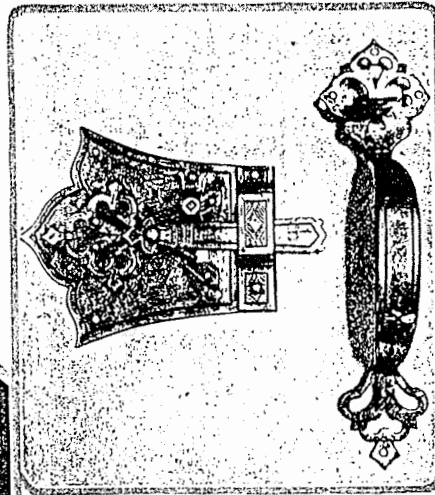
The 16th Century brought with it particularly beautiful bits, especially escutcheons and door plates, often most ingenious and intricate in character, as well as elaborate in design. These also our clever craftsmen are reproducing for our modern day requirements.

Pierced Work

Pierced work, which is also much used today, was very much in vogue during the Elizabethan Period. The escutcheons were usually formed of an arabesque pattern, an elaborate design with straps interlacing one another, and bolts passing through them. These were surrounded by a frame and the edges were bent or notched to resemble a roll of parchment. Other pieces of different character show there was a great variation in type, as birds, masks, drapery and foliage were often introduced. These, however, were not treated in the relief foliated manner of the Italian, but in flat bands, such as are particularly suitable for metal work of this description. The hinge, particularly, was carefully designed, and as today, formed a decorative addition to the door. Such designs were of an ecclesiastical nature, and were used principally for church doors and colleges. Today, when architects are bringing out beautiful, highly finished doors, the craftsman employs this method to give them an air of strength and stability that is artistically essential.

Stamped Designs

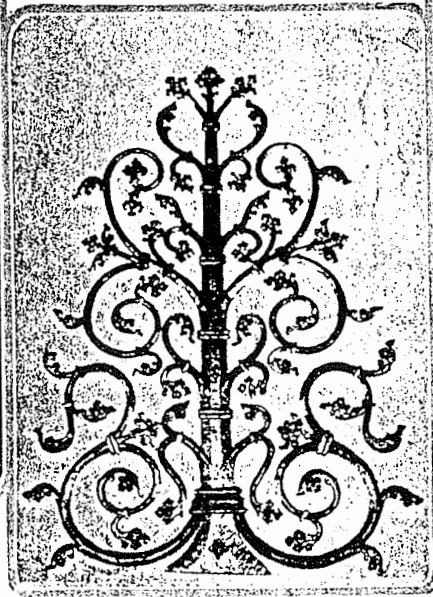
An entirely different character is found in the repoussé or stamped work, which we frequently discover in all branches of metal decoration. This treatment has the advantage of being adaptable to choice designs. The Italian Renaissance style of ornamentation, is particularly expressed in this style, as it shows marks, festoons, grotesque animals, entwined with and surrounded by foliated scrolls, catching every gleam of light, and adding an irresistible charm. The crispness of the scroll work, combined with its boldness of outline, lends to it a



An interesting design has been worked out in this lock and latch for a wooden door



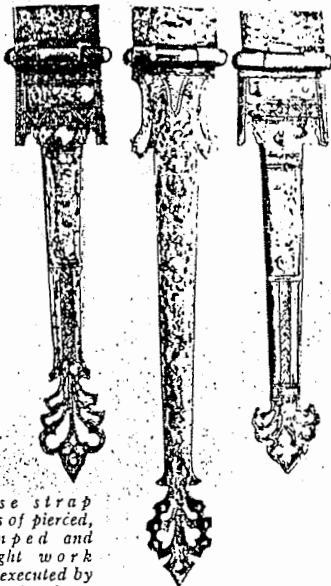
Handle plates show a Tudor rose and thistle



The Italian Renaissance feeling is evident in this hinge designed by Koralewsky



A monk surmounts these decorative handles



These strap hinges of pierced, stamped and wrought work were executed by Koralewsky

novelty that is not commonplace, but beautifying to our homes.

A happy combination of brass and woodwork lent charm to the court of Empress Josephine. This is most decorative on dark mahogany or old English oak now so popular. Our craftsmen of today realize that well lacquered brass and woodwork make an effective combination and that metal enrichments are the most permanent form of decoration.

The unearthing of many a rare and supposedly out-of-existence model has enabled us to vary our standards by producing reproductions of many of the old ideas. It was

many years ago that some old Empire molds, used before the Battle of Waterloo, were discovered casually, giving us a chance to recast cleverly chased patterns and remount them into a delightful series. Old blocks stored away in odd corners have also been brought to light and from them many a popular pattern has been wrought. Many of the old specimens that have been found in practically every country where the industrial arts have flourished furnish us with ideas that can be modified to satisfy the requirements of today.

It is astonishing when we realize from what a number of sources ideas can be gathered, for there is scarcely a spot in the country from which inspiration cannot be gathered. One of the most ingenious of our present-day craftsmen receives his inspiration from communing with nature! Truly, the modern artist-smith is vying with the master craftsman of long ago to produce wonderful examples of skill and workmanship in these days when hand-work is again coming into its own.

Legends and Old Hardware

Many of the old masterpieces have curious legends connected with them. One of the most interesting is that of the church of the Notre Dame in Paris, where the master locksmith Bicornet had agreed to supply the door with iron work by a certain day. He found that he had only twenty-four hours to complete the work, so he sold himself to the devil. Through the aid of this supernatural assistance, the door was finished in time. In one of the old doors, Bicornet introduced himself as a little man with two horns on his head and a fish's tail.

Thus metal work opens up a large field from which to collect for our homes. There are locks and keys of wrought and chased iron, filigree work cut in as if the material were as soft as ivory. While the type of house governs our selection of hardware, cast and wrought iron, bronze and brass have wonderful decorative possibilities that should not be overlooked. The standard finishes—natural, polished or dull, verte antique, lemon or brush brass—will depend upon the color of the wood to which this decorative hardware is attached.

THE GREAT ANHYDROUS BORAX CAPER

By Mike Falk, Black Fens Forge and Foundry, Lake Stevens, WA

Since my first association with blacksmiths, I have continuously heard the pros and cons about the merits of anhydrous borax as a flux compared to ordinary borax. Possibly, part of the merits of regular borax is its ready availability and low cost.

It is necessary to first define some terms.

WATER OF CRYSTALLIZATION...Water in chemical combination with a crystal and necessary for the maintenance of crystalline properties but capable of being removed by sufficient heat.

FLUX... Chemistry: a substance that aids, induces, or otherwise actively participates in a flowing: a mineral added....to promote fusing of metals or prevent the formation of oxides.

FRIT... The fused or partially fused materials used in making glass. The melting together of a group of ceramic materials to form a compound which is then cooled and re-ground to a powder form. Frits are made for the purpose of eliminating such undesirable qualities as solubility or toxicity.

CALCINE... To heat a substance until it loses chemically combined water and volatile gases.

BORAX..Na₂B₄O₇, 10 H₂O. Borax has the disadvantage of being a soluble flux; it is therefore best added... in the form of a frit. Borax loses its water of crystallization in a series of stages up to 318 degrees C., at which temperature anhydrous

borax (sodium tetraborate, Na₂B₄O₇) is formed. This substance melts at 741 degrees C, and has improved resistance to solubility in... water.

What all this means is that anhydrous borax is not soluble in water but more important, it has lost ten molecules of chemical water.

Regular borax when melted on hot metal, releases more water which in turn creates more hydrogen and oxygen being released into the forge atmosphere.

Anhydrous borax eliminates more of the oxygen that is available for the creation of oxides and therefore makes a much better flux for the purposes of fusing metals together.

In addition, once chemical water has been eliminated from crystals, it cannot be regained. If your anhydrous borax has become lumpy because of atmospheric water, you can reheat to a high enough temperature to drive off the surface water. It will still be anhydrous because the crystalline water is still gone.

To determine what kind of borax you have try dissolving some in water. Anhydrous borax is almost impossible to dissolve.

References: Raku Handbook, John Dickerson, Vain Nostrand Reinhold: The American Heritage Dictionary of the English Language, Houghton Mifflin Co: Clay and Glazes for the Potter, Daniel Rhodes, Chilton Book Co.

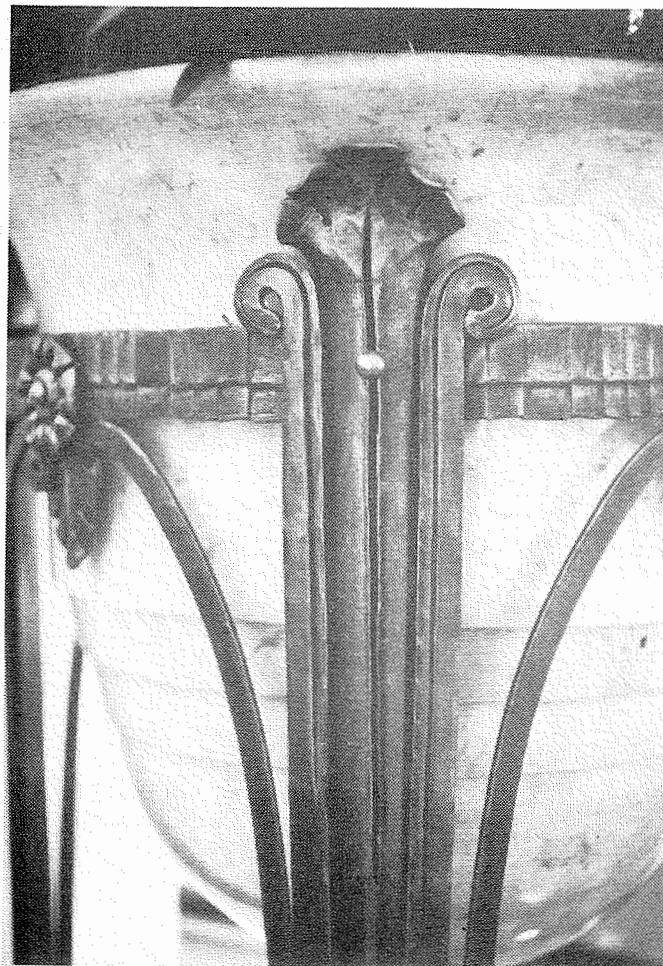
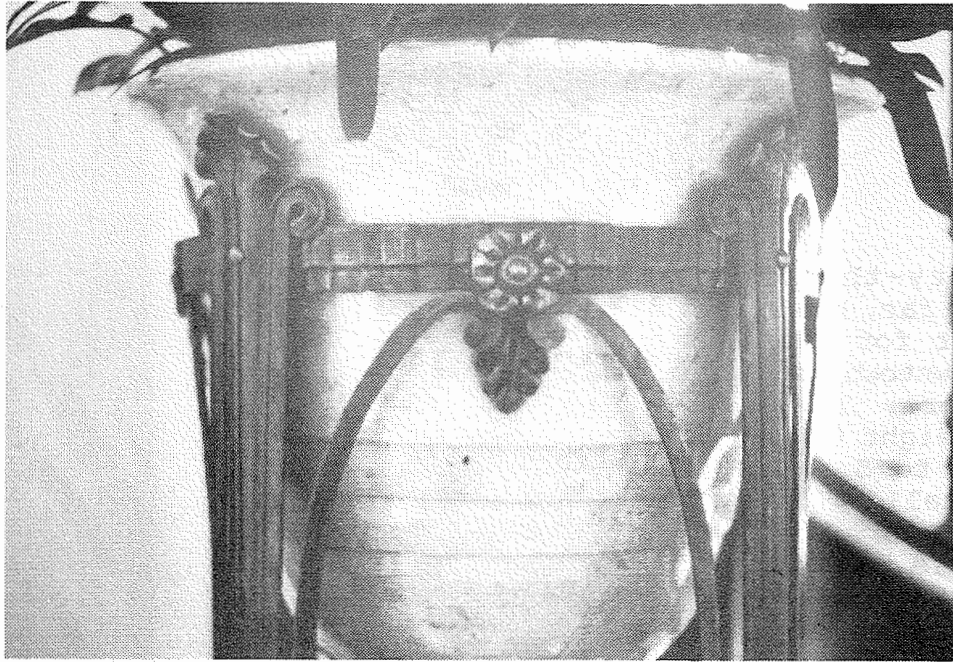
PLANTER STANDS FROM FIRE MOUNTAIN FORGE

Twenty-three stands, so far, have been built for the Seattle Downtown Bon Marche Store. They range in height from 30 inches to 5 ft. 6 inches tall. The diameters of the marble bowls in them are from 23 inches to 28 inches. The legs were forged from 2 1/2 inch 1/2 oval stock with side scrolls of 1/4 x 1 inch flat bar. Flowers were forged from 3/8 inch x 3 inch diameter plate. The top textured ring was forged from 3/8 inch x 2 1/2 inch flat bar.

--Submitted by
Smokey Adams



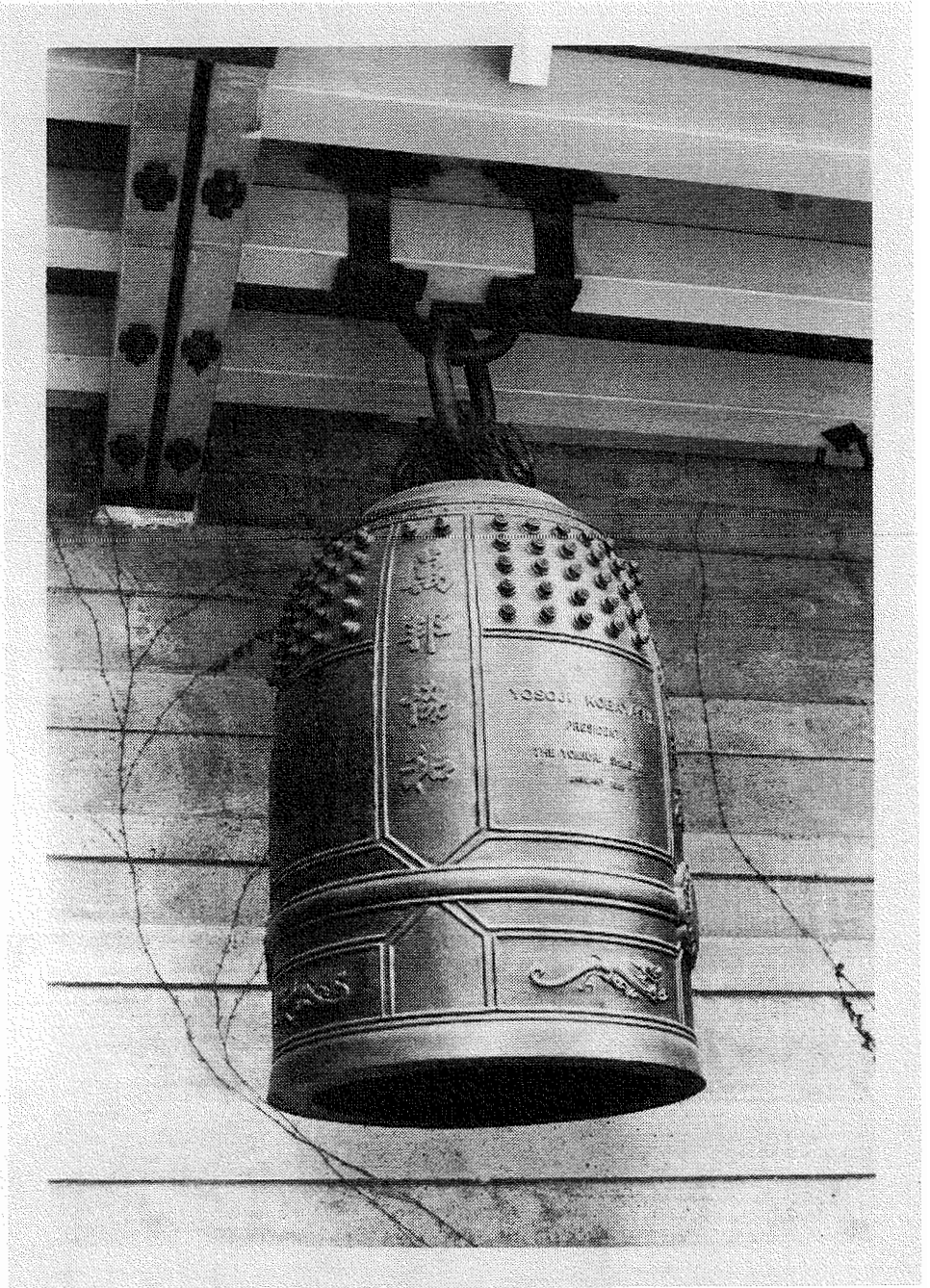
DETAILED PICTURES OF PLANTER STANDS
PHOTOS SUBMITTED BY SMOKEY ADAMS



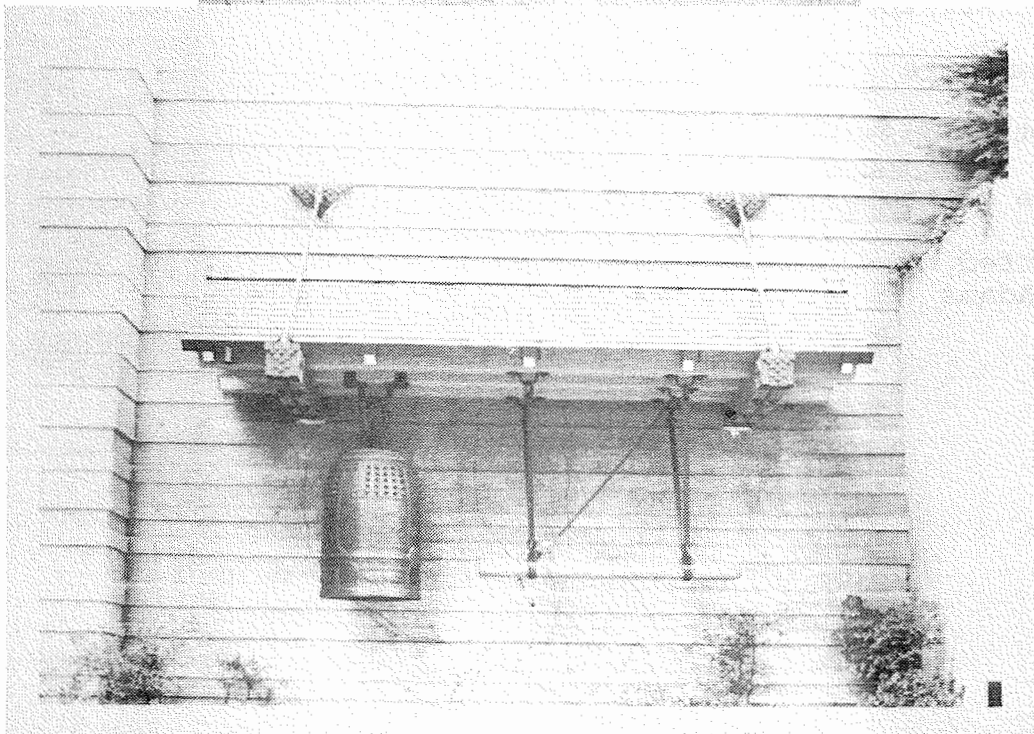
JIM GARRETTS TEMPLE BELL BRONZE WORK

The Temple Bell Shelter is on the Southwest corner of the Convention Center in Seattle. The bell was a gift from Japan and Jim Garrett did all the hangers and beam connections and beam end plates. All the work is forged bronze. All the connections are done on a slot, loop, and pin type of basis.

--Submitted by
Smokey Adams



DETAILED PICTURES OF JIM GARRET'S WORK
WORK DONE AT GARRETT METALS, SEATTLE, WASHINGTON

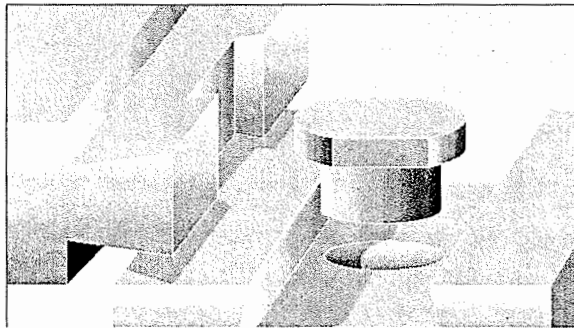


You Only Live Once, But Dies Go On For Ever!

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BY GRANT N. SARVER

Over the past fifteen years I've seen or worked with just about every scheme there is for centering dies. The most common method used in small hammers is a plain round pin fitted in a



Improved center pin

hole in the ram or anvil block and a matching hole in the die. While simple, this method suffers from having very little bearing, being difficult to machine and does not lend itself to shimming to align. I've seen these pins jogged half their diameter off center. Drilling matching holes seems simple at first, but getting them lined up without being sloppy can prove to be a major challenge.

Most center pins don't allow for more than minor shimming to align. The square key splitting the dovetail as used in most steam hammers allows some adjustment without getting sloppy. The round pin set vertical in the dovetail as seen on self-contained Chambersburgs seems designed to dissuade users from making their own dies.

The accompanying drawing shows a center pin design I've found to work well and is easy to retrofit on any hammer. I first drill the largest hole practical (1"-1 1/2") in the ram or anvil block approximately in the center and about one diameter deep. The dies are slotted to line them up left to right,

although offset pins can be made when needed. With this system the dies can be shimmed fore and aft as much as the wedge will allow. The die is held solid side to side by the pin and

front to back by the wedge.

In a related vein, I've illustrated a few systems I've used to substitute for the usual wedge. The first one is installed on a small (100 lb.) Sullivan pneumatic hammer. As seen in the drawing, the block on the right is a stop for the ram and has a center pin in the bottom. As set up this would be used to draw small wedge tapers such as on chisels, the block in the middle giving the exact width required. For this hammer I machine a die about thirty inches long and slice it like a loaf of bread when I need a tool. They can then be lined up in any mix for the job at hand. With this system dies can be changed very quickly and die cost is kept very low. Although it's never been necessary on this hammer it might be useful to put another clamp on the end to hold the stack together.

The next system uses set-screws or bolts to hold the die in place. I devised this one for a 140 lb. pneumatic I recently set-up. The wedge was impossible to get at to drive out so something had to be done! I had seen hammers with dies held in with set-screws

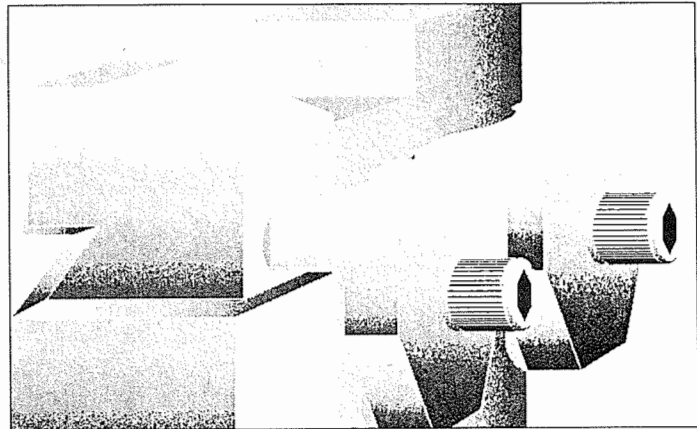
before, but none were entirely satisfactory. The most important differences in this system are that four large (3/4") high strength bolts with fine threads are used and a gib is inserted between the bolts and the die. Although I've only had this in use for a short time it appears to be working splendidly. In five days of running the die stayed right in place and the bolts were always tight when they were checked. On this job we were swaging about 100 pieces of 7/8" alloy bar per hour. As this hammer runs about 300 blows per minute you can imagine the dies got quite a good work-out!

This system has worked out so well I've just converted the ram in my small Sullivan to work in the same way. The only change I made was to use set-screws instead of bolt so they would not stick out past the surface. Next I'll do the same on my 2-B and 4-B Nazels.

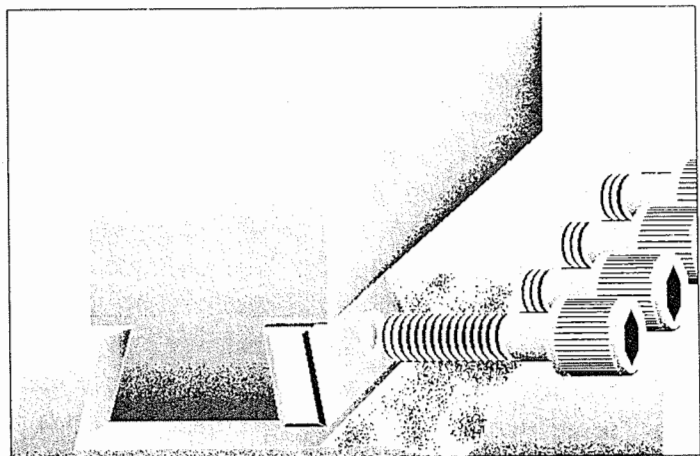
The last picture shows a system which should work well in some rams. This one has the disadvantage of requiring major machine work, but should prove very solid for holding narrow dies. I've not tried this one in a hammer although I have used it to hold inserts in upsetter dies.

Before closing I'd like mention a new (to me) die steel I've been using. Available from Uddeholm under the trade name "TOUGH-TEM" this steel is superior to AISI 4340 and quite the equal of H-13 for most applications. The really great thing about this steel is the price - - - - about \$1.00 per lb. already heat treated in hardnesses to about 52 Rockwell (C scale). I get it cut to size and in the "2" heat treat (about Rc 38). This is hard enough for all but the most severe work yet soft enough to machine without too much difficulty.

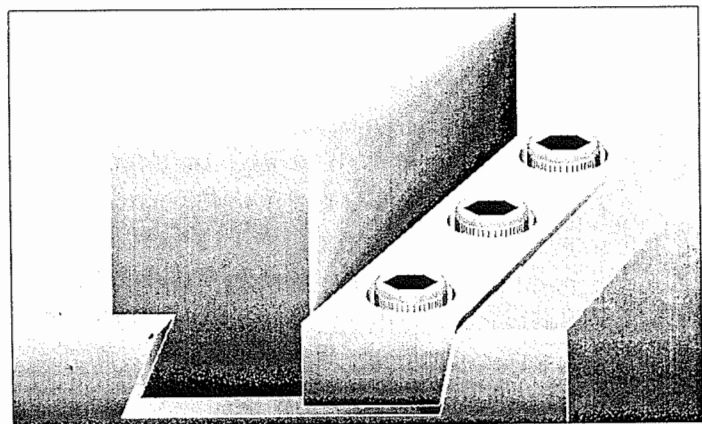
In presenting these ideas, I caution the reader that I am not recommending that anyone modify their own hammer in like fashion. I desire only to show how I've done in my shop - for my work.



Die holder used on Sullivan pneumatic hammer



Die holder used on 140 lb. pneumatic hammer



Locking wedge type die holder

A comment: A letter writer to the Anvils Ring complained about "computer drawings". This is the same thinking that keeps some from using power hammers and gas forges. In order to turn out the best work in the most productive way I always try to use the most appropriate tool for the job. Let's try to remember; hand hammers, power hammers, coal forges, gas forges, pencils, or computers are just the tools, not the work. The only "tradition" I've seen in the centuries of the craft is the smiths willingness to use anything at his disposal that might assist in getting the job done. We have enough limitations placed on us by the material, by thermodynamics and by physics. Lets don't place artificial limits on ourselves!!

COMING EVENTS

March 18-22:

Arrowmont School

of Arts and Crafts, Gatlinburg, TN announces the 1991 Spring Workshop Program. One week classes of various media will be held March 4-29. On March 18-22, Phil Baldwin will instruct Blacksmithing/Toolmaking. March 25-29, Ira Dekoven will demonstrate Blacksmithing, while Randy Long's theme will be A Study of Form: Modelmaking for Metalsmiths. Call (615) 436-5860 if interested.

April 12-14: NWBA Spring Conference, see details in this edition of **Hot Iron News**.

April 20: Pacific Northwest Tool Collectors meeting, Portland area. Contact Jim Conrad (206 527-5543 for more information.

May 17-19: Joe Elliott will host a workshop that features Al Bart demonstrating forge welding, Japanese gardening tools, miner's lamp, dinner gong, and re-dressing matticks and picks. This workshop is limited to five people - \$150 per participant (includes lunch on Saturday and Sunday). This workshop will be held at Joe's shop in Redmond, Washington. Anyone interested please call Joe at (206) 548-2564.

May 18: Pacific NW Tool Collectors meeting, Seattle. Contact (206)527-5543, Jim Conrad for more information.

June 8: Pacific NW Tool Collectors meeting, Portland. Jim Conrad, again, (206)527-5543.

June 17-21: Oregon School of Arts and Crafts is sponsoring a Custom Knifemaking Summer Workshop. The school is located at 8245 SW Barnes Road, Portland, Oregon. To find out more about this workshop call (503) 297-5544.

June 21-23: Joe Elliott will host a workshop, with Dave Thompson as instructor, at his shop in Redmond, Washington. This workshop will consist of one class project, a group effort of putting together an exterior lamp post, which will be auctioned off at the next Conference. \$150 per participant, including lunch on Saturday and Sunday. Contact Joe Elliott at (206) 548-2564 if interested.

July: A workshop is being tentatively planned by Joe Elliott with Jeffrey Funk as instructor. Specific dates and project are not confirmed. More to come later.

July 6: is the entry deadline for the national juried exhibition "**From All Directions**". Sponsored by the Arrowmont School of Arts and Crafts in Gatlinburg, TN, the exhibition will be on display October 17-December 14 and is being held in conjunction with a three-day national basket symposium October 17-19. For more information contact (615) 436-5860.

CLASSIFIED
ADVERTISING

WANTED: Tire bender and bolt header (free standing). Contact Ike Bay at 13085 NW Ridgetop Drive, Portland, OR 97229, or call (503) 645-2790.

FOR SALE: 50# Little Giant, \$1175. Contact Ben Atherly at Rt. 1, Box 425M, Kettle Falls, WA 99141, or call (509) 684-8701.

WANTED: News articles, photographs, drawings, and announcements. Send to **Hot Iron News**, Attention Linda Owens, 8918 E. Burnside, Portland, OR 97216, or call (503) 255-6564 after 6 p.m. (I have call waiting because I have teenagers!)

FOR SALE: Little giants: 2-50#, 1-25#, 1-Walking Beam unknown size/mfg. Ranging from \$500-\$800. Contact Joe Elliott at (503)548-2564.

FOR SALE: Buffalo Commercial Forge, part #832R, \$50; Champion Blower Forge Tuyere #10.400 Whirlwind, \$125; Champion Blower Forge Blower #400 with stand, \$125; or all three to one buyer at \$250. Contact Al Bart at 1107 North Street, Yreka, CA 96097, or call (916) 842-3938.

WANTED: Jokes, riddles, or any funny antidote (keep it clean) for the **Hot Iron News**. Send to Linda Owens, 8918 E. Burnside, Portland, OR 97216.

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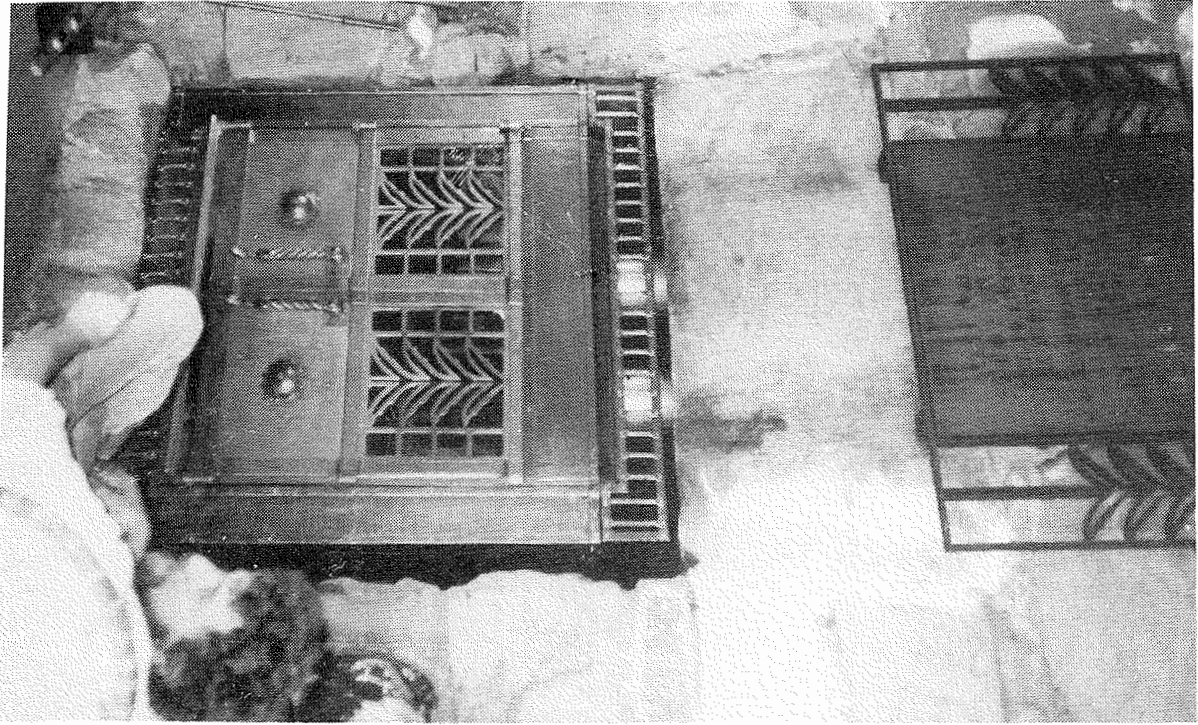
Name: _____ Date: _____

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Master Blacksmith Darryl Nelson and his apprentices Joe Elliott and Mike Linn worked on the woodstove that was installed at the warming hut above Timberline, Mt. Hood, Oregon. See inside story.



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