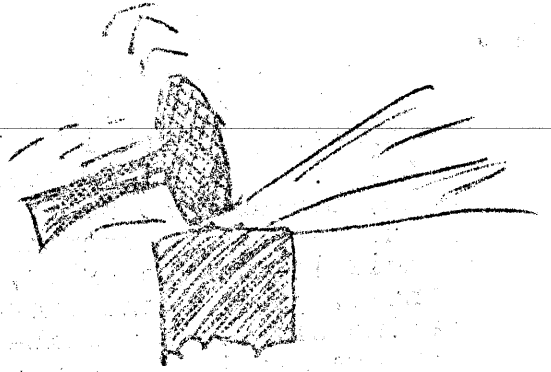


BLACKSMITH ASSOCIATION OF MISSOURI



Volume 1 No. 5

May Newsletter

OFFICERS

Bob Patrick
President
Box 205
Bethel, MO 63434
Phone: 816/284-6687

Don Asbee
Vice President
Rt. 2, Hwy. 83
Bland, MO 65014
Phone: 314/646-3657

Steve Austin
Secretary-Treasurer
44 N.E. Munger Rd.
Claycomo, MO 64119
Phone: 816/781-1512

Next Meeting May Meeting

PLACE: Bakers Forge
401 Catherine St.
Monroe City, MO 63456
Phone: 314/735-2753
(See included map for directions)

DATE: Saturday, May 19, 1984

TIME: Will start at 10 AM

PROGRAM: General meeting, and a chance to try all the things you saw at the Francis Whitaker workshop, also a chance to have your friends show you what you didn't see if you missed the workshop. This may possibly be a workshop on learning to forge-weld for beginners. Bring your questions plus anything you may want to show off that you are working on.

FRANCIS WHITAKER WORKSHOP AT STEVE AUSTIN'S

What can I say? If you missed it, you missed it. It was the first time and the last time Francis Whitaker will ever do a general demonstration for BAM. Francis, who was accompanied by his wife, Portia, gave a demonstration of blacksmithing that was superb, not only for what Francis did, but for how he did it. Francis was aided by Don "Don't ask me" Asbee and Bob "Fumble-sledge" Patrick, and showed us many traditional and innovative techniques. Everything Francis did he did well. He didn't miss a forge weld or make any mistakes that he had to apologize for. While Francis showed us things that he had learned over 50 years ago he also showed us things that he had learned 50 weeks ago and 50 days ago. Take a tip from Francis and never stop learning or perfecting your skills. As Francis says, as many forge welds as he has done, if you don't pay attention and do everything right, they just won't work. So pay every bit of attention on your work that you can, and then some. Never say that

You have learned it all or that you cannot improve your work. Among other things Francis did everything from making tengs and an eye punch to forging an animal head, doing a number of forge welds, mortise and tenon joints, making a rail angle jig, making hinge eyes, forging pipe and making a candle holder out of it, made a fire shovel with a braided handle, bent angle iron, and much more. Francis was greeted by some of our changing Missouri weather, and it was hot, then windy and cooler. Francis stated that he doesn't sweat at his shop in Colorado, The Mountain Forge, because the humidity is so low, and it never gets terribly hot. But he has had to contend with a tremendous amount of snow. Fortunately Francis is an avid skier, and has on occasion skied right to his shop! Francis, you are one incredible person. Francis was spontaneously and unanimously voted a member of BAM and give a BAM T-Shirt, which I understand from Francis is to be used in a ceramionious unveiling, so to speak, at the ABANA Conference in late June. If you don't see this, I am sure you will hear about it. Francis will not ever be doing the kind of demonstration he did here, but is switching to intensive workshops with a small number of smiths. He will not be doing any of these after this year except for one scheduled class at the Campbell Folk School in 1985, but will resume his teaching in 1986. Having seen Francis demonstrate in 1976 and 1979, all I can say is that Francis's presentation is better and more educational each year. We all thank you for sharing your knowlege with us Francis.

SUPPORT ABANA

This is a plea from me for you all to make an effort to support ABANA and extend yourselves. When I started blacksmithing for a hobby, 24 years ago, there was next to no information on blacksmithing, and what there was was of no use to a beginner. When I started smithing for a living, about 18 years ago, there was practically no one to learn from. I worked for 2 year without ever seeing a good blacksmith, one who even knew the little that I did. I then met an Amish farrier, who let me watch him, but was not into talking or teaching. An that is the way it was throuout history. Many of you now expect to be told answers to anything you ask and think that such free and quick answers are the way blacksmithing was always taught, but that is a modern concept, and without your support this could all end. While BAM needs your support, so does ABANA. We will shortly become a local chapter of ABANA, and your participation in the national as well as the local organization will enrich your smithing and life.

BAM T-SHIRTS

Steve Austin, 44 N.E. Munger Road., Claycomo, MO 64119, has a number of BAM T-SHIRTS in S, M, and L, for \$10 per shirt post paid. All profit from these will go into BAM's treasury, which at the present is completely empty. If you go to the national ABANA Conference at De Pere, make sure you have one of these shirts to wear. Steve also has some very nice Francis Whitaker posters available at \$1 postpaid.

FRANCIS WHITAKER MASTER CLASS

At the 1984 ABANA Conference Francis Whitaker will teach a master class in which two teams of twelve will work under Francis and work on a gate for installation at the NATIONAL ORNAMENTAL METAL MUSEUM in Memphis, Tennessee. The deadline on this has been extended to May 20. Each tem will work for half the conference and be free to watch the conference the other half. You are invited to send a resume to Jack Brubaker, ABANA President, R.R. 2, Box 402A, Nashville, Indiana, 47448. Resume should include slides of your work and or photos. Unless a stamped, self-addressed envelope is included, these will become part of the ABANA Library.

EXECUTIVE SECRETARY POSITION

ABANA is looking for a person to fill the position of Executive Secretary. This is a paying position which will require about 20 hours a week. It requires someone who can fulfill this time requirement and who will work under ABAN's Secretary-Treasurer, maintaining the membership list, answering correspondence, welcoming new members, assisting the Secretary-Treasurer, and providing secretarial services to the board of directors. This is a part time job with hours and pay to be determined by the board. For more information contact John Dittmeier, 6 W Mt Vernon St., Smyrna, DE 19977, Ph (302) 653-4213 evenings and weekends.

Application Format. Your application should consist of cover letter, resume and responses, each typewritten on standard white letter sheets (8.5 x 11 inches).

Cover letter. Introduce yourself and state briefly your interest in the position of Executive Secretary.

Resume. Place name, address and phone number at top. State your present livelihood and, if applicable, employer. Follow with a description of experience related to the position, giving name and address of employer and dates of employment. Provide a statement on your education. List your personal interests and also activities or affiliations pertinent to the position.

Responses. To the best of your ability, provide answers to the following inquiries. These are for information and will not be critical in the selection process.

1. Will you have available 20 hours per week for the work without conflict with present livelihood or homelife? Does this apply if position grows to 40 hours per week?
2. Are you able to arrange a dedicated work space, including desk, filing system and telephone?
3. Investigate the following services in your area:
 - a. Microcomputer Services for the membership database. Ask local computer store for business offering services.
 - b. Photocopying Services especially for membership lists by both alphabetical and zip code order. The service should be able to reduce and collate; a machine in the Xerox 9000 series has these capabilities. See 'Printers' in the Yellow Pages.

Submittal. Send your application to John Dittmeier, address above, by June 1, 1984.

BAM TREASURY

As of this newsletter our treasury is basically zero and in the hole, this being due to a poor turnout for the Francis Whitaker demonstration. We lost about \$450-500 on the demonstration, and Francis charged us minimally. This is due mainly for the workshop being on a week day. Anyone having any ideas on how we can arrange to get some money should contact a BAM officer, or this newsletter. Unless funding for mailing and printing this newsletter can be arranged this letter will cease to be mailed.

EUROPEAN DEMONSTRATORS

All three guest smiths to the 1984 ABANA conference will be touring the United States after the conference. If any BAM member wishes to host a visiting smith, either let BAM know, or ABANA, as there will be a meeting at the conference to arrange travelling plans for the visiting smiths.

JOURNEYWORKER

Eamonn Kenward, a talented blacksmith from the workshop of Richard Quinnell Ltd., would like to establish one or two week shop stays on his stay in the USA. If you wish more information, please call John Dittmeier evenings (302)653-4213 or write E. Kenward, c/o R. Quinnell, Ltd., Rowhurst Forge, Oxshott Road, Leatherhead, Surrey, UK KT22 0EN

BEGINNING TO FORGE

Lesson 1

Probably the hardest thing about learning to forge is to do the simple tasks involved all at one time. Build a normal fire, heat a bar of metal perhaps $3/8$ " square. First heat it to a dull red. Then continue heating it, removing it periodically and looking at the color. You should use a bar of mild steel for this experiment. If your forge is portable, it is no a bad idea to try this in the shade and in the sunlight. You will notice that the metal will go from black to red to orange to yellow, and then will sparkle and melt. It is likely that the metal will never look a brilliant white to you. It is also probable that in the sunlight it will never reach a yellow color. The lesson to learn is that the color is relative. I suspect that the colors are a little different for each person. At the sparkling temperature it is likely that the metal will be damaged. The only time it is desirable to reach this temperature normally is for forge welding, but it is a condition that you will become familiar with, for a forge fire is capricious. It will heat more quickly one time than another. Only a lot of heating will give you experience in this. Your forge should either have a good hand blower or bellows, or an electric blower you can control. Too many shops have an electric blower that either is not powerful enough or cannot be shut down enough. The control can be a butterfly valve or a rheostat if you have a blower that can be so controlled. If you have a powerful enough blower that will not slow down enough with a rheostat or with a speed control, Francis Whitaker suggests wiring a light bulb in series with the rheostat circuit, or a resistor. If you know another blacksmith with some experience, get him or her to help you, or you can buy a commercial blower.

Back to forging. From a dull red to a yellow the metal basically gets softer. But this is not a steady progression, for reasons metallurgists understand best. For most purposes a temperature just under sparkling is best for heavy forging, and a dull orange is the heat to stop forging at. If the metal is not too large you may notice that your hammer blows keep the metal hot. First, flatten the metal out with hammer blows on the anvil. Try and make it spread out evenly with no deep dents. If you turn the metal 90 degrees and flatten it again, it will get longer. This is called drawing the metal out. If you flatten the metal out too much it will be difficult to forge at the 90 degrees, and it will tend to buckle and bend. For most purposes this is not desirable. If you do not turn the metal exactly 90 degrees, or if your hammer blows are not placed properly the metal will not maintain a rectangular cross section, and this is the basic difficulty beginners have. This is not a problem unless the work is nearly forged to dimension. Simply hammer the acute corners and the work will become 6 sided. If the work twists, take it to the vise and straighten it. Don't chase it around the anvil with a hammer.

Once you have straightened the piece, if it needs it, hammer the piece square again. To make a piece round, draw the work out to the right size, and this should always be done square, for the structural health of the metal, hammer it so that it has 8 sides, then 16, and then rotate the work on the anvil while lightly hammering it, and with practice it will be quite round. To taper a piece, simply angle the hammer to the same angle between the anvil and hammer, draw the work out square, and then round it to that is desired. To hammer work so that it has a number of sides, say 5 or 7, is very difficult on the anvil, and is usually done in a swage. There is usually no reason to do this. It is good for a beginning smith to learn to hammer work uniformly square, change it to round, and then back to square. Problems arise simply because the smith is not skilled in hammering and manipulating the metal. To forge metal for the first time it is desirable to a long piece, say 20 inches or so, so that tongs will not be needed to hold the metal, and the smith can give full concentration to the metal. While a swage can be used to round metal, it is important for a person who is starting to learn blacksmithing to learn to shape the metal as much as possible with just the anvil and hammer, using the forge for heat, as this is the basis of all blacksmithing.

LEARNING TO FORGE WELD #1

This is intended for someone who is able to do at least decent forging, as it is important to be able to control the hammer. Several things are necessary for a smith to learn to weld: Good coal, a proper forge fire, good mild steel (or wrought iron, which will not be covered here) a good flux, and good hammering. A welding fire should be deep enough for a proper welding fire, and there should be no direct blast of air on the metal in any forge fire, but this is crucial to forge welding. Clean the fire of clinker, and make sure that the fire is deep and that all of the fresh coal has turned to coke. IF AT ALL POSSIBLE, GET A SMITH WHO CAN WELD WITH YOUR FORGE AND COAL TO SHOW YOU HOW TO BUILD A PROPER FIRE. If you can't do that, it will be much more difficult. For your first weld, take a piece of, say, $\frac{3}{4}$ " mild steel and fold an inch or so back on itself at a red heat. Take a good flux, such as EZ Weld or Crescent welding compound and, prying the fold slightly apart, apply some of the flux with a small spoon with a long handle made for the purpose. Tap the fold together, making sure that the compound does not spill out. Place the piece back in the forge, making sure that the fire is well coked, and that there is at least two packed inches of coke between the air inlet and the metal. Next comes the hard part. Cover the metal with coke, and heat it with the air blast strong enough to be sure the metal gets hot, but so there is not too much air coming in. The really hard part is that the metal should be covered so that it is hard to see, and it should not be brought out of the fire constantly. Clear a very small hole to the metal with a poker and when it seems that the metal is a bright orange, take your long handled spoon and add some flux to the sides of the metal. Then heat the metal until the flux all melts and it has a glistening appearance, there should be some very fine sparks appearing in the clear forge fire. Have your anvil clear with your hammer ready to grab. Grab the hammer, swing the metal onto the anvil, and with moderate fast blows hammer it together. You should have safety glasses, and may want gloves if burns bother you. An apron will protect your cloths. Hammer the whole surface of the metal, having the folded side up, starting at the fold and working towards yourself. After you are done hammering the piece should look like one piece of metal. This is the simplest faggot weld, and until it can be done well, there is no point in trying any other welds. the piece

The piece should be worked at a welding heat until you are sure it is welded. Usually, even bad coal will work for this weld. If the weld is properly done you should be able to draw it out square, and then round it without it splitting. If it does split it is likely the weld was poorly done, and or that the coal is bad. I recommend four your piece of mind and self respect that you get good coal before trying this, as the frustration can be intense and sour you on learning to weld. Take it from all the centuries of blacksmiths: good coal makes good welds, and a beginner can learn to weld with good coal as a learnable skill. With coal that is somewhat acceptable, but less than good, a skilled smith can learn to weld with it, and get fairly strong welds, but they will tend to split out, while a beginning smith will end up having a difficult time doing even the simplest welds, which will almost always break under use. With really poor coal, the best of smiths will have a rough time getting any welds, and they will not be dependable. Sometimes after trying to weld with bad coal the metal will become brittle, even though it had not been heated to a point where the steel would have been damaged in a good fire with good coal.

Once you get this first weld, try doubling a bar, say 3/8" square and welding it full length, then drawing it out to 3/8 square, then rounding it. When you can do this you will be ready to learn the next step in welding. After welding a piece it should always be forged in the area that has been heated to a welding heat, forged to size, then cooled slowly.

To be improved in appearance, it should be wire brushed at a high heat after welding. Next issue, Scarf Welds. Following that, exercises on learning to weld two separate pieces together successfully.

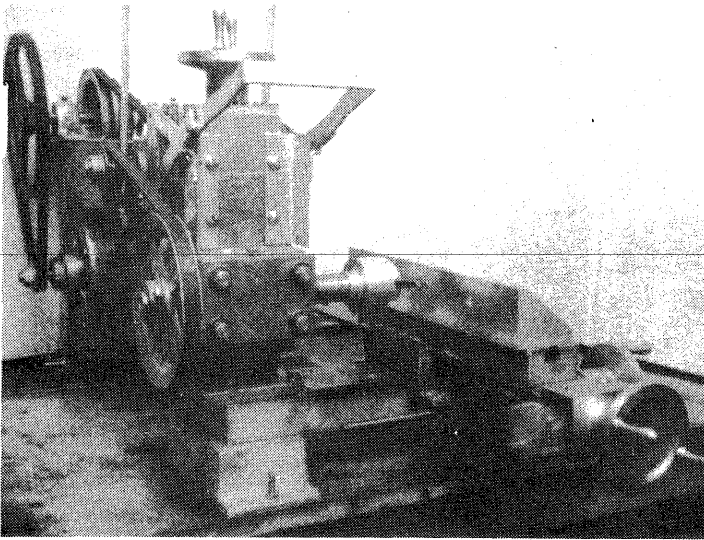
As you can see, this is the first issue done on our new, old, mimeograph, and it is a real experience for the editor. I will try and get the graphics a little better in succeeding issues.

FOR SALE AND WANTED

- For Sale-- Crazy Bob's tongs. Guaranteed high quality, only two more months at \$8 per pair plus shipping. These are high quality tongs, as good as you can purchase elsewhere at a higher price. Order from: Bob Patrick, Big Anvil Forge, Bethel, MO 63434
- For Sale A variety of used blacksmithing equipment at prices to be negotiated. to order, contact/ Darold A Rinedollar, Blacksmith Shop, PO Box 14, Augusta, MO 63332
- For sale Canedy-Otto #4 Shear/Punch \$225.00. Shears both rod & plate, punches 1/2" hole in 1/2" plate. Contact: Don Asbee, Rt. 2, Hwy. 28, Bland, MO. 65014 PH 314-646-3657.

BULK COAL

After the workshop with Francis Whitaker, and the encouragement of Francis to buy good coal, we are looking into a bulk purchase of coal seriously, and hope to secure some in the next month or two. The coal Francis thought was coal that was very good was from the Cumberland Elkhorn Company, Louisville, Kentucky. We are going to try to secure this coal or an equal one at a very reasonable price. If we buy the coal ourselves a "bargain party" is planned. More at the



THE MILLING MACHINE
BOOK 4

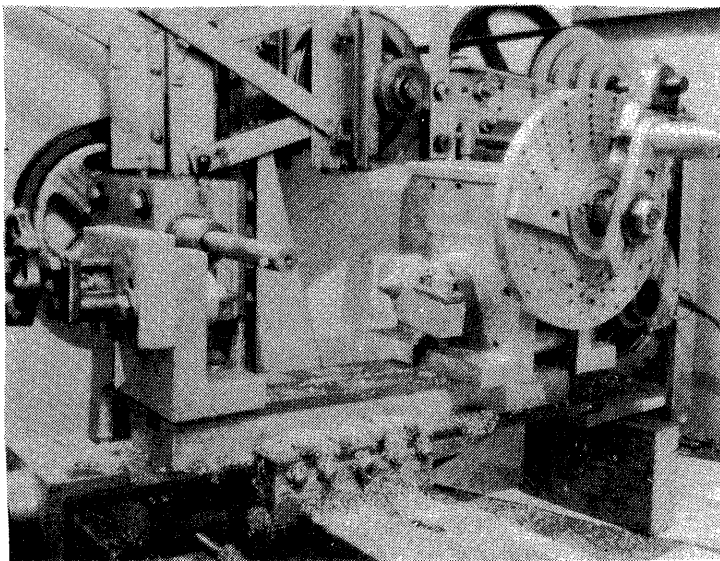
160 PAGE PAPERBACK \$7.95
ISBN 0-9604330-3-1

The design is especially planned for the developing home shop. It's a horizontal miller, but it has the full range of vertical mill capacity when used with the angle plate on the work table.

Extremely rigid and versatile. The work table is 2 3/8" X 12" with a 3/8" T slot, and it travels a full 12". Eight speeds from 43 RPM to 2430 RPM. The spindle raises as much as 6" above the work table, and the transmission is designed to follow the vertical travel of the spindle head without changing belt tension.

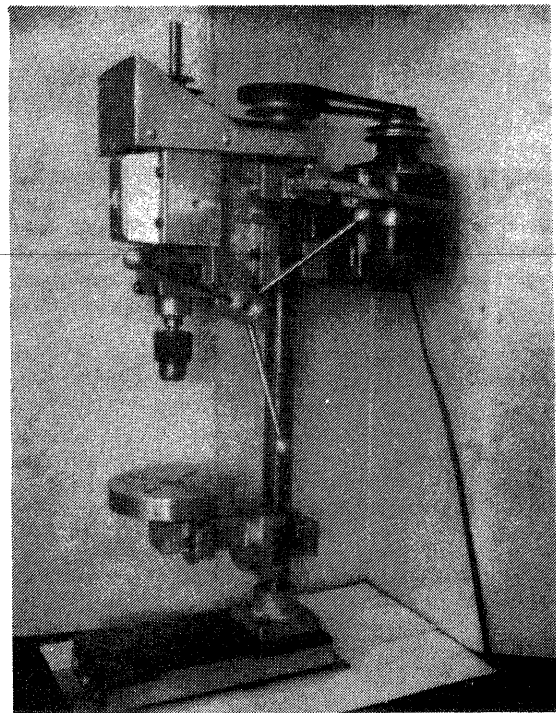
Included accessories make it possible to do large diameter lathe jobs, and it can make its own cutters and holders.

Still no need to look for outside help. It's a miller and more, and you can build it yourself.



THE DIVIDING HEAD & DELUXE ACCESSORIES
BOOK 6 ISBN 0-9604330-5-8 160 PAGE PAPERBACK \$8.95

Now that you have a machine shop you need accessories for the machines. First build a four jaw chuck and tool up your shop. Add a steady rest to the lathe. Build a worm wheel dividing head and learn how to make gears. Add change gears and a threading indicator to the lathe so that you can cut accurate threads from 8 to 80 per inch, both right and left hand and internal and external. Make your own reamers and learn how the master machinist of 100 years ago made his hand full of tools do nearly any job he was assigned to. These are accessories that are seldom found in a home shop, and you can build them with your newly acquired machines and skills.

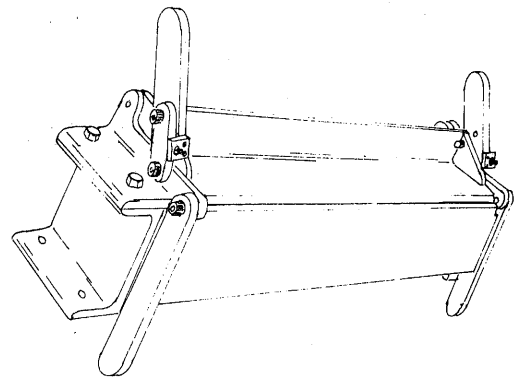


THE DRILL PRESS
BOOK 5

128 PAGE PAPERBACK \$7.95
ISBN 0-9604330-4-X

It drills to the center of a 12" circle with a quill feed of 2 1/2". Two stage reduction gives a low speed of 260 RPM to drill large holes in steel. Ball bearings in the spindle, driven pulley and idler make it smooth and quiet running. A radial table for angular drilling, and the quill guide is adjustable for wear. Speed changes are fast and easy with the over center belt tension lever. Quill feed is by cable winch or roller chain--there are no racks or pinion gears to cut. Scale it up to a large floor model, or reduce its size for a compact bench model.

This project really proves the worth of the simple lathe with no more than a face plate and centers, and you gain additional accessories for the lathe. You will be a better machinist when this one is done.



DESIGNING & BUILDING THE SHEET METAL BRAKE
BOOK 7 ISBN 0-9604330-6-6 52 PAGE PAPERBACK \$6.95

I almost left this one out of the series, and I would have if it were not for my friends who tell me they are always wanting to bend up some sheet metal for a project.

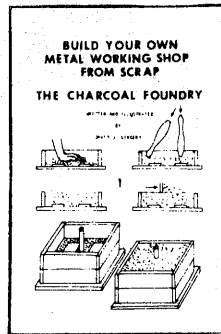
This one uses no castings. It's a welding project using standard structural steel and hardware to build a compact portable bending brake.

It's a 30 inch brake as detailed, but you can scale up or down in size within reasonable limits. Make neat bends in 26 gauge steel to form duct, boxes, drawers, belt guards for the machines, etc..

BUILD YOUR OWN METAL WORKING SHOP FROM SCRAP
 BY DAVID J. GINGERY
 L. C. #80-66142

A progressive series of projects in seven volumes. Begin with simple methods and common items to build a compact home foundry. Use the foundry to make castings for the projects. Early castings are finished by simple hand methods, but it isn't long before the developing machines are doing most of the work to produce their own parts.

It does not take long to learn the simple art of pattern making and green sand molding, and each phase of the project increases your knowledge and skill. There is no need to look for outside help—you can do it all in your own shop. No complicated math—no exotic equipment—just a group of simple machines to help you develop your mental and physical skills as you build your shop.



THE CHARCOAL FOUNDRY
 BOOK 1

72 PAGE PAPERBACK \$6.95
 ISBN 0-9604330-0-7

Plans and instructions for building a simple home foundry from common materials. Basic pattern making and molding procedures, and how to find substitutes for commercial materials which are not easily available to individuals in small lots.

Charcoal is the fuel, and aluminum and pot metal are the materials to cast. The furnace operates without pulsation or roar, it's non-technical and easy to build and operate.

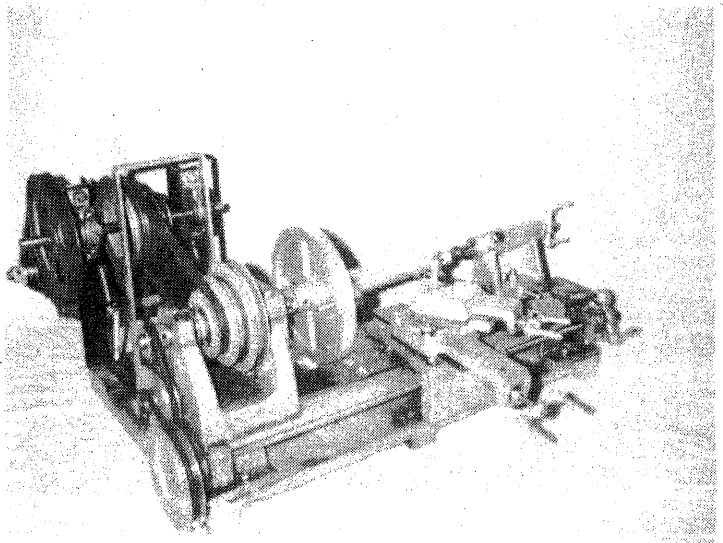
You can establish a compact home foundry with little cost and effort, and it provides the means to make the castings for the machinery projects that follow.

If you can build a sand castle or make a mud pie you can make a sand mold. It really is that easy.

ORDER FROM:

DON ASBEE BLACKSMITH, INC.
 RTE. 2 HWY 28
 BLAND, MO 65014

Include 75¢ shipping for one book, and 25¢ for each additional book.



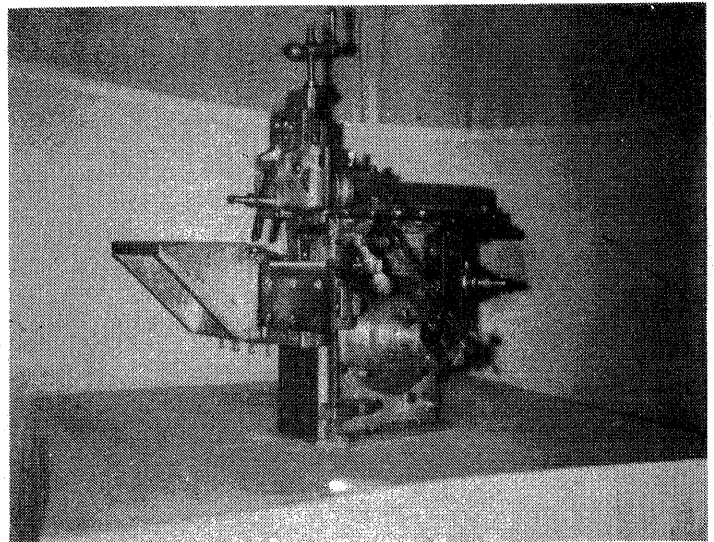
THE METAL LATHE
 BOOK 2

128 PAGE PAPERBACK \$7.95
 ISBN 0-9604330-1-5

Using castings from the charcoal foundry and simple hand methods you can build a sturdy and accurate bed for the lathe. Additional castings and simple improvised equipment will add the headstock, tailstock, carriage, and all of the remaining parts to complete the lathe.

Illustrated with photos and line drawings, it shows all you need to know about pattern making, molding, and how to finish the parts.

A 7" swing over the bed, 12" between centers, automatic powered carriage feed, adjustable tailstock set-over, and adjustable gibs in sliding members. A truly practical machine, capable of precise work.



THE METAL SHAPER
 BOOK 3

144 PAGE PAPERBACK \$7.95
 ISBN 0-9604330-2-3

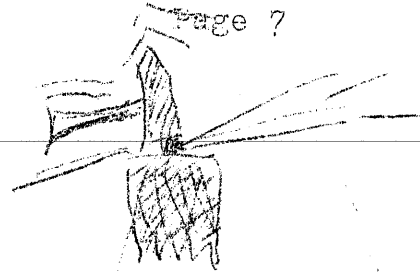
Now that you have a foundry to produce your own castings, and a lathe to machine them, you can tackle more elaborate projects.

Though considered obsolete in modern industry, the metal shaper offers much to the home shop operator.

With a 6" stroke it has a mean capacity of better than 5" X 5". Variable speed, adjustable stroke length, automatic variable cross feed and graduated collars.

Cut splines, key ways, gears, sprockets, dovetail slides, flat and angular surfaces and irregular profiles. You simply can't beat a shaper for economy and ease of operation.

BLACKSMITH
ASSOCIATION
OF
MISSOURI



Dues are \$10 per year. Please make your checks payable to the above.

Name: _____ Telephone _____ Date _____

Address: _____ City _____ State _____

Zip _____

Do you have your own shop? Yes ___ No ___ Full-time smith: Yes ___ No ___

Do it for a hobby ___ Interested, but not into it yet. _____

Suggestions for BAM _____

SEND TO: Blacksmith Association Of Missouri
Box 205,
Bethel, MO 63434

MONROE CITY



Hwy 36

BUSINESS 36

4 WAY STOP

FOR INFORMATION
PHONE:
314-935-2958

PARK

CHURCH

WATER
TOWER

CHURCH

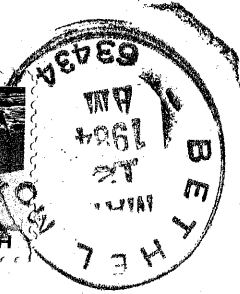
CITY HALL

BAKER'S
FORGE



CHURCH

LIBRARY



BETHEL, MISSOURI/6343

Box 203

B A M