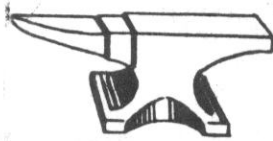


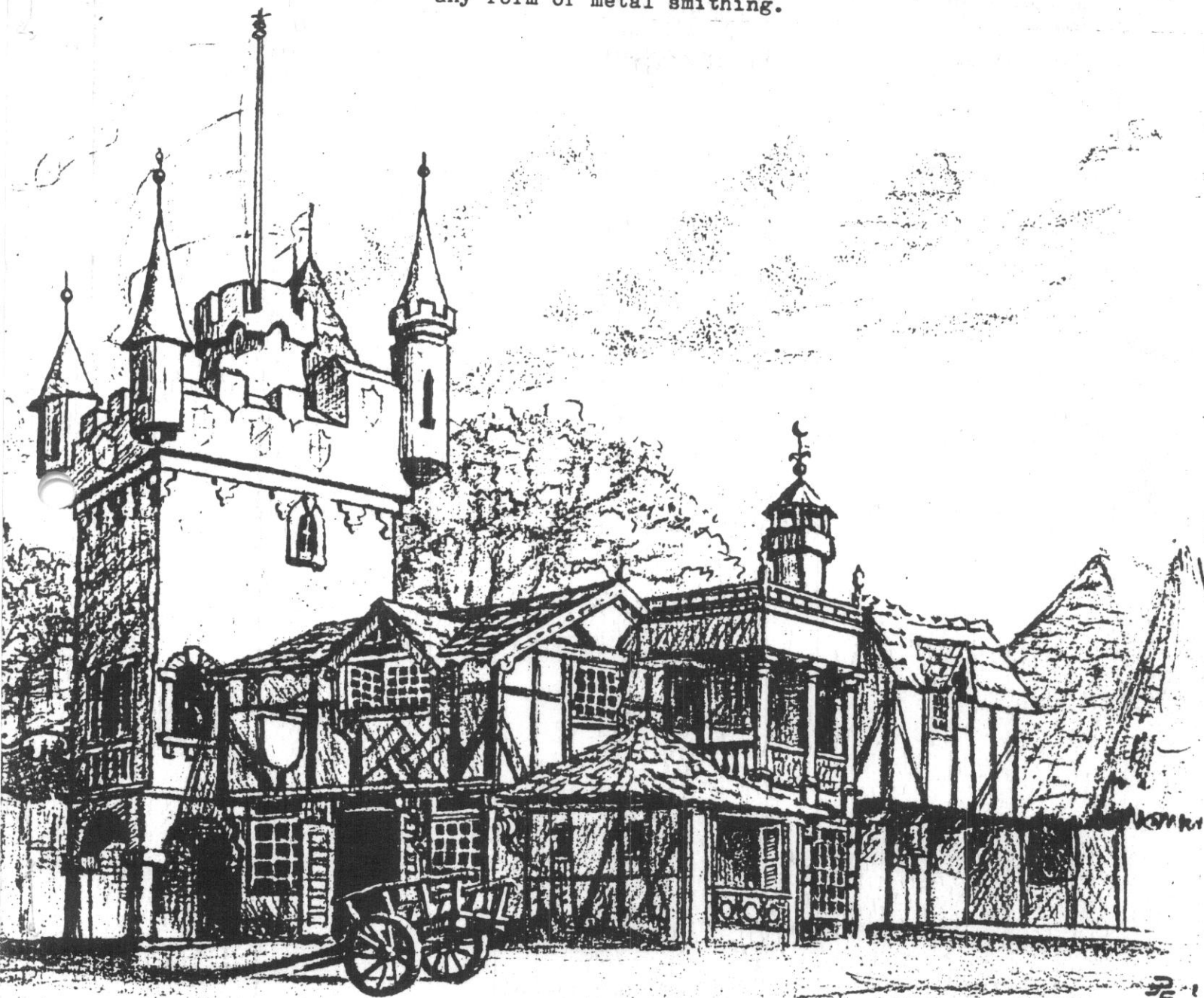
Vol. IV
No. 3

METALSMITH



“The lyf so short, the craft so long to lerne”

A NEWSLETTER OF THE GUILD OF METALSMITHS: an organization to promote appreciation & study of the Metal Smiths' Art; serving Smiths in any form of metal smithing.



inside :

The art of Samuel Yellin _____

METALSMITHS MADNESS UPDATE

The 1980 Madness looks super!! The location is Mears Park in Lowertown St. Paul and our event will run right in the middle of the "Lowertown Arts and Music Festival". This is an event sponsored by the downtown St. Paul Chamber of Commerce and is a real big deal. The Festival features 150 arts & Crafts booths, 15 ethnic food booths and continuous music from bands ranging from 30's and 40's big band swing to current rock.

This event will feature live radio broadcasting on the Boone and Erickson Show plus much, much more and we're right in the middle of it all!!

Our adjenda looks like this.

May 30th -NSP Lobby Exhibition goes up.
Monday through Friday, June 2-6 - Guild demos on NSP Plaza 10:30 - 2:30.

Friday, June 6th - Guild members shoe a horse plus demonstrate on NSP Plaza 10:30 - 2:30.

Saturday, June 7th -Third annual Metal-smiths Madness at Mears Park -St. Paul.

Sunday, June 8th - Guild hosts the regional chapter meeting of ABANA at Paul & Mouraine Hubler's Piety Hill Forge. Pig roast, Albert Paley movie, demo's, etc.

If you'd like to get included in any of these areas or would just like to demonstrate in what promises to be a lot of fun, give me a buzz at 825-2193.

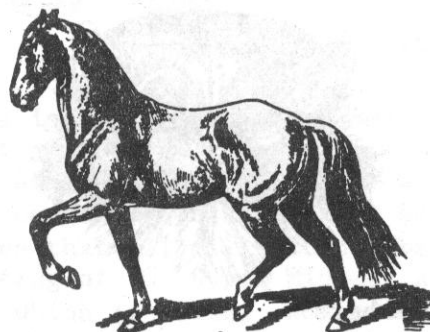
Guild members active so far -

MEARS PARK DEMONSTRATORS

Ron Johnson, Lou Chowen, Robert George, David Christofferson, Ky Michaelson, John Moriarty, Bob & Carol Sharp, Paul Hubler, Mike Knott, Jim Koskovich, Marcia McEachron, Bill Miller, Bob Walsh and Vickie Johnson.

NSP PLAZA DEMONSTRATORS

Bob Sharp 5 days, Carol Sharp 1 day, John Moriarty 5 days, Paul Hubler, Jim Koskovich, Marcia McEachron 5 days, Ron Johnson 2 days, Bob Walsh 3 days, David Christofferson 1 day.



HORSESHOEING DEMONSTRATION ON PLAZA
Bruce Milan.

GALLERY IN NSP LOBBY

Bob & Barb Esse, Ron Johnson, Maxine & Bob George, David Christofferson, Bob Sharp, John Moriarty, Marcia McEachron, Paul Hubler, Mike Knott, Bob Walsh and possibly Joe DeLaRonde.

POSTER

Maxine George.

PUBLICITY AND MAILING

Bob & Barb Esse, Paul & Mouraine Hubler, Mike Knott.

PIG ROASTING CREW

Mike Knott, Roy Bohn, John Moriarty, Tom Windon. Paul is arranging the pig buy and equipment.

VIDEO PRESENTATION OF EVENT

Jack Skogen, Roy Bohn.

DOOR PRIZES

Bob Sharp, John Moriarty, Maxine George, Barb Esse, Paul Hubler.

BUILDING A GUILD BOOTH

Roy Bohn, David Christofferson, John Moriarty, Oliver Juare.

MEARS PARK LOGISTICS

Paul & Mouraine Hubler

THE GUILD OF METALSMITHS IS LOOKING GOOD!!!

Get it On!

NOW, you can tell the world YOU are a member of the Guild of Metalsmiths in a

Tee Shirt

emblazoned with the Guild's logo. Help support your Guild's activities too!

PRICE: **\$6⁰⁰** Contact John Moriarity;
699-9249 1943 Bayard
St. Paul Mn. 55116

UPPER MIDWEST ABANA CHAPTER TO MEET

On Sunday, June 8th, the Midwest Chapter of ABANA will meet at the Piety Hill forge of Paul Hubler in Rockford, Minnesota. The Guild of Metalsmiths will host the meeting which will include a pig roast, demonstrations, films, slides and much, much, more. The Piety Hill Forge is located in Rockford, 25 miles west of Minneapolis on Highway 55. When you reach Rockford, go down the hill and across the bridge. Turn to the right on Maple Street which is the second turn to the right. Go about four blocks to 6220 Maple which is Paul's home. The forge is on the alley behind his house.

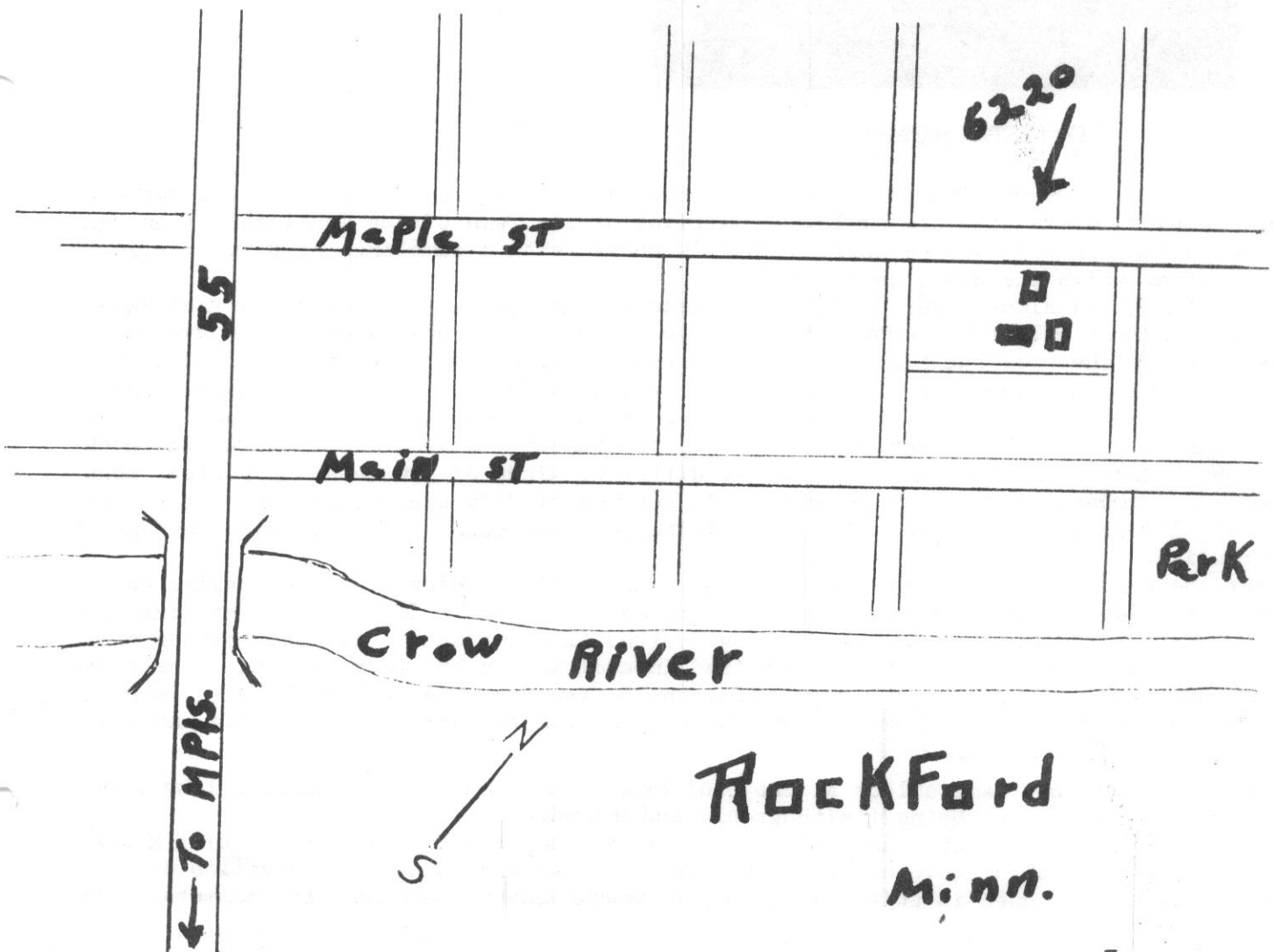
On Saturday, June 7th, the Guild of Metalsmiths is participating in its third annual Metalsmiths Madness at Mears Park in St. Paul and wants to extend its invitation to all members of the Midwest Chapter to come early and attend. For all those who will need a place to camp or to unroll a sleeping bag, please get in touch with the Hublers at (612) 477-5235 and let them know.

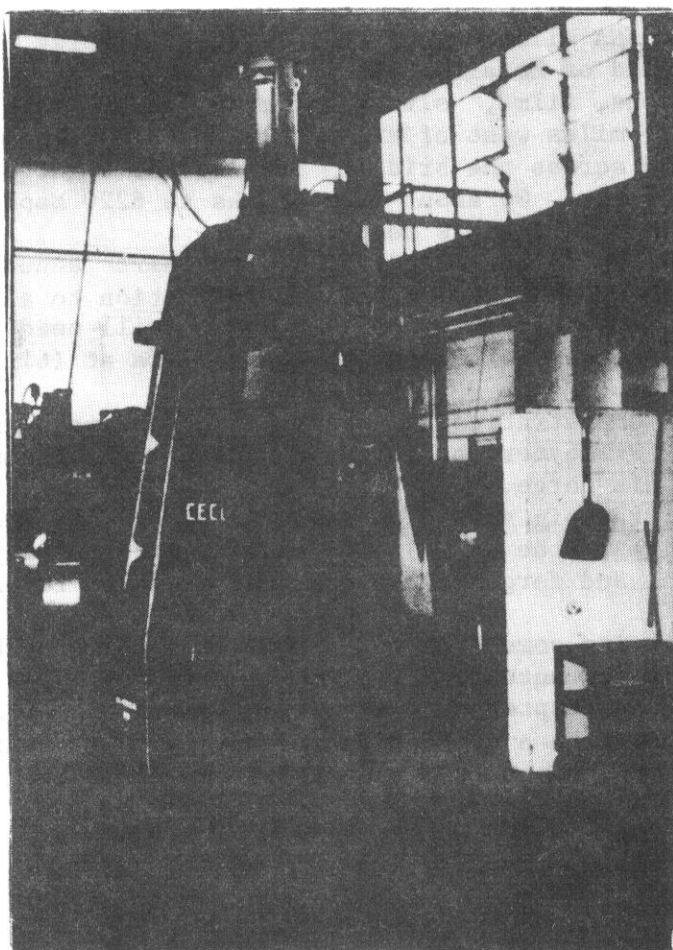
On the Sunday of the meeting, Paul will start demonstrating his special jigs and methods at 9:00 a.m. For those who wish, there is a Presbyterian Church, an Advent Church and a Lutheran Church within walking distance of his forge.

The meeting will convene at 11:00 a.m. and the pig should be ready by noon. In the afternoon, there will be demonstrations, a film of the large fence made by Albert Paley which has been featured on public television, and forges set up around the yard for a forging contest.

Members of the Guild of Metalsmiths are to bring something for a pot luck to go with the pig. For our vegetarian friends, salad is guaranteed.

We hope to see all members of the Midwest ABANA Chapter at this meeting along with all members of the Guild of Metalsmiths. This should be a productive meeting with a great deal of good fellowship and entertainment as well as useful information for all.





Owatonna tool company tour



AIR PISTON HAMMER

On April 17, 1980, metalsmiths Bill Miller and Walt Kirst hosted a tour of the Owatonna Tool Company, where both are employed. Arrival of the Twin Cities Contingent (via Paul Hubler's van) at 6:30 was greeted at Bill's house with a sampling of Bill's culinary arts, after which the plant tour began.

Metalworking in almost every aspect was seen on the plant tour. Owatonna Tool manufactured almost all of the components of the 65,000 tools they produce from raw stock. The machine shop was the first stop on our tour. The myriad machine tools and sophisticated equipment seemed to stretch on for acres, doing all kinds of complex tasks. Bill and Walt were able to provide excellent firsthand explanations of what each one was doing. One of these machines was called the Master. This is a one of a kind machine which does final machining on twelve different kinds of jaws used in pullers manufactured by Owatonna Tool. This machine is not numerically controlled, has three horizontal milling heads and two vertical drill heads. The feed of this machine is done by hydraulics.

After the machine shop, we saw the die shop where all the dies for the forging operations are made. A new die is made using first a tracer mill followed by very exacting hand work for the final radius on the edge curves of these dies. For the forging operation, a trimmer die and punch are required in addition to the forming dies. The trimmer punch and die cut the edge flash from the finished forging while the part is still at forging temperature. Tolerances on these dies are, of course, very close and their manufacture requires much skill.

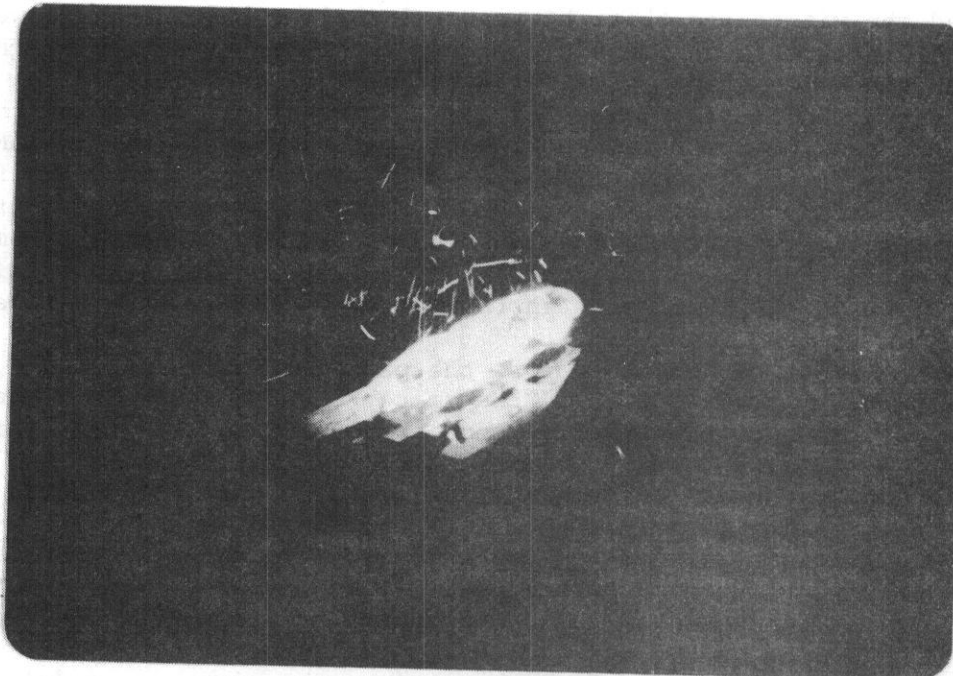
After the tool room, came a look at the tool crib followed by the production line where some special tools were being finish-ground and polished.

The best, however, was saved until last. This was the forging operation. Bill Miller works operating this equipment and was able to provide detailed information on it. Three hammers are used in this operation, a Board hammer and two air hammers. The

Owatonna tour

Board hammer is lifted by means of a wooden board running vertically between two steel rollers and dropped when it reaches the top of the stroke. The air hammers are lifted by means of an air cylinder. Both of these hammers obtain their force from gravity. The Board hammer has a ton ton capacity and will strike once a second developing a force of 8850ft/lbs. The air piston hammer has a one to three thousand pound capacity and develops 14,000 ft/lbs of force. The dies for these machines weigh up to 900 lbs. To see these giants work is, at the least, very impressive; the sound, heat and raw power are very exciting and fascinating to see. Orange hot steel is formed into jaws and crossheads for pullers by these hammers. The dies, which can weigh up to 900 lbs., are usually in three stages. The first cavity of the die serves to upset the stock; this takes about ten strokes with the hammer. Next the stock is moved (between hammer blows) to the adjacent cavity which is the preliminary shaping die. Here the stock receives about ten more blows shaping it very closely to the final part shape. The last cavity is exactly the shape that the final part is to be. Approximately six blows here give the metal its final shape. The metal is then removed and taken to the trimmer punch and die which cuts off any excess metal. The finished part is cut from the end of the billet and the operation is completed. The remainder of the stock is placed back into the furnace and reheated; when it is hot enough, the operation will begin again until the stock is used up. During the entire operation, the stock is held by the operator in a pair of tongs and moved by hand from the furnace to the hammer and between each die cavity. The hammer is controlled by a foot pedal pressed by the operator; as long as he holds the pedal down, the hammer keeps cycling. The operators we watched kept the hammer operating continuously with no break in the work rhythm. At the conclusion of the tour, we retired to the Owatonna Bridgemans to ruminate on what we had seen and heard; the ice cream a marked contrast to Bill's chili. The Guild is very appreciative of the time, effort and fine hospitality put forth by Bill Miller, Walt Kirst and the Owatonna Tool Company, and wish to offer them our sincere thanks.

John Moriarty



SPARKS FLY FROM THE HOT FORGING



TAKE A BOW

DAVID CHRISTOFFERSON

by - Mouraine Hubler

When it was suggested that our Guild of Metalsmiths Newsletter be expanded to include biographies of our members, there was discussion as to exactly which member should be used as the subject of the first article. Since it will be my function to write these articles, I felt well within my prerogative to decide its subject. I shall start with David Christofferson for it was in a large part with David that our Guild of Metalsmiths started back in 1976.

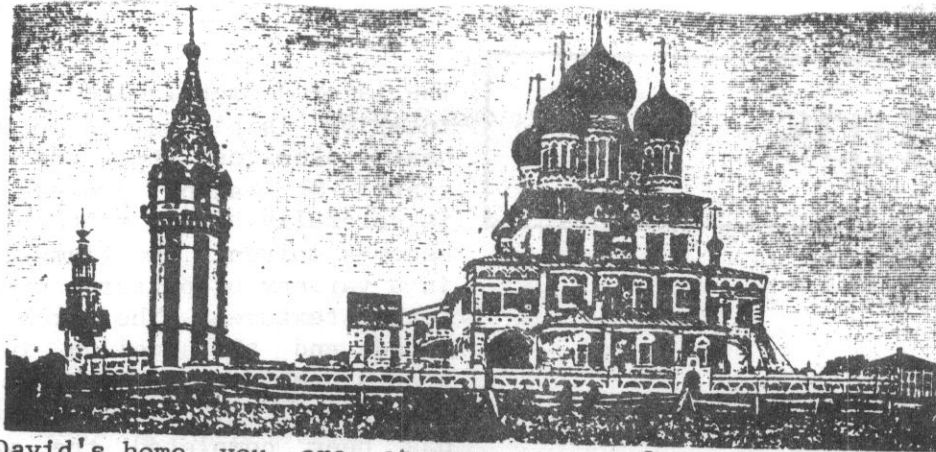
David has always been interested in tools, their functions and the changes they create in the metals with which they are used. His work began with a gift of a carpenter's kit as a child and continues to the present day with his work in precious metals, iron, tin and copper.

David's ability in the field of art and metal was aided through school and college by teachers who had the wit to see that his natural ability should be allowed to grow. He worked at his own pace through the art classes at Alexander Ramsey High School in Roseville and began, then, to create jewelry which he still continues to do.

David conceived the idea of a Guild for metalsmiths of all kinds and then brought his ideas to Pieter Maas and Mark Nichols who had just returned from an ABANA meeting. They were delighted with his ideas, so close to their own, and the three founded the Guild of Metalsmiths in December of 1976. David and Mark started turning out the first issues of the newsletter, trying to include information on all branches of smithing and spreading the word about the Guild. Together they designed and built the smithy at the Gibbs Farm Restoration in St. Paul and in the spring of 1977, held a blacksmithing workshop there.

Utilizing his knowledge of and love for the period of the Renaissance, David has designed and supervised the building of the smithy and Bad Manor on the Festival Grounds near Shakopee. Some of his jewelry and other metal work reflects his interest in this period.

David lives on Goodhue Avenue in St. Paul in a home he purchased and is working to restore. This house was built in 1872 by a St. Paul musician and saloon-keeper who promptly died. Ownership of the home passed to one of the early St. Paul blacksmiths who was one of the many who lived on Goodhue and for that reason, the street was for a long time called "Blacksmith's Row". David is restoring the Greek Revival house and his hammer blows has built a smithy in the side yard. Perhaps as his smoke rises on a daily basis and his hammer blows echo through the neighborhood, it will again be termed "Blacksmith's Row".



Entering David's home, you are at once aware of two things - one, that he is interested in tools of all descriptions and two, that he is a bachelor. For those of you who may not recognize David from the photograph, he is tall and thin, his glasses are largely held together with wire and his hair has a tendency to stand at attention.

Those of you who read the editorial credits at the beginning of the Metalsmith will see that David is now involved in the creation and editing of the newsletter. He continues to work with the Renfest and is working to organize a combined Fall Show and Sale in the Metro area for members of the Guild and the Minnesota Crafts Council. He specializes in historical replicas of the jewelry of the old Fur Trade for the Minnesota Historical Society and in July will be at Ft. William and Ft. Snelling with his work. He is on the lecture and demonstration program for both the Guild and the Minnesota Historical Society. New members of the Guild will find him willing to lend assistance and offer the benefit of his experience to any who ask.

Gilda



BEAM HOOK *JIP*

Take a piece of iron $\frac{1}{4}$ " square by 4" long. Draw out one end to a round taper 3". Bend hook in jig. Draw the other end to 1" long square taper. Place in jig and bend 90°. Put in vise and twist shaft.

BENDING JIG

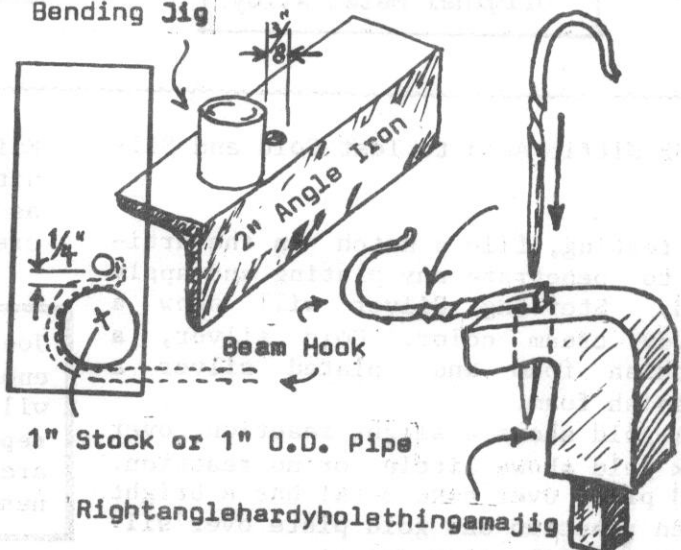
Paul Hubler

Take a piece of 2" angle iron 4" long. Take a piece of round iron 1" long 1" in diameter and weld it 1" in from the end and the side. Then drill a hole in the angle iron (see drawing)

90° BENDING JIG (SEE DRAWING)

BEAM HOOK FORMING JIGS

Bending Jig

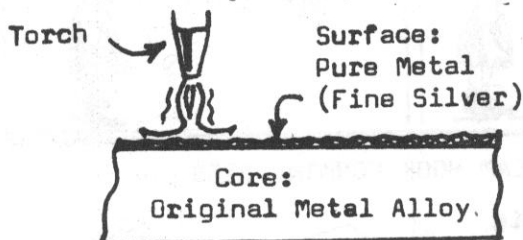


tips

RETICULATION

A heat texturing process which forms a roughened textured surface. This process works on sterling silver but the best results occur with an alloy of 17% copper, 83% silver. In either case, it is necessary to build up a skin of fine silver on the surface of the 18 to 20 gauge sheet. (The fine silver surface will eventually become the reticulated surface.)

This is done by heating the sheet to 1100 to 1200°F which produces silver and copper oxides on the surface. Immediately quenching in a pickling solution dissolves the copper oxide and leaves a fine silver surface. The heating and quenching must be repeated five times for the alloy silver and twenty times for sterling. (This process is to remove the copper portion of the sterling silver. The copper oxide is removed with the pickle.)



The layered metal with a low melting interior is placed on a smooth pre-heated asbestos sheet and immediately start the heating process. The metal is carefully heated so the inside layer becomes molten. The flame can be moved in a variety of patterns producing different textures. The torch is then removed and the cooling interior contracts buckling the surface skin into ridges and crevices. After reticulation has been completed, the work should once again be pickled. When finished, the piece can be cut up and used for any type of fabrication.

Finished Surface



Wise Acres
19499 Wuno Trail
Lakeville, Mn. 55044

Editorial note:

Editorial material added in parenthesis to above tip. The silver once it has been reticulated becomes brittle and may not be used for all types of fabrication also because of the different alloy 17% copper 83% silver care must be exercised when soldering the reticulated silver. The best bet is to use the reticulated silver as the final step. For those of you who don't have a thermometer for your metal, 1100 - 1200°F is annealing temperature.

Using Nitric Acid to Test Gold and Silver

For testing, file a notch in the article to penetrate any plating and apply acid. Sterling Silver will show a cloudy cream color. Coin silver, a blackish foam and plated silver a greenish foam.

10-k gold shows a slight reaction, over 10-k gold shows little or no reaction. Gold plate over base metal has a bright green reaction and gold plate over silver a pinkish cream color.

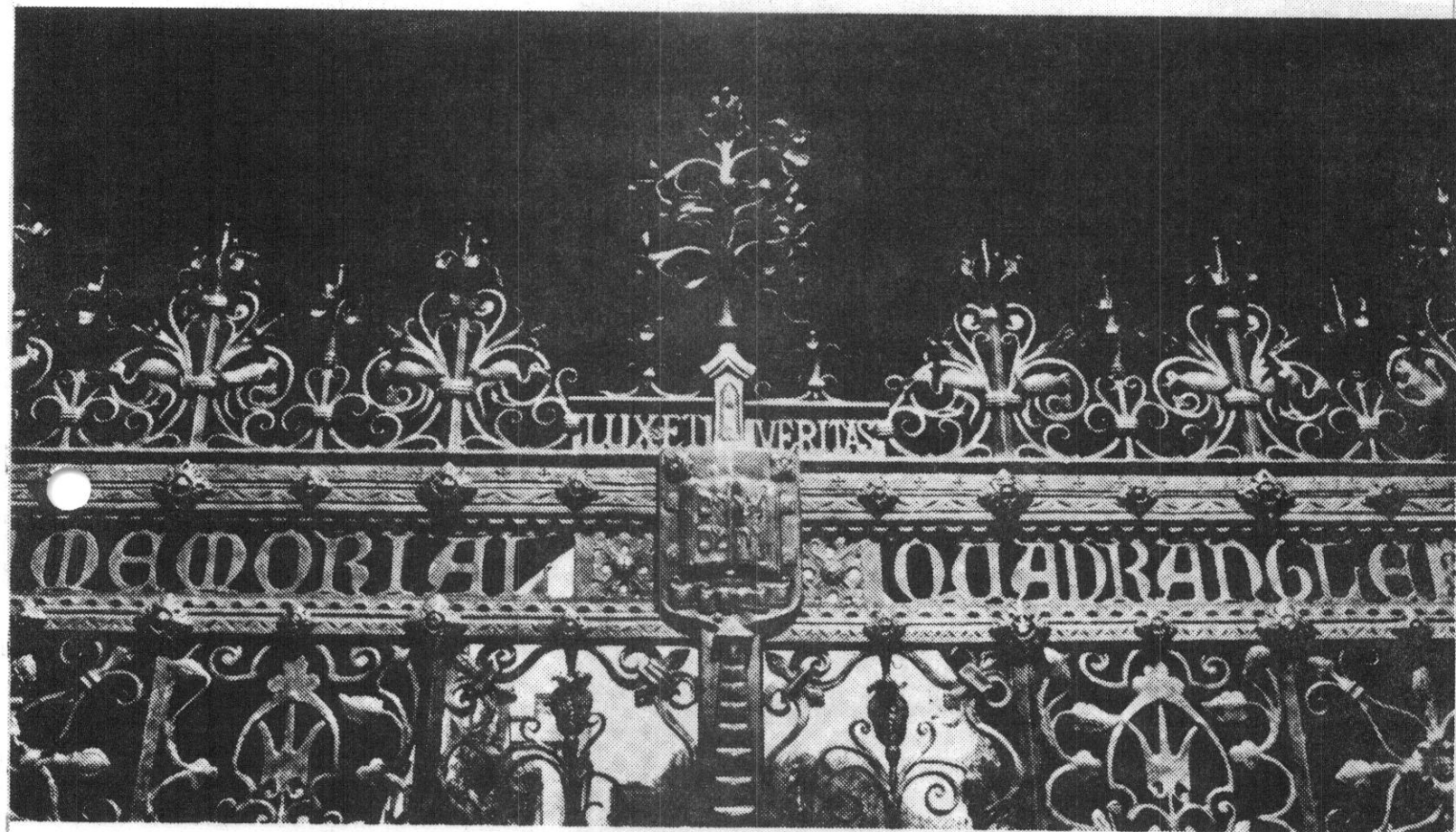
Editorial note: The reaction of the nitric acid on the 10k gold will appear as a reddish copper color due to increased copper in the gold alloy.

Joe DeLaRonde writes that if there is enough interest, he and Billy Vogelmann will conduct a workshop on wagon wheel repair at his shop next fall. If you are interested, talk to Joe at the Madness in June.

Gates and grills, locks and keys

Reprinted with permission from the Yale Alumni Magazine, October 1979: © Yale Alumni Publications, Inc.

The art of Samuel Yellin



by Larry Furnival

One of Yale's most familiar art collections—familiar to the point of being unseen—is displayed in its gates and the decorative metal work on its buildings. Much of this is the work of an immigrant blacksmith named Samuel Yellin.

My interest in Yellin began several years ago when I needed to make some tools for my job as a Yale woodcarver. A brief examination of the blacksmithing literature introduced me to the Polish-born ironworker's art. One recent

publication stated: "So well known are Yellin's works, so outstanding in their detailing, that contemporary smiths visit and study the detailing in Yellin's gates wherever they are still in use."* Working prolifically from 1910 until his death in 1940, Yellin employed up to 200 blacksmiths in his Philadelphia studio while engaged in the largest wrought-iron commission ever awarded, for the Federal Reserve Bank in New York. Widely acclaimed during his working career, he was the first craftsman in America to be honored with a medal from the American Institute of Archi-

ture in recognition of his work.

I first noticed Yellin's work at the National Cathedral in Washington, D.C. The fence separating the Children's Chapel from the main space held me spellbound. The finials on one length of the fence were spires of wrought-iron buds which swelled and seemed about to flower. Along the other fence the buds were open, revealing fantastic animal

Larry Furnival, '79, majored in architecture and was a Yale woodcarver for five years before and during his years as a student.



heads with varying expressions jutting like so many stamens from the rings of iron petals. These spontaneous-looking carvings were impressive to me because I knew that they had had to be done quickly and by eye. The heads and petals were carved at arm's length from red-hot iron with hammer, chisel, and anvil.

It was only after my eyes had been opened by Yellin's work at the National Cathedral and the Federal Reserve Bank that I learned that I had been living for several years among one of the larger collections of Yellin's work—many of

the gates, railings, grills, hinges, and door pulls on Yale buildings.

Samuel Yellin was born in Galicia, Poland (then part of Austria) in 1885. He began his apprenticeship under a harsh Russian taskmaster when he was seven. After ten years as an apprentice, he was a master blacksmith. Before leaving Poland, Yellin forged armor, one of the most distinguished accomplishments in blacksmithing. He journeyed to Belgium and worked there in the Gothic style for three years. He then worked for two years in the English manner in Great Britain.

These experiences in Belgium and England may have helped to form the style of Yellin's work in America. The Yellin iron at Yale can be divided into two groups. One used quatrefoil repetitive designs inspired by sixteenth-century ironwork (photo 1), perhaps similar to his work in Belgium. The second group, of which the railings in the Linonia and Brothers Library in Sterling Library are a good example (2), has much in common with Romantic English work of the eighteenth century.

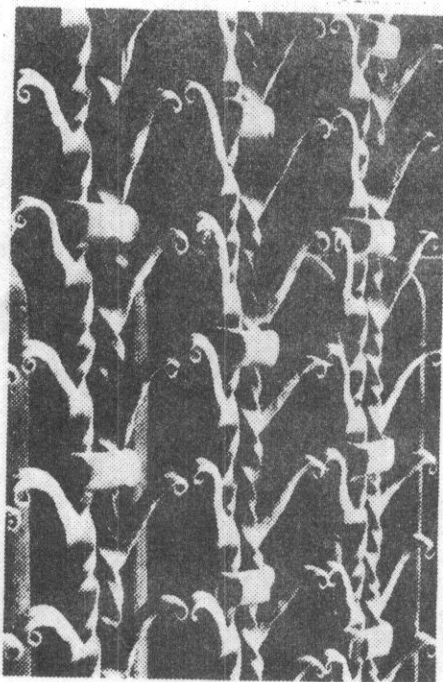
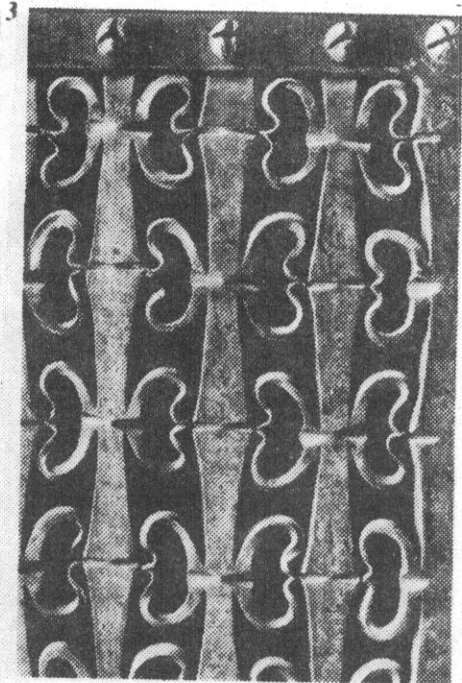
Samuel Yellin arrived in the United States at the age of twenty-two and



applied for a job in a Philadelphia factory which made bedposts. The foreman required Yellin to copy a grotesque finial, evidently to put a damper on Yellin's self-confidence, and to test his skill. To the foreman's amazement Yellin produced a mate in minutes. "Such things have to be done quickly," Yellin commented, "or better not done at all." He got the job on the spot. Sixteen years later when Yale was building its Gothic revival Sterling Memorial Library, Yellin was one of four craftsmen who were not required to submit bids. He was required only to give an estimate and then a final bill indicating the actual cost.

Yellin's understanding of and sympathy for his chosen material, iron, was remarkable. Contemporary smiths

* Dona Z. Meilach, *Decorative and Sculptural Ironwork* (New York: Crown Publishers, 1977).



studying his work are amazed at the visual complexity of his designs and the simplicity of his design solutions. Much of his blacksmithing can be reduced to simple and efficient motions. He never seems to have fought his material. The radiator grill near the entrance to the Librarian's courtyard in Sterling is a good example (3). A brilliant and beautiful solution to a decorative problem, it consists of slicing and bending branches away from a strap at regular intervals. The branches are hammered and folded. A crease is added for emphasis. No metal is added to the original strap nor

any removed; thus a semi-opaque panel is created. The radiator grills in the nearby entry vestibule are essentially the same solution, but with a thinner band which is twisted to create an entirely different visual effect (4).

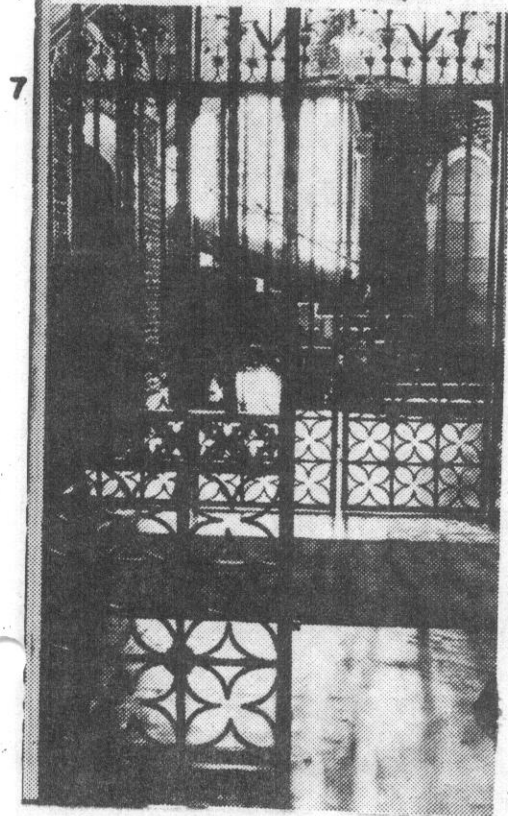
Yellin used low-carbon iron, which is a ductile, fibrous material quite unlike steel. Already somewhat rust-resistant, its strength, rust-resistance, and density are increased by forging. At red heat it becomes quite plastic and can be shaped by hammers and chisels as well as by stamps and dies. However, since the iron loses plasticity as it cools, iron-working demands decisiveness and efficiency with the hammer. The plasticity and fibrous nature of the material also lend themselves to designs which use organic forms. The finial on the beautiful gate in the Archives Room (5), Harkness Memorial Gates, and the old Art School gates (6) all have Yellin's distinctive lily motif.

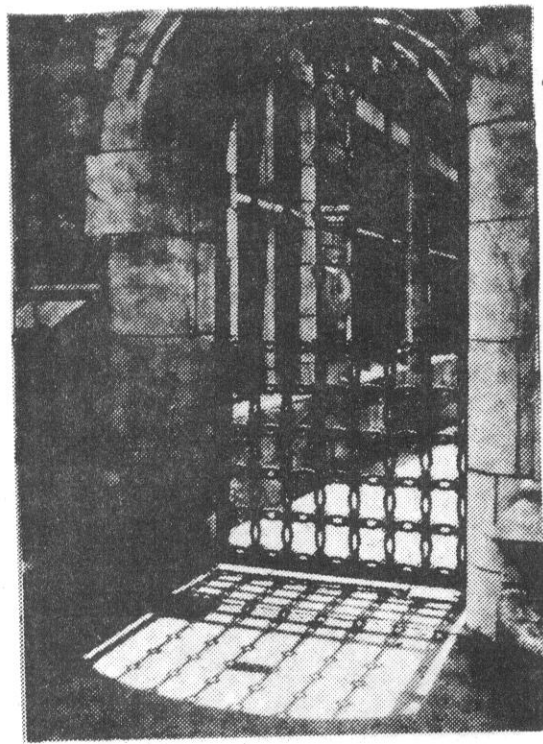
Yellin also worked in materials other than his favored iron. Much of the work on Sterling Library and the Graduate School, as well as the clock faces on Harkness Memorial Tower, are done in monel, a copper alloy quite unlike iron. Although colored like iron in its raw state, it turns green when exposed to weather. It is forged at a higher temperature and cannot be welded; it requires bolted or riveted construction. The gates to the Graduate School, the Trumbull Master's House gate, the library entrance off York Street, and a small, informal gate nearby are all examples of

his use of this material.

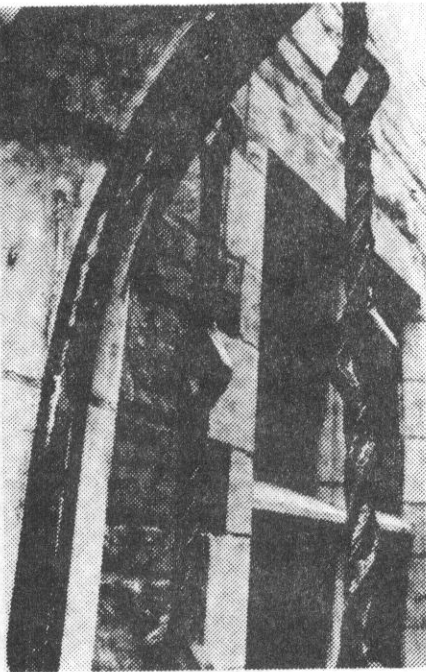
The informal gate on York Street illustrates the economy of solution typical of Yellin's work (7). While the upper section is simplified relative to the more important gates, Yellin avoids a jail-house look by splitting, spreading, and twisting the bars, creating a horizontal pattern (8a). The petals of the flowers at the intersections of the grid in the lower section are actually pierced washers. The center appears to be a clever adaptation of medieval construction; rivet heads are spread by the forming of the stamen with a chisel. The stamens are actually bolt heads, and the chisel has left a square head which can be gripped by a wrench (8b).

Fortunately for Yellin, he arrived in America during a period of revived interest in classical architecture which began with the World's Columbian Exposition in Chicago in 1893. In America the period between 1910 and 1925 was typified architecturally by the dominance of the classical and Gothic revivals. However, in Europe the modern movement was growing in strength. In 1910, Frank Lloyd Wright's complete works were published in Berlin while he was still unappreciated in America, but this state of affairs did not last long. However, during the following period, when the modern style rose to dominance, Yellin's work evidently flourished. Writing shortly before his death in 1940 to a fellow Gothicist architect and lecturer, William Deleno, Yellin expressed pride in his own work as a

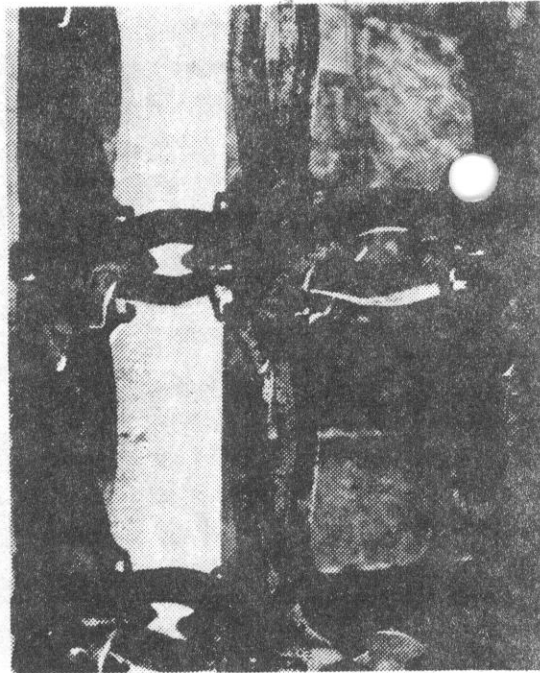




8a



8b

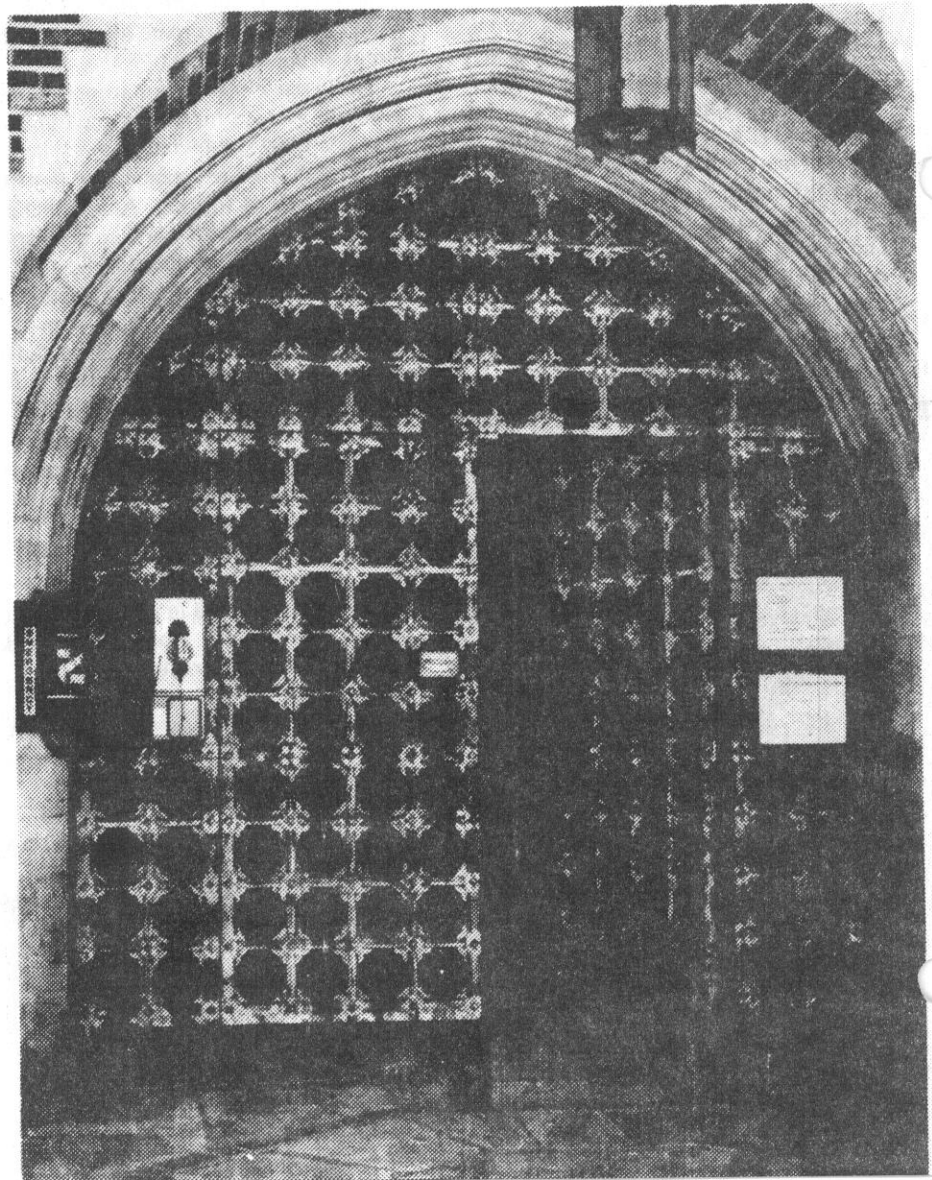


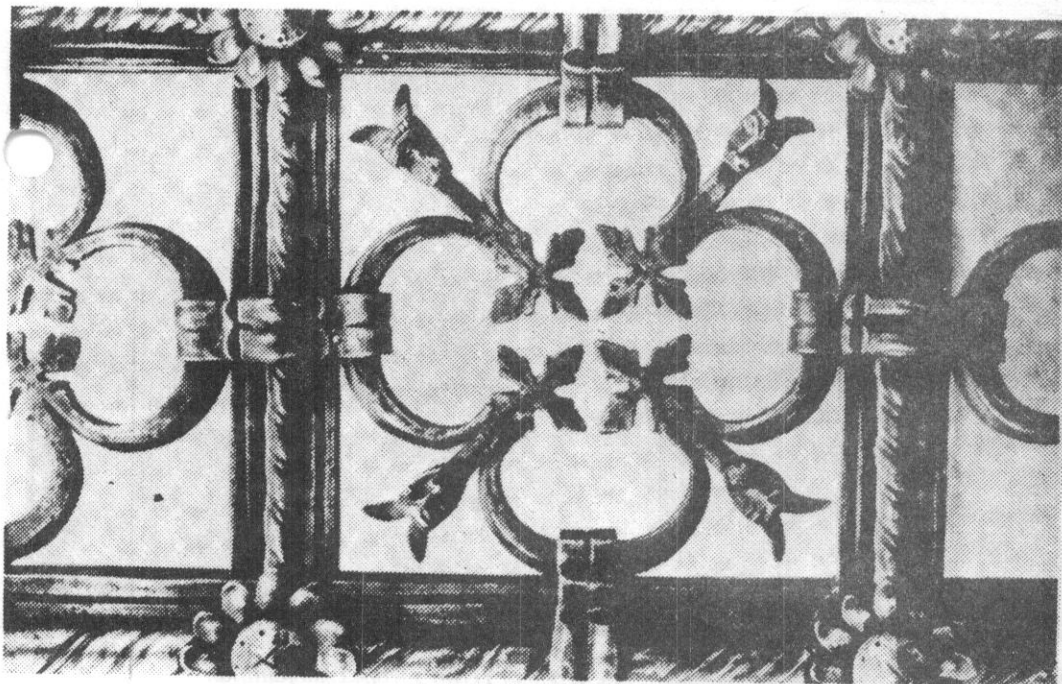
Gothicist working during a modern period. He voiced his expectation that Deleno's influence would "enlighten the public and many young people in the profession as to what Architecture is meant to be."

'Gothic reproduction' was a term of scorn used by advocates of the modern movement for the Gothic revival. It was seen as a conservative movement resisting a more truthful architecture. The modernists must have objected to the impression the Yale buildings give—a sense of life already plotted. The buildings suggest the security of a reliable anchor or a stuffed wing chair pulled up before a fire. After half a century of inventing a new architecture, there is now a growing tendency among architects to use or play against a richer, more traditional group of symbols. Thus the Yale buildings have been receiving more attention. Appreciation of the Yale buildings has been sufficient to gain them distinction as one of the best examples of a separate style—Collegiate Gothic.

The major criticisms of the Gothic revival movement were that it elevated the question of "good taste" above the question of serious art and that it limited the development of a distinctive American architecture. "Creative historicism" raised for the modernist the specter of architects and designers plundering history books for graphics, picturesque symbols, and forms which may have lost cultural significance. The Wall Street entrance to Sterling Library pro-

Ironwork is handled daily and comes in for some abuse. The author notes that the Graduate School gates are marred by signs, the addition of steel mesh for security, and unfortunate attempts to weld brackets to the unweldable monel.





vides a case in point. Yellin's hand-forged monel hardware on the oak exterior doors is delicately detailed in the traditional thistle motif; the lock plate is particularly pleasing. The holy thistle was the dominant symbol in German ironwork in the mid-sixteenth century as the idea gained currency that a drop of the Virgin Mary's milk had fallen on a thistle and turned its sap milky. Thus the thistle had strong religious connotations. A critic may argue, however, that for the modern observer the symbolic value is lost.

However, for Yellin the importance

of Gothic forms was not just symbolic. To a blacksmith, no other period of ornamental ironwork so well expressed the characteristics of iron or used the natural ornamental solutions implied by its properties. The dominance of French ironwork in the late Renaissance and the development of a tradition of professional designers remote from the workshop forced blacksmiths to use methods of fabrication more appropriate to woodworking than blacksmithing. The problem sometimes became how to defeat the material rather than how to exploit it. Handwrought iron was some-

times disguised to look like another material or even to appear as if it had been cast.

To Yellin, ironworking was a creative cooperation with his material; he called it "the revelation of a man's personality through the understanding of the material in which he works." Yellin once said: "I love iron; it is the stuff of which the frame of the earth is made, and you can make anything you will. It eloquently responds to the hand at the bidding of the imagination. When I go to rest at night, I can hardly sleep because my mind is aswarm with visions of all the gates and grills and locks and keys I want to do."

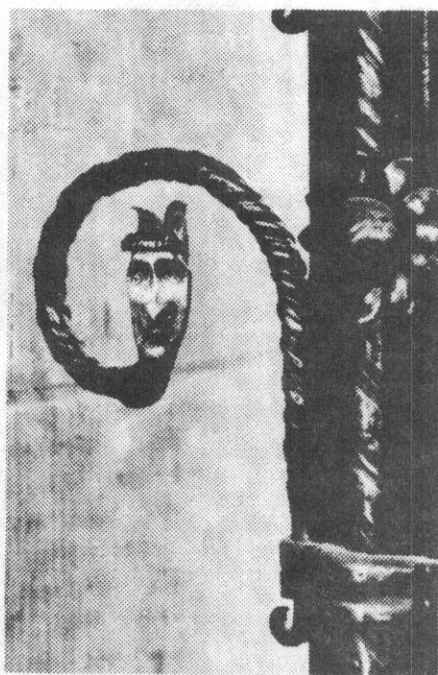
The fact that Yellin saw his work as a living, creative art inspired by Gothic sources is seen in the whimsical creatures which frequently grace his work (9a,b,c). His inspiration came at the forge. Only there, Yellin claimed, did work in iron become spontaneous.

Yellin frequently made use of quatrefoils and other motifs in repeating patterns. He apparently admired the elegant simplicity found in early Gothic work, which was built up in small units. In Gothic altar screens, a simple idea grows by repetition and becomes a larger and different visual idea. The limited size of a forge and anvil makes this a natural solution for large screens. The decorative efficiencies in early Gothic work must have inspired Yellin.

The architect of many of the Yale buildings, James Gamble Rogers, was necessarily preoccupied with massing and general architectural decisions and left most of the decorative details to be worked out by others, subject to his general approval. This yielded considerable independence to the designers of stone and masonry, as well as those of stencil, stained glass, and iron. Draftsmen's faces appear on many of the walls. In fact, Rogers was surprised and angry to find his own likeness on a Graduate School façade. He ordered the mustache chiseled off and the facial features changed. Undoubtedly the degree of independence granted to the artists accounts for the rich originality of design found in the iron and stone work.

With the growing concern for the problems of ornamentation in some architectural circles, Yellin's work at Yale may prove valuable to young architects and designers, not only because it helps to create an enriched environment, but also because of the thoughtful spirit it reflects. □

9b



9c

