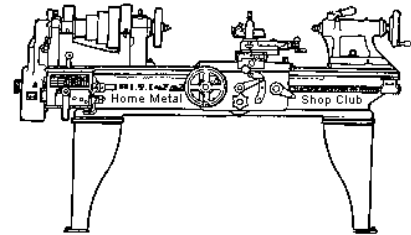




April 2015
Newsletter

Volume 20 - Number 4



<http://www.homemetalshopclub.org/>

The Home Metal Shop Club has brought together metal workers from all over the Southeast Texas area since its founding by John Korman in 1996.

Our members' interests include Model Engineering, Casting, Blacksmithing, Gunsmithing, Sheet Metal Fabrication, Robotics, CNC, Welding, Metal Art, and others. Members enjoy getting together and talking about their craft and shops. Shops range from full machine shops to those limited to a bench vise and hacksaw.

If you like to make things, run metal working machines, or just talk about tools, this is your place. Meetings generally consist of **general announcements**, an **extended presentation** with Q&A, a **safety moment**, **show and tell** where attendees share their work and experiences, and **problems and solutions** where attendees can get answers to their questions or describe how they approached a problem. The meeting ends with **free discussion** and a **novice group** activity, where metal working techniques are demonstrated on a small lathe, grinders, and other metal shop equipment.

President <i>Vance Burns</i>	Vice President <i>Norm Berls</i>	Secretary <i>Joe Sybille</i>	Treasurer <i>Emmett Carstens</i>	Librarian <i>Ray Thompson</i>
Webmaster/Editor <i>Dick Kostelnicek</i>	Photographer <i>Jan Rowland</i>	CNC SIG <i>Martin Kennedy</i>	Casting SIG <i>Tom Moore</i>	Novice SIG <i>Unfilled</i>

This newsletter is available as an electronic subscription from the front page of our [website](#). We currently have over 826 subscribers located all over the world.

About the Upcoming 9 May 2015 Meeting

The next general meeting will be held on 9 May at 12:00 noon at the Spring Branch Memorial Library, 930 Carbondale, Houston, TX 77024. Norm Berls will give a presentation on *How to Achieve the Best Possible Results with a Rong Fu Mill Drill*.

Visit our [website](#) for up-to-the-minute details, date, location, and presentation topic for the next meeting.

General Announcements

[Videos of recent meetings](#) can be viewed on the HMSC website.

The HMSC has a large library of metal shop related books and videos available for members to check out at each meeting. The library is maintained by the [club's Librarian, Ray Thompson](#). These books can be quite expensive, and are not usually available at local public libraries. Access to the library is one of the many benefits of club membership.

The club has funds to purchase new books for the library. If you have suggestions, contact the [Librarian](#).

We need more articles for the monthly newsletter! If you would like to write an article, or would like to discuss writing an article, please contact the [Webmaster Dick Kostelnicek](#). Think about your last project. Was it a success, with perhaps a few 'ugh ohs' along the way? If so, others would like to read about it. In the September 2012 HMSC board meeting, the board elected to waive membership fees during the next membership renewal cycle for those providing newsletter articles.

Ideas for programs at our monthly meeting are always welcomed. If you have an idea for a meeting topic, or if you know someone that could make a presentation, please contact [Vice President Norm Berls](#).

Recap of the 11 April 2015 General Meeting

By Joe Sybille, with photos by Jan Rowland



Twenty-eight members, including two new members, John Cooper and Tommy Traylor, attended the noon meeting at Rollformers of Texas Corp, 1005 Broadway, San Leon, Texas 77539. Welcome to the club John and Tommy. Two visitors attended today, Tina DeMay and Mrs. Tom Moore, wife of member *Tom Moore*.



There are 55 members in good standing.

President *Vance Burns* led the meeting.

Presentation

Gene Rowan, club member and owner of Rollformers of Texas Sales, gave a presentation on the products his business makes and sells worldwide. Gene's company is the only one of its kind in Texas. Among the products his company makes are machines to make air conditioning flex duct, assorted sheet metal shapes, metal wall studs, and vessel scrubbers.





His company also uses the electro-polish process on metal parts and offers custom fabrication services. For example, the roof jack on your house and the metal awning of your carport could have been made on machines built by Gene's company.

Gene gave a tour of his shop to those in attendance and had his workers demonstrate different production techniques. Among the techniques demonstrated were cutting of carbon steel using a computer numerically controlled (CNC) plasma cutter, spot or resistance welding of sheet metal, and tungsten arc welding (TIG). (See photos below.)



Before the meeting, Gene graciously provided to all in attendance a buffet lunch of shrimp, BBQ ribs, chicken, and sausage, potato salad, corn, boudin sausage balls, and assorted condiments. This was a feast second to none. Thank you Gene for your generous hospitality!

Safety Moment

Vance Burns reminded those present to be aware of safety concerns when cleaning around the house. Inadvertent mixing of incompatible cleaning products could result in harmful substances.

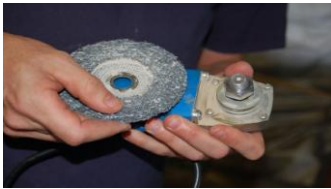
Joe Sybille spoke of the need to wear two levels of eye protection when using a grinder. Safety glasses as well as a face shield offer more protection than either alone could provide.

Show and Tell

Gene Rowan showed an absolute no-bounce [aluminum hammer](#) molded as one piece. (Photo at right.)



Jan Rowland shared with member's pictures of a CNC machine he helped to fabricate. Jan shipped his part of the machine to England and others made the final assembly. The machine is designed to cut large 4' x 8' panels.



Mike Winkler exhibited a bushing he made from a 5/8" nut. Mike used the bushing to mount a sanding disc on an arbor of an angle grinder (see photo at left).

Problems and Solutions - *Ask the Blacksmith*

A member requested ideas on the best way to cross drill round stock to align multiple holes. Careful use of vee blocks was one solution offered.

Novice SIG Activities

Dick Kostelnicek demonstrated the fine art of casting lead hammers for novices and experienced machinists alike. Several hammers were made during the week before the meeting and several more were made at the meeting. All hammers were given to members of the club. Thank you Dick for your tireless efforts (See photos below.)



Articles

FIGHTING IRON

A Metals Handbook for Arms Collectors
by Art Gogan, Reviewed by Vance Burns

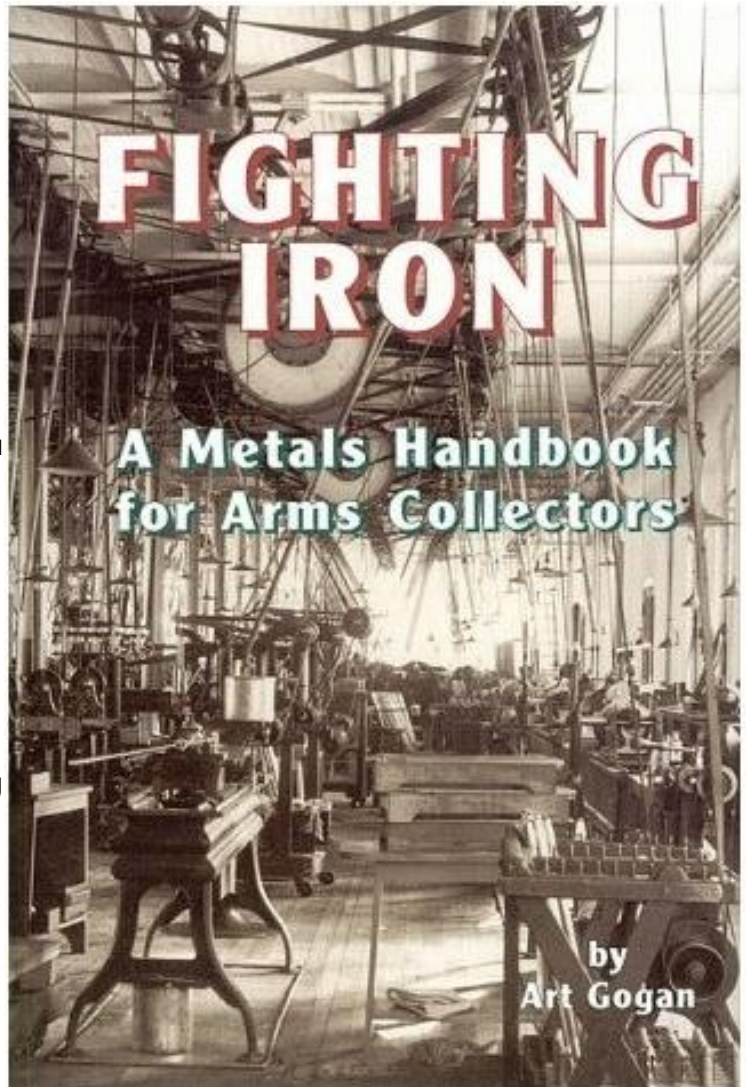
A dear friend loaned me this volume, and I am so glad he did. The author Art Gogan has taken pains to gather metallurgical information on historic weaponry, and present it in a most approachable format.

If you are a collector, restorer, or just own some piece of fighting history, you will find this volume to be a gold mine of information, and a careful overview of how your period piece can be better understood, *even authenticated*. If you are just a closet metallurgist, as am I, you will begin to understand the materials evolution of our historic past and see deeper into the mindset of arms inventors through the ages.

As with most “systems of knowledge” *Metals Science* is burdened with a near endless stream of unique nouns, some logical, some merely marketing fluff. Pile it on for a few centuries, salt with anachronism, avoid anything resembling standardization, and stir in an army of pitchmen. Gogan to the rescue; Art's book touches on all aspects, manufacturer's nomenclature, cross referenced, sorted and filtered. Grogan cuts through the layers of confusion.

Art discusses diagnostic techniques, and what to expect of things like x-rays, ultrasonics - when they might be helpful, and when they are not. Art further touches on what must be every metal used in ordnance, ferrous & non. There is also a section on bringing out worn or corroded stampings and serial numbers.

Navy Chief Petty Officer Arthur J. Gogan was a naval metallurgist and a President of the “Winchester Arms Collectors”, Art worked at the Fort Douglas Military Museum, and set up Fort Douglas' Cannon Park - creating it and restoring many of its late-19th century and early 20th century cannons.



File Organization

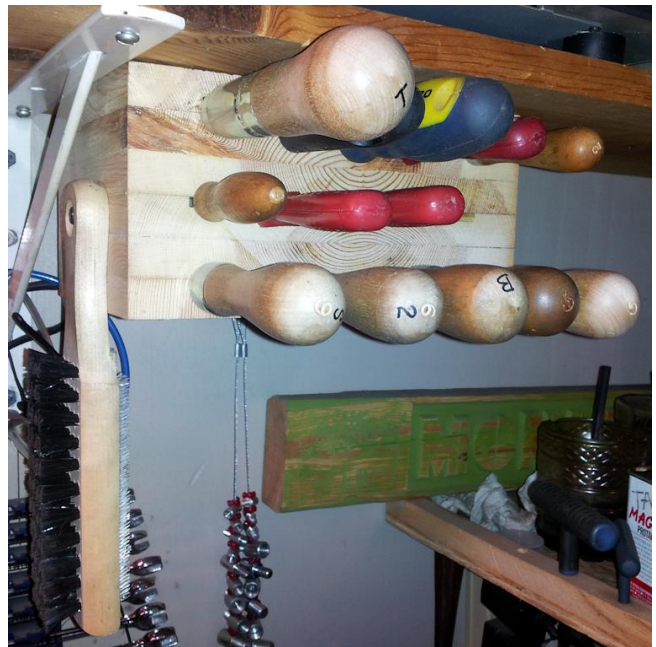
By *Martin Kennedy*

After digging around in various drawers for the right metal file for a project, I thought that it might be time to better organize my files. I was thinking about ways to do this while I was in the kitchen getting a glass of water, and my eyes fell on my knife block. A knife block is a wooden block with slots to hold various sized knives. I thought that something similar could be used to hold my files.



Here's what I made. I started with a length of 1" x 10" shelving material. I cut it into 6" long pieces. On half of these pieces, I used the mill to cut slots. I used both a 7/8" and 3/4" mill to cut slots for the flat files, a 1/2" and 1/4" ball mill to cut slots for the round mills, and a 1/2" drill mill to cut slots for the triangular mills. I put the slots on 1 1/2" centers. To assemble the block, I alternated plain pieces of wood with the pieces with the slots, to allow spacing between the file handles. I glued each layer to the next as I stacked them. After clamping them to dry overnight, I trimmed and sanded the edges with a saw.

I mounted the completed block under a shelf. I put a screw in the side to hang my file cleaning brush. If I need expansion room in the future, I can glue on new layers to the existing block. It was a relatively quick project, and I think that it came out well!



Gluing Abrasive Belts

By *Bill Kimbrough*

When I started making knives, I got a great deal on abrasive belts for my 2x72-inch sander. This would be a lifetime supply. Well, that depends on whose lifetime you are talking about. In a few years, the belt joints began to fail and I was left with a lifetime supply straight abrasive strips, in all kinds of grits and materials.

Never to admit that I messed up, I decided to fix this issue. I took two pieces of ½-inch aluminum plate, and bolted them together face on face. However, prior to bolting, I used a ball endmill to produce both a 7/8-inch and a 3/8-inch hole the entire length of the bolted up aluminum plates (see right photo). A tubular heater was subsequently placed in the 7/8-inch hole and a thermocouple in the smaller hole.

I milled a shallow, wide depression very close to the long edge 0.032-inch deep to accommodate the width of a belt. At the center of the plates, I mounted a toggle clamp diagonally across the groove (See above photo for center clamp) so that I could press down on the belt joint with a small aluminum plate. I put a piece of plastic bag both below and above the belt 's joint to keep the adhesive from sticking to the aluminum plates.



To assemble the belt, I clean the back of the previously glued area. I normally just scrape with a sharp knife. I put both ends of the diagonally cut belt up against one another. Then I position the ends of the belt under the center clamp, not forgetting the plastic bag strips.

I apply good old original Gorilla glue with a strip 3/4x1-inch of rip stop nylon on the back side of the belt (that's the stuff you use to repair torn camping tents). I used nylon since I had some left over from making back packing equipment.

Clamp in place, and the next day just dress up the edges, and remove the glue foam that seeps out of your joint.



There are two more clamps at each end to the plates to hold the belt ends in straight alignment (See above photos, red handles). I use a tubular heater to keep the plate temperature around 120F. I have discovered that the Gorilla glue will completely set in a couple of hours with that heat, and therefore, I can do three belts a day. If you're not in a rush, no heat is needed. Just be patient!

These re-glued belts work great for me, and seem to have an indefinite shelf life. However, I make no promises as to your results.