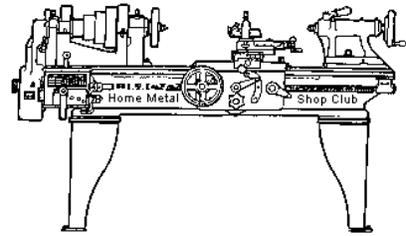




## July 2022 Newsletter

Volume 27 - Number 07



<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>Ray Thompson</i>	Secretary <i>Joe Sybille</i>	Treasurer <i>Gary Toll</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>Vacant</i>	Novice SIG <i>John Cooper</i>

This newsletter is available as an electronic subscription from the front page of our [website](#). We currently have over 1027 subscribers located all over the world.

### About the Upcoming August Meeting

The next general meeting will be held on 13 August 2022 at 1:00 P. M. at TxRxLabs, 6501 Navigation Blvd., Houston, Texas 77011 and on-line at Zoom.us. Log-in credentials are as follows:  
Meeting ID = 874 6709 2086 Pass code = 093480.

## 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. These books can be quite costly 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 Ray Thompson](#).

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 'uh ohs' along the way? If so, others would like to read about it. And, as a reward for providing an article, you'll receive a free year's membership the next renewal cycle!

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

Members are requested to submit to the club secretary the name, address, telephone number, and website address, if any, of any metal or other material stock supplier with whom the member has had any favorable dealings. A listing of the suppliers will appear on the homepage of the club website. Suppliers will be added from time to time as appropriate.

## Recap of the 09 July 2022 General Meeting

By Joe Sybille



Ten participants attended the meeting. President Vance Burns led the meeting (right photo).



## Presentation



Club member John Cooper gave a presentation on different tourist attractions he visited during a recent visit to the 'keystone' state, Pennsylvania. Venues included Bethlehem Steel Works at Bethlehem, Pennsylvania, Railroad Museum at Strasburg, National Museum of Industrial History at Bethlehem, and Mid-Atlantic Air Museum at Reading Regional Airport.

Several pictures depicting the once large steel making plant revealed the steel mill employed thousands of workers at this one site of three and one-half square miles. The steel mill closed in 1995 after over one hundred years in operation. Owners of Bethlehem Steel declared bankruptcy in 2002. During its heyday, the steel mill produced steel for the emerging economy of a growing nation. Steel for many skyscrapers, large bridges, and ships had their origins in Bethlehem Steel. The site of the defunct steel mill has become a tourist attraction. There is a visitor's center and several exhibits depicting the mill's former glory as one of the country's leading steel mills. Also on site in the former electric repair shop of the Bethlehem Steel plant is the National Museum of Industrial History. See photos below.

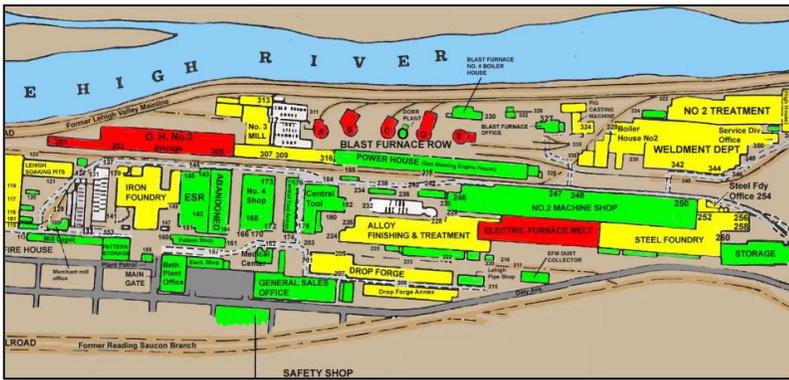


Photo 1: Plant Layout



Photo 2: Blast Furnaces



Photo 3: View from Walkway



Photo 4: Blower House



Photo 5: Blower - 28 ft Diameter Flywheel

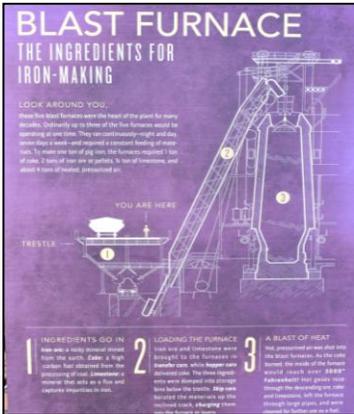


Photo 6: Ingredients for Iron Making



Photo 7: Skip Loader for Blast Furnace



Photo 8: Naval Guns Assembly Area

Photos below depict scenes from the National Museum of Industrial History.

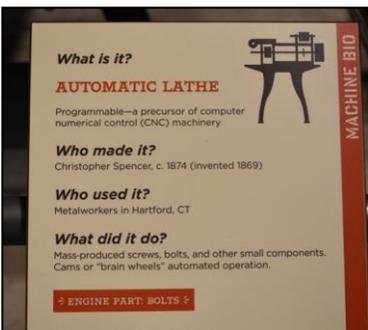


Photo 9: Automatic Lathe Description



Photo 10: Automatic Lathe



Photo 11: Nicholson File Display

### Pinion Gears

Weighing 40,000 pounds each, these particular gears came from the #2 Steam-Powered Universal Finisher of the 48" Mill (the pinion pitch diameter is 48 inches, giving the Mill its name). The two gears were positioned one on top of the other in a large gear box known as a pinion stand. A 20,000 horsepower steam engine powered a shaft, which turned the lower gear in one direction, this gear then moved the second gear positioned above it in the opposite direction. Both gears together turned the rolls inside the adjacent mill stand, squeezing the molten steel between the two rolls as part of the process of forming wide flange beams.



Photo 13: Pinion Gears

Photo 12: Pinion Gear Description

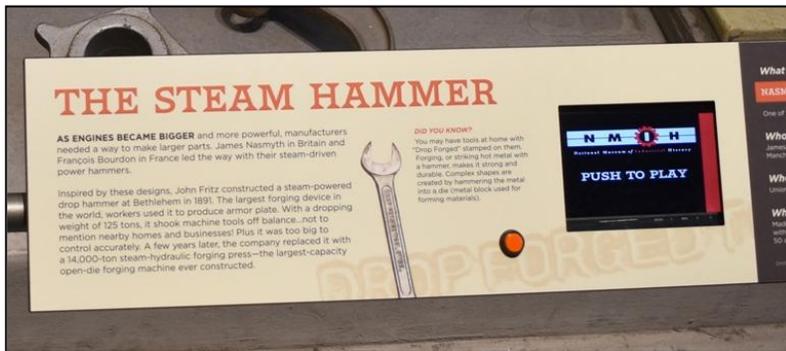


Photo 14: Steam Hammer Description

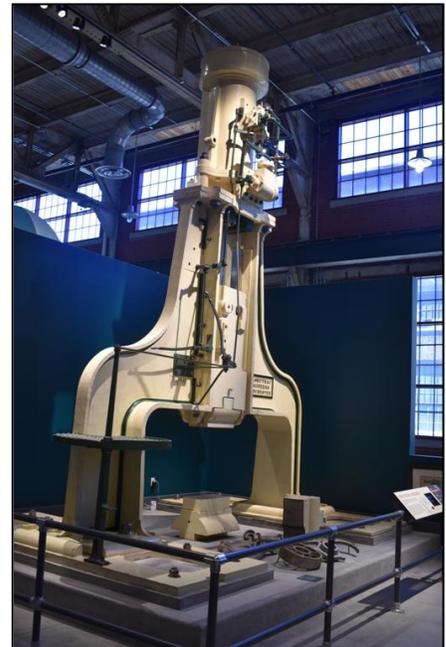


Photo 15: Steam Hammer

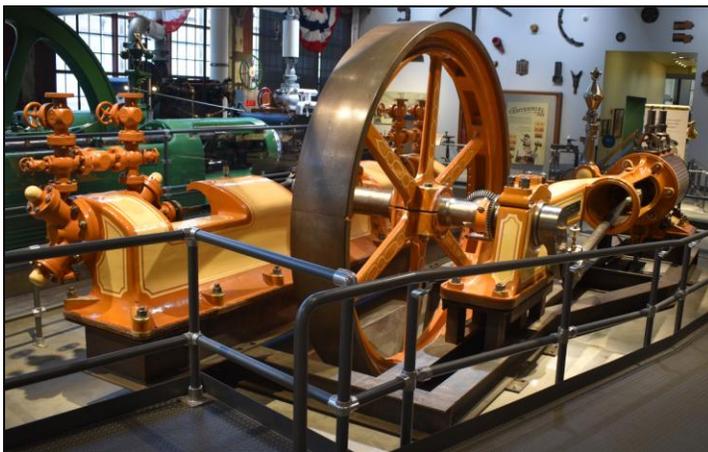


Photo 16: Slide Valve Steam Engine

The Railroad museum has on display many vintage railroad cars and engines. One display is of a Shay locomotive. With a narrow 2 foot-2 inch wide track, this engine was of 1920's vintage and used primarily in the logging industry. See photos below.



Photo 17: The John Bull Replica



Photo 18: Climax Steam Engine



Photo 19: Heisler Vee Steam Engine



Photo 20: Close-Up of Twin Vee Steam Engine



Photo 21: Shay Locomotive Engine and Tender



Photo 22: Bevel Gears on Shay Locomotive

There was an air show at the Reading Regional Airport. The show featured vintage military aircraft. Among those shown were a B-25, B-29, C-97G, P-40 Wart Hog, P-51 Mustang, and P-61 Black Widow. See photos below.



Photo 23: B-25 Taking Visitors For Rides



Photo 24: Superfortress



Photo 25: B-29 Superfortress on Takeoff



Photo 26: C-97G Stratofreighter



Photo 27: Clecos type fasteners



Photo 28: P-61 Remote Turret Ammo Bins and Gun

## Show and Tell

*John Cooper* showed pictures of a face mill adapter and new face mill he purchased recently for his Kwik-Switch mill collet. Also, he showed his Wilton C-1 vise installed on his workbench. Particulars of the vise include jaw width 4.5", jaw depth 4.75", jaw opening 7", and vise weight 76 pounds. The ruler shown on the vise is 18 inches long. See photos below.



## Safety Moment

A participant described how workers installing a neighbor's fence used their work shoes as supports to cut with a circular saw 2x4's and 2x6's for the fence. None of the workers had eye protection.

Several videos were shown depicting behavior of individuals exercising poor judgment when it comes to safety. The first video showed a person using a metal pipe to beat on an electrical transformer servicing a neighborhood. He continued to do so until he became part of a temporary electrical circuit whereupon he suffered a fatal injury.

The second video showed a person, on a dare, poking his finger into the mouth of a caged lion. The lion bit the finger and would not let go. Fortunately, the person accepting the dare lost only a finger.

The third video showed a person working near a carpet rolling machine. Somehow, the person became entangled in the roller and spent the remainder of his life revolving around a shaft near one end of the

carpet roller. There appeared to be no fellow workers nearby to stop the machine and to help the worker. After several minutes revolving around the shaft, the worker's body fell to the floor.

## **Problems and Solutions**

A participant wanted to know the best way to reattach a failed section of an umbrella support stand for his patio table. The stand of 5/8" thick cast iron is about 2 feet by 2 feet. Flush with each corner of the stand is a 6 inch by 6 inch square 1/2 inch thick. Several suggestions were offered such as tapping the larger plate for attaching with screws the smaller corner plate. Another suggestion recommended using JB Weld to attach the corner plate to the stand.

Another participant sought suggestions on the best spray bottle to use when spraying bleach. Several suggestions were offered.

## **Articles**

### **A Safety Lesson Learned - The Hard Way**

by Vance Burns

Very early in my career I was contracted to oversee a July 4th move of some equipment my company had installed at a client site a year earlier. The client's datacenter was just one huge room and they were restructuring the floor space. They decided to off-site their gigantic round-reel storage. That was back in the days when tape was the long-term storage media and most of those tapes were 16meg or the latest thing, 32meg. They had recruited people in the company to pitch in and unload the tape racks onto the mobile carts. The carts held hundreds of tapes and allowed a person to carefully move massive amounts of tape reels from one place to another. The plan was to unload the racks and move the tape to a waiting Moving Van.

I watched passively as the worker bees began to open up the space that my team would later use for our hardware. They had a very senior executive drop by (\$100 slacks, starched blue pin striped shirt, French cuffs, massive flashy cufflinks) to view the progress; he was one of those guys who really loved to stir up the dust and enjoyed barking at anyone handy. Before he arrived, no one was really rushing as it was tedious work; loading and pushing the cart took a lot of effort and the tapes themselves were fragile. Super Exec wasn't pleased so he pushed for more exertion. Now everyone was moving in leaps and starts as his volume increased. He was gleefully swatting people on the butt as they passed him. He was in his element.

Even though this was a huge room, it was 100% raised floors. Most of the folks that volunteered to help were not datacenter people. If they'd ever been in that environment, they would realize the floor was uneven and had a few tripping hazards. Running in a datacenter is not the brightest idea.

The Exec yelled at people to load and push these massive carts at ever increasing speed. As he shouted more and more encouragement, people started making mistakes, bumping into each other and almost dropping tapes. As one guy drove harder and harder to get the cart going, he was head-down putting all his energy into pushing rather than steering. He didn't see the tile cable cutouts. He didn't stop pushing. He was going very fast. The Exec was foaming and spitting, cheering him on at top volume.

One of the cart's wheels dropped down into a tile cutout and came to an abrupt, very noisy stop. The tape reels went everywhere, splintering the plastic hubs into pieces, cracking the reel bodies with magnetic tape spilled out everywhere as the reels skittered across the floor. Everyone grew silent as the clatter died down. We all rushed to help, all except the Exec who was nowhere to be found.