

# *The* **NEMES** NEW ENGLAND MODEL ENGINEERING SOCIETY INC.

# *Gazette*

No 292

October 2020

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## **October Meeting**

Due to the coronavirus pandemic, the October meeting will be held on line. The meeting will be on October 1, at 7PM.

For details of how to get the on-line meeting, please see Dan's President's message.

## **Contents**

Date/Time of Sept Zoom Meeting	1
Club Business	2
President's Corner	2
From the Editor's Desk	3
Nonexistent Future Events	3
Used equipment	4
Making a vise wrench	4
Reports from the Sandy Hill Locomotive Works	6



## **Club Business**

*Rich Baker*

NEMES is in process of hiring a firm to take care of the administrative work that Rich Baker now does, for the sum of \$ 1800 per year. Details of what they will do are from their scope statement, below:

- Manage and maintenance of monthly accounts payable and accounts receivable.
- Monitor transactions for compliance with budget.
- Provide reconciliation of monthly bank statements.
- Provide payments to vendors including, event venues, contractors, insurance brokers, accountant, and expense reimbursements.
- Work with vendors to resolve any instances of issues with open invoices.
- Prepare quarterly financial reports
- Prepare and file finances for yearly audit or tax return.
- Work directly with the NEMES Treasurer to provide all required audit and filing documents and information.
- Provide strategic financial advice, as needed.
- Prepare and record all year-end adjustments.
- Maintain membership database, send out reminders via electronic and paper means as needed.
- File Massachusetts Corporation annual filings
- Distribute eight (8) page monthly newsletter
- Utilize Constant Contact, maintain the contacts and setup each email of the newsletter
- Print and mail hard copy newsletter version each month to limited number of members

Gee, and we did not realize Rich did all that work

The membership will have a chance to vote on this at the October meeting.

### **DUES NOTICE**

For 2021, NEMES will be collecting dues differently, as we are meeting by Zoom, which makes it difficult to ask for dues. Around December 1st, we will send out an invoice to each member from Square, our credit card processor, for the 2021 dues of \$25. The invoice will have a link to submit credit card information. We will still accept dues by check (NEMES, 288 Middle Street, West Newbury, MA 01985) or at the NEMES store on the website. Thanks for renewing your membership to NEMES.

### **President's Corner Dan Eyring**



#### **Message from the NEMES President Dan Eyring October 2020**

Since our April meeting was cancelled due to covid -19 concerns, NEMES has managed to persist. We now have virtual monthly meetings using the Zoom app. These are great fun, with lots of show and tell and general discussion about NEMES.

We also now have a NEMES User Group [[NEMES#groups.io](https://nemes.groups.io)], which has been enthusiastically embraced by some members – Dick Boucher in particular.

To find it and join it, just paste the web address [NEMES@groups.io](https://nemes.groups.io) in you browser. When you get there just click on the NEMES link in the groups list. Ask to join and it will tell you that you have to be approved for membership by the Group Moderator, namely me. This is the easiest form of security for the Group. I check my email several times a day and should get around to approving you before the day is out.

I've made it pretty wide open, inviting anybody interested in model engineering. You can post messages and upload/download files and photos.

Give it a try and let me know what you think.

Call or email me if you have questions:  
[deyring2017@outlook.com](mailto:deyring2017@outlook.com)  
(781) 790 - 3707

### **All NEMES Members**

**I hope you can join us for an on-line NEMES meeting on Thursday, October 1st.**

**Topics for the Meeting:**  
**Club business**

**Shop Tour by Todd Cahill**

**Discussion on whether it would be possible/desirable to conduct the February 2021 Model Engineering Show as a virtual, on-line event**

**Show and Tell**

**General discussion**

**The link below leads to a couple of short tutorials about how to join a Zoom meeting.**

**<https://support.zoom.us/hc/en-us/articles/201362193-Joining-a-meeting>**

**And here is the zoom invitation. See you there!**

**Topic: October NEMES ZOOM Meeting**  
**Time: Oct 1, 2020 07:00 PM Eastern Time (US and Canada)**

**Join Zoom Meeting**  
**<https://zoom.us/j/6229563584?pwd=eHVmSmdBWFESZDRQUVZBWHZJV0NtZz09>**

**Meeting ID: 622 956 3584**  
**Passcode: 072169**

**Or dial in by phone using the following Toll Free number:**

**Toll-free number (serving all 50 states, the Caribbean, and Canada): 833-302-1536**

**Meeting ID: 622 956 3584**

**Password: 072169**



**From the  
Editor's Desk**

**Bob  
Timmerman**

The Gazette is always looking for articles on your shop projects

This month, we have a short article on making a custom handle for a mill vise, and Dick Boucher's articles on model making.

Dick is writing the articles for his family and friends, and sometimes puts in personal details. While I edit out some of them, I have been leaving some of the details in, as I would hope that NEMES members would like to read about what fellow members are up to. In particular, I left in Dick's digression on using his 7" shaper to cut a keyway in an odd size shaft, for the benefit of shaper enthusiasts in NEMES.

We have an interesting lead on some used machinery, courtesy of Dick Koolish, some Holtzapffel ornamental turning lathes. See the announcement.

Victor gave us a lead on a Chinese manufacturer of fully machined engine kits. I went on the website and took a look. It is interesting, and I hope to have more information in the next issue.

New England Brass and Tool is no more, due to the death of Mr. Cummings. Some of the inventory wound up in the Museum. More on this next month.

The user group is off to a good start, with a question on taps from a new member, and several excellent answers from members.

## Future Events

Pretty much everything has been shut down because of coronavirus. If anybody has information on a meet, please send it to me, and I will publish it.

## USED EQUIPMENT FOR SALE

This comes to us by way of Dick Koolish:

From Facebook:

For those who knew David Gold, his son has shared that he has passed away.  
MY FATHER DAVID GOLD WAS ONE OF THE LARGEST COLLECTORS AND ANTIQUE ORNAMENTAL ENGINE TURNING AND BROCADING MACHINES, ATTACHMENTS, TOOLS, BOOKS, ETC. IN THE WORLD. HE RECENTLY PASSED AND I WOULD LIKE TO SOMEHOW DO HIS COLLECTION AND PASSION JUSTICE, SOMETHING HE WANTED TO DO BEFORE HE PASSED. HERE IS A LINK TO THE GOLD MACHINERY WEBSITE WITH THE LISTINGS OF SOME OF THE COLLECTION: GOLD MACHINERY

Here is the link:

<https://goldmachinery.com/machinery/category/ornamental-turning-lathes>

[Editor's note:] I went on the site. The first few items were accessories for ornamental turning lathes, boring, but maybe necessary for owners of such lathes. Further down is the good stuff, 4 Holtzapffel turning lathes from the 1860 era. I don't know if the stuff is for sale or not, the website did not say, nor did it give a price.

Research on the Web puts the price of those lathes in the price range of \$25,000 to 40,000, or in the same range as a used CNC lathe.

Victor has provided a lead on a company in China who sells fully machined model kits, ready for assembly. I will try to do some research on this for the next issue. I have looked at the website, and it seems they offer a wide range of machined model kits, ready for assembly, at prices in the \$400 to \$800 range. Google: enginediy.

## Article on a vise wrench

Shop-Made Mill Speed Handle, by Bob Neidorff

My Becker mill is smaller than a J-head Bridgeport but larger than a mill-drill. It has an imported 4" mill vice that is serviceable but not elegant. I read a posting about someone making speed handles for larger vices and decided to make one for my little vice. The speed handles have two holes. When put on the vice with the center hole, the handle moves the jaws quickly. When put on the vice with the outer hole, the handle can tighten the vice securely.

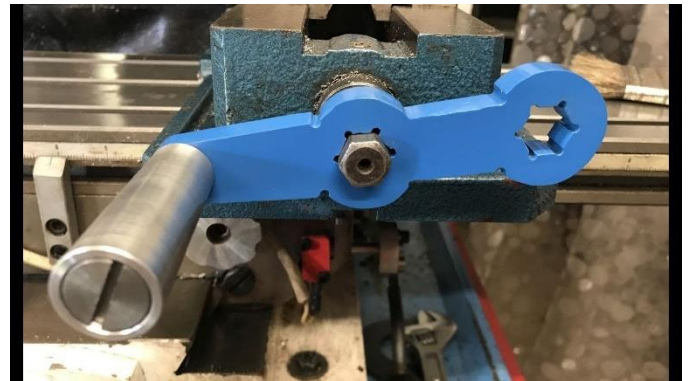


Figure 1: Web photo of mill with speed handle, from Lee Peedin

Lee's vice has a 14mm hex stub. My vice has a 14mm square stub (0.551"), so I had to cut square holes for it.





Figure 2: Becker mill with imported 4" vice and original handle

I had a scrap of aluminum that would be good for the job:  $\frac{3}{4}$ " x 1" x 10" with a few misplaced holes. Shortening the piece to 7" made it perfect for my mill, just barely clearing the table feed knob.

I thought of a few ways to make the square hole. The best would be to make a broach and punch it. That would make more sense if I were making more than one handle. Another approach is to drill a hole and then file it square. A third approach is to mill a square hole with a small endmill and then file the corners to fit.

For any of these methods, it seemed wise to start by drilling four small corner holes. Thinking that smaller is better, I used a  $\frac{1}{16}$ " drill for the first square hole. I then drilled out the center hole progressively larger, finishing with a  $\frac{35}{64}$  drill (0.547"). I then brought out some coarse square files and tediously squared the hole to fit.

At one point in the filing job, I was barely able to get it to fit on if oriented one way. But rotating it to any other orientation and it wouldn't go on. That was odd, because the stub measured 0.551" both ways. I kept filing. Eventually, I realized that I was fighting the wrong battle. Looking carefully at the interference point, I found that there were two large burrs/blobs on corners of the square stub of the vice. The stub was harder than my files, so I used a sharpening stone to remove the burrs. Eureka. The handle fits the vice smoothly in all 8 possible orientations. One square hole done.

For the second hold, I decided to use the mill to cut the square hole. I got really cocky and drilled the four corners with a #57 drill (0.043"). I kept the drill wet with cutting fluid and cleared chips frequently, but still succeeded in snapping the bit off deep into the work on the third hole. I left that piece of drill embedded in the work and drilled the 4<sup>th</sup> hole with a  $\frac{1}{16}$ " bit. Then I used a  $\frac{3}{16}$ " endmill to carve a 0.555" square hole. To finish the hole, I pulled out the square files and squared up the corners. Unfortunately, my files would not go past the broken drill so I used a sharp chisel and hammer to pop it out and again got a nice fit.

To finish the handle, I turned a smooth crank end on the lathe, filled the misplaced holes, and filed the edges and ends round and smooth.



Figure 3: Becker mill with finished speed handle

If I had this job to do again, I would use even larger corner drills, perhaps  $\frac{1}{8}$ " or  $\frac{3}{16}$ ", inset the holes from the actual corner locations slightly, drill the center hold to  $\frac{35}{64}$ ", and finish with files as I did the first time. The end mill approach worked just as well, but took longer and the result was no better.

One other thing: Next time, I would paint it so that you wouldn't see the plugged holes due to reusing scrap. ☺

Reference: "14mm 2 Way Mill Vice Speed Handle" by Lee Peedin (MrPragmaticLee)  
<https://www.youtube.com/watch?v=SZkxmFhU5TM>  
<https://www.youtube.com/watch?v=dsfVI8sgYqM>

# Reports from the Sandy Hill Locomotive Works

This is Dick Boucher's original introduction, and I am reprinting it here, as I think it is still relevant.

**June 7, 2020**

Hello fellow live steam model hobbyist and principals of the New England Model Engineering Society,

James (grandson), Norm, Jay and John. This is my usual Sunday afternoon progress report on work here in the Sandy Hill Locomotive works. Dan, Rich, Bob and James Scheffler I am sending this along to you thinking it might be a way to get some interest back in the club if the fellows who have given up traveling to Waltham had a place to post pictures of their work and view other builders projects. To the new fellows on the list I am working on Cole's Models 2"scale Case steam tractor. For some time now I have been sending out pictures and a short description of the progress on the project to the first three listed having added John lately. Back in the early days of the Live Steam railroad hobby there were only a couple "meets" a year some as far away as Montreal Canada and Carl Purington started the "Traveling Locomotive Books" in which a hobbyist would attach a couple pictures of his work and forward the book to the next person on the list. Fortunately these books still exist and are repositored at John K's museum in Beverly. At any rate my thought is we set up a formal place in our web site or someplace to create the "Traveling Hobby Machining Books" Your thoughts.

All for now, stay cool and stay healthy,

Richard L. Boucher  
Chief Engineer/Master Mechanic/ Lead Machinist  
Sandy Hill Locomotive Works

## Recent work

Aug 30

At any rate some progress was made on the "dickens" locomotives. Photo 1 shows the fixture for locating the steam/exhaust ports in the port block. It is a standard procedure for oscillating engines where you just move the connecting rod to 90° either

side of dead center and drill the port through the fixture and then move the crank pin to the other side and repeat the drilling procedure. The fixture is also used for drilling the port hole in the cylinder. Photo 2 shows the cylinder and port block with the steam/exhaust ports in them also the pin that the unit pivots on and the spring that holds the cylinder against the port block. Photo 3 shows the progress so far. Both engines run very well on air and I have started the boiler work. The engine in the right front has the first formed end cap in place on the boiler tube with the piece of annealed brass beside it. The aluminum on the left side is the forming block, it actually is two pieces that I sandwich the brass piece between as I form the end cap over it. The engine in the rear has the manifold I made to test the engines on air,

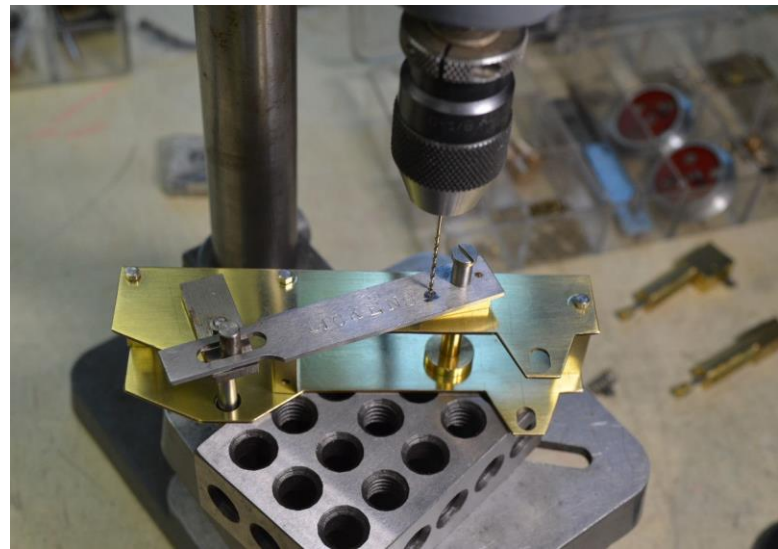


Photo 1



Photo 2



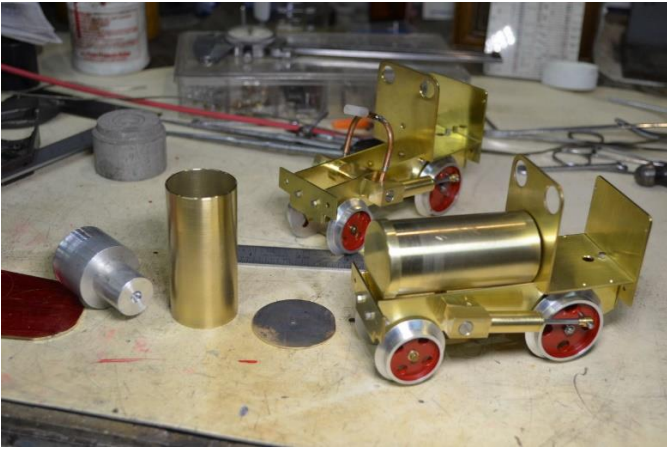


Photo 3

Well that is this week's progress. So, stay healthy stay sane and as Dale says Build Something Cool.

Just a side note, you never realize how antisocial you are until there's a pandemic and your life doesn't really change that much.

Dick B.

Richard L. Boucher  
Chief Engineer/Master Mechanic/ Lead Machinist  
Sandy Hill Locomotive Works

Sept 6

Gosh it is September already, Hi Guys,

I took some videos on Thursday for show and tell for the September NEMES meeting and I realized I hadn't taken any photos during the early part of the week recording progress on "dickens". Well I made up for it in the last couple days and I have to truncate the amount of photos or the NEMES Gazette will be extra long in October. At any rate here is a quick treatise on flanging the front and back plates for the "dickens" boilers. Photo 1 is truing the rough band sawn pieces of brass to a scribed line in the 1" belt sander.

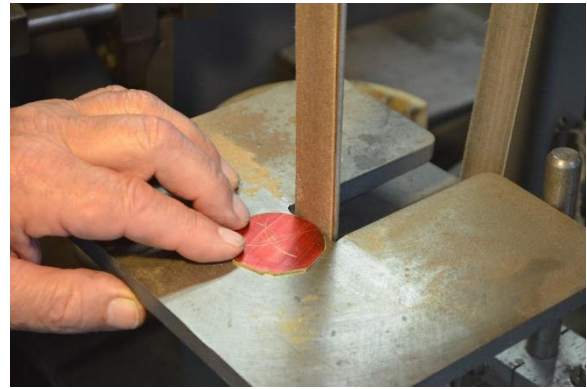


Photo 1

Photo 4 (I said the presentation would be truncated) is a slight prick punch mark in the center of the piece which will set on the point of a set screw

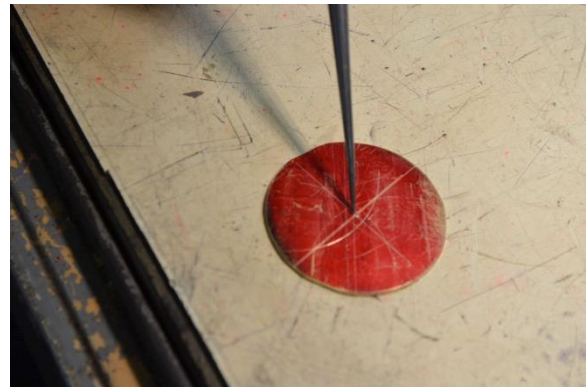


Photo 4

in the middle of the forming block Photo 5 this set screw is recessed back into the forming block protruding just enough to pick up the prick punch mark and center the piece to be flanged



Photo 5

I start the flanging in a lathe just as a secure place for the former, the formed piece and the backup piece, Photo 10 and finish on my anvil Photo 12.

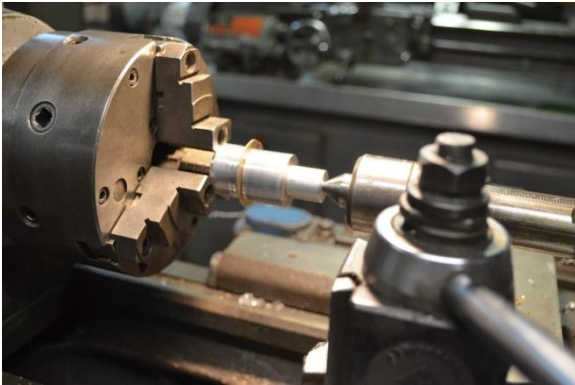


Photo 10



Photo 12

Did I mention that the pieces are annealed a number of times to keep the brass very soft and pliable so that it forms nicely on the former.

Photo 13A shows the flat disc and the formed boiler end cap



Photo 13A

Photo 14 is both little locomotives with their end caps in place sitting on the chassis. The project is coming along nicely so let's see what is accomplished this week between other things that have to be done.



Photo 14

Dick B.  
Richard L. Boucher  
Chief Engineer/Master Mechanic/Lead Machinist  
Sandy Hill Locomotive Works

## Sept 14

The first of the week saw me doing something I had never done either in my professional life or my hobby life. I cut a keyway in a pulley on my AMMCO 7 inch shaper (Kay Fisher if you are out there I do have a shaper and I use it quite often and really enjoy it's use). I do have a set of Minute Man keyway broaches and a couple larger broaches but the required keyway was 5/32" and the hole was a strange size neither Metric or SAE so I ground a tool bit in my Compound Sine vise, Photo D putting the required side clearance on a 1/4" tool bit.



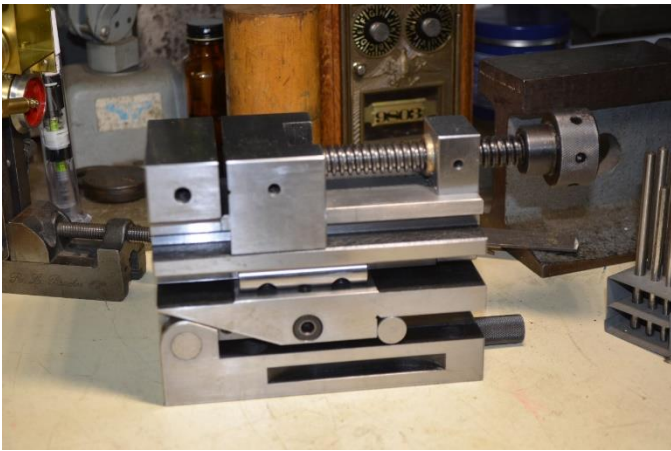


Photo D

Photo B is the neat little shaper.



Photo B

Photo A is the setup

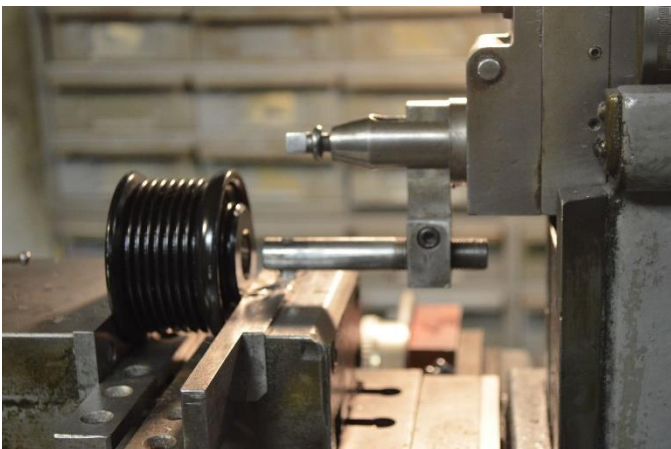


Photo A

Photo C shows the completed keyway.



Photo C

To my great relief the pulley went on the shaft perfectly and the Case backhoe tractor is again earning revenue for the owner.

Now Back to the "dickens" locomotive project. It was a week of fiddlely bits. Photos 1 and 2 show putting an 0-80 thread on both ends of 1/16" rods using my new ER 32 collet holder in my 7x20 lathe. It was a good fit for the small work.

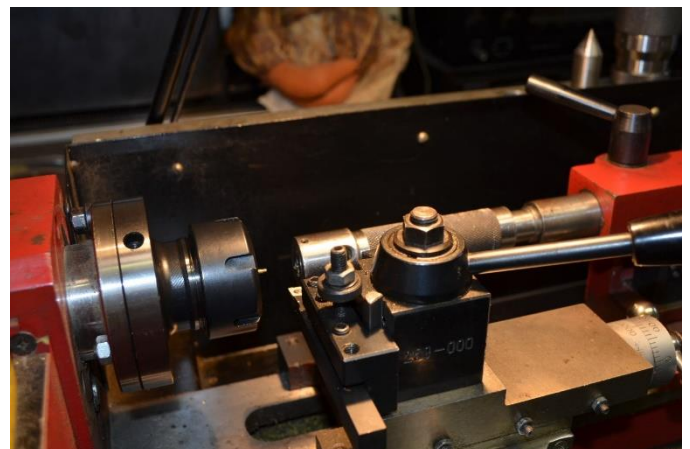


Photo1

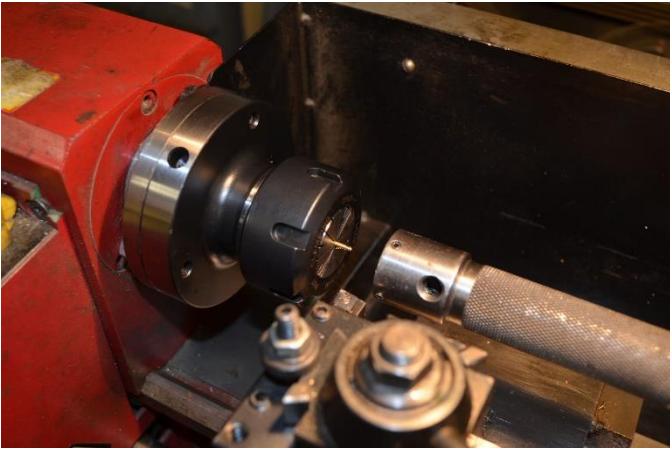


Photo 2

Photo 3 is drilling 0-80 holes in the top rail of the fence on the locomotive it doesn't show up real well but the jaws of the vise I made many years ago and they have a 1/16 x 1/16 notch in the jaws to hold small parts such as these. The holes were blind holes.



Photo 3

Photo 4 is putting the holes in the end of the top rails and Photo 5 is tapping the ends 0-80 after lowering the piece down in the "V" block and using the top surface of the block to support the tapping block.



Photo 4



Photo 5

Photo 6 is turning the radius on the ends of the buffers, it is a British locomotive don't ya know.



Photo 6



Photo 7 shows one of the hand rails assembled on one of the locomotives and all the fiddlely bits required to dress up both locomotives.



Photo 7

And finally Photo 8 shows where I am this evening with the hand rails assembled on both locomotives and the buffers on one engine and the four buffers for the other engine in the foreground.



Photo 8

This week I hope to make the fittings for the boiler, steam dome and safety valve. The safety valve is cleverly disguised as the smoke stack. As always keep safe keep healthy and stay sane.

Dick B.

Richard L. Boucher  
Chief Engineer/Master Mechanic/ Lead Machinist  
Sandy Hill Locomotive Works