

The
NEMES
NEW ENGLAND MODEL ENGINEERING SOCIETY INC.

Gazette

No 294

December 2020

©2020 NEMES

Gazette Staff

Editor Bob Timmerman
Modelmaking Correspondent
Dick Boucher

NEMES officers

President Dan Eyring
Vice President Victor
...Kozakevich
Treasurer Richard Baker
Secretary
Webmaster James
Scheffler III
NEMES web site
<http://www.neme-s.org>

Contact Addresses

Dan Eyring President
deyring2017@outlook.com
Richard Baker: Treasurer
treasurer@neme-s.org
Publisher
Publisher@neme-s.org
Bob Timmerman: Editor
editor@neme-s.org
Dan Eyring::Program
deyring2017@outlook.com

December Meeting

Due to the coronavirus pandemic, the December meeting will be held on line. The meeting will be on December 3, at 7PM.

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

Contents

Date/Time of Dec Zoom Meeting	1
Club Business	2
Zoom Meeting details	2
President's Corner	2
From the Editor's Desk	3
Nonexistent Future Events	3
Reports from the Sandy Hill Locomotive Works	3
Rolly Evans Violin Project	9
Frank Dorion's Holtzapffel lathe	12
Shop Tips	13



Club Business

Rich Baker

DUES: We are collecting the 2021 NEMES Dues now. Invoices were sent out from our Square Credit Card processor later this month. The invoices have a link to pay online directly to Square. If you want to pay by check, please mail the \$25 check to NEMES, 288 Middle Street, West Newbury, MA 01985. Thank you for your continued support for NEMES.

APPAREL: While paying for dues, please check out the NEMES Aprons, T-Shirts, Denim Shirts and Sweat Shirts. We are happy to ship any of this clothing directly to your home. They make great Christmas presents.

Meeting Announcement All NEMES Members

I hope you can join us for an on-line NEMES meeting on Thursday, December 3rd.

Topics for the Meeting:

- Introductions
- Club Business
- 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!

Daniel Eyring is inviting you to a scheduled Zoom meeting.

Topic: December 2020 Zoom Meeting
Time: Dec 3rd, 2020 07:00 PM Eastern Time (US and Canada)

Join Zoom Meeting

<https://zoom.us/j/6229563584?pwd=eHVmSmdBWFE5ZDRQUVZBWZHJV0NtZz09>

Meeting ID: 622 956 3584

Passcode: 072169

One tap mobile

+13126266799,,6229563584#,,,,,0#,,072169# US
(Chicago)

+19292056099,,6229563584#,,,,,0#,,072169# US
(New York)

Dial by your location

+1 312 626 6799 US (Chicago)

+1 929 205 6099 US (New York)

+1 301 715 8592 US (Germantown)

+1 346 248 7799 US (Houston)

+1 669 900 6833 US (San Jose)

+1 253 215 8782 US (Tacoma)

Meeting ID: 622 956 3584

Passcode: 072169

Find your local number: <https://zoom.us>



President's Corner
Dan Eyring

[Ed. note: no President's Corner this month]



From the Editor's Desk Bob Timmerman

This month three members came through with articles on their shop projects. Dick Boucher writes about his model building, Rolly Evans takes us away from our usual venue of precision metalwork to precision woodwork to discuss his project to build a violin, and Frank Dorion shares some pictures and information about his Holtzappel Ornamental Turning Lathe.

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.

This Gazette is coming out a little earlier than the past several ones. I hope to get them out 10 days or so before the meeting, to give people a bit more time.

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.

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 repositioried 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

November 1 2020 report from the SHLW

Hello Gazette readers.

In my briefing on Oct 20 I mentioned Bea and I had been working quite a bit in the yard and I could use a rainy day, Sorry guys I guess I brought it on. On the 25th I mentioned son Peter came by and helped me get the mower deck back under the John Deere and I had taken a couple turns around the yard to make sure everything was working properly. Well that was Sunday. Monday I woke up to a rainy day and it continued through the week ending up with a snow storm on Friday. So there we have it leaves under the snow and yesterday there were leaves on top of the snow and it is raining again this Sunday

evening. I wonder if I will ever get the leaves picked up.

Well the next project has been started!!! Photo 1 shows my three Rudy Kouhopt Case steam tractors being built from plans featured in a Popular Mechanics magazine February 1971. so assuming I didn't start them right away I think it was probably around 1977 when I ordered Rudy's plans and gave it a good start.

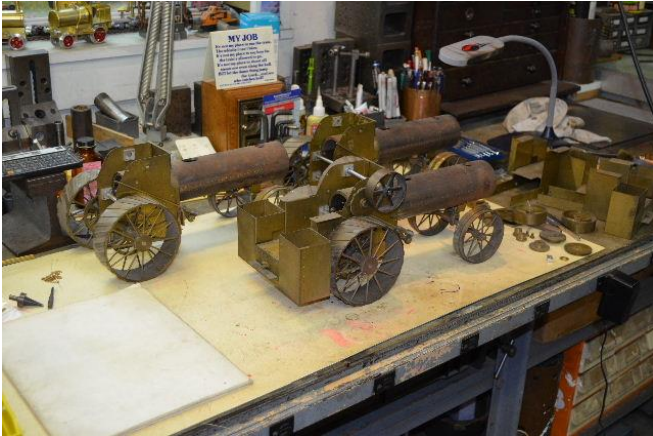


Photo 1

So here we are 43 years later and I am going to finish this project. Why three you ask Well I had three kids. Photo 2 shows the color picture that was in the magazine sitting on the tractor that I had done the most work on.



Photo 2

This is the one I have disassembled and started to clean up I will get this one back to the state it started in then bring tractors 2 and 3 up to that stage. Photo 3 shows what a short soaking in white vinegar and a little scrubbing with Scotch Brite can do for cleaning brass.

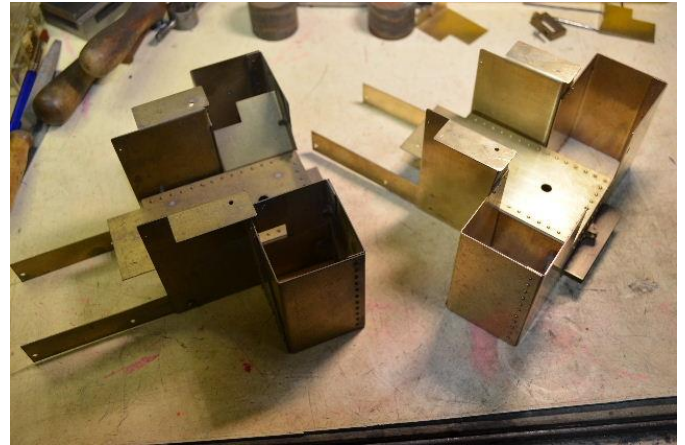


Photo 3

While I have been about the boring chore of cleaning the parts I gave some thought to making the little cylinder. Photo 6 shows the finished part and the blanks from which it was made



Photo 6

The round shape with the protrusion for the steam ports was done with my small dividing head in the Hardinge mill. Photo 4 shows the method of cutting the radius on the side leaving the port protrusion for the steam ports.

November 8, 2020

Well last week I lamented on how it had been a very rainy period. This week I did not get much shop work done as the weather was so fine Bea and I spent a lot of time doing fall cleanup. The drive belt for John Deere with the Power Flow attachment failed, it wasn't a real John Deere belt and it took me three trips to the local John Deere parts counter to finally get the correct belt. Seems as though even with all the numbers for the tractor, mower deck and power flow attachment there is still two belts for the arrangement. A wasted day and 100 miles on the truck but it was finally fixed and I did get some leaf pickup accomplished. The system works good if you don't let the leaves get too deep on the ground so for the next couple weeks I will be doing a lot of touring around the back yard.

Well even after all that and the yard work I did manage to get something done on the 3/4" steam tractors. Photo 1 shows one of the tractors after it's soaking in white vinegar and Evapo Rust.



Photo 1

Photo 2 shows some of the parts in Rust-Oleum self etching primer and some parts with the finish paint on them.



Photo 4

Photo 5 shows drilling the corner holes for the ports for the 1/16 inch end mill. All the holes were done in the same setup in the dividing head.



Photo 5

Again, refer to Photo 6 to see the completed cylinder at this point. It has to be set up vertical to drill the steam ports and mill the slots connecting the ports to the cylinder bore. All for now, stay healthy and stay sane.

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

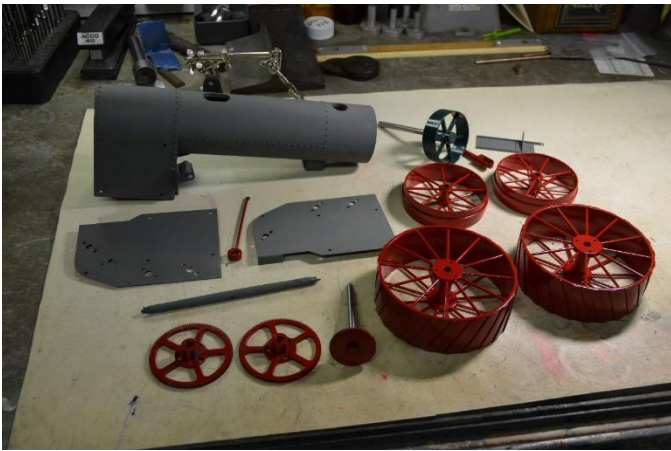


Photo 2

I may go back and get a can of a little lighter green for the parts that are green, the flywheel seems a bit too dark. Photo 3 reminds me of how long ago I started these engines.

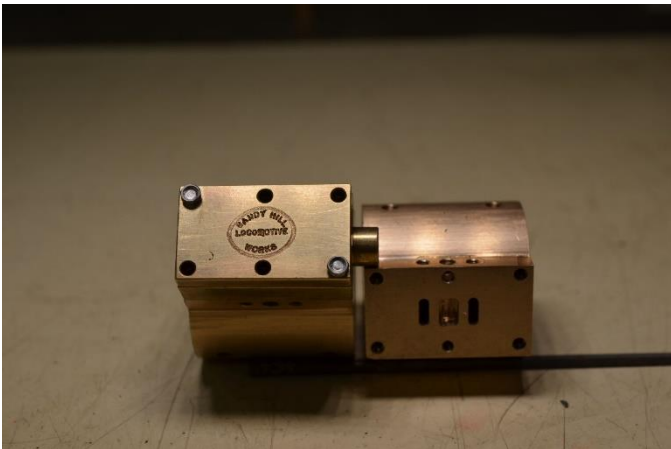


Photo 3

The engraving of the shop logo on the steam chest cover was done by Themis Perry the fellow who did the engraving in Test Set Construction when I worked in that shop at Western Electric something like 40+ years ago. Photo 4 shows a something I found useful from U-Tube creator Keith Appleton, keeping everything for each engine in separate containers.



Photo 4

Well it looks like I will be having another good week in the yard fall cleanup so I will see you again next Sunday evening with hopefully some progress to report. Do keep in mind the process of cleaning up all those little parts that have gained a rather heavy patina from setting so long is a long and arduous undertaking, I would rather be machining things. So stay healthy and stay sane.

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

November 15, 2020

Greetings All,
I and Bea got quite a bit of work done this week both in fall cleanup and model engineering. I can't remember just which day we did what, I guess I should start keeping a journal, but we did get a lot of leaves picked up though if you look out the shop window right now you can't tell we did anything at all. The good news is the trees are almost bare and the amount of leaves on the ground will not be difficult for the John Deere to deal with.

As for model engineering the week started out continuing on the details that will attach to the boiler. The subject at this writing is the bracket to hold the cylinder. but before I could make that I needed some cylinders. Photo 1 shows me carving the radial part from the blank after the valve port face was machined from the bronze rod using my 4 to 1 Hardinge Brothers dividing head.

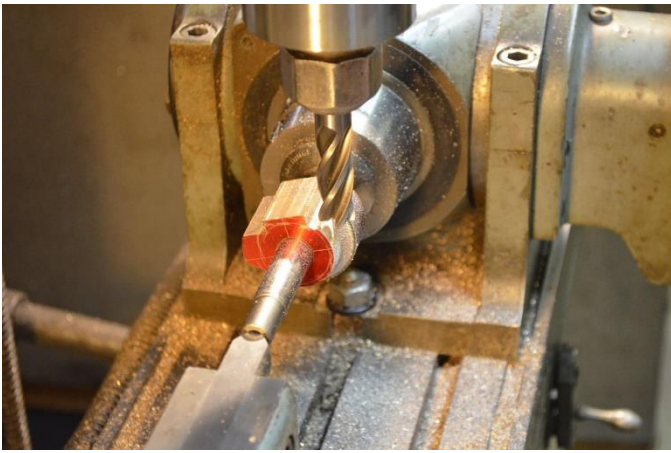


Photo 1

Photo 2 is the drilling of the ports to connect with the valve ports.



Photo 2

Photo 3 shows the three cylinders complete with all the various areas where metal had to be removed to facilitate the part being a cylinder and the pieces of 1" dia brass that will be used for the cylinder heads along with the step collet which just happened to be in my collection which will work perfectly for machining the cylinder heads



Photo 3

The finish from the rough carving was done in my real old filing machine that I used to use to sharpen my cord wood saw. Photo 4 shows the first design of the bracket that holds the cylinder on the boiler barrel.

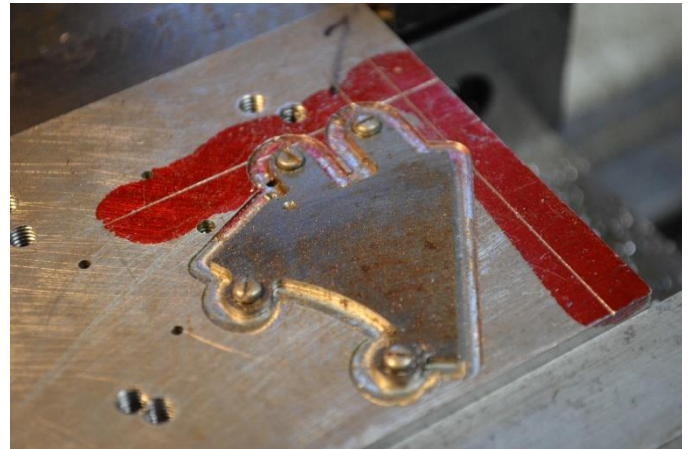


Photo 4

Rudy designed this to be two pieces riveted together, After I saw the first design, the part with the two Mickey Mouse ears for fixturing screws, I realized that these holes could be used to fasten the bracket to the boiler with a little more figuring and redrawing. Photo 5 shows the new bracket with three screw holes and the ears bent up to form the completed bracket.



Photo 5

Photos 6 and 7 show the approximate location of the cylinder with the bracket.

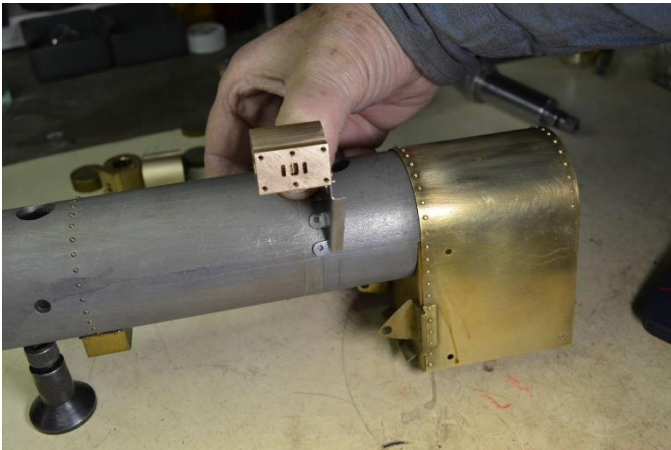


Photo 6

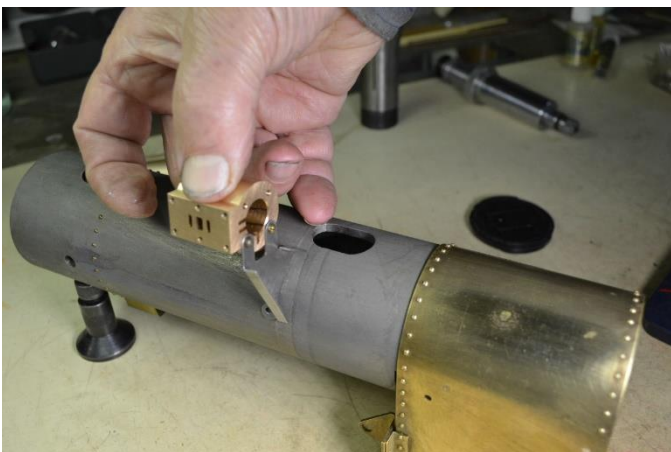


Photo 7

So it is onward and upward next week. I have to make the cylinder heads and then the crosshead guide bars which will control the distance of the cylinders from the motion support plate which

mounts on the horn plates which mount on the boiler barrel and establishes the location of the drive gears. All small fiddley bits. After that is all assembled I can mark out the location of the holes in the cylinder bracket and mount the cylinders and Bob is your father's brother.

Dick B.

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

November 22, 2020

Hi Gang,

Well we had some very cold weather the first of the week. It didn't get above freezing all day Tuesday and Wednesday. Monday I started the day with a visit to my primary care doctor. Just a check on things which are fine so Bea and I spent the rest of the day on leaf detail. I think we have a good hold on that situation just a bit to clean up around the edges. Later in the day I did manage to turn the finished cylinder heads from the bits of brass in Photo 3 from last week's report they are shown in Photo 1 along with the crosshead guides and the assembled cylinder arrangement on the boiler.



Photo 1

Getting all the pieces, cylinder, crosshead guides and motion plate to be properly aligned on the boiler shell is proving to be a bit of a hassle but I am slowly working it out. As a matter of fact, I think I got it just before sitting down to write this report. I will sleep on it and get a fresh start in the morning. It is supposed to be raining so, yippie another day in the shop.

Photo 2 shows drilling the mounting bolt holes in the front cylinder cover.



Photo 2

It is being held by the 1/32 register in an ER 32 collet setup. I just center drilled the hole and drilled part way deep so as not to damage the collet and finished drilling through off the machine. Photo 3 shows the motion plate with the crosshead guides attached and the cylinder holding bracket and the cylinder attached to the crosshead guides.

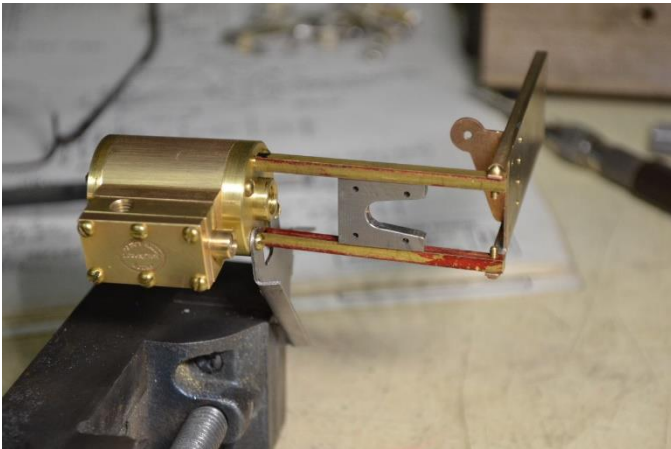


Photo 3

The lump in the middle is the center portion of the crosshead. Refer back to Photo 1 to see how all this attaches to the boiler barrel and the hornplates. Well that is it for this week, a lot of small parts not offering much in the way of holding surfaces but the work is done, The crosshead guides required turning a 3/32 dia spud on the end of the 1/8 square stock which necessitated truing each on up in my small four jaw chuck. Very time consuming but worth the effort. As always stay safe, healthy and above all stay sane.

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

My Violin Project

RollyEvans

When I came to Florida 16 years ago, we had 28 inches of snow at my house in West Bridgewater Mass. My friend George Nutz had moved down years earlier.

George played Violin and Banjo. And had built a beautiful Banjo. Looking at his instruments I noticed he had three Violins. Two were old and distorted beyond use.

Asking George why, he explained that you need to loosen the tension on the strings after playing as the Violin is glued together with Hide glue, and Hide glue does not harden like other glues, under tension parts can move over time. Then he explained they could be taken apart and rebuilt by using a hot knife on the Hide glued seams.

Weeks later I was looking through some of my books and several catalogs had books on how to build Violins. One was \$19.95 for twenty bucks I bought it, by **Bruce Ossman**.

This man did a fantastic job, all the dimensions were taken from a disassembled Stradivari Violins. His name was not Stradivarius as they are often called. That another subject.

Stradivari used Maple and quarter sawed Sitka Spruce for the top belly plate. All white wood, not the mahogany or walnut you see on Orchestras. Stradivari hung his outside in the sun to yellow them somewhat and one coat of varnish as the coating changed the sound.

I used burl walnut veneer for the rib band as I had it left over from another project. I found a 300 year old piece of quarter sawed Sitka Spruce from a guy in Missouri, it needed to be ten inches wide. That meant the tree had to be at least 24 inches in diameter. Today I was told a lot of Luthier are using new England red spruce and gluing two boards together to get the ten inches required for the top

plate. Mine was a beautiful piece to carve. The black wood is Ebony, this I had enough left over from building parts for my 1906 Stanley EX. I understand today some these parts are made from black plastic or wood, stained black and varnished.

The book Bruce provided included full size templates for all the parts and detailed instructions for making all the parts and assembling details. All of you could do it. See attached photos.

Wood carving is not unknown to me, sixty years ago I use to restock shotguns, I never made much money doing it and gave it up, but it left me with lot of very nice carving and turning chisels, I had all the tools.

Carving the top and bottom plates was a lot easier then I anticipated falling Bruce's instructions. After carving the outside of both plated you layout the pattern as provide as different parts of each plate are of different thickness. Some areas only 2.6 MM

You do this by laying out the template lines and using a drill press you put a stop head like the head of a flat screw on the bottom vice of the drill press and bring down the drill down and adjusting the stop so you have the desired space. Then you drill a bunch of holes in the template area and carve till you get down to the bottom of all the holes. Having a machine shop and ball endmills I used my mill. I figured the ball end would be less of a chance splitting the wood on such thin areas. It worked fine. Just lots of wood to remove.

Rolly

See the attached photos.

[What now follows is a series of photos on the process of building a violin—ed There are no captions for some of the photos. The Editors captions are shown in brackets]



The neck



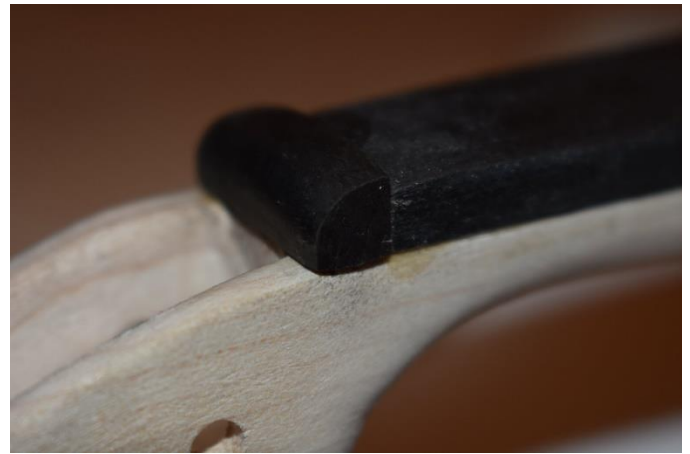
Templates



Jigs



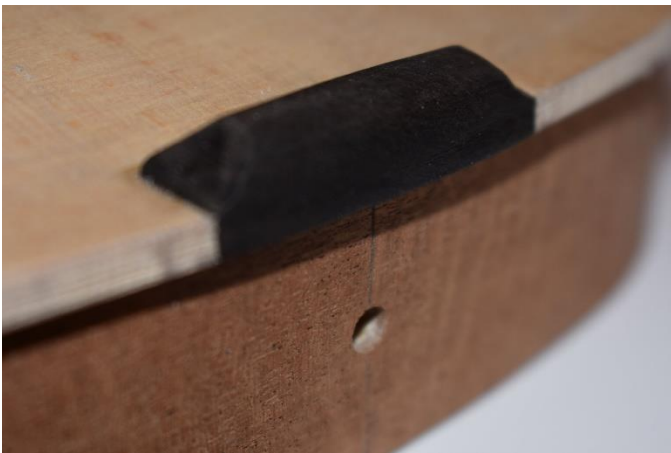
[Parts being glued up]



[Detail of the neck]



[Parts ready for glue up]



[Appears to be cutout for tailpiece]



[One view of the neck]

Frank Dorion's Holtzapffel Ornamental Lathe

Dan Eyring has received some correspondence with Frank Dorion about his Holtzapffel ornamental lathe. Frank has acquired this lathe, and is going about restoring it, and making some attachments for it, along the lines of the older ones.

The first picture is an overall view of his lathe, as located in his shop.



[The neck with pegs and strings]



[The finished instrument]



The lathe

Frank's description of the lathe, and his work on it is described in his own words, in the following email to Dan Eyring:

"The Holtzapffel lathe is a relatively recent acquisition, so most of my efforts up to this point have been aimed at restoration and discreet modifications to make the lathe easier to use. Everything I do is reversible, but there are definitely improvements that can be made to the Victorian technology. For example, I am well past the point where powering the overhead drive via the treadle has any appeal. So, I hooked up a small DC motor with a remote speed control to power the long overhead pulley that drives the carriage-mounted high speed cutter (see photo).



Photo of motor drive for overhead spindle

I am currently working on an improved indexing mechanism, this a Victorian design, that will vastly improve the ease of doing the extensive indexing required in ornamental turning. Next is an ultra-low speed power drive for the carriage using a small DC gearmotor, already partially done. With those changes, the lathe will be much more suitable for operation by an old an with a short attention span. I have already made a number of similar changes to my rose engine.

I will readily confess that I enjoy restoring/modifying these ornamental turning machines as much as I do actually using them. Given the vast array of accessories that I can choose to make and the endless variety of potential ornamental turning projects, it's looking like there will be plenty of opportunity for both types of activity for a long time to come.

Frank

Shop Notes—Drill Rod

I had always thought of drill rod as something available in sizes $\frac{1}{4}$ " and over; I did not realize it came in sizes as small as $\frac{1}{16}$ ". Recently I found out that it comes in sizes down to $\frac{1}{16}$ ", and if you buy locally, say picking up at your local Grainger branch, it is quite economical, with a 36" piece of either W1 or O1 $\frac{1}{16}$ " costing about \$2.00. This helped me out of a jam recently, as I needed a $\frac{1}{16}$ " lineup punch to align some parts that were to be held

together by a roll pin slightly larger than $\frac{1}{16}$ ". All I had to do was hacksaw off a suitable length of drill rod, put it in a small drill chuck, touch it to the bench grinder to put a point on it, and I had my lineup punch. The assembly went together with only a bit of effort.