

The
NEMES
NEW ENGLAND MODEL ENGINEERING SOCIETY INC.

Gazette

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July Meeting

Due to the coronavirus pandemic, the July meeting will be held on line.

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

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**Club
Business**
Rich Baker

Please see Bob Timmerman's Editor's page

**President's Corner
Dan Eyring**



All NEMES members

I hope you can join us for an on-line NEMES meeting on July 2nd.

Topics for the meeting include:

- Status of Club operations going forward
- Fire works
- Show and Tell

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!
Dan Eyring

Daniel Eyring is inviting you to a scheduled Zoom meeting.

Topic: NEMES July 2nd Meeting
Time: Jul 2, 2020 07:00 PM Eastern Time (US and Canada)

Join Zoom Meeting

<https://zoom.us/j/6229563584?pwd=eHVmSmdBWF5ZDRQUVZBWHZJV0NtZz09>

Meeting ID: 622 956 3584

Password: 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

Password: 072169

Find your local number:

<https://zoom.us/u/abelgAr7ch>

**From the
Editor's Desk**



**Bob
Timmerman**

As a result of the coronavirus, NEMES has gone into a place holding pattern. Present officers will continue in office (except possibly for Todd). We will meet on Zoom the first Thursday of the month. We may have speakers, probably most of the time we will have poster sessions. After the coronavirus dies down, we will revisit elections.

The good news is that we have articles for the Gazette, both from Jim Paquette, and Dick Boucher. Jim has built a small engine, called the Covid engine

(see his writeup). Dick has kindly copied me in on weekly updates from the Sandy Hill Locomotive Works, where he is Chief Engineer/Master Mechanic/Lead Machinist. Dick has been sending weekly updates with photos.

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.

The Covid Engine

Built and described by Jim Paquette

The Covid Engine

What did you do to stave off boredom during the lockdown?

My choice was to build another model steam engine. I had never built an engine with a Scotch Yoke so I decided to use that system instead of a conventional cross head. Also, this was going to be a "scrap heap" engine. All materials except miscellaneous fasteners were to be items that I had laying around the shop.

For a crankshaft I used a scrap Maytag 82 gas engine crankshaft. The 82 has an overhung crankshaft and a stroke of about 2". I turned the 3/4" diameter main bearing end down to 1/2" and the 1/2" crank pin down to 0.350". At the same time, I increased the throw by 1/8" giving me a stroke of 2-1/4". The first picture shows my set up for turning the crank pin. The large round is 5" diameter and has a 1/2" reamed hole offset 1-1/8".

The Cylinder is a scrap block of cast iron. I squared it up and bored it to 1-1/8" diameter before honing it with an Ammco cylinder hone. The end caps/mounting legs are made from 2" X 3" X 1/4" angle iron and the valve chest is cold rolled. None of the interfaces between the cylinder, the end caps and the valve chest have gaskets. All of the surfaces were machined flat and a thin layer of Loctite 515 applied at assembly. Everything sealed perfectly.

One of the more challenging tasks was arranging the various bolt patterns for the end caps and the valve chest so that they did not intersect each other or the steam passages in the cylinder wall.

The baseplate, flywheel, bearing stands, scotch yoke, eccentric, etc. were all pretty straight forward machining operations though the yoke and slider did take a bit of hand fitting to get a free sliding action without too much slop. I used 5/16" aluminum for the base plate to keep the weight down. I find that as I get older, these models get heavier and heavier.

The flyball governor may look familiar to those of you who are old enough to remember hand crank, 78 RPM record players. They used a flyball assembly to pull a disc against a pair of felt pads thus controlling the speed. I was fortunate enough to run across 3 of the ball assemblies in a basement shop that I was moving. Glad I saved them.

The engine pretty much ran right from first assembly though it did run backwards after I took it apart for painting. Seems that when I reassembled it, I offset the eccentric in the wrong direction.

Jim Paquette



Now it is Dick Boucher's turn:

Reports from the Sandy Hill Locomotive Works

June 5, the day after the on-line meeting

Hi fellow NEMES members,

Here are a couple pictures of my progress on a Cole's Models 2" scale Case Tractor I am currently working on. At last night's Zoom meeting of the group I swung my camera around and showed the tractor during the show and tell portion of the meeting. As the camera isn't really designed for such use I have decided to send clear pictures of the unique suspension of the rear of the tractor to Bob for inclusion in the gazette It is not setting on it's rear wheels those are the bull gears that are attached to the wheels. the frame work that is in the picture is the frame for the tender which is attached to the tractor by links to the two bronze castings which are held to the boiler with links.

Comments?

Dick B.



Photo 1

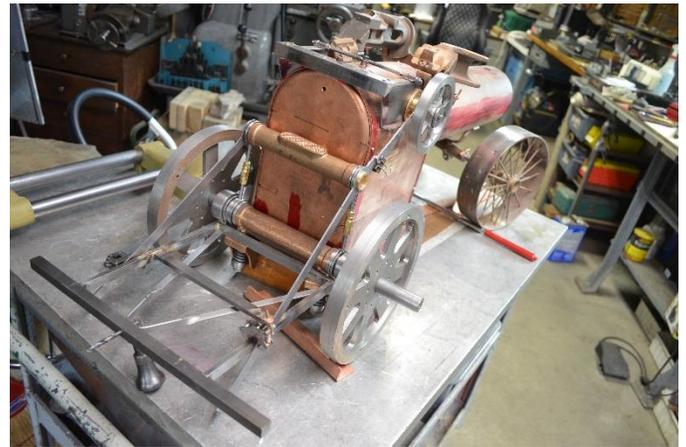


Photo 2

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. now on to this week's progress:

Photos 1&2 show all the links and the two cannon bearings lined up on the back head of the boiler the frame is the tender frame which hangs off the cannon bearings with links. It is not setting on it's

wheels those are the bull gears which attach to the wheels.

Photo 3 is my setup for bringing the boiler wrapper and throat sheet and back head all to the same length. The setup did work!!

Photo 4 shows the brackets with the springs that attach the lower cannon bearing to the back head with screws through the brackets into the back head and also a bracket on the side of the boiler. The two copper brackets are in the picture on just to the left of the cannon bearing and the other just above the micrometer. The screws do not go into the pressure part of the boiler as the space that they are screwed into is the ash pan. While I have the back head out of the boiler and I am fitting the fire door and the blower valve in place and marking the places where the longitudinal stays will be fitted as well.

Dick B.

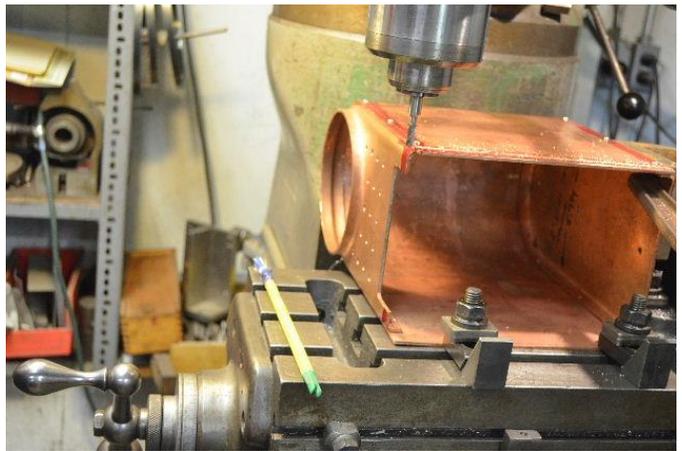


Photo 3



Photo 4



Photo 1

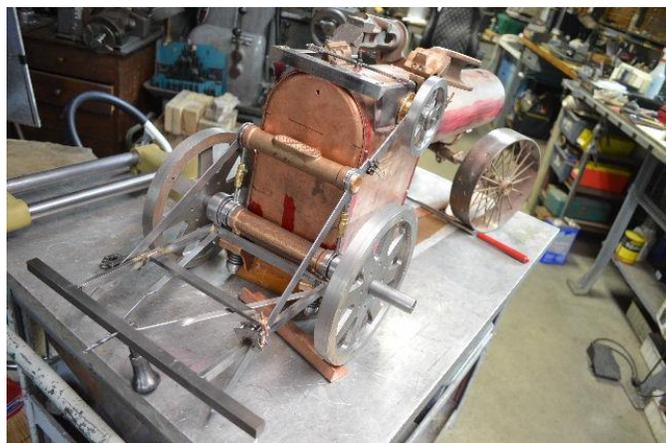


Photo 2

June 14, 2020

Hi Gang,

The report is in two sections this week as JUNO says the message is too long so pictures will follow. Not much to report this week. I spent the whole week working on the backhead of the Case boiler making brackets and the latch and fitting the door to the back head.

Tuesday Bea and I did have a cuppa with Norm and Leslie at the Chelmsford DD before heading over to Bea's sister's house to have a visit with Bertha's cousin from Swansee NH then Wednesday we ventured out to Lunenburg MA to enjoy our granddaughter Ansie's 11th birthday party.

It was kind of neat as her posse who hasn't been in personal contact for three months were having face

to face time.

I think I am going to take a little break from the tractor after I finish the blower valve body which is part of the backhead and maybe work on the Stuart Turner 5A engine for a bit just as a change. Tune in next Sunday and see what happened! Meanwhile stay healthy and sane and enjoy some shop time with me.

Picture #1 shows the firedoor open and #2 shows it closed. Picture #3 is what takes me so long to do anything . It is the handle on the latch with the nice shape machined into it on the CNC mill. Can you imagine wasting a half a day writing the program and running it? I guess I can as I did just that.

Dick B.



Photo 1



Photo 2

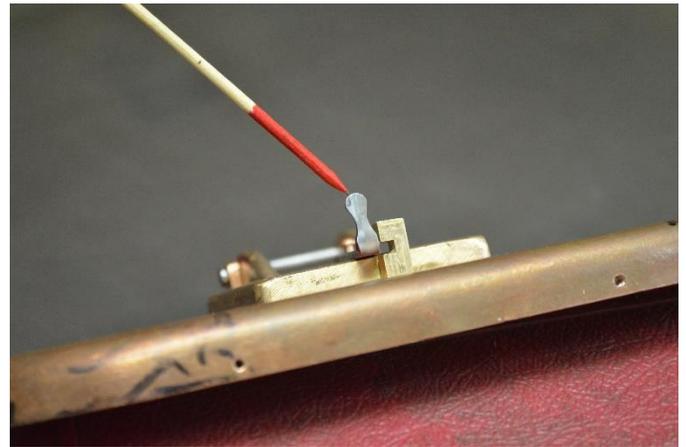


Photo 3

June 21, 2020

Hi all,

It has been a quiet week here in Georgetown where all the Bridgeports have chips on them. I had a milestone on the tractor this week with the lower cannon bearing mounting brackets now bolted to the backhead as per drawing. (Photo 1). It is now on to the steering gear on the front of the firebox.(Photo 3). Photo 2 shows the massive amount of hand filing required to bring the chain roller into some semblance of correct form. Photo 5 shows the week's accomplishments. As I got tired of filing, which happened often, I took the Stuart Turner 5A off the shelf (photo 4). This is a good size engine capable of powering an 18 foot steamboat. The large studs and nuts in photo 5 are for the 5A in various places. Stuart Turner supplies 1/4 BSF studs and nuts. 1/4 BSF is 26 TPI so rather than spend a few dollars to purchase BSF taps I have made the studs 1/4-28 threads.

The small nuts are 5-40 for the bolts that hold the lower cannon brackets to the backhead.

My big project right now is learning how to make the worm gear and worm wheel for the steering gear. The chapter on doing this in my gear making book is quite long and there is some math involved then the challenge will be to get the correct lead screw pitch on the lathe to make the worm wheel cutter and to make the worm wheel. I have also been studying the chapters on making involute gear cutters and looking at the possibility of making gear hobs instead of cutters.

All for now, stay cool and stay healthy,

Dick B.



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5

June 22, 2020

Hi Guys,

I forgot to mention in yesterday's update that all the threads on the studs were single point generated in the South Bend. It seems that collets just can't grip polished Stainless Steel well enough to hold them against the forces of even a 14-28 die so I went to the single point method which after I set the dials on the cross slide and compound was just a matter of muscle memory and all came out with a nice fit on the nuts I had made earlier.

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