



The NEMES Gazette

NEW ENGLAND MODEL ENGINEERING SOCIETY INC.

No. 124

August 2006

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Editor's Desk

Victor Kozakevich

I recently saw the film "Who Killed the Electric Car" and did some research first. There are a number of folks who aren't waiting for the carmakers to meet their needs. Several companies will convert gas cars to electric or sell you the parts to do the conversion yourself. While everyone loves the convenience of "filling up" from the wall socket in the garage, the general feeling is they're great for trips of less than 80 miles, but longer drives need an engine. My favorite solution is the two part hybrid, an electric car pushed by a trailer with an engine and transmission. Seems impossible at first, but all the users claim it works fine. Google "pusher trailer" to see some.

The movie explains the California law that forced automakers to sell electrics in California, what cars were offered, and how the makers fought the law. The best car of the bunch was the GM EV1, which, in its last revision, got 125 miles to the charge and was as fast as most gas powered cars. However, GM has a bad history with electric vehicles (like buying up streetcars, burning them and replacing them with busses), so when EV1 leases ran out in 2003, the cars were crushed. Good timing, you think?

Next Meeting

Thursday, Aug. 3, 2006

7:00 PM. Meetings held at:
 Charles River Museum of Industry
 154 Moody Street
 Waltham, Massachusetts

Membership Info

Annual dues of \$25 (via checks made payable to "NEMES" and mailed to our membership secretary) for the calendar year are due by December 31st of the prior year.

Missing a Gazette? Send mail or email to our publisher.

Addresses are in the left column.

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President's Corner

Dick Boucher

We need someone to come forward and take over the secretary position. The secretary takes notes at NEMES meetings and sends them to the Gazette editor for publication. Please support your association and help keep your friends informed by volunteering for this position.

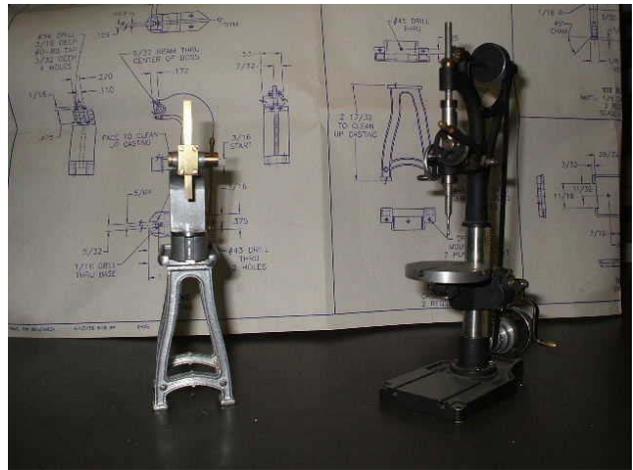
The Meeting

Our guest speaker at the August meeting will be Carl Close Jr. Carl has been blacksmithing since he was eight years old. He was born to a family of craftsmen that believed in old Yankee traditions. These unwritten skills were passed down from generation to generation and included just about every mechanical skill you would need to survive and make every thing yourself, such as timber framing woodcutting, lumber milling, welding, fabricating and blacksmithing. When Carl was 17 he went into the navy and became an engine man. He worked on a submarine repairing Fairbanks Morse opposed-piston diesel engines. He also did a short stint in the Seabees as a construction mechanic. After his discharge, he returned to his blacksmithing skills and started his own architectural ironwork company. In 1992, Carl and his wife Susan started Hammersmith Studios, an extremely upscale ironwork company which has become a leader in its industry. Carl specializes in reproduction and restoration of historic ironwork. His work can be seen in houses of celebrities, sports figures, authors and dignitaries throughout the US, London and Japan. Carl is also an internationally known blacksmithing demonstrator. He teaches at industry conferences and he and his wife also have their own school teaching blacksmithing. Carl will be talking to us about the history of blacksmithing in New England as well as how modern day blacksmiths fit into modern society. He will also bring some tools and explain how he does what he does. There will also be samples of his work

and a slide show of some recent projects. Carl has recently moved his studio from Lynn to Lowell, and will be a featured master demonstrator at the Lowell folk festival on July 29th and 30th. Carl's web site is www.hammersmithstudio.com This will be a great opportunity to see a master blacksmith's work and ask questions. It promises to be a great evening!

The July Poster Session was a great success thanks to all the members who brought in examples of their activities. I never fail to be in awe at the fine works displayed at either our Poster Sessions or the annual exhibition in February. The Poster Sessions have the unique feature of us being able to get to talk more closely with each other than we have time for during the show.

The past couple of weeks have been truly the dog days of summer but I have made the best of them. My shop has an air conditioner to keep the air dry for my machines and tools so I take advantage of the cool air and hang around down here when the temperatures are in the nineties. I caught up on my commercial work this past spring, caught my breath, did a bit of cleaning up and actually got some work done on a couple of models.



Except for paint, I finished the arbor press from PM Research to go with my model drill press of the same scale. This is another great **set** of castings and parts from this supplier (usual disclaimer.) I still have a few more of these fine projects to work on as time allows.

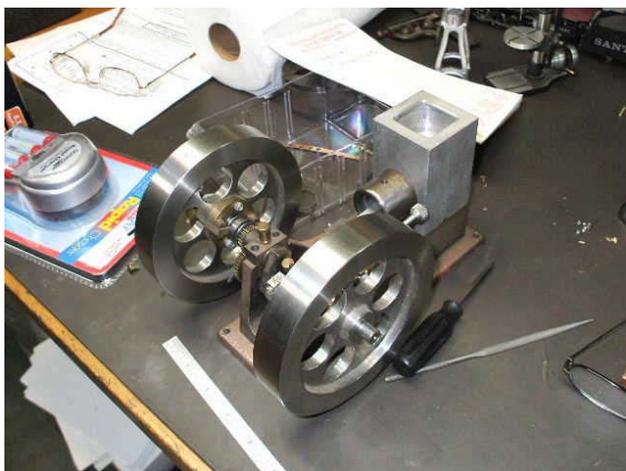
I also dusted off the Odds and Ends Hit 'n Miss Engine that Phillip Duclos wrote up a number of years ago in one of the hobby magazines. I started it quite some time ago but it has just been gathering dust and a bit of rust for many years. I am really kind

of ashamed to admit just how close to completing that project I was when I set it aside. The current burst of activity has seen the valves finished and lapped into the intake and exhaust valve bodies, proper valve springs with flat ends wound and the ignition points completed, with silver contacts finished.



The Meeting

Max ben-Aaron



The July meeting, following a long-standing tradition, was a "Show & Tell" session. The highlight of the show was a spectacular set of molding planes and the tools used to make them, by our new Vice-President Frank Dorion. Thanks to Gale Martha for following her tradition of providing goodies to munch on.

But alas the engineer called this morning with more needs, so the project is at the back of the bench again. There's not much more to do to it to finish it. I just hope I can stay focused.

See you at the August meeting

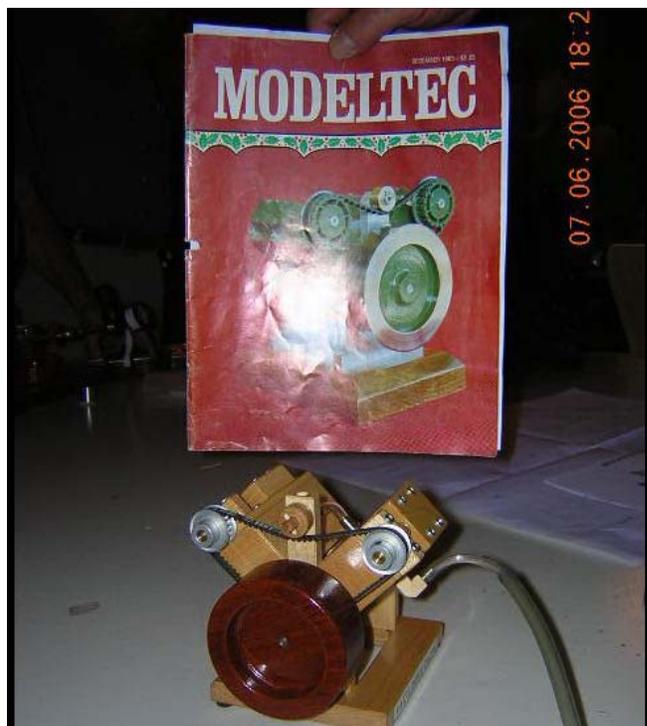
Dick B.

And a brief note from former President Norm:

Seems I neglected to give Granite State Gas & Steam Engine Association credit for their part in Dave Dearborn's show.

Oops!

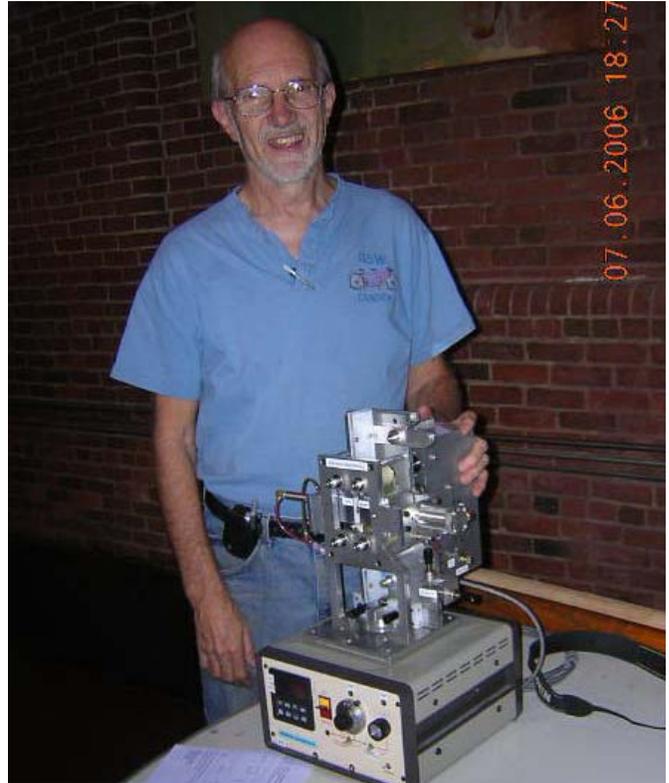
My apologies to the Granite State Gas and Steam Engine Association for not giving credit for the sponsorship of Dave Dearborn's show back on June 3 and 4. Thanks also to Granite State for providing the club's 10 HP Columbia 3 pass oil-fired boiler which was used to provide steam to the steam table as well as to numerous full-size engines.



Ed Wylodyka's working wooden model of an oscillating steam engine designed by Larry van Duyn.



Ed Wylodyka, Les Russel, Carl Mikkelsen and Errol Groff.



Earle Riche and his optical fiber puller for sapphire fibers.



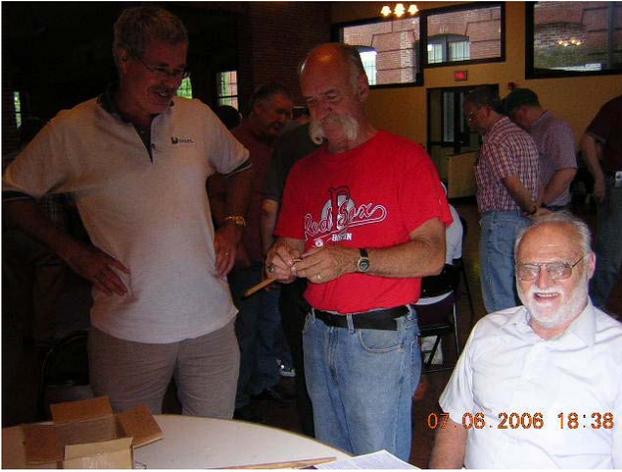
Club V.P Frank Dorion explains how he made his molding planes to Saul Bobroff.



Bill Brackett brought some patterns and castings for the Museum's early loom reconstruction project.



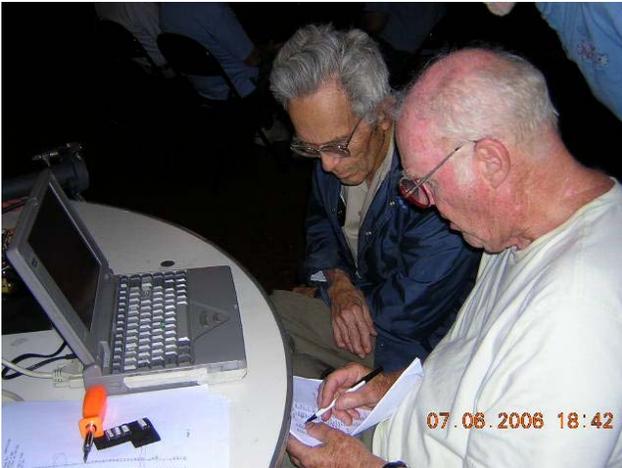
Here's Henry Szostek, holding his brass cannon and a pair of oars (for his singles scull) that he made a long time ago and is now refinishing.



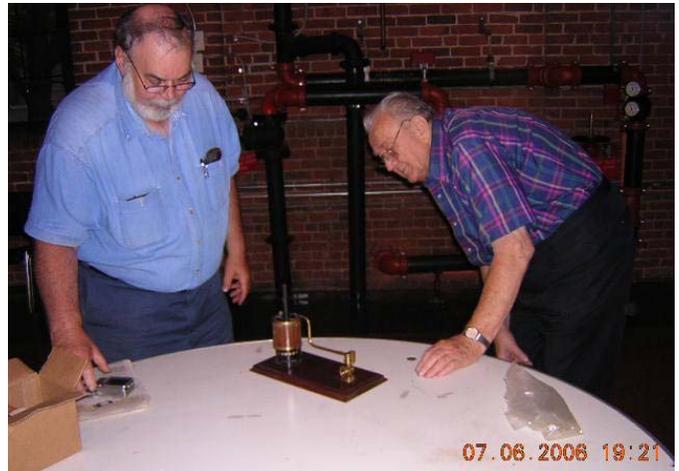
Bill Ward, Robin Parker and Saul Bobroff examine one of Saul's wooden puzzles.



Bill Ward and his electric scooter.



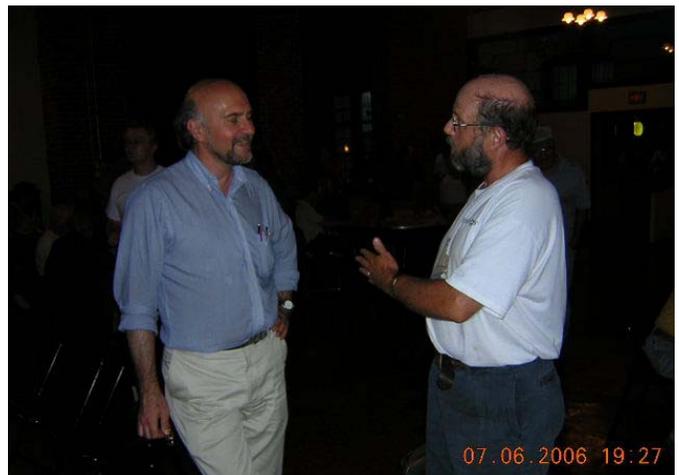
Larry Keegan showing Clement Moritz how to program a PIC microchip.



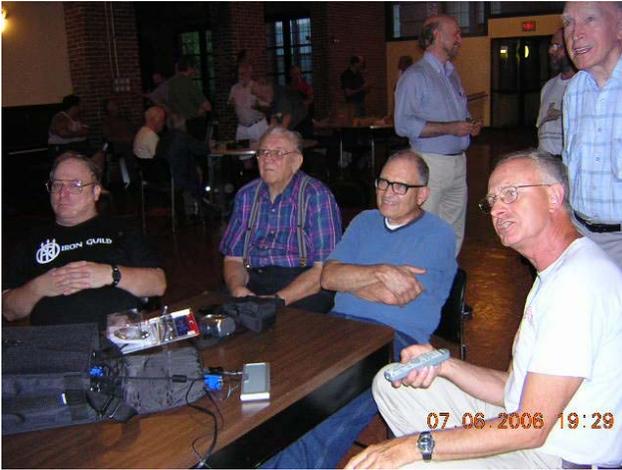
Venerable President Dick Boucher showing Ed Wylodka his Elmer Verburg design steam engine.



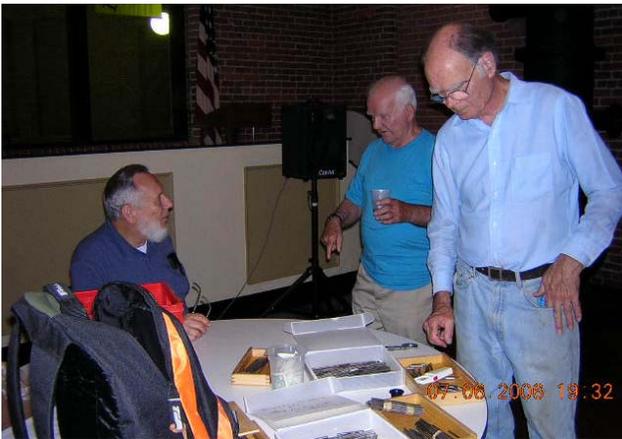
Gale Martha and First Lady Bea Boucher.



Gazette Editor Victor Kozakevich talking to Steve Cushman.



Club Treasurer Dick Koolish, Ed Wylodyka, Les Russell, Venerable President Emeritus Norm Jones and George Lagasse.

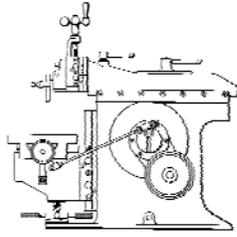


Bradley Ross desperately trying to remember what size reamer he needs while Gene Martha chats with Ed Rogers.



Rob McDougall deep in conversation with Alan Bugbee.

Max



Shaper Column

Kay Fisher

Three Short Stories

Some time ago on the internet three gentlemen posted the following interesting stories and kindly gave me permission to publish them.

The first story is from Robert Bastow who wrote:

“The first time I switched on my (new/old) Boxford shaper (after calling my wife downstairs to proudly display its newly restored shine), the ram came smoothly forward, ran smoothly back - and punched a 6” by 4” hole in my newly applied wallboard! To her credit, my wife never said a word! The woman is a Paragon!”

The reply to this post was from Chuck Harris who said:

“Reminds me of the time I planed my unattached vice right off my shaper’s table! I sure am glad I was standing along side it, and not in front. It seemed to float down to the floor in a slow downward arc, falling, falling, and falling...Thunk! Thunk! Thunk!”

Later comes this story from Rich Williams:

“I was a first year apprentice in a tool room that made die casting dies. I had a rather large block of tool steel in the shaper and was squaring it up and taking the bark off in preparation for rough grinding. This was a pretty big shaper: a 36” stroke Cincinnati. The print indicated a rather large chamfer on the back end of the block. I thought I would be smart and put the chamfer on in the shaper, so I rotated the down feed slide to 45 degrees and hand fed the tool down at that angle to make the cut.

What I didn’t realize was that I neglected to lock the length of stroke adjustment, and the stroke that began at 8” was steadily, if imperceptibly, increasing. This continued until the ram retracted back into the main casting of the machine. The tilted down-feed head, being out of its usual position, didn’t clear the body casting. Bam!

The bolts that held the head busted off and the whole down-feed slide, tool and all (minus a piece of cast iron) came off and tumbled into the aisle and came to a stop at the feet of our senior master diemaker; an old German fellow who was not amused. He peered at me over his glasses and said in his best brogue:

'Dot vas shtupid. Vat are you doink?'

I think that management saw the depth of my contrition in the shade of red displayed by my face, and let me repair the machine on the clock. I was grateful for that!"

Thanks Robert, Chuck and Rich for those "Rich" shaper stories. Robert Bastow passed away shortly after publishing that story. His posts to the usegroup "rec.crafts.metalworking" are under the name TeeNut.

Keep sending me email with questions and interesting shaper stories.

My email address is:

KayPatFisher@yahoo.com

Kay



A New Project

The Way the World Goes Round

Ever since reading George King's book "Geared to the Stars", I've become fascinated with mechanical representations of the motions of our planets and their satellites. These instruments were fashionable in the 17th and 18th centuries, and simpler models are available today as science equipment for schools.

A popular instrument for showing the motion of the Earth, moon, and Venus was Laing's planetarium (or tellurian) from the 1890s and a forerunner of the Trippensee planetarium. One of Laing's instruments is for sale in California for \$7500. I thought it would be fun to make a

reproduction. Fortunately, I was able to find the patent number and the patent contained an excellent scale drawing. On another web site, I found a reference to the original 50-page instruction manual for the instrument, and the owner kindly made me a copy.

The instrument stands 14" tall and the arm is 15" long. There are 10 pairs of wood pulleys and 3 pairs of rollers. The original instrument used silk fish line of various thicknesses as belts. I couldn't find any such material, so I used 1/16" and 3/32" round polyurethane belting plus o-rings from McMaster-Carr and 1mm elastic bead-making line from Michael's art shop. About 3% stretch gives the right tension. The base of the unit is maple and the remainder is cherry. Some of the pulleys are made from 1/16" and 1/8" sheet and others from 1/4" sheet. In retrospect, it would have been easier to make them all from 1/4" sheet.



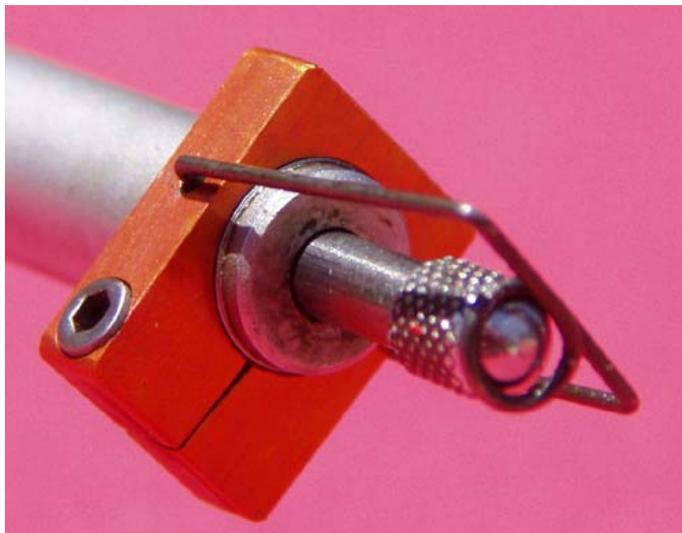
Key features of the instrument are that the axis of the earth always points in the same direction as it orbits the sun (important to show the changes of the seasons) and that the bright side of the moon always points to the sun (to show phases of the moon). Venus orbits the sun in 225 days. To perform these features, several pulley pairs must have the right ratio and I soon was reminded that it was not the OD of the pulley, but the pitch diameter of the round belt sitting on the pulley that must be in the right ratio. Some belts are crossed so that each item rotates in the right direction. I found that my reference photo had one of the belts mounted incorrectly, and even the patent drawing had the moon dark and light sides reversed.

On the planetarium, Venus is shown rotating counter-clockwise like all other planets as was thought in the 19th century. It was only in 1961 that it was found that Venus is the exception and rotates clockwise.

The sun is a 5" diameter copper ball obtained from New England Copperworks in Smithfield RI. I cheated and had it polished and lacquered by a local polishing firm (Rhode Island has many small jewelry firms so it is easy to have items cleaned, polished, or plated).

With this instrument, it's easy to see the equinoxes and solstices, why summer is warmer than winter even though the earth is closer in winter, the phases of the moon, eclipses of the sun and moon and many other astronomical events.

Fred Jaggi



As an aside, a couple of years ago I sent a letter to Starrett asking if they'd be interested in such a device. Their VP in charge of new product said yes, send some photos. I did. He loved it, but his team decided no, which he said really surprised him. They thought the overall costs to produce them had too long a payoff. Ah, well, it was a nice moment with Starrett.

Bob Beecroft
Bob@TheAeroSmith.com



Shop Tips

GageCage™ indicator stem retention device

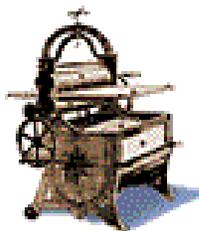
This little indicator retention device protects my long-stemmed indicator on the lathe when not in use. It is simple enough not to need explanation nor drawings. One can use a simple vacuum endcap to do the same job, but I kept misplacing mine. Also, it's simple enough to remove the indicator when not needed, but I leave mine in place all the time. I find it handy to keep it on the machine.



Treasurer's Report

Richard Koolish

Balance as of June 20, 2006	7261.72
July Gazette printing	-164.97
Balance as of July 18, 2006	7096.75



NEMES Gazette Editorial Schedule 2006

Here are the closing dates for Gazette written contributions in the coming months:

<u>Issue</u>	<u>closing date for contributions</u>
September	8/25/2006



Web Sites of Interest

Sign up for the NEMES mailing list at:
<http://groups.yahoo.com/group/nemes>

A link for the Harvard collection of scientific instruments and the Benjamin Franklin exhibit.
http://www.fas.harvard.edu/~hsdept/chsi/chsi_bf_intro.html

Here's a man's step by step detail making his own watch
<http://web.ticino.com/dcorson/watch/index.html>

Contributed by Fred Jaggi

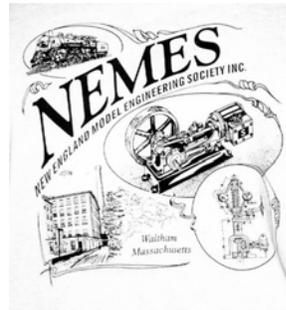


For Sale

Shaper Work CD

Put out in 1944 by the New York State education Department this 326 page manual is chock full of valuable tips and information on using the King of Machine tools....The Shaper. Covered is everything you need to know about the care and feeding of the shaper, use of the shaper, even how to sharpen tools for the shaper. Scanned and saved in Adobe Acrobat format. The CD now has a lot more info on it, and the price has increased accordingly. \$10.00, shipping included.

Errol Groff
180 Middle Road
Preston, CT 06365 8206
errol.groff@snet.net

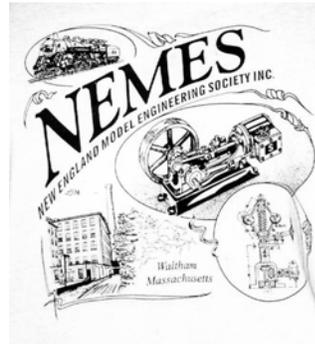


NEMES clothing

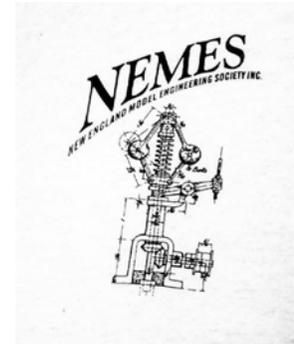
NEMES Tee Shirts

NEMES tee shirts and sweat shirts are available in sizes from S to XXXL. The tee shirts are gray, short sleeve shirt, Hanes 50-50. You won't shrink this shirt! The sweat shirts are the same color, but long sleeve and a crew neck. Also 50-50, but these are by Lee. The sweat shirts are very comfortable!

Artwork by Richard Sabol, printed on front and back:



Rear



Front

Prices:

	Tee Shirts	Sweat Shirts
S - L	\$12.00	\$22.00
XXL	\$14.00	\$24.00
XXXL	\$15.00	\$25.00

Add \$5 shipping and handling for the first tee shirt, \$1 for each additional shirt shipped to the same address. Sweat shirts are \$7 for shipping the first, and \$1.50 for each additional sweat shirt.

Profits go to the club treasury.

Mike Boucher
10 May's Field Rd
Lunenburg, MA 01462-1263
mdbouch@hotmail.com

NEMES Shop Apron



Look your best in the shop! The NEMES shop apron keeps clothes clean while holding essential measuring tools in the front pockets. The custom strap design keeps weight off your neck and easily ties at the side. The apron is washable blue denim with an embroidered NEMES logo on top pocket.

Contact Rollie Gaucher 508-885-2277



**MARK
THIS
DATE**

Upcoming Events

Bill Brackett

To add an event, please send a brief description, time, place and a contact person to call for further information to Bill Brackett at thebracketts@verizon.net or (508) 393-6290.

Bill

Aug 3rd Thursday 7PM
NEMES Monthly club meeting
Charles River Museum of Industry 781-893-5410
Waltham, MA

Aug 5-6 Scribner's Mill Show
Sebago Lake Region near Harrison ME
207-583-6455

Aug 12-13 Straw Hollow Engine Show
Boylston, MA
J. A. Resseguie 508-869-2089

Aug 19th
29th Annual New England Auto Auction
Owls Head Transportation Museum Owls ME

Aug 20th 9:00am The Flea at MIT
Albany Street Garage at the corner of Albany and Main
Streets in Cambridge

Aug 25,26,27 Waushakum Live Steamers
Annual Meet Weekend
Holliston MA
<http://www.steamingpriest.com/wls>

Sept ? Lee's Mills Steamboat meet
Lake Winnepesaukee Moultonboro NH
603-476-5617

Sept 3rd
Vintage Motorcycle Meet & Antique Aeroplane Show
Owls Head Transportation Museum Owls ME

Sept 7th Thursday 7PM
NEMES Monthly club meeting
Charles River Museum of Industry 781-893-5410
Waltham, MA

Sept 9-10 Dublin Show
RT 101, Dublin, NH 603-863-4696

Sept 18-17 9:30AM-3:00PM
Pioneer Valley Live Steamers Fall Meet
Southwick Ma
www.pioneervalleylivesteamers.org

Sept 17th
Vintage Motorcycle Meet & Antique Aeroplane Show
Owls Head Transportation Museum Owls ME

Sept 17th 9:00am The Flea at MIT
Albany Street Garage at the corner of Albany and Main
Streets in Cambridge

Sept 23-24 Cranberry Flywheelers Meet
Edaville RXR S Carver MA.
David Moore 508-697-5445

Sept 30th 9:00-4:00
The Original Yankee Steam-Up
The New England Wireless and Steam Museum, Inc.
1300 Frenchtown Road East Greenwich, RI
<http://users.ids.net/~newsm/>