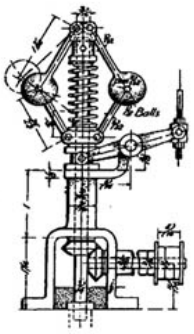


The NEMES Gazette

NEW ENGLAND MODEL ENGINEERING SOCIETY INC.

No. 171 July. 2010

Gazette Staff

Editor	Frank Hills
Publisher	Bob Neidorff
Events Editor	Bill Brackett
Meeting Notes	Todd Cahill

NEMES officers

President	TBD
Vice Pres.	Jeff Del Papa
Treasurer	Richard Koolish
Secretary	Todd Cahill
Director	Mike Boucher

NEMES web site

http://www.neme-s.org

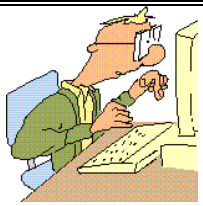
Contact Addresses

Frank Hills, Editor
464 Old Billerica Rd.
Bedford, Ma. 01730
hills@aerodyne.com

Richard Koolish, Treasurer
212 Park Ave.
Arlington, MA 02476-5941
koolish@dickkoolish.com

Bob Neidorff, Publisher
39 Stowell Road
Bedford, NH 03110
Neidorff@ti.com

Bill Brackett, Event Editor
29 East Main St
Northborough MA 01532
thebracketts@verizon.net



Editor's Desk

Frank Hills

Early TV

Does anyone you know not have a TV? Not likely. Many of us have probably had one for most of our lives. Those of us who've been around the block a few times will remember at least three major generations of these household goodies; black and white, color, and now what I'll simply call "flat screen". That's a general category for all versions of non-cathode ray imaging systems. Flat screen was a major transition in the way we watch electronically produced images. It's a pattern of three primary color blocks stacked in lines along the interior surface of the screen. These blocks are like little light bulbs which are turned on in patterns like a movie theater marquee to produce moving pictures. Before flat screen there was the cathode ray tube. Constructed much like a light bulb with magnets, a red hot electrode released electrons which were formed by the magnets into a very fine beam. This beam was rastered by the magnets (guided along a path to produce a pattern of parallel lines) to shine on a phosphorous coated glass screen.

–Continued on page 2

Next Meeting

Thursday, July 1, 2010

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

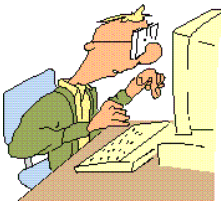
Membership Info

New members welcome! Annual dues are $25 (mail applications and/or dues checks, made payable to "NEMES", to our Treasurer Richard Koolish, see right) Annual dues are for the calendar year and are due by December 31st of the prior year (or with application).

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

Addresses are in the left column.

Contents



Editor's Desk

-continued from page 1

When the electrons hit the phosphors, they glowed. Changing the intensity of the electron beam made the glow brighter or darker. This system produced an image much the way you might draw a picture on graph paper by filling in or leaving blank individual squares. If you looked closely, you could see the individual "pixels" which made up the image.

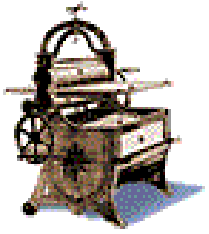
OK. Those two systems are now very familiar. But did you know that there was a system before this? TV became a truly commercial product shortly after world war two in England. But there was a technology war going on in the field because there were two competing ways to produce the image. One was complex and required many new electronic devices. The other was ridiculously simple and utilized well understood mechanical techniques. Both systems were to fight it out until the industry decided which worked better.

But simple is good, right? Not always. This simple system worked by spinning a large disc by electric motor. A spiral pattern of holes was drilled in the disc and a photo-electric tube, something like a solar cell, was placed behind it so that light in front of the disc would produce a pattern of lines shining on the photo tube. Because the swirl pattern of holes crossed the photo tube one at a time and the holes got progressively closer to the disc centerline, the light shining on the tube produced a rastered pattern. Remember the raster? By putting bright lights on the action in front of the system the light entering through the holes in the disc and would "scan" the image as a pattern of light and dark on the photo tube. If you had a similar system which had a light bulb instead of a photo tube and feed the signal from the photo tube into it, the bulb would light when the photo tube saw light and be dark when the tube saw no light. Shining back though the holes onto a screen, the light bulb would reproduce the image for you to see. Now that's simple.

But there were many problems with this system. First, the quality of the picture was dictated by the size and number of holes in the disc. You needed to drill a lot of holes to get a good one and that meant smaller holes. Smaller holes meant less light striking the photo tube and less signal to transmit. Second, photo tubes themselves weren't very good then. You needed a great deal of light to get them to work well. Huge, blinding, high intensity lamps were required in the studio. Third, the "TV" at home needed to spin the disc in sync with the one transmitting the signal. Upon turning on the set you had to adjust this by hand, not something everyone was adept at doing. Maybe simple isn't so good.

Ultimately the decision was made to use the cathode ray tube system. The picture was better, it required less "on stage" light, and required no hand adjustment. Well, maybe that's not entirely true, but you get the idea. Sure it was much more expensive, more complicated and, in fact, less reliable at first, but it was worth the effort, don't you think?

Next month, A Short History of Plastic.



NEMES Gazette Editorial Schedule

Issue	closing date for contributions
Aug. '10	July 23, 2010
Sept. '10	Aug 20, 2010
Oct '10	Sept 24, 2010

Jeff Beck's Yard Sale June 26, 2010

Past President's Corner

Dick Boucher

ATTENTION!!

Please do not cross the yellow barricade tape and enter into the main floor of the museum, under any circumstances! There is a serious structural weakness that has developed in the roof over that area and the area is closed. We can still enter the building through the door on the river side and access the Jackson Room going up the ramp.

The Meeting

This month is our semi-annual poster session, so don't forget to bring in a finished project, a project under construction, or even a project under consideration to share with the other members. I was talking with Norm the other day and he told me that poster session type meetings was what Ron Ginger had in mind when he started the Society. We have advanced beyond that quite a bit with guest speakers ten meetings out of the year, but I still like the relaxed atmosphere of the poster session.

Someone suggested that we could have a sort of flea market at the meeting for the benefit of the museum. So if you have an item that you would like to have find another home, bring it along and donate it to the flea market table. All of the funds received would go to the museum rebuilding fund. I also hope many of you can find the time to write a check to the Flood Relief Fund, Charles River Museum of Industry and Innovation, 154 Moody Street, Waltham, MA.

Miscellaneous Ramblings

Thank you to all who offered condolences on my mother's passing.

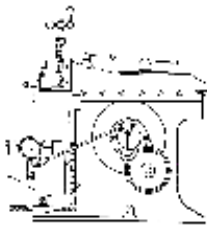
Bea and I have been having a great summer attending some of the many functions put on by folks of the same interests or just walking along the new bike path in Newburyport or along the working waterfront in Gloucester enjoying the cool evening air in those quiet retreats.

It was interesting that a new president wasn't elected in my absence at the last meeting but I assume I wasn't reelected so I guess we will rename this column the past presidents corner as I continue to keep the membership informed as to what will happen at the meetings.

Along with shows and walks, I have been working on getting my 1978 MGB running and ready for the road. I got all the items that were being stored on and in it removed a couple months ago and got the engine running. One afternoon Bea and I were driving it around the back yard and the next morning when I tried to start it I discovered the camshaft was missing a couple lobes. Well, that engine is out of the car and one of my spare engines and the overdrive transmission is almost ready to go in the car. After I finish writing this article I am headed out to the garage to enjoy working on it.

By the time you read this, the Orange Show and Ed Rogers car show at the Topsfield Fair Grounds will be history. I hope I will have seen many of you there.

Dick B.



Metal Shapers

By Kay Fisher

R. G. Sparber's Gingery Shaper - Part 4

A Way To Test The Strength of Green Strength

This idea is from chrisc@smt-net.com of the Gingery_Machines Yahoo group

How do you know that your sand is OK?

Sand drops out of flasks for many reasons. One reason is weak green strength of the sand. Here is an elegant way to test your sand:

1. Fill a tapered-side cup with sand being careful not to tamp it down.

2. Strike it off

Holding the cup by the top edge, tap the bottom of the cup squarely on a hard surface until the contents stop settling. I needed 15 sharp raps.

4. Turn the cup over close to a flat surface and let the contents plop out. If the shape holds, the sand is good. If you end up with a crumbled pile of sand, it is not strong enough for casting.

Fill Tapered Cup Photo by R. G. Sparber

Strike Off Photo by R. G. Sparber

Plop It Out Photo by R. G. Sparber

Casting Ram Cap, Angle Plate, & Lots of Ingots

The Ram Cap

This is a very simple casting but is also in a prominent location so must look good as well as function properly. I used a soft plastic shower curtain support for the pivot pin screw support. It looks a lot nicer than anything I could have made.

Ram Cap Photo by R. G. Sparber

It is certainly a pleasure returning to small flasks. No need for ribs, gaggers, or a crane to lift the flask.

Since this casting does not use much aluminum, I also rammed up my pattern for an angle plate. It turned out that the vertical part of the pattern did not have any draft. When I tried to draw the pattern, the sand held it firmly. After much wiggling, I did pull it out but the void was a mess. In the spirit of nothing to loose and something to learn, I went ahead and used it.

Angle Plate Photo by R. G. Sparber

The gate and sprue are part of the pattern.

Angle Plate Side 2 Photo by R. G. Sparber

The part looks fairly good from this angle.

Next you see the real story. It looks terrible here yet I think I can machine it into a useful angle plate. The vertical part of the pattern now has a lot more draft. The next time I have spare capacity, I'll give it another try.

Angle Plate Back Side Photo by R. G. Sparber

Most of the furnace cycles today were used to produce ingots.

Muffin Tin Photo by R. G. Sparber

Last week I had the great luck to find a commercial muffin tin at a resale shop. At least it might have been for muffins but each depression is around 3" in diameter and 3/4" deep. There is also a nice lip around all 24 of the depressions. That does a nice job of containing any overflow. Best of all, the tin is coated in some really fancy non-stick material. Molten aluminum does not affect it but the ingots just fall out.

Ingots Photo by R. G. Sparber

Each ingot weighs about 6 oz. My hope is that I can stack more of these round ingots into my steel pipe crucible than was possible with the muffin size. Furthermore, this new tin can hold 24 x 6 oz = 144 oz, which is more than the safe capacity of my crucible. So in the event that I must dump my entire charge, it will all fit here. Not bad for $5.

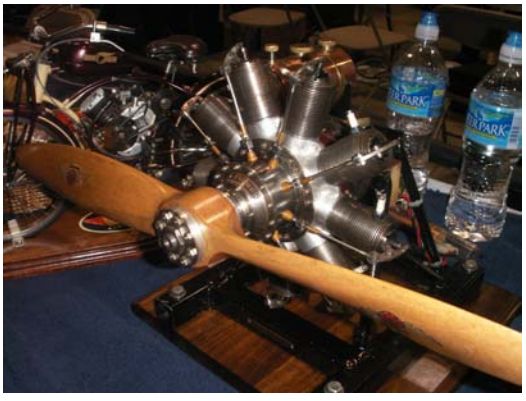
Stay Tuned for part 5 from R. G. Sparber next month.

Keep sending me email with questions and interesting shaper stories.

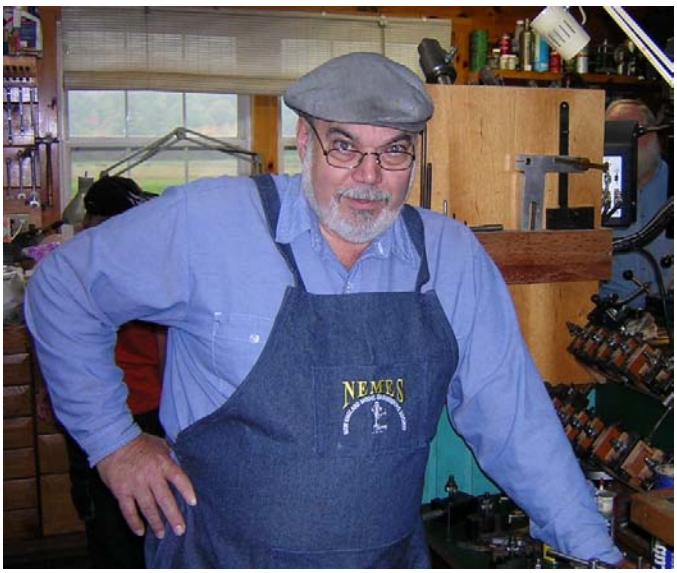
My email address is:

KayPatFisher@gmail.com

Kay



NEMES Shop Apron



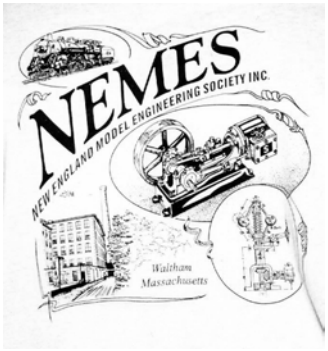
Look your best in the shop! The NEMES shop apron keeps clothes clean while holding essential measuring tools in the front pockets. The custom strap design keeps weight off your neck and easily ties at the side. The apron is washable blue denim with an embroidered NEMES logo on top pocket.

Contact Rollie Gaucher 508-885-2277

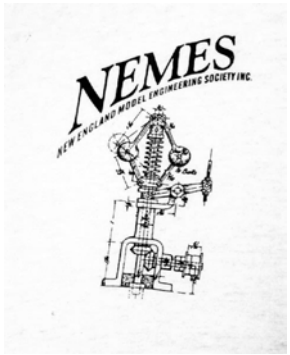
NEMES Tee Shirts

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

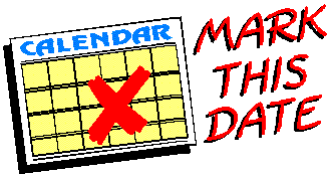
Prices:

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



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

Calendar of Events

July 1st Thursday 7PM
NEMES Monthly club meeting
Charles River Museum of Industry
Waltham, MA 781-893-5410
http://www.neme-s.org

July 3rd Antique Engine Meet & Tractor Pull
Boothbay Railway Village
Rt 27 Boothbay ME
http://www.railwayvillage.org

July 3rd-4th Fabulous 50s, Sensational 60s & Antique Aeroplane Show
Owls Head Transportation Museum Owls ME
http://www.ohtm.org/

July 11th Pepperell Show
RT 111 Pepperell, MA
Ken Spalding 978-433-5540

July 18th 9AM The Flea at MIT
Albany Street Garage at the corner of Albany and Main Streets in Cambridge
http://www.mitflea.com/

July 17th-18th Trucks,Tractors,Commercial Vehicles Antique Aeroplane Show
Owls Head Transportation Museum Owls ME
http://www.ohtm.org/

July 23rd-25th Eliot Antique Tractor & Engine Show
Raitt Homestead Farm, Rt 103
Eliot ME. Lisa Raitt 207-748-3303

July 24th-25th Wings & Wheels Spectacular & Aerobatic Airshow
Owls Head Transportation Museum Owls ME
http://www.ohtm.org/

Aug 5th Thursday 7PM
NEMES Monthly club meeting
Charles River Museum of Industry
Waltham, MA 781-893-5410
http://www.neme-s.org

Aug 7th-8th Scribner's Mill Show
Sebago Lake Region near Harrison ME
207-583-6455

Aug 14th-15th Straw Hollow Engine Show
Boylston, MA
J. A. Resseguie 508-869-2089

Aug 15th 9AM The Flea at MIT
Albany Street Garage at the corner of Albany and Main Streets in Cambridge
http://www.mitflea.com/

Aug 21st 33rd Annual New England Auto Auction
Owls Head Transportation Museum Owls ME
http://www.ohtm.org/

Aug 27th-29th The 40th Annual Meet
Waushakum Live Steamers
Holliston MA
http://www.waushakumlivesteamers.org/?page_id=8