

# The NEMES Gazette

NEW ENGLAND MODEL ENGINEERING SOCIETY INC.

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## Editor's Desk

Frank Hills

Hi all! I'm your new NEMES Gazette Editor. I wouldn't have taken this job if, like many of you, I didn't love history, especially that of technology. It doesn't just fascinate me, it feeds my creativity. It inspires me to look at things in a different way. I read and I wonder, "was the discoverer of penicillin looking for a new medicine, or was the discovery an accident?" "If the inventors of the transistor knew what they were looking for, what inspired them to follow the path they did?" "What other breakthroughs were enabled by the discovery of gas liquification?" And what's, for me, the best thing about studying the history of technology? I have the means to recreate those events, try those experiments and build those world shaking gizmos...just for fun!

I think those who consider past technological advancements as less impressive than those of today are short sighted. Yes, the advancements today are impressive, and the accolades well deserved, but  
.....Continued on next page

## Next Meeting

Thursday, July 3, 2008

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 31<sup>st</sup> of the prior year.

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

Addresses are in the left column.

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## Editor's Desk

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the inventors and researchers of today also have more going for them. Basic education is more diversified, inspiring wider fields of potential. Information is more readily available, allowing researchers to spend less time rediscovering the bits and pieces of their work and more on the task at hand. And, just as important, needed equipment is more easily obtained. There are hundreds of companies that do nothing but provide for the needs of science and research.

It's true: the inventor/researcher of today lives in a much more complex world, but your grandfather had no less reason to be amazed. Consider this: 50 years ago, man had not yet flown in space. One hundred years ago electronics didn't exist. 150 years ago doctors barely knew enough about disease to treat the symptoms, much less cure the cause. And two hundred years ago operating a steam engine was risking your life.

I'll look at that tid-bit next month.

Frank Hills

## The Way the Planets go around

By Fred Jaggi

In the 18<sup>th</sup> and 19<sup>th</sup> centuries, science lectures, helped with demonstration instruments, were very popular. As more became known about the solar system in those days without light pollution, many types of planetariums and orreries were devised to help people visualize the movements of the planets and their satellites. And the instruments added a nice touch to a well-off gentlemen's library.

[Peter Grimwood](#), a present-day orrery maker, gave me a diagram and wheel layout for a planetarium representing the 6 planets nearest the sun. The design is in the style of Benjamin Martin of Fleet St. ca 1750. It contains 14 gears, which allow the planets to orbit the sun in a steady circular path with an orbital period within  $1/10^{\text{th}}$  of one percent of the actual mean period. In those days, when calculations were done by hand, makers strived to calculate gear trains that would accurately represent natural orbits and the more advanced orreries produced elliptical paths and showed more planets and their satellites. [The Collection of Historical Scientific Instruments](#) at Harvard has a magnificent [Martin orrery](#) and recently I learned that my wife's secondary school in Sowerby Bridge, Yorkshire sold a Martin-pattern planetarium, with more satellites and attachments at a Christie's auction for \$50,000.



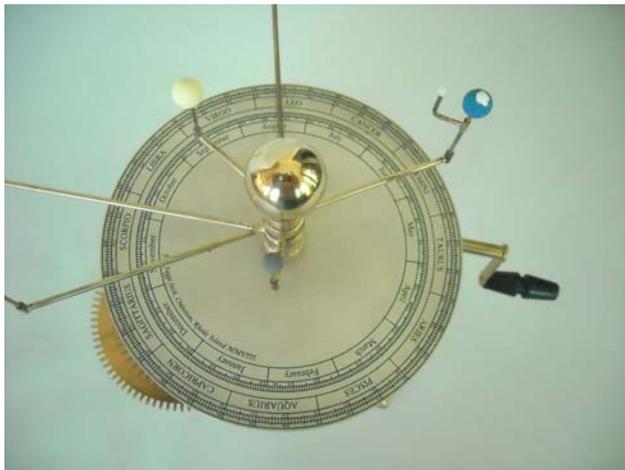
## NEMES Gazette Editorial Schedule

Issue	closing date for contributions
July '08	June 20, 2008
August '08	July 25, 2008
September '08	August 22, 2008
October '08	September 18, 2008



Last winter's project was to build Grimwood's planetarium. Unlike a clock, most of the gears are arraigned in two stacks set at a fixed distance. 6 different modules(DP) were used to allow the gears to mesh correctly. I had to make a fly cutter for each of the modules. [James E. Morrison](#), who makes inexpensive, customized astrolabes to encourage an interest in astronomy, adapted a pdf file of one of his astrolabe programs for my dial. I first thought about having it laser engraved locally, but the engravers said they were not able to engrave brass. I then turned to [Hockerill Engraving](#) in Devon England who produced an inexpensive brass dial by chemical etching, which I then silvered. The dial has deep, sharp indentations, equivalent to mechanical engraving. One turn of the dial represents two weeks motion and it's fun to watch Mercury race around in 87 days while Saturn moves at the almost imperceptible rate of nearly 30 years.

Now how to clean up the all the brass chips in the shop and where to put the darned thing in the house!



The Collection of Historical Scientific Instruments  
[dssmhi1.fas.harvard.edu/emuseumdev/code/eMuseum.asp](http://dssmhi1.fas.harvard.edu/emuseumdev/code/eMuseum.asp)  
 James E. Morrison:  
<http://www.astrolabes.org>  
 Hockerill Engraving:  
<http://www.hockerillengraving.co.uk>



## *The Steam Man of the Prairies*

BY EDWARDS ELLIS,



## *The Steam Man of the Prairies.*

BY EDWARDS ELLIS,

### **CHAPTER VII.**

#### **THE STEAM MAN ON HIS TRAVELS.**

YOUNG Brainerd had a mortal fear that the existence of the steam man would be discovered by some outsider, when a large crowd would probably collect around his house, and his friends would insist on a display of the powers of the extraordinary mechanism.

But there was no one in the secret except his mother, and there was no danger of her revealing it. So the boy experimented with his invention until there was nothing more left for him to do, except to sit and watch its workings.

Finally, when he began to wonder at the prolonged delay of the trapper, who had visited him

some weeks before, he made his appearance as suddenly as if he had risen from the ground, with the inquiry:

“Have you got that thundering old thing ready?”

“Yes: he has been ready for a week, and waiting.”

“Wal, start her out then, fur I’m in a hurry.”

“You will have to wait awhile, for we can’t get ready under half a day.”

It was the hunter’s supposition that the boy was going to start the man right off up street, and then toward the West; but he speedily revealed a far different plan.

It was to box up the man and take it to Independence by steamboat. At that place they would take it out upon the prairie, set it up and start it off, without any fear of disturbance from the crowds which usually collect at such places, as they could speedily run away from them.

When the plan was explained to Baldy, he fully indorsed it, and the labor was begun at once. The legs of the steam man being doubled up, they were able to get it in a box, which gave it the appearance of an immense piano under transportation. This, with considerable difficulty, was transported to the wharf, where, with much grumbling upon the part of the men, it was placed on board the steamboat, quickly followed by the wagon and the few necessary tools.

The boy then bade his mother good-by, and she, suspecting he would be gone but a short time, said farewell to him, with little of the regret she would otherwise have felt, and a few hours later the party were steaming rapidly up the “Mad Missouri.”

Nothing worthy of notice occurred on the passage, and they reached Independence in safety. They secured a landing somewhat above the town, on the western side, where they had little fear of disturbance.

Here the extraordinary foresight and skill of the boy was manifest, for, despite the immense size of the steam man, it was so put together that they were able to load it upon the wagon, and the two, without any other assistance, were able to drag it out upon the prairie.

“You see, it may break down entirely,” remarked young Brainerd, “and then we can load it on the wagon and drag it along.”

“That must be a powerful strong wagon to carry such a big baby in it as that.”

“So it is; it will hold five times the weight without being hurt in the least.”

It was early in the forenoon when they drew it out upon the prairie in this manner, and began putting it together. It certainly had a grotesque and fearful look when it was stripped of all its bandages, and stood before them in all its naked majesty.

It had been so securely and carefully put away, that it was found uninjured in the least. The trapper could not avoid laughing when the boy clambered as nimbly up its shoulder as another Gulliver, and made a minute examination of every portion of the machinery.

While thus employed, Baldy took the shafts of the wagon, and trotted to a farm-house, which he descried in the distance, where he loaded it down with wood and filled the tank with water. By the time he returned, Johnny had everything in readiness, and they immediately began “firing up.”

In this they bore quite a resemblance to the modern steam fire engines, acquiring a head of steam with remarkable quickness. As the boy had never yet given the man such an opportunity to stretch his legs as he was now about to do, he watched its motions with considerable anxiety.

Everything was secured in the most careful manner, a goodly quantity of fuel piled on, the boiler filled with water, and they patiently waited the generation of a sufficient head of steam.

“Is it all good prairie land in that direction?” inquired the boy, pointing to the West.

“Thar’s all yer kin want.”

“Then we’ll start. Look out!”

Despite the warning thus kindly given, the steam man started with a sudden jerk, that both of them came near being thrown out of the wagon.

The prairie was quite level and hard, so that everything was favorable, and the wagon went bounding over the ground at a rate so fast that both the occupants were considerably frightened, and the boy quickly brought it down to a more moderate trot.

This speed soon became monotonous, and as it ran so evenly, Baldy said:

“Let her go, younker, and show us what she can do.”

The rod controlling the valve was given a slight pull, and away they went, coursing like a locomotive over the prairies, the wheels spinning round at a tremendous rate, while the extraordinary speed caused the wind thus created almost to lift the caps from their heads, and a slight swell in the prairie sent the wagon up with a bound that threatened to unseat them both.

It worked splendidly. The black smoke puffed rapidly from the top of the hat, and the machinery worked so smoothly that there was scarcely a click heard. The huge spiked feet came lightly to the ground, and were lifted but a short distance from it, and their long sweep and rapid movement showed unmistakably that the steam man was going at a rate which might well defy anything that had yet swept the prairies.

As there was no little risk in running at this speed, and as young Brainerd had not yet become accustomed to controlling it, he slackened the rate again, so that it sank to an easy gliding motion, equal to the rapid trot of an ordinary horse.

Fully ten minutes were passed in this manner, when steam was entirely shut off, whereupon the giant came to such a sudden halt that both were thrown violently forward and bruised somewhat.

“Skulp me! but don’t stop quite so sudden like,” said the hunter. “It’s a little onhandy fur me to hold up so quick!”

“I’ll soon learn to manage it,” replied Johnny. “I see it won’t do to shut off all at once.”

Descending from his perch, he examined every portion of the engine. Several parts were found heated, and the fuel was getting low. The water in the boiler, however, was just right, the engineer having been able to control that from his seat in the wagon.

Throwing in a lot of wood, they remounted to their perch and started forward again. There was an abundance of steam, and the boy readily acquired such a familiarity with the working of his man, that he controlled it with all the skill of an experienced engineer,

The speed was slackened, then increased. It stopped and then started forward again with all the ease and celerity that it could have done if really human, while it showed a reserve of power and velocity capable of performing wonders, if necessary.

As yet they had seen nothing of any travelers. They were quite anxious to come across some, that they might show them what they were capable of doing.

“There must be some passing over the plains,” remarked Johnny, when they had passed some thirty or forty miles.

“Plenty of ‘em; but we’ve got out of the track of ‘em. If you’ll turn off summat to the left, we’ll run foul of ‘em afore dark,”

The boy did as directed, and the rattling pace was kept up for several hours. When it was noon they helped themselves to a portion of the food which they brought with them, without checking their progress in the least. True, while the boy was eating, he kept one eye on the giant who was going at such rapid strides; but that gentleman continued his progress in an unexceptionable manner, and needed no attention.

When the afternoon was mostly gone, Baldy declared that they had gone the better part of a hundred miles.

The boy could hardly credit it at first; but, when he recalled that they had scarcely paused for seven hours, and had gone a portion of the distance at a very high rate, he saw that his friend was not far out of the way.



**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.

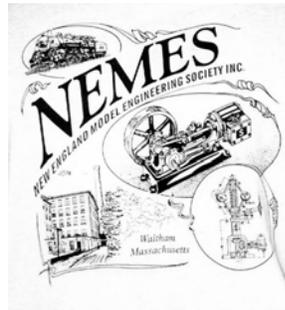
Errol Groff  
180 Middle Road  
Preston, CT 06365 8206  
[errol.groff@snet.net](mailto:errol.groff@snet.net)

### **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

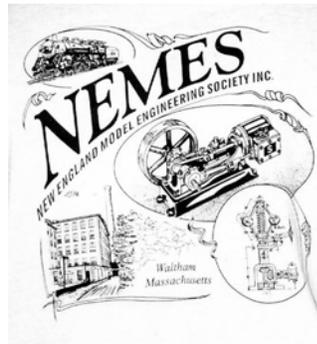


**NEMES clothing**

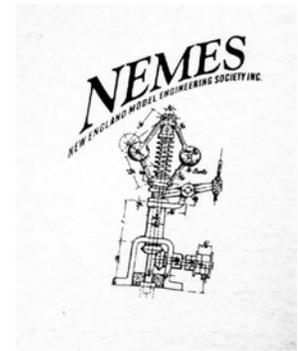
### **NEMES Tee Shirts**

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](mailto:mdbouch@hotmail.com)



**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.

July 3<sup>rd</sup> Thursday 7PM  
NEMES Monthly club meeting  
Charles River Museum of Industry  
Waltham, MA  
781-893-5410  
<http://www.neme-s.org>

July 5<sup>th</sup> Antique Engine Meet & Tractor Pull  
Boothbay Railway Village  
Rt 27 Boothbay ME  
[www.railwayvillage.org](http://www.railwayvillage.org)

July 5-6<sup>th</sup> Fabulous 50s, Sensational 60s &  
Antique Aeroplane Show  
Owls Head Transportation Museum Owls ME  
<http://www.ohtm.org/>

July 13<sup>th</sup> Pepperell Show  
RT 111 Pepperell, MA  
Ken Spalding 978-433-5540

July 20<sup>th</sup> 9:00am The Flea at MIT  
Albany Street Garage at the corner of Albany  
and Main Streets in Cambridge  
<http://web.mit.edu/w1mx/www/swapfest.shtml>

July 19-20<sup>th</sup> Trucks, Tractors, Commercial  
Vehicles Antique Aeroplane Show  
Owls Head Transportation Museum Owls ME  
<http://www.ohtm.org/>

July 25-27 Eliot Antique Tractor & Engine Show  
Raitt Homestead Farm, Rt 103  
Eliot ME. Lisa Raitt 207-748-3303  
<http://www.eliotantiquetractorandengine.org>

July 26-27<sup>th</sup> Transportation Spectacular &  
Aerobatics Show  
Owls Head Transportation Museum Owls ME  
<http://www.ohtm.org/>

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

Aug 2-3 Scribner's Mill Show  
Sebago Lake Region near Harrison ME  
207-583-6455

Aug 9-10<sup>th</sup> Straw Hollow Engine Show  
Boylston, MA  
J. A. Resseguie 508-869-2089

Aug 17<sup>th</sup> 9:00am The Flea at MIT  
Albany Street Garage at the corner of Albany and  
Main Streets in Cambridge  
<http://web.mit.edu/w1mx/www/swapfest.shtml>

Aug 23<sup>rd</sup> Annual New England Auto Auction  
Owls Head Transportation Museum Owls ME  
<http://www.ohtm.org/>

Aug 23<sup>rd</sup> & 24<sup>th</sup> Annual Meet  
Waushakum Live Steamers  
Holliston MA  
<http://www.steamingpriest.com/wls/>

Aug 31<sup>st</sup> Vintage Motorcycle Meet & Antique  
Aeroplane Show  
Owls Head Transportation Museum Owls ME  
<http://www.ohtm.org/>