The NEMES Gazette

Vol 06, No 070
Feb-2002
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Our next meeting is at 7:00 PM on Thursday
7-Feb-2002 (first Thursday of every month) at
The Charles River Museum of Industry
154 Moody Street
Waltham, Massachusetts

Annual dues of $25 covers from Jan to Jan.
Please make checks payable to NEMES and send
to our treasurer. (Address in masthead).

Missing a Gazette? Send mail or email to our
publisher. (Address in masthead).

This Months Contents

The Editor's Desk

By Kay R. Fisher

This month we have the first column of "CAD for the Home Shop" by Robert "Mac" McIlvaine. If you are interested in this, have questions about CAD, or have anything to contribute; please send him email and encourage him for this contribution.

In a small article this month, Steve Cushman will ask for your donations for the February show. Please take the time to thank Steve for soliciting vendors for donations. He has come up with a very nice set of prizes year after year and deserves our thanks. This is not an easy task and the thank you letters he sends out after the show help set the stage for continued support.

Check your envelope address to see if you have paid your dues. If not, this may be your last newsletter! The club treasury was dangerously low just before this year's dues started to roll in. As a former treasurer I can tell you it is no fun collecting back dues for months.

Kay

The President's Corner

By Ron Ginger

Show Time

Our annual show is Saturday, Feb 16. As usual we will start setup at 8:00 AM. We need several guys there right at 8:00 to start setting up our tables and rolling out the covers. We must have everything in place by 10:00 AM.

Remember, you may drive to the loading door at the back of the museum to unload but you **must** move your car to the public parking lot. Do not leave it in the mill parking. If we get a parking complaint from the mill residents we will be required to hire a police detail for future meetings, and that will essentially wipe out our meeting.

Steve Cushman is working on our list of door prizes. As in past years I expect we will have a good set of prizes, and as always, you **must** be present to win. We will keep the biggest and best prizes until the end of the day, (about 3:30) for the drawing. Only **exhibitors** will be entered in the drawing, so be sure to bring something.

As always, we will be allowed to run small gas engines and use propane in the building. Please be observant of safety! We do not need an accident. No one should leave anything running without someone watching it. We really need to arrange some form of compressed air supply. A volunteer to make this happen would be greatly appreciated.

I understand our "ladies auxiliary" group is going to run the food stand again, so contributions of goodies to their efforts will be welcome.

The show is always one of my favorite events; let's make this one even bigger and better than previous years. Tell your friends, neighbors and co-workers about it. We will have more of the show flyers at the February meeting, take a few and hang them around your neighborhood.

Library

We now have several years of ModelTec, Live Steam and Model Engineer magazines as part of our club library. I have them boxed into packages of about 1 year each – (to about a 2" high stack)! You may take home a box or two to read. Please keep the magazines together as a set. Most of these magazines ran serialized articles and it is really frustrating to start an article and find an issue missing. Some of our sets are not complete yet, but please don't separate or lose issues. I will have a sign-out sheet in the cabinet. We will have the cabinet open at each meeting so you may select or return boxes.

This is a valuable addition to our club. My thanks to several club members who have given us these magazines. I'm sorry that I have not recorded all the names of the donors, but I often have been handed a bag at a meeting and just didn't get the names.

February Meeting

Ok, first there was the television series "Junkyard Wars", now there is Pumpkin Chucking! As I understand it, the idea is to throw a pumpkin a long way - as in thousands of feet. A local team is called "Tormentum" composed of Eric Ludlam, Roger Nichols, Kevin Johnson, and Dave Shepard. Part time participants are Elsa Zuniga and Jeff DelPapa. This group recently participated in an event and some of them will be on hand to show some slides and tell us about the event. They will also have some models of the machines. It should be a fun evening!

Ron

Show Door Prizes

By Steve Cushman

Each year at our February show, we have drawings to award door prizes to exhibitors. These prizes are largely donated by various industrial suppliers and the support of these organizations is always greatly appreciated.

Some of the prizes come from our own members, ranging from some of Richard Sabol's artful shirts to various shop accessories. All of these personal donations are most appreciated.

I would like to encourage members to making this type of donation. Perhaps you have a shop accessory that you no longer use or some other item that is underfoot in your shop. Items hardly need be new or pristine to be appropriate.

If you should decide to make a prize donation, please let me know in advance so I can include your name on the list of donors.

My phone is (781) 784-8703, but email is preferable.   SCushman@compuserve.com

Steve

Random Ramblings

By Max ben-Aaron

Turning Turtle

During his talk, when speaking about centres of bouyancy and gravity, Dave Piper retold a story about a Japanese ship capsizing. It appears that, at the turn of the 20th Century, when Japan was building up its Navy, they used to request proposals for vessels to be built by a British shipyard that built warships for the Royal Navy, but never followed up with actual orders. The shipbuilders suspected that the Japanese were cheating, taking the plans that accompanied the proposals, which included overall design, doing detailed design and building the ships themselves. The next time they got a request for a quote, they produced a special design in response. The Japanese are alleged to have built a new ship according to those specifications. When launched, it promptly turned turtle and sank on the spot. This story may or not be apocryphal, but there are two famous cases of ships capsizing almost as soon as they were floated.

(1) The Vasa

In the early 17th century, the Swedish king Gustavus Adolphus was busy building an empire around the Baltic Sea in northern Europe. A strong navy was essential to this endeavour. During the 1620s, Sweden was at war with Poland. In 1625 Gustavus Adolphus ordered new warships - among them, the Vasa.

The Vasa was built at the Stockholm shipyard by an experienced Dutch shipbuilder, Henrik Hybertsson. His experience was much needed as the Vasa was to be the mightiest warship in the world, armed with 64 guns on two gundecks.

On Sunday August 10, 1628 the Vasa was ready to be launched and begin her maiden voyage which was slated also to be an act of propaganda for the ambitious Swedish king. The beaches around Stockholm were filled with spectators, among them foreign diplomats.

The Vasa set sail and fired a salute. But, after only a few minutes of sailing, the ship began to heel over. She righted herself, slightly, then heeled over again. Water began to gush in through the open gunports. To the horror and disbelief of the spectators on the shore, the glorious and mighty warship suddenly sank, taking with her 30-50 of the 150 people on board. When Vasa was salvaged in 1961, archaeologists found the remains of 25 skeletons.

After the disaster the captain of the Vasa - Söfring Hansson - was arrested. At the time, the Swedish king, Gustavus Adolphus, was waging war in Poland and it took two weeks for him to

learn about the disaster. When he heard, he angrily declared that the disaster was the result of "imprudence and negligence" and he demanded that the guilty parties be punished. Söfring Hansson and many others were summoned to inquiries held at the Royal Castle in Stockholm.

At the inquest, Arendt de Groot, the brother and partner of the shipbuilder Henrik Hybertsson, was held responsible for the completion of the ship because Hybertsson had died the year before the Vasa was completed. The authorities in charge of the inquiries concluded that the ship had been well built - but badly proportioned, so, in the end nobody was condemned for the disaster.

(2) The Mary Rose

When Henry VIII came to the throne in 1509 with the ambition of reclaiming France, he set about building a Navy. He had inherited 5 ships, including one whose keel had been laid in 1511. She sank in 1545 and was raised and refitted in 1546 as a warship, the Mary Rose, named after Henry's favorite sister. Three named personnel were Admiral Sir George Carou, Shipmaster Thomas Spait, and Captain Sir Thomas Windam. The crew consisted of sailors under the master's direction and soldiers (gunners and archers) under the captain, for a total of 415 people.

In the only existing illustration (done of her about 1546), she appears to have been a four-masted barque, displacing about 600 tons, with two castles (bow and stern), refitted with guns. There are several rows of gun ports along sides, the lower ports set quite close to the water level. (90 guns were later found.) A tent of heavy netting was stretched over the tops of the castles, presumably as an anti-boarding device and this is believed to have trapped many of the men during sinking. The only 30 survivors may have been crewmen in the rigging at the time.

On a calm morning in July, the Mary Rose sailed out of Portsmouth harbor into the Isle of Wight Sound, ready to do battle. She turned to starboard to present her broadside guns, then heeled over and sank, very suddenly, in 40 feet of water, before a shot could be fired. She came to rest at a 60-degree angle in soft silt.

An attempt was made by an Italian team to raise her but they only succeeded in pulling her masts out. Over time the tides and storms filled her hull in with silt and eroded away the exposed port side, and a shelly sea-bed overlaid the wreck. Her exact location was lost over time until the 1980s when an amateur archeologist located her and her location was confirmed by side-scanning sonar equipment.

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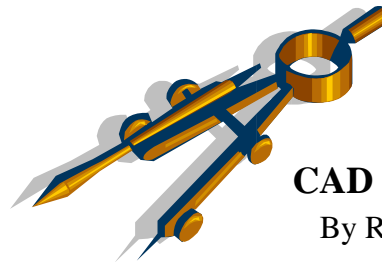
CAD for the Home Shop
By Robert "Mac" McIlvaine

Computer Aided Design (CAD) has been around since the 1950's. It has changed a lot over the years. Some of the latest incarnations belie the fact that, in the past, it was expensive and difficult to use.

While current CAD packages are far easier to use than their ancestors, to a beginner, they can still be rather intimidating. In this series of articles, we'll see if we can get the reader past the intimidation.

Let's start by getting a CAD package. Thanks to the web, a CAD package called IntelliCAD is available for evaluation from Cadopia. Their download page is: **http://www.cadopia.com/products/download.asp**

The above link will take you directly to the Cadopia download page for the latest version of IntelliCAD. Beware; the download file for this is 15Mb! So, if you have a slow connection to the web, get a friend with a fast connection to download it for you, or be prepared to wait for a

while. Also note: this gets the Windows version of IntelliCAD, so you need to have a later generation of the Windows operating system, in other words…not Windows 3.x.

There are several good things about IntelliCAD. First, you can use the evaluation version for free. Second, it is a virtual clone of AutoCAD. Why is this good? Well, AutoCAD is used worldwide and since IntelliCAD stores the drawing files in AutoCAD format, anything you draw will be compatible with lots of other packages that read AutoCAD files, including AutoCAD. Note, this compatibility may have its limits; I have not done extensive testing.

The installation is very straightforward. Just unzip the downloaded file and run the install. Check the Cadopia web page for detailed instructions.

When you run IntelliCAD (IC) the first thing you see is a window with lots of icons across the top and down the right side and a blank window below and to the left of these. The typical menus like File, Edit, View, etc. are across the very top. So as with any Windows program, to save the current file, click the File menu and choose Save. Check out the other similar menu things like Print, Open File, etc. No surprises here.

There are many ways to accomplish a given operation. For the rest of this installment, we'll look at drawing lines.

Note the smaller window, across the top, between the menu/icon area and the blank drawing area. This is where you'll see all the commands scrolling by as you click menus and icons. You can also type commands if you know what to type. This is because, "…in the beginning, before GUI, there was the command line…" Well, to be more accurate, this program emulates AutoCAD, which was initially command-line driven.

To draw a line you need to tell the program that you want to draw a line and you need to supply the coordinates of the end points of the line. So, the command to tell IC to draw a line is,

…you guessed it, 'line'. Go ahead type the word 'line' and hit enter or the space bar. The space bar is another carry over from AutoCAD, in many cases it doubles as the Enter key.

After the Enter/spacebar, you'll see the prompt: "Start of line:" so enter some coordinates. There are several ways to do this. If you know the exact coordinates, say 1,2, then just type '1,2' then Enter or space bar, 1 being the x and 2 being the y. (Note: x runs left to right, y down to up, standard Cartesian coordinate system.)

Now, if you move the mouse, there should be a line, starting at 1,2 and stretching to where ever you move the mouse and the prompt has changed to 'Angle/Length/<Endpoint>'. What does that mean? A line has 2 points, the start point and the end point. We've entered the start point. Now we need to determine the end point. We are given 3 options: enter an angle, enter a length, or enter an end point. Because <Endpoint> has <> around it we know that, currently, IC is expecting us to enter an end point. We could change this by typing one of the characters shown in upper case, A for Angle or L for length. For now let's just stick with Endpoint. Let's say we want the line to end at 2,2, just enter 2,2 and space bar. Now we have a line from 1,2 to 2,2. Note that there is also a line stretching from 2,2 to the mouse cursor. If we enter another coordinate, it will be the end point of the next line, with 2,2 being the start point. If you right click the mouse, it ends the current command.

Here are some things to remember:

♦ At this point, if you hit the Enter key, the space bar, or right click, the line command is started again.

♦ You can enter the start point or end point with a left click of the mouse. This will choose the current location of the mouse as the coordinate. Unless you use tricks that you'll learn later on, this gives approximate coordinates. You can see the mouse coordinates in the box in the bottom center of the IC window.

• So far, we've only done absolute coordinates. You can use relative coordinates by prefixing the coordinate with the "@". So in our example above, enter 1,2 for the start point and @2,2. What you'll get is a 45°-line with the end point at 3,4. In other words the end point x value is 2 units from the previous x and the end point y is 2 units from previous y. I say units, because the units of the values are defined by the current settings, and could be imperial units or metric units.

• You don't have to type the "line" command; you can click the line icon. It's the one to the left of the icons that looks sort of like a dumbbell at 45° with the bottom end round and the top end square.

• IC provides a pop up menu when you start a command. It may change as you progress through the command. In the case of 'line', you start with choices of Follow or Cancel. If you click Follow, you get to enter a length and the line will go from the last end point, in the same direction, for the length you entered.

Well that's probably enough for now, I don't want the newsletter to get too heavy. Next time we'll look at how to select exact coordinates with the mouse.

If you have some specific questions feel free to send them along. You can contact me via e-mail at suemac@empire.net or snail mail at:

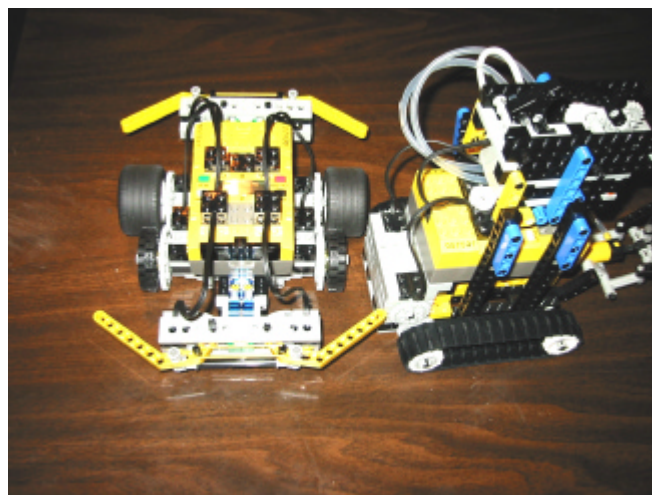Robert "Mac" McIlvaine
36 Parker Rd.
Brookline, NH 03033

Mac

## The Meeting

By Max ben-Aaron

The Meeting, 3 Jan, 2002

As has become traditional, the January meeting was a poster session, sort of a "Show & Tell". As always, our members did not let us down. The meeting format is welcome because it gives us a chance to socialize to a greater degree than is possible at a regular meeting.

Lego Mindstorms Robot Set   Photo by John Wasser

Steve Peters is an avid fan of the Lego Mindstorms Robotic Invention kits. Steve brought in a Mindstorms robot and a laptop computer to show how they are programmed. If you think kids should learn to do things mechanical, you need to see what can be done with Mindstorms, a robotic invention kit with some amazing abilities.
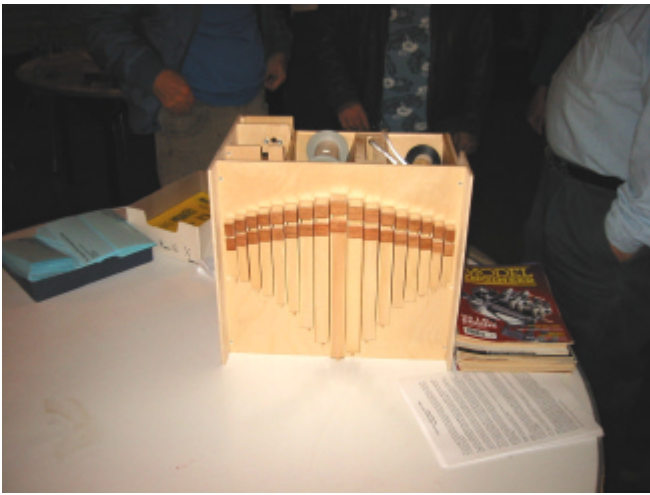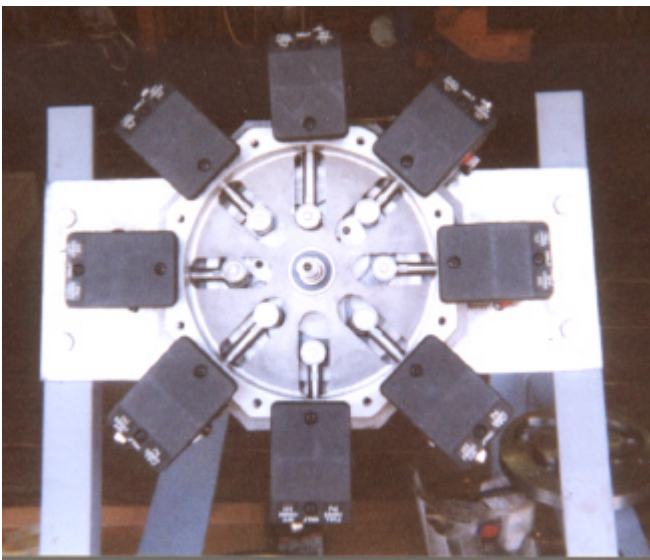
Busker Organ   **Photo by John Wasser**

Venerable Founder Ron Ginger brought the Busker Organ that he is in the process of building, to a design by Englishman John Smith. It still needs its tracker bar, which is the brass bar with holes that routes air to the pipes.

8 Cylinder Radial Weed-Wacker   **Photo by John Wasser**

Tim O'Neill is building an 8 cylinder, radial, low rpm, high torque IC engine. Each cylinder assembly is a 2-cycle engine from as weed-whacker. The connecting-rod motion is transformed into rotary motion by a 3 lobed cam, so it takes 3 power strokes from each of the 8 cylinders to produce one revolution of the crankshaft. This design is original, but Tim found that a similar engine had been patented by a Californian named Duncalf a long time ago.

8 Cylinder Radial Weed-Wacker   Photo by John Wasser

Kay Fisher showed "before" pictures of the round ram M-head Bridgeport milling machine that he is restoring. The mill is of 1947 vintage. Was that a good year? Kay thinks so since it is the year he was born.

**Tree Taper Boring Head**   **Photo by John Wasser**

Frank Dorion brought a Tree Model TB-4 taper boring head and accessories. The boring tool moves at an angle to the axis so it can bore tapers. The machinist feeds the tool by means of a knurled -wheel.

Ornamental Turnings   **Photo by John Wasser**

Alan Bugbee's exhibit was a whole collection of marvelous, elegant examples of ornamental turning in beautiful exotic woods. It was museum quality work, a delight to see and handle.
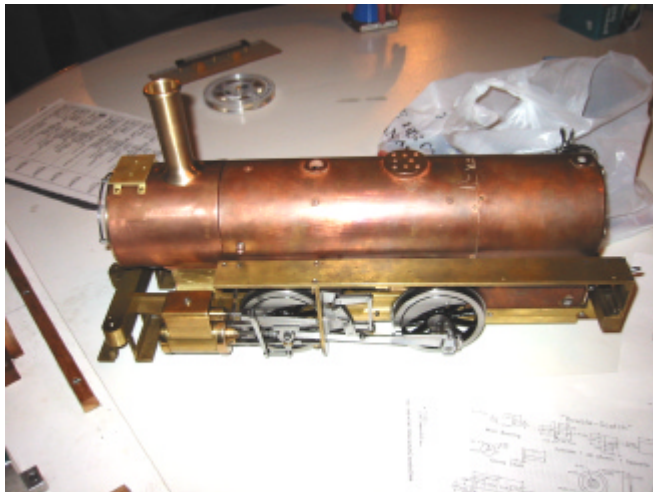

Boiler for Pennsy A3 Switcher   Photo by John Wasser

Roland Gaucher brought the boiler (not quite complete), chassis, engines, valve phase linkage, and running gear for his Pennsy A3 Switcher to Kozo Hiraoka's design, in brass and copper. The "works" have been tested under compressed air. It still needs plumbing and a cab.

Bradley Ross showed a model (that may have been a patent model) of a shaft with both a right hand and a left hand concentric acme thread, like the shaft of a Yankee screwdriver. When the shaft is turned, the nut (on a carriage) moves in one direction to the end of the thread and then reversed until the other end is reached and then the cycle is repeated. He thought that such a device might have become part of a coil winder.
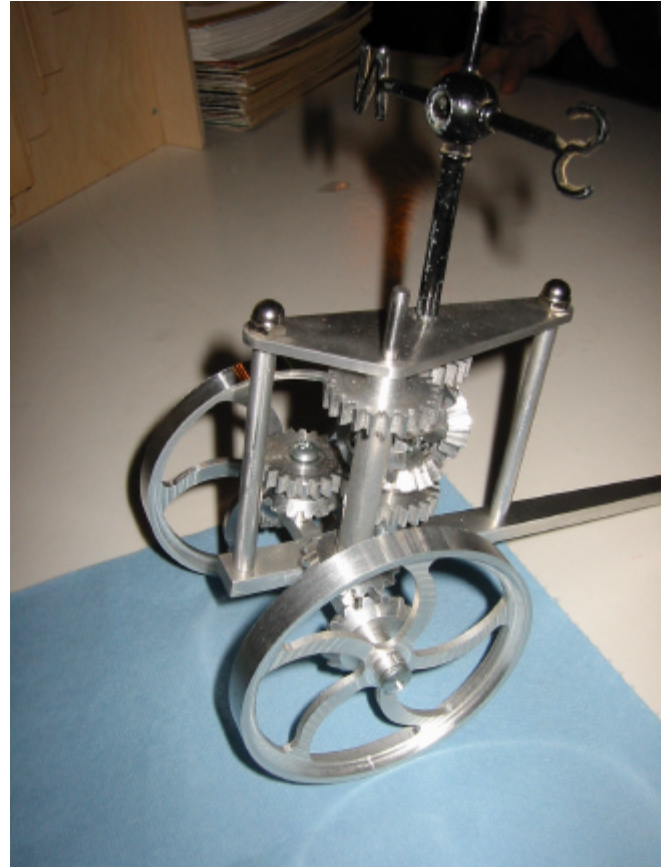
South-Pointing Chariot   Photo by John Wasser

Bill Brackett brought his model of a Chinese South-pointing chariot. The bevel gears were beautifully created by Steve Peters on his CNC milling machine. Bill also showed a "scissors" knurling tool made to Rudy Kouhoupt's design.

John Wasser has taken his MAX-NC mill and run it "backwards" as a measuring machine, capturing the raw data (of a part, say) on his computer. The G-Code was produced by the digitizing software that came with his mill. This becomes then essentially a 3 dimensional scanner. He has written a java program that reads the G-code and displays it on his computer. The program is destined to be a CAD program that can import and export G-code.

Lathe Tool Rack   **Photo by Mal Partridge**

Mel Partridge brought the plans and a model of his Tool Rack for holding 15 Sorby Micro Turning Tools and the tools that the rack was made for. Tom Kamila provided the basic design. The rack, which has a handle for portability can be mounted or set between the lathe rails. The holders were fabricated from 1" PVC pipe (1 1/64" I.D., 1 5/16 O.D.) The same design, made with larger diameter PVC tube would serve for larger tools.

Mike Miller brought in a sine table and a pair of v-blocks that he made, using the table. He also showed a pair of 1-2-3 blocks.

Torch on Home Made Rack   **Photo by John Wasser**

Joe Donohue displayed his holder for an oxy-acetylene cutting torch, which mounts on a carriage. Adjustments are made through a rack. He says that the cutter allows him to make clean, very precise cuts.

Vern Eshbaugh brought the plans for and pictures of a 12' x 24' storage shed that he is building. The plans were made with Corel Draw software.


Quick Keyway Disengager   **Photo by John Wasser**

Gene Martha has a 14" Rockwell wood-cutting bandsaw that is too fast for metalwork, so he built a separate drive with a motor and gear reduction box to slow it down. He brought it in to show a special feature that it has. Because the worm-drive speed reducer prevents movement, making adjustments impossible, he modified the pulley keyways to be disengaged, to allow the pulleys to free-wheel while changing blades.

Dave Robie had a whole table-full of tools and fixtures: gasket punches, cylinder laps, a spring center, a tailstock turret, deburring tools, a spring-winding tool and "complaining" pipes.

Ed Wlodyka exhibited some gyroscopes and a couple of models showing Rouleaux constant diameter cams.
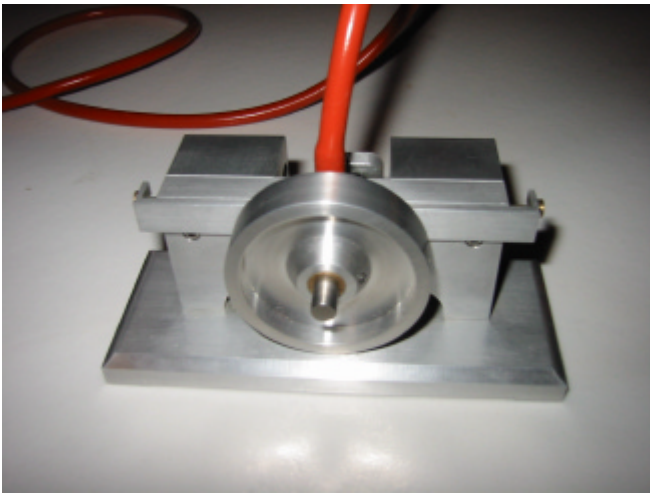
Double Scotch Engine   **Photo by John Wasser**

Chris Barrett brought a "Double Scotch'" engine, which has 2 horizontally-opposed cylinders driving a power shaft through a double scotch linkage. Details on the Web at:
http://www.homemetalshopclub.org/scotchx2/scotchx2.htm

Fire Fighting Robot   **Photo by John Wasser**

George Gallant brought parts of a fire-fighting robot that is to compete in a contest at Trinity College. Some of the chassis panels for the electronics were made of acrylic plastic and he is looking for a collaborator who can make aluminum panels to replace them.

Bill Schoppe had a "rosary" of many different metals that might have been used as samples for testing, as well as a Stirling hot-air engine and a "whatsit" that could have been a bell-ringer.

Vertical Boiler   **Photo by John Wasser**

Frank Lacerenza showed a toy commercial oscillating steam engine and vertical boiler set. Heat is provided by an alcohol pot and burner. The hand wheels have the name "Bouchard" cast in them.
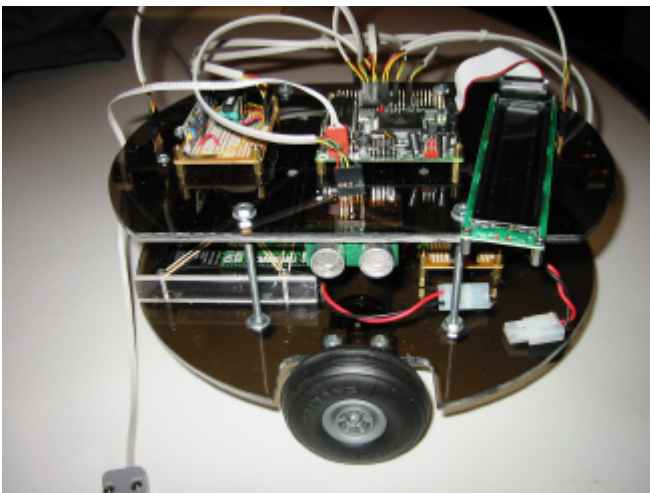
Leo Klos brought in a model of Henry Ford's first engine.

Leslie Russell was carrying a skew bevel gear he made for his "Climax" engine.

Henry Szostek brought an eccentric-cam-operated stripper punch he uses for making sections of the bellows for concertinas.

Larry Twaits showed the beautifully finished tool he made for relieving gear and pinion cutters for making clock wheels.

Walter Winship brought a flint-lock action which was made about fifty years ago. The hammer, frizzen, springs and most inside pieces were made by him, by hand, using only a hacksaw and a file because he was making muzzle-loading guns at the time and some of his (ship-building)

apprentices taunted him saying: "You can make guns only because you have a machine shop". He also brought in a picture of the finished gun, in a fitted case. He did not bring the gun itself because of restrictive gun laws. The 40 caliber barrel of the gun is half-octagonal, hand-filed, which was drilled with a twist-drill and then reamed with a square reamer made from a square file, and rifled (one turn in 18") using a home-made wooden device. The gun is a cased-muzzle-loading black-powder slug gun with a false muzzle. Walter cast the brass trigger-guard, breech and accessories himself in his backyard.

Richard Dickey exhibited a saddle for a model locomotive that he cast in bronze in his backyard foundry.

George Lagasse brought a model and pictures of a "Lizzy Lift" that he built to help his wife, who suffers from fibromyalgia, to gain access to their pool. It uses PVC pipe as the cylinder and water pressure from the mains as hydraulic power.
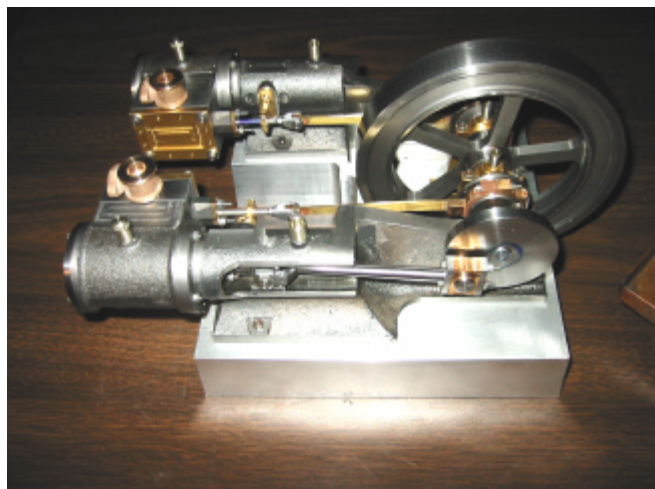
Double Tangye Steam Engine   Photo by John Wasser

David Stickler showed his Double Tangye horizontal steam engine, made with castings from Reeves. So far it has taken 8 months and Dave figures that it will take 4-6 months more to complete.

I apologize to any exhibitors that I may have missed. No offense intended.

Mb-A

Treasurer's Report
By Rob McDougall

As of 12/31/2001

Balance as of 11/30/2001:	**$2,608.39**
Cabin Fever Bus Fee Received	682.00
2002 Dues Received	400.00
Proceeds from CD Sales	73.00
Scraper Course Fee	10.00
Interest Income	0.20
Less	
Cabin Fever Bus Expense	-2,095.00
Club T-Shirt Expense	-1,031.00
Gazette Expense	-253.15
Speak Stands for PA System	-104.98
Front Door Security (November)	-50.00
Balance as of: 12/31/2001	$239.46

Despite the low club checking account balance of $239 at the end of December, income in January has restored our balance to over $4,000.00. The CD sales and T-Shirt sales have been good money-makers for the club – great thanks to Kay, Bob and Mike for all their efforts on that.

If you have not paid me your Annual Dues by the end of January your membership has expired and you are no longer a member of our wonderful club. The February edition will be your last Gazette. As of this writing, there were over 50 members who have not renewed their membership. Come on guys!!!! I'm sure you intend to renew. Please send your check in immediately and support our club. **Dues were due the 1st of January**, not sometime in February or March. We don't want to lose any members!

Rob

Calendar of Events

By Bill Brackett

Feb. 2-3 Amherst Railway Show
Eastern States Expo
www.amherstrail.org

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

Feb. 10 Ct. River Ant. Collectors
Ice Harvest Day -Ely, VT
Doug Driscoll 802-333-3243

Feb. 16 NEMES Show
Charles River Museum of Industry-MA
Call: Ron Ginger 508-877-8217

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

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

Bill
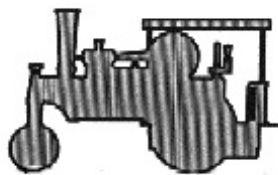
Dave in Toyland

by Dave Robie

The following comes from "Steam Toys Engines and Models", a quarterly UK publication mostly having to do with models manufactured as educational toys - in particular, stationary engines and locomotives made by Bowman, Bassett-Lowke, Mamod and other UK brands. Here is some insight into why our railroad tracks are the width that they are:

"The US standard railroad gauge is 4 ft 8½ in - an exceedingly odd number. Why was it used? Because that's the way they built them in England and the US railroads were built by English expatriates. The English built them that way because the first railway lines were built by the same people who built the pre-railway tramways and that's the gauge they used. Why did they use that gauge? Because the people who built the tramways used the same jigs that they used for building wagons. So why did the wagons have that peculiar spacing? Well, if they tried to use any other, their wheels would break on many of the old, long-distance roads in England, because that was the spacing of the wheel ruts.

The first long distance roads in Europe were built by Imperial Rome. The ruts in the roads, which everyone had to match for fear of destroying their wagon wheels, were first formed by Roman war chariots. The Imperial Roman war chariots were made just wide enough to accommodate the back ends of two war-horses. Thus we have the answer to the original question. The US standard railroad gauge of 4 ft 8½ in derives from the original specification for an imperial Roman war chariot.

Now, the solid rocket boosters, or SRBs, on the space shuttle are made by Thiokol at their factory in Utah. The designers might have preferred to make them a bit fatter, but they had to be shipped by train to the launch site and the train had to run through tunnels. So, a major feature of what is arguably the worlds most advanced transportation system was determined more than 2,000 years ago by the width of a horse's rump."

Dave
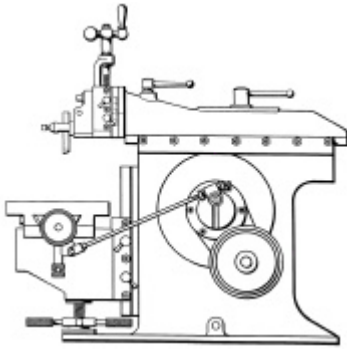
Metal Shapers

By Kay R. Fisher

What is the horse power required for a shaper? They were once line shaft machines with lots of torque. Now almost every one has its own dedicated electric motor.

The best answer would be some actual examples. Shaper manufacturers recommended and often shipped their machines with electric motors of the horse power rating in the following table:

5" Perfecto	1/4 hp.
7" Perfecto	1/3 hp.
7" Atlas	1/3 to 1/2 hp.
7" Ammco/Rockwell/Delta	1/3 hp.
7" Rhodes	1/2 hp.
7" Southbend	1/3 to 1/2 hp.
8" Shape-Rite	3/4 hp.
8" Logan	1/3, 1/2, or 3/4 hp.
15" Hendey	1 to 1.5 hp
20" Hendey	2 hp
24" Hendey	3 hp
28" Hendey	3 to 5 hp
36" Cincinnati	10 hp

Kay
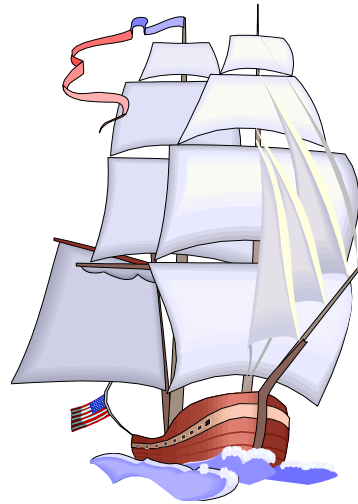
Sea Stories
By Alan Bugbee

My great grandfather had pictures painted of each of the ships, which he captained – the "Alice Ball", the "Daniel Marcy", and the "Granite State". My grandmother Mary Hadaway Ross gave me the painting of the "Alice Ball" painted by Wm. York, Liverpool, 1862.

I live about an hours' drive from Mystic Seaport. Their research librarian was very helpful in finding information on the "Alice Ball". The ship was built in Portsmouth New Hampshire in 1857 by Toby and Littlefield – 898 tons, 166 ft. long, 34 ft. wide, draft 20 ft. 6 inches. The Lloyds American Insurance Register of 1864 lists Ross as captain.

Alan

For Sale

NEMES CDs

NEMES Gazette CDs. The complete set of all Gazettes ever issued in Adobe Acrobat format. All Gazettes from Volume 49 May-2000 in Microsoft Word format also. The US Army's "Fundamentals of Machine Tools manual in Adobe Acrobat format. $5.00 shipping included. Profits go to the club treasury.

> Kay R. Fisher (address in masthead)

Metalworking Books on CDs

I found three old books and three new books on the web. All are in the public domain and had good information on using and maintaining metalworking tools. The old books are high-resolution scans, so they take up a lot of bytes. It took me hours to download them from the web, so the best way to make them available is by CD-ROM. Here are the titles on this CD-ROM:

- Modern Machine Shop Practice Vol I, Joshua Rose 1887
- Modern Machine Shop Practice Vol II, Joshua Rose 1887
- The Advanced Machinist by William Rogers 1903
- Machinery Repairman - US Navy 1993
- Fundamentals of Machine Tools - US Army 1996
- Welding Theory and Applications - US Army 1993

$5.00 shipping included. Profits go to the club treasury.

> Bob Neidorff (address in masthead)

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 are 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. $5.00 shipping included.

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

Clausing Mill For Sale

Good condition, complete with collets located in Southern New Hampshire $550.00

> Jonathan Jost eves. (603) 772-3321

Lettering Sets Wanted

Looking for K&E LeRoy lettering sets in good condition.

Steve Cushman **SCushman@Compuserve.com**

(781) 784-8703

Web Sites of Interest

NEMES home page
http://www.naisp.net/users/fisher/nemes.html

Cadopia home page
http://www.cadopia.com

The Double Scotch engine built by George Carlson
http://www.homemetalshopclub.org/scotchx2/scotchx2.htm

An on-line library of important steam engine books can be found at:
http://www.history.rochester.edu/steam/

Robert Thurston's book on the history of the steam engine:
http://www.history.rochester.edu/steam/thurston/1878/

The Firepiston: An Ancient Firemaking Machine
http://www.onagocag.com/piston.html