



The NEMES Gazette

NEW ENGLAND MODEL ENGINEERING SOCIETY INC.

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December 2004

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Gazette Staff

Editor Victor Kozakevich
 Publisher Bob Neidorff
 Events Editor Bill Brackett
 Meeting Notes Max ben-Aaron

NEMES officers

President Norm Jones
 Vice Pres. Steve Cushman
 Treasurer Rob McDougall
 Secretary John Wasser
 Director Mike Boucher

NEMES web site

<http://www.NewEnglandModelEngineeringSociety.org>

Contact Addresses

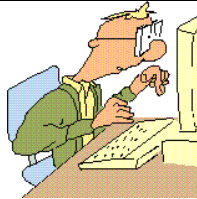
Victor Kozakevich, Editor
 4A Sherman St
 Cambridge, MA 01238
vkozak@att.net

Norm Jones, President
 28 Locust Rd,
 Chelmsford, MA 01824
 (978) 256-9268

Rob McDougall, Treasurer
 357 Crescent Street
 Waltham, MA 02453
nemestreasurer@comcast.net

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

Bill Brackett, Event Editor
 29 East Main St
 Northborough MA 01532
wbracket@rcn.com



Editor's Desk

Victor Kozakevich

Holidays are coming up fast. One begs us to reflect on all the things Americans can be thankful for and hope others around the world may someday have as much to be thankful for as well.

That other holiday offers an opportunity to ask Santa for that new depth gauge or new chuck. Santa's sleigh must get awfully heavy on the way to us NEMES members.

Over the past few weeks I've met a few folks that are interested in models and told them about the club. I imagine that other members do the same, so it's going to get pretty crowded at the next couple of meetings.

NEMES alumnus Kay Fisher gave us part two of his shaper tool bit article. It has some great tips in it. There's nothing like a sharp tool, I always say.

Cabin Fever is coming up soon. I hope lots of us can attend. The bus trip and show have always been a highlight for me.

Enjoy the issue and see you on Thursday.

Next Meeting

Thursday, December 2

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 Treasurer) 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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Don't miss a single issue of the NEMES Gazette. Send Rob McDougall your 2005 dues now!



President's Corner

Norm Jones

The Meeting

Our speaker for the December meeting will be Fred Gould. Fred's talk will be about kites. He will review familiar applications of kites and introduce some not so familiar applications of kites. Examples of mooring lines and anchoring systems will be covered along with general construction techniques and materials considerations. Fred will have a 22' "Grande Delta" kite on display.

Trip to Maine

Fellow member Ron Ginger invited me to come up to Boothbay on November 11th. The timing was great. He was hosting a get-together at his shop that afternoon. This is my first opportunity to see Ron's new shop. It has lots of room, great layout, and what a magnificent view of the bay! It was great to visit with those of you who I don't get to see very often. I also got to make some new acquaintances.

Ron and I traveled north on Friday morning to visit with Larry Twaits in the town of St. George. Larry has become part of the NEMES migration to Maine. His home construction project is coming along quite well. Hardwood flooring installation was the order of the day. At this point one can only visualize what Larry's shop will be like. The shop area is spacious, with good access and plenty of natural lighting. I know that it will be great!

We said good by to Larry and traveled a bit further north to the town of Rockport to visit with Jim Lea who had also extended an invitation to us to visit his shop. Jim is a multi-talented master craftsman. His shop is quite spacious, well equipped and once again boasts natural lighting. Jim builds clocks as well as providing restoration and repair services of antique clocks. You can see his shop and the various clocks that he produces at: <http://www.JamesLeaClocks.com/>

Our next attraction was a view of Penobscot Bay and Rockport Harbor from the summit of Mt. Battie, located just outside of Camden. I was so impressed with this area that I brought up the web site for the Camden-Rockport-Lincolntonville area upon returning home. It is truly "The Jewel of the Maine Coast".

Last but not least was a visit to Liberty Tool. If you are ever in the area, you really need to see this! Time was getting a bit short, consequently we didn't get to spend as much time there as we might have. However, Ron managed to find a few treasures there.

Thanks to Ron, Larry, Jim and all those of you who were at Ron's shop for a very memorable couple of days.

Cabin Fever Bus Trip

This is the last call for the Bus Trip sign up! As previously stated, we need to have at least 26 people signed up by December 4th. So far, there are 21 people on the list. A number of you are somewhat undecided about joining us. It is not a requirement that one has to be a member of NEMES to go on the bus. The more the merrier.

Based on 26 people the bus cost is \$100. The optional buffet which will be served at the hotel upon arrival on Friday evening is \$15.75. Please call me at 978 256-9268 and send a check to Rob McDougall at 357 Crescent St. Waltham 02453 made out to NEMES. The checks will not be cashed until after December 4th, provided we meet the 26 minimum. Seating capacity on the bus is 40. The more people that sign up the less expensive the bus becomes! Hotel reservations must be made by the individual (sharing of rooms is another way of saving), by calling 717 845-5671. Be sure to mention the NEMES Cabin Fever Bus Trip to get the room rate of \$59.00 per night (Jan 14th and 15th). Additional information regarding will be provided to those who sign up. Spread the word so we can go to Cabin Fever on the bus. It has always been a great trip!

See you on December 2nd.

Norm



The Meeting

Max ben-Aaron

The November Meeting

Venerable President Norm Jones opened the November meeting in the Jackson Room of the Charles River Museum of Industry by welcoming new members.

Sadly, the next order of business was the announcement of the recent death of Rudy Kouhopt, who was well known to the club, having been guest lecturer twice, and having conducted model-making seminars here in the past. Model engineering has sustained a great loss.

Thanks to Frank Stauffer for having arranged the field trip to the private World War II Museum in Natick. It's really impressive.

NEMES was well represented at the American Precision show in Vermont. I thoroughly enjoy being an exhibitor and I encourage members to be exhibitors as well as spectators. While I was there, I became engaged in a conversation with Dave Perrault who remarked that he had some of the parts for a model tractor project in the trunk of his car. I talked him into bringing them out and made some space for him. After a couple of hours he confessed that he had enjoyed becoming an exhibitor.

It's not too soon to be thinking about our show in February.

Show and Tell

Rollie Gaucher brought in some of the new Club aprons and demonstrated their virtues. "They are

made in the USA by Russian immigrants". He also sold quite a few after recounting the trials and tribulations of organizing their manufacture. Unfortunately, the 'easy-clean' pocket turned out to be too expensive to make, but even so the apron is a quality product at a good price and a credit to NEMES. Well done, Rollie.

Al Goldberg reported on the latest developments in the Chestnut Hill Waterworks saga. They now have a website: <http://www.chwaterpumps.com> and are looking for volunteers to clean up their five pumping engines. If enough work can be done to impress the powers that be, there is a good chance of the site becoming an impressive museum. The work would have to be done in the middle of the day on weekends, because there is no safe lighting.

Al wanted to know if there was another way to try to mobilize NEMES forces: a meeting once a month was inadequate to keep members informed. In response to Al's question, Venerable President Emeritus Ron Ginger reminded the members of the NEMES mailing list on Yahoo. To use it, it is necessary to enroll in yahoo groups. Bob McIlvaine is the moderator.

Earle Rich showed a copy of "Horn & Whistle" Magazine. <http://www.hornandwhistle.net/> He also showed a tiny (1¼" square x 3/16") Microdrive hard disk drive, with a capacity of 1 gig.

Dick Koolish reminded us of the talk given some time ago by Sara Schechner on portable sundials, as a peg to tell about a new addition to the Harvard Museum of Scientific Instruments.

Dave Stickler showed a ball-turning attachment he made from a set of castings he bought at Cabin Fever. The drawings and instructions that came with the castings were wrong for his lathe. He explained how he modified the design to make it work properly

Bill Brackett designed some badges for the NEMES show in February. We need a volunteer to investigate the possibility of having them produced.

The speaker of the month was Fred Jaggi:

Treasures of English Model Engineering -- Fred Jaggi

Fred Jaggi, a long-time NEMES member, graduated from MIT with a degree in Chemical Engineering. After graduation, he joined Stone & Webster Engineering, and soon found himself visiting the offices of their chemical engineering process division in England. Stone & Webster later transferred him to England to build ethylene-cracking plants to replace refineries nationalized in the Iran. Fred showed slides of ethylene plants and explained how the cracking furnaces worked, splitting the gasoline at low pressure using radiant heating tubes up to 1500 degrees and then separating them through fractional distillation into a wide range of products from hydrogen all the way up to asphalt. Fred showed slides of a typical refinery with impressive sixteen-cylinder, multistage compressors up to 500 lb/sq.in., requiring sixteen thousand horsepower to drive them.

While in England, Fred entered the world of model engineering by joining an evening class at a model engineering club, at a cost of about \$10 a year. He described a club-member, a fairly typical English model engineer of that era, who worked for the famous company Bonds O' Euston Road. A slide of this gentleman's workshop in a shed (no basements, usually, in England), featured a second-hand German lathe (but no milling machine) that was treadle-driven until its owner was in his 70's when a small motor was installed. Being German, the dials were metric, but had been fitted with auxiliary graduated bands. By experience, the turner knew how to operate the lathe as though the graduations were Imperial. One of the locos that this fellow built (5" gauge) had a double Walschaerts valve-gear arrangement that provided independent cut-off. Fred had a model of this unusual arrangement to demonstrate it.

Fred wanted to do something similar. He decided to build a loco, also with independent cut-off, but he did not like the double Walschaerts arrangement because it caused wire-drawing because the cut-off gets shorter and shorter. He knew about an American stationary engine, called

a "Buckeye" and decided to use its unique scissors-type mechanism which does allowed you to build valve gear with independent cut-off, so he built a model Boston & Albany loco with this valve gear. It needs a bell-crank to make it work. Many years later, when Fred came back from England, he became involved in the Wireless and Steam Museum, he discovered that there was a builder's model of the Buckeye valve gear in the model building.

Percival Marshall was largely instrumental in getting English model engineering started. He founded the Society of Model Engineers and also the famous journal "Model Engineering" in 1898. Fred played a tape of an address delivered by Marshall extolling the virtues of model engineering as a hobby. "In my opinion, model engineers are the salt of the earth." Truer words were never spoken.

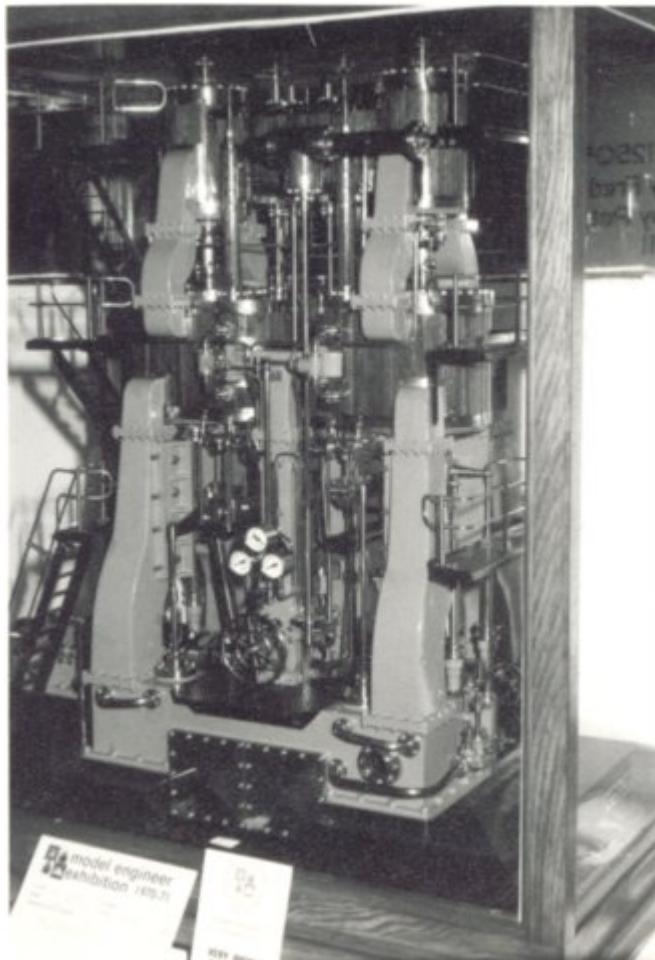
Fred went on to discuss a fascinating character, L. Lawrence, known as 'LBSC', in English model engineering. Self-educated, he designed over a hundred live steam locos and built about 50 of his designs himself. He was largely instrumental in proving that a small, working, coal-fired live-steam loco could be built. He took the initials 'LBSC' because he started his engineering career with the London, Brighton and South Coast railway. Later in life he supported himself through journalism -- describing how to build the locos he designed (usually in "Model Engineer"), which he describe as the "words and music". He had the gift of writing so that he could entertain novices at the same time as keeping experts interested. He also spent 3 years in Connecticut in the 1930's and encouraged the formation of the Northeast Live Steamers. As he got older, he became reclusive. He carried on extensive correspondence with the famous Bill van Brocklin of the Waushakum Live Steamers.

Fred recounted tales told by LBSC about the blitz in London during World War II (and the V1 and V2 attacks) and the difficulties that the bombing caused. LBSC described the problems caused when his house was extensively damaged and how he did his drawings and wrote his articles during short intervals between air raids.

The journal "Model Engineer" also suffered during the blitz. Their offices were totally destroyed in

one raid, yet they managed to generate the next issue and get it to the printers so they never missed a beat.

Fred concluded with some slides of incredibly detailed model marine engines, built to 1/2" scale by Commander W. T. Barker just before World War II. Barker constructed a series of engines to illustrate the history of marine steam engines, now housed in a Maritime Museum in Liverpool. He had his own ideas about scale hardware. Some of the nuts are 16 BA and .006" across the flats.



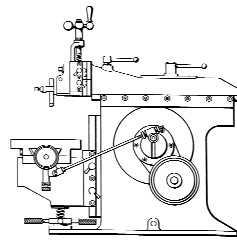
A vote of thanks to Fred for an informative and entertaining lecture.

To learn more about LBSC-designed live-steam locos, visit these websites:

<http://62.73.188.198/GLR/html/locos3.html>

<http://www.stationroadsteam.co.uk/lbsc.htm>

Max



Shaper Column

Kay Fisher

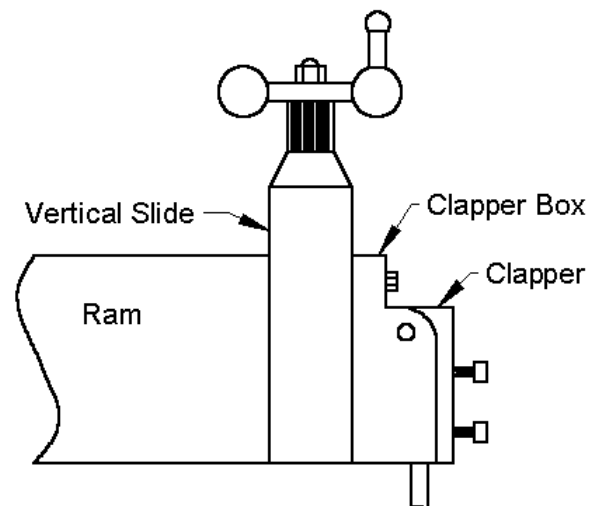
Shaper Tool Bits

Part 2 of 3

Tool Posts

There are two common shaper tool posts. The English style, which is seldom found on American made shapers, and the American style, commonly referred to as the lantern-style tool post. Each has its advantages and disadvantages.

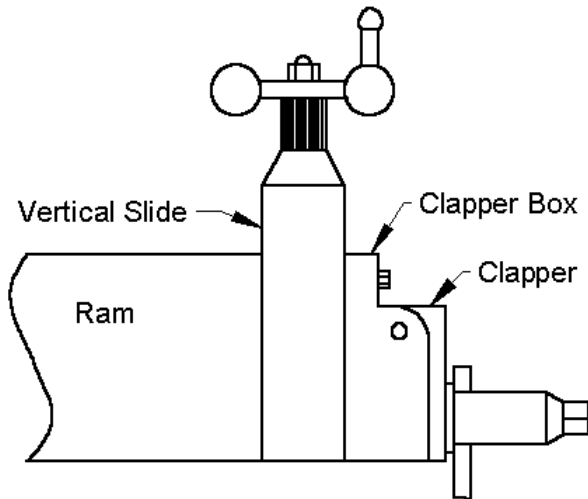
English-Style Tool Post



English Style Tool Post

The English-style tool post, shown above, mounts the tool further back than the American style, putting the cutting edge more in line with the pivot point of the clapper. This helps to eliminate the bounce pattern visible on many shaper finishes, as mentioned by Rudy Kouhopt in the January/February issue of Home Shop Machinist magazine. The English style is less convenient than the American style for setting up tool angles.

Lantern-style tool Post



Lantern-Style Tool Posts

The lantern-style post is the most common post on shapers. It is also a common on older American lathes. The British call these American-style tool posts. They are an excellent tool post for shapers. They are not popular on lathes because they are awkward for tool height adjustment. On a lathe, height must be adjusted every time a tool bit is changed or sharpened. On a shaper, there is no concept of tool height adjustment. It is just not necessary.

Armstrong-Style Tool Holders

These tool holders are useful on shapers particularly if you have a lantern-style tool post. Since lantern-style tool posts are in disfavor for lathes, you can find Armstrong-style tool holders cheap at flea markets and used machinery dealers. They are still popular on larger lathes because they are extremely rigid. New Armstrong-brand tool holders cost from \$90 to \$220 depending on size. Imported versions cost from \$19 to \$48. Home-shop shapers hold the smaller size and used or lower-quality holders are just fine for home use. I purchased 3 for \$5 from a member of our club at one of our meetings.



Three Smallest Armstrong Style Tool Holders

They come in many sizes. Pictured above are the smallest three sizes #00 at the top, #0 in the middle and #1 at the bottom.



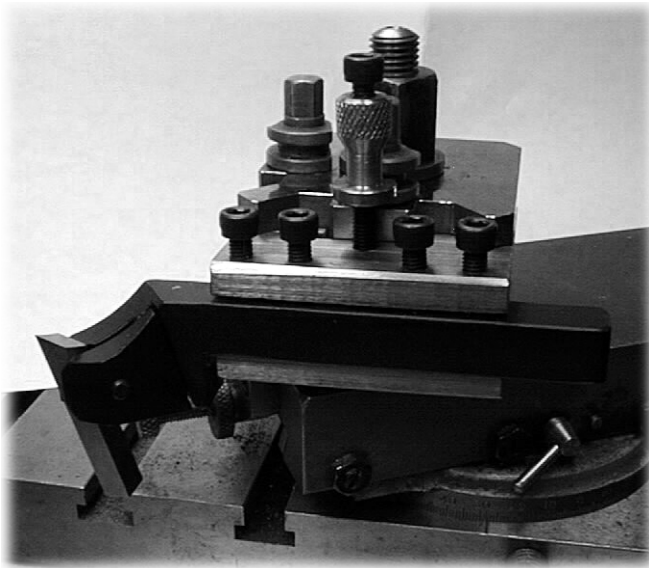
Set of Armstrong Style Tool Holders

A complete set includes a left, right and straight holder, as shown above.

Armstrong Style Tool Holders		
Holder Size	Shank Size	Bit Size
#1	1/2 x 1 1/16	5/16
#0	3/8 x 7/8	1/4
#00	5/16 x 3/4	3/16

Diamond Tool holder

These are a great invention for the lazy or inept tool grinder (Hey – I resemble that remark). Because of the complex way the tool holder presents the tool there is a need to only grind one surface of the tool bit and they supply a special jig to make that easy.



Diamond Tool Holder

The disadvantage of this holder for lathe use is that after grinding, you must readjust for center height. Since we are using the tool on a shaper, we are not so concerned with readjustment after grinding.

They are advertised regularly in Machinist's Workshop and Home Shop Machinist Magazines and are available from:

Bay-Com Enterprises
 P.O. Box 351
 Interlochen, MI 49643
 (888) 452-6947

www.bay-com.com

Grinding Tool Bit Angles Accurately

In order to consistently grind tool bit angles, you need a stable table for your grinder.



Homemade Table on Old Sears Grinder

Pictured above is the table I made for my old grinder using a scrap aluminum plate bolted to the

existing tool rests. Both sides tighten up with wing nuts. I milled slots in the top for a miniature miter gage.

There is an excellent article in the July/August 2003 Issue of The Home Shop Machinist by Steve Wellcome called "Sharpening HHS Lathe Tool Bits." I highly recommend this magazine. Back issues are available. I also recommend their books.

Village Press
 P.O. Box 629
 Traverse City, MI 49685-0629
 (800) 447-7367

<http://www.homeshopmachinist.net>



Setting Grinding Table Height

To show details more clearly in these photos, I removed the wheel guard. Based on Steve Wellcome's article, I set my table to be at the center height of my grinding wheel.



Grinding 7.2 Degrees

This puts the top of a $\frac{3}{8}$ " tool $\frac{3}{8}$ " above the wheel center, giving a clearance angle of

$$A = \arcsin \frac{H}{R} = 7.18^\circ, \text{ where } H \text{ is the height}$$

above the centerline (in this case $\frac{3}{8}$ "), R is the radius of the 6 inch grinding wheel (3") and A is the resulting clearance angle at the tip.



Grinding 14.5 Degrees

To grind 14 degrees, put a spare $\frac{3}{8}$ " tool blank under the $\frac{3}{8}$ " tool bit.



Grinding 12.0 Degrees

To grind 12 degrees, put a spare $\frac{1}{4}$ " tool blank under the $\frac{3}{8}$ " tool bit.

Grinding a Right Knife Tool

I made a miter gage for my grinder out of scraps. The picture below shows the gage with the finished right knife tool on it. The only unique feature of this miter gage is a $\frac{3}{8}$ " high slot in the front of the miter. This allows me to stack a $\frac{3}{8}$ " tool bit on top, giving a 14 degree angle on the top edge of the tool bit.



Miter Gage

I use a protractor to set the miter gage for the 7 degree relief angle, as shown below.



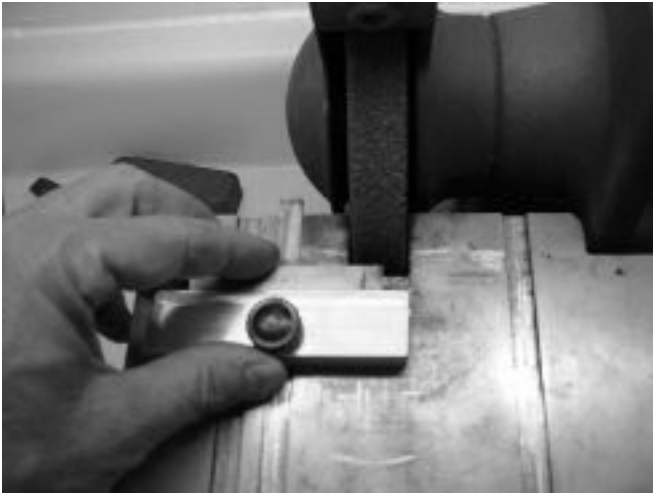
Setting Miter Gage to 7 Degrees

This angle defines this tool style. To facilitate grinding this angle, I mounted a 1-2-3 block on the miter gage. Because my table is aligned with the center of the wheel, this also grinds in front clearance.



Grinding Relief and Front Clearance

Front clearance and relief are easy to grind. Mounting the table at center height while grinding a $\frac{3}{8}$ " tool bit sets the clearance to 7 degrees. Setting the miter gage for 7 degrees sets the relief angle required for a knife style tool.



Grinding Side Clearance

Side clearance is simple using the miter gage to hold the tool straight. The 7 degrees angle comes from the position of the top of the tool over the wheel center line.



Grinding Top and Side Rake

Side rake comes from raising the tool by mounting it on the $\frac{3}{8}$ " ledge of the miter gage. When completed, the tool has a compound rake angle as shown below. It can be used for both cutting down and right.



Setting Miter Gage to 14 Degrees

The compound angle of top and side rake on the top of the tool is slightly harder to set. Top rake comes from setting the miter gage to 14 degrees with a protractor.



Right Knife Tool Completed

Special Tool Holders

The two tool holders in the top of the below picture have a small dimple and ram nut that sets them up as a left, right, or straight holder. They are actually lathe threading tools but work well as shaper tools. Unfortunately, they have no built in rake and have the cutting bit further forward than I like.



Special Tool Holders

The shaper tool holder on the bottom of the photo is continuously variable in angle and holds the tool with built in rake. Also, it holds the tool bit further back to line up closer to the pivot pin of the clapper box. It is my favorite of the special shaper tool holders. This one was made by the Colton Comb Tool Co. of Easthampton Massachusetts. I got them free from friends or for less than 5 dollars at swap meets in New England. Today this type of shaper tool holder sells for more than \$70 on eBay. They aren't very complex. You could easily make one. There are good plans available on-line in the Yahoo group "Metal_Shapers" file section. The file name is holder1.jpg and it was designed and submitted by Art Voltz, a frequent contributor to the group and to this column.

The problem with all tool holders is that each mating surface decreases rigidity. Just mounting a tool bit in the tool post gives the best rigidity and the least chatter and flexing. In the photo above you see a very large tool bit ($\frac{3}{8}$ " wide and 1" deep) mounted in the tool post.

Suggestions

With all this in mind I suggest the following:

1. Always examine your chips and finish quality. If the chips don't curl off nicely or the finish looks rough, regrind and hone your tool bit.
2. Try a special shaper, Armstrong-style or diamond tool holder. See if you like it.
3. Don't take tool bits too seriously. Eventually you will find 4 favorite bits that will work for nearly everything.



Good Shaper Tool Holder



Large Tool Bit in Tool Post

Next month, in part 3, we will get an expert's contribution on the shearing tool – a tool with a special angle that has particular application to shapers.

Keep sending me letters and email with questions and interesting shaper stories.

My mailing address is:

Kay R. Fisher
101 N. 38th St. #129
Mesa, AZ 85205

My e-mail address is:

KayFisher@att.net

Kay



Time on

My Hands

Vic Kozakevich

Electric Time

This month I'd like to change over from time and steam, to time and electricity. The AC powered electric clock owes its existence and success to a local man, Henry Warren. Henry Warren was born in Boston, graduated from MIT in 1894 and settled in Ashland, MA, a town just south of Framingham. He built battery-powered clocks as a hobby, and eventually tried selling them. Despite a well-made and reliable product, his success was limited. As an aside, battery clocks of that time suffered from a major weakness, contacts that arced and burned as they switched battery current on and off to the driving coil. Warren solved that problem by inventing and patenting the mercury switch, a small glass bulb with a drop of mercury and two electrodes. Tilting the bulb closed or opened the switch. He ended up making far more money by licensing the switch patent than he ever did selling those clocks.

He decided his clocks needed a new power source, the AC current available from a wall socket. He reasoned that the 60 cycle-per-second current could also serve as the clock's time base. So he invented a synchronous motor that would stay in step with the 60 cycles from the generator. In addition, he made the motor self-starting. He built a few and tested them, but soon discovered that the clock was off by as much as fifteen minutes per day! Some further testing determined that the power companies, over the course of a day, were not maintaining the 60 cycles per second as advertised. So Henry Warren faced a similar problem that we model-makers often refer to as "needing to make the tools, to make the tools". Warren realized that the power station operator needed some reference to make fine adjustments to the power generator's speed governor. His solution was to build a reference or "Master" clock that combined a pendulum-regulated clock with an AC powered synchronous clock. The actual clock had a special seconds dial that contained two coaxial hands: a black one that was connected to the pendulum clock and a thin

gold one connected to the synchronous motor. It was actually a five-minute dial that the operator could watch and use to make his adjustments to generator speed that would keep the hands on top of each other. The plant had to get a time signal over the phone once or twice a day from the standards bureau in Washington D.C. to keep the pendulum portion of the Master Clock synchronized to standard time, held to within a second per day.

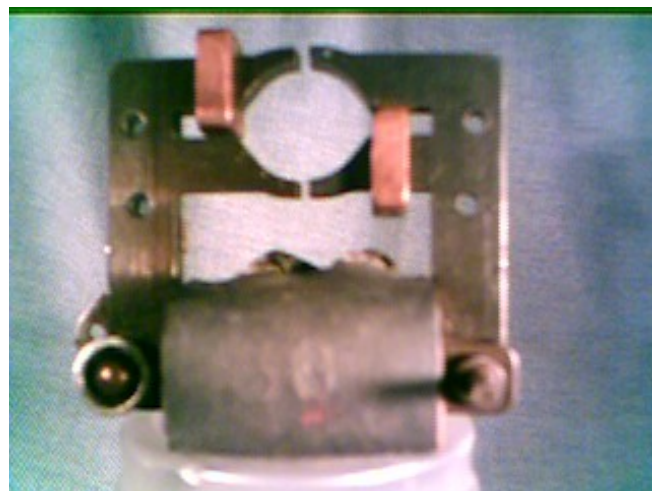


The first version of this “Master Clock” was installed at the L Street station of the Edison Power Company, here in South Boston, on October 23, 1916. The clock worked so well that the power station asked to keep it. Copies of this clock eventually ended up at most power stations in the US. The side benefit of this clock was that it helped keep the stations on frequency, and allowed the creation of the “grid” of interconnected power stations that lets us send power across the country. That first Warren Master Clock is now at the Smithsonian Institute.

Warren’s company was named Telechron, and General Electric became a minority owner. After World War II, Warren retired and G.E. bought the remainder of the company. Telechron (also under the name G.E.) produced millions of electric clocks and timers over its life, from large commercial clocks to small bedside alarms, as well as motors for Revere chiming clocks, all at the factory in Ashland.

The self-starting synchronous motor Warren invented deserves some mention as well. It’s just an electromagnetic field coil, frame and rotor, but with a special twist. The basic field is a pair of left

and right hand thin iron laminations. In the middle of the wire coil is a laminated core to connect the two field halves. If an iron disk were placed in the middle of this field, and an AC current applied to the coil, the disk would simply sit still and vibrate. You could spin it by hand in either direction to start rotation, a feature of early synchronous clocks not made by Telechron. Warren’s invention, to make the motor self-start, was to split each pole where it wraps around the motor’s rotor. One side of the split has a conductive ring pressed over it, called a shading ring. The theory is that a current is generated in the ring and absorbs some of the magnetism for a few milliseconds. What this means is that the rotor moves from the unshaded half, toward the shaded half pole, allowing it to start, and establishing a direction of rotation. If you flip the field over and reinstall it, the motor (and clock hands) turn backwards.



The mechanical portion of the motor is a steel disk that spins in the field at 3600 revolutions per minute (60 rotations per second to match the line frequency). The disk’s mounting shaft then drives a 3600:1 gear train, producing one revolution per minute at the output shaft, perfect for driving a clock’s second hand. The entire mechanism is sealed in a copper can, partially filled with oil to lubricate the gears and bearings. One of these motors, through a pair of gear trains, was used to wind the drive spring for the pendulum section of the Master Clock as well as turn the electric reference hand. The same type of motor also powered those millions of Telechron clocks.



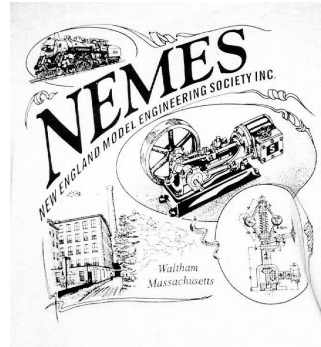
For Sale

Shaper Work CD

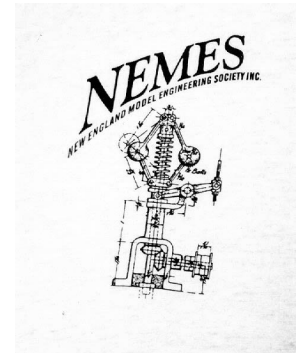
Put out in 1944 by the New York State education Department this 326 page manual is chock full of valuable tips and information on using the King of Machine tools....The Shaper. Covered is everything you need to know about the care and feeding of the shaper, use of the shaper, even how to sharpen shaper tools. In Adobe Acrobat format. \$5.00 shipping included.

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

Artwork by Richard Sabol, printed on front and back:

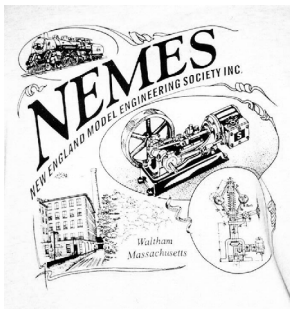


Rear



Front

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



NEMES clothing

NEMES Tee Shirts

NEMES tee shirts and sweatshirts 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 sweatshirts are the same color, but long sleeve and a crew neck. Also 50-50, but these are by Lee. The sweatshirts are very comfortable!

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. Sweatshirts are \$7 for shipping the first, and \$1.50 for each additional sweatshirt.

Profits go to the club treasury.

NEMES Shop Apron



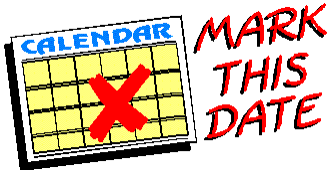
Look your best in the shop! The NEMES shop apron keeps clothes clean while holding essential measuring tools in the front pockets. The custom strap design keeps weight off your neck and

easily ties at the side. Washable blue denim with embroidered NEMES logo on top pocket.

Contact Rollie Gaucher 508-885-2277

WANTED:

Buy, borrow, or rent Modeltec Magazines 1997 and earlier. Looking for ideas for making wooden model engines. Call 508-881-1637 or see Ed Wlodyka at the monthly NEMES meeting.



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 wbracket@rcn.com or (508) 393-6290.

Dec 2nd Thursday 7PM
NEMES Monthly club meeting
Charles River Museum of Industry
781-893-5410
Waltham, MA

Jan 6th Thursday 7PM
NEMES Monthly club meeting
Charles River Museum of Industry
781-893-5410
Waltham, MA

Bill



Web Sites of Interest

Here is an India-made copy of an old stationary diesel - a 6.5hp 650 rpm, almost 800lb hunk of cast iron. Has a pair of 2' spoked, flat-belt style flywheels. One gets the impression that it will run on anything that is vaguely liquid, and somewhat flammable.

<http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=3854339243>

Gary Schoenly told Ron Ginger about an interesting contest to design a new steam engine. The company was at his California show and will be at Cabin Fever. They are offering 3 prizes, \$2500, \$3500 and \$5000 for a small steam engine. There is no time limit- the first person to submit an engine that meets the specs (different for each prize level) wins. For details, see:

<http://www.xcor.com>T