

The **NEMES** NEW ENGLAND MODEL ENGINEERING SOCIETY INC. *Gazette*

No 267

September 2018

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September Meeting

The September NEMES meeting will be held on Thursday, September 6 2018, at a new meeting room at the Charles River Museum of Industry and Innovation (see below). Our speaker will be Ian Clark, speaking on building his own experimental airplane. Some will remember Ian from the last poster session in February, when he came by and described a heat controller for his shop.

NEMES will be meeting in the new addition to the Museum from now on. The Internet Center has vacated their space adjacent to the Museum. The Museum is using some of the space for offices, but there are two conference rooms as well.

NEMES will be using one of these for their meetings from now on. They have a more intimate setting than the Jackson room, better acoustics, and have permanently set up chairs, so we will no longer have to set up or take down chairs. The entrance to this space is via the door to the former Internet Center, you no longer have to go through the Museum to get to the meeting.

Table of Contents

September Program	1
Club Business	2
President's Corner	2
Obituary for Jim Johnston	2
Used machinery for Sale / Wanted	2
From the Editor's Desk	2
Summary of August Meeting	3
New Books by Kay Fisher	3
Article on metal shapers	4
Future Events	8



Club Business

Rich Baker

Dues. The 2018 dues are past due. Please bring your \$25 check to the September meeting or you can try out our credit card system. Or mail me a check to Rich Baker, NEMES, 288 Middle Street, West Newbury, MA 01985



President's Corner Dan Eyring

Dan Eyring is on vacation. There is no President's Corner this month. See the September Meeting announcement and From the Editor's Desk for recent news about a recent addition to the Museum space, and its positive effect on NEMES..

Obituary for Jim Johnston

I regret having to pass on the news that Jim Johnston passed away Saturday, August 11.. The wake was Tuesday Aug 14 2018, 4-8 PM at Duffy-Poole Funeral Home, 20 Peck St Attleboro MA.

While Jim has not been to meetings in quite a while he wrote a number of interesting Gazette articles and was quite knowledgeable in metallurgy. He was also the only person I ever met who could claim to have repaired the control linkage for a Norden bomb sight in a Super Fortress while in flight.

Steve Cushman

Machinery for Sale / Wanted

Last month we ran a listing for a used surface grinder. The shop it was in has already moved, the grinder is likely no longer available. However, as a service to members, we will put listings of machinery for sale or wanted by members in this space from time to time. The notices of machinery for sale are not restricted to NEMES members, as members will benefit from the widest possible exposure to information on used machinery. Requests for machinery wanted are restricted to members. Send any information to me at

RWTimmerman@gmail.com



From the
Editor's Desk

Bob
Timmerman

We have a number of things in this issue. Kay Fisher has written two more articles on shapers. One was in the August issue, the other is in this issue.. Kay has collected his writings into a book, which is available with either color or black and white illustrations (color at higher price).

The big news is that the Internet Center, which was adjacent to the Museum, gave up their space, and the Museum has been able to take it over. While most of the space will be used for offices (providing more space to support functions), there are two conference rooms as well. The Museum hopes to rent them out part of the time, but they will be available for NEMES. There are a number of

plusses for NEMES. The chairs are already set up, so it will no longer be necessary to set up and take down chairs. The entrance to this space will be through to door formerly used by the Internet Center, so we will not have to go through the Museum. This will be a big plus when there is a function at the Museum.

We got an invitation to participate in a Mini Maker Faire in Biddeford, Maine, on Saturday, October 13. Applications are due September 16.. Presumably this would be a NEMES project. We can discuss this at the September Meeting.

Also, please see some late news, courtesy of Todd Cahill: The Annual Yankee Steam Up will be held on Saturday, September 29, from 9am to 4pm at the New England Museum of Steam and Wireless, 1300 Frenchtown Road, East Greenwich, RI. Admission is \$15 for adult, and \$7 for Students.. Website is www.newsm.org.

Summary of August Meeting

Dan Eyring gave a slide show of "mystery items" in the Museum's collection, followed by a guided tour of the Museum's archive - commonly known as "The Wayback". The goal of this was to identify some of the mystery items, and some of the members were able to identify some of the "mystery items". This help from NEMES will help the inventory of the Museum's holdings, and perhaps facilitate future exhibits..

New Books by Kay Fisher

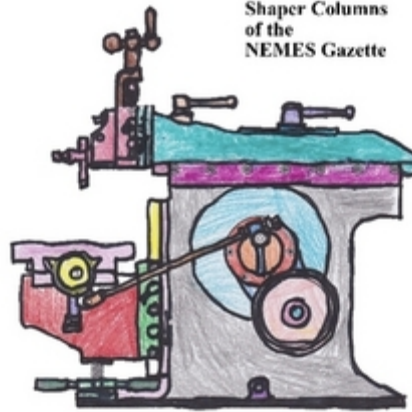
Metal Shapers
Color Version

By [Kay Fisher](#)

Paperback, 540 Pages

Metal Shapers

From the
Shaper Columns
of the
NEMES Gazette



Edited by Kay Fisher

[Preview](#)

Price: **\$35.00**

Prints in 3-5 business days

Metal Shapers are a unique tool used by machinists. By today's standards they are obsolete yet there are many amateur machinists and some professionals who still use these wonderful machines. Over a period of 16 years there have been over 140 articles published in the shaper column of the NEMES Gazette (The newsletter of the New England Model Engineering Society). This book contains all those columns republished and in some cases updated and corrected.

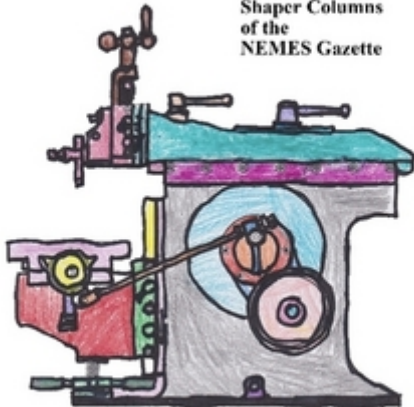
Metal Shapers B&W Version

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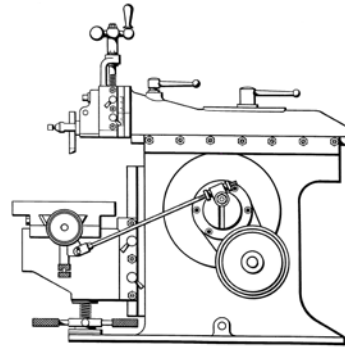
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There is also an eBook version, available for \$4.00

Metal Shapers

By Kay R. Fisher



Juengst & Son Shaper #818

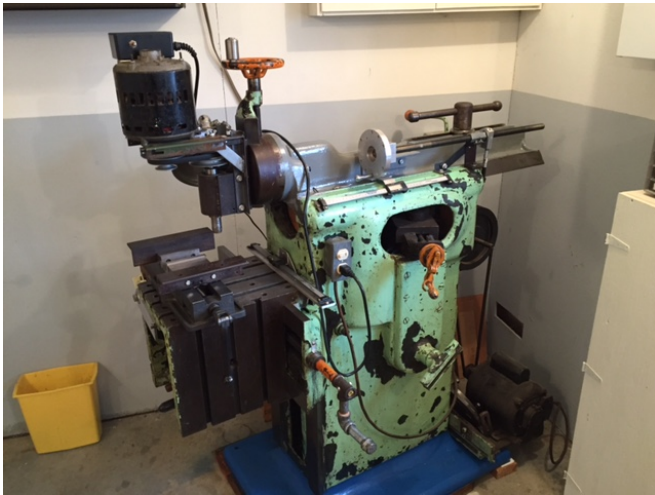
Leroy Cordill submitted this article about his shaper that he has worked on over the years.

I acquired this shaper several decades ago, and have been "upgrading" it ever since. With the items I've added, it now is usually used as a vertical milling machine. As with any manual milling machine, it's not a "production" piece of equipment, but gets used routinely for repairing equipment and has machined many parts for design prototypes and manufacturing equipment.

It is a Geo Juengst & Sons shaper, made in Croton Falls NY, apparently somewhere in the 1900 +/- 10 year timeframe based on who it was sold thru (see lower section of nameplate). Based on the travel of the table and ram, I would consider this to be a 12" shaper. I don't know who painted it light green, and much of that paint has flaked off. I have repainted the ram and the base, but it's still referred to as the "Little Ugly".

I have used it as a shaper to fabricate internal spline couplings and internal keyways, but with the milling head added, it's normally used as a vertical mill. To convert it back to shaper operation, I only have to remove the milling head (two bolts to remove motor, and two more to remove spindle assembly), put the clapper box back on (two bolts); and uncouple the lead screw that has been added to the ram (two bolts). This lets me have both a shaper and vertical mill in my small shop!

Unfortunately, I do not have the ratchet mechanism that would normally couple the ram motion to the horizontal table feed when used as a shaper, so I have to manually move the table, but if doing small internal things, that's usually the case anyway.



Juengst & Son Shaper **Photo by Leroy Cordill**

I added the vertical milling spindle/motor several years ago, and have also added digital readouts on the table cross travel and ram travel. Both of these axes have ~12+ inches of travel, which makes it convenient in that the X and Y axis have same range. The vertical feed has 5" travel.



Nameplate on Left Side **Photo by Leroy Cordill**

**Geo Juengst & Sons,
Croton Falls N.Y. U.S.A.
Prentice Tool & Supply Co, New York;
Sole Selling Agent**



Serial Number **Photo by Leroy Cordill**

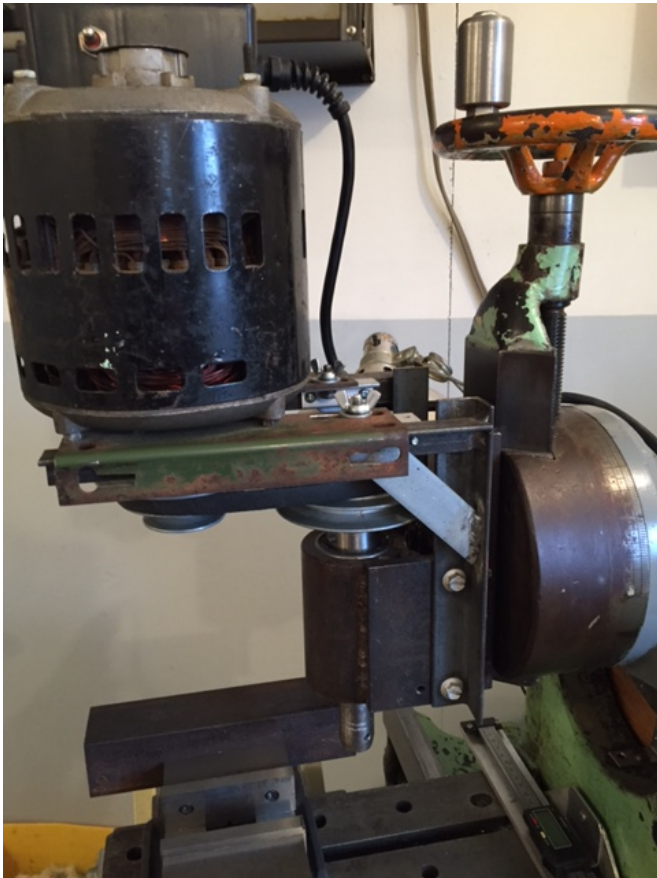
Serial number (#818) on upper left vertical table guide. I believe this number is stamped elsewhere on the machine, but I don't remember where.



Drive **Photo by Leroy Cordill**

Before I acquired this shaper, someone added a three-speed car transmission and belt drive to the left side. [Unfortunately, putting this transmission in reverse does not add the metal back on that you may have taken off by mistake! :-)]

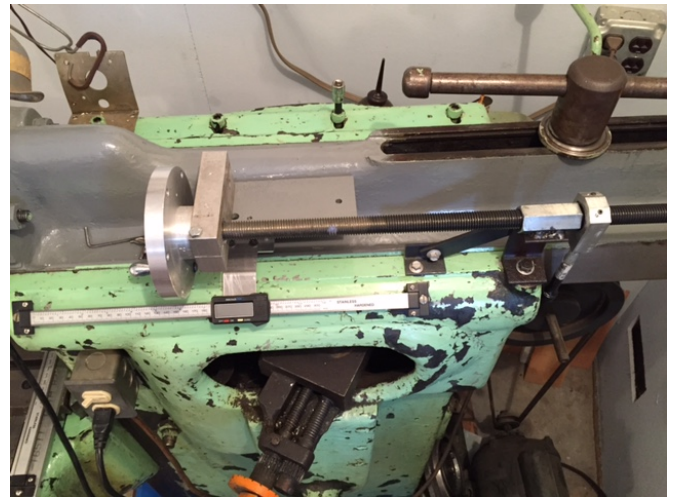
The drive motor mounts on a bracket on the rear of the shaper. I now have a 3/4 hp motor there, which has always been all the power I want to utilize when using it as a shaper. It came to me with a 3 hp 3 phase motor; I don't know what may have been the power source originally. I suspect it may have been a flat belt overhead line shaft. Considering that this shaper does not appear to have ever had a support under the front of the table, I wouldn't consider it was intended for taking really heavy cuts.



Milling Head Photo by Leroy Cordill

The vertical milling head I built has a 1/3 hp 2-speed motor (adequate power for my purposes), and a three-step pulley to drive the spindle. The spindle accommodates 3/8" diameter shank end mills, and I have an adapter which goes over the 25 mm dia shaft which allows use of a 2" boring head.

This type of spindle mount does involve more attention when tramming the head, as there is both the alignment of the spindle mount to the vertical ram where the clapper box normally goes; plus the adjustment (angle) of the vertical ram itself.



Lead Screw & Digital Scale Photo by Leroy Cordill

This shows the lead screw and digital scale which are added to the ram for the "Y" axis. When using it as a mill, the large "T" handle that normally couples the ram to the shaper drive mechanism is just left loose.

The long wide ways of the ram give this axis plenty of stability.

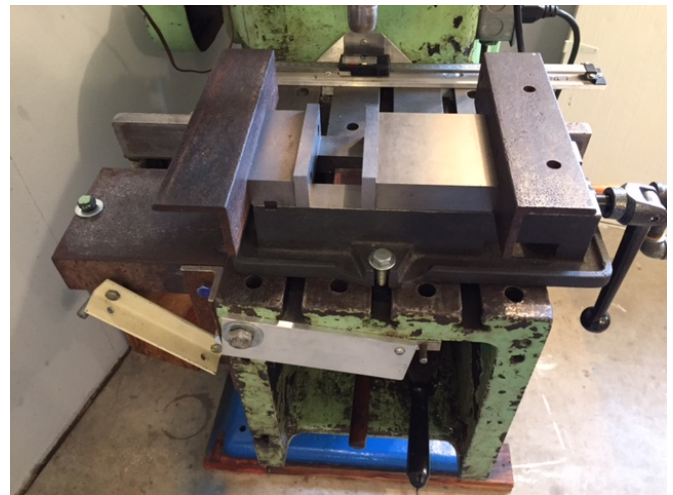
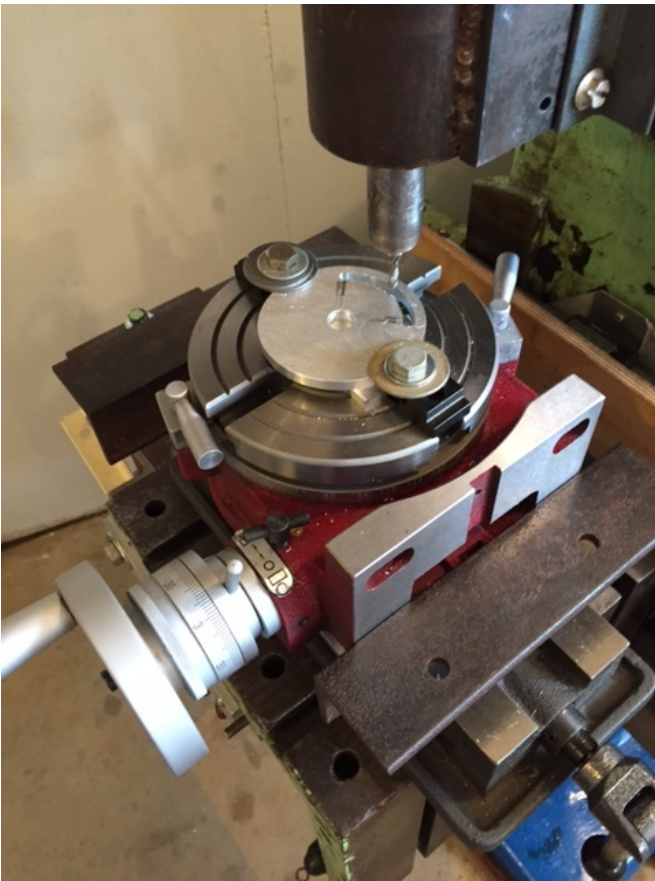


Table with Vise Photo by Leroy Cordill

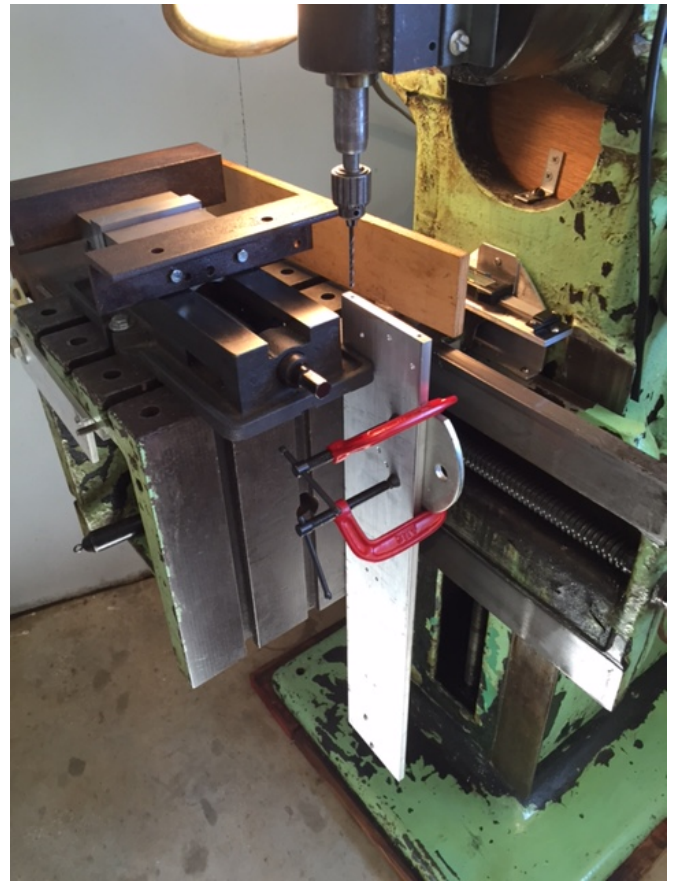
While the shaper table is small, it serves to mount a 4" milling machine vise on it. I also have brackets on the outside of the vise jaws, which are used to clamp larger items, or readily clamp flat plates when doing panel layout work. The bracket on the left of the table is used to mount a small indexing head when I make gears.



Rotary Table

Photo by Leroy Cordill

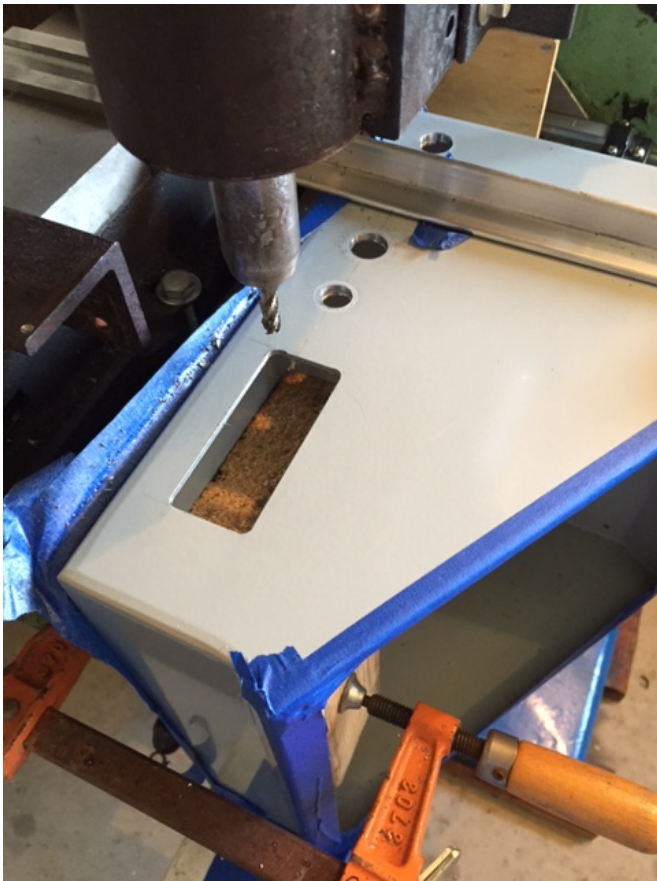
While not an optimum rotary table mounting scheme, for light machining work, the large vertical travel of the shaper table allows easy adding of the 6" rotary table in the already mounted milling machine vise.



Table

Photo by Leroy Cordill

The shaper table can be located far enough to the left that long parts (slightly over 36") can be machined directly on the end when clamped to the table side.



Using Side of Table

Photo by Leroy Cordill

When milling cutouts in an enclosure, it is convenient to be able to simply clamp the enclosure to the side of the shaper table. The hollow construction of the shaper table helps also.

These last two show the advantage of a milling machine table that is cantilevered out, and can have items clamped on the sides or front of it.

So, this shaper (over 100 years old) with some newer technology added, is still being used on a regular basis! Someday I hope to get more of it repainted.

Thanks Leroy for that look at a great old shaper.

Kay

Future Events

[Editor's note: Our new webmaster has done a great job of formatting this section for the NEMES website. This section of the Gazette is a copy of that section of the website, and will keep the website format]

September, 2018

- September 7-9** 47th Annual Dublin Engine Show
Dublin NH East of junction 101/137 on Rt. 10t
 Feature: Domestic engines.
 Contact: Bart Cushing, PO Box 668, Walpole, NH 03608
 tel: 603-313-9970
 email: bart@cushingandsons.com
www.dublinnhgasenginemeet.com
- September 14-16** Tobacco Valley Flywheelers 38th Annual Show
Haddam CT Haddam Meadows State Park, Rt. 154.
 Contact: Russ Bengtson, 646 Bear Hill Rd., Middletown, CT 06457
 tel: 860-347-5774
www.oldengine.org/members/tvf
- September 29, Yankee Steam Up, New England Museum of Steam and Wireless, 1300 Frenchtown Rd, East Greenwich, RI. Admission \$15 adults, \$7 students. www.newsm.org

- **September 28-30** 34rd Annual Connecticut Antique Machinery Assn. Fall Festival
Kent CT One mile north of Kent on Rt. 7.
Contact: John Pawloski, PO Box 425, Kent, CT 06757
tel: 860-927-0050
email: j.a.pawloski@att.net
-

October, 2018

- **October 13-14 : 10-5 Sat, 10-4 Sun** Rail Fair 2018 - Model Train Show
Boxboro, MA Boxboro Regency Hotel
Sponsored by Nashua Valley Railroad Association
<http://nvrra.com/>

October 13, 10AM—5PM, Mini Maker Faire, Pepperell Mill Campus, 40 Main St, Biddeford, ME, (Important: Registration due by September 16)

November, 2018

- no events currently
-

December, 2018

- **December 1-2** New England Model Train Expo
Marlborough, MA Best Western Royal Plaza Hotel and Trade Center in Marlborough, MA

- **December 8, 2PM** 9th Annual NEMES HOLIDAY Dinner/Get Together
Essex, MA Woodman's Restaurant in Essex MA 121 Main St, Essex, MA.
No tickets or reservations. Just show up enjoy! (you may have reservations but come anyway)
www.woodmans.com
-

January, 2019

- **January 18-20** Cabin Fever
Lebanon, PA
-

February, 2019

- **February 16** 2019 NEMES Model Engineering show
Waltham, MA Charles River Museum of industry and Innovation