



# British Horology Times

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British Horology Chapter 159 of the National Association of Watch and Clock Collectors

## The English Lathe

*By Bruce R. Forman*

**G**reat Britain has a distinguished history of building clocks and watches, but little has been published about the tool industry that supported this craft. By the late eighteenth century, horological tool making was well established in the important horological centers such as Prescot and Liverpool. John Wyke of Liverpool promoted his business by publishing a trade catalogue that showed hundreds of different tools for the clock and watch trade. Some were simple hand tools, but others were complex machines used to make a fusee or to cut a gear. Somewhere in between these two extremes is the lathe tool used for turning metal. The focus of this article will be limited to the English lathe and the firms that supplied these to the horological trade.

Lathes were a common tool needed by the horologist and they were made in many shapes and sizes. The simplest form had a frame made from brass or steel that supported two dead centers. These dead centers were typically called runners in the tool trade. The lathe was normally held in a vise and the work piece was rotated using a bow. Turning between centers

is extremely accurate and was a method used by both clock and watch makers. Most modern sources refer to this simple type of lathe as a turns, but early English tool catalogs call them bench turns. Figure 1 shows a small turns for watch work. It has a brass body and originally had steel runners. These have now been replaced with a homemade brass set for



Figure 1. A simple brass turns marked "W.S" on the body

polishing balance staff pivots. This style of tool is shown in catalogs from the 1700s through the 1800s. The turns in Figure 1 is marked "W.S." which is a maker's or owner's mark.



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Chapter 159

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### Next Meeting

#### National Convention Dayton, Ohio July 3 – 6 “Isochronal Regulators”

Philip Poniz will present the fascinating topic  
of Isochronal Regulators that spans 200 years  
of history and culminates with a detailed look  
at tourbillons and arguably the most complex  
regulators ever built

### Sundial Mottoes by Deena Mack

#### In Waterfall Churchyard, Staffordshire:

Use Well The Present Moments As They Fleet,  
Your Life, However Short, Will Be Complete.  
If At Its Fatal Ending You Can Say:  
I've Lived And Made The Most Of Every Day.

#### In Aldingham Churchyard, Lancashire:

Use The Present Time  
Redeem The Past  
For Thus Uncertainty  
Though Imperceptibly  
The Night Of Life  
Approaches.

## Presidents Message:

Dear friends,

Our annual meeting is at the 2013 National Convention and first order of business will be Chapter elections. Huge thanks to Dennis Radage, Marion Krajewski and Pete Stipanovich for their hard work these past three years and I'm pleased to let everyone know that they intend to once again raise their hands to volunteer for another term. Well done! I also want to take this opportunity to acknowledge the immense assistance we've received from Frank Del Greco, our Chapter Advisor and Deena Mack, our Editor. As reported in our last newsletter, Deena is leaving the role of BHT Editor and we really need someone to step up and help with this important function. Please consider volunteering. See you in Dayton! Rich

## A Watch Paper Copper Plate

*By Rich Newman, Chapter President*

Although millions of watch papers were printed in the 19<sup>th</sup> and 20<sup>th</sup> centuries, there are very few surviving examples of the copper plates that made them. The one in this article came up on the Internet earlier this year and is a very interesting example that demonstrates all too well the valuable historical information that these artifacts can reveal. For example, there is no record in Baillie or Loomes that the watchmaker, Louis Kyezor, ever worked in Doncaster yet here is the proof.

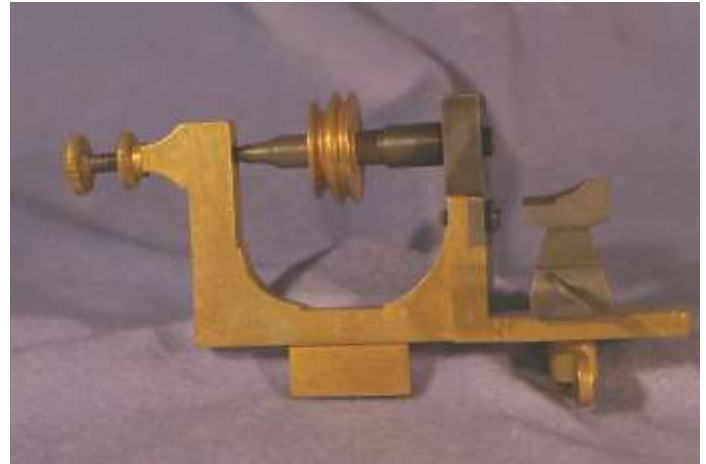


*Watch paper copper plate for Louis Kyezor with close-up showing the masonic images of the all-seeing-eye and clasped hands directly underneath. Notice the delicate spiral that surrounds the maker and location that reads "Kyezor / Watch Maker & Jeweller / Opposite The News Room / Doncaster / Jewellery Repaired." Around the circumference, beyond the spiral is engraved: "Gold & Silver Articles on the most reasonable terms \* Wedding Rings \* Spectacles to suit all Ages \* The most value given for Old Gold & Silver."*

A genealogical search on the Internet led to correspondence with one of his descendants where I learned that Louis' father was also a watchmaker, having emigrated from Germany to Cambridge where Louis Kyezor was born in 1796. Louis Kyezor is known to be in Doncaster before 1825 so that is a good indication of the age of the plate. He then relocated to London in 1834 where a bracket clock signed by him is known, and finally to Whitton where he became a respected community leader and a property developer. By all accounts he was very successful, as he was known as "The King of Whitton" which is also the title of a book published in 2002 about his life which came to an abrupt end. He was shot and killed in 1869 in a dispute with a tenant who apparently

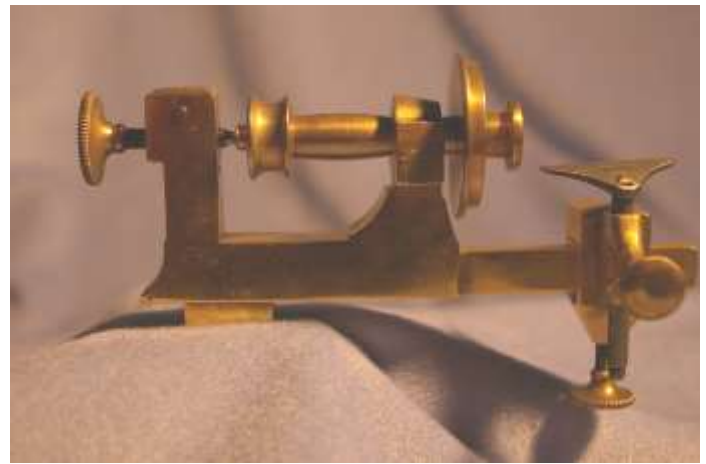
*(Continued from page 1)*

Not all objects could be turned between centers and several methods were devised to hold objects during turning. One method was to glue the object onto a face plate projecting from the lathe spindle. This type of chuck was normally used to turn a flat face on a balance wheel or gear blank. The glue used was shellac or a sealing wax that could be heated to attach and remove the work piece. The residual glue could then be dissolved in alcohol. This type of lathe is often called a wax chuck lathe. An unmarked example purchased in England is shown in Figure 2. The wax chuck or face plate is missing from this example. The chuck was inserted into a tapered hole in the head stock spindle.



*Figure 2. A lathe for face plate or wax turning*

A more refined version of this lathe with the face plate is shown in Figure 3. This face plate is tapped with small holes so the object to be turned can be bolted onto the face plate. This lathe was used for general turning but many were made or modified for one specific task. Figure 4 shows a brass lathe that was probably modified. It now appears to be for use drilling holes in the end of a small shaft, possibly for repivoting?



*Figure 3. Unmarked lathe, probably English*



*Figure 4. Lathe possibly modified for repivoting*

# Something for Everyone: My Italy Trip Journal

By Joanne Del Greco (OH)

## NAWCC British Horology Chapter 159 Tour

Arrived Rome – Thursday, September 20, 2012, Returned home – Friday, October 5, 2012

For years, I've been trying to convince my Italian husband to travel to the homeland of his grandparents. His answer was always, "There are no clocks in Italy." So when British Horology Chapter 159 proposed a two-week north-to-south trip, we were among the first to register.

### Highlights

Yes, there were clocks in Italy, many of them in churches or the towers of public buildings, some in museums and the best of all in a private collection in Milan that we were privileged to see. The display of Italian night clocks was exceptional. Another highlight was climbing the tower of the clock in St. Mark's Square in Venice, where we saw the mechanical bronze statues of the two Moors strike the bell with a view of the city looking out to the sea.

There were enough adventures and sites in the 19 cities and towns we visited so that every day was filled with something new and different. The trip would have been a success for the food alone, and we were treated to a variety of great regional dishes and Italian wines.

Best of all was the camaraderie among the 28 participants. Many of us had traveled together on past Chapter 159 trips and most of us knew each other through the NAWCC. All our trip-mates were expert travelers, interested in learning and fun to be around. Our hosts and organizers, Phil Priestley and Jim Nichols, planned the itinerary and managed all the details with great care to deliver an outstanding experience.



As my day-by-day commentary on the trip with select photos is too long for this newsletter, go to [www.britishhorology.nawcc.org](http://www.britishhorology.nawcc.org) and download the 33-page PDF. If you were part of this group or have been to Italy before, I hope you enjoy reliving the trip. If you haven't been to Italy, in the words of Gian-Franco, our Insight tour director,

“Andiamo!” – “Let's go!”

(Venice, St. Mark's Square from the Clock Tower)

# Announcing 2014 Horological Tour

*By Philip Priestley*

The 2013 visit to the Isle of Man has been canceled. Apologies to those keen to see the unique British workshops.

For 2014 we are thinking of France, Switzerland and Germany, possibly with up-market Insight Vacations that was used for Spain, Portugal and Italy in the past. We visited Switzerland 14 years ago with Kuoni who unfortunately no longer do tours. Jim Nichols has volunteered to be treasurer again and Frank Del Greco will assist in detailed visits.

Those interested should contact Jim directly at [jmn427@aol.com](mailto:jmn427@aol.com) and provide your thoughts on the itinerary and departure date preference (May, best for snow and glaciers; June, conflicts with National Convention in Milwaukee; August, conflicts with Syracuse Regional; or September.) The deposit will be \$200 as usual once the costs and itinerary are finalized. Join us for a wonderful balance of fun, food, education and sightseeing.

DAY	ACTIVITY
	Depart USA/Canada.
1	Fly to Zurich - National Museum - Beyer Museum - St. Peter Church with the largest church dial in Europe - Lake Zurich cruise - overnight Zurich.
2	All day visit to Basle for Kirschgarten Museum (watches, clocks, dolls) - Winterthur Kellenberg watch & clock museum - overnight Zurich.
3	Full day to Black Forest, Germany - Rhine Falls Schaffhausen - Furtwangen Clock Museum Triberg - Black Forest Museum Triberg overnight Zurich.
4	All day to Leichenstein - Shopping - overnight St Moritz.
5	All day excursion on Glacier Express train - reserved dining car - overnight Zermatt.
6	Mountain Railway excursion to Gornergrat - overnight Zermatt.
7	Rail journey Zermatt to Taesch - pick up coach - travel to Chillon Castle - Montreux - Cheese factory -
8	Excursion to Neuchatel - Chateau de Monts Horology Museum - International Museum of Horology at La Chaux de Fonds - overnight Lausanne.
9	Excursion to Art & History Museum Neuchatel with world-famous clockwork driven Automata - visit WOSTEP School of Horology - visit Roman town of Avenche (Amphitheater) - overnight Geneva.
10	Patek-Philippe Museum, possible visit to Patek-Philippe Factory - possibly visit Vacheron-Constantin factory and Museum - possibly visit to Geneva Museum - overnight Geneva.
11	Full day visit to Vallee de Joux region - visit Audermars-Piquet factory at le Brassus - visit Jaeger LeCoultre factory at Le Sentier - dinner cruise on Lake Geneva - overnight Geneva
12	Visit Horology Museum in Besancon, France - overnight Geneva.
13	Possible additional tour - First class fast train Geneva to Paris - overnight Paris.
14	Visit Louvre Museum - visit Museum Arts et Metier (Clocks/Watches, etc.) - overnight Paris - final
15	Fly back to USA/Canada.

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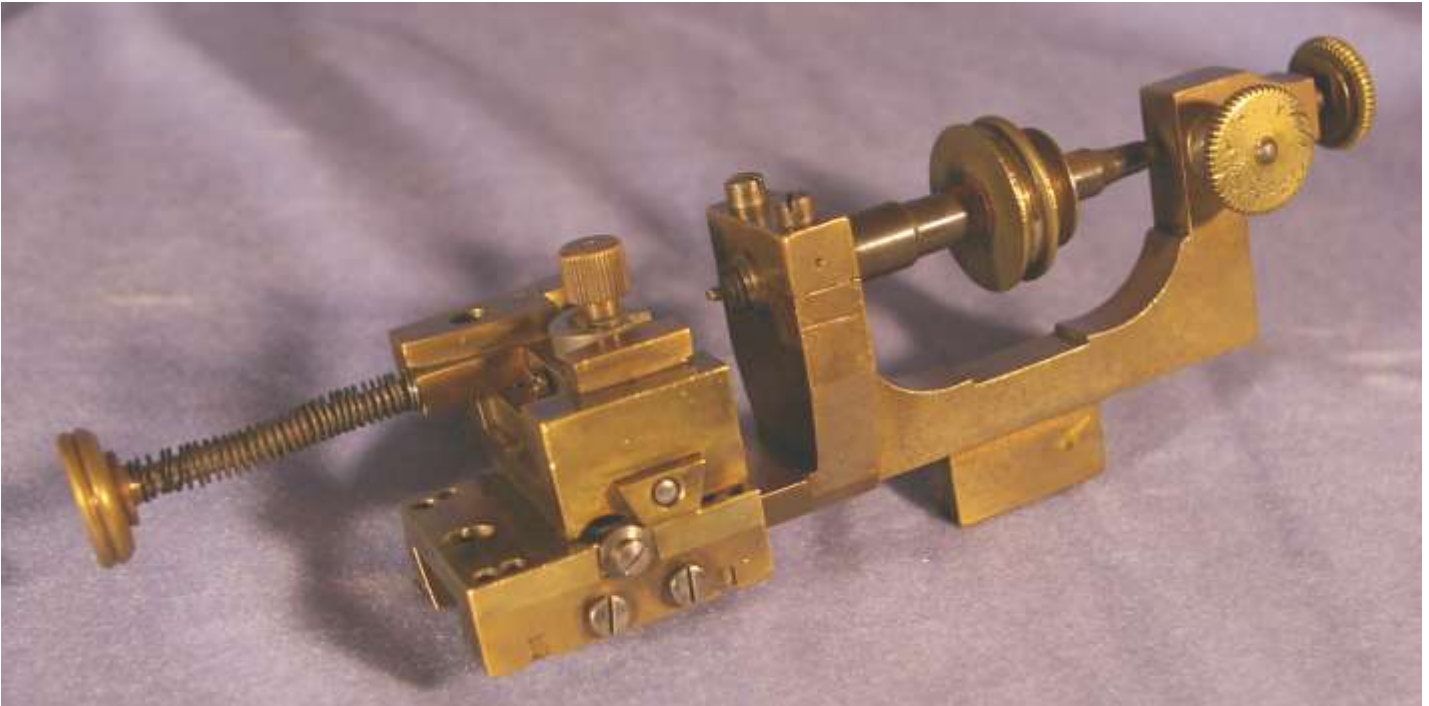


Figure 5. A lathe extensively modified for piece work. Close-up of Figure 5 below.



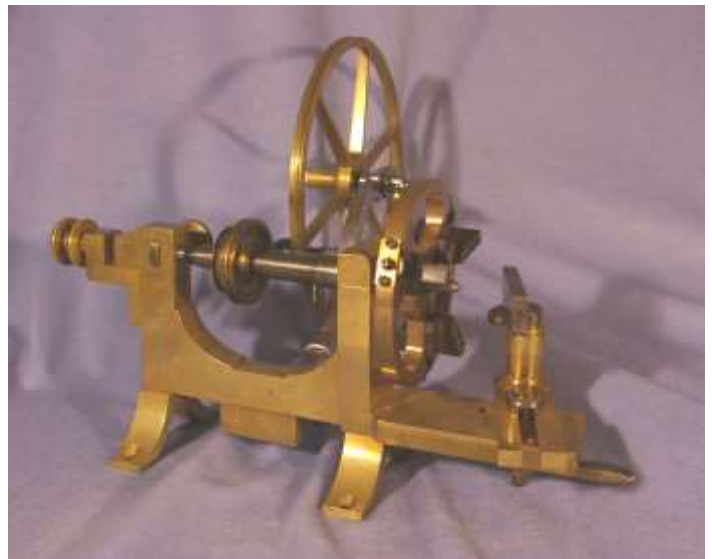
This is not the only lathe tool that I have seen that was modified. There were many small English firms that supplied rough parts to the movement makers. They often worked by the piece rate and made clever modifications to their tools to make a specific part. Figure 5 shows a lathe that has been extensively modified for milling a small watch part. A milling cutter is mounted in the head stock. The part is clamped into the tool rest. It is spring loaded and after the part is fed into the milling cutter the tool rest automatically retracts so a new part can be loaded.

*(Continued from page 7)*

Aside from the simple lathes previously shown, England also produced many mandrel lathes. These lathes were generally powered by a hand wheel but sometimes a foot treadle or overhead belt system was used, Figure 6 & 7. John and Thomas Jones were one of the most prolific makers of these lathes and many have survived. They were manufactured in Prescott and the tool making business was inherited from their father. Both brothers were partners from 1842-1866 and were buried at the same grave site.

Mandrel lathes were commonly used for boring holes in watch plates and gears. The lathe in Figure 6 is unusual as it has been modified with a 3-jaw independent chuck to hold parts. It is unclear if this is a later modification or a special order from the Jones brothers.

Mandrel lathes normally have a simple face plate with hold down clamps to secure the work being turned. Figure 8 shows a mandrel lathe made by H. Leyland. Thomas Leyland originally worked for John Jones Sr. and was a partner in this firm before Jones passed and the business was inherited by his sons. Leyland became an independent tool maker in Prescott and had a successful business that lasted from 1828 to 1861. One of his descendants was probably Henry Leyland. His name appears in the directories in 1844 and 1875 and several of his lathes are known, Figure 9.



*Figure 6. A James and Thomas Jones mandrel lathe ca. 1842-66*

*Figure 7. Maker's mark used by the Jones brothers (below)*



*Figure 8. A Henry Leyland mandrel lathe*




*Figure 9. Henry Leyland of Prescott tool maker's mark circa 1844-1875*



*(Continued from page 8)*

Similar in appearance to the mandrel lathe is the clockmakers throw, Figure 10. It is driven by a hand wheel but is used for turning metal between centers. Therefore it has both a head stock and tail stock. The example in Figure 10 is made of cast iron but some smaller examples are known to have been made of brass. No maker's mark can be found on this tool but we can assume that it was made sometime in the 19th century somewhere in England.

The study of English horological tools is a wide open field for someone who would like to start a research project. The few examples of horological lathes shown in this article just scratch the surface of the infinite variety that were produced. In some small way it should help the reader understand just how diversified and important these tools were to the English clock and watchmaker. 


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*Figure 10. An English clockmaker's throw*

had ties to conspirators plotting to assassinate British Cabinet members! I think I'll stop here as I risk getting too far afield from the subject matter. Getting back to the copper plate, it is an example of intaglio printing that engravers used to create high quality prints. The design is carved into the surface of the plate in reverse, a mirror image of the desired design and lettering, to achieve the correct orientation onto the paper when printed. The print is made by first inking the entire plate and then removing the ink from the surface leaving it only in the carved recesses. The printer then applies pressure with a hand press or heavy roller to force dampened paper onto the plate and into the inked depressions. The results are crisp detail and somewhat of a three-dimensional effect.

This plate actually comprises two engravings. One side has the watch paper for the watchmaker Louis Kyezor as discussed while the other has a trade card for a saddle and harness maker working in Hatfield. Both have wonderful engraved images. The watch paper has masonic symbols that are seldom seen on either watch papers, or watch and clock dials, but the *all-seeing-eye* in particular seems to be one of the more commonly depicted. It is meant to communicate that the maker is mindful that his work will be judged and therefore the public can trust that they will receive quality work. The *clasped hands*, located directly underneath the *all-seeing-eye*, are associated with fellowship and community. While there is no record of Kyezor, who was Jewish, being a member of the Freemasons, this watch paper gives evidence that he was. Lodges in some countries, including England and America, did not restrict membership based on religion and the early 1800s in particular apparently attracted civic-minded men including Kyezor. On the other side of the copper plate is the trade card for Goodworth, a saddle and harness maker that is even more spectacular with images of a horse and country scenery. Toward the bottom of the saddle-maker side of the plate is a very small signature, "Boocock Don<sup>r</sup>" ("Don<sup>r</sup> for Doncaster), that was one of these "aha" moments, as the signature was not referenced in the seller's advert. It is simply wonderful when pieces of the puzzle fall into place. A trade directory from 1830 lists a Joseph Frank Boocock (1772-1848) as an engraver and copper plate printer in Doncaster, and one of his prints is in the London National Gallery collection.

Frances Goodworth (1801-1877), the saddler and harness maker, lived his entire life in nearby Hatfield, a much smaller town located about seven miles from Doncaster. It's impossible to know which came first, the trade card or the watch paper, as apparently both men were in business at about the same time. 



(left) Reverse side showing the entire copper plate that measures 59 X 92 mm and is 1 mm thick. The trade card reads: "Goodworth / Saddler & Harness Maker / Hatfield / Horses carefully Fitted & Harnesses of every description." (above) Close-up of intricate engraving of a horse in a field tethered to a gate next to a tree. Note that the pictures on page 3 were manipulated with software to "flip" the image - - the pictures on this page show the reverse lettering & image as engraved on the plate.