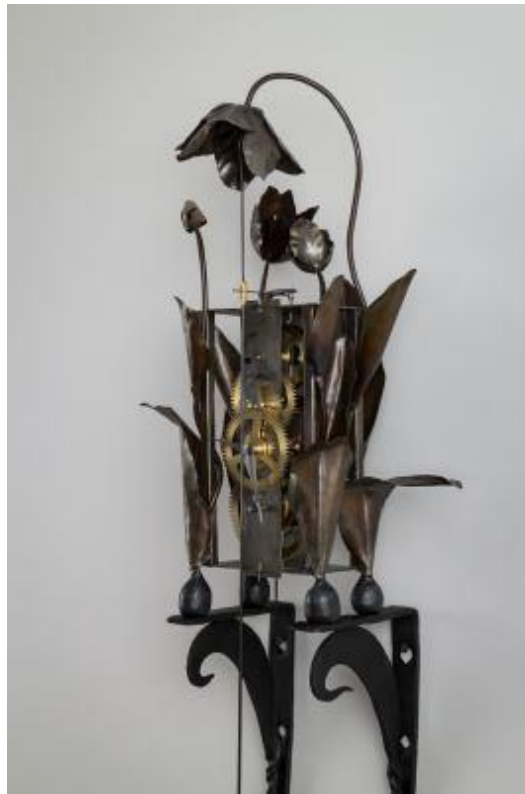


Newsletter of the Horological Tool Chapter #173 of the NAWCC

Tool Enthusiasts' Round-Up

In This Issue: Susan Wood Builds a Tulip Clock

Upcoming Chapter Activities and Classified Ads



A Brass and Steel Tulip Clock

Spring 2015

No. 23

The Horological Tool Chapter of NAWCC

The Tool Enthusiasts' Round-Up is the newsletter of the Horological Tool Chapter #173 of the National Association of Watch and Clock Collectors Inc., a non-profit educational organization. This chapter and its newsletter are intended to foster interaction among NAWCC members who share a common interest in the use and collection of horological tools of all sorts. If you have an item you have researched, a book of interest, or notes on a project you have made, please consider sharing your knowledge with others through the newsletter.

The annual chapter dues of \$10 will ensure that members receive the newsletter and are included in the Membership Directory when it is published. Members are also entitled to one classified ad in each issue.

Board of Directors

President: Ron Bechler
726 Royal Glen Drive, San Jose, CA 95133
(408) 926-3212, Email: ronbechler@comcast.net

Vice President: John Koepke
2923 16th Street
San Pablo, Ca 94806
510-236-2197, email: jskoepke@comcast.net

Secretary/Treasurer: Dave Kern
5 Hilltop Drive, Manhasset, NY 11030
(516) 627-1012, Email: dkern@optonline.net

Editorial Director: Bruce Forman
234 Eagle Ridge Drive, Valparaiso, IN 46385
(219) 763-4748, email: forman21@netzero.net

Editorial Team:
Deena Mack
Tom Hammond

Award Winner

In this issue of TER we feature a Tulip Clock built by Susan Wood. The total construction period was about four years long. In looking at the complexity of this project, we should all remember that there were many skills needed to complete it.

During the 19th century, English clockmaking was divided into many specialized trades: blacksmith, brass founder, gear cutter, pinion maker, etc.. My point is that it was actually much easier to build a clock in the 19th century because the clockmaker had only to finish and assemble parts made by others.

Today, a clockmaker must learn all of these trades in order to build a single clock. In viewing the Tulip Clock step by step construction photos, the reader should appreciate the learning curve that must have occurred. This included finding and/or making the many specialized tools. When you considering all of this, it is no wonder that it took Susan four years to complete the design and construction of this award winning clock.

The editor has a basement full of unfinished horological tool restorations. Often these projects get started but are put aside as my hectic life requires. Sometimes, I need to develop a new skill or make a special tool before moving forward to the next step.

These are all perfectly good excuses for not completing my projects. However, the real truth is that many of us have stopped our active learning process. We have become a victim of the television set; so, my suggestion is to turn-off your television set and get your butt into the workshop.

Develop those new skills and finish those unfinished projects. Take plenty of photographs, because TER would like to tell your story in a future issue.

Bruce Forman

Susan Wood Builds a Tulip Clock

Every year the NAWCC has a craft competition at their national convention. This competition is an opportunity to compete for awards in the different areas of clock and watchmaking. Few people are still capable of building clocks or watches from scratch; so, it is an unique opportunity to view these handmade timepieces. Susan Wood, a member of Chapter 173, entered her latest creation which is a Tulip Clock crafted from brass and steel. Susan is both a clockmaker and a blacksmith; these talents blended very well in her timepiece which won a first place award.

I talked with the maker for a short time at the convention and was surprised to find she built everything for the clock, including the gear cutters to cut the gear teeth. She agreed to allow our members to see the process of building the Tulip Clock through a series of photographs she took during the process. Hopefully, her work will inspire others to enter the craft competition in the future.

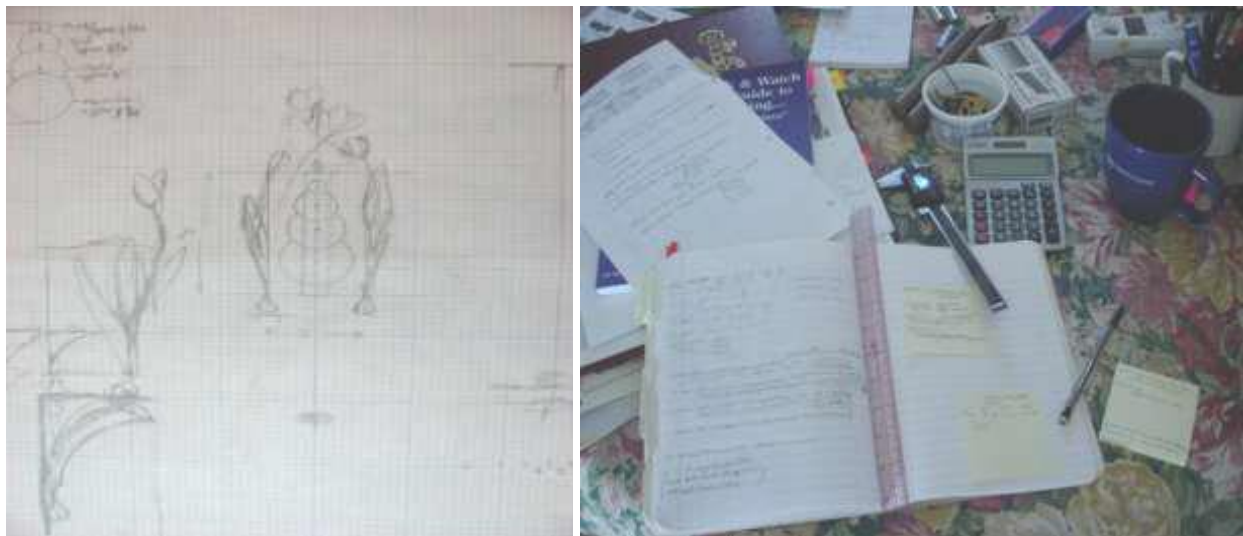


Figure 1. Inspiration and design begins in November 2009.



Figure 2. First experiments with making the ornamental flowers.



Figure 3. Forging the flower bulbs using blacksmith tools.

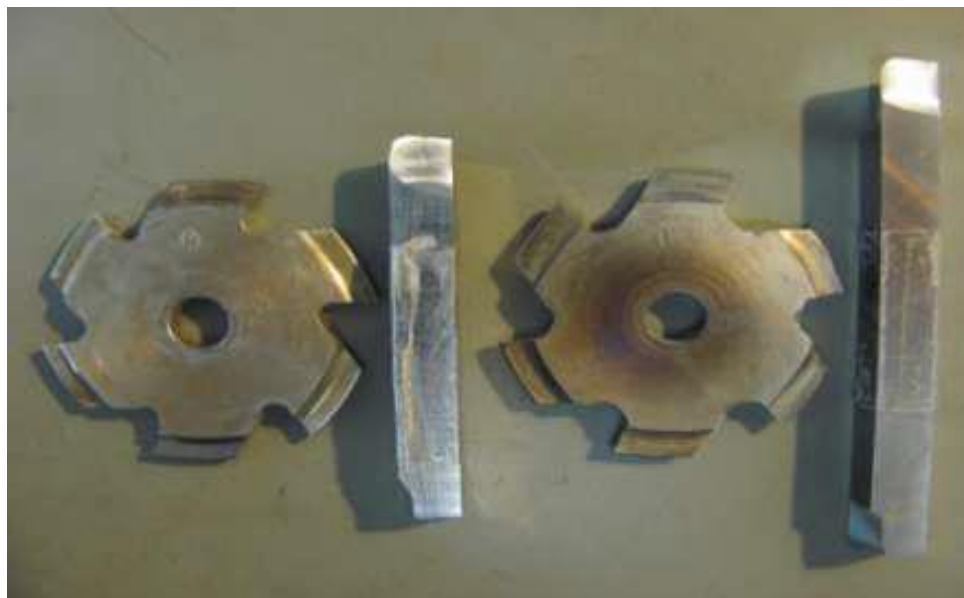


Figure 4. Two multiple tooth profiled wheel cutters and their form tools, module 0.9 and 1.0. These were used to cut 1st, 2nd and 3rd wheels along with the hour wheel and its idler.

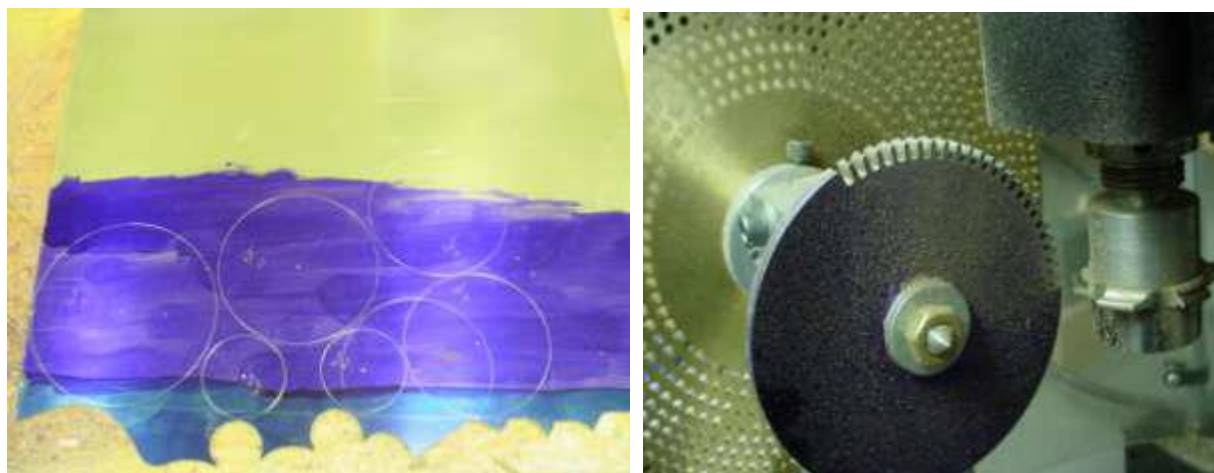


Figure 5. Laying out the brass clock wheels and cutting the wheel teeth.



Figure 6. The crown wheel is fabricated from two pieces of brass soldered together.

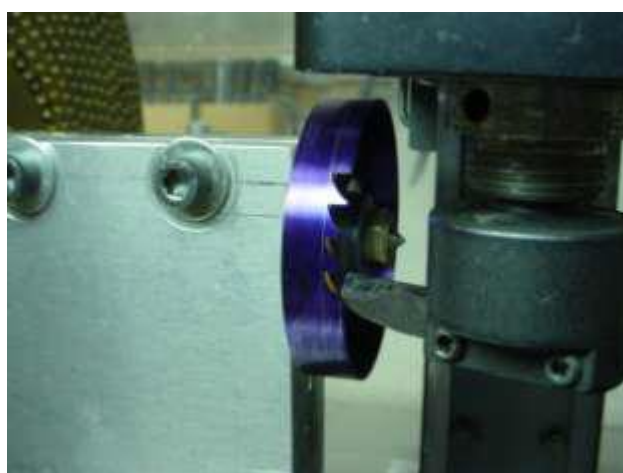


Figure 7. Cutting the crown wheel with a fly cutter.



Figure 8. The wheel train complete.

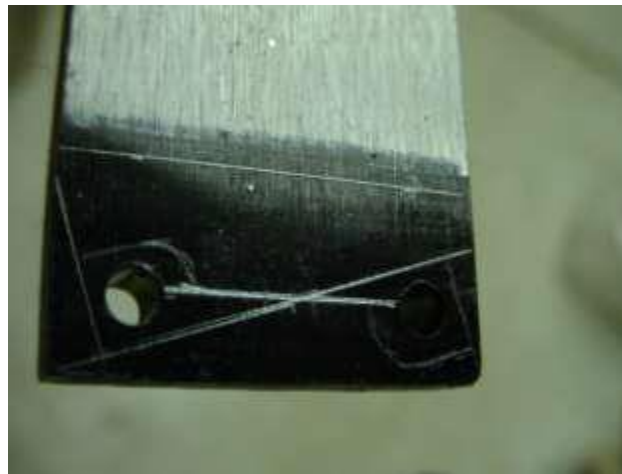


Figure 9. Layout of the escape pallets.



Figure 10. Forging and assembling clock frame.



Figure 11. January 2010 components completed.

April 2014 work begins again



Figure 12. Arbors and lantern pinions fabricated.



Figure 13. Wheels and pinions staked to arbors.



Figure 14. Forging bridges.



Figure 15. First assembly of wheel train between plates.



Figure 16. Depthing of crown wheel and testing escape pallet bridges.



Figure 16. First test run.



Figure 17. Work on flowers gets refined.



Figure 18. Overall design evolves.



Figure 19. Welding flowers to frame.

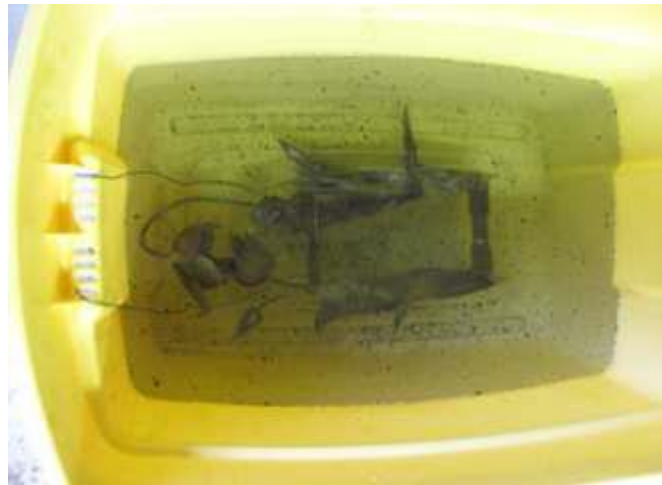


Figure 20. Pickling before patina.

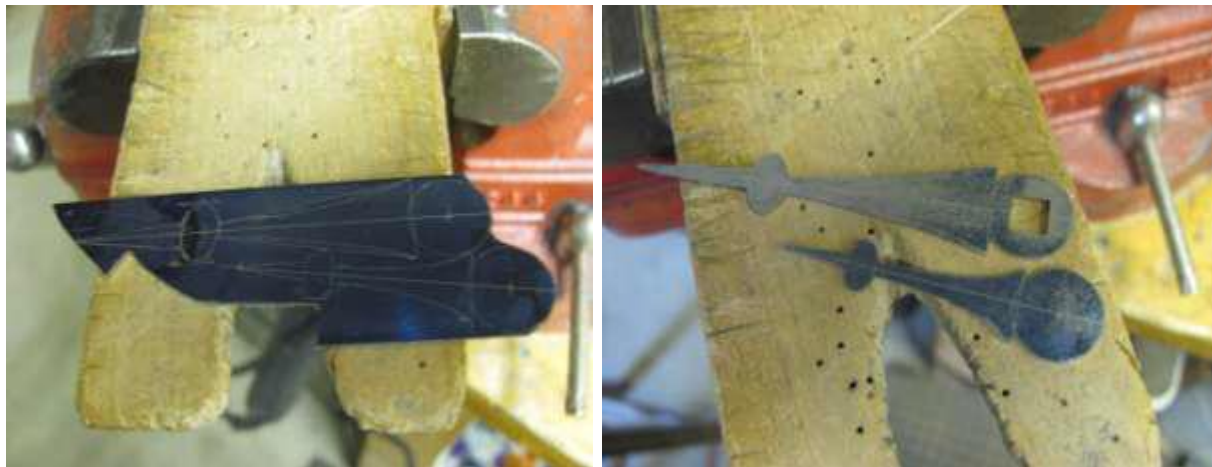
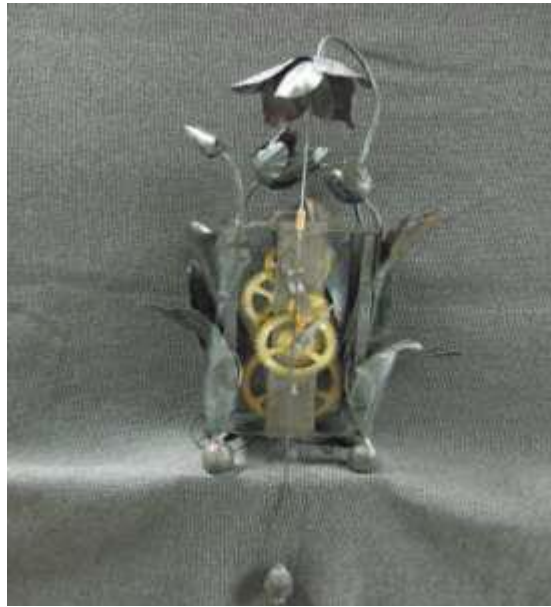


Figure 21. Layout and cutting of hands.



Clock Complete - June 2014

Clock Features

- Time only wheel train with hour and minute hands
- One week running with eight pound weight
- Crown wheel and verge escape with front mounted pendulum running at approximately 5022 beats per hour
- Wheels of clockmakers brass cut using hand-made multiple tooth profiled cutters and sealed with a lacquer finish
- Crown wheel cut using a formed high speed steel fly cutter
- Arbors of W-1 drill rod, lantern pinions of brass end caps and music wire trundles
- Plates of mild steel with brass bushings
- Skeleton movement of forged mild steel
- Frame work embellished with mild steel tulip flowers that were formed with hammer and stakes using French repousse techniques
- Adjustable “bulb” feet made from black pipe formed with hammer and anvil
- Decorative elements attached using gas welding
- Patina created using heat, chemical treatments, and brass brushing then sealed with a lacquer finish

Watch Paper

Richard Newman sent the editor this interesting watch paper. It shows a clock and watch maker working at his bench. If you look closely, you can see he is using a bow powered lathe.



Classified Advertisements

Wanted

Levin and Derbyshire headstock and tailstocks (lever feed) in 10 mm sizes, any condition, running or not. Also 10 mm Levin collets and other related equipment. M. L. Shetler, Watchmaker, 7676 Route 62, South Dayton, N. Y. 14138

Deckel, Aciera, Rivett, Schaublin, Lorch, Hardinge, Levin, lathe or mill accessories wanted. Will trade, or sell if I have duplicates. Mark Fulmer (330) 877-2021, Markusfu@hotmail.com

Derbyshire Elect model lathe attachments- pivot polisher, screw cutting attachment, roller file rest, and screw feed tailstock - will trade - for sale: tools from the Elgin watch factory, lathes, grinders, millers, etc...some made by American Watch Tool. J. Dill, 2117 22nd St. Road, Greeley, Co. 80631, Tel: 970-353-8561, jimdle@yahoo.com.

Antique Clock and Watchmaking Tools, Bruce Forman, 234 Eagle Ridge Drive, Valparaiso, IN 46385, (219) 763-4748, email: forman21@netzero.net will buy or trade.

For Sale

Now available on CD is a partial reprint of the A. C. Becken Company Catalogue. This catalogue is undated but is believed to have been printed in the early part of the 1900s. There is a lot of detailed information on watch and clockmaking tools. Please send a check for \$13 to Chapter #173 Secretary/Treasurer: Dave Kern, 5 Hilltop Drive, Manhasset, NY 11030

Reduced Further More for Quick Sale: Waltham Thread Mill, \$650 and Waltham Spur Gear Cutter, \$650, the gear cutter headstock appears to take W15 collets. Mark Fulmer (330) 877-2021, Markusfu@hotmail.com

Ever wonder how watch jewels were made? Elgin Watch Factory Filmed the entire process and now it is available on CD. Send \$13 to Chapter 173 in care of Dave Kern, 5 Hilltop Drive, Manhasset, NY 11030, Email: dkern@optonline.net

Watch Pivot Polishing Machine, from Bulova Watch Factory, \$450, Bruce Forman, 234 Eagle Ridge Drive, Valparaiso, IN 46385, (219) 763-4748, email: forman21@netzero.net will sell or trade for antique tools I want but do not need.