

A Special Double Issue

HOROLOGICAL TIMES™

ADVANCING THE ART, SCIENCE & BUSINESS OF HOROLOGY

June 2012



Business



Pleasure



Networking



Education



AMERICAN WATCHMAKERS-
CLOCKMAKERS INSTITUTE

This Month's Focus: *The Denver Convention*

2012 Convention and Educational Symposium

Want to Add to Bottom Line? Add a Watchmaker

Reverser Gear Mechanism Repair, Part 3

In a Material World: Ordering Hands

Preparing and Using a Burnisher, Part 2

Elma-Maker of the ULTRA of Ultrasonics

Two levels of performance in four sizes



3 Quarts
9.4" x 5.4" x 3.9"
VIB-S30H \$525
VIB-E30H \$360



4 Quarts
9.4" x 5.4" x 5.9"
VIB-S40H \$785

Elmasonic E Series

- Cavitation resistant stainless steel tank
- Dry-run proof ceramic heating
- Heated tank for faster cleaning
- Set to permanent or short term operation
- Lid reduces noise and acts as drip tray
- Knob controlled tank drain (except E30)
- Sweep functions
- Pilot lights show timer and heat are on
- Cleaning auto starts when temperature is reached



Elmasonic S Series

Includes all of the basic E series features, plus the functions below!

- Greater Ultrasonic power than the E series
- De-gas new solution to speed up the cleaning time
- Choice of sweep or regular ultrasonic action
- LED lights show temperature of cleaning solution
- LED lights show cleaning period remaining



6 Quarts
11.8" x 5.9" x 5.9"
VIB-S60H \$988
VIB-E60H \$696



12 Quarts
11.8" x 9.4" x 8"
VIB-S120H \$1398
VIB-E120H \$898

Jules Borel & Co.

1110 Grand Boulevard ■ Kansas City, Missouri 64106
Phone 800-776-6858 ■ Fax 800-776-6862 ■ julesborel.com





Official Publication of the American Watchmakers-Clockmakers Institute

EDITORIAL & EXECUTIVE OFFICES

American Watchmakers-Clockmakers Institute (AWCI)
701 Enterprise Drive
Harrison, OH 45030
866-FOR-AWCI (367-2924)
or 513-367-9800
Fax 513-367-1414
awci@awci.com • www.awci.com

Amy S. Dunn

Managing Editor & Advertising Manager
Ext. 307 adunn@awci.com

James E. Lubic, CMW21

Executive Director/
Education & Technical Director
Ext. 310 jlubic@awci.com

Thomas J. Pack, CPA

Operations Director
Ext. 311 tpack@awci.com

Thomas D. Schomaker, CMW21

Watchmaking Instructor/
Certification Coordinator
Ext. 309 tschomaker@awci.com

Daniela Ott

Education & Certification Administrator
Ext. 303 dott@awci.com

Jennifer Bilodeau

Assistant Editor/
Marketing Coordinator
Ext. 302 jbilodeau@awci.com

Elizabeth Janszen

Membership Coordinator
Ext. 301 ejanszen@awci.com

HOROLOGICAL TIMES ADVISORY COMMITTEE

Jordan Ficklin, CW21 : Chairman
Ron Iverson, CMC
Karel Ebenstreit, CMW, CC21
David Fahrenholz
Chip Lim, CMW, CMC, CMEW
Robert D. Porter, CMW
Ron Landberg, CW21

Reprinting and reproduction is prohibited without written permission from the American Watchmakers-Clockmakers Institute. Copyright ©2012 by the American Watchmakers-Clockmakers Institute.

Horological Times (ISSN 145-9546) is published monthly and copyrighted by the American Watchmakers-Clockmakers Institute, 701 Enterprise Drive, Harrison, OH 45030-1696. Subscription price for the public is \$149.00 per year (\$8.50 per copy). Members subscription is \$70.00 which is included with annual dues of \$149.00. Periodicals postage paid at Harrison, OH 45030 and additional entries. POSTMASTER: Send address changes to Horological Times, 701 Enterprise Drive, Harrison, OH 45030

IN THIS issue

VOLUME 36, NUMBER 6, June 2012

features

2012 Convention & Educational Symposium

- Speakers and Trade Fair pg. 4
- Vacationing in Denver pg. 5
- Educational Sessions pg. 6
- Agenda pg. 9

21st Century Workshop: Beauchamp Jewelers

Want to Add to Bottom Line? Add a Watchmaker pg. 10

technical discussions

Reverser Gear Mechanism Repair, Part 3

Dale LaDue, CMW21
pg. 14

In a Material World: Ordering Hands

Bill Thomas and Jamie Mathison
pg. 18

Preparing and Using a Burnisher, Part 2

Laurie Penman
pg. 22

awci news

President's Message

Doug Thompson, CW21
pg. 2

Executive Director's Message

James E. Lubic, CMW21
pg. 3

From the Workshop

Jack Kurdzionak, CW21
pg. 26

education & certification

AWCI Course and Exam Schedule

pg. 28

2012 JCK Show a Huge Success

Henry Kessler
pg. 29

supporters

Advertiser's Index

pg. 30

Industry Advisory Board Members

pg. 30

Editorial material and letters of opinion are invited, but reflect the opinions of the authors only and do not represent the views of the American Watchmakers-Clockmakers Institute (AWCI), its directors, officers or employees. AWCI reserves the right to edit all submitted materials and is under no obligation to accept any submitted materials for publication. The appearance, reference, or advertisement of any product or service in this publication shall not be deemed an endorsement of such products, methods or services by AWCI, its directors, officers or employees.

DOUG THOMPSON, CW21



“There comes a time in the affairs of man when he must take the bull by the tail

and face the situation.”

W.C. Fields

I'm sure you've noticed something different about the *Horological Times* you're holding in your hands. This is a “double issue,” May and June combined. The publishing of the *HT* had gotten enough behind schedule that drastic measures were required to try and get the magazine back on schedule. The board and I felt that this was one way to help achieve that. Hopefully this effort will enable the July issue to be received in July and the following issues will be back on schedule.

When the look and format of the *HT* changed a few years ago, AWCI received lots of positive feedback for that effort. Maintaining quality and adhering to the plan established by our staff has proved to be very challenging, even with a 12-month editorial schedule to use as the yearlong roadmap. Publishing a 50-page magazine every month takes a lot of staff time and committee time, as well. This may be the first and last double issue you will ever see of the *HT*. This and other efforts that are being made should allow it get back on schedule and stay on schedule.

The 2012 Convention and Education Symposium in Denver is right around the corner. Friday and Saturday will offer the opportunity to browse the Trade Fair to see and touch the latest industry tools and equipment. Six educational seminars with CEU credit for both watchmakers and clockmakers will be available. We have a terrific keynote speaker, Stephen Forsey, and Archie Perkins will be signing his latest book, *Antique Watch Restoration, Volume 1*.

Besides the actual symposium events, there are museums to explore, local sights to see. Especially for those that love to experience the Great Outdoors, there is the beauty and majesty of the Colorado landscape. Many natural attractions are within a little over an hour's drive from downtown Denver: Mount

Evans, Pike's Peak and Rocky Mountain National Park, to name a few.

Perhaps the best time may be had by simply meeting with old acquaintances and making new ones. Often the most valuable things a person can take from our horological get-together aren't the tangible, it's that which can only be shared and appreciated within the company of one's colleagues.

I hope to see you in Denver.

**AWCI Convention & Educational Symposium
August 1st - 5th
Denver, Colorado**

CLOCKS
m a g a z i n e

Beginner's Guide to Pocket Watches

AMERICAN CLOCKS
An Introduction
Tom Spittler

WATCH PAIR

All available from our website
clocksmagazine.com

a message from the **executive director**



BY JAMES E. LUBIC, CMW21

I hope many of you are planning to attend the Annual Convention and Educational Symposium in Denver from August 1-5th. This year's event is one day shorter and less expensive overall, but still packed with educational, informational and fun events. Denver is

right in the middle of the country and you can get reasonable airfare. We're very pleased with everything planned for this year's convention...from our exciting Keynote Speaker, to the Vendor Trade Fair and our educational offerings.

We have six informative educational sessions—see pages 6 and 7 for a complete description and times. We'll also have two half days for our Vendor Trade Fair. You'll see many different types of vendors, products and services you can use in your day-to-day operations. As always, there's no shortage of time to network with fellow members at the meals, and off-site events planned. Of course, there are

plenty of amazing sites and things to do around the Mile High City while you're there. I'm really excited about this year's convention!

We want to invite all students to come to this convention. Did you know REC students get half off on convention registration? The early bird registration (through 7/13/12) is only \$225 for all five days. And the room rates are a very reasonable at \$115 per night. Here's a tip: If you want to share lodging expenses with other students, you can go to the Education section of our website where we list the REC schools. You can contact these schools to see if other students are going who might want to share accommodations. We guarantee this convention will be an important part of your educational journey and will serve you well when you become a professional in the field.

Everyone will want to register by 7/13/12 to receive the Early-Bird discounts on the convention. Go to www.awci.com and you'll see the registration button right on the home page.

Powering Innovations & Profits



Energizer®

Cas-Ker is your complete source for Energizer ZEROMERCURY® silver oxide and lithium batteries.

We have fresh supplies of all popular numbers in stock, and the quick service you demand.

Battery orders placed by 3PM EST ship the same day.

Extended Hours for our Central, Mountain & Pacific Customers.



Cas-Ker Co.

2550 Civic Center Dr
Cincinnati OH 45231-0167



Call 1.800.487.0408
Fax 1.800.487.5848
casker.com

BUSINESS



At the AWCI convention you'll learn a good deal more about the business than you ever knew—all in just a few days' time!

Watchmaker Star Meets Horology Legend! **Keynote Speaker: Stephen Forsey**

Friday, August 3rd, 8:00 am – 8:45 am

Stephen Forsey specialized in antique clock restoration before he became head of Watch Restoration at Asprey's in London. In 1992 he joined Robert Greubel's team. Greubel Forsey produces sophisticated, meticulously decorated

manifestations of fundamental technical inventions. They use a platform for research and development called EWT - Experimental Watch Technology. EWT has facilities to develop and implement ideas, to analyze, test and experiment, and to fabricate components and mechanisms. EWT has already resulted in six fundamental inventions.



Stephen Forsey

Book Signing & Speech: Archie B. Perkins

Speech: Friday, August 3rd, 6:00 pm – 9:00 pm, ELM Charitable Trust Fundraising Dinner *Sponsored by Richemont Brands*

Book Signing: Saturday, August 4th, 8:30 am – 12:30 pm

Mr. Perkins will be signing his new AWCI-published book: *Antique Watch Restoration, VLM I*. He will also speak at the ELM Charitable Trust Dinner. Mr. Perkins is both a watchmaker and educator. In addition, he is a prolific writer. For 25 years he wrote the monthly column, "Technically Watches," for *Horological Times*. He was also published in the *British Horological Journal*, *Watch and Clock Review* and the *NAWCC Bulletin*, in addition to authoring well-known books. Mr. Perkins has served on AWCI's Board and has achieved the distinguished titles of: CMW, FAWI, FNAWCC and FBHI.

The Star



Archie Perkins

Vendor Trade Fair: The Latest in Materials, Tools and Equipment

Vendor Trade Fair – Two Half-Day Sessions

Friday, August 3rd, 1:30 pm – 5:30 pm & Saturday, August 4th, 8:30 am – 12:30 pm

See an array of products and talk directly with industry suppliers. For both clockmakers and watchmakers, our Vendor Trade Fair is a unique "Time and Place" opportunity to:

- See live product demonstrations
- Locate new resources
- Place orders and conduct business

Are You An Industry Supplier?

Where else can you reach so many watchmakers and clockmakers in one place? Participation includes:

- Free editorial in the *Horological Times* July issue and www.awci.com to showcase your company
- Two 8 ft. display tables with electric and internet for two half days
- Sign up on www.awci.com to reserve space and make hotel reservations



SIGN UP BY 7/13/12 FOR EARLY-BIRD DISCOUNTS: www.awci.com

PLEASURE

Mixing Business with Fun?
In Denver, You Can Absolutely Do Both!

Denver is a mecca for all sorts of tourism...from fun things to do in the city to outdoor adventures in the breathtaking Rockies. Remember, some business-related expenses are tax deductible, so start planning your trip now!

Denver Area Highlights

For more travel sites and info go to: www.awci.com then click on:

- Convention Registration
- Location Info
- Looking to Explore Area



Shopping and Dining.



Explore the Great Outdoors.



Fascinating Museums and Art.



Discover the History and Unique Architecture.

Take Me Out To the Ballgame...An Invitation from Terry Kurdzionak

You can buy me some peanuts and crackerjacks if you attend this HOME GAME of the Colorado Rockies. They don't know it, but the AWCI convention will be in town while the Rockies are playing home games.

On Sunday, August 5th they will host the San Francisco Giants. (I tried to get them to consider having the Red Sox, but it ain't gonna' happen.) This could be the decision-maker if you're trying to decide whether to fly out Sunday or Monday.

For ticket pricing and information go to: www.colorado.rockies.mlb.com.
Maybe we'll see your there, and remember...PLAY BALL!!!!



SIGN UP BY 7/13/12 FOR EARLY-BIRD DISCOUNTS: www.awci.com

EDUCATION

EDUCATIONAL COURSES SCHEDULE

Friday, August 3rd:

Watchmaker Education (all 3 classes needed for CEU credit)

9:00 am – 10:05 am Water Resistance Testing For Protection And Profit

Wesley Grau, CMW21

10:10 am – 11:15 am Measure Twice, Cut Once

Thomas Schomaker, CMW21

11:20 am – 12:30 pm Quartz Electrical Tests: How They Can Help Your Bottom Line

Jordan Ficklin, CW21

Clockmaker Education

9:00 am – 10:05 am Chelsea Clock, The Next 100 Years

Bob Ockenden, CMC

10:10 am – 11:15 am French Striking Clocks

Roland Iverson, CMC

Horology Business Session - For Watch & Clockmakers

11:20 am – 12:30 pm Marketing Your Horology Business

Mark Purdy, CMC

Courses are repeated to give you flexibility in scheduling



Thomas Schomaker, CMW21



Wesley Grau, CMW21

Saturday, August 4th:

Clockmaker Education

1:30 pm – 2:45 pm Chelsea Clock, The Next 100 Years

Bob Ockenden, CMC

2:30 pm – 3:45 pm French Striking Clocks, *Roland Iverson, CMC*

Horology Business Session - For Watch & Clockmakers

4:00 pm – 5:30 pm Marketing Your Horology Business

Mark Purdy, CMC

Watchmaker Education (all 3 classes needed for CEU credit)

1:30 pm – 2:45 pm Quartz Electrical Tests: How They Can Help Your Bottom Line

Jordan Ficklin, CW21

2:30 pm – 3:45 pm Measure Twice, Cut Once, *Thomas Schomaker, CMW21*

4:00 pm – 5:30 pm Water Resistance Testing For Protection And Profit

Wesley Grau, CMW21



Bob Ockenden, CMC



Jordan Ficklin, CW21



Mark Purdy, CMC



Roland Iverson, CMC

SIGN UP BY 7/13/12 FOR EARLY-BIRD DISCOUNTS: www.awci.com

CLOCK PROGRAMS:

Chelsea Clock, The Next 100 Years

Bob Ockenden, CMC, Director of Repair & Restoration, Chelsea Clock

Chelsea Clock is the last clock manufacturing facility in the U.S. The company's efforts to ensure a future for the product will be described. Additionally, Mr. Ockenden will outline ongoing efforts to identify and overcome the difficulties in combining the 18th-century skill set of traditional clockmaking with a modern, post-industrial society.

French Striking Clocks

Roland Iverson, CMC, Clockmaker, Elgin Clock Repair

Using a 19th-century "Paris" movement as an example, the design characteristics and mechanical restoration techniques applicable to French and Austrian clocks of this period will be discussed.

WATCH PROGRAMS:

Quartz Electrical Tests: How They Can Help Your Bottom Line

Jordan Ficklin, CW21, Watchmaker at Beauchamp Jewelers & Author

The major brands want you to have Quartz Testing Equipment, so come learn how to use this equipment. With a basic knowledge of how quartz watches work, and with the right test equipment, you can diagnose a wide range of problems without disassembling the watch (and sometimes without even opening the case). Learn how this equipment can help avoid comebacks, help diagnose faults, and help you earn more highly profitable business from your customers. If you replace power cells, this presentation is for you.

Water Resistance Testing - For Protection And Profit

Wesley Grau, CMW21, AWCI Board of Directors

With the increase in water-resistant watches on the market at all price levels, it is essential to properly test these for our clients. To service these watches properly, we need the right equipment, the knowledge of what equipment to use, plus the know-how to use the equipment. A proper testing program should be implemented and understood by the complete service department staff, not only to protect the business and recover costs, but also to insure profitability and allow for future equipment needs.



Measure Twice, Cut Once

Verification Techniques, Troubleshooting and Corrections

Thomas Schomaker, CMW21, AWCI Watchmaking Instructor & Certification Coordinator

This program will help take the guesswork out of the troubleshooting process. You will learn techniques to help you verify proper functionality of components before you begin to make any unnecessary adjustments. These techniques can save you both time and money by accurately identifying whether a problem truly exists. Also learn to use your recently-purchased equipment to its full potential.

HOROLOGY BUSINESS SESSION:

Marketing Your Horology Business (For Watchmakers and Clockmakers)

Mark Purdy, CMC, Owner of Blackstone Manor Clock Repair

This program will be an overview of a Marketing Plan that can be used by a Clock or Watch repair business owner who has no marketing background. Mark will describe the range of techniques that have worked for Blackstone Manor Clock Repair. The session will include why location, local advertising and community involvement are important. He will cover how to take advantage of marketing opportunities available through AWCI and why he believes AWCI lends credibility to you as a professional.

SIGN UP BY 7/13/12 FOR EARLY-BIRD DISCOUNTS: www.awci.com

NETWORKING



The networking opportunities at the AWCI Convention and Educational Symposium are unequalled. Where else can you meet so many fellow watchmakers, clockmakers, suppliers and AWCI staff at one time?

There's nothing like face-to-face interaction where you can trade ideas and finally meet the people you communicate with, but have never met. These are rich exchanges that help you grow your business and form relationships that continue long after the convention's end.



About Making Important Contacts...

Kris Amen, Co-Owner of SwissTech

Kris Amen, co-owner of SwissTech, will tell you exactly why her company goes to AWCI conventions. Kris, who handles marketing and financials for their watch repair business in Memphis, made a valuable contact during a casual conversation at the 2010 convention. About a month after the convention, the contact called Kris and her husband, Chris Amen, a CW21 and the watchmaker for the business. They ended up getting significant work from this source, and within a year had doubled their business. This was a significant step after recently going independent.

"I will always attend the AWCI convention whenever I can. I learn so much, both from the presentations and from networking," says Kris. "Another thing we think about is future growth and succession planning. If we need another watchmaker to help us grow the business, I now know who I'd contact. The first people I'd call would be the up-and-coming CW21's I've met at AWCI conventions."



About Starting a New Business...

Christopher Kelly, CW21, Classic Time Restoration

"Last year I had just graduated from North Seattle's watchmaking program, so it was my first time attending the AWCI convention. I was able to meet and talk with others who are already successful in our industry, which helped me get my new business off the ground. Now I have a valuable network of peers who are ready to help me when I reach a stumbling block. I also benefited from the continuing education presentations. Although I'm a watchmaker, I made a point to attend the clockmaking courses and I found these helpful, as well."

About What You Learn...

Mark Butterworth, Butterworth Clocks, Inc.

"Going to conventions and belonging to organizations ... goes well beyond the cliché called 'networking.' When we get together, I'm meeting with other industry suppliers who share their ideas and unique perspectives—it's a learning situation that's invaluable."



SIGN UP BY 7/13/12 FOR EARLY-BIRD DISCOUNTS: www.awci.com

Our Host Hotel

Hyatt Regency Denver Tech Center
2800 East Tufts Ave.
Denver, Co 80237

Guest Room Rates

Single or Double Occupancy: \$115* per night
 (includes internet & self-parking)

Convention Registration Rates

Includes all 5 days and most meals**



AWCI Members early bird registration (through 7/13/12) - \$449
 Members standard registration (after 7/13/12) - \$499
 Single-day registration - \$250
 REC Students - half price - early bird (through 7/13/12) - \$225
 REC Students - half price - standard (after 7/13/12) - \$250
 ELM Charitable Trust Dinner (sponsored by Richemont Group) - \$75 (per person)
 Guests: Plus-One early bird registration - \$299 (per person, includes provided meals)
 Guests: Plus-One standard registration - \$349 (per person, includes provided meals)

*Taxes not included.

** Includes convention-sponsored meals. See agenda for included meals schedule. Registration does not include the ELM Trust Dinner on Friday, which is the annual awards dinner to raise funds for the institute.

Register for Convention & Book Hotel at www.awci.com. Questions? Contact: Bonni@stellarmetings.com, 732-422-8888

AGENDA

Wednesday 8/1 – Members welcome to all governance meetings. Breakfast - On your own
 8:00-10:00 am - Education, Library & Museum Trust Meeting
 10:15 am-12:15 pm - Perpetuation Fund Meeting
 9:00 am - 12:00 pm - Affiliate Chapters Meeting
 12:00 pm - 1:30 pm - Lunch (on your own)
 1:30 - 3:30 pm - Board of Examiners Meeting
 3:45 - 5:30 pm - Research & Education Council Meeting
 Dinner - on your own
 9 pm- 12 midnight - *The Escapement* Hospitality Room

Thursday 8/2

Breakfast - on your own
 8:00 am - 12:00 pm - Industry Advisory Board Meeting
 12:00 pm - 1:30 pm - Lunch - on your own
 1:30 - 5:30 pm – Board of Directors Meeting
 6:30 - 9:00 pm - Welcome Reception
 9:00 pm - 12:00 midnight - *The Escapement* Hospitality Room

Friday 8/3

7 - 8:30 am - Breakfast Provided
 8 - 8:45 am - Keynote Speaker: Stephen Forsey
 9:00 am - 12:30 pm - Watchmaker Education - 3 classes

9:00 am - 12:30 pm - Clockmaker Education - 3 classes
 12:30 - 1:30 pm - Lunch Provided
 1:30 pm- 5:30 pm - Trade Fair
 6:00 - 9:00 pm - Dinner Party at the Forney Museum of Transportation. Featured Speaker: Archie Perkins - Fundraising Dinner sponsored by Richemont Brands
 9 pm- 12 midnight – *The Escapement* Hospitality Room

Saturday 8/4

7:00 - 8:30 am - Breakfast Provided
 8:30 to 12:30 pm - Trade Fair & Archie Perkins book signing
 12:30 - 1:30 pm - Lunch Provided
 1:30 - 5:30 pm - Watchmaker Education - 3 classes
 1:30 - 5:30 pm - Clockmaker Education - 3 classes
 6:00 - 7:00 pm - President's Reception
 7:00 - 9:00 pm Rolex AWCI ELM Charitable Trust Awards Dinner Sponsored by Rolex USA
 9 pm - 12 midnight - *The Escapement* Hospitality Room

Sunday 8/5

8:00 - 9:30 a.m. - Farewell Breakfast (provided)

Register Now!

SIGN UP BY 7/13/12 FOR EARLY-BIRD DISCOUNTS: www.awci.com



Want to Add to the Bottom Line? Add a Watchmaker to Your Staff.

Watchmaking Represents a Third of the Business at Family-Owned Beauchamp Jewelers

Beauchamp Jewelers has always been known for watchmaking and watch repair. Ron Beauchamp's father and grandfather were both watchmakers—it runs in the family.

Early in the 20th century, Sam Beauchamp (pronounced Bee-chum) was a partner in several jewelry stores in Indiana and Montana, where he worked as a watchmaker. In the 1930s and 40s, he had a store in Iowa. Sam also worked for the well-known jeweler C.D. Peacock in Chicago.



Ron Beauchamp (left), Jordan Ficklin, CW21 (right), or Beauchamp Jewelers.

BY AMY DUNN and CHUCK GIBSON

Sam taught his son, Mac, watchmaking skills. During WWII, Mac worked in aircraft instrumentation for Northrop Aviation in Los Angeles. In those days, there were aspects of aviation and watchmaking that were similar (mechanical gauges and basic electronics), so Mac and a partner operated a small watch repair business, as well. After the war, he settled his family in Albuquerque and went to work for a little store called Miller's Jewel Box. In 1951, Mac and his wife, Ione, opened their own store in Albuquerque. "My father was the principal watchmaker and, of course, we sold watches. We also sold jewelry, flatware and crystal which was common for the era," notes Ron, the third generation to manage the Beauchamp family business.

Growth Meant Adding More Watchmakers

In the 1960s the business moved from a downtown location to what has become the retail epicenter of Albuquerque on Menaul Boulevard in the Uptown area. Mac began learning the jewelry repair and jewelry-making side of the business while he also remained the principal watchmaker. Because they had always been known for quality watch repair, "We needed to hire additional watchmakers at that point," says Ron.

Over the years, a variety of watchmakers have been on the Beauchamp staff. Many of their former watchmakers learned the trade from friends or family. "There wasn't the opportunity for schooling then like there is today," Beauchamp states. However, Jordan Ficklin, his current certified watchmaker, came to Beauchamp Jewelers straight from Lititz Watch Technicum in 2006.



Workshop with testing equipment.

want to add to the bottom line?

BY AMY DUNN and CHUCK GIBSON



Watchmaking is visible from showroom.

Ficklin is CW21 certified and had the advantage of formal training. Unlike Ron Beauchamp, Jordan did not hail from a long line of watchmakers. In fact, he studied computer science in college. Working for a jeweler to help pay for college spawned Jordan's interest in watchmaking. When the dot-com bust occurred, he applied, and was accepted into the watchmaker program at the prestigious Lititz Watch Technicum in Pennsylvania.

The "Value Enhancement" of an In-House Watchmaker

Jordan has been at Beauchamp six years and Ron notes, "Jordan's just a great part of our staff. He provides that 'in-house' dimension to our store."

Beauchamp considers having a watchmaker on staff a "value enhancement" to the business. He cites the example of Judd, a customer who began coming in after Jordan joined their staff. Ron describes him as a collector. "He's very into the technical specifications and all the history and the lore that goes with owning fine watches," Beauchamp explains. "Judd and Jordan have become 'best buds.' He loves to come in and talk techno-speak with Jordan."

According to Ficklin, this customer has always managed to find where the good watchmaker is, and then gravitates toward that source." Besides having several watches serviced and buying several more,

Judd has also purchased jewelry from Beauchamp Jewelers. Another very good customer has a collection of extremely rare watches. He also enjoys discussing the technical aspects and history of the watches in his collection with Jordan. The company believes they build solid, long-term relationships with customers by offering a total package that includes watchmaking, jewelry retail and jewelry repair services.

Improved Location and Shop Design

Beauchamp Jewelers was already a well-equipped shop when Jordan Ficklin joined the company. In 2007, Beauchamp Jewelers moved to a larger location just down the street at 7017 Menaul Boulevard.

Jordan was actively involved in designing the new, modern watchmaking workshop. "For a watchmaker like me," he says, "a good shop layout makes a huge difference. It's a blessing to have this much control over the shop I work in." The workshop is right out

AWCI
August 1-5, 2012
Denver, Colorado

BERGEON
Depuis 1791

No 7820
Extractor for Bezels

Av. du Technicum 11 - CH-2400 Le Locle - info@bergeon.ch - www.bergeon.ch

BY AMY DUNN and CHUCK GIBSON



Large window at workbench allows watchmaker to see customers and customers to see in.

with the showroom floor. A large window allows Jordan to see the customers and allows the customers to also see him at work. He says, "Everyone who walks in knows there is a watchmaker right here in the store."

A More Efficient Design

Although Ficklin admits, "It can be a little nerve-racking to be watched by customers," his enthusiasm for this modernized watchmaker environment is evident. "I have 150 square feet in my workshop and some equipment in other parts of the store, as well." Designed for use by up to three watchmakers at a time, the shop has two benches and other workspaces. Jordan notes one bench is for larger projects, while a separate bench serves well for quicker or dirtier projects, such as changing batteries or sizing watch bands.

Quartz testing equipment, a timing machine, casing tools, water testing equipment and almost everything a watchmaker needs is found behind the two benches in an area with common equipment and tools. A quick swivel of the chair also puts a computer and parts cabinet quickly at the watchmakers disposal.

Cleaning and polishing equipment is housed in a separate room. "It only takes one piece of lint to cause trouble," says Jordan, "and today's customers and manufacturers expect perfection." That's why the polishing and cleaning room is outfitted with an auto vacuum system which removes dust and other hazardous contaminant particles.

Why a Watchmaker?

When Beauchamp added the Rolex line, it became even more important to have a staff member capable of servicing Rolex. Some consumers are very technically oriented and want to hear every detail about their Rolex watch. Having a watchmaker on staff to size the bracelets, service the product, and share technical information is a great advantage when selling the watches. "With somebody as talented as Jordan we can do several things," Ron says. Instead of sending refinishing work out with the risk of lost time—or possibly losing products in shipment—we can minimize risk and maximize profit by keeping more work in house.

"Jordan's watchmaking knowledge also makes him the ideal person to sell a watch and explain its technical features." Ron adds. Jordan's computer skills are also a benefit to a small company where employees often wear several different hats.



Cleaning and polishing processes take place in a separate room.

want to add to the bottom line?

BY AMY DUNN and CHUCK GIBSON



Watch take-in area.

Adding to the Bottom Line

According to the Beauchamp, the 21st century watchmaker needs to be both professional and personable. Although the store has several different sales people, customers will walk in and ask to talk to the watchmaker when considering a watch purchase. At Beauchamp Jewelers, watch sales account for approximately 25% of revenues while watch repair adds about 10% more, making the watch segment about one-third of their total business revenues.

Beauchamp Jewelers has always been a full-service business with a watchmaker on staff. "We also have two jewelers and an appraiser," says Ron, "so we're a well-rounded jewelry store in that regard." The 60-year-old business now looks toward a prosperous future with loyal clients who trust them to stand behind their products and perform the highest quality repairs.

The Future of the Market

Historically, watches were a tool used to keep time. "Today," Ron notes, "the fashion, collectability, and status aspects make luxury mechanical watches something an electronic device will never supersede. Now there's a sort of 'boys and their toys' collectors mentality we didn't see years ago. And because watches have become an extension of one's personality, people have high standards and take good care of their watches."

Beauchamp Jewelers believes the best way to preserve this vital portion of their business is by delivering the standards of performance which customers expect. Their assurance that they can deliver this quality is by hiring watchmakers with the proper training and certification. ♦

Beauchamp Jewelers

History: Family owned for over 60 years

Location: 7017 Menaul, N.E., Albuquerque, NM, 87110, 505-881-8939 www.bcjewelers.com

Services: Watchmaking, watch retail sales, jewelry sales, repair and custom design, appraisals

Jordan Ficklin, CW21, has published a reference guide, *Electrical Test Values for Quartz Watches*. He also authors a blog at www.watchmakingblog.com/quartz.

"Spare Parts, Tools, And Supplies Sold By Professional Watchmakers To Professional Watchmakers"



WHEN YOU SEE THIS TRADEMARK ON A MOVEMENT...

...You have a Sellita SW200 movement and need a repair kit from Eckcells. Each kit contains 18 commonly-needed spare parts. Refills are always available. We stock all other movement parts needed to repair these quality movements used by Tag Heuer, Movado, Raymond Weil, Oris, and many other fine brands.
(NOTE: Most ETA parts do not fit these movements.)

Order Yours Now for \$99.95
(a savings of \$6.15 if purchased separately)

 **eckcells**
379 Main St • Stoneham, MA 02180
1-781-438-3208 • eckcells@gmail.com
www.eckcells.com

We accept all major credit cards

BY DALE LADUE, CMW21

Reverser Gear Mechanism Repair, Part 3

In Part 2 of this article printed in the May, 2012 issue of *Horological Times*, I described making a beryllium post by mounting a reverser pinion on it and making a fixture to turn the post true. I selected beryllium because of its durability and ability to take a high polish without tarnishing.



Figure 27



Figure 28



Figure 29

A round wooden toothpick was used to hold this pinion securely. The tip of a toothpick was flattened and a center hole was created by pushing a fine tweezers tip or needle into the soft wood (Figure 27). The pinion post was inserted and pressed firmly in place until it bottomed in the center hole, leaving the pinion just slightly above the flattened tip demonstrated in Figure 28.

When I originally bored out the brass rod, I thought I would use cyanoacrylate adhesive to hold the pinion in place. Consequently, I had the brass rod extended only about 20 mm from the collet. I thought since I had two posts to turn, that I could use the same fixture. Shellac would afford an easier removal and replacement than cyanoacrylate.

Figure 29 illustrates a few points. Firstly, the brass rod has been extended so that it can be heated with a flame. Secondly, the collet is covered with tin foil to protect from condensation that often settles on the collet face. Finally, the toothpick allows enough pressure to be applied to seat the pinion in the molten shellac. Figure 30 shows the pinion held solidly centered in the bore.

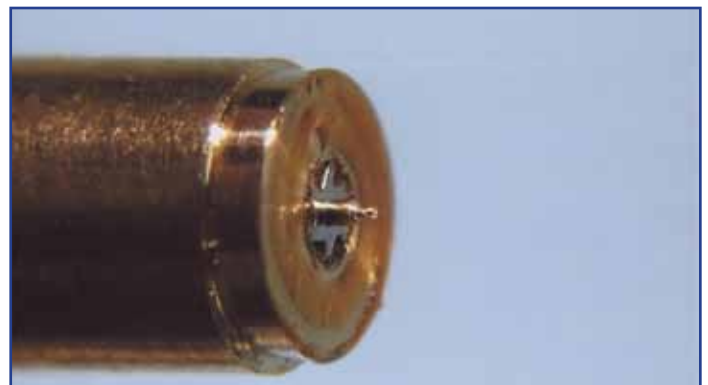


Figure 30

The post was then turned down and tested for fit in its prospective hole in the steel disk as shown in Figure 31. A loose fit without sideshake was achieved. The length of the post was checked without removing the pinion from its seat in the shellac. The milled-out section for the pinion would not allow me to gauge the length by eye in its correct orientation. However, reversing the disk exposed the extra length that needed to be removed (see Figure 32). A diamond file was stroked across the end of the post (Figure 33) until the post was flush with the bottom of the milled section (Figure 34).

reverser gear mechanism repair, part 3

BY DALE LADUE, CMW21

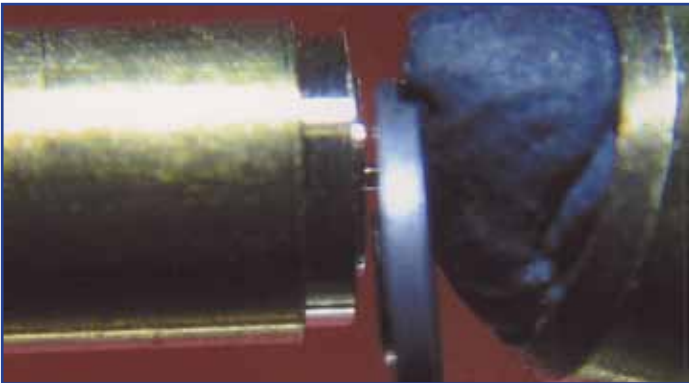


Figure 31

In order to create a minimal amount of sideshake, a jasper slip with a satin finish was used to remove some metal as shown in Figure 35. A highly-polished jasper slip was then used to burnish the surface of the post (Figure 36).

This three-part article demonstrates the making of just one pinion post. The process was duplicated for the manufacturing of the other pinion post. As stated previously, I reasoned that I could use the



Figure 32

same bored seat for both pinions. However, the second pinion was ever so slightly larger, and it bound in the bore. I could not remove it when the shellac was melted. I had to part the bore seat and pinion from the rod and push the pinion out from behind the seat, as demonstrated in Figures 37 and 38.

The reverser unit was assembled and the square in the steel center disk was mated with the square on the center pinion (Figure 39). The nut was threaded

Bergeon Waterproof testers provide a wet test that pinpoints the location of a leak.



BERGEON 10 Bar Tester

- Air pressure system from 0 to 10 ATM.
- Removable plexiglas cylinder for draining.
- Capacity 2 watches.

640.5555 **\$1299**

The Original Wet Tester

- Air pressure system from 3 to 6 ATM.
- Double sealed plexiglas cylinders.
- Capacity 2 watches.

550.555/98 **\$695**

BERGEON

Cas-KerCo. Call 1-800-487-0408 Fax 1-800-487-5848
Shop our web site: casker.com

IMPORTERS/DISTRIBUTORS - 2550 CIVIC CENTER DR CINCINNATI OH 45231

SWISS MADE

VISA
MasterCard
DISCOVER

reverser gear mechanism repair, part 3

BY DALE LADUE, CMW21

on and tightened with locked the center pinion to the center disk (see Figure 40). The two wheels now turn freely and the new internal pinion posts turn and lock properly. Figure 41 shows the complete unit and Figure 42 shows the reverser unit and train installed in the upper automatic bridge.

In this article, I did not mention my opinion on oiling the reverser unit. I feel watchmakers have many different opinions which may blur the line between previous and 21st century watchmaking. The modern method seems to indicate the use of epilame, special oils and oil placement. I did use epilame on each of the unit's components. I oiled the one-way pinion posts with light watch oil, and oiled the center pinion and large gear races with HP 1300. ♦



Figure 35



Figure 36



Figure 37



Figure 38



Figure 33



Figure 34

reverser gear mechanism, cont.



Figure 39

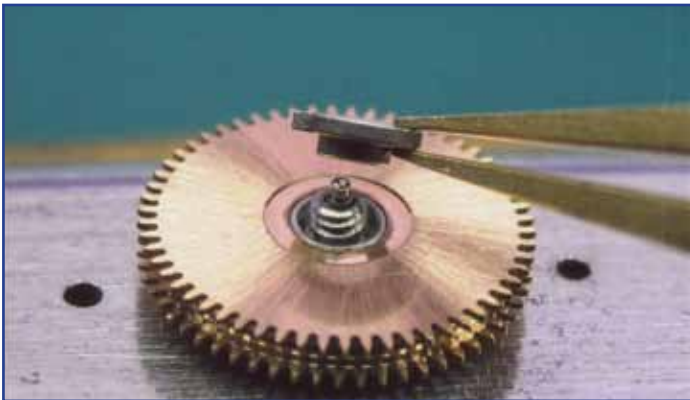


Figure 40

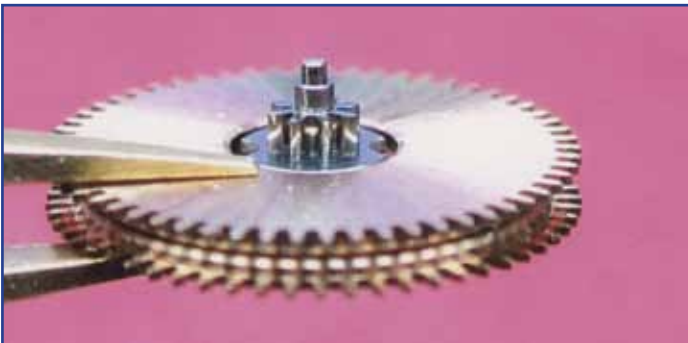


Figure 41



Figure 42

Livesay's
Tampa, FL Inc

Your Horological Source Since 1969

Available Online at
www.LivesaysInc.com

NEW! *Watch Movements*
We have added almost 50 new watch movements, including some with Very High Cannon Pinions.



Ronda 715-HC4
11 1/2, Date @ 3,
Very High Cannon Pinion
\$17.95



Ronda 762-HC4
6 3/4 x 8, 2 Hand
Very High Cannon Pinion
\$8.95



Ronda 1042z-HC4
4 1/4, 2 Hand
Very High Cannon Pinion
\$45.95



Miyota 5R22
3 3/4 x 6, 2 Hand
High Cannon Pinion
\$27.95



Miyota 5Y26
5 1/2 x 6 3/4, 2 Hand
High Cannon Pinion
\$10.95



Miyota 5Y36
5 1/2 x 6 3/4, SS
High Cannon Pinion
\$10.95



Miyota 2405
13 1/2, SS DD @ 3
NEW!
\$9.95



Miyota 2415
13 1/2, SS D @ 3
NEW!
\$9.95



Miyota 2315
11 1/2, Date @ 3
NEW!
\$9.95



Miyota 0S62
13 1/2, 3 Eye, 1/20 sec
NEW!
\$37.95



ISA 2330/103
10 1/2 Date @ 3
Replaces 307/103
\$12.95



ISA 2331/103
11 1/2 Date @ 3
Replaces 317/103
\$12.95

Prices subject to change without notice.

6/12

Phone Orders (800) 476-2715

Fax Orders (800) 476-8016

Email: info@LivesaysInc.com

Online Catalog: www.LivesaysInc.com



BY BILL THOMAS AND JAMIE MATHISON

IN A MATERIAL WORLD, No.2



Bill Thomas (left) and Jamie Mathison (right).

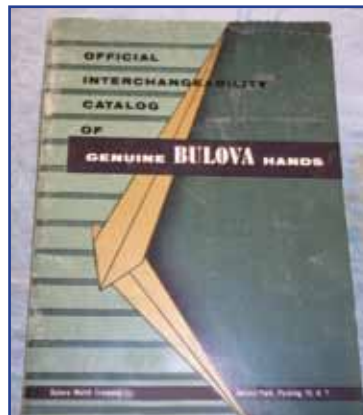
How to Order Hands from Watch Material Distributors

As all watchmakers know, the hands on a watch can either make or break a repair job, and it's especially difficult when they are missing entirely. However, replacing them with the wrong hands or trying to make the wrong ones fit can just be a nightmare.

Choosing a set of hands for a watch is as much a matter of taste, sometimes, as it is about matching the original hands on the watch. Some watches really require or greatly benefit from the replacement of original hands, like Omega, Rolex, Bulova, Hamilton and Elgin brands. Others, like the quartz fashion watches which do not supply aftermarket parts, have to be supplied on the basis of what's available. It's those that can cause the most trouble because the styles available are limited.

If you are replacing hands on an Omega Constellation, your choices are somewhat limited to what Omega originally provided. Surprisingly, Omega lists their hands by caliber and not case or model. Therefore, when ordering hands for Omegas, you'll need to provide the caliber, the length, the color, and the style in order to get the correct hands.

Elgin, Hamilton, and Bulova all list hands by caliber, as well. Seiko, Pulsar and Citizen, on the other hand, go by case number or style number. (Getting confused yet?)



Careful preservation of older reference material is essential in the business.

When ordering hands, there are five basic pieces of information that are needed by the material person to properly fill your order. These are:

- Caliber or case number
- Color
- Length of minute hand
- Hole diameter of hands
- Style

Caliber or Case Number

The caliber is what most manufacturers have used as a means to organize their watch hands. Since the hole size combinations for the hands were made in a limited number of sizes, they might fit any number of calibers for a certain brand, so the caliber of a watch alone isn't enough for performing research. Most of the time, more information is needed.

Here are a few examples of case numbers:

Seiko or Pulsar:

7N43-8213; the first 4 digits refer to the movement; the last 4 reference the case itself.

Citizen:

B023-S011234 or 4-S011234; the first 4 digits (or the "4") refer to the movement, the last 6 or 7 to the case itself.

In this example, no colors, or other information is needed. The complete case numbers will generally be enough to allow us to pull from stock, or special order from the vendor, the stock numbers for the correct hands.

Color

Hands typically come in gold, silver, blue, or black. They can also be called "gilt," or "rhodium." (White is not the same as silver in the world of hands. White means painted in a white color. These are often seen on chronographs and sports watches). Other colors are also available, but they tend to be brand specific.

BY BILL THOMAS AND JAMIE MATHISON

Length

Hands are generally sold as a pair, so the manufacturer has already chosen a length for the hour hand for any given minute hand. Therefore, the length of the minute hand is all you really need to provide. When measuring for the minute hand, the rule of thumb is that it should reach the minute track, or if the minute marks are long, the middle of the track. On rectangular dials, remember, you'll need to measure from the shortest point on the dial. Some manufacturers, like Bulova, list their hand length by the diameter of the dial, so don't freak out if you get a pair marked 26 mm for a gents small tank wristwatch.

Hole Diameter

Hole sizes are listed by minute hole size over hour hole size, as in 70/120; 0.70 mm being the minute hand hole size, and 1.20 mm being the hour hands. There are an infinite number of variations when it comes to the combination of hole diameters for a pair of hands, but movement makers have done a good job of limiting that number. These days, 70/120 is perhaps the most common combination for quartz watches, as well as 65/110, although Miyota/Citizen seems to like 65/100. This standardization means that if you are using a micrometer to measure the hour wheel and it reads 1.21mm, you don't need to order a 121 hour hand. It's probably a 120. Since several calibers may take a designated hole combination, you'll need to give other information to us, as well.

Style

The style of hands is where there is the most obvious room for discussion. There are literally thousands of hands in the cabinets at Twin City Supply. There are many drawers dedicated to only Seiko hands!

Much of the time you will be simply replacing a set of hands with something identical, as in the case of Omegas, Seikos, or American Railroad pocket watches. In this case, there often isn't much choice about what you can do, simply because the standards are already set. A Hamilton 992 (pocket watch) is almost always going to have light spade/whip if you intend to be true to the style and age. But a vintage no-name wristwatch has a world of possibilities to choose from, and it's the watchmaker's job, along with the customer, to make a choice that is appropriate. In this case, decide a range of choices with your



Close-up of Longines watch cabinet.



Packaging and identification of Seiko hands.



The Bestfit assortment.

BY BILL THOMAS AND JAMIE MATHISON

customer and work with the material house to find something that will work. There were a lot of assortments made in the past, and most material houses hate to throw anything away.

You can also dive into the brand-specific hands to find interesting choices. Bulova made many different hands in many different sizes, and we have more than once dug out something nice for some other brand. The other point to be made regarding style is the nomenclature. Stick hands can be “baton” or index,” and lance can be “pointex.” This can get confusing for the material house if you aren’t on the same page about what you want, so it’s best to use the simplest description instead of hoping that “modern” means the same in every manufacturer’s manual.

When you are looking for a pair of specific hands for a specific brand, remember that not all styles are available for any particular brand, or for all calibers. Breguet or “moon” styles of hands may sound great for a vintage 18-size Waltham, but Waltham never made hands that big. On the other hand, it never hurts to try something new or different. We have a customer who has started asking for blue hands on some of the Gruen wristwatches he buys that have gold cases and light-colored dials because it makes them easier to read. Since many of the styles came in both blue and gold, it was easy to make the swap. Staying true to the original is all well and good, but don’t forget that there can alternatives, should you select to go that route.

Second Hands

The other hands ordered are the two kinds of second hands, the sweep second and the small, or regular second. The styles available are much more limited than for hour or minute hands, but they can be just as critical to the look of the watch. Most of the time, they are simple stick-style, with no flashy luminous fill or color. But like the big hands, there are options, including tails or arrows that make them special. If the watch you are working on has a special-looking second hand, give us as much information about the brand and model as you can. If it is a major brand, chances are the hands were made by them and we can give you a quick answer about availability.

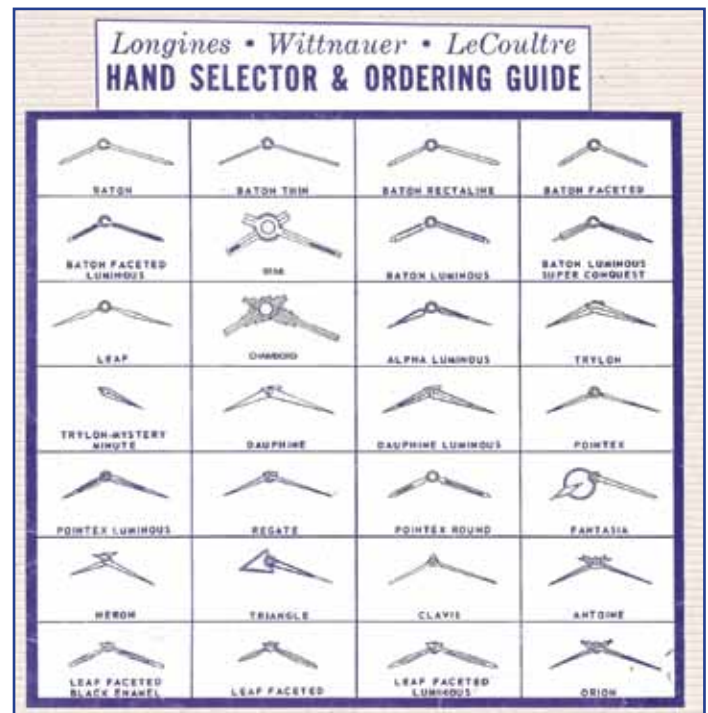
If you’re dealing with an off-brand, be sure to supply the diameter of the seconds bit and the length (the length being measured from the center of the hole to the outer edge of the minute track). An important

consideration for second hands can be the length of the tube. Omega second hand tubes are often almost non-existent, yet a chronograph sweep hand will be gigantic. The tubes on small seconds can be very important on vintage watches because, if the dial has a dome to it, short tubes don’t work well. If it is really domed (as in many American wristwatches), it will need a very long tube. Be sure to ask for the proper length tube when ordering because a Hamilton 982 or a Longines 9L comes in a variety of case shapes.

Insufficient Information

All in all, the worst mistake customers seem to make when ordering hands is giving insufficient information to the material house. Asking for yellow dauphine hands to go with the Ronda 751 movement you ordered—without telling us the size of the watch—means another phone call from your material guy, or worse, reordering. We will often spend a lot of time researching and hunting for the correct hands for your watch, and in our business—as in yours—time is money.

As always, remember that we cannot see what you see. Although we’ll try our hardest, sometimes the parts you receive will only be as good as the parts



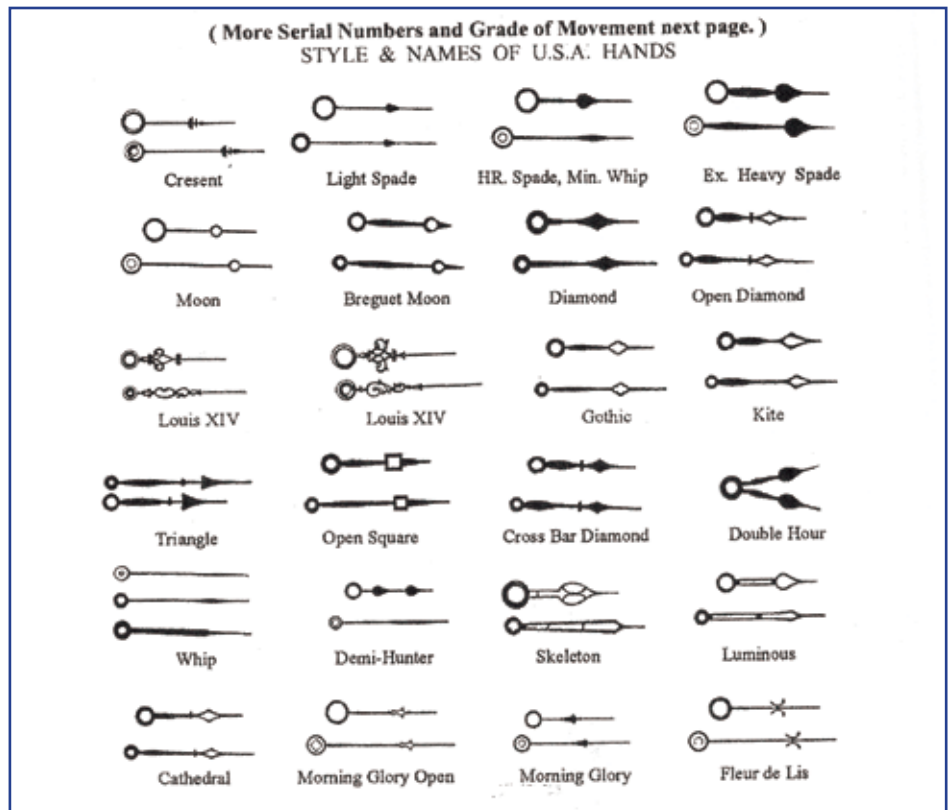
Older resource material, such as the Longines, Wittnauer, LeCoultre Hand Selector Guide enable us to assist our customers.

BY BILL THOMAS AND JAMIE MATHISON

you order, so please help your material guys out as much as you can right from the beginning with good information. ♦

Charts from the "Complete Price Guide to Watches" are courtesy of Tinderbox Press. The 2012 edition of the guide can be obtained from most bookstores.

*Richard E. Gilbert, Tom Engle, Cooksey Shugart, *Complete Price Guide to Watches*, 2006 (Tinderbox Press, SC 2006), p. 364 & 634



Other hands charts are available in the *Complete Price Guide to Watches*.*



TWIN CITY SUPPLY YOUR HOROLOGY HEADQUARTERS

Trusted Supplier to Jewelers & Watchmakers
Nationwide for Over 80 Years!



5 showrooms to browse when you visit!

CALL US FIRST FOR ALL YOUR WATCH MATERIALS & JEWELERS SUPPLIES!

- Ohaus Scales
- Quartz Watch Movements & Watch Material
- Presidium Gauges & Testers
- Acqua, Casio & Timex Watches
- Energizer Watch Batteries
- Gildden, WBHQ & WATCHBANDS 2 GO Watchbands
- Arbe Dust Collectors
- Seiko, Pulsar & Citizen Watch Material In-Stock
- Crystals and Crystal Fitting
- Giftwrap, Ribbons, Bows & Presentation Boxes
- Findings & Solder
- L&R Cleaning Solutions & Products
- Products from JSP & GEMORO
- EUROTOOL, Bergeon, A*F, Horotec, Grobet & Pepe

*** Send your email address to twincitysupply@msn.com for special offers! ***



Twin City Supply

2230 Edgewood Ave S, Minneapolis, MN 55426

Phone: 952.545.2725 | 800.328.6009

Fax: 952.545.4715 | 800.328.6001



Follow us on Facebook!

Check us out at www.TwinCitySupply.net or e-mail us at Twincitysupply@msn.com

2.12 HT

Preparing and Using a Burnisher, Part 2

Pivot Turning and Tool Sharpening

New pivots

Making a new pivot in soft steel requires four processes: Turning, Pivot Filing, Pivot Polishing and Pivot Burnishing. Refurbishing a pivot does not, of course, require turning. If the surface of the pivot is so bad that it needs to be replaced (repivoted), the new pivot will be of hardened and tempered steel. My personal opinion is that polishing techniques with abrasives as fine as diamantine for the final treatment, are more appropriate for hard pivots than burnishing with a hand tool. Pivot polishers that use a tungsten carbide wheel and support the pivot produce a very good finish on hard steel, although not as good, I believe, as diamantine spread on a bronze polisher.

Turning

The requirements are the same as for any turning operation:

- The work must be supported rigidly (not protruding so far from the collet, or chuck, that it vibrates). It should protrude about two to three diameters from the arbor.
- The tool point must be on center.
- The tool must be traversed along the work smoothly.

...And the addition of one more step:

- The tool point must be sharp and the surfaces that produce the point must be polished with a fine Arkansas stone.

The amount of metal to be removed from the arbor diameter while making the pivot is small. The tool loading is also small, and the usual disadvantage of having a sharp point (weakness of the point), does not apply.

The turning tools I use for clock work are nearly all high speed steel (HSS), which is quite hard enough for the turning and facing speeds usually encountered on these small parts. An additional property it possesses is that it is quicker and easier to regrind than tungsten carbide.

The following are a few observations on grinding tools with a bench grinder:

- The usual transparent guard supplied is not adequate—it is quite easy for stone and metal particles to ricochet off the body of the machine. In addition, these guards are often small and do not allow good control of the work. A face mask is the best precaution since it protects the face as well as the eyes, but a good pair of safety glasses with side protection will also do a better job than the fitted guard (see Figure 1).



Figure 1: Safety goggles with side protection for the eye.
Photo courtesy of Cas-Ker Co.

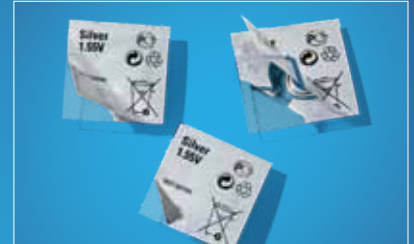
- File or grind the surface of the tool rest until it is flat and smooth. The tool is slid across this rest as it is ground (so that the wheel is worn evenly across its periphery). Dents and imperfections can check the sliding motion so that the tool jerks and the face being ground is affected.
- Set the angle of the rest so that the face being ground is about 10° to the original surface of the HSS tool bit. Notice that this general turning tool has the same angle on all cutting faces. The angle is not critical and because most of our turning and facing work is nowhere near

renata 
batteries

0%
MERCURY



Each single blister can be torn away from the strip of 10 cells.



Easy open flap located in one corner of the blister.



Packaging nests, conserving space and solidifying the package.



Safety sealed cartons of 100 cells feature a quick-tear open tab.



COMING
SOON!

Introducing Multi-Pack RENATA'S NEW MULTI-FUNCTIONAL PACKAGING

Mid 2012, Renata plans to discontinue both Volume Strip (VS) and Tear Strip (TS) packaging for silver oxide batteries, with the launch of their new, exclusive Multifunctional Packaging design called Multi-Pack for short (MP). Renata was the first full line Mercury Free brand available in North America, and this innovation reinforces Renata's environmental leadership. Multi-Pack is made of only one, easily recyclable material. Additionally, multiple football fields of packaging materials will be saved while virtually eliminating dimensional freight costs!

Swiss Quality · Environmentally Conscious · Cost Effective Without Compromise · RENATA!

www.sykessler.com


SY KESSLER SALES, INC.

renata 
batteries

North American Headquarters
800.527.0719 sales@sykessler.com www.renata.com

© RENATA SA, Itingen Switzerland ©2012 SKS, INC.

preparing and using a burnisher, part 2

BY LAURIE PENMAN

the limits of the respective cutting and feeding speeds, it will be suitable for iron, steel, brass, or even aluminium—in diameters smaller than about 12 mm and lathes with a top speed of 1,000 revs. per minute.

For neatness' sake, and also to be certain that the angles prescribed are actually achieved at the cutting edge, I try to establish each face as a single ground curve, rather than several facets.

From this point on, the treatment is the same for refurbishing and for new pivots. (Remember that repivoting uses hardened and tempered metal, which I prefer to polish rather than burnish, using a 900-grit diamond file to remove grooves, and papers and polishing compounds.)

The result of treating the turning tool means it looks highly polished, and to a certain extent, it is. It is still too rough for use in a clock and must now be filed, polished and burnished.

Filing

A good file will improve the flatness of the turned surface produced on a mini-lathe, or watchmaker's lathe with top slide. Why? The slides are relatively short and rarely produce a cylindrical surface without minute "waves."

The Swiss-style of pivot file (Figure 2) is perfectly adequate for this task. It has sides that are angled (making the cross-section a trapezium) so that the shoulder does not acquire a significant radius during the filing process. If a smooth needle file is used, it must have the sides ground at a similar angle (10°). Needle files are not usually hard enough to tackle hard pivots.



Figure 2: Swiss-style pivot file is used.

Make sure the file is scrupulously clean by removing

all swarf (metal particles) from between the teeth. Pivot files and smooth needle files are not readily cleaned with a brush or "file card." Rub a piece of machining brass along the length of the teeth, matching their oblique angle to the file so that when the end of the piece of brass is examined, you will see the profile or cross-section of the teeth. This can be a tedious business, but it is necessary because steel particles can cut small grooves in the pivot.

Filing is carried out dry, that is, no oil is put on the cutting surface. Notice that most pivot files have one side whose edge is radiused and polished. This is for use on pivots that register against cap jewels and which usually have a radius from the pivot diameter to the arbor. The shoulder does not touch the clock plate. The radius does not extend along the full length of the file, which allows its use for pivots with square shoulders, but does not use the radiused stretch.

Polishing and Burnishing

The making of the tool was described at the start of this article. The polisher was the side dressed obliquely with a coarse diamond whetstone of about 300 grit. The burnisher had a finer surface after being dressed with a 1,200 grit diamond whetstone. Both are used with lubrication. Different oils have different effects and I am using Novostar Type H. I have not experimented with many different oils (and I understand that one of the gunsmith's oils is excellent), but this gave me what I wanted—a mirror finish with no "dragging" of the pivot surface.

The polishing side is used first by laying it flat on the pivot and stroking forward as the chuck rotates at about 500 rpm. Press down gently on the forward stroke and keep pressure evenly spread along the pivot so that it remains a parallel cylinder. Clean off the debris with your thumb as you proceed. When a good polish has been obtained, and a loupe reveals no grooves, clean the pivot and change to the burnishing side of the burnisher.

Use maximum speed for this and lay the lubricated burnisher on the pivot. Slowly slide the burnisher along the pivot, applying pressure and stroking it over the diameter at the same time, but do not come off the end. Hold it securely so that it does not tip over as you near the end. Traverse back again, noting that the leading edge should leave a shiny track on the metal. Wipe clean, re-lubricate and repeat

preparing and using a burnisher, part 2

BY LAURIE PENMAN

three or four times.

Finally, use the burnisher straight without traversing. This eliminates the tiny scratches that appear at the end of a traverse as the tool is lifted away. At the finish there should be no grooves in the pivot. If there are, the burnisher must have a notch somewhere along its leading edge. Always test the edges with a fingernail and re-polish with the fine diamond lap, if necessary. When you are done using the tool, be careful not to drop the tool in with the other hard tools (such as files).

The whole process, after turning, takes a minute or two when you have had practice. Short pivots are more difficult than long ones, because the burnisher has a tendency to tip. Since the cross-section of the tungsten carbide blank is not a square, use the short side of the cross-section for short pivots and the longer side for longer ones. The burnisher does not have to be wide enough to cover the full length of the pivot, but if both burnishing edges touch the pivot, make sure they are dead smooth and lubricated. An advantage of having the burnisher width less than the length of the pivot is that it's not necessary to take the left-hand edge to the end of the pivot (it is less likely to tip over), but to simply traverse as far as the part burnished by the right-hand edge. The end of the pivot and the shoulders should also be polished. In fact, when making a new pivot, it is best to make it slightly longer than needed. After burnishing the end (which is never quite as well-finished), it can be filed back. Finally, take the burnisher over it to impart a final polish. It is important that the profile of the end is concentric with the axis of the arbor because it may be used for "depthing."

AWCI publishes a DVD which demonstrates the turning and burnishing of pivots. It may be obtained by ordering a copy from the Online Store at www.awci.com. The title is: *Turning on the Lathe-01 (Turning and Burnishing)*.

Jerry Faier, CMC21, prepared a series sample pivots (shown in Figure 3 A-B-C). These illustrate a range of finishes from poor to excellent in order as a guide to what was expected by the standard of the Clockmakers Certification by AWCI.

Complete details of the requirements for the CC21 are contained in the *Standards and Practices* available on the AWCI website at: www.awci.com under "Education & Certification." Click on "Certification," then click on "Clockmaker Preparation." ♦



Figure 3 A-B-C: Demonstration of a range of finishes from poor to excellent quality.

BUSHINGS!

KWM SIZE IN BRONZE \$4.00/ 20 pc PACK

KWM SIZE IN BRASS \$8.00/ 50 pc PACK

No min order. No small parts surcharge. Mailing \$2 US/CAN, \$5 Internatl.

Butterworth Clocks, Inc.

5300 59th Ave. West Muscatine, IA 52761

Phone: 563-263-6759 Fax: 563-263-0428

E-mail: butterworth@machlink.com

BY JACK KURDZIONAK, CW21



Take the Last Five

Last year I mentioned how I had worked during my high school and college years at Sam and Myer's automobile service station. Myer was one of the most astute businessmen I have ever met even

though he had a limited secondary education having left high school at age sixteen. Perhaps he followed Mark Twain's advice by, "Never letting his schooling interfere with his education." His incomplete formal education in no way diminished his business acumen. He and his partner, Sam, opened their gas station in 1936 during some of the worst days of the great depression, remaining in business until 1977 when Myer (Sam had passed away in 1961) sold it and retired.



I worked there full-time (91 hours per week) during the summer months and part-time (36 hours per week) while in school. On days when business was slow and we completed all housekeeping chores, we would sit around the shop and talk with Myer who would engage all who were willing to listen to his homespun wisdom. His tales could have justly been titled "Life Lessons 101". Many of his more earthy stories cannot be repeated here.

There is one story that stands out and can be told here to illuminate his basic view of operating a small service oriented business. In those days, urban areas literally had a gasoline filling/service station on nearly every available corner and our neighborhood was no exception. We had a friendly competitor across

the street named Charlie. Charlie was a very accomplished auto mechanic who could repair almost every problem with any automobile. He would tackle most any repair project and spend as much time as necessary to make a good repair. He was such a multi-talented person. If your car needed its engine rebuilt, he would rebuild it himself. If your car had a dead battery, he would rebuild it with new plates and acid. He only installed new parts when was not possible for him to repair the old ones. His faithful clientele appreciated his good work and his low prices. Unfortunately, Charlie barely made a living and after about thirty years closed his gas station. In his later years, he became a school custodian and earned a better salary than he ever did servicing autos.

Myer, on the other hand, would never rebuild an engine or a battery. If your battery was dead, he offered replacements in three grades. The top grade, also the most expensive at \$27, was the one sold 90% of the time. Although Myer and his staff were good mechanics, he deliberately limited the scope of the repairs he would have them do. If a potential repair presented itself as too complicated, too time consuming or likely to present a warranty issue, Myer would politely decline the repair. In many cases he would, with the approval of the automobile's owner, subcontract the repair to a willing qualified nearby mechanic. By subcontracting out those repairs, the subcontractor earned a living, Myer's shop made a profit by selling the repair, and a qualified mechanic properly repaired the customer's car. Myer ran a successful business by having an uncanny sense of which repairs yielded the most profit and which ones would create the least number of comebacks (failed repairs). He focused his business model by selling quality products, providing quality service, and warranting every product and service.

This writer was a naïve young man who was always willing to listen to Myer's advice. I remember asking him why we did not accept the type of complicated repairs that Charlie was doing right across the street. While we were doing routine unexciting work such as fixing flat tires, changing oil and oil filters, greasing cars, installing brakes, and selling batteries, Charlie was rebuilding engines and transmissions, and sometimes rewiring an entire chassis. Charlie was doing all this impressive complicated work while we were just providing basic services. Myer thought for a moment and said to me, "What we do allows us to make a fast five (\$5 bill) while Charlie makes the slow ten (\$10 bill)." He further explained that if our

BY JACK KURDZIONAK, CW21

work entailed a warranty repair it would not entail a great expenditure of time or money to remedy the problem. If Charlie's chassis rewiring encountered a failure, an expensive and time consuming job had to be redone. Simply put, Myer's business earned more dollars per hour than Charlie's.

What does all of this have to do with watchmaking or clockmaking? The answer is simple. Our business or any business, especially one that generates most or all of its income by selling time (labor), needs to earn the maximum amount possible for the labor we provide. We must be as efficient as we possibly can be. We cannot infinitely increase our labor charges and parts prices to increase our profits. The marketplace will dictate a limit on those prices. We can become more efficient in our operation by taking the following steps to increase our profit margin:

- a. Know ourselves. We need to know what we can do well and do it profitably. Realize what we can do, if we are willing, but not as profitably. Then we need to avoid what we should not do and leave it for someone else.
- b. We need to sell more products (parts) if it helps us to do better work and prevent warranty issues. What sense does it make to re-pivot a wheel when a replacement part is readily available? The replacement is new and its installation speeds up the repair, makes a better repair, and yields some extra profit from the resale of the part.
- c. We need to provide no less than the highest quality service and products possible. In those days we sold three grades of motor oil and two grades of gasoline. Myer consistently sold far

more of the top grade of motor oil at \$0.75/ quart than the other two grades combined. He also sold more of the so-called "High Test" gasoline than he did the "Regular grade" His sales ratio (top of the line refined products compared to the lower cost products) was always the highest in his marketing district. He understood that his customers valued their cars and wanted nothing less than the best for those cars. Regardless of what you may personally believe, your customers want nothing but the best parts and services for their timepieces. If you do not provide it for them, someone else will and that person earns the profit that should have been yours.

We need keep our equipment up-to-date and in good repair. Myer always provided us with quality tools and equipment as well as labor-saving devices that enabled us to do better and faster work than was possible with old or worn out equipment. At a time when most gasoline stations were changing tires with hand tools, we had air impact wrenches and an automatic tire-changing machine. In those days, the customary charge to fix a flat tire was \$0.75 and with that equipment, we fixed a lot more flats in a day than our competitors could with hand tools. The well-equipped shop can significantly increase production and income in contrast to doing the same work without up-to-date equipment.

Myer believed in delivering quality products and services at a fair price to his customers. He always told us that, "Any job worth doing is worth doing it well and many fast fives will always total more than a few slow tens. Leave the slow tens for Charlie." ♦

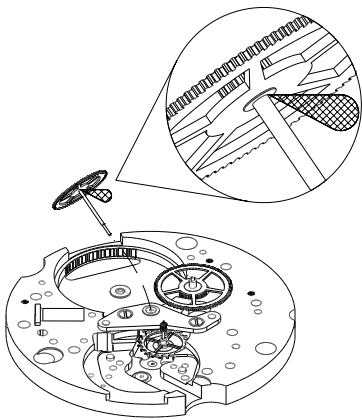


GORDON S. CONVERSE & CO.
Seeking Consignments
Reputable, Large Client List, Fine Photography & Advertising
www.auctionsatconverse.com
610-722-9004

The advertisement features a collection of various timepieces including pocket watches, wristwatches, and alarm clocks, arranged around the central text.



"This was a great class. As an AWCI member who has attended this course, I highly recommend it for any CW21/CMW21 who regularly works on Rolex watches." - *Michal Blaszczyk, CW21*



Brand and Caliber-Specific Training - 2012

HAVE YOU SIGNED UP YET?

It's the education you've been asking for!

- > Improve Your Expertise on High Grade Timepieces
- > Increase Your Productivity and Profitability
- > Update Your Reference Library (New 100-Page Service Manual Provided)

These courses will cover proficiencies such as:

- Maintaining Factory Standards (Timing / Escapement / Lubrication)
- Diagnostics and Repair (Barrel / Gear Train / Winding System / Calendar)
- Dialing and Casing Procedures
- Estimating and Quality Control
- Case and Bracelet Refinishing and Repair

These special classes (5 CEUs each) are offered only to CW21 and CMW21 AWCI members:

July 23 - 27 - Caliber R3035

Aug 27 - 31 - Caliber R3035

Sept 10 - 14 - Caliber R3035

Oct 15 - 19 - Caliber R3035

*Nov 5 - 9 - Omega caliber (guest instructor)

5-day block: \$875.00



AWCI Academy of Watchmaking - 2012

July 16-20 Polishing & Refinishing (5 CEUs)

Sept 17-21 Modern Mechanical Chronograph 7750/7751 (5 CEUs)

Sept 24-28 Modern Automatic Watches (5 CEUs)

5-day block: \$875.00



CW21 Exam Schedule - 2012

Aug 6-9 Lititz WatchTechnicum, Lititz, PA

Aug 13-16 North Seattle Comm. College, Seattle, WA

Oct 1-4 AWCI Training Facility, Harrison, OH

Dec 3-6 OSU Institute of Technology, Okmulgee, OK

Member: \$1,695.00 Non-Member: \$2,695.00

Please visit the www.awci.com website for information on classes and exams.

SIGN UP EARLY!

We reserve the right to cancel a class if there are less than six participants signed up 30 days prior to the first day of class, so we encourage you to wait before making travel or hotel arrangements until this deadline has passed. If in doubt, please contact Daniela Ott at 866-367-2924, ext. 303.

**TO REGISTER FOR CLASSES OR EXAMS, please call toll-free
1-866-FOR-AWCI (367-2924), ext. 303 or e-mail: dott@awci.com.**

the 2012 JCK show a huge success!

BY HENRY KESSLER

AWCI members should feel proud of the work our management, staff and volunteers did to make this year's JCK show our best ever!

JCK was generous with their space, dedicating almost six booths worth of space in the center of the watch area of the show - for free - for AWCI seminars. They also provided audience seating, a professional sound system and multiple television monitors for our presentations. In addition, JCK also provided two booths of space next to the entrance to the watch area, which we used to promote our organization and displayed our photo-mural booth. Based upon my personal estimate, the value of JCK's support over 2012 was more than \$30,000! Thank you JCK!

- Many of Tom Schomaker's presentations were filled to capacity with standing room only!
- DVDs produced at the show were sold to attendees and will be available at www.awci.com.
- AWCI supporters working the booth also had brisk sales of everything from watch repair tools to high-end service equipment and software.
- Numerous watch and jewelry industry members

saw our name for their first time, in JCK's promotional literature, on the JCK website and elsewhere.

- Past members showed a willingness to re-join and there was interest in new memberships.

All of the investment of time, travel, and planning—in addition to the work required to prepare seminars, create promotional materials, man the exhibits, and ship everything—is tremendous. The net cost to our organization is small by comparison. The benefit to AWCI and its members is, frankly, substantial, yet hard to measure. Awareness of AWCI in the minds of industry members has become enhanced immeasurably. And this work has only just begun.

Henry Kessler is an AWCI Board member and is Chairman of the Finance Committee. Sy Kessler Sales is the North American Headquarters of Renata batteries.



LEADING SWISS PRODUCTS

witschi

Chronoscope X1 (G2)

New Software Version 4.0

High Performance Tester
for Mechanical Watches

New:

- Test cycles in up to 10 measuring positions
- Test mode Chronograph with "Jumping seconds"
- Tolerance setting for the delta values
- Device for repair service and watch testing lab
- Screen captures in PNG format into USB stick
- Network compatible to the WiCoTrace database

Distributed by:



CALL 1.800.487.0408
FAX 1.800.487.5848
Shop our web site: www.casker.com



Jules Borel & Co.
1110 Grand Boulevard
Kansas City, MO 64106-2348

Order Desk 800-776-6862
Order Fax 800-776-6862
Local 816-421-6110





BOARD OF DIRECTORS

Officers

Doug Thompson, CW21: President
dthompson@awci.com

Ron Landberg, CW21: Vice President
rlandberg@awci.com

Henry Kessler: Treasurer
hkessler@awci.com

David Douglas, CW21: Secretary
ddouglas@awci.com

Immediate Past President

Mark Butterworth
mbutterworth@awci.com

Directors

Gene Bertram, CC
gbertram@awci.com

Manuel Yazijian
myazijian@awci.com

Joseph Schrader
jschrader@awci.com

Fred White, CMW21
fwhite@awci.com

Mark Butterworth
mbutterworth@awci.com

Wes Grau, CMW21
Affiliate Chapter Director
wgrau@awci.com

Jason Ziegenbein, CW21
REC Director
jzeigenbein@awci.com

Terry Kurdzionak
IAB Director
tkurdzionak@awci.com

Fellows

- *Robert F. Bishop
- *James H. Broughton
- Fred S. Burckhardt
- Alice B. Carpenter
- David A. Christianson
- *George Daniels
- Wes Door
- *Henry B. Fried
- *Josephine F. Hagans
- *Orville R. Hagans
- *Ewell D. Hartman
- *Harold J. Herman
- J.M. Huckabee
- *Gerald G. Jaeger
- Jack Kurdzionak
- *Benjamin Matz
- Robert A. Nelson
- *Hamilton E. Pease
- Archie B. Perkins
- Antoine Simonin
- William O. Smith, Jr.
- Milton C. Stevens
- *Marvin E. Whitney *Deceased

See us on



ADVERTISER'S INDEX

Bergeon	bergeon.ch	11
Borel & Co., Jules	(816) 421-6110	inside front cover
Butterworth Clocks, Inc.	(563) 263-6759	25
Cas-Ker Co.	(513) 674-7700	3 & 15
Clocks Magazine	011 44 131 331 3200	2
Eckcells	(800) 514-1270	13
Gordon S. Converse & Co.	610-722-9004	27
Livesay's, Inc.	(813) 229-2715	17
Maxell Corp	(201) 794-5900	back cover
Renata	(800) 527-0719	23
Twin City Supply	(952) 545-0719	21
Witschi Electronic Ltd.	011 32 352 05 00	29

Horological Times Advertising Policy

The publisher reserves the right to approve all advertising copy and reject any advertisements not in keeping with the publisher's standards. The publisher may, at the publisher's sole discretion and for any reason and without notice, decline to publish or republish any ad, in which case any fees submitted or paid for such ads shall be returned or rebated to the advertiser. The publisher reserves the right to edit all copy. The advertiser and/or agency agree to assume liability for all content of advertisements printed. They will also accept responsibility for any claims or suits arising therefrom brought against the publisher. Printed articles may also be used without permission expressly sought, or payment made, on www.awci.com or the American Watchmakers-Clockmakers Facebook page.

American Watchmakers-Clockmakers Institute

701 Enterprise Dr.
Harrison, OH 45030
Ph: 866-FOR-AWCI • 513-367-9800
Fax: 513-367-1414
awci@awci.com • www.awci.com

WE THANK THE IAB

AWCI would like to thank our Industry Advisory Board members for their ongoing support of the Institute and the industry.



Simon Golub & Sons, Inc.

CHELSEA CLOCK
PTRC Inc.



Global Battery Buyers
Get Green for Going Green

Esslinger & Co.
Richemont

INDUSTRY ADVISORY BOARD



Butterworth Clocks, Inc.



Movado Group Inc.



LVMH
WATCH & JEWELRY



C.R. Time Company
"WHERE WE HAVE THE TIME FOR YOU"





It's time for change.

Maxell is giving the green movement more power with its newest innovation—**Mercury Free Silver Oxide Batteries**

Created with zero-mercury and zero-lead added, these batteries have been tested to be just as powerful as conventional watch batteries, while being more environmentally friendly. So for maximum power and sustainability, go green with Maxell Mercury Free Silver Oxide batteries.

©2011 Maxell Corporation of America

For more information, contact
Cathy Ruffin at cruffin@maxell.com

