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October 2009



*American Watchmakers-Clockmakers Institute*

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*Official Publication of the  
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*HOROLOGICAL TIMES* (ISSNO 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 \$137.00 per year (\$8.50 per copy). Members subscription is \$70.00 which is included with annual dues of \$137.00. Periodicals postage paid at Harrison, OH 45030 and additional entries. POSTMASTER: Send address changes to *HOROLOGICAL TIMES*, 701 Enterprise Drive, Harrison, OH 45030

# CONTENTS

## FEATURES

- De Havilland**, The Birth of a New Watchmaking Brand, By Pierre Rogé 6  
**Elgin Pocket Watch**, Part 2, By Dale LaDue 20  
**Education Notes**, By Jerry Faier 26  
**2009 AWCI Convention and Education Symposium**, By Thomas Pack 28

## COLUMNS

- The Modern German Clock Movement**, Part 82, By Mark Butterworth 12  
New Chiming Quartz Unit  
**Making the Hole Sizing Instrument**, By Laurie Penman 14

## DEPARTMENTS

- Treasurer's Message**, By Jack Kurdzionak 2  
**Executive Director's Message**, By James E. Lubic 3  
**Questions & Answers**, By Laurie Penman 4  
**Affiliate Chapter Report**, By Gene Bertram 30  
**New Members** 31  
**From the Workshop**, By Jack Kurdzionak 32  
**Classified Advertising** 36  
**Advertisers' Index** 40  
**AWCI Staff Directory** 40

## EDUCATION

- AWCI Academy of Watchmaking Classes** 34  
**AWCI 21<sup>st</sup> Century Certification Exam Schedule** 34  
**AWCI and ClockClass.com Partner for Training Program** 35

## SPECIAL INTEREST

- Seeking Candidates for the AWCI Board of Directors** 11  
**WAO Karl Farnlacker Memorial Auction** 39

## COVER

This month's cover features  
De Havilland — The Birth of a  
New Watchmaking Brand



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## Treasurer's Message

By Jack Kurdzionak, CW21

President Mark Butterworth, during a recent conversation, asked me to provide a treasurer's report in *Horological Times* for our members. Neither of us could remember the last time, if ever, a treasurer's report appeared anywhere other than in the minutes of the meetings of the Board of Directors. This report will not be a detailed financial report since complete financial information is available on the AWCI website. Rather this message will present an overview of the treasurer's office, its duties and responsibilities, the finance committee, and some excellent financial news for the Institute.

AWCI's bylaws define the office of treasurer in the following paragraph:

### Article X Treasurer

"Sec. 1 The treasurer shall have custody and keep accounts of money, funds, and property unless otherwise determined by the Board of Directors, and shall render such account and present such statements to the directors and president as may be required."

So what does the treasurer really do? The treasurer has custody of AWCI's assets and is responsible to the Board of Directors and the President. In addition, the treasurer is Chair of the Finance Committee, which has the responsibilities of financial advisor to the Board, reviewing the annual budget, and approving any expenditure exceeding the amount in a budget category. The treasurer is a trustee of the Dodson Perpetuation Fund, which administers AWCI's endowment account. The key to success for any treasurer is being able to work with a competent and dedicated finance committee. We have been fortunate to have one for the past several years. This year's committee will be staffed by Dennis Warner, Tom Jeswald, John Safranek, and Henry Kessler, each of who brings substantial experience and wisdom to this committee.

Earlier in the decade AWCI developed new educational programs and certifications that required a substantial investment of both time and money. The time was furnished by our dedicated staff, supplemented by numerous volunteers. The money was supplied by the treasury. Consequently AWCI operated for several years with a substantial deficit, which was a genuine source of concern for many members. For the past three years, AWCI's Board and management have worked together to reduce expenses and increase revenues to the point of breaking even in FY 2007-08, and then earning a substantial profit (\$47,000) for FY 2008-09 as the investments in continuing education and certification have begun to yield dividends. For the third consecutive year, FY 2009-10, we have projected a balanced budget. Last year's \$47,000 profit will be used to reduce AWCI's senior debt thus lowering our interest payments for this fiscal year.

No one needs to be told that the past twelve months have been financially challenging for any individual or business. AWCI is no different. In the past, when AWCI needed to borrow money, it was done using our headquarters building as collateral. That was no problem until the summer of 2008 when our bank decided it no longer wanted our real estate as collateral, even though its value was

(Continued on page 19.)

## Executive Director's Message

By James E. Lubic, CMW21

It's October and the AWCI 2010 dues renewals will be arriving in your mailbox soon. The 2010 dues will again be \$137.00 for our regular members. All other membership categories will remain the same as they were in 2009.

There is one exception to the above, and that is in the Industry Advisory Board (IAB). Officially the IAB dues will stay the same for 2010. In case you weren't aware, there are 5 categories of IAB membership ranging from \$300 per year to \$10,000 per year. The idea behind this is to make IAB membership affordable for all size industry-related companies. Ideally the smaller companies pay the lower amount and the larger ones pay the higher amounts.

At the IAB meeting, which took place during the Annual Convention in Providence, Rhode Island this past August, I challenged the IAB members, specifically the larger companies, to voluntarily increase their membership fee to AWCI. After breaking for lunch and returning to the meetings, I was informed by Charles Berthiaume, Senior VP Technical Operations for Rolex USA, that Rolex USA is going to meet the challenge. Rolex USA voluntarily increased their annual dues to \$25,000 per year, and they will match dollar for dollar of additional dues money raised within the IAB up to \$25,000. This could mean an additional \$65,000 in revenue for AWCI. This is a very welcome development in the revenue stream for AWCI. I hope the other IAB members will also meet the challenge by increasing their membership fees to the IAB.

I would like to remind our members of the benefits of being an AWCI member. We all know about the *Horological Times*, industry-recognized certification, educational programs, technical information, library, website, parts forum, museum, and annual convention; all are fantastic benefits.

The one AWCI member benefit that all members should be taking advantage of (and many are not) is the Referral Directory. We have consumers using the on-line Referral Directory every day as well as calling the office looking for someone to repair their watch or clock. If you want your name and contact information to be passed on to these individuals you must have your Referral Directory listing activated at our website and all the correct contact information available.

AWCI has spent a lot of time and money making [www.awci.com](http://www.awci.com) a valuable member benefit. Just go to [www.awci.com](http://www.awci.com) and log in. Scroll down to the "Update your on-line Referral Directory record" and follow the directions. It's that easy.

A Google™ search is the way a lot of people find information. If you do a search on practically any combination of watch repair or clock repair, watchmakers or clockmakers, etc., AWCI and our Referral Directory are always on the first page of results out of at least 250,000 minimum, and in some cases over 1,000,000 pages that reflect a match on the search criteria. In this day and age you can't afford not to be listed on the AWCI Referral Directory.

For those who are looking for a job, or might like to test the market for a new job, we have the AWCI Career Center. AWCI members are invited to post their resume for free. You never know who might see your resume in the Career Center. You may get an offer you can't refuse just because you're an AWCI member.

All these member benefits are available to AWCI members at no additional cost and they all have the potential of improving your bottom line at no extra cost. Just take the time to look into them. They are only a mouse click or a phone call away.

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## Question

Could you give me some information about this long case clock by Timothy Mason Gaintbro, when this clock was made and where?

*M. Painter  
Ellijay, GA*

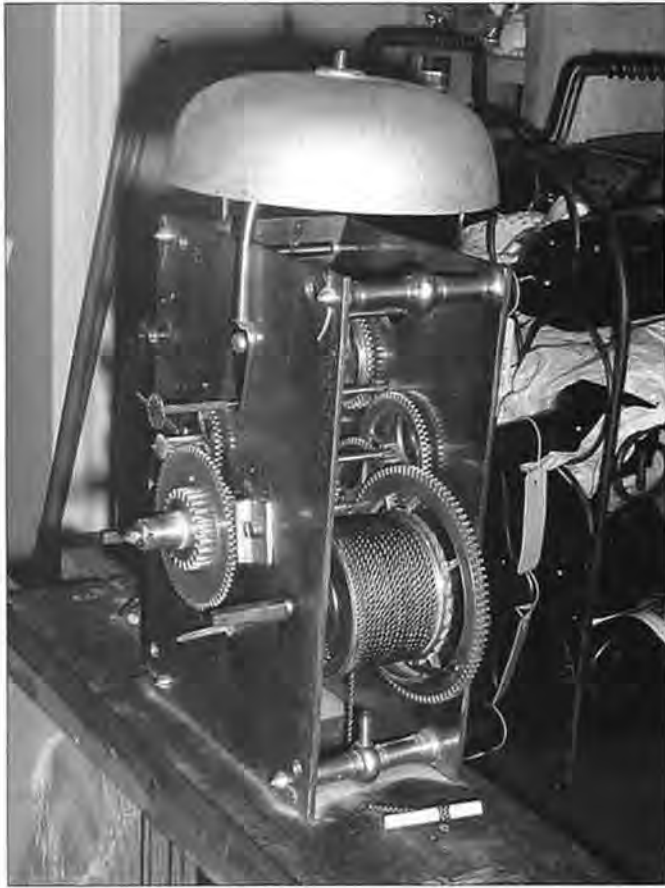
## Answer

It is a very nice long case clock of good quality. It was made by Timothy Mason of Gainsborough in Nottinghamshire (on the river Trent and an important city in the 18<sup>th</sup> and 19<sup>th</sup> centuries).

I don't believe that the weights are original, a clock as well made as this one appears to be, should run well on eight pound weights, and it would use catgut instead of steel wire. Try it and see. Lighter weights mean less wear and it is entirely possible that, if the weights are a recent addition, it will not have had any bushings installed. If you can find 'made' modern bushes (as opposed to the clock repairer's bushes) it might give you a clue about the date when the heavier weights were added. I would guess at the beginning of the 20<sup>th</sup> century. Heavy weights and unnecessary wear on pivots, pivot holes, gear teeth and the impulse faces of the escape pallets are a bit of a hobby horse of mine, and not everyone agrees with my declaration that such weights are replacements.

However, replacement weights have been around for a century or so, and they do not evaporate. What used to happen is that an owner would come to a clockmaker for





a repair when the clock got filthy dirty, and jibe at the price of dismantling, cleaning and polishing. Whereupon the clock repairer would say, 'Well I can sell you heavier weights for a shilling – that'll keep it going.' Which is similar to starting a camel with two bricks!

The maker of this clock did not simply follow the pattern of other clockmakers. There are some of his own ideas in it. The lifting piece that is raised by a pin on the minute (compound) wheel is not 'standard', neither is the lever that catches the hoop wheel to stop the train. It appears to have an extended head, presumably to add a little mass and avoid the possibility of it skipping through the hoop. I cannot see the warning lever, but I would not be surprised if that was idiosyncratic too.

There is a Timothy Mason of Gainsborough listed for ca 1700 in Baillie and for 1695 in Britten. The clock looks to be about 1730 to 1740, and if Timothy managed a fifty-year, or so, working life that is probably the man we are looking for. Another Timothy who might well be his grandson is listed for Chesterfield, which is not too far from



Gainsborough around 1750, quite possible. His father might well have carried on in Gainsborough, young Timothy might have moved to Chesterfield after working in the family shop for some time. The clock could still date to 1740 and meet those conditions.

It is a large family of clockmakers and you might very possibly be able to get more detailed information from the British Horological Institute, which is in Nottinghamshire. Their website is: [www.bhi.co.uk](http://www.bhi.co.uk)

*Laurie Penman*

Send your questions to:  
 Questions & Answers  
*Horological Times*  
 701 Enterprise Drive  
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# De Havilland

## The Birth of a New Watchmaking Brand

Pierre Rogé, JDC Electronic SA  
Utüns 40, CH-1400 Yverdon-les-Bains  
[www.jdc.ch](http://www.jdc.ch)



Two long-standing friends, Jean-Daniel Carrard and Patrick Guerne, combined forces and know-how in September 2003, having decided to throw themselves into a watchmaking venture with the creation of a watch for pilots.

### Why create a watch for pilots today?

In 1989, Jean-Daniel Carrard wanted to develop a watch that included an altimeter, but the electronic components of the time were not up to the task.

Having lost his flight plan during air baptisms at a flying meeting, Patrick Guerne searched for a watch that would enable him to record the times of take-offs and landings and also calculate the total flying time.

In 2003, having found nothing on the market that matched his needs, Patrick Guerne spoke of the problem to Jean-Daniel Carrard. Over the past ten years, the electronic components had evolved further and Jean-Daniel Carrard's dream had become reality. And now, despite the fact that neither of them are watchmakers, they have decided to throw themselves into this adventure!

### What do pilots actually need?

In order to set out the specifications for this watch, a team of professional civil and military pilots was set up:

a helicopter instructor, an acrobatics instructor, a private pilot and a commercial pilot. This approach made it possible to respond to explicit and implicit requirements from the target clientele.

The team of pilots listed the requirements associated with the use of a watch as a work tool in their professional activities. These demands influenced every aspect of the watch's conception. For it was not only to include altimetric and barometric functions, but was to display this information on an LCD that was to be constantly visible. Moreover, it had to be possible to adjust the watch wearing gloves and it had to be possible to wear it on the wrist but also over the sleeve of a flying jacket.

### A Watch with Electronic Complications

In order that this watch might satisfy this list of requirements, it had to be designed with a concept of regulation and construction that was totally innovative for the watchmaking world. To do so, the designers drew inspiration from some words of Leonardo da Vinci: "Simplicity is the supreme sophistication". An initial fact became immediately apparent: it was impossible to have a separate mechanical movement and electronics, so this watch is entirely electronic. Its main features are as follows: a bezel that replaces the crown for regulating the watch; push buttons with a clearly felt and long-lasting trigger:

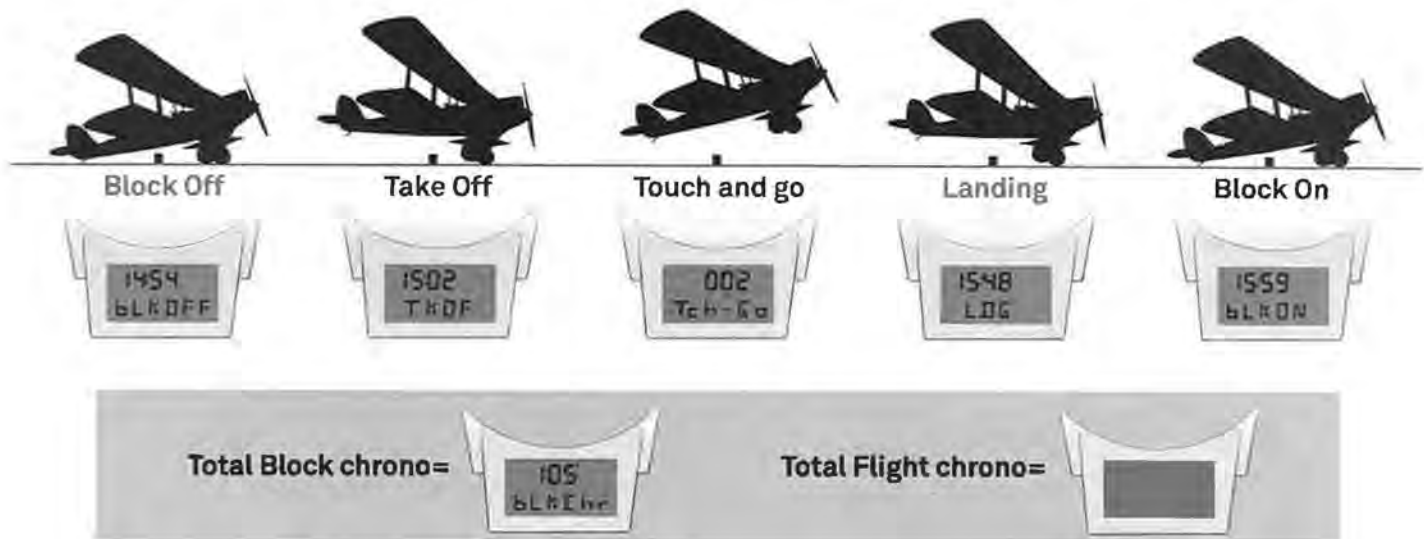


Figure 1. Overview of the logbook

- an LCD set aside from the dial;
- a Ronda movement driven in both directions;
- a single electronic system driving both the LCD and Ronda movement;
- a buckle with micrometric adjustment.

On top of these innovations, various technical problems had to be resolved. Amongst other things, it was necessary to link the LCD and the Ronda movement to the PCB (Printed Circuit Board) to assure good contact while at the same time facilitating assembly; to simplify the assembly and fixing of the movement within the case middle; to assure the watch's water resistance with a pressure transducer in contact with the outside air; to amplify the sound of the buzzer within a watertight case; and simplify the fixing of the bezel.

### Flight Recorder

The De Havilland watch shows the time, of course, but it also incorporates a data logger. This data logger makes it possible to record the flight information in real time that all pilots must record in their logbook. It memorizes various parameters such as:

- hours block to block;
- take-off time;
- landing time;
- flight duration;
- total time.

This data, which can be recorded with "UTC time" or "local time", is flanked by a second time zone, an alarm and a 1/100<sup>th</sup> second chronograph. All the chronometric functions are based on a temperature-compensated high-precision quartz oscillator regulated by the watch's

software (maximum error  $\pm 0.1$  second per day between  $-25^{\circ}\text{C}$  and  $+65^{\circ}\text{C}$ ).

### Push Buttons

A new concept for the commands has been perfected: the push buttons control the internal mechanisms through the case, which is not pierced. In order to assure a positive and long-lasting triggering and to ensure that the "click" can be felt through gloves, the design had to be simplified and components subject to wear and tear removed, including the springs, which have been replaced with magnets.

The watch's interior mechanisms detect the variations in magnetic field of the push buttons and translate these into instructions for the electronic circuits. This patented innovation (patent no. EP 0 985 169 B1; see Figure 6) makes it possible to cut manufacturing costs, considerably increase the life of the push-buttons (more than 1



Figure 2. Test bench for the push buttons



Figure 3. Watch demonstrator: the upper knurl simulates the functioning of the bezel. The push buttons are not linked mechanically to the movement. The LCD and movement are linked.

million cycles without error or wear) and to eliminate problems of water resistance, as there is no longer a mechanical component passing through into the case.

### Rotating Bezel

Another novelty lies in the use of the rotating bezel for setting altitude and pressure (like on the aircraft's own instrument panel), as well as for regulating the time functions.

This system, which uses the same system of transmission of instructions by variation in magnetic field, makes it possible to regulate the minutes in a clockwise and counterclockwise direction, and replaces the crown, which is inconvenient to use if wearing gloves. Moreover, the case has an added bonus in that it is not pierced to allow the stem of the crown through into the interior, thus assuring complete water resistance.

### Buckle with Micrometric Adjustment

As with the push buttons, the components subject to wear in the buckle (springs) have been replaced by magnets to assure the wearer the best reliability over time. The buckle with micrometric adjustment, itself the subject of a patent request, offers a series of advantages, including:

- excellent comfort while wearing the watch, even if the wrist swells during the day;



Figure 4. Titanium buckle with leather strap

- a work tool that is always visible, as it can be worn over the sleeve of a flying jacket, without changing the strap, thanks to a 24 mm extension;
- straps in various materials with the same buckle;
- leather straps that have a longer life as they are not deformed by an ardillon.

### Single Electronic Circuit

This watch uses a single electronic circuit to display the time on the dial and in the LCD. As a result, there is no risk of creating a difference between the analog time and the digital time displayed in the watch. This electronic system also makes it possible to adjust the minute hand in both directions in order to facilitate time correction without having to effect a complete revolution of the dial if the user wishes to set the watch back, say, by one minute.

### Altimeter Offering a Precision of 10 cm

The latest-generation pressure transducer has been chosen for its great sensitivity, while being compact, parsimonious in energy consumption and giving a precision in altitude to the nearest decimeter. The watch enables the selection of altimetric data that is useful for aeronautical purposes, i.e.:

- altitude above sea level;
- height above ground;
- flight level;
- OFE;
- ONH,

Meteorological trends can also be displayed:

- QNH (atmospheric pressure (Q) at Nautical Height or Query Newlyn Harbour): the atmospheric pressure measured at the official altitude of an airfield and calculated down to the mean sea level (MSL or Mean Sea Level) in accordance with the characteristics of standard atmosphere.

- QFE (atmospheric pressure (Q) at Field Elevation): the atmospheric pressure at the official altitude of an airfield.
- The QNH and QFE are expressed in hectopascals (hPa) or in inches of mercury (inHg).
- The flight level or FL (Flight Level): the altitude expressed in hundreds of feet above the isobar surface 1'013.25 hPa.
- When an altimeter is set to:
  - QNH, it indicates altitude;
  - QFE, it indicates the height above the QFE level of reference;
  - a pressure of 1'013.25 hPa, it can be used to indicate the flight levels.

**Summary**

As a new watchmaking brand, De Havilland has to have a creative marketing tool with an extremely high target/cost impact in order to carve itself a niche in the market.

The name of De Havilland was not chosen by chance. In the aeronautical world, this early builder of aircraft is known and respected for having in its day constructed high-performance and extremely innovative aircraft. For

example, if all of today's civil aircraft have rounded windows, it is thanks to De Havilland, which some years ago explored the unknown world of civil jet aircraft flying at high altitude.

For the brand's launch, the directors also decided to pay tribute to the man who inspired the conception of the watch: Leonardo da Vinci. In April 2008, the first complete jump using a parachute as envisaged by Leonardo da Vinci took place before the press at the military airfield of Payerne. The event was shown around the world. Since De Havilland



Figure 5. A jump using the parachute conceived by Leonardo da Vinci

# SIGMA Water Resistance Tester

*The SM8850 instruments are the fruit of over 25 years experience in developing water resistance testing equipment for the watchmaker.*

**Sigma 10 bar Water Resistance Tester**

Sigma high performance tester displays parameters and test results on an LCD panel. Pressure range from -0.7 bar to 10 bar. Large testing chamber allows for large watches, yet its volume shortens the filling time at high pressure test. High sensor head allows watches with stiff bracelets to be tested. The unit features; chamber leak test, extremely simple operation and programming, 10 programmable simple or double test, automatic watch positioning, automatic start of test. Works with a compressor and/or Pressure Booster #550.001. If pressure source of 10 bar is not available, the booster will supply the desired pressure to the tester. The tester is also available in 20, 30 and 50 bar pressure configurations. Swiss made.

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### Extracts from European patent EP 0 985 169 B1

Priority : 26.05.1997 FR 9706561

Owner : JDC Electronic SA

Inventor : Jean-Daniel Carrard

#### Claims

1. Control device for the functions of a timekeeping instrument, notably constituting a wristwatch comprising a case, a bezel, a case middle and a case back, including the means (12) to generate a variable magnetic induction flow, means of detecting (13, 13', 13'') the variable magnetic induction flow, means for processing (14, 14', 14'') the signals originating from said means of detection, and means (15) to control the timekeeping instrument's functions, these controlled functions depending from the signals originating from the said means of processing, **by which** the means (12) used to generate a variable magnetic induction flow comprise a moving component (27, 30, 50, 60, 70, 80, 90, 100, 130) accessible from outside the case of the timekeeping instrument and a fixed mechanism within the watch's case, the moving component (27, 30, 50,

60, 70, 80, 90, 100, 130) not having any kinematic link with the interior of the case of the timekeeping instrument...

6. Device in conformity with claim 3, **by which** the timekeeping instrument includes a rotating bezel (111), and **by which** the moving component (130) is formed of this rotating bezel...

14. Device in conformity with claim 1, **by which** the means of processing (14, 14') signals include means to detect the speed of displacement of the moving component.

15. Device in conformity with claim 3, **by which** the means of processing (14, 14') signals include means to detect the rotation of the moving component.

Figure 6. Extracts of patent EP 0 985 169 B1

watches are aimed at a niche market, an innovative sales system has been set up to reach potential customers. Interested pilots may request a live demonstration of the watch in use. The presentation of this work tool is undertaken by a pilot, and at the same time potential buyers learn how the product was born. It is the usefulness and quality of the product that assure the promotion of the brand, thanks to new customers who in turn help promote the watch.

With the technology in place, De Havilland can rapidly "customize" its watch at low cost for other highly targeted markets. This expansion to other markets has already been planned, and by 2010 the De Havilland range will have expanded.

#### Enthusiasts Underpinning De Havilland

Jean-Daniel Carrard is director of a microelectronics business, an inventor and owner of patents for applications using magnetic fields. He constructs measuring instruments for free flight, navigation, meteorology, and also works on commission for leading watchmaking brands. He is also a filmmaker and photographer. Passionate about flight, he has flown free flight machines since the 1970s.

Patrick Guerne is director of a graphic arts business, a filmmaker and photographer. He has been a free flight pilot since 1978, has taken to microlight aircraft and effected a tour of Switzerland in one day to defend a form of aviation that has always been forbidden in this country. He is also an aircraft and acrobatics pilot.

Together, they filmed the images of the famous vol-bivouac pilot, Didier Favre, have won several prizes in film festivals and worked with the Université de Neuchâtel in Switzerland on a revolutionary camera stabilizer.

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[www.dehavilland-watches.com](http://www.dehavilland-watches.com)



# Seeking Candidates for the AWCI Board of Directors

The committee involved with securing candidates to run for the AWCI Board of Directors is seeking recommendations from the membership. If you plan to suggest a possible candidate, please send that individual's name and background to: Nominations for Board of Directors Committee, AWCI, 701 Enterprise Drive, Harrison, Ohio 45030-1696 or e-mail to: [nominatingcomm@awci.com](mailto:nominatingcomm@awci.com)

Each recommendation will be carefully considered by the committee. Candidates will be selected on the basis of their local association or AWCI experience, geographic location, present job status, horological experience, and willingness to serve. The nominating committee will notify each candidate whether they have or have not been selected by the committee by December 30, 2009.

The deadline for membership to nominate a candidate for the AWCI Board of Directors is December 1, 2009 to be considered for the 2010 election.

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# The Modern German Clock Movement

## Part 82

### New Chiming Quartz Unit

Occasionally we recognize that not all modern products in the clock world are German. This is especially true with electronic clocks and their movements. There is now a movement from China already in its second generation. Some American manufacturing companies are using this and it is also available in the replacement market being sold under a variety of names including Quad and "tubular sound quartz." The product comes in three hand shaft lengths for dial thickness of approximately  $\frac{1}{4}$ ",  $\frac{3}{8}$ ", and  $\frac{1}{2}$ ". The movement uses standard I-shaft hands, plays four tunes (Westminster, Ave Maria, bim-bam, and a unique "tune"—single hammer on gong), has auto night shut off feature, volume control, and features a detached speaker in its own plastic case. The speaker has an E-Z connect feature so that if it ever becomes necessary to replace the movement, it is not required to dismantle the speaker from

its installed location. It also has a universal pendulum feature (removable), meaning the timing of the clock is independent of the length of the pendulum. Although the magnet is rated for a pendulum up to 70 gm, it is reported that often it will carry one heavier. Another nice feature is the "monitor button" which allows one to demonstrate the sound to the customer. As with a number of the brands, it does not chime during the first hour after installing the batteries and does not chime quarters when turning hands manually.

The movement requires two "C" size batteries and measures about  $4\frac{1}{2}$ " square. It can be installed two ways—through the dial with hex nut on external threaded shaft, or the movement itself has 4 holes in the plastic casing for wood screws. Please see Figures 1 & 2.

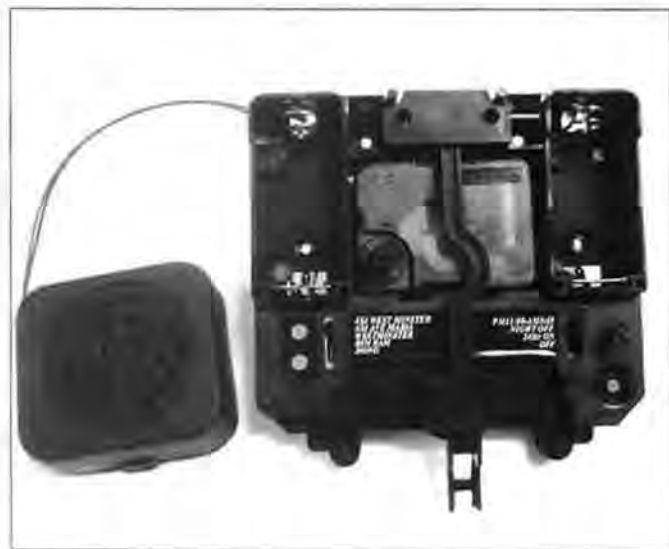


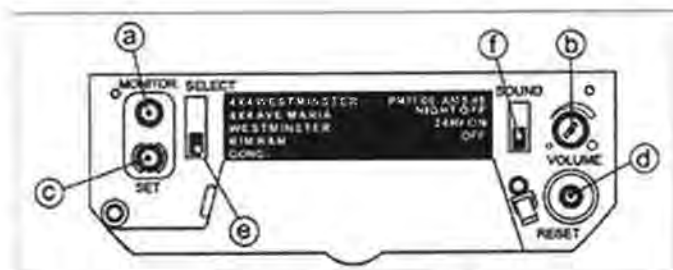
Figure 1



Figure 2

The movement is not without its quirks. One is that the time portion of the unit is independent of the chime portion. As a result, each time the minute hand is turned past the hour, whether it is turned forward or backwards, the chime advances by one hour. In other words, the hands can be only moved forward past the hour. The second is that there is a specific procedure for setting the time after replacing the batteries. Instructions will come later in the article. The third, and entirely unintended, some batteries do not work as well as others with this unit (shades of the early Hermle quartz). The specific issue is the positive end of the battery compartment on the movement holds the battery in such a fashion that the positive terminal does not quite touch the metal contact with some brands. Of the popular brands, Energizer seems to work the best and Duracell is the most troublesome. The positive tip of the battery needs to protrude high enough from the rim to provide pressure against the metal contact. Also interesting is that the auto night off feature runs from 11:00 PM to 5:45 AM. It seems our Asian friends work later and get up earlier than we do.

The Quad schematic shows the essential buttons and switches. The gray button, upper left side of the schematic labeled monitor, can be pressed at any time to demonstrate the sound of the unit. The lower left button (set) advances the strike one hour each time it is pressed. The button on the lower right side (reset) will automatically reset the strike to 5 o'clock AM. In other words, the next time the hands pass the hour position after depressing this button the clock will strike 6 o'clock AM. The switches are fairly self explanatory except to mention that the position marked 4 x 4 Westminster is for quarter chiming and Westminster is for full Westminster on the hour but no quarter chimes. When first installing the movement it is suggested that the hand shaft be turned clockwise until a faint click sound is heard. Install the hands at the 5 o'clock position. Insert the batteries. Turn the hands one



Quad Schematic

hour to confirm that it is striking 6 o'clock. The hands can then be moved forward to the correct time. Again, note that after first setting it will not chime the quarters until the following hour. When re-installing batteries on an existing clock, it is suggested that the simplest procedure is to again set the time to 5 o'clock and then install the new batteries. The clock can then be set to correct time by moving the hands forward.

Hopefully, these basic hints will help you give the customer great satisfaction with this unit.

Final thought: *"It should not cost a lot to fix this; it ran perfectly well until it stopped eight years ago."*—Contributed by Manfred von Starhemberg



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# Making the Hole Sizing Instrument

By Laurie Penman

There is an alternative to making a tapered probe and using a vernier or steel rule to measure how far the taper has sunk into the hole. That is to use a standard thread and count the number of turns of the thread taken to enter the hole. As it happens, Unified and American fine thread for size 10 has a pitch of  $1/32$ " and American extra fine  $1/4$ ",  $5/16$ " and  $3/8$ " all have 32 threads to the inch. I decided to use the 10 x 32 screw thread, it is a reasonable size for handling, we had taps and dies of this size in the AWCI workshop and the wire gauge 10 is almost 5 mm, which is a stock item of drill rod.

I do not always completely design tools on the screen first, it is often easier to see what material is available and let the thing grow under your hands from a rough unidimensional drawing. That is what I did in this case, with a little bit of thought given to the order of machining. The most convenient way to "read" the instrument is to have a flat machined on the part that protrudes from the body of the instrument. What I had in mind at this moment was a screwed shank on a tapered probe and a brass body that this screwed into, the length of the body and the amount of protrusion was important, but could be arrived at when the probe had been machined. There is a practical difficulty that arises with the 10 x 32 thread and that is it is very small for stamping numbers on. (The numbers represent the diameter of the holes in thousandths of an inch.) In fact the numbers shown would be just 1 mm high. Stamps of this size are available but in practice I will use a dot punch at every fifth thread. Since the smallest in this case is 0.040" the first dot is at 0.045" two dots at 0.050", three at 0.055" and so on, the remaining numbers having two rows of dots so that the pattern is easily recognized. Incidentally the thick line graved on the brass body is not cut until the instrument is completed and its position is decided by the position of the cut face when the probe is fitted in a 0.040" diameter hole.

The flat could be made by setting a turning tool over on its side and drawing it along the rod with the hand wheel

of the lathe saddle (using the lathe as a shaping machine), the rod would spring of course and would therefore need a running steady to prevent this. Figure 2 shows the arrangement. The top slide (out of shot) has been set over so that it can adjust the mount of cut made by the tool (since the cross slide carries the running steady it cannot be advanced without advancing the steady as well). It is awkward but if a lathe is the only machine you have, this is one way to make the flat (Figure 3). The other way is to put an end mill in the chuck and make some holding device for the drill rod, so that it can be traversed past the end mill. This calls for more jiggling and setting up than shaping the flat. We have a milling machine and that is a great deal simpler.

Figure 4 shows the rod gripped in a vise and the end of a vernier being used to ensure that the rod lies parallel to the top of the jaws. (The top of these jaws have been

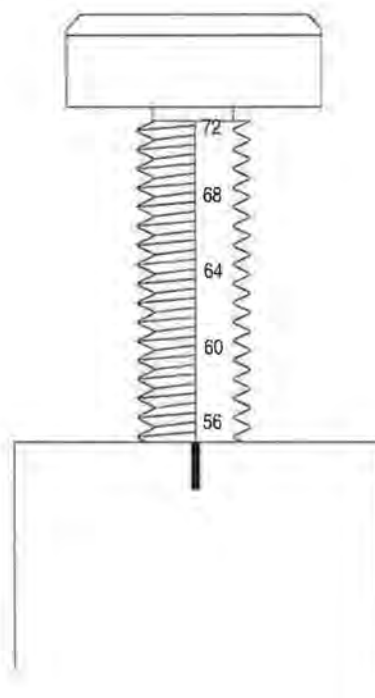


Figure 1

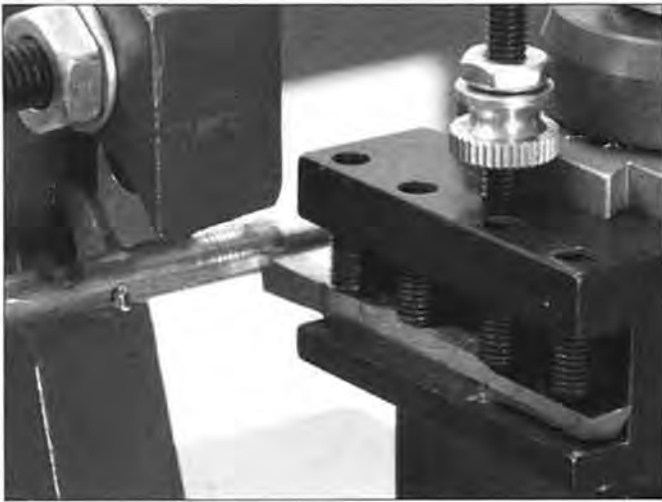


Figure 2



Figure 5

machined on the milling machine to ensure that the top is true to the milling table, which in turn was fly milled last year to check that it runs true (Figure 5). The finished flat can be seen in Figure 6.



Figure 3



Figure 6

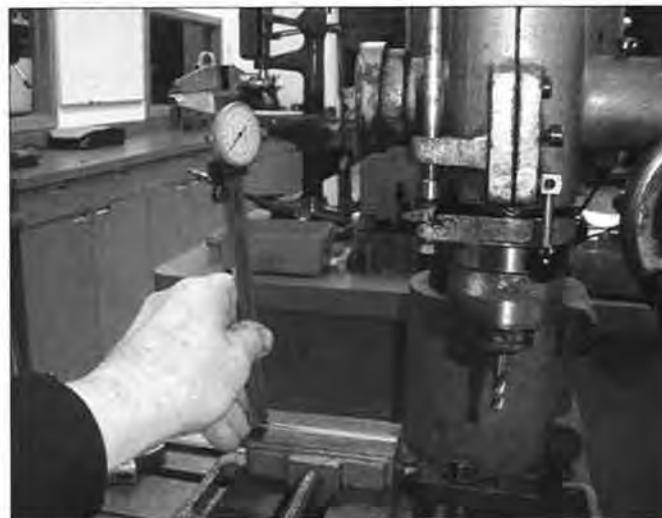


Figure 4

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Figure 7

The most time-consuming part of the task is machining the taper and since it is possible to scrap the work at any stage of the machining, it is best to leave the most expensive operations to last, that way there is the least investment of time if a catastrophe occurs. This means that screwing the rod is the next operation and in Figure 7 you can see that the workpiece has been slipped back inside the collet and a portion turned down to the core diameter of the screw cutting die.

It is useful to start the thread in the lathe, using the tailstock to set the dies stock square to the axis of the machine as seen in Figure 8. However, a collet chuck does not exert a firm enough grip to prevent the work rotating as the die cuts farther along the work and so (leaving the die stock firmly set on the end of the rod) I transferred it to a vise (Figure 9).

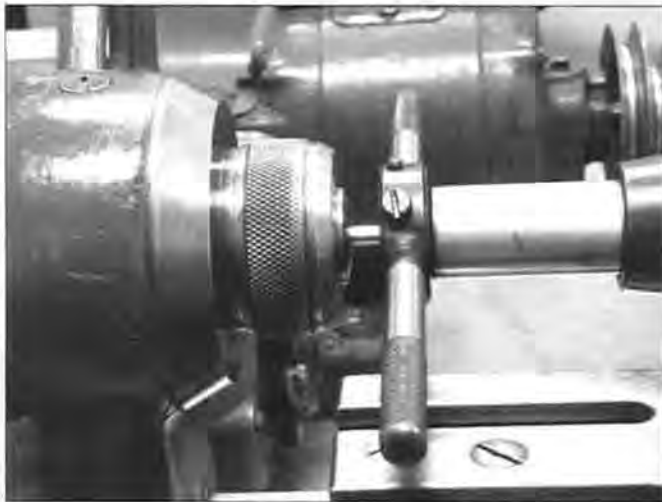


Figure 8

Even the vise had difficulty in holding the rod while screwing it, the flat that I had machined increased the amount of resistance to cutting the thread, nevertheless I would still cut the flat first and then the thread, because I would expect the thread to be damaged by milling the flat and would require the die to be used again to clean it up.

Figure 10 shows the finished thread. The first stages of the machining were complete and only the taper turning was needed to finish the probe.

Clearly the taper had to be constructed to ensure that  $\frac{1}{32}$ " of depth of probe corresponds to a 0.001" change in diameter. In addition there was a need for more than one probe unless the range of holes measured is severely limited. A probe that measures holes ranging from 0.040" diameter to 0.070" would have a scaled length of 30/32", which is what I intended to produce.

If winding holes are excluded then a set of four probes would probably be sufficient for all a clockmaker's needs.



Figure 9



Figure 10



Figure 11



Figure 12



Figure 13

The smallest would be 0.025" to 0.040" and have a length of  $1\frac{5}{32}$ ", I believe that this is short enough to make turning a taper of these dimensions practicable. I will prove it (or not) at the end of this article. The other two probes that I propose to make are 0.070" to 0.100" and 0.100" to 0.150". The last being about  $1\frac{1}{2}$ " long, but stout enough that this will be much easier to cut than the one I am turning here.

Machining thin tapered cylinders like this probe is never easy because there is a tendency for the work to bend. Make sure that the tool is dead sharp (as sharp as a graver), take very small cuts and break the turning into two stages (Figure 11). This will require very careful machining for the second stage (Figure 12) to ensure that it does not result in the tool cutting below the level of the first surface. A magnifying lens of x10 or x15 is a great help. Any very slight mismatch (Figure 13) between the two staged surfaces (say 0.001") can be corrected with a very smooth file (Figure 14) with a width of at least 1" so that it will lie on the surface of the second stage and reduce it until the file just "kisses" the lower surface.

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Figure 14



Figure 15

Finish with fine (800 grit) emery paper backed with a metal or glass strip 1" wide (Figure 15) and check the taper at each end and the middle with the micrometer (Figure 16). The finished probe can be seen in Figure 17. Next month I will machine the barrel, calibrate the instrument and test whether I can machine the smallest probe on my lathe.

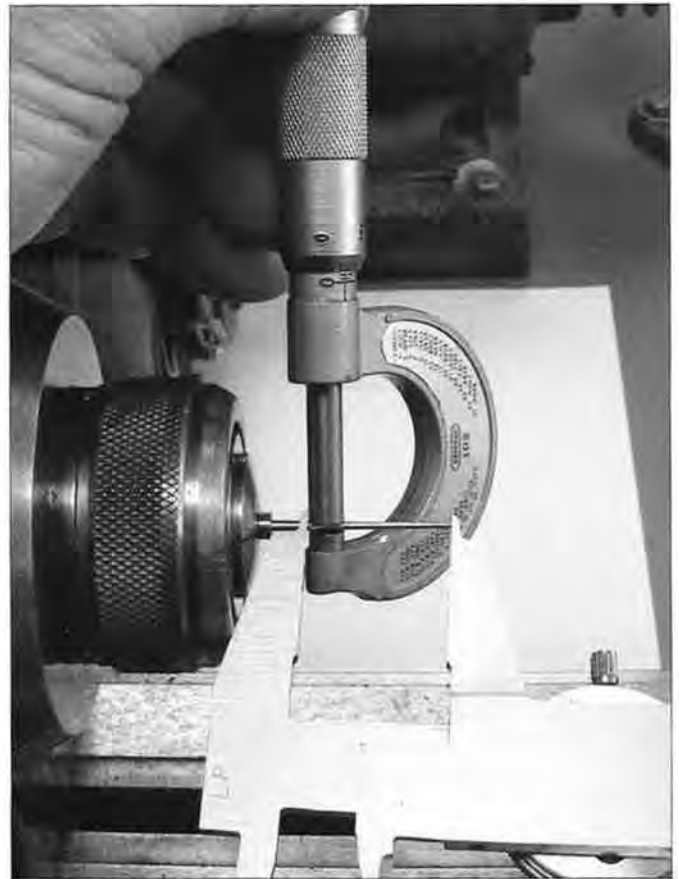


Figure 16



Figure 17



## PARTS MESSAGE BOARD

The American Watchmakers-Clockmakers Institute **Parts Message Board** is available on line at [www.awci.com](http://www.awci.com) Click on the Parts Forum in the Top Links box. Guests are free to browse our topics and posts but only validated AWCI members will be able to actively post messages and communicate with one another via private messaging.

The purpose of this board is to aid our members in finding watch parts, clock parts and tools. This board is not open to generic advertising posts; therefore, web addresses and e-mail addresses should not be included in public messages.

## Treasurer's Message

Continued from page 2

far in excess of our debt. In consultation with Johnson Investments, a well-respected Cincinnati investment advisory firm that manages our Perpetuation Fund, the Perpetuation Fund trustees pledged a GNMA bond in our portfolio as collateral for our debt. Our headquarters building is no longer encumbered by any debt.

On January 1, 2008, Johnson Investments took over the management of our Fund and all looked well for about eight months. Then the world's financial markets declined precipitously as reflected by the Dow Jones Industrial Average which went from 13,000 to a low of 6,600 last March to 9,400 at the time of this writing. Fortunately for AWCI, its portfolio did far better than most others during this period so that I can report that its value is currently 6.2% lower than it was on January 1, 2008. The fund's income (approximately \$28,000 per month) is paid to AWCI each month as one of its revenue sources. If the amount of that income for the past 20 months is added back into the Fund's value it is immediately apparent that the Fund has actually grown in value in spite of the nation's economy.

AWCI management, staff, and Board are all working together to continue the progress we have made in the past three years. AWCI is solvent, has a substantial and secure Perpetuation Fund, and a building that has no debt. Yes, we do have debt, but it is less than 15% of our net asset value and that is not a bad position to hold in 2009.

*Jack Kurdzionak, Treasurer*



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# Elgin Pocket Watch

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## Part 2

By Dale LaDue, CMW

In Part 1, I demonstrated the replacement of a broken clutch/setting wheel post. In the past someone had repaired the worn center wheel pivot by simply turning and polishing down the pivot (Figure 26). This pivot seemed dangerously small. Figure 27 shows that the pivot hole was also closed with a punch as evidenced by the marks around the hole.



Figure 26. The center wheel pivot had been turned down in the past.

I happened to find another wheel from a later model and compared the pivots (Figure 28). The small size of the factory pivot surprised me.

I decided to repivot the original worn center wheel. The pivot was ground flat, then a perfect center was turned in it (Figure 29). The hole was drilled with a carbide spade



Figure 28. The turned down pivot compared to an original size pivot. Even the original pivot seems quite small for a center wheel.



Figure 27. The center wheel pivot hole had been punched closed as evidenced by the marks surrounding the pivot hole.



Figure 29. The pivot was removed and a perfect center was cut in the shoulder.

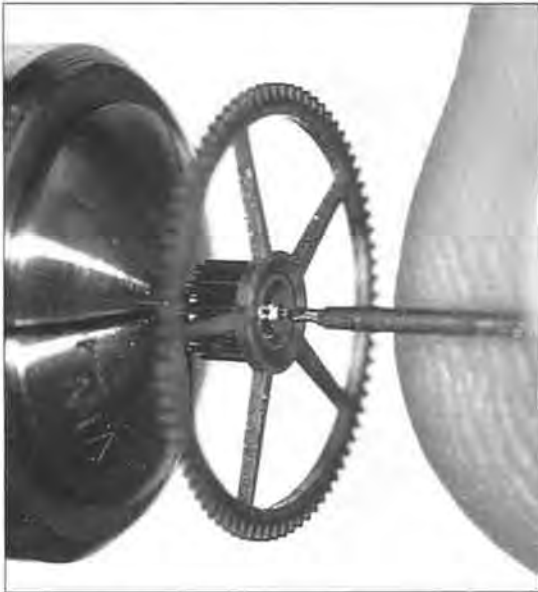


Figure 30. The hole for the new pivot was drilled with a carbide spade drill.

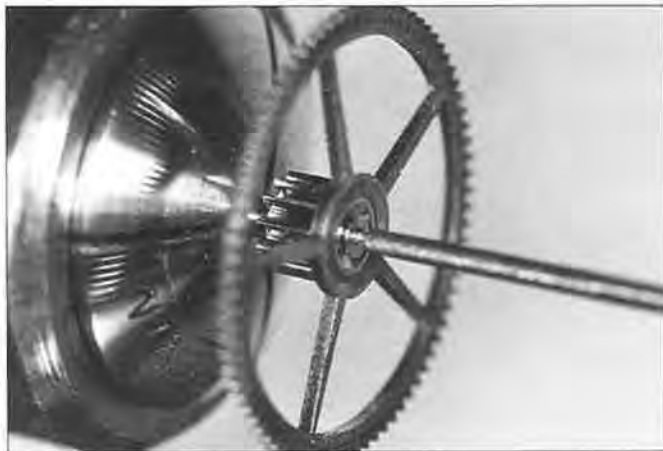


Figure 31. The hole was drilled about  $\frac{3}{4}$  of the pivot length.



Figure 32. The hole was drilled larger than the final pivot diameter.

drill as shown in Figures 30 and 31. The finished hole is shown in Figure 32. The hole was drilled larger than the finished pivot size. This allows for turning the new pivot true if indeed the hole was drilled slightly off center.

A blued steel pivot was ground down with a hand-held rotary tool as demonstrated in Figure 33. It was tested for fit frequently (Figure 34) until a firm slip fit was achieved. The plug was turned nearly through and pressed into the



Figure 33. A piece of blued steel was ground to fit the hole. The lathe was shrouded to protect it from grinding debris.

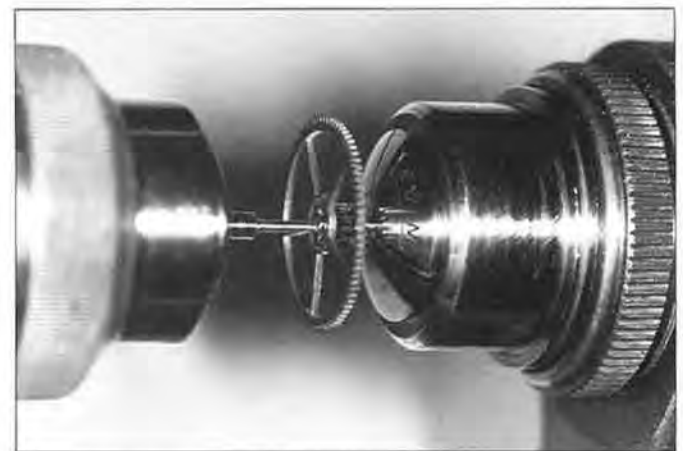


Figure 34. The new pivot was tested often for proper friction fit.

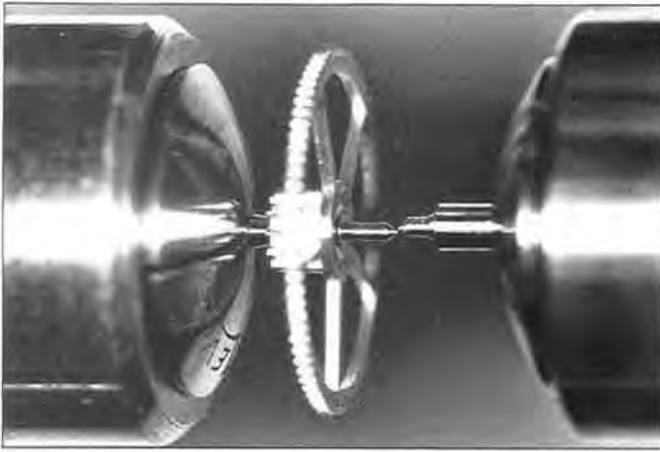


Figure 35. The pivot was cut back almost completely through.

hole as the lathe was quickly turned on and off, which snapped the plug off its rod (Figure 35). Red stud and bearing locker was applied to the plug (Figure 36) and it was tapped home (Figure 37). It is important to apply the stud and bearing (permanent) locker to the plug and not in the hole because pressure could build up and split the pinion when the plug is tapped in place. In this case the pinion is quite substantial; however, a wristwatch pinion or small arbor could very easily split.

The pivot was turned down to size, polished and burnished with a Jasper slip (Figure 38). The diameter of the pivot was arbitrary, and I decided on a size slightly larger than the original (Figure 39).



Figure 36. Red permanent thread locker was used.

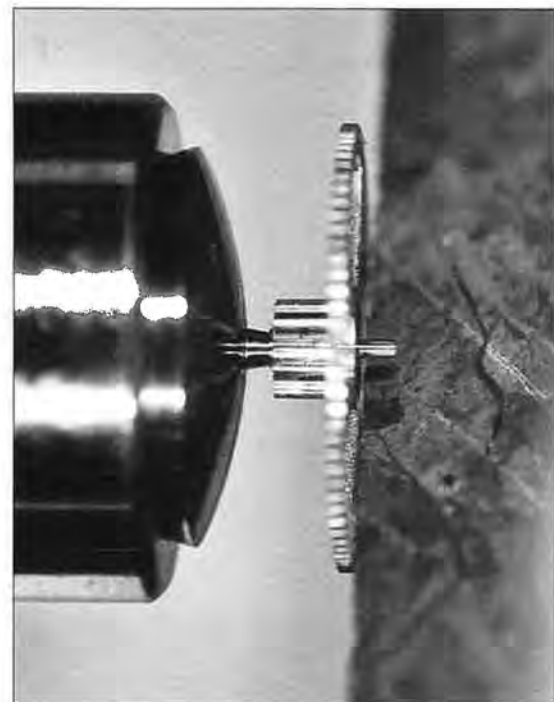


Figure 38. The pivot was turned true, polished and burnished with a Jasper slip.



Figure 37. The new pivot was gently tapped home.



Figure 39. The substantially larger finished pivot

The pivot hole that had been closed in the past needed to be opened to accommodate the new larger pivot.

In order to bore out the pivot hole and keep the wheel upright, a faceplate was utilized (Figure 40). The watch plate was centered using a wobble stick that indicated when the center wheel pivot hole ran true (Figure 41). The wobble stick point was loosely pressed into the pivot hole (Figure 41). Being pivoted one inch from its point, the opposite end would wobble around indicating that the hole was off center. The longer the stick, the greater the wobble at its far end. When the far end of the stick indicates its lowest point, the pivot hole is above center. The plate was gently tapped down with a soft light hammer. The process was repeated until the stick ran true indicating a perfectly centered hole. The faceplate clamps were then tightened and the center pivot was checked again to be sure it stayed on center. The bridge was mounted on the plate (Figure 42) and slowly rotated in the lathe. This process reflected just how far off center the previous repair was.



Figure 41. The center wheel hole was centered using a wobble stick.

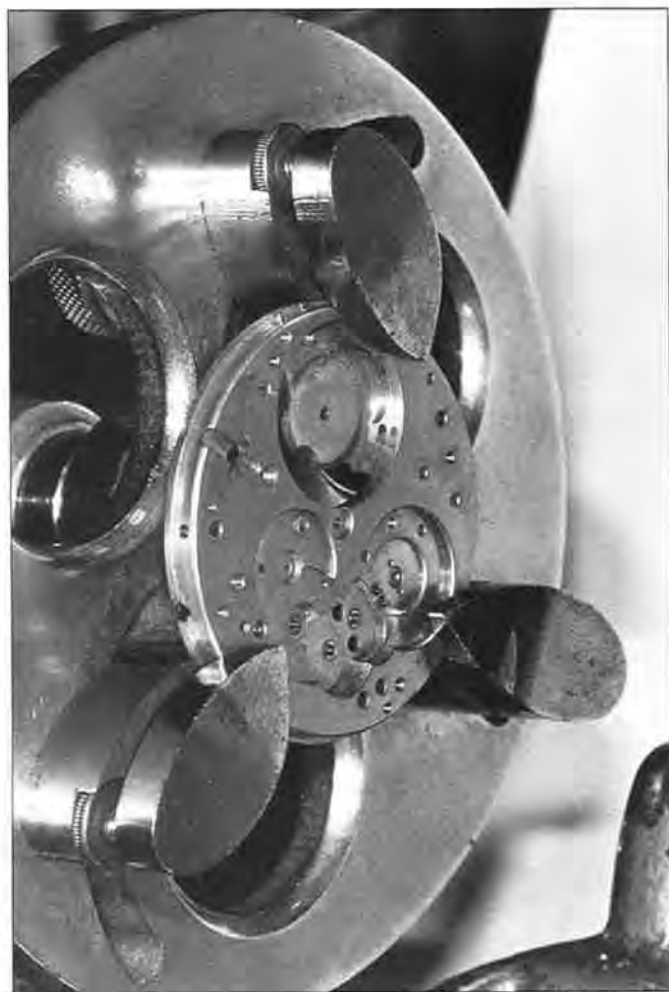


Figure 40. The mainplate was mounted in a faceplate.

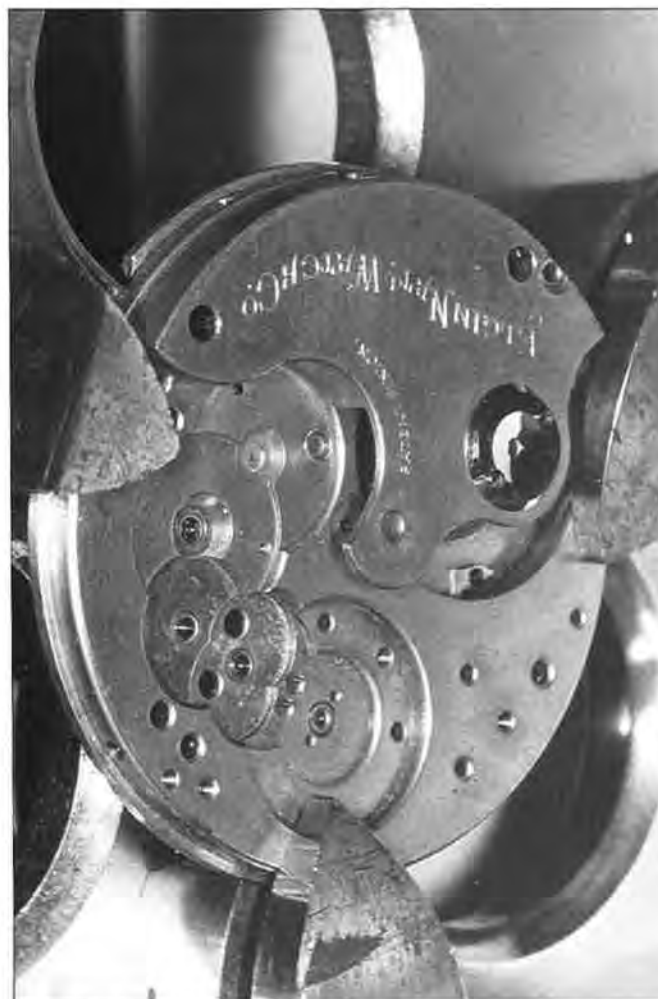


Figure 42. The bridge was screwed onto the mainplate.

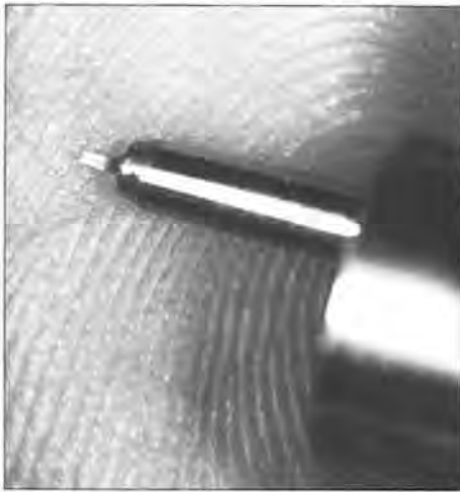


Figure 43. A small boring tool

Figure 43 shows a boring tool that was ground from round carbide stock. The only criterion for the cutter was that it had to be smaller than the new pivot's diameter. The average ridge in the human fingerprint measures 0.5 mm. Comparing the cutting end of this tool to the fingerprint ridges in the photo shows the tool measures about 0.5 mm. The boring tool was set up in a slide rest, and the hole was bored true to the lower plate hole as shown in Figures 44 and 45. The new pivot was tested for a proper fit while the plate remained in the faceplate (Figure 46).

The watch now has a smooth transition between winding and setting, the center wheel has a new substantial pivot, and the center wheel has been made upright. Figures 47 and 48 show the plate and dial sides of the movement. Figures 49 and 50 include the complete watch with its new bezel and refinished case.

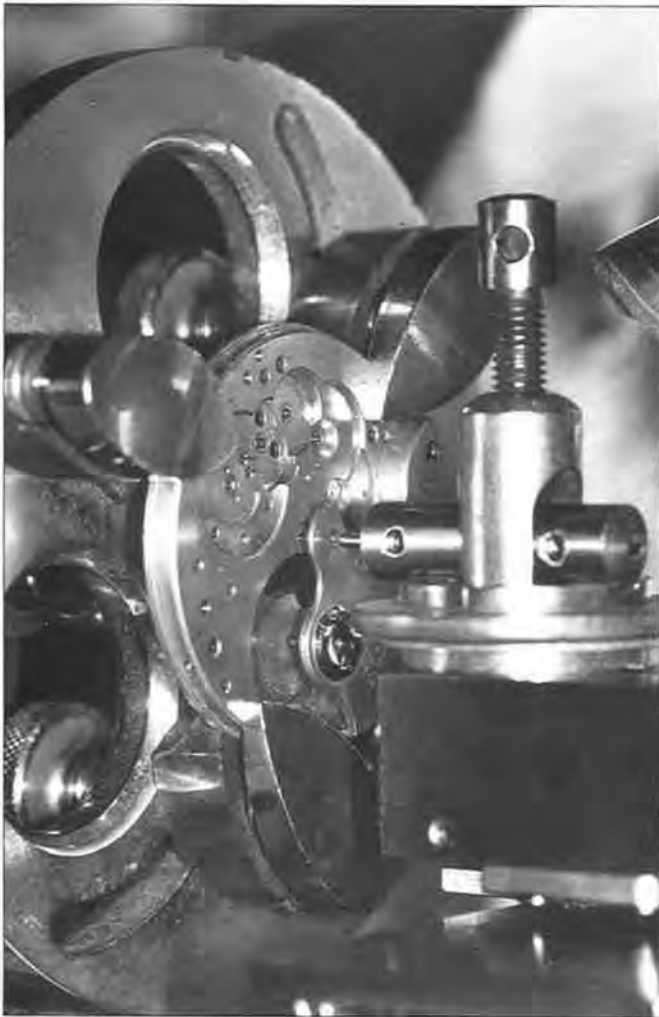


Figure 44. The boring tool was placed in a slide rest.

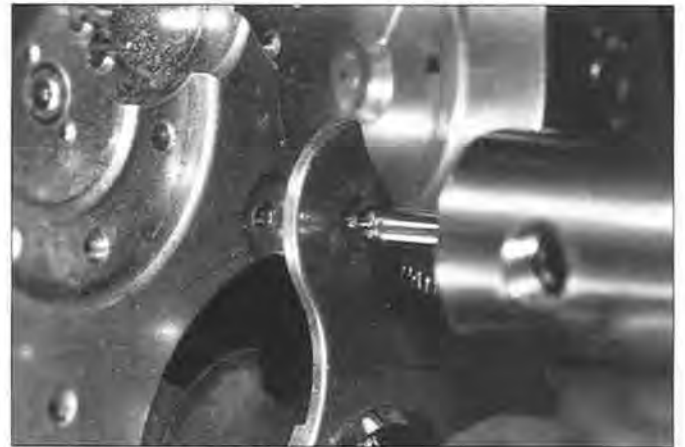


Figure 45. A closer look

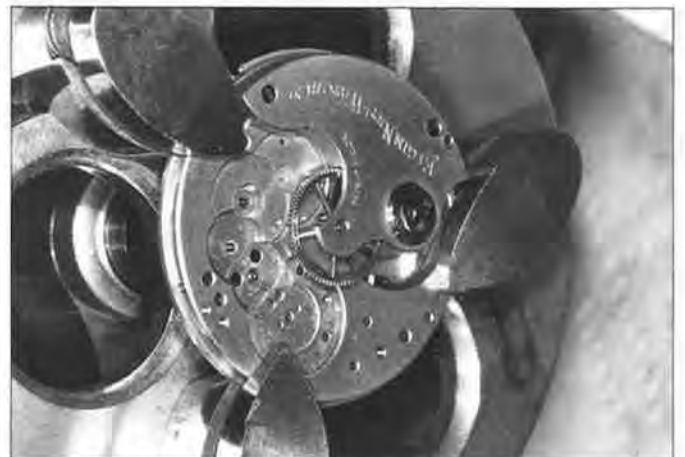


Figure 46. The wheel was tested for fit while mounted in the faceplate.

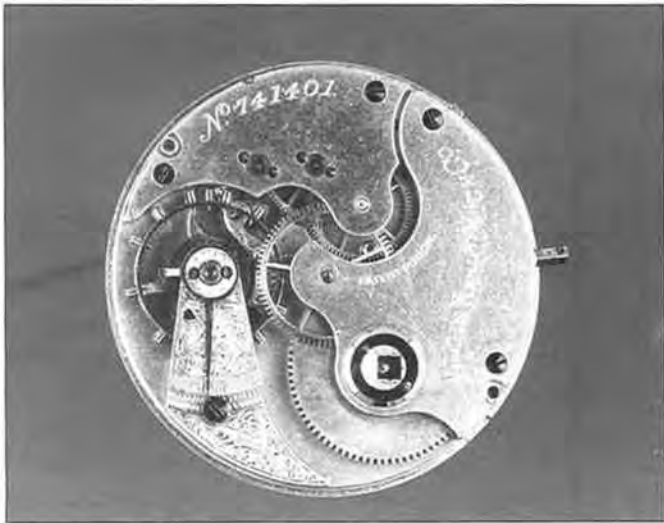


Figure 47. Bridge side of the movement

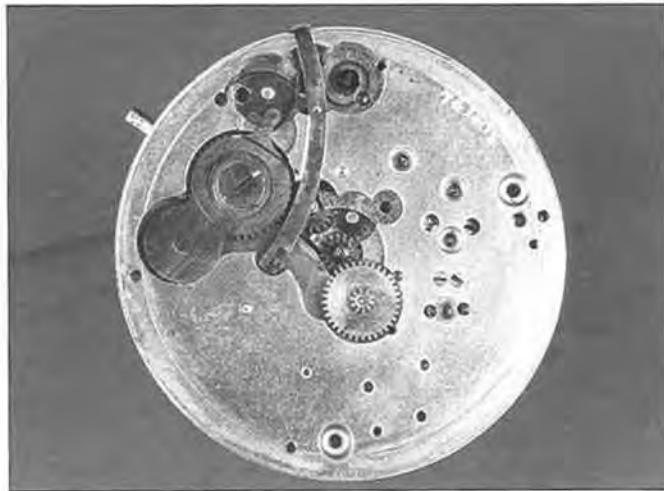


Figure 48. Dial side of the movement

This Elgin pocket watch will most likely not be put to use as it once was; however, it will be cherished as a family keepsake and function as it had a hundred years ago.



Figure 49. The refurbished case



Figure 50. The watch and its new bezel

## Education Notes

Having completed the summary of the Clock Certification examination, I want to adjust the content of this column to include both items from the Education Committee's activities and/or items from my daily bench activity that I see have an impact on professionalism, education, proficiency, or finances. It is my objective to share with all of you some of the inner workings of our trade from my perspective.

First, I want to remind all of you that in tough financial times, the public tends to be more careful about the dollars that they spend and they will spend more time researching with whom they will spend those dollars. One good way to highlight the point that you have what it takes is to (yes) certify. Show your customer that you have gone the extra mile to demonstrate your skills and show that this is not *just a job* but also a *passionate career!* If you feel it's just a clock or a watch and what's the big deal, you are missing the point. This is my fourth recession and every one of them has meant an increase in my business volume. Why do you think that is? When the dollars are tight, I am taking in business hand over fist! What do I offer that someone else around me doesn't? Is it the way I offer it? I have spent a great deal of time finding those contacts that I can thoroughly trust to do the odds and ends that I don't want to do or don't have the time to do. But when a customer asks about something they want, I try to help them out. *It's all about service!* Not only what you can deliver, but also how much you can bring to bear. Knowing you have the skills and the contacts to handle the complete job generates confidence. I am still amazed at how many of our colleagues still think it's their job to tell the customer how much their product is worth and how much they should/shouldn't spend on their product getting it serviced. Folks, you have that backwards. It's our job to be able to help the customer with whatever they want. If it is more than the product is worth, it is their choice—NOT yours. Besides, with the Internet, the only real value of a horological piece is what a willing buyer and a willing seller agree upon. We have all seen junk sell for big dollars and high quality stuff sell for next to nothing. The market today is just like the stock market and you know how volatile that market is, so how can you really know what the value of the customer's product really is? Besides, it's *priceless* to the customer or they

wouldn't have brought it in for repair!! Your job is to bring to bear all the needed skills to give them a product that will last after they pay the money. Nothing destroys a business faster than a job that lasts the warranty period (or less) and then dies and requires the same amount of work again—or more if the job was done poorly enough. That doesn't help the customer or your reputation! When money is tight, they seek the best value they can find. How will you stand out?

At the Annual Meeting, I gave a talk on Entrepreneurship for horologists. If you are interested in some of the information that was talked about, please let Donna Baas at AWCI know and I will include excerpts from that talk in this column. The main thrust of the talk was to get practitioners to review their business practices and learn the details of how to run them more efficiently and profitably. Want to know more? Tell Donna (dbaas@awci.com).

Recently, I was given an American tall case clock (weight driven, circa 1820) to restore both the cabinet and the movement. Seems the last person to work with this clock had it all just perfect or so he kept telling the customer. The problem is the customer never could get the clock to run more than 4-5 days and then it would stop or jam. After several years of frustration and repeated calls only to be told there was nothing wrong and the clock was left running for that moment, the customer gave up and sat with the clock for the next 5 years not running. Then, I got a call. The cherry case had large ball feet that had come unglued and were left loose in their dowel holes to sway as the pendulum moved. By slipping out these feet, I was able to stabilize the case for the moment. Next, a quick look at the movement and it was very, very obvious that the last worker had polished everything perfectly bright and shiny. I have learned that when I see shiny, chances are good that the dirty work—pivot and pivot hole burnishing usually are not done. I inspected the lever work, to see if that may have also been the case and the ruts were quite pronounced. Shiny, but pronounced. I showed the customer what I saw and what I could do in their home (but recommended that the clock receive thorough bench restoration) and they asked me to proceed. I smoothed out the ruts the best I could. I pushed the cables

back into the barrel drum holes so that they did not cut the sides of the movement anymore, added oil and tried to re-adjust everything as close as I could without further work. With a stable case and the easier working levers, the clock started to run and perform as best it could. Four years later, the family needed to move and ask that I take the entire clock and restore it. What a wonderful job! I would rather do 5 of these than rebuild 20 modern products. They are just more fun to me! The surprise I got when I began the process hit me in the vein of what I have been writing about over the last year. The previous worker signed his name (No, I won't give that out) and evidently had a lot of pride in what he does—he said so on the movement plates with a scribe. As I had thought, every piece was polished bright and shiny and mirror like and every pivot and pivot hole was rough and packed with grit (I believe from the polishing effort). There were issues with the bushings standing proud and taking up the shakes inside but this person took a file and scratched the tar out of the inside of the plates to at least look like he knew where he was going. The front outside and the back outside of the pivot holes were really finished nicely but the insides—yuck! I will say that the depthing of each wheel was also excellent. I wonder if this person did the bushing work or was it someone earlier—we'll never know—but isn't it the responsibility of the current worker to be sure that everything is attended to when they sell a job as "restored—or even repaired?" If it leaves your bench, it's your benchmark! How will others view what you have done and the way you did it? Was it quality or creativity? Was this someone who needed to upgrade his or her knowledge? Maybe, get a little continuing education so that they were up-to-date on what is expected by the S&Ps for this type of work? Or, is it really "just a clock—who cares?" How does AWCI need to recognize those who keep their skills sharp and up-to-date? How does the membership go about demonstrating that they are doing this? More will be coming on these matters as the Education Committee gets back to work this fall.

Another item that was fun to discuss with several of the watchmakers who came to the Annual Meeting was the repair of quartz watches. (There was lots of grumbling about these products from the strictly mechanical guys, I like to refer to their behavior as the "quartz watch syndrome folks".) Seems that many of you feel that you will NEVER service a quartz watch. They are just disposable commodities—and after all—who cares? Well, just a thought here. If what happened to the clock industry hap-

pens even to a lesser degree to the watch industry, you may want to get studying. At one point, no one ever thought that we would ever have to rebuild or repair Hermle, Urgos, Jauch or Keininger movements. They will always be available and if not, who cares? Well, the customer who bought that watch or clock that now is no longer available sure cares! They cared enough to be willing to pay good money to have their family treasure restored. I didn't think I would see such a day myself. But last month, I had to rebuild an older Urgos (5 tube variety) that is no longer available. The customer didn't want to dump the clock and they paid well to have it back. It was my responsibility to see to it that the product was redone in such a way as to render it as durable and useful as it was when it was first sold. What about that old quartz watch? Will it become tomorrow's keepsake? Will you be ready to make your living from these products if that's what the market throws at you? Just a thought. More next month. ☺

# CLOCKS

m a g a z i n e



A Beginner's  
Guide to  
Clock Repair

by  
Ian Beilby

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# 2009 AWCI Convention and Education Symposium

By Thomas Pack, CPA

The 49<sup>th</sup> annual AWCI Convention and Education Symposium was held in Providence, RI from August 6 – 9, 2009. The host hotel was the Crowne Plaza Hotel in Warwick, RI. We had perfect weather during our visit to this beautiful part of the U.S., to match the perfect setting for yet another successful Convention and Education Symposium.

Even with the economic conditions that have prevailed in the world since the previous convention, we still had a very good turnout of attendees. It wasn't the biggest crowd we have ever had, but it was far from the smallest, either. AWCI made a conscious effort to hold the line on expenses, and we also kept registration fees the same for 2009 as we did for 2008. We had numerous sponsors that helped defray some of the costs for the convention. Before continuing any further, we would like to thank the following for their continued financial support of AWCI during the convention:

Rolex USA  
IWC  
SWATCH Group US

During each convention, there are numerous meetings of committees and other groups, along with the general session meetings of the Board of Directors, classes and planned social activities. There are also a lot of informal get-togethers where a lot of people catch up with their friends, make new friends, and also catch up with the news taking place in our industry. It is a great way to stay involved with your trade association and to pick up a lot of great information that WILL help you in your business.

The convention kicked off with the New Member Welcome Reception on Thursday evening. The new members to AWCI and also the first-time convention attendees were recognized and warmly welcomed to the convention.

Friday began a hectic day of smaller meetings and large group meetings. The Affiliate Chapters meeting began the

schedule, with JK Nicholas of Chelsea Clock providing the keynote address. The Affiliate Chapters elected their representative to the AWCI Board of Directors during their meeting. Gene Bertram of Missouri was chosen as the Affiliate Chapter Chairperson to fulfill this obligation. Dan Spath was selected as the Vice-Chairperson. The meeting also produced several discussions on various topics that were ultimately not approved as recommendations for submission to the AWCI Board of Directors.

Prior to or simultaneous to the Affiliate Chapter meeting, other groups had their meetings. REC, IAB and the Perpetuation Fund all met and conducted their usual business. The REC and IAB selected Directors from their ranks to be their representatives on the AWCI Board of Directors. Dale Coates of Johnson Investment Counsel gave an update on the Perpetuation Fund portfolio to the Fund trustees. The REC discussed the state of the REC schools and what can be done to better support their efforts.

Friday afternoon saw the first general session of the AWCI Board of Directors meeting take place. The standard meeting agenda was followed, with various AWCI committees presenting their annual reports. AWCI officers had some official comments and presentations, and James Lubic (AWCI Executive Director) gave his annual State of the Association speech.

Newly elected directors took their seats at the conclusion of the old business portion of the agenda. The new directors are:

Mark Butterworth - Director  
Tony Riggio, CMW21 - Director  
John Safranek - Director  
Gene Bertram, CC - Affiliate Chapter Director  
Herman Mayer, CW21 - REC Director  
Henry Kessler - IAB Director

Several Directors retired from the Board at this time. They have all provided significant contributions in their own

way to helping AWCI grow and prosper. Those retiring directors are:

Joe Juaira, CW21 (outgoing AWCI President)  
Glenn Gardner, CMW  
Jim Zimmerman, CMW, CMC, CMEW  
Tamara Houk, CW21

During this session, new officers were selected by the Board of Directors. There were no opposing candidates for any of the four officer positions, so all were selected unanimously. Your new AWCI Executive Committee is as follows:

President: Mark Butterworth, Muscatine, IA  
Vice President: Manuel Yazijian, CMW21, Redlands, CA  
Secretary: Tony Riggio, CMW21, Westport, CT  
Treasurer: Jack Kurdzionak CW21, Stoneham, MA

The Friday evening activity was the ELM Trust fund-raising dinner. The outing was sponsored by IWC, with transportation sponsored by SWATCH Group US. The group spent a highly enjoyable evening aboard the Harbor Queen as we cruised Narragansett Bay. The food was wonderful, the company was fantastic, and all had a great time. Thank you to all who attended!!!

Saturday was a day of education, training and lots of good food! The Education portion of the Convention and Symposium took center stage, with numerous presenters giving their best to help the attendees work smarter and more profitably. There were six different topics, and four different sessions for classes – two sessions in the morning and two in the afternoon. Those who planned their day well could take in much of what was offered, and those who attended with a friend or associate could obtain the information from all six topics very easily.

In between the symposium sessions was the Vendor Trade Fair and Luncheon. Attendance was high for this event, not only because of the bountiful lunch buffet, but also because the vendors in attendance had a vast array of products and helpful people behind the tables to assist the attendees with their questions and purchases. We wish to thank the following for their attendance and support of this event:

Jules Borel & Company, Kansas City, MO  
Cas-Ker Company, Cincinnati, OH  
Renata Batteries/Sy Kessler Sales, Dallas, TX  
Eckcells, Stoneham, MA

Numerous door prizes were provided by companies both in attendance at the trade fair, as well as unable to attend

but still wishing to support AWCI and its members. Due to the large number of prizes available, nearly every attendee had a chance of coming home with something.

Saturday evening was the annual awards banquet, sponsored by Rolex USA. Another great meal, some laughs and lots of camaraderie was shared by the attendees. Numerous awards were presented, both serious and not so serious in nature. Outgoing directors were recognized with plaques, and Joe Juaira was recognized for his contributions as AWCI President. The numerous volunteers who helped AWCI during the year were acknowledged, as were the convention sponsors and the Symposium speakers.

Sunday morning was the conclusion of both the Board of Directors meeting and the convention as a whole. The new Board discussed numerous items in the new business portion of the agenda, and set dates for their next conference call and the mid-year meeting.

The 2010 AWCI Convention and Education Symposium will be held August 5 – 8 in Cincinnati, OH. This will be the golden anniversary convention, where we will recognize all that has taken place over AWCI's 50-year history and celebrate all that makes this a great organization for those in this business.

We wish to again thank all those who helped to make this convention such a rousing success. There was a lot of positive commentary about the meeting, the events, the venue and all associated activities. We want to build on that momentum and make next year's convention even better. We hope to see all the faces we have come to expect, but it would be a pleasant task to put names with the faces of a lot of NEW convention attendees. Will you make that commitment to help yourself to new friendships, new repair techniques and a whole lot of valuable learning in 2010? If you attend the AWCI 50<sup>th</sup> annual Convention and Education Symposium, you can easily fulfill that commitment. We hope to see you there!! ☺

**AWCI**  
**50<sup>th</sup> Anniversary**  
**Convention &**  
**Education Symposium**

**August 5 – 8, 2010**

**Cincinnati, OH**

## **AWCI Affiliate Chapter Annual Meeting**

Well, another AWCI annual meeting is history, and another Affiliate Chapter meeting has come and gone. I am proud to have been elected the Affiliate Chapter Chair for the year, and delighted to have Dan Spath as the Vice-Chair. Together, we will be working to represent the interests of all the Affiliate Chapters in the country, both before the Board of Directors and through improved communications throughout the year. More on that later.

The AC Welcome and Roundtable started the weekend, and was an informal opportunity to renew acquaintances, meet new people, and get a feel for how things are going around the country. Representatives from Rolex, Witschi, Swatch Group and others were there, and I saw several people strike up conversations with them over the pasta creations the chef was cooking for us on the spot. Terry Kurdzionak livened up the evening with chicken jokes (you had to be there) and fun facts about Rhode Island.

JK Nicholas of Chelsea Clocks was the featured speaker at the AC meeting, giving a lively and informative talk on the history, goals, and future plans of the company. It was very nice of him to take the time to share his passion for the last American clock company with us.

Attendance was fair this year, with 14 chapters sending representatives and some alternates. Three chapters submitted proposals for the Board of Directors at the AC meeting and one submitted a proposal to the AC group itself. There was a good deal of discussion both during the meeting and afterward concerning the problem of membership declining because of age as well as other factors, with some chapters talking about "presentation fatigue," where most all the members have given presentations and no one can come up with anything new to show.

One chapter had the unfortunate policy put in place years ago that granted life membership in the chapter after 20 years. They have so many longtime members and so few new members they are now struggling financially.

Over the course of the year, I'll be showcasing some of the successes chapters have reported from last year, as well as reporting on the upcoming plans around the country. By the time you read this, I'll have instituted a new e-mail communication system for the chapters. This way I'll be able to better pass on helpful hints as well as plans for workshops, conferences, and seminars around the country.

Dan and I would like to congratulate the Chronometer Club both for having the only proposal to be approved by the Affiliate Chapters group and for being chosen the Affiliate Chapter of the Year. Ironically, their proposal was to eliminate the Affiliate Chapter of the Year award, so there won't be one next year. Still, with over 220 active members, they are a model to be emulated and are doing a great service to their members.

If your chapter didn't send a rep to this year's meeting, seriously consider doing so for next year, as well as attending yourself. It's the 50<sup>th</sup> anniversary of AWCI, and everyone is working to make it a special event. It'll be in Cincinnati, and AWCI provides a stipend to chapters to help defray the cost of attending. You'll learn a lot, meet some great people, and have some fun.

If you have questions, comments, or would like to pen a column for the chapters, I can be reached at [GeneBert@swbell.net](mailto:GeneBert@swbell.net) and I'll get back to you ASAP.



# New Members

## Arkansas

Magie, James—Morrilton, AR\*

## California

Eckert, Brian M.—San Diego, CA\*

Snyder, James D.—Indio, CA\*

## Florida

Brozek, John E.—Saint Petersburg, FL\*

Smith, Linda—Delray Beach, FL

Ventriere, Dante H.—Miami, FL

## Georgia

Singadia, Nanji K.—Snellville, GA

## Illinois

Krause, Kenneth J.—Addison, IL\*

Zuolys, Paulius—Carol Stream, IL

## Massachusetts

Mooney, Michael J.D.—Framingham, MA\*

## Minnesota

Wall, Thomas A.—Maplewood, MN\*

## Oklahoma

Shin, Joungho—Tulsa, OK

## Pennsylvania

Schantz, Edward—Lancaster, PA

## Texas

Chiu, Michael—Houston, TX

Noe, Sandy F.—Elkhart, TX

\*AWCI welcomes back these individuals who have chosen to re-instate their membership.



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Watch & Jewelry Review is published 10 times per year and is the industry's most-used publication—the only one in North America devoted to watches and clocks. Get the one convenient source of industry news features including eight annual directory issues.

## Watch Bracelets and Shoe Laces

Because they wear out in tandem, shoe laces are always sold in pairs. As soon as one lace breaks, its mate will soon follow. Every time you service a watch bracelet, remember the lowly shoe lace. When one spring bar is worn, the other one is ready to break. When one bracelet cotter pin, pressure pin, or pin and bushing set is worn, all of the others will be in a similar condition. Why repair just one or two bracelet links when all are in serious need of service? If only one or two links are repaired, the watch is destined to be returned for more service sooner rather than later and, in many cases, with the owner of the watch seeking warranty service since the bracelet had only been recently repaired.

The optimum method of servicing watch bracelets, for both the customer and the watchmaker, involves replacing a complete set of whichever component is worn out. The customer receives a well repaired bracelet that has an extended life expectancy and the watchmaker has substantially lowered the risk of this bracelet repair being returned for a warranty repair. In order to service the wide variety of watch bracelets in use today, a shop needs to have a comprehensive collection of assortments of stainless steel bracelet spare parts. The collection should include spring bars in assorted diameters and lengths, plus cotter pins in multiple lengths and thicknesses. Also include pressure pins with a serrated end in assorted thicknesses which can be cut to length. An assortment of pins and tubes to connect bracelet links and link screws should be part of the collection. Never use carbon steel or brass pins as substitutes for stainless steel.

Not only do these corrode but they often present a problem, caused by corrosion, when they need to be removed and replaced. An assortment of repair parts for tri-fold clasps is a low cost time saver for every watchmaker. All of these assortments are generally low enough in cost so that one or two bracelet repairs can easily pay for an assortment.

In addition, a well-equipped shop will need a quality bracelet press. Horotec (MSA 10.499) and Bergeon (6745-100) (as shown in the accompanying photos) both supply such a tool. These are mini staking tools that support the bracelet securely, without scratching it, in a multi-channeled plastic base. The frame of the tool perpendicularly guides the punch as it is being tapped to drive out any size pin from a bracelet. Both the Horotec and the Bergeon tool are well made and very helpful for bracelet repairs. The Bergeon tool is more versatile. The base accepts mini screwdriver tips while the end of the punch also accepts a screwdriver tip. When fitted with two screwdriver tips, one in the punch and one in the base, the tool makes the removal of bracelet screws with slots at each end a simple task by permitting the watchmaker to do this without scratching the bracelet, which often happens when attempting this task freehand.

*Jack Kurdzionak*

### HOROTEC<sup>®</sup> BandPress SWISS MSA 10.499

Potence universelle pour goupilles  
Multi-purpose press for pins  
Mehrzweck-Pressstock für Stifte  
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### BERGEON No 6745-100

**Potence multi-usages**  
Pour chasser et déchasser les goupilles.  
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**Pressstock zum vielseitigen Gebrauch**  
Zum Ein- und Ausschlagen der Stifte.  
Schrauben- und Entschrauben der Uhrarmbandschrauben.

**Press for multi-uses**  
To drive in and out pins.  
To screw and unscrew watch-bracelets.

**Potenza multi-usos**  
Para embutir y sacar las clavijas.  
Para atornillar y destornillar las pulseras de relojes.



## An Interesting Watch Repair Warranty

Get a few watchmakers together and inevitably they discuss the pros and cons of the warranties they offer on their work. As discussed in a previous column a valid warranty states the terms of what is included in the warranty and the length of time the warranty is in force. Some watchmakers measure the time limit of their warranties in months while others measure it in years. No watchmaker or watch manufacturer that this writer is aware of offers a lifetime warranty, especially one such as that reproduced below. The following paragraphs are excerpted from an on-line watch store's website that describes its lifetime international fine watch warranty plan. This particular warranty is especially interesting because it gives the impression of offering an exceptional warranty while in actuality it is a limited warranty with incentives to return one's watch for scheduled maintenance every few years. It also offers to make the warranty transferable to subsequent owners, that is, transferable for a fee. See if there are any valid marketing ideas within this warranty plan you can adapt to your own shop.

### "A Lifetime International Fine Watch Warranty Plan"

This warranty is without question the most comprehensive warranty of any watch company, factory or otherwise. It is our intent to always leave our clients with a good feeling about our service, prices, and intentions and to further maintain a high level of goodwill between us and our clients. As always, we want to do what's right for you. This warranty covers the internal mechanism of a Swiss made watch against any manufacturing defect under the terms outlined on the warranty certificate. Contemporary, upscale, European watches purchased for over \$1,000 are covered by this Lifetime Warranty. Quartz watches are covered by our Lifetime Warranty provided the watch is returned to one of our Service Centers for the service as recommended by our service director or the manufacturer of the watch (generally within 4-5 years). Every 1 to 2 years, the battery should be replaced (as needed). We offer battery replacement at no charge for all quartz watch purchases. Mechanical watches are covered by our lifetime warranty provided your watch is returned to one of our service centers for service and maintenance every 3-4 years (either as recommended by our service director or the manufacturer) so that our technicians can check to see any sign of a potential problem or undue wear (such as leaking seals & gaskets). This gives us the ability to spiff up the exterior of your timepiece and ensure that proper lubrication is available to prevent any future problems which might otherwise occur. There will be a nominal charge for this service, depending on the complexity of your timepiece.

Here is what is NOT covered by our Lifetime Warranty:

a. Scheduled maintenance - This service must be performed on a periodic basis and the work performed by our technicians in order to keep the watch under warranty. Scheduled maintenance includes disassembly, cleaning, ultrasonic lubrication of internal parts, reassembly, oiling, and adjustment of the timing system, replacement of the seals and gaskets, and a water pressure testing. The best lubricants made today do not guarantee the viscosity of their oils for more than two

and a half years. If you live in dry climate, we want to see your watch more often. The cost for our scheduled service is generally very competitive.

b. Normal wear and tear - Exterior scratches, nicks, dents, bracelet stretching, scratched or damaged crystals, etc. Furthermore, some parts such as the mainsprings, stems, tubes, gaskets, etc. tend to wear down and need to be periodically replaced.

c. Misuse and abuse - Damages caused by dropping your watch on any hard surface, cement, tile, etc. will not be covered as well as any unauthorized alterations, manipulation or repairs.

d. Water damage - Most watches are not waterproof. They are marketed as water resistant.

e. External damage - Damage to any external part of the watch, including the case, bracelet, crown, crystal, strap, clasp, buckle, etc.

f. If a watch has not been returned for its scheduled maintenance or service, as prescribed by our lifetime warranty, its warranty will become void and invalid.

g. Other than the warranty itself, the best thing is that our lifetime warranty can be transferred for the minuscule sum of \$175, as long as our repair facility has maintained the watch according to our suggested factory specified periodic schedule. In the event that you should ever want to sell your watch, this feature adds a tremendous sales advantage.

The purposes of this warranty are manifold. One is to instill, in the mind of the owner of a fine Swiss watch, an awareness of the value of regular service intervals to maintain the reliability and extend the useful life of one's watch. Another is to build a base of repeat customers for both the service and sales departments of the store. The service department keeps the customers coming back to the store for regular service and for additional purchases from the sales department. Why not offer a warranty to your customers that encourages them to return, not just when they have a problem, but return to prevent a problem or buy a new watch?

*Jack Kurdzionak*

## You Are Invited

Do you have a solution to a watch or clock repair problem that you want to share with our membership? Do you have a question about a repair problem you would like to ask? I invite you to participate in this column with your suggestions, questions, and comments. It is easy. Just e-mail me at AWCI <magazine@awci.com> or write using the old standby known as the postal service. You can even fax me at 513-367-1414.

I will do my best to help you help the membership. By sharing your questions and suggestions, all of our members can benefit from our combined knowledge and experience. The ideas, tools, techniques and products presented in this column are suggested by the author and contributing members and are not endorsed by any manufacturer, supplier, advertiser or AWCI itself.





# ACADEMY OF WATCHMAKING CLASSES

Thomas Schomaker, CMW21 Instructor

AWCI is offering a series of 5-day watchmaking classes. Each 5-day block will cost \$725; 3-day block is \$435.00. For additional information call toll free 1-866-FOR-AWCI (367-2924), ext. 303 or e-mail education@awci.com

Class information is also available online www.awci.com

\* Seats may become available in the full exams; please contact AWCI to be added to the waiting list

|                       |   |              |
|-----------------------|---|--------------|
| October 5-9, 2009     | Basic Quartz Watch & Quartz Chronograph Repair        | <b>FULL*</b> |
| October 19-23, 2009   | Modern Mechanical Chronographs, Servicing & Adjusting | <b>FULL*</b> |
| November 9-13, 2009   | Modern Mechanical Chronographs, Servicing & Adjusting | <b>FULL*</b> |
| January 4-8, 2010     | Watchmaker's Lathe I                                  |              |
| January 11-15, 2010   | Basic Watch Repair                                    |              |
| February 1-5, 2010    | Servicing & Adjusting the Swiss Lever Escapement      |              |
| February 8-12, 2010   | Balance Staffing & Timing                             |              |
| March 1-5, 2010       | Modern Automatic Watches                              |              |
| March 15-19, 2010     | Modern Mechanical Chronographs, Servicing & Adjusting |              |
| April 12-16, 2010     | Modern Mechanical Chronographs, Servicing & Adjusting |              |
| April 26-30, 2010     | Basic Quartz Watch & Quartz Chronograph Repair        |              |
| June 7-11, 2010       | Watchmaker's Lathe I                                  |              |
| June 28-July 2, 2010  | Basic Watch Repair                                    |              |
| September 13-17, 2010 | Balance Staffing & Timing                             |              |
| September 20-24, 2010 | Modern Automatic Watches                              |              |
| October 11-15, 2010   | Basic Quartz Watch & Quartz Chronograph Repair        |              |
| October 18-22, 2010   | Modern Mechanical Chronographs, Servicing & Adjusting |              |

*AWCI Watch Repair Course schedule is subject to change*



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\* Seats may become available in the full exams; please contact AWCI to be added to the waiting list

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| January 19-22, 2010  | AWCI Training Facility | Harrison, OH |              |
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