HOROLOGICAL™ TIMES

April 2007



American Watchmakers-Clockmakers Institute



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HOROLOGICAL™ TIMES

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COVER

This month's cover features the Patek Philippe 10-Day Tourbillon
Photo courtesy of Patek Philippe



President's Message

Dennis Warner, CW

The Board of Directors of AWCI is working with the Executive Director to reduce the current salary and benefit budget by 15%, distribute a budget report every two months, and prepare a contingency plan for operating the Institute in the event of a significant revenue shortfall. This was reported to you last month and I am letting you know that the process has begun.

I have been asking you to consider running for the Board of Directors of AWCI, or, to nominate qualified candidates. Those nominations have been received and the current Board has approved the slate. Out of the list of nine highly qualified candidates, you will choose three to serve our organization for a three-year term. This is an important decision because you are selecting those who will guide the future our organization.

In this issue of *Horological Times* is an article entitled, "Meet the Candidates, 2007". The nominees were asked to introduce themselves to the membership. Through their own words it is hoped that you will glean insight about these individuals. Please read and consider who you believe would serve in the best interest of AWCI.

A month later you will receive a ballot with all the names of those running for Director. Also, you will receive a booklet containing voting procedures and information about the candidates. Each candidate has been asked to give his/her opinion concerning the role that certification should play in the future of AWCI, and how he/she would assist in effecting that process.

(Continued on page 29.)



Executive Director's Message

James E. Lubic, CMW

On the following page you will find the comments of our General Counsel, T. Scott Gilligan as they relate to the letters sent to the U.S. Department of Justice during the public comment period regarding whether or not to terminate the 1960 Consent Decree between the U.S. Government and the Swiss watch manufacturers. Following is the link to the complete document which includes many of the letters that were received: http://www.usdoj.gov/atr/cases/f221000/221005.htm. The Consent Decree was officially terminated on January 16, 2007. Here is the link to that document: http://www.usdoj.gov/atr/cases/f221100/221149.htm. If you wish to review the complete history of the documents related to this case including the original Consent Decree go to http://www.usdoj.gov/atr/cases/rolex.htm. While looking through these various documents I came across a document that I thought explained and covered a number of issues pertaining to anti-trust laws and competition in the market place, which is what all this is about. Following is a link to this document: http://www.usdoj.gov/atr/public/speeches/218316.pdf. The official termination of the Consent Decree on January 16, 2007 brings this chapter of our history to an end.

Last month I promised to provide the most up-to-date membership numbers after the dues cycle was completed in March. As we all know our membership has steadily decreased over the past several years and this year is no exception. When we started the billing cycle for 2007 in mid-October of 2006 we had a total membership of 3,294. Of those 358 are life members who don't receive dues invoices. We sent dues invoices to 2,936 members. We then sent second notices to 1,168 in mid-January. In early February third notices were sent via e-mail to those who hadn't paid and have an e-mail address on file. The results thus far are 726 members did not renew their membership for 2007. We had formal notice from 54 members saying they were not interested in renewing. These were mostly senior members. We had formal notice that 9 members passed away in 2006. This leaves 663 individuals who haven't renewed as of today's date. We do continue to receive a few renewals but not the steady stream that comes in during the billing cycle. So, officially as of this message in March of 2007 we have 2,406 members paying annual dues, plus 356 life

(Continued on page 29.)

U.S. Department of Justice Response Regarding 1960 Consent Judgment

To: American Watchmakers-Clockmakers Institute

From: T. Scott Gilligan, AWCI General Counsel

Set forth below are the applicable points from the January 29, 2007 Response of the U.S. Department of Justice to the public comments that were filed in the court case considering the issue of whether to terminate the 1960 Consent Judgment. The Department of Justice (DOJ) has decided that none of the 148 comments filed with it have cause for the DOJ to change its original decision to support the termination of the 1960 Consent Decree. Below are relevant findings of the DOJ:

- In 1960, the types of vertical restraints that the Swiss watch manufacturers were imposing—mandatory retail prices, cutting off a distributor who would not follow suggested pricing and sales policies, imposing maximum resale restraints—were per se (automatic) violations of the antitrust laws. Today, these same types of vertical restraints are often considered to be **pro-competitive** rather than anti-competitive.

- In the 47 years since the 1960 Consent Decree, the watch market, including the luxury watch market, has changed considerably. The Swiss no longer dominate that market, the Swiss Collective Convention has been disbanded, and the Swiss government now has antitrust laws that prevent this kind of illegal collusive behavior that took place 40 years ago.

- The 1960 Consent Decree prohibited Swiss watch manufacturers from unilaterally refusing to deal with watchmakers because of their "pricing or sales practices." However, even under the 1960 Consent Decree, Swiss manufacturers could freely refuse to sell spare parts to any watchmaker on other grounds such as their shop cleanliness, education and expertise, location and appearance of shop, or any other reason not related to pricing or sales policies.

- Current antitrust law allows a manufacturer to refuse to sell spare parts on the grounds of a distributor's pricing or sales policies. Therefore, the 1960 Consent Decree is imposing restrictions on the Swiss watch manufacturers that are no longer consistent with antitrust law.

- Even with the 1960 Consent Decree, Swiss watch manufacturers could lawfully refuse to sell spare parts to watchmakers. Terminating the 1960 Consent Decree, which is inconsistent with current antitrust laws, will have no detrimental impact on U.S. watchmakers since under the 1960 Consent Decree there is no obligation on the Swiss manufacturers to sell spare parts to them now.



David A. Christianson, CMW, CMEW, FAWI

Questions & Answers

Question

I have provided photos of a pocket watch. I can't seem to find any information on this watch. Your help will be greatly appreciated.

George Bertram, Pinehurst, NC



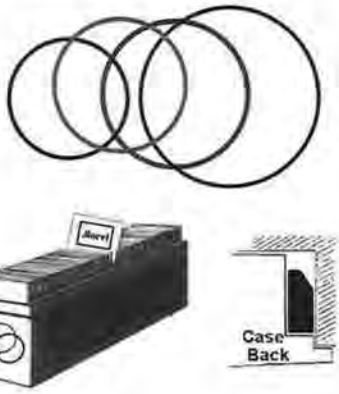
Answer

Your very beautifully crafted verge/fusee/chain movement appears to have been made in Lenzkirch by Kolumban Hoefler. Lenzkirch was a clock and watchmaking town in the Black Forest region of Germany. Unfortunately, I have not been able to find any reference to the maker. He doesn't appear in any of the standard, and not so standard, lists of watchmakers. However, it does appear that your watch was hand-crafted from a French-made ebauche (or rough movement) in use in the mid- to later part of the 18th and early 19th centuries. Yours is a thicker movement more commonly associated with the second half of the 18th century; thinner than the French "oignon" (named such because it was rather onion-like in shape) that appeared up until the mid-18th century. A thinner version evolved closer to the turn of the 19th century.





The size and style of the Roman hour numerals and Arabic minute numerals on the porcelain dial suggests a 1765 - 1780 date of origin; as does the engraving on the upper movement plate and the balance bridge. Reinhard Meis, in his fine reference work: *Pocket Watches from the Pendant Watch to the Tourbillon* shows similar movements from this period; he even shows a watch with sun-burst hands, like yours has, from a German maker of this same period.



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Ron DeCorte, CMW

Patek Philippe 10-Day Tourbillon

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The Patek Philippe 10-Day Tourbillon is a bit deceptive at first glance. The rectangular dial with raised numerals gracefully shows the hours, minutes, seconds, and reserve de marche. A platinum art-deco style case is modest in size and is set with a single gem quality diamond at the 6 o'clock position.

Under the dial, and between the plates, it's a powerhouse (Figure 1). Creating a tourbillon with 10 days of power reserve and reserve de marche indication, and housing it in a rectangular movement is no small achievement!

The movement is finished to typical Patek quality and marked with the Geneve hallmark, as are all Patek watches. All visible jewels are set in gold chatons. (See Figures 2 and 3.)

The main plate is finished with perlage (spotted) on both sides and the flat working areas are diamond cut to a mirror finish. (See Figures 4 and 5.)



Figure 1



Figure 2



Figure 3

Ten Days of Power

Two tandem mainspring barrels provide 10 days of power. The larger barrel (upper) is wound directly and transfers power to the smaller barrel. (See Figure 6.)

With twin barrels and the tourbillon cage absorbing so much of the space on one side of the movement it was necessary to place the train wheels under the dial (Figure 7). If you look closely at Figure 8 you will notice that there are two wheels sharing the same axis (axle), a very clever way of saving space.



Figure 4

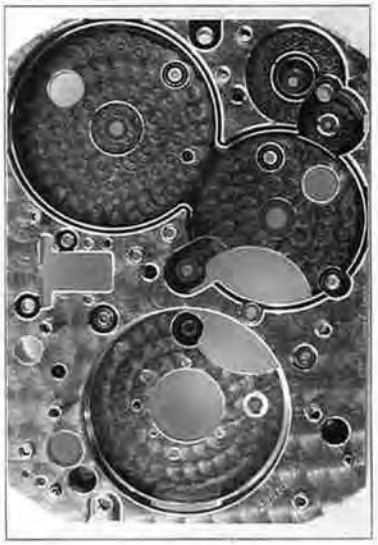


Figure 5

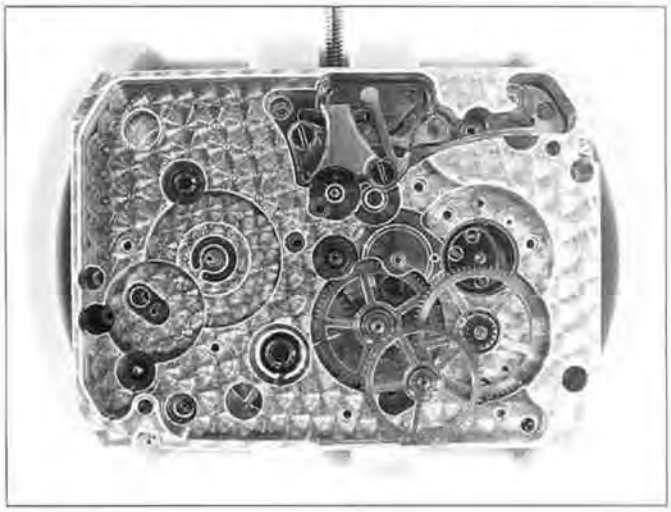


Figure 7

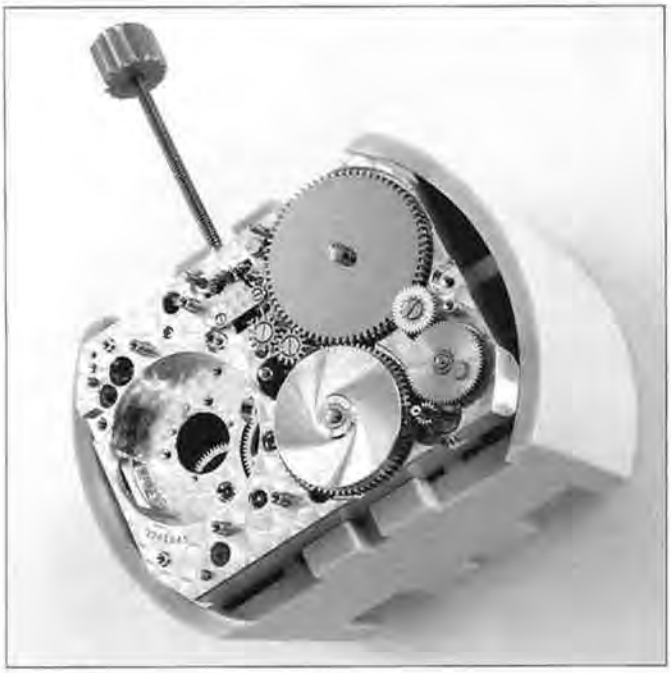


Figure 6



Figure 8



Figure 9

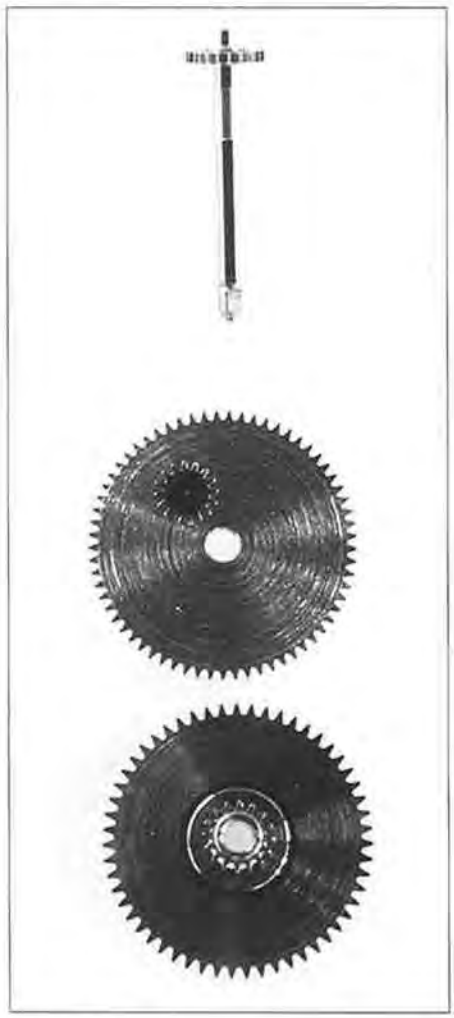


Figure 10



Figure 11

A straightforward planetary gear system provides the reserve de marche (up and down) indication. (See Figures 9, 10 and 11.)

Figure 12 shows the tourbillon cage, movement side. Note: the balance is free-sprung, with no regulator.

The tourbillon cage from the dial side, a total weight of 0.3 grams, is shown in Figure 13.



Figure 12



Figure 13

Figure 14 shows setting the tourbillon cage into the movement.

Figure 15 shows the cased movement without back. Note: Plastic film is applied to the case as protection against scratches and is removed just prior to delivery of the watch.



Figure 14



Figure 15



Figure 16



Figure 17

Figure 16 shows the completed watch with the case back in place. (The watch provided for photography has a small slit over the spring bar. This is not the strap delivered to customers.)

I would like to thank everyone at Patek Philippe for their help and hospitality in making this article possible. Also to Mr. Patrick Conus (Figure 17), my dedicated master watchmaker while making this article, for his patience and understanding.

This article is reprinted courtesy of Ron DeCorte and TimeZone.com.

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Meet the Candidates 2007

Welcome to "Meet the Candidates 2007." Meet the Candidates gives each candidate the opportunity to introduce themselves to the AWCI membership prior to the annual mailing of the election brochure and ballot. This year there are 9 candidates vying for a seat on the AWCI Board of Directors. Candidates are listed in a randomly selected order. Three directors will be elected, each for a three-year term. The three who receive the most votes will join the current AWCI Board members during the annual AWCI Board of Directors meeting in August.

During the month of May, ballots and a background sketch of each candidate will be mailed to all AWCI members eligible to vote. The election mailing will also contain each candidate's response to a question posed by the Nominating Committee.

A ballot return envelope will also be included in the mailing. The envelope will be addressed to the Certified Public Accountant who is responsible for counting the votes and certifying the outcome of the election. All ballots returned must be in the ballot return envelope and postmarked on or before the deadline date published in the voting instructions. Only marked ballots should be sent to the Certified Public Accountant. Please do not include any notes or requests for information.

Ernest R. Tope, CMW



Dear fellow members,

For those who do not know me well, I have written this introduction.

What I do for a living is very well illustrated on my website (www.watchrestoration.com). Briefly, I restore old complicated watches and service modern mechanical marvels. I have been a member since 1984 and recently upgraded my CMW certification to the new 21st century standards. But that is not what I want you to know about me.

What I want you to know about me is where I stand. I stand for unity. I stand for integrity. And, I stand for what is possible.

Unity means sticking together, acting as one, and not being divided by challenges. Integrity means being honest and having actions match words and desires. Standing for what is possible means not being stopped by negative thinking, looking for the interesting and inspiring possibility of what could be.

Opportunity exists for those who are open to it. It exists especially for those who are looking for it. I firmly believe there is opportunity in so-called troubles. AWCI is transforming. The question is, into what? No one knows for certain. If you know what the future is, please send me your phone number. I have some questions for you.

My horological friends and I have so much in common. I would like for all of us to be joined in supporting each other for an inspiring future.

Lloyd Lehn, CC



Dr. Lloyd Lehn, an AWCI Certified Clockmaker, retired from the Department of Defense (DoD) in early 2003 after 35 years of service. He was the principal specialist in manufacturing technology and machine tools for the Office of the Secretary of Defense. His PhD dissertation focused on maximizing the life of lathe tools by finding their optimum geometry. After college, he served two years as an Army officer at the Rock Island Arsenal weapons production facility where he was the numerically controlled machine tool coordinator and championed DoD's first purchase of a network of CNC machine tools. He has used digital computers since 1962 and holds a "Windows 4.0 Professional" certificate from Learning Tree International.

Dr. Lehn attended his first clock repair class in 1983. He has continued his education by attending more than 13 semesters of clock repair classes in recent years. Since retiring, he specializes in cuckoo clocks and is the owner and "Chief Surgeon" of the Cuckoo Clock Hospital (www.CuckooClockHospital.com). In February 2006, he created the Cuckoo Clock Club Yahoo Group site (http://groups.yahoo.com/group/cuckooclockclub/) and invites participation. He has been VP and President of the local horology guild. He is in his 4th year as Secretary of the Horological Association of Virginia and is their AWCI representative. He has served AWCI committees: *HT*, Video, Book Review, and Annual Meeting. He has written many articles on a number of subjects - most recently on horology. They've appeared in *HT*, NAWCC's *Bulletin*, *Clockmaker's Newsletter* and the Cuckoo Clock Club site. He has been married for 35 years (Laura is a librarian) and has two sons (a computer engineer and an architect – both Eagle Scouts).

Douglas Stuart



The AWCI has been a great organization in the past, and it can be once again, but achieving greatness requires financial health. It must be our number one priority to eliminate the budget deficit and put the AWCI back on solid financial ground. Deficit spending, where more and more of our revenues go to pay the interest on our increasing debt, is a recipe for long-term disaster.

But we can't balance the budget on the backs of our members! At the last annual meeting, your Board passed 10 motions raising dues and member fees, yet not a single motion was presented to cut expenses! We must do better! If elected, I pledge to be a consistent voice for fiscal responsibility.

To grow our membership, we must reach out to ALL members with programs that have broad-based appeal. Our members have diverse interests and needs: Certified Watch and Clockmakers, part-time professionals, material distributors, and hobbyists with a genuine desire to learn more about our craft. All are important to our success, and we must offer programs that make AWCI membership valuable to each of these groups! For many, *Horological Times* is a primary benefit of membership, and we should support *HT* so that it can once again provide the kind of valuable, original content our members expect.

We must strive for greater openness and transparency in AWCI business, and improve communication with our members. We must be honest about what's working well and what we can do better, and measure our success with clearly stated goals and objectively measurable results. Those are the basics of good business management.

We have many challenges ahead of us. I pledge to work diligently to help make the AWCI the kind of organization we know that it can be. I thank you for your support.

Daniel A. Spath, CMW



My name is Daniel Spath and I am a Certified Master Watchmaker for over 24 years. I have owned and operated a watch and clock repair store for 25 years. I am past president of the Maryland Horological Association of Maryland and am a member of the NAWCC as well as the Chronometer Club, AWI AWCI, and British Horological Institute. I have also served as Vice President of the Tri-State Workshop for Maryland, Pennsylvania and Virginia as well as serving on several AWI and AWCI committees, including chairman of the Honor Awards Committee and membership. I have also attended many of the AWI workshops and AWCI's classes and Annual Meetings. At the Maryland Horological Association we conduct monthly workshops for persons who are learning to repair watches and clocks.

I would appreciate your vote and hope to continue to serve and represent the members of AWCI .

Gene Bertram, CC



I've been attending Annual meetings since the early '90s and at every one, watchmakers have complained about access to spare parts and demanded "that AWCI do something about it." AWCI set out to tackle the problem, talking to both watchmakers and manufacturers. The outcome of those discussions was the new certification program. Of course, while many of the manufacturers have expressed excitement, some are holding back promises until they see how the program is administered. Also, some watchmakers are unhappy about paying the money, taking a test, and still having no guarantee of a parts account. However, I believe that certification IS AWCI's future. For one, we have mortgaged our future developing this program. Our income is significantly less than our expenses, and we need to increase membership in order to remain solvent. Jim Lubic and the finance committee are working hard to decrease expenses, but the simple fact is we have to grow. Certification can provide that growth. Second, if AWCI is going to be the premier horological organization in the world, we should have the best certification program and classes to prepare people for the test. That is what Jim Lubic, Manuel Yazijian, and the Education Committee have been working on. As a director, it is my duty to both keep the organization on track and listen to members for ideas on how to improve things. Oh, and when the new Certified Clockmaker test is ready, I'm going to take it.

Jack Kurdzionak, CW



Many of our members may wonder, "Why is Jack running for director, again?" Having served as president 2002-04 and currently serving as IAB Chair and treasurer since 2006, you are entitled to an answer. Our president, Dennis Warner, the Board of Directors, AWCI administration, and staff have been working together as a team and have made significant progress this past year to ensure AWCI's future as the professional trade association for watchmakers and clockmakers. There is no intention to deter others from serving, but only to finish the project that is underway. As treasurer and head of the Finance Committee, we have put together a professional group of people, all of who are AWCI members, on that committee. They have worked diligently on budgetary matters since their appointment last summer. Under the watchful eye of President Warner and the Board of Directors, they have worked with our management and staff to assure AWCI's financial stability. Much has been accomplished and more needs to be done. With your continued support, we can keep AWCI alive and healthy so that it will be there, not only for us, but also for the next generation of watchmakers and clockmakers.

Joseph D. Juaire, CW



I spent the first five years of my career as a WOSTEP trained watchmaker restoring 17th-19th century watches, with and without complications. During that time I never concerned myself much with modern watches or the availability of spare parts. All of the watches I was repairing required that I have the equipment and knowledge to manufacture replacement parts because the spares were either no longer available or had never been available.

Since 1995, my role in watchmaking has been the education of future watchmaking professionals as an instructor and program director of the Micro Mechanical/Watchmaking Program at Saint Paul College. It is in this current role that I have become keenly aware of the new requirements placed upon watchmakers with regards to knowledge and skills necessary in order to professionally repair a modern high-grade watch. I will be the first to admit that my primary education in this profession at my college was grossly inadequate as was much of the education available to aspiring watchmakers during the mid-1970s through the mid-1990s. If I had not taken advantage of all of the other training available to me here and abroad I would certainly not be up to the challenge of training the next generation of watchmakers.

I am very pleased to see that AWCI has become a leader in establishing standards and practices as well as a certification process that validates these necessary skills. I am even more impressed by the educational opportunities available to students entering the profession and current watchmakers upgrading their skills, which are much more numerous and professional in their scope than when I started in the mid 1980s. If elected I will work diligently to continue the efforts the AWCI has made toward obtaining the international respect it deserves.

Donald M. McPherson, CW



The certification process that we have embarked on is both logical and sound. Much more should be done. Working with industry is important and I will work hard to strengthen that relationship, but we are missing a crucial component, and that is our customers. They are the ones that will ultimately decide if our certification has value. I believe that our organization needs to change its method of promoting itself. A much more modern and sophisticated approach is needed to attract a larger customer base. We must BRAND AWCI certifications. We must work harder and smarter at making AWCI certification the standard that customers use in deciding who will repair their timepiece.

I believe that the focus of our promotions should be geared more to our customers' needs and not in gaining more members. Those will come if we are successful in making the AWCI certifications foremost in the minds of the public. This approach has been a success for many other organizations.

I will work to make our certifications the gold standard in the public mind worldwide.

David Fahrenholz



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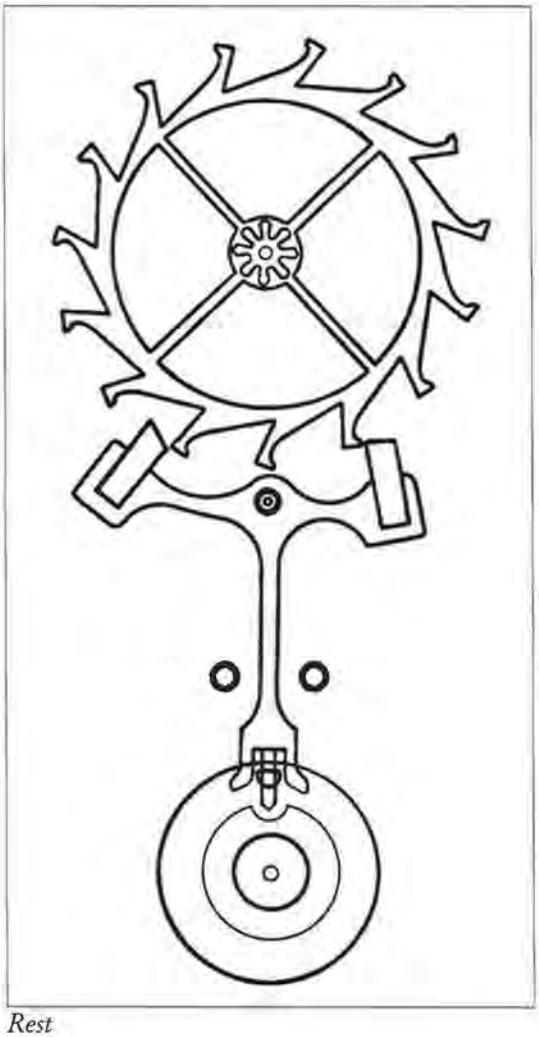


John Davis

Checking for Proper Drop/Lock in the Swiss Lever Escapement

John Davis is a graduate of the WOSTEP program at North Seattle Community College and has worked for Rolex USA since 2005.

The interactions of the Swiss Lever Escapement are some of the most complex and little understood in mechanical watchmaking today, even after hundreds of years of refinement and study. The escapement is central to timekeeping in terms of both chronometric precision and basic functionality, so understanding the geometry and tolerances and how to check for optimal functionality in its setup is critical for the practicing watchmaker.



Rest

Diagnosing an escapement error can be painfully arduous (both for the watchmaker and the watch wearer) if not impossible without a thorough regimen of practical checks, but the availability of high-tech timing equipment with amplitude readouts and oscilloscope functions can be a great aid to the process as well. This article only focuses on a very limited set of interactions and it is assumed that the proper vertical alignment (end shakes and divisions) and safety action at the roller (horn shake and guard pin shake) have already been thoroughly established. It is pointless to begin to check for the proper drop/lock if all the other fundamentals of the movement and escapement are not functioning properly.

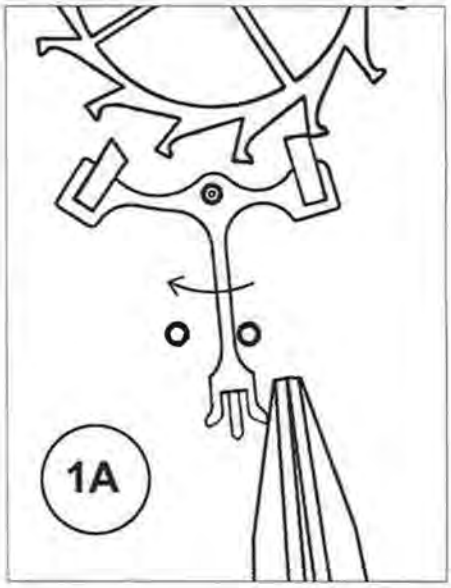
In the Swiss Lever Escapement, locking that is too shallow on one or both pallet stones can lead to a faulty drop/lock action. When the escape wheel tooth falls from the impulse plane of a pallet stone onto the impulse plane of the following stone (as opposed to the locking plane), it can lead to subtle timing variations, some degree of unreliability or the complete non-functionality of the escapement, depending on the severity of the condition. To avoid these

potential timing errors and escapement failures, the security of the drop/lock must be tested to insure that the escape wheel teeth drop onto the locking surface of the following stone consistently and reliably, especially at low amplitudes.

If the drop/lock is so unsafe that the escape wheel predominantly or always falls on the impulse plane, the balance may limp along weakly without ever achieving good amplitude or it may not run at all. With a little more drop/lock, it may appear to run well at high amplitude, but stutter and skip at low amplitudes or when subjected to shocks, resulting in stoppages or dramatic timing fluctuations. If the drop/lock is almost but not quite secure, it will result in a subtle timing gain, as an additional gaining escapement error is introduced that slightly counteracts the usual losing error of the Swiss Lever Escapement. This is because when the escape wheel teeth fall on the impulse plane, the pallet fork will present a slight retarding force on the roller jewel after the dead point as the roller jewel is forced to re-lock the pallet fork. From our understanding of the usual escapement interactions and the timing errors associated with them, we can see that a retarding force after the dead point will result in a gain.

To test the escapement for this error, some practical methods must be employed to insure that the drop/lock is consistent and reliable for each tooth of the escape wheel and both pallet stones. The following are some of the methods to check the drop/lock of the Swiss Lever Escapement, and a discussion of their strengths and weaknesses.

1A With the balance removed and approximately one turn of power on the mainspring, gently push the lever away from the banking with some brass tweezers or a soft metal probe (checking the draw action at the same time) until it unlocks and is impulsed to the opposite banking. Repeat this test once for each tooth of the escape wheel for both the entry and exit pallet stones. If the lever



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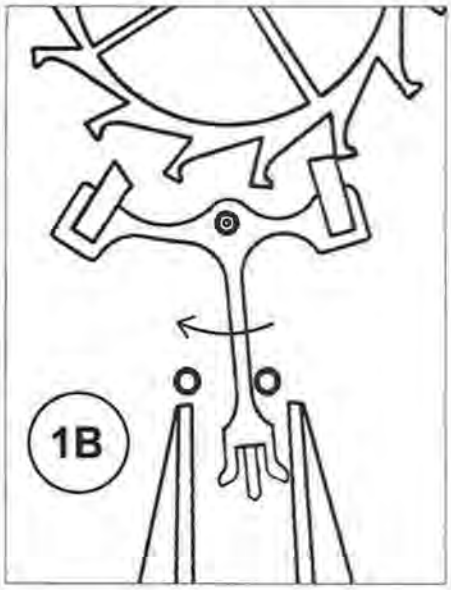
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flicks crisply to the opposing banking without stuttering or skipping, it is thought to have secure drop/lock.

If it has a tendency to skip several escape wheel teeth at a time or flicker back and forth rapidly during the test, it is thought that the drop/lock is not secure and one or both of the pallet stones should be pulled out until secure locking is achieved.

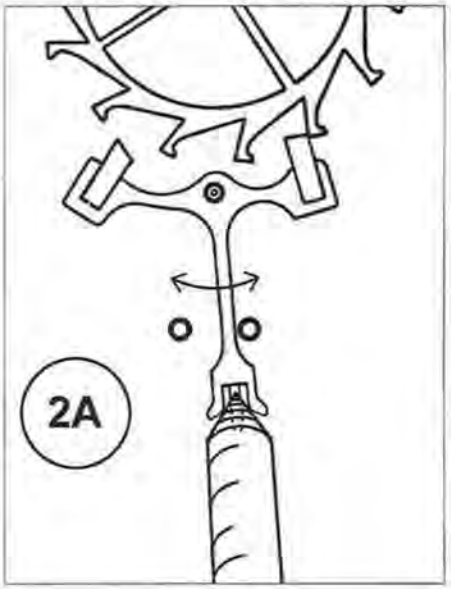
1B A further refinement of 1A involves controlling the fork throughout the unlocking, impulse, drop/lock and draw action. Instead of pushing the fork from one side only, rather grasp it quite loosely in the tweezers so that at the moment it impulses, the fork can be guided gently to the other banking and the position of the drop/lock and the amount of "lost way" (what some watchmakers call "slide", the additional motion of the pallet fork under draw action from the point of drop/lock to the total lock) can be observed as well. While this test requires more skill on the part of the watchmaker, when executed properly it gives a much better "feel" for the impulse, drop/lock and draw actions of the escapement.

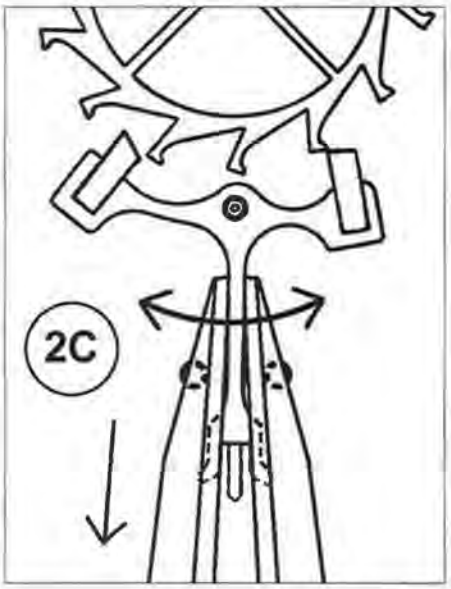
1C The same test can be performed with a soft metal probe held very carefully between the fork horns, but it requires substantially more skill and a very steady hand.

In my experience these tests are not 100% reliable and some judgment must be exercised to ascertain whether or not the drop/lock is sufficient. While the escapements in slow beat watches will generally show positive results with these tests, many high beat escapements will show at least some small amount of skipping. It is telling that the same tests can generally not be performed with the mainspring fully wound, as many escapements will exhibit excessive skipping under full power. It is likewise somewhat frustrating to the tester that the actual point of drop/lock on the pallet stone cannot be observed during these tests, but only the action of the pallet lever and the point of impact deduced based on the action observed.

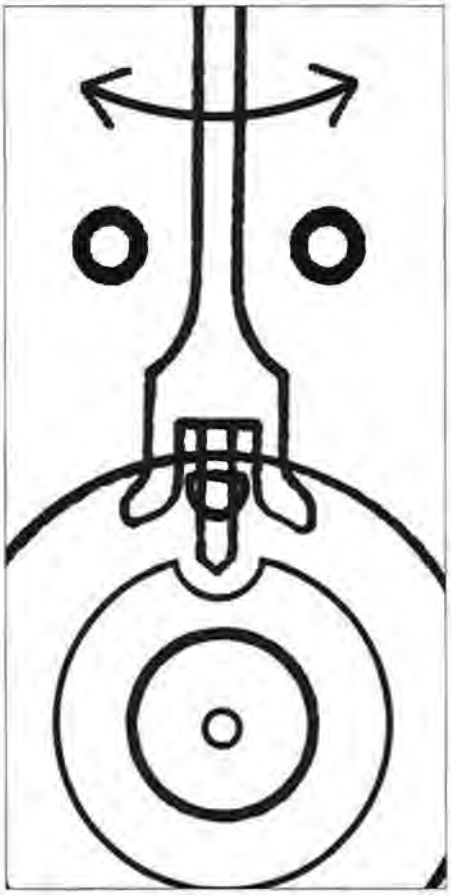
2A The single most reliable check for proper drop/lock involves carefully "driving" the pallet fork with the balance wheel removed. With some power on the mainspring (it can be fully wound) the pallet fork is held securely in the fork horns with a soft metal probe and very carefully moved back and forth through the unlocking, impulse and drop/lock phases while observing the action under a microscope or with a high powered loupe. By very carefully controlling the motion of the pallet fork, the precise location of the drop/lock can be observed on the opposing stone and the slide (draw action) can be observed in detail as well.

2B A similar test uses a small folded bit of paper to secure the pallet fork. With all or almost all the power removed from the mainspring, a tiny piece of folded paper is placed under the pallet lever. Then place the pallet





lever gently into the impulse phase position (with an escape wheel tooth resting against the impulse plane of one of the pallet stones) and manually turning the escape wheel (by pressing on the spokes with some tweezers or a probe) to drive the pallet fork until the drop/lock occurs. By observing this interaction carefully under a microscope or with a high-powered loupe, the precise location of drop/lock and the amount of slide/draw on each pallet stone can be observed.



Roller jewel shake

One disadvantage of tests 2A and 2B is that the manner in which the pallet fork is held during the test will affect the outcome to some extent. In 2A the pallet fork is being pushed toward the escape wheel, so the engagement of the pallet stones with the escape wheel teeth will appear slightly deeper than usual, due to the side shake of the pallet pivots. In 2B, because of the upward pressure of the folded paper on the shaft of the lever, the upper pivot will be pushed towards the escape wheel and the lower pivot pulled away from it simultaneously. Depending on the particularities of the pallet fork and its hole jewels, the results of this test will be skewed to a greater or lesser degree by this tilting of the fork.

2C To take the side shake of the pallet pivots into account, it is helpful to perform test 2A with the fork grasped in a pair of tweezers and pulled away from the escape wheel. By driving it through the impulse and drop/lock phases in this manner, the minimum depth of engagement of the pallet stones can be more accurately observed with the shake of the pallet pivots taken into consideration.

The problem with tests 1A, B and C is that they are somewhat ambiguous, with no way to observe the point of drop/lock. The problem with 2A, B and C is that they rely to some extent on the motion of the pallet lever during drop/lock being smooth and regular and they do not therefore take into account the shake of the pallet fork with respect to the roller jewel.

On high-speed film or video, it has been observed that all the interactions of the escapement involve a lot of shaking, chattering, bouncing and generally unpredictable movements. From the moment the roller jewel enters the fork, the fork begins

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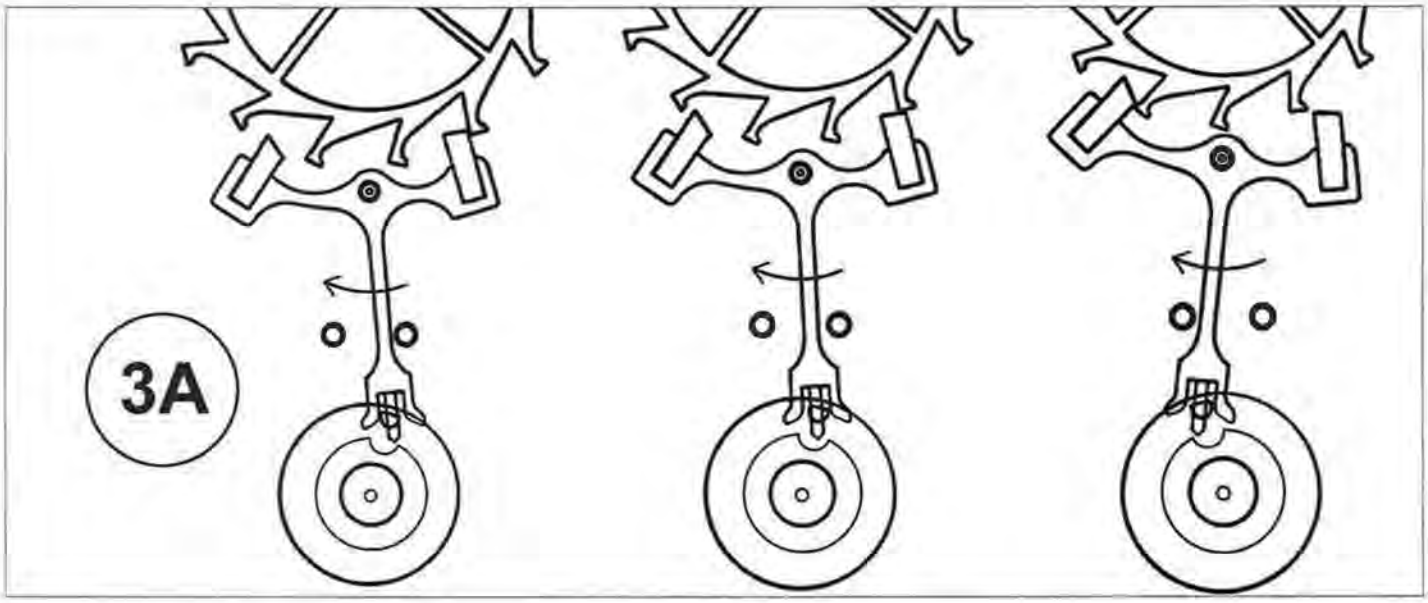
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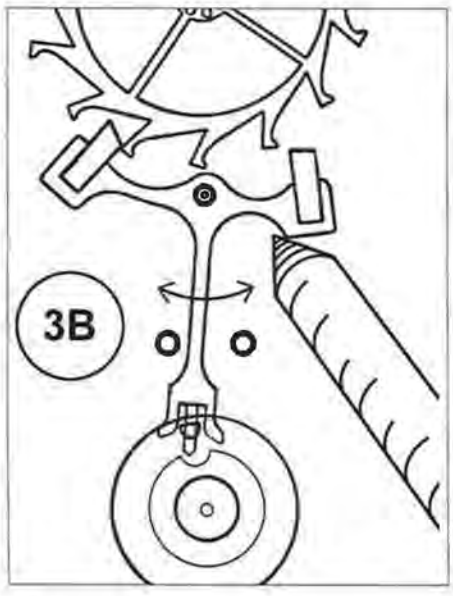
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bouncing back and forth at the limits of the roller jewel, the escape wheel teeth bounce along the locking and impulse surfaces of the pallet stones and the lever bounces to rest against the banking under draw.

To conceptualize the motion of the escapement properly, it is perhaps important to consider each of the components as existing at every possible position relative to each other while in motion; much like a physicist would consider the motion of small particles in quantum mechanics. The phases of the escapement do not unfold in a smooth and controlled manner; especially in high beat watches, but are in fact highly dynamic and quite unpredictable.



Some further tests with the balance wheel installed can take this dynamic action and the shake of the fork relative to the roller jewel into account. In my experience, these tests are too stringent for high-beat movements with the escapement geometry and set-up employed by many manufacturers today. While some manufacturers seem to favor a depth of locking that is safer and perhaps compromised slightly with regards to efficiency, others seek a higher level of efficiency and perhaps reduced escapement error by reducing the locking to the practical minimum. As such a great deal of familiarity with the movement in question is necessary to apply these tests to high beat watches, but they are highly instructive and reliable for low beat escapements in my experience.

3A With the balance installed and the mainspring wound either partially or fully (it is not critical to this test) the escapement is examined under a microscope (or with a high-powered loupe) while the balance wheel is manually moved through the unlocking, impulse and drop/lock phases of the balance arc. By moving the balance while held securely in the tweezers or with a finger (in a finger-cot of course), the roller jewel triggers the unlocking and also arrests the impulse motion of the pallet lever until the escape wheel tooth falls off of the impulse plane of the pallet stone and locks on the opposing pallet stone (acting very much like the probe in 1C). If the balance is controlled precisely and manipulated quite slowly, the point of drop/lock can be observed to some extent. This test is performed for each tooth and the escape wheel for both the entry and exit stones. One advantage of this test is that the horn shake and guard pin shake can also be tested at the same time since the balance is already installed.

The problem with 3A is that the shake of the fork horns relative to the roller jewel creates some unpredictability regarding the exact point of drop/lock. If one wants to thoroughly test the action of the escapement, it is critical to check the

security of the interactions at the limits of all the potential positions of the various components as they are interacting. To test the drop/lock, one must then take into account not only the shake of the pallet lever pivots in their jewels, but also the shake of the pallet fork relative to the roller jewel at the moment the escape wheel tooth falls off the impulse surface of the pallet stone. One possible way to test the drop/lock with this in mind is as follows.

3B As in 3A, manipulate the balance in a precisely controlled fashion back and forth through the phases of unlocking and impulse. At the moment the escape wheel tooth drops off the impulse surface of the pallet fork, observe where it lands on the opposing pallet stone and then, without moving the balance further, gently move the pallet fork back and forth to test its movement as limited by the roller jewel inside the fork and also the pallet lever pivots in their jewels. If it can be unlocked while the roller jewel is in this position, we can be sure that the escape wheel tooth will sometimes fall on the impulse plane of the pallet stone and the drop/lock is not completely consistent and secure. If the locking remains secure during this test for each tooth of the escape wheel and each pallet stone, we can rest assured that the drop/lock is consistent and reliable in every regard.

As mentioned previously, this test is perhaps too stringent where higher beat movements are concerned. High beat escapements are designed to take into account the dynamic action of the pallet fork between the end of impulse and moment of drop/lock in conjunction with the fast moving roller jewel and a certain amount of potential for falling on the impulse face may be considered acceptable and possibly even desirable as a trade-off to avoid excessively deep locking and hindered start-up from a stopped position. In many cases this subtle drop/lock fault can be eliminated with satisfactory results, but often with little or no practical performance gains.

When examining the dynamic limits of the drop/lock in the Swiss Lever Escapement, it is worth considering that the reliability of the escapement is much more critical at very low amplitude, when the dynamic action of the components is at a minimum. It is perhaps fortuitous that the tendency to drop onto the impulse plane increases substantially for borderline cases precisely as the amplitude increases and the criticality of the error is simultaneously greatly diminished. It is only when the escape wheel drops onto the impulse plane at low amplitudes that it becomes absolutely critical and something that must be corrected if the watch is to perform reliably.

With this in mind, tests 2A and 2C can be recommended as the most reliable with regards to low amplitude performance in high beat watches. If the escapement fails these tests, we can be sure that it will stutter, skip or stop completely at low amplitudes and a correction must be made. It is also worth noting though that because of the difficulty in properly diagnosing such faults, especially in light of the differing approaches applied by different manufacturers, most manufacturers recommend that escapement adjustments not be made "in the field" at all. Instead, simply replacing the pallet fork, escape wheel, pallet bridge or roller (balance) as necessary is recommended to correct any faults that are found.

It is my hope this information will help other practicing watchmakers to better diagnose one potential escapement fault, whether subtle and dramatic and that better timekeeping results and/or reliability can be attained thereby. It should be noted that I am in no way an expert on the Swiss Lever Escapement and I only present my opinions and experiences here for the sake of discussion. I would encourage further examination of the best ways of checking the security of the drop/lock action in practice and welcome comments and corrections about potential misunderstandings or misinformation I might have put forth.





Manuel Yazijian, CMW
Watchmaking Instructor,
Certification Coordinator

ETACHRON

The ETACHRON System and Methods of Adjustment

Part 2

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Step 1

The adjusting tool (#015595) is inserted in the brass regulator block and turned (Figures 15 and 16) so as to have a maximum opening, denoted by the letter J, in Figure 17.

Once the brass regulator block is opened to the maximum, (its two straight sides will be parallel with the regulator), example of this is featured in Figures 17 and 18. At this point one might find that the hairspring is not centered between the regulator pins as in Figure 19.

Step 2

At this point you would turn the stud block (A), using the same tool on the stud block, in the direction of the arrow so as to center the hairspring in between the regulator pins as shown in Figure 20.

Step 3

Having brought the hairspring to be exactly in the center of the two regulator pins as shown in Figure 20, move the regulator fast and slow to ensure the hairspring remains centered between the regulator pins and proceed to reduce the space on each side of the hairspring. This is demonstrated in Figure 21. The regulator pins block is turned, thereby reducing the visible space on each side of the hairspring. Note: All the line drawings of the regulator pins and stud demonstrate as one would look at them from underneath.

Figure 19a shows the cement used by the manufacturer to hold the hairspring in place. In ancient times a round tapered pin was used to hold the hairspring in a hole drilled in the stud.

6. Precautions and Tips on Proper Timing

In Figure 21, we can clearly see that the space, denoted by J', has been reduced compared to that in Figure 20 and this space can also be further reduced as needed. This opening (J') is usually kept at a minimum to the extent that light should barely be visible on each side of the hairspring. Of course, the amount of space is dependant upon the performance of the watch on the timing machine, and the amount of opening has to be adjusted accordingly.



Figure 15



Figure 16

Exercise extreme care so as not to bend the hairspring by turning the regulator pins block beyond a safe angle. Reducing the space (J') ensures the rate in the vertical positions is close to the rate in the horizontal positions.

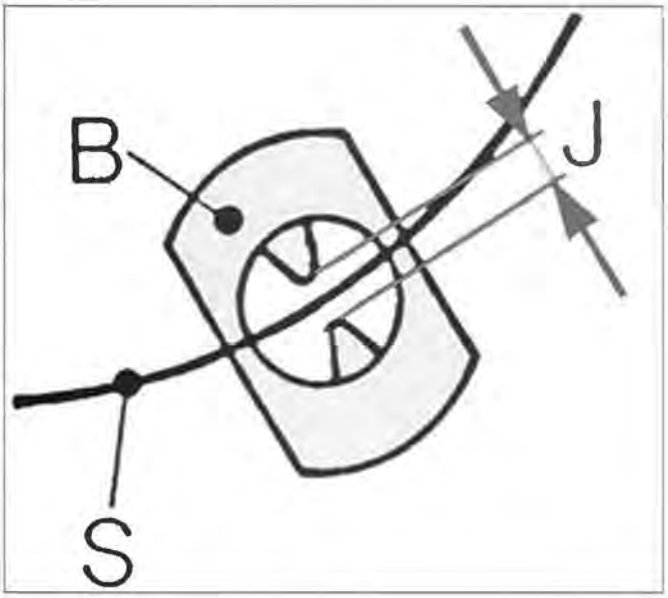


Figure 17


Figure 18

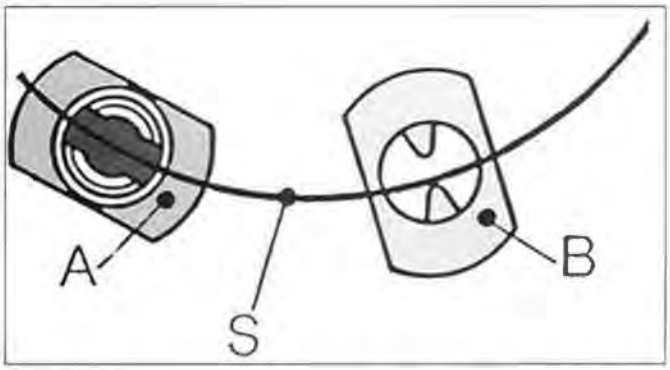
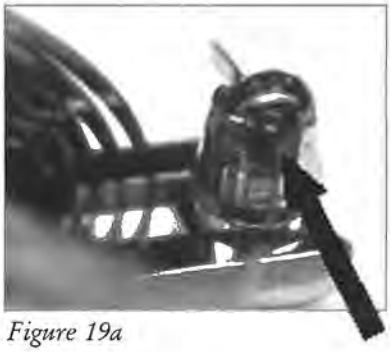


Figure 19


Figure 19a

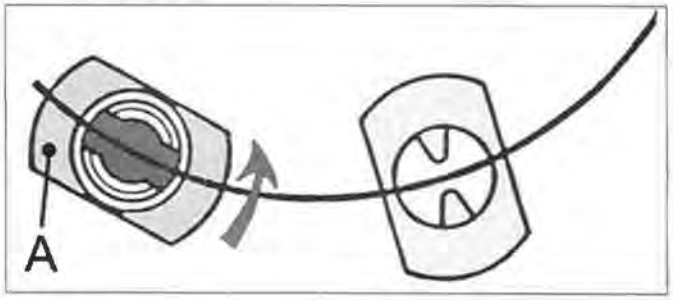


Figure 20

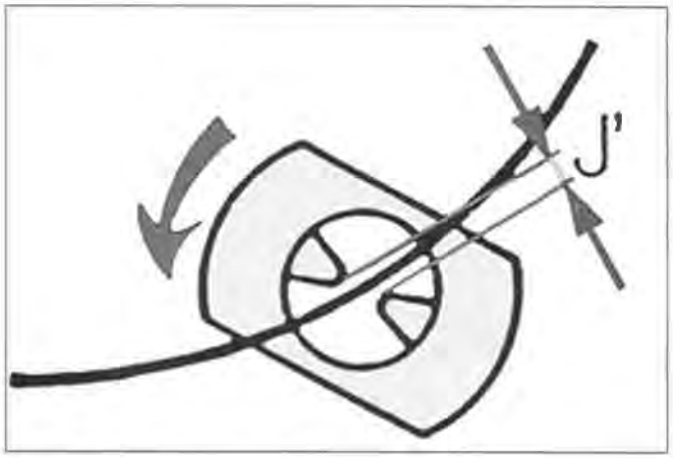


Figure 21

Revisiting the three basic rules of the condition of the hairspring leading to good timekeeping, we can summarize it as follows. The hairspring must be:

1. flat and parallel to the rim of the balance wheel
2. centered and having its coils equally spaced
3. equally spaced between the two regulator pins

7. Methods of Removal and Installation of a New Balance Complete

Quite often we may be faced with a situation where we would have to remove the balance complete, either to make in-depth adjustments to the hairspring or to replace a balance complete due to a damaged balance staff.

This is where using the stud remover tool is essential, tool #015600 (Figures 8 and 9, Part 1, March issue of *HT*, and Figure 22). With the balance wheel and balance cock securely

fitted on the mainplate, the removal process is as follows:

1. Turn the regulator block until the pins open at the maximum as in Figure 17.
2. Fit and rotate the stud removing tool as shown in Figure 22.

Figure 23 shows the hairspring stud popped out.

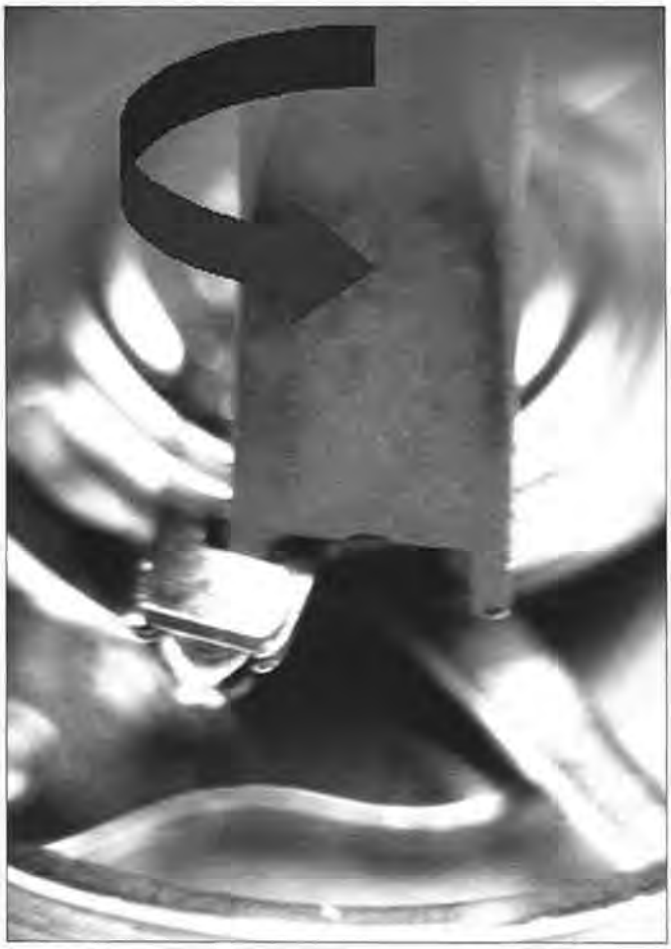


Figure 22



Figure 23

With the stud removed, the hairspring is most often still caught between the regulator pins. Although there is a very thin opening (arrow in Figure 24) where the two regulator pins meet, frequently the hairspring needs a little coaxing to pass through. It cannot be stressed enough that extreme care must be exercised when performing this operation. An exception is ETA caliber 2892 and derivatives, which have open ended regulator pins as in Figure 25.

To install the balance wheel back into place, if the hairspring does not easily enter the gap between the pins, the preferred method is to:

1. Lay the balance cock on its back on a soft surface, (e.g. bench mat) and lay the regulator on top of one or two layers of paper so as to prevent the balance cock from tilting during the pushing process (Figure 26).
2. Lay the balance wheel down, hairspring laying on the gap of regulator pins (Figure 27).



Figure 24

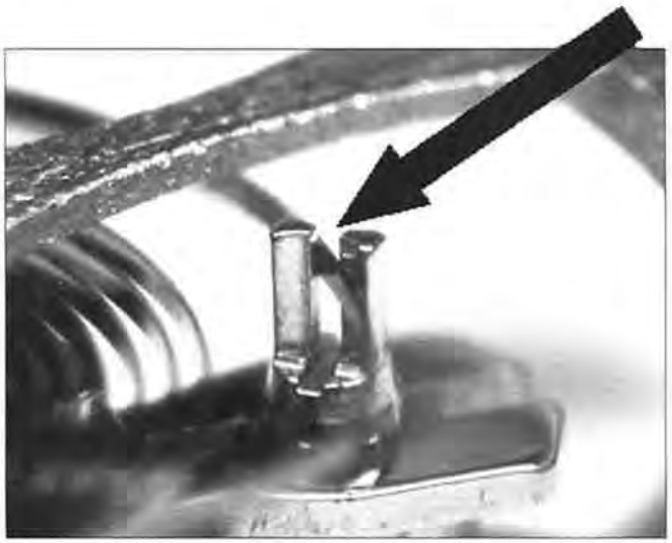


Figure 25



Figure 26



Figure 27



Figure 28



Figure 29

3. Push down very gently, while observing with strong magnification (e.g. 10X loupe), on the edge of the hairspring, using the flat portion of the brass tool until the hairspring passes through the narrow gap (Figure 28).

You may wish to try a different method, however the above method has been quite successful in many trials.

If an attempt is made to bend apart the regulator pins, in order to allow the hairspring to drop in place and then try to close them again, this usually produces less than satisfactory results.

Once the hairspring is securely in place between the regulator pins, the balance cock can now be installed in the mainplate and the stud block pushed into place. ETA recommends using the flat portion of the back of brass tweezers to push the stud home; this is a safe method. You may also use the back portion of the brass tool as shown in Figure 29.

Once the hairspring stud has been pushed in place, proceed with the centering process as covered in STEPS 1, 2 and 3.

Further adjustments to the rate can be achieved by pushing the regulator left or right for major adjustments; and for extremely minute adjustments, the eccentric screw (between the + and – sign) can be turned (Figure 5, Part 1, March issue of *HT*) and finishing off the adjusting with the screw slot being on zero.

The reader is reminded that every attempt has been made to cover the step-by-step procedures in adjusting the ETACHRON regulator system. However, there are always individual cases which call for a slightly different approach. Hands on instruction, lots of practice and experience will ultimately lead to excellent results.

For hands-on instructions and a more in-depth understanding of timing and adjustment, please see the various courses offered at AWCI headquarters at www.awci.com.

A special thank you to Dr. Matthew Clark for looking up patent dates of the ETACHRON, to Larry Blanchard for providing additional information on the Elgin stud adjusting tool, and to Stanley McMahan for his professional input.

Bibliography and References

ETACHRON line drawings, *ETA technical support. (The Swatch Group Ltd.)*
Elgin drawings, *Elgin Service Manual*
Traditional regulator line drawing, *Timing Manipulations*, James Hamilton
Digital photographs and colorings of all line drawings by the author

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From the Workshop

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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 suggested by the author and any manufacturer, supplier, advertiser, or AWCI itself does not endorse contributing members.

Pricing Trade Work

Don M.'s watch repair shop does trade work for retail jewelers; that is, his shop provides watch repair services to jewelers who in turn sell these repairs to retail customers. The jeweler is expected to accept watches in need of repair from customers, be responsible for all customer contact, record keeping, billing, and paying the watch repair shop for services regularly and on time. In short, the jewelry store and its personnel sell watch repair service at retail, which they obtain at a lower cost from an independent shop such as Don M.'s.

Jewelers relieve trade watch repair shops of customer contact requirements, administration expenses, and collection problems allowing the watchmaker to spend more time repairing watches. Taken together with the expectation that each jeweler will send in numerous repairs per week, the trade watch repair shop can service watches more efficiently and at a cost significantly lower than would be otherwise possible. This arrangement makes sense when one understands that watchmakers repair watches and others can deal with all of the ancillary details.

Don's shop provides a suggested retail price list to his clients to assist them as they sell watch repairs. Don's shop charges the jewelers a fixed percentage of the suggested retail prices as shown on his price list. This list provides the retailer with an accurate cost base that can be used to sell retail watch repairs. Customers, some of whom have unrealistically low cost expectations when they shop for watch repair, are pre-qualified by knowledgeable jewelers who can accurately estimate repair charges beforehand. That saves both the jeweler's and the watchmaker's time by having the jeweler only accept repairs which have a reasonable potential of being approved by the customer. Please note that Don's shop provides the price list to the jeweler and not vice versa. Don knows how much he must charge to cover his expenses and earn the salary he requires.

Stock-in-Trade

What is your stock-in-trade? Can you find it when you need it? Do you have enough on hand to meet your daily requirements? Are you placing small stock orders too frequently? Just what is stock-in-trade? The dictionary defines it as:

1. All the merchandise and equipment kept on hand and used in carrying on a business.

2. The resources available to and habitually called on by a person in a given situation.

The stuff that you need to carry on your business efficiently and profitably is your stock-in-trade. It is a given, that each of us, regardless of the type of service we provide, requires stock items to carry on our business. No one will argue that point. Since no two shops are exactly alike, then no two shops have the exact same requirements for stock items, their quantities, or inventory methods. However there are some basic stock concepts that apply to all shops.

A shop that has no currently usable stock really has no stock at all. A watch or clock shop that is well endowed with parts, for which there is no demand, has no stock. Is there a need to have twenty old cabinets, loaded with obsolete crystals, crowns, stems, balance staffs, movements, and tools, even if they are neatly organized, taking up valuable shop space? If the parts and tools in this collection are not used on a regular basis, and that means more often than once a year, they are not considered stock. Stock is what is used to carry on a business. A watchmaker or clockmaker needs an organized stock of spare parts, on hand, appropriate for the business. The key words here are organized and appropriate. The stock inventory must fit the requirements of the business. A shop whose focus is the service and replacement of modern German movements needs spare parts and replacement movements on hand for those clocks. That shop does not need an inventory of American mantle clock parts unless that is a substantial part of the business. Likewise, a shop, which focuses upon the repair of current production Swiss watches, needs movements and spare parts from the ETA and Ronda factories. That shop also needs plenty of washers for case backs and crystals as well as replacement parts for bracelets. Unless that watch shop is repairing a substantial amount of antique American watches, is there a need for a large stock of Waltham, Elgin, and Hamilton material? The owner of a shop full of seldom used spare parts does not have stock-in-trade, rather that owner has a collection of parts that are not usable, now or in the foreseeable future.

Spare parts suppliers have a wealth of knowledge for watchmakers and clockmakers to access. The suppliers know which parts should be ordered in quantity and which ones should be ordered only as required. Let the suppliers assist you as you stock parts for your shop. Look upon the cost of a larger inventory of parts as an investment in the business, which will more than pay for itself, and not as an additional expense. The hidden costs of placing frequent small orders can be

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substantial. Each small order adds costs of time, postage, and handling which cannot be recovered as well as delaying the delivery of completed work to customers, which slows cash flow into the business. Your suppliers can help you; why not accept their help? Watch batteries are a case in point. Some shops call their battery supplier twice a week to place an order for thirty batteries. At a minimum postage and handling charge of $3, this adds ten cents to the cost of each battery. It may not seem like much money, but a store that orders thirty batteries, twice a week, rather than 260 per month in one order adds about $250 to the shipping cost alone, without even considering the time saved by making one large order and the quantity discounts offered by many suppliers that can reduce the unit cost even further. If this example seems extreme, be assured it is not. For the average shop there is no need to order individual watch parts such as stems, crowns, bracelet pins, etc., in large quantities but it makes sense to order many of them by the dozen or fraction of a dozen.

Do your own self-examination of your stock-in-trade. Do you need to decrease or eliminate any unused or seldom used spare parts you keep on hand? Do you have enough current stock to meet your daily and weekly requirements so that you are not placing too frequent orders with your suppliers? Check your spare parts bills. Are the charges for postage and handling too high in relation to what the parts actually cost? If so, you may be ordering small quantities too frequently. The old saying, "You cannot sell anything from an empty wagon" is as true today as it was when merchants traveled from town to town with a horse and wagon.

Jack Kurdzionak

A Call from Nancy

This writer recently received a phone call from Nancy P., a watchmaker, and AWCI member. Nancy noted that a recent article in this column mentioned a Mr. Watchmaker doing business with a Mr. Jeweler. She firmly reminded this writer that there are women in both the watchmaking profession and the jewelry business and the article ignored that fact by using men as an example. Nancy received an immediate apology during the phone call and that same apology is extended to all readers, here and now. There was and will be no offence intended to anyone involved in our profession.

Jack Kurdzionak

Confidence in the Postal Service

Watchmakers, clockmakers, and jewelers are always concerned with the security and protection of items entrusted to us for repair. Thousands of words of advice have been written in this column and many others about this issue. Our own shop has a website with detailed instruction for shipping watches to us for repair. Customers are advised to carefully pack their watches in bubble wrap, enclose a cover letter with all pertinent contact information, place the wrapped watch into a small corrugated box, and carefully seal and address the box before shipping via the insured carrier of their choice. Many customers follow the procedure exactly, regardless of the value of the timepiece involved. However, some do not. Occasionally we receive a low priced watch, via first class mail, in an envelope designed to hold a letter rather than a parcel. Most of the time, the watch arrives and it arrives in one piece. In the past three months, two watches were received via uninsured first class mail from two different customers. One was a man's Rolex 18K Presidential and the other was a woman's Piaget with an 18K case and bracelet. The customers' declared value of these two pieces totaled over $25,000. The packaging was similar. One is pictured here for illustration. Both used padded envelopes, both used first class mail with delivery confirmation, both cost $1.95 to ship, both arrived safely with no damage, and both customers are attorneys. Go figure. We worry about losing a $15 watch and give it the same care as a $15,000 piece while some customers treat their $15,000 watches as if they were worth $15.

Jack Kurdzionak



Confidence in the Postal Service

President's Message

(Continued from page 2.)

It is not too early to begin making your plans for the Annual Meeting in Cincinnati, Ohio. It is scheduled for the first week in August. Detailed information will soon be coming out of AWCI. Try to book your flight early to take advantage of the low airfares. The closest airport is Cincinnati/Northern Kentucky International Airport. You may consider flying into Columbus or Dayton, Ohio; Lexington or Louisville, Kentucky; or Indianapolis, Indiana for lower airfares.

The future of our organization depends on you and it is hoped you will step forward and become active in our AWCI.

Executive Director's Message

(Continued from page 2.)

members, for a total of 2,762 AWCI members. At this time last year we had 2,660 dues paying members, plus 358 life members for a total of 3,018 members. We had a drop of 254 in dues paying members. Last year between March and October we picked up 276 dues paying members. In the past we have always had about 600 members who didn't renew. Traditionally we would pick up 600 plus throughout the year. That model has changed in the past 3 to 4 years as we lose 600 plus and pick up about 300.

We continue to solicit new members through mailings and other methods. I believe that as our new certifications become the standard in the industry, we will start to see our membership hold and hopefully increase slightly. We believe that 1 out of 3 professional watchmakers/clockmakers are members of AWCI, so we do have a pool to recruit from.

Have a great month, and remember, when making purchases from our advertisers, tell them that you saw their ad in the *Horological Times*.

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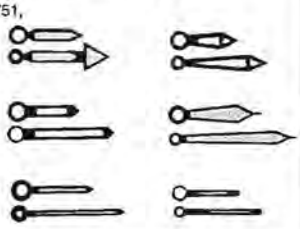


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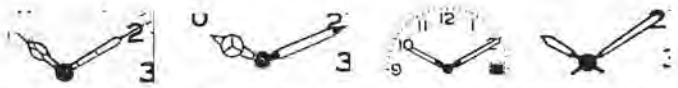
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AWCI is offering a series of watchmaking classes throughout 2006 and 2007. The series will consist of 5-day sessions covering a variety of subject matter. Each 5-day block will cost $600.00; 3-day block $360.00. For additional information, contact Education Coordinator, Nancy Wellmann nwellmann@awci.com or call (866) 367-2924, ext. 303. Class information is also available at www.awci.com

April 16-20, 2007	Introduction to Basic Quartz Watches & Quartz Chronographs
May 7-11, 2007	Modern Mechanical Chronographs
June 11-15, 2007	Introduction to the Watchmaker's Lathe
June 25-29, 2007	Precision Timing & Adjustment
July 9-13, 2007	Modern Mechanical Chronographs, Servicing and Adjusting
August 27-31, 2007	Modern Automatic Watch Repair
September 24-28, 2007	Vintage Chronographs - Bernhard Stoeber, Instructor
October 22-26, 2007	Basic Watch Repair, Servicing and Adjusting
November 5-9, 2007	Introduction to Basic Quartz Watches & Quartz Chronographs

AWCI CERTIFICATION EXAM SCHEDULE

Certified Watchmaker & Certified Master Watchmaker

May 21-24, 2007	AWCI Training Facility	Harrison, OH
July 23-26, 2007	Saint Paul College	Saint Paul, MN
August 20-23, 2007	Oklahoma State University	Okmulgee, OK
August 27-30, 2007	Lititz Watch Technicum	Lititz, PA
September 4-7, 2007	North Seattle Community College	Seattle, WA
October 1-4, 2007	AWCI Training Facility	Harrison, OH

To register for an exam or for more information contact Education Coordinator, Nancy Wellmann at nwellmann@awci.com or call toll free 1-866-FOR-AWCI (367-2924)

AWCI Material Search

EDITOR'S NOTE: If you can supply any of the items listed here, please send details to the AWCI Material Search. **Do not send the items to AWCI.** Members requesting these items will be advised of their availability, and will contact you directly.

1Q3 Excelsior Park, 15 size, #EB-8335, *operating lever spring*

1R3 Bliss & Crighton 917, *balance wheel helical hairspring & detent spring chronometer*

1R7 Elgin BW Raymond, 16 size, #15644219, *hairspring or balance complete* (has a heavy balance wheel & staff hairspring)

If you can supply any of these items please contact: AWCI Material Search, American Watchmakers-Clockmakers Institute, 701 Enterprise Drive, Harrison, OH 45030-1696. Toll Free: 1-866-367-2924, ext. 301; Phone: (513) 367-9800, Fax: (513) 367-1414 or E-mail: hweaver@awci.com

The American Watchmakers-Clockmakers Institute maintains this unique member service to assist professionals in replacing hard-to-find parts for vintage timepieces. There is a fee of $10.00 for each search.

The AWCI Material Search first contacts several dozen material houses and outlets on behalf of the member to determine if the missing part is available from any commercial source in the United States or Canada. If the part cannot be found, the search will be listed in the *Horological Times*.

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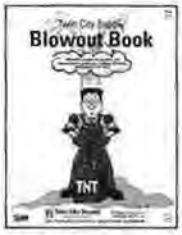
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Wes Cutter, CC

Affiliate Chapter Report

Reports from Around the Nation

HAM Gets Going!

The Horological Association of Maryland's Board of Directors (HAM BoD) new slate of officers met for their annual planning session in December 2006. The new President, Dr. David Grau, came well prepared for a thorough review of BoD-submitted topics for discussion. David recently retired as a commissioned officer in the U.S. Public Health Service, where he developed expertise in management practices and taught courses in areas such as organization development and conducting effective meetings. His skills in this area were very evident, and we had a most productive planning session.

The HAM's main organizational objective, for years, has been to function as a horological educational organization. To this end, we plan the year ahead to meet our members' needs. The organization has a core group of professional watchmakers and clockmakers, and a number of hobbyists with varying levels of skill. To accomplish our training and educational goals, we meet two times a month except in December. The second Monday evening in the month consists of a business-program meeting and workshop. Some of the second Monday meetings may include an educational program or a planning session for the upcoming workshops. The fourth Monday meeting is a workshop where members can participate in planned activities or work on their own projects.

A business-program meeting usually consists of either a speaker or a planning session to introduce the activities planned for the upcoming workshop(s). Planned activities are usually based upon a theme. For example, the themes may be a series of workshop meetings to develop skills on lathes, quartz watches, basic pocket watch repair, or repair of clock escapements. Other specialized short themes can include hairsprings, re-staffing, or oiling techniques. We usually convert two or three of the monthly workshops to all-day Sunday workshops, which are very popular.

Our challenge every year is the recruitment of new members. We attempt to recruit new members of AWCI from our area to become members of HAM and through our participation in NAWCC marts and area chapter meetings. What we offer is free to HAM members except for the yearly $25 dues and a nominal meeting fee at each meeting to pay for the room. This past year we moved to a new meeting site at St. Johns Church on old Frederick Road, in Ellicott City, MD. Interested new members may reach us by contacting our President, David Grau at horologicalassociation@gmail.com.

Minnesota Convention Is Struck by Blizzard

The MWCA had its annual convention on February 24, which just happened to be when the Midwest was hit by a major snowfall (10-18 inches, depending on location), with winds up to 20 mph, both of which made conditions pretty imaginably hazardous.

More than forty brave men and women showed up from around the Midwest (2 from Wisconsin, 1 from Iowa, 2 from Michigan plus Minnesnowtans) to hear from an excellent group of speakers. This was held at the St. Paul College in the watch classroom. (WOW, was that neat.)



MWCA convention presentation

Starting the day was Bill Gay, a teacher from St. Paul College. Bill's a CPA and he gave an excellent talk on business structure, with an emphasis on what was necessary, ordinary, and reasonable for expenses. One surprise he shared was that 75% of the world's lawyers are here in the U.S., yet we only have 5% of the world's population. Some cute stories of audits with the IRS and other group discussion made a great start to the day.

Next up was Dewey Clark, President of Historic Timekeepers, Inc., and also of a Maryland-based company. Some of his heroes at this point in his life are Marvin Whitney, Roy Hovey, W.O. Smith, Archie Perkins, and Homer and Sarah Barkus. All are people who taught him over his lifetime, and even at a breakneck pace, we just ran out of time before he could give us just a tiny taste of all he wanted to cover. He left out a little: like what to look for, books that are useful (the two Sherline books, which he did mention are a goldmine of



MWCA convention attendees take a break.



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information, about how to do precision machine setups), and other stuff. Many of the people in attendance said that we should have him back for a day or two just on his own, and we all agreed: He was fabulous.

Of course we had door prizes as our vendors again gave us many items to give away!

Lunch break with a buffet of roast beef, chicken, and ham and the fixings was just right to set us up for another incredible speaker.

Damian DeBlis is the President of the Watchmakers Association of New Jersey; he gave a talk about the history of Tiffany® watches from the 1850s to present. I had a number of people say that it was an incredible presentation: from the pictures, the explanations, the knowledge and history that Damian presented. At the end of the talk, Damian shared some sneak pictures of the Tiffany® Oracle, a mystery tourbillon pocket watch with five mainsprings. He also handed out collateral material, such as a booklet, *Quality Time*, which showed many of the watches in the Archival collection, the annual *Blue Book 2006-2007*, which goes out to their best customers this time of year, and a Tiffany & Co. Holiday selections catalog. Many were overwhelmed. The finale was that he'd brought a commemorative medal, struck by Patek and produced to mark the 150-year anniversary of their relationship with Tiffany. The last one sold on Ebay for over $500, and Damian graciously donated the medal to the auction. The winning bidder was Mark Purdy.



Mark Purdy with the commemorative medal.

Douglas K. Stevenson, the last speaker, was an international expert on German clocks and dating from their patent numbers and marks. For example, if you see D.R.P. on the clock it was made between 1877 – 1941; if you see D.R.G.M., it was made after 1891. Douglas had us laughing as he continued to surprise us with information. Again, there was so much information that he just ran out of time, but all of us in attendance got a tremendous lecture.

As the snow swirled, we hosted our auction in which some pieces sold for over $400, as well as many silent auction items that went for $5 and up. All in all it was a great conference with probably the best lineup of speakers we have had in Minnesota for a long time. It was incredible that we had registrations from all over the Midwest, though of course it was unfortunate that we had cancellations from North Dakota and South Dakota, Iowa, Kansas, Wisconsin, and Michigan due to the weather. But, when you schedule a conference in Minnesota for February, you just have to know that sometimes it snows. (Even if it hadn't for the whole winter up till then!)

PARTS MESSAGE BOARD

The American Watchmakers-Clockmakers Institute **Parts Message Board** is available on line at **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.

New Members

Alabama
Hughes, Cristy—Birmingham, AL

California
Coletti, David A. Sr.—Ramona, CA
Coughlin, Israel D.—Costa Mesa, CA*
Patel, Prakash—Pasadena, CA*
Smith, Sheldon—Templeton, CA

Florida
Fuentes, Julio—Bonita Springs, FL
Panarelli, Frank J. III—Beverly Hills, FL*

Illinois
Mittelmeyer, Bud—Ingleside, IL
Narducy, Anthony—Chicago, IL*
Vernik, Boris—Skokie, IL*

Louisiana
Bennett, Mark—Rayville, LA*

Maryland
Finn, James—Towson, MD

Minnesota
Kraus, Peter—Saint Paul, MN

Missouri
Ferry, Karl—Hawk Point, MO*
Miller, Gary—Holts Summit, MO*

New Jersey
D'Alessandro, Ted—Middletown, NJ
Darge, Richard—Howell, NJ
Fortier, Andre—Springfield, NJ

New Mexico
Ho, Vincent B.—Albuquerque, NM*

New York
Arluck, Andy—New York, NY
Ehright, Philip—Utica, NY
Trost, Joshua N.—Buffalo, NY

North Carolina
Wagner, Gary—Goldsboro, NC

Ohio
Mello, Richard J.—Xenia, OH
Wilson, Jim—Toledo, OH

Pennsylvania
Sarver, Howard W.—Natrona, PA
Yocom, Matthew—Douglassville, PA

South Carolina
Crapse, Neil—McCormick, SC

Tennessee
Brant, Christopher—Brentwood, TN

Texas
Camacho, Juan F.—El Paso, TX*
Cherry, Thomas E.—Fruitvale, TX*
Dennis, Wayne—Coppell, TX

Virginia
Schaefer, Peter M.—Arlington, VA
Wheless, R. Lee—Fredericksburg, VA

Washington
Boice, Richard—Bothell, WA*
Duque, Alberto—Bremerton, WA*
Hall, John F.—Bellingham, WA

Canada
Bisson, Donald—New Liskeard, Ontario
Caballes, Edwin O.—Winnipeg, Manitoba
Edwards, Jonathan—London, Ontario

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CLOCK ESCAPEMENTS
Recoil and Deadbeat
May 14–16, 2007
Laurie Penman, Instructor

American Watchmakers-Clockmakers Institute's Continuing Education Program offers an opportunity to attend Laurie Penman's course on Clock Escapements - Recoil and Deadbeat at AWCI's Training Facility in Harrison, Ohio. The course is scheduled for May 14–16, 2007 and is open to all members of the Institute at a cost of $360.00. Mr. Penman limits registration to 12 students, so register as soon as possible to insure your spot in the class.

This three-day class will begin with the design of escapements (strap and solid) and the reasons for the need for similar drops, swing angle and lock. After that, practical 'correcting' of pallets on paper models and then using replacement bent strips, or strap pallets for recoil and deadbeat escapements. The objective of this class is to improve your understanding of the functions of the escapement parts through lecture, demonstrations and practical work. Some experience with dismantling clock movements and reassembling is required.

To register, or for additional information, please contact Nancy Wellmann, Education Coordinator at nwellmann@awci.com or (866) FOR-AWCI (367-2924), ext. 303.

American Watchmakers-Clockmakers Institute

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ASSOCIATION Health PROGRAMS

AWCI EVENING CLASSES IN WATCH REPAIR

American Watchmakers-Clockmakers Institute is offering weekly evening classes in watch repair (10 consecutive Thursdays). These will be basic instructional classes, loosely structured to adapt to the needs of the students. Watch classes will take place on Thursday evenings from 6:00 PM to 9:00 PM at the training facilities at AWCI in Harrison, Ohio.

Instructors:	Tom Schomaker, CMW, Watch Repair
Schedule:	Spring/Summer Session - May 17, 2007 - August 9, 2007
Location:	AWCI Training Facility 701 Enterprise Drive, Harrison, OH 45030
Cost:	$400 per 10-week session Registrants must be AWCI members ($98 yearly membership) Tools and material costs are extra

For more information or to register for a class, contact Nancy Wellmann, Education Coordinator 1-866-FOR-AWCI (367-2924), ext. 303 or e-mail: *nwellmann@awci.com*

DHL EXPRESS

The American Watchmakers & Clockmakers Association is excited to announce its DHL shipping program for members. DHL brings AWCI members a full suite of domestic and international shipping services, covering over 220 countries and territories around the globe.

Through AWCI's partnership with DHL, members are also eligible for special association member pricing. To find out more about your DHL benefits and set up your account, or if you have questions regarding your current account, please contact the dedicated association hotline at 1-800-MEMBERS (1-800-636-2377, 8 am – 7 pm, ET) or log onto www.1800members.com/awcinet

BULLETIN BOARD

RESPONSES

Harley-Davidson Watches
Dan Richter, Bulova Corp. VP of Operations, contacted us with the following information: Bulova is the distributor of Harley-Davidson watches and clocks, worldwide. In the United States Harley-Davidson products are sold, only, through Harley-Davidson dealerships. The products can be seen at: www.bulova.com

ITEMS STILL NEEDED

Sonic 4 Ultrasonic Cleaner
Charles Goad, Fairland, OK, is searching for a schematic for a Sonic 4 Ultrasonic Cleaner.

Mido Multifort Supermatic Water Tester
Gaetan Demers, Lawrence, MA, is looking for parts and an instruction manual for a Mido Multifort Supermatic Water Tester.

Do you have information regarding this month's requests? Do you need information about one of this month's responses? If so, send your information or requests to: *Horological Times* Bulletin Board; 701 Enterprise Drive; Harrison, OH 45030-1696; Toll-Free: 1-866-367-2924, ext. 307; Phone: (513) 367-9800; Fax: (513) 367-1414; E-mail: dbaas@awci.com





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August 2-5, 2007

Radisson Hotel Cincinnati Riverfront
Covington, Kentucky



The AWCI 2007 Convention & Educational Symposium will be held August 2-5, 2007 at the Radisson Hotel Cincinnati Riverfront. The weekend agenda and registration information will be published in future issues of the *HT* and at www.awci.com. Plan now to attend and enjoy the area's popular tourist attractions!

Radisson Hotel Cincinnati Riverfront Information: $105/double room rate.
Deadline for reservations is July 11, 2007. Call 859-491-1200 or 800-333-3333.

EDUCATIONAL SYMPOSIUM

Saturday, August 4, 2007

Clock Programs:
Mark Butterworth – The Modern German Clock Movement
Lloyd Lehn, CC – Repairing a Cuckoo Clock
Laurie Penman – Adjustment of Recoil and Deadbeat Escapements

Watch Programs:
Tamara Houk, CW – Computerizing Your Shop
Tom Schomaker, CMW – Timing Machine Demonstrations
Manuel Yazijian, CMW – Escapement Oiling and Lubrication in General

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Industry News

Witschi Electronic
Change In Continuity

A world leader in the production of testing and measuring devices for the watch industry, Witschi Electronic has just completed a smooth changeover. After sixty years of fruitful activity, the founding family has placed "its" company in the hands of two members of management: Andreas Bläsi, an economist, who has been the firm's Sales Director since 1998, and Daniel Hug, an ETS specialist in micro-engineering, who has headed the development department since 1999. The two new owners – each with an equal share since the end of November 2006 – have set up a holding company, Fintech AG, to acquire all shares in Witschi Electronic SA, which will retain its company name. The new board of directors of these two companies - Paul and Christian Witschi having stepped down from the board of Witschi Electronic – now consists of Andreas Bläsi, Daniel Hug and Friedrich Witschi, the former owner, who will continue to place his experience at the service of the development department for the next two-and-a-half years.

This smooth changeover will guarantee the firm's sustainability, autonomy and independence. According to Friedrich Witschi, "everyone involved is certain that the firm's long-term future is assured in this way and that the good commercial relations nurtured for many years with clients will be maintained."

Witschi Electronic currently employs 65 people, including five apprentice electronics engineers, at its headquarters in Büren an der Aare. It also has a subsidiary in Romania and its own distribution companies in Hong Kong and the United States, accounting for a further fifteen employees. Around 40% of its products are exported (20% to Europe, 10-15% to Asia and 5% to the USA).

Excel Time Service

Excel Time Service, a leader in quality watch repair and after-sales service, recently opened its state-of-the-art watch and clock repair facility in Coral Gables, Florida.

Excel Time Service offers a wide range of watch and clock repair and restoration services to watch manufacturers, watch retailers, and watch owners.

Excel Time Service has already earned the confidence and trust of leading watch manufacturers worldwide, including Rolex, Breitling, Omega, Longines, Rado, Cuervo y Sobrinos, Baume & Mercier, and Bell & Ross, as well as premier watch retailers.

The company's founder and president, Patrick Puton, brings more than 20 years of watch after-sales service management experience and know-how having successfully overseen the after-sales service operations of Rolex Watch USA and most recently those of Louis Vuitton-Moet-Hennessy (LVMH) Watch & Jewelry USA. He also brings expertise in vintage watches as former manager of the vintage watch department (USA) at the venerable auction house, Christie's. In addition, Puton holds a joint-graduate M.B.A. and Journalism degree from Columbia University, New York.

Puton feels that his background is one of Excel Time Service's most important assets. "I've had the privilege to work for some of the finest watch manufacturers in the world," he says. "I believe that gives us credibility. With all the new complicated mechanical watches being produced, the individual who buys a watch for thirty to thirty-five thousand dollars has to be assured that the people who are servicing that watch know what they are doing. I am proud of the fact that we have some of the most skilled watchmakers in the industry."





Excel Time Service technical facilities, located in the Alhambra Towers in Coral Gables, Florida, provide basic and complete overhaul service for mechanical as well as quartz movements. Refurbishing and refinishing, including watch manufacturers' and jewelers' stock pieces, as well as custom engraving services are also available. Other services include vintage timepiece restoration and insurance appraisals. All work is done on premises and guaranteed.

Lazaro Medina, the company's watchmaker and director of technical operations, has been specializing in the repair and service of mechanical movements for over 20 years. Medina is factory-trained in the repair of Rolex, Ebel, Zenith,

Breitling, TAG Heuer, as well as ETA movements.

"All our staff is factory-trained and use only genuine parts, tools, and equipment," according to Medina. "Moreover, we strictly adhere to the work methods and quality control standards of the brands Excel Time Service is authorized to service."

There are six full-time watchmakers and client advisors on staff making it possible for personalized service and fast turnaround time on repairs. Currently, this is ten business days or less from estimate authorization.

If you would like more information about Excel Time Service, they can be reached at 305-460-0019.

Troop-Balas Laboratories New Website

Troop-Balas Laboratories is very pleased to announce its new website. More comprehensive, faster, easier to navigate with a shopping cart makes this the "go-to" site for supplies including hand tools, frame adjusting equipment, lab supplies and eyewear displays.

Visit www.westernoptical.com.



Paris Junior College Graduation

Texas Institute of Jewelry Technology, a division of Paris Junior College, held semester graduation ceremonies in late 2006 for students completing jewelry technology, gemology technology, and horology and fine mechanical watch repair.

Ulla Raus, TIJT Division Chairperson, introduced Barry Ward, national accounts representative for Paul H. Gesswein and Company Inc., who was the keynote speaker.

NAMANO Award winners are Laura Stocklin, Lancaster, OH, first place; Paul Unger, Huntsville, second place; and Ross Wade Pierce, Benjamin, third place.

Stuller Award winners include Benton Thompson, Lewisburg, TN, first place; Gove Dee Slate, Paris, second place; and Olivia Madrid, Midland, third place.

Receiving the NAMANO Clay Minton Watch Awards were Ivan R. Espinoza, Mansfield, and Phillip Ridley, Arlington.

Dr. Pamela Anglin, Paris Junior College President, and David McAnally, Dean of Workforce Education, presented the certificates.

Jewelry graduates are: Gove Dee Slate, Paris, TX; Patty K. Cosgrave, Woodard, OK; Lauren Leigh Richard, Opelousas, LA; Ross Wade Pierce, Benjamin, TX; Kimberly M. Rushing, Midland, TX; Jacob R. Smith, Oroville, CA; and Allison Weir, Dangerfield, TX. Olivia H. Madrid, Midland, TX, was awarded a Bench Technology Certificate.

Students completing the gemology program are Lee Ann Davis Wright, Paris, TX; Ryan M. Richard, Texarkana, TX; Lewis Nagy, Dallas, TX; Steven Daniel Benton, Texarkana, TX; and Jeanette Bridget Turner, Tillamook, OR.

Horology graduates include Jerry Bob Helm, Rusk, TX; James Huff, Edinburg, TX; Colin Arthur Mitchell, Corpus Christi, TX; Phillip Ridley, Arlington, TX; William Patrick Monteleone, Flower Mound, TX; Jung Ok Lee, Seoul, Korea; and Jae Hoon Oh, South Korea. Ivan R. Espinoza was awarded a certificate for fine mechanical watch repair.



Jewelry Technology Graduates, front row, left to right: Patty Cosgrave, Allison Weir, Olivia Madrid, Lauren Richard. Back row, left to right: Jacob Smith, Ross Wade Pierce, Gove Slate.



Gemology Technology Graduates, left to right: Ryan Richard, Lee Ann Wright, Lewis Nagy.



Horology Technology Graduates, front row, left to right: Jung Ok Lee, Ivan Espinoza, Jae Hoon Oh; back row, left to right: William Monteleone, Colin Mitchell, Phillip Ridley, James Huff, Jerry Helm.

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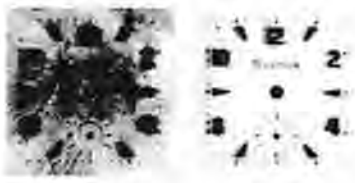
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