

HOROLOGICAL TIMES™

ADVANCING THE ART, SCIENCE & BUSINESS OF HOROLOGY

March 2013



Customer Service Focus



AMERICAN WATCHMAKERS-
CLOCKMAKERS INSTITUTE

Clockmaking Tools, Part 3

Eppner: An Extraordinary German Watchmaker

Special Watch Aids, Part 3

Greubel Forsey's Quadruple Tourbillon Watch

Brequet Type XXII Chronograph with 10 Hz Frequency

NEW to help you stock and organize better!

New!



Cabinet Perfect for Battery Strips AND 6-paks

This perfectly-sized sixty-drawer cabinet is included in the Master Battery Kit or available by itself. The Master Kit contains 240 cells and tools that will cover 95% of your watch battery needs. The Starter Kit has 180 cells, fewer tools, and covers 85% of your needs.

Stock #	Description	Price
BX-61	New 60-Drawer Cabinet Sized for Battery Strips	\$ 55.95
SBA	Starter Battery Kit on left (cabinet not included)	150.96
MBA	Master Battery Kit on right	243.50

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New!

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2130/2135, 2230/2235	Boy
1530/1570, 3035/3135	Date/Just
3035/3135	President
2824/2	Rolex Tudor
1530/1570, 3035/3135	Submariner
2824-2SUB	Tudor Sub Style
1530/1570, 3035/3135	GMT Explorer
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Hands Samples



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New!



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SB-R160/16	16mm
SB-R160/18	18mm
SB-R160/20	20mm
SB-R160/22	22mm
\$ 2.50/12	\$ 9.00/100



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MANUEL YAZIJIAN, CMW21



In last month's message I talked briefly about the strategic action plan that took place in our headquarters in Harrison, Ohio from January 31st through February 1st. Mr. T.D. Hughes, a well-respected local consultant who helped us work toward our action plan, facilitated the specific meeting. In effect, we identified our top priorities, our

critical success factors (CSF's), then outlined the goals and their owners for each of those CSF's. Our next step is to begin the implementation of this plan that will take place over the next one-to-three years, as outlined below.

1 Leadership and Financial Planning led by Manuel Yazijian:

The goal is to have better communication between the Board of Directors and staff through regularly- scheduled communication in order to help with financial planning, monitoring and meeting of the critical success factors. Keith Rosser, our CFO and interim Executive Director, will help facilitate these meetings via the use of modern technology. Some further goals are to produce monthly operating statements that are to be shared with Board members and staff, as well as the creation of an annual financial plan. The latter will be comprised of a quarterly review, number of potential membership renewals, actual renewals, as well as the acquisition of new members and their retention.

2 Improved Certification Process led by Chief Examiner, Wesley Grau:

This involves the formation of a special task force for the purpose of reviewing and revising the CW21 certification program. The intent is to stay up to date with the most recent developments in our supply chain, to review and improve the content of the exam, as well as to ensure financial neutrality of the overall program. For this reason, the current certification program is in review mode and the current target is to roll out the pilot phase in the month of June, 2013. Stay tuned for updates and more solid dates.

3 Staff Development and Needs led by Keith Rosser: The goal is to confirm the assessments, define roles and responsibilities, determine skill sets and gaps that exist, plan for improvement and create scheduled employee reviews.

As a watchmaker and clockmaker still making a living working at the bench, I would like the culmination of our efforts to be in the best interest of my fellow watchmakers and clockmakers. I know very well how difficult it is making a living at this profession when you are faced with so many barriers. This may include the difficulty and sometimes near impossibility of obtaining spare parts, the very onerous and challenging aspect of the technical side of our profession, the small profit margins in comparison with the high level of skill involved, among others. There is so much fine art and precision in what we do, yet it is for the most part hidden from the customer's view. If they could only see what we can really do...

While your volunteer Board members, whom you've elected to look out after your interests, are doing their job as they promised, can you, in exchange, perform the repair without leaving any trace of your presence? Give yourself that challenge every time you work on a timepiece and you will have accomplished a major feat. It would also help us know our efforts are well appreciated.

In the meantime, keep your skills honed, your standards very high, your attitude professional, your tools and equipment in great condition and your workshops clean and organized; you never know who may come by to pay you a visit.

Manuel Yazijian
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Congratulations to Our Newest CW21 and CC21's

CW21
Yuri Lopez
Miami, FL

Juan Velazquez
McAllen, TX

Stephen Zappala
Houston, TX

CC21
David Morrow
Amsterdam, NY

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BY KEITH ROSSER

William Edwards Deming said, “It’s not necessary to change, survival is not mandatory.” AWCI has over 50 years of serving its constituents. It has a very stable foundation, and a strong leadership position in its unique business segment. It had the foresight to establish a truly remarkable facility to preserve the history of watchmakers and clockmakers, as well as work with the industry to create one of the best training rooms in the U.S.

Jim Lubic helped to lead and guide the Institute for the past 25 years. On behalf of AWCI, I commend and thank him for his efforts. The board of directors recognized the need to change the leadership and had the courage to make changes to fulfill its responsibilities of public accountability and better serving its customers.

Per our Mission Statement, AWCI’s goals are to:

1. Educate and inform the public to help them understand the need for our members’ services.
2. Educate watch and clockmakers in the highest standards of traditional methods, as well as the latest technologies. Our goal is to help improve our members’ skills and business practices, and to assist them in evolving their business model to promote future growth.
3. Work as a liaison with industry to develop valuable programs and services that benefit watch and clockmakers, retailers and suppliers.

People are naturally uncomfortable with change. The fear of the unknown can cause inertia to set in and there can be hesitancy to make the decisions needed to move forward.

There is a book I read a while ago that resonates strongly with my beliefs and management principles. Spencer Johnson’s *Who Moved My Cheese* highlighted the essence of change and change management. The basic tenants to me are:

- change happens perpetually – people need to keep moving with the changes
- anticipate change and get ready for the next one
- monitor change and establish mechanisms to do so
- adapt to change quickly - the quicker you let go of the old ways, the sooner you can enjoy the benefits of change, but do not lose sight of the strengths that brought you to the current place

- move with the change, be an advocate of warranted and justified changes, do not change just for the sake of change, and do not impede progress
- savor the adventure and enjoy the journey
- lastly, be ready to quickly change again and again

Manuel’s message reinforced our top priorities that resulted from a two-day, focused strategic planning session. The participants were comprised of board members, industry, and staff.

As the interim executive director and owner of the critical success factor for staff development, I intend to perform skill set assessments, a needs analysis, a gap analysis, and to strive to develop a team of internal and external resources to help the Institute achieve its mission. I also intend to use the principles I learned from a course based on *The OZ Principle*, getting results through individual and organizational accountability.

So you might be wondering who I am that will be leading AWCI in the short term until a permanent Executive Director is recruited and joins AWCI. Professionally I have 25 years experience with multiple large, multi-\$billion, global companies, five years with small, privately owned companies, and five years as an independent contractor providing interim services to for-profit and not-for-profit organizations.

From an educational and certification perspective, my Bachelor’s Degree in Accounting and Business is from Rutgers University, my MBA is also from Rutgers, I am an inactive CPA, meaning that I do not practice accounting for the public, and I am Six Sigma certified.

Someone once said. “I have been through some terrible things in my life. Some that have even actually happened.”

These are exciting and extremely dynamic times at AWCI. Your support and assistance as we grow together to create the next generation of AWCI is deeply appreciated.

Nearly 100,000 Visits to AWCI Membership Directory So Far!

Members are entitled to a FREE listing on the website under “Find a Professional.” Make sure you have a listing that fully describes your services so you can take advantage of free business leads.

An Introduction to Our Feature on Customer Service

This month's focus on Customer Service covers aspects that are both philosophical and factual. In these contributions from seven author - members of AWCI you'll find business philosophies that also are life philosophies. You'll also see specific processes which these companies believe result in satisfied customers. You'll see different opinions on the same topic, yet each person has a good reason why they chose a certain business practice.

It's our hope that you will see ideas you might incorporate in your own business. Or these ideas may serve as thought-starters for something else entirely. At the very least, this feature may cause you to take a moment and think about you own customer service practices.

Amy Dunn Editor, *Horological Times*

BY JUSTIN SHIVER, CW21

Delivering Outstanding Customer Service through Effective Communication

Delivering outstanding customer service is vital for a business to be successful. When providing after-sales watch service, quality workmanship and effective communication are essential. By becoming a member of AWCI, you have already demonstrated a commitment to providing quality workmanship. The other key to customer service, which I'm going to focus on in this article, is *effective communication*.

The company I work for is a retail jeweler with four locations in Alabama. My watch repair shop is in the main location and I am assisted by a watch technician and a repair coordinator. I have helped train the repair coordinator to speak with customers on many topics so they can effectively serve as the customers' primary contact for repair information. This not only makes it easier for our customers, it makes for a smooth internal work flow. Of course, I am always available to talk with any customer, especially if a repair involves something that is highly technical.

I provide watch service for the four locations while the trained sales staff at each store handles the take-in and delivery of jobs. We utilize a computer repair system to give everyone at each location up-to-date information on all jobs in progress. Our company has developed the following procedures to communicate with each other and to our customers.

Take-In Procedure

We have designed a repair receipt to aid the sales staff in collecting information when receiving a watch for service. Each repair receipt has a sequentially-printed number. The repair number, along with the following information, is recorded and entered into the computer repair system:

- Date
- Purchase and service history
- Contact information
- Condition
- Description
- Customer instructions

The last step in the take-in procedure is to communicate to the customer the amount of time needed to recontact them with a repair estimate.

Estimate Procedure

We have developed an estimate form to assist in providing an accurate repair estimate in a timely manner to our customers. The following information is recorded on the estimate form by the watchmaker and entered into the repair system by the repair coordinator:



Customer Service From A Clockmaker's Point Of View

Your Time is Valuable

Your time is worth something, so always charge for estimates. If someone brings the clock to you, charge at least \$10-20 for an estimate. If you must take your time and money to drive to a customer, an estimate could be upwards of several hundred dollars. Of course, if you get the repair job, then the time/travel becomes part of the expense of doing the job. Just remember: *TIME IS MONEY*. Believe it or not, if you explain this to people in a reasonable manner, they will understand and respect your work.

Troubleshooting with the Customer Saves Time

If you're trying to determine whether or not to make a service call, here are some questions to ask that will give you the insight into the problem. I typically ask:

- What type of clock do you have and how old is it?
- When was the last time it was serviced?
- Are the weights coming down evenly? I give them examples: If the clock isn't chiming, ask if the chime selector is in silent; if not in silent, are the weights on correctly? Usually the weights are marked on the bottom of modern clocks so ask the customer to see if the weights are indeed on correctly. If the clock isn't chiming, the two outer weights will be up and the center weight will be coming down. Another example: The clock isn't running. Are the weights wound up? Is the pendulum hanging straight? Are the hands touching? Ask if the clock has a seconds hand. If yes, is it touching the hands or pushed into the dial? Has the clock been moved? If the weights are on correctly and the clock won't work, then you should schedule a service call.

Handling Service Calls

You are the business professional and you need to know how to price service calls in your area. Don't underestimate the market. Be more expensive than your competitor because you're worth it. I price all my work on a flat rate and give the potential customer two costs, one if the clock can be serviced in their home, and a second if the clock needs to come to my shop for an overhaul. I have found this works well because the customer will

know up front what they'll be paying, and you will know if you have a repair or not. Remember, always collect your service call cost when you go to a customer's home, whether they decide to have you perform the repair or not. Leave a letterhead receipt with the date of service and the check number. Occasionally when you perform services, a customer will need to submit your receipt to an insurance claims office.

Call the Customer the Evening Before

When a service call is scheduled, always call the customer the night before to confirm. If you get a recording, explain that you will not come to their home unless you hear back from them. By doing this you will seldom ever have a no-show. Tell the customer on the phone when setting up the service call that a table or counter area will be needed to inspect/service the clock. Also ask the customer to remove all artifacts from a curio clock in advance to help speed things along.

When You Arrive

Be sure to show up on time and present yourself well. It's courteous to ask if you should remove your shoes, or disposable shoe covers are now common. Always treat the customer's clock with care. I wear gloves when handling the weight or pendulum—this not only protects the parts, it speaks to your professionalism. If you're servicing a grandfather clock, for example, but the customer asks you to look at one or more mantel clocks while you're there, explain to them that you are only set up to service weight-driven clocks in the home at that time. I offer to take their other clocks into the shop for servicing. Remember, you're there to service the floor clock for one fee. Additional projects should be charged additional fees.

Your Business Does Not End with this Service Call

Finally, be sure to leave 2 or 3 business cards. Place one inside the clock and ask your customer to pass the others along to their friends. Word-of-mouth referrals will produce a revenue stream for the long term. ♦



BY WES CUTTER, CC21

A Customer Service Story

In the clock business, you have to listen first to people's stories. You can't judge them, or question why they want something repaired. You simply have to treat them fairly, give them options, and try to help them out. Why? Because your customers' clocks often have a personal meaning or a family history. A customer wants to believe in you and know they can trust you to care for their prized possession (even if you don't see the value in it).

Call it good customer service or treating others with respect. Call it what you will. It's simply what you need to do in our business. Let me give you an example:

A woman came into my shop with a cheap plastic clock made around 1962 that was in terrible condition. It was in the shape of a horse with cut-outs so you could watch the clock inside as it clicked off the time. It was a throw-away item and probably cost all of \$9 new. I couldn't believe she wanted it fixed. I'd have to cut Delrin® and screen print it to match the design and then put in a new motor. With all that work, it would still look cheap. I guessed at an estimate of \$400 and she broke into tears. To my surprise, she explained she was so happy to finally find someone who would actually repair her clock!

It turns out this was a prize she had been awarded upon winning first place in a horse riding championship when she was a child.

Customer service, it turns out, often has a story behind it. You'll find it's really worth the time it takes to listen to your customers. ♦



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Customer Service: Before, During and After

The dictionary says Customer Service is “the service to customers BEFORE, DURING and AFTER a purchase.”

Some may remember the older “service stations” which were rightfully named as they really gave service. You could drive up to the pump and roll down your window and the attendant would fill your tank, wash your windows, check your oil, and maybe check your tire pressure. Maybe even sell you new tires, if they were needed and, of course, if they sold tires.

Service Before a Purchase

Before talking about our service as horologists, I must give another example of service in our town. I live in a place where there is a very successful, four-generation hardware store called Washington Hardware. They really earned the “customer service” honor. They met you at their front door, and applied helpful customer service from the time you walked in until you left (with or without a sale). They waited on you by taking you to the correct aisle, and they helped

you select. They didn’t just point and say, “I think what you want is in aisle 25.” Their slogan was a “most unusual store,” and it really was one unusual store.

As horologists we should strive to also give good customer service. In business it may not be appropriate to rush to the front door every time a customer comes in, but once they are inside our store our “service” begins. If we are in the middle of a sale with another customer, we should stop momentarily and greet the new customer with a smile and say, “I’ll be with you in a moment.”

Service During the Purchase

I consider “store policy” related to “customer service.” What is our store policy when we just put a spring bar in a customer’s watch? Many times we give these away, al-

though some believe we need to charge for everything we do. This is fine if that is the store policy, or of course, if we are a “trade shop.” Even special pins may need to be made for watch bands, which require additional work, and we charge for them. The important thing is to quote prices first, so there is no real surprise at the end.

Our store also sells jewelry and does jewelry repairs, so as a free service, we clean customer’s rings, etc., while they wait. I’m sure most stores do this as a customer service. It gives us a chance to check prongs, etc. and advise our customer if they are about to lose a diamond or need other work.

Service After the Purchase

The most recent thing we gave away is our 2013 calendars. We used to also give pens away, but started to have filler problems so this became poor advertising and poor customer service, at that point. Some stores send a mailer periodically showing specials, or they keep a birthday and/or anniversary list of their regular customers. My wife, Betty, started something that seems to help. It’s a notebook marked “Customer Wish List.” When a customer says, “I’ll have to tell my husband about that item. Maybe he will buy it for my birthday.” Betty will make a note about it in a “Wish Book.” Sometimes the husband will come in and say, “Do you know what my wife was looking at, as I would like to buy it for her?” We are careful not to use any kind of pressure, but now we can make that sale and we are giving good customer service at the same time.

I do remember before we made our Wish List, that a customer approached me after church and asked if I remembered the item his wife looked at in our store. I did not


make a note at the time, because I remember his wife saying that she would really like that, but they could not afford it. So now we always make a note, just in case.



Customer Service

BY WES DOOR CMW, FAWI

Cell Time



As most horologists do, we fit a lot of cells (or batteries). We mark a date and initial on each cell when installed. This way we know exactly when the cell was put into the customer's watch. How many times does the customer say "you just put a battery in my watch a short time ago and it's stopped." Maybe this cell was put in over two years ago, but the customer does not remember. We can tell the customer the exact date we replaced it. Customers are basically honest, but they don't always remember when the last cell was installed. Do you remember when the last one was put in your watch? I don't remember when I replaced mine, but it might make a good New Year's resolution to put a cell in on a certain date that we could remember.

Also, we should tell a customer if the watch crown or crystal or back gasket needs replacing. This is also good customer service. Remember the gas service station example I mentioned earlier? They were not afraid to tell us that we also needed that pint of oil.

Repair Estimates

Now let us talk about watch repair estimates. A lot of us work on vintage watches; we never used the term "vintage" back in 1939 when I started serving as an apprentice (after school and Saturdays) at the age of 13. Watches I worked on then are "vintage" watches now, and there are still a lot of them out there. I know because I still get my share of them to repair.

I do not charge for estimates because very, very seldom does a customer not leave their watch after hearing my estimate. However, we do not always recommend repair on some of these if it is an old seven-jewel watch, for example. However, if the watch is "full of sentiment," as it has been in the family for many years (maybe generations), the customer may insist on paying the price necessary to restore it.

We give an estimate on all jobs, even if the customer says, "fix it, if not too much." I really do not know what that means, so we "pull" the balance, check the balance hole jewels, staff, winding and setting and whatever other visual checks we can make. Our estimate is from \$00 to \$000 dollars to give ourselves leeway in case additional work is needed.

Sometimes a customer decides not to repair it, as no one will be wearing it. So we suggest a "glass dome display" which we have in stock. This allows them to put their watch on display in their home.

I almost forgot to mention, be sure to show a customer how to set a "lever set" watch. Some of us were "weaned" on these "old timers." but many do not know they must remove the bezel, pull out the set lever, and then turn the crown to set this watch.

When I finish a job, I scotch tape the old broken jewel, staff, sleeve, mainspring, old crystal, etc., to the job envelope to show the customer that I really did do the work. Besides that, most people are interested in seeing these old parts, especially that old yellowish crystal they might really want to keep.

Sometimes a jewel that appeared cracked was just dirty so we do not charge for it. Adjusting the price downward is also the honest thing to do, and of course, is good customer service. We should try to keep our promised delivery date to our customer. If we promise the repair job in one month, we should strive to have it finished by then. If not, at least give the customer a phone call and tell them that you need a little longer. They will usually understand.

Each store or repair shop has its own methods, so use the ones that work for you. In summary, I would like to leave you with two thoughts. First, to give good customer service it helps if you really care for the people who are your customers. One axiom I try to do business by is:

People don't care how much you know until they know how much you care.

And always remember, the true definition of customer service is:

The service you provide to a customer before, during and even after the purchase.



BY TOM SCHOMAKER, CMW21



When it Comes to Customer Service, Are You Doing What's Expected, Or Are You Doing More?

In today's world, customer service is often difficult to find, and it's generally associated with only luxury goods and services. As the economy toughens, pampering the client and customer service are often the first things to go. Companies are stretched too thin, fewer employees are asked to do the jobs of more people. Efficiency suffers, while the cost of both goods and services continues to rise. And when dealing with the larger companies, we often lower our expectations and give them a pass on customer service. Call center employees, for example, are placed in a position of limited knowledge and authority. When something out of their realm of wisdom is asked of them, they often transfer your call to the next higher tier of worker bees. Eventually, if you're lucky, you will get to the right person to have your matter resolved.

Where do you stand in the eyes of your customer? Are you similar to the "call center" or to the "luxury car dealer?" When gold rose to almost two-thousand dollars an ounce, the jewelry

store owners found out that there was a limit to how much someone was willing to pay for the precious items they sold. Sales declined and have remained stagnant with only occasional rises though the holiday seasons. Being a business, the owners/managers had to consider other and all means to create income for their companies to survive. Service has always played an important role in the jewelry business, but as sales diminish, the need for quality service increases. Many people are choosing to repair a watch versus buying a new one. Sometimes it is because of sentimental reasons; other times they are just playing it conservatively. I have had customers who work in the financial industry and were given a luxury watch as a bonus for a job well done. Many of them sold these watches during tough times. But most people value a prized pos-

session, especially if it given to them by a loved one, or if they had planned out the purchase and saved money toward this special gift. It's these types of clients who are more likely to retain and service their timepieces, even if they were to accumulate other timepieces.

Giving Perceived Added Value


In these unique times, we must not only do a professional job when servicing a watch, but we must apply perceived added value to the service. This could be as simple as doubling the length of the warranty. This gives the customer added confidence about their decision to spend their money on a repair they may be able to postpone until better times (thus freeing up money for other "needed" items). Offering free add-ons are another way to make customers happy. It may be as minor as cleaning the case with the purchase of a new strap, or maybe including a free mineral round crystal with a repair, if applicable. This \$1 investment is sure to bring a smile to your customers' faces, in light of the fact that this may normally be a \$30 option. I would consider doing this if their present crystal is only chipped or scratched. If broken, then I would not exercise this option, but instead, try to creatively use another add on. Why? The broken crystal is viewed as a must-fix repair, and we would probably take that opportunity to charge for it.

Free batteries are often used to promote customer service. Some stores will provide a free cell replacement if the watch was purchased originally from them. Other stores may extend this invitation to all watches that enter their store. One problem with this is, if the watch is marked water resistant, it should be checked and leave water resistant. Skipping this step could make this a very expensive "freebie." Avoid re-regulating a watch that has not been recently serviced as its accuracy may not reflect the same rate as your timing machine displays. For those older pieces, polishing the plastic crystal has always been a common practice to make the customer feel special. These are just a few examples of things that can be done that will add perceived value.

Sometimes, Customer Service Means Just Being Thoughtful

Customer service doesn't always have to involve giving away services or products. You can help with a rush service for an unforeseen last-minute repair,





or provide a small, same-day repair that saves the customer from making an additional trip, especially since the price of gas isn't cheap. Helping out a customer in a "time of need" (i.e., divorce, death in the family or illness) is not only the right thing to do, it's never forgotten. Just taking some extra time out of your busy schedule to listen to your customer's concerns will go a long way towards building a long-lasting relationship. Today, when customer loyalty is often trying to be bought, it's truly refreshing to have a customer base that entrusts their most precious items exclusively to your care.

We should nurture these relationships and emotions in some non-intrusive ways, making the shopping experience pleasant. This could be as simple as offering small samples of chocolates, or even a cup of coffee or espresso. A nice gesture for a special holiday such as Valentine's Day, is to have fresh, single-cut roses on hand that can be given out to anyone who enters your store that day. There are also "open house" and "charity" upscale events, which can include alcohol and socializing that offer opportunities to get to know your customers. And being a good, contributing member of the community may be one of the most important public relations moves you can make. Supporting school events and possibly sponsoring a youth sports team can be some of the cheapest, yet productive forms of advertising you can do.

What Separates You from the Competition?

Your service, expertise, attention to detail—and showing you care about your customer—is what will separate you from your competition. The fact that you are able to accommodate special requests on repairs that you perform in-house gives your customer an added value and will encourage them to frequent your establishment. If you are CW21, this is an exclusivity you can capitalize on, as well.

Through joint efforts between AWCI and retailers, we are educating consumers on the many benefits of using a "qualified watchmaker." You can see this on our website, at the trade shows we attend, and through our public relations campaigns. So strive to always be one of those "qualified watchmakers." Then think about the level of customer service you offer:

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HOW QUALITY AND SERVICE AFFECT CUSTOMER SERVICE

The *HT* Editor, Amy Dunn, asked me to write this month about how service and quality can lead to providing good customer service in our industry. While pondering this topic for a few days, I began to realize that each person's perception of "service" is very subjective. Add to that the concept of "quality" and that can lead to a broad discussion. Therefore, my thoughts this month are just that—they are my thoughts, based upon decades of experience repairing watches and dealing with watches, their owners and the third parties who send them to me for service.



Although many of us believe we can accurately define a word that expresses a concept, I find it helpful to check a dictionary to see what the word's accepted definition really is. Webster's defines quality as: **a. degree of excellence, and b. superiority in kind.** It goes on to define service as: **the work performed by one who serves.**

Quality is not absolute, but rather variable. We could say that it may range from excellent to poor. When coupled with a word such as *service* it may indicate a superior grade of work as contrasted to a lesser grade, so that one who offers "Quality service" implies that the work is of a superior grade. In the marketplace, the words "Quality service" really do not indicate anything other than the person merely provides service. Otherwise, we would hear claims from service people saying the quality of the work they provide ranges from excellent to mediocre or even poor. No one who provides lesser quality service would have the audacity to advertise his or her service as lower in quality. Therefore, claims for quality service are just that. They are claims.

Abraham Cohen, Boston's premiere watchmaker and material dealer for many years, reminded his employees that, "You can always fool a customer, but you cannot fool his watch." He made it his business and the business of his employees to do every watch repair to the

BY JACK KURDZIONAK, CW21, FAWCI

best of their ability. If a watchmaker makes an error of omission or commission while repairing a watch, that watch will eventually fail and cause a problem. A customer might accept some lame-brained explanation of why a watch repair failed, but the watch never accepts an explanation. It only responds to a proper repair. With Mr. Cohen's admonition in mind, a quality watch repair requires watchmaking skill and knowledge coupled with a willingness to take whatever time is needed, and replace whatever parts are necessary. Doing anything less is only inviting a comeback that translates into a free repair and an explanation to a customer. It is better to avoid having to do either of those by doing the repair right the first time.

Some watchmakers might say, "Jack that is easy for you to say, but you don't know my customers here in Anytown, USA. They won't pay for that service." Quality never needs an apology, an excuse, or a lower price. Does BMW ever apologize for making nothing but high quality autos and motorcycles? Does Starbucks make excuses about the worldwide price of coffee beans and the price of a cup of their coffee? Would Coca Cola offer a bottle of Coke at a price below that of a store brand cola to gain market share? Obviously, the answer to those three rhetorical questions is a resounding, "No." Those three companies did not get to their positions of industry leadership by carping about the cost of supplies, labor, marketing, etc. They arrived at their respective positions by providing high quality products at a price level above their lower cost competition.

We occasionally receive a post card from someone in California advertising watch repair services, along with a price list and an invitation to send them some watches for repair. The listed prices for watch repairs are so unrealistically low for the American market that we know something is wrong. "If it seems too good to be true, it is" comes to mind every time we receive the postcard. Full service watch overhauls begin at \$12 and go up to about \$50 for luxury brand watches at this west coast location. One thing that is not mentioned anywhere on the postcard is quality. Obviously, the sender of the postcard does not sell quality. Anyone can offer low quality, low cost service, but only someone with well-honed skills and knowledge of industry resources can offer top-of-the-line products and service.

About sixty years ago, the U.S. had about 50,000 watchmakers, many of whom were WW2 veterans trained under the GI Bill of Rights. Much of the training was basic, taking a year or less while others attended night classes or took correspondence courses by mail. At that time, nearly every town had at least one watchmaker to ser-

BY JACK KURDZIONAK, CW21, FAWCI



vice the relatively simple watches of that era. The competition for work was fierce and these watchmakers did everything necessary to secure enough work to earn a week's pay. Unfortunately, for many of those watchmakers, quality was not primarily on their mind. Getting and keeping a job was a primary concern. Those were not the "good old days." I can vividly remember many of those WW2 veterans advising me in 1970, not to give up my day job teaching science in a public school in exchange for a watchmaking career. A few years later, I did quit the day job and opened a trade shop and my business education began in earnest. At that time, I was doing trade work for an exceptionally busy store located adjacent to an Ivy League college. That shop's measure of superior quality was a comeback rate of less than 15%. The owner wanted to keep his costs at a minimum and refused to pay for any replacement parts he deemed unnecessary. He had trouble achieving his 15% goal. For whatever reason, he operated his business by

underpricing his competition even though his shop was located in one of the wealthiest cities in the U.S.

Around the corner from his shop was a small jewelry store for which I also did trade work. The owner of this store did not compete on price, but rather on the quality of her services. If a watch needed more material than expected, it was never a problem. She wanted the job done right the first time. On several occasions, I estimated the same watch for both shops. More often than not, the small jewelry store sold the repair, and sold it at a higher price than the low cost, high volume shop around the corner. One store owner thought his customers would *not* pay for quality service, while the other *knew they would*. She understood that discerning customers would choose quality over price. For the others who were not so discerning, their watches would help them decide, because there was and still is, no way to "fool a watch." ♦



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Clockmaking— The Tools, Part 3

Making Tools and Leaf Springs

I have described the type of engineer's lathe that can be used for clockmaking and the basic cutting tool for the light work that is most frequently carried out on it. As you must have realized, these few articles are not intended to be an exhaustive manual of lathe usage, but a basis for further exploration of possibilities. I think it would be helpful to detail a few tasks that can be carried out.

Clock Leaf Springs

Leaf springs appear in a range of clocks from the very old to quite modern. Old thirty-hour clocks use them for driving the first wheel and minute wheel (precisely where depends on the place of origin). Lantern clocks, bracket clocks and some carriage clocks make use of them to drive the minute hand and so do many American clocks. They are also used to hold a minute hand in place and allow it to be moved relative to the rest of the movement.

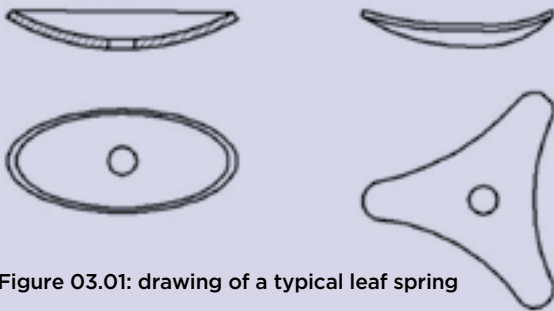


Figure 03.01: drawing of a typical leaf spring

Figure 03.01 is a drawing of a typical leaf spring. The profile is dished (concave on one side; convex on the other) and the material (brass) is quite thin. The brass could be anything from about 0.25 mm for a carriage clock to 0.75 mm for an Anglo-British thirty-hour long case clock. Large springs are thick and small ones are thin—it depends on the stiffness required. The shape is oval for a two-lobed spring and triangular for a three-lobed one as you can see from the Figure.

A parting-off tool is needed for this task. It should be shaped as in Figure 03.02 and have the sharp tip blunted by stoning a 45° flat about 0.25 mm (0.010")

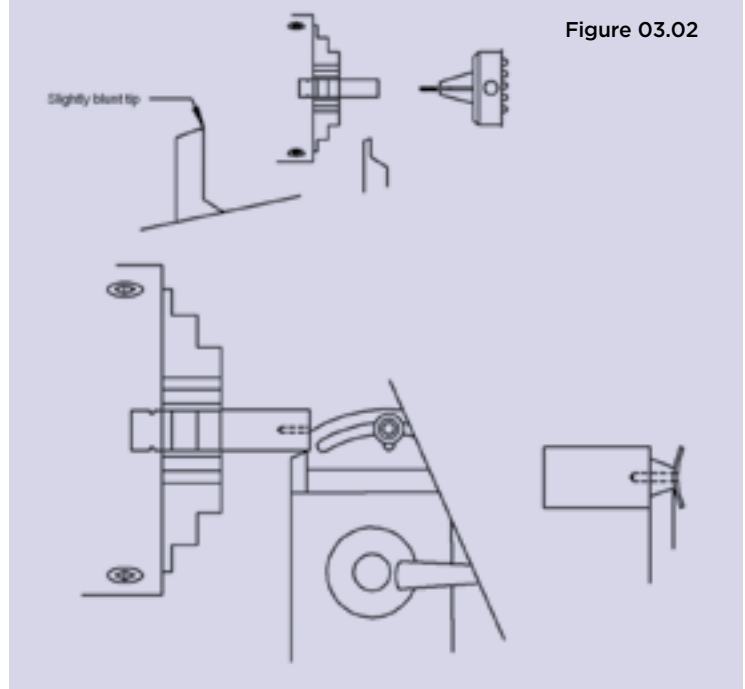


Figure 03.02

there. When a thin disk is parted off a pre-drilled bar it will be forced away from the tool to form a dished washer. The depth of the dish is dependent on how quickly the tool is advanced to produce it and how thick the disk is—I generally make the thickness between 0.125 mm (0.005") and 0.25 mm (0.010").

Clearly, if a leaf spring is 25 mm (1") wide from tip to tip, it must be cut from a bar of the same diameter and the parting off blade will be about 13 mm (0.510") long or the washer will not part off.

This is fairly heavy duty for the parting blade and it should be made to the proportions shown in the drawing. If it is too thin it will bend and snap off. Shaping the leaf spring to any oval (two lobes) or triangular (three lobes) form is done with tinsnips. Whenever possible, tinsnips should be set up in a vice with one handle held in the jaws (Figure 03.03). This gives you far more control over the piece being cut, particularly if the material is thin or the amount of waste is narrow. It is also much safer. On that note, may I point out that you should never buy tinsnips that have handles that come together at the ends. As an apprentice, I was cutting out a machine guard with very large tinsnips one time and managed to pinch the side of my waist with the handles when the work slipped and jammed the blades. It was painful and it took some time to pull the handles apart again. Accidents like that stick in the memory!

Washers often get lost, and although there is a wide range of them available from suppliers, unless they

Figure 03.03



Clockmaking—The Tools, Part 3

BY LAURIE PENMAN

You will need to draw a projection of this to see what is actually cut into the metal; it is a matter of geometry. Use fine slip stones, finishing with an Arkansas stone to round off the tool and to remove the original manufacturer's grinding marks from the top surface. Do not stroke up and down, but round the radius. The aim is to produce a

are for modern clocks, those that are available off the shelf frequently do not match the originals or remaining washers. Making replacements on the lathe takes far less time than hunting through the catalogs. Simply turn a piece of bar to the diameter required, drill the hole diameter needed, and use the top slide to move the point of a sharp parting tool from the faced-off end to the left by the thickness of the washer (Figure 03.04). I do not think it needs more explanation than that. However, formed washers—the type that can be found under the heads of the screws that hold the plates together on quality clocks—need a little planning.

The form needed is seen in Figure 03.05. The underside of these washers must sit flat on the movement plates and bear down on the periphery of the washer. For that reason the underside is often very slightly dished. This gives the maximum stability to the pillars, and consequently, maximum rigidity to the whole movement. Washers of this type are most frequently decorative, sometimes with a chamfer, but more frequently with a concave radius. This upper surface is also polished and the temptation is to attend to this surface first. It is certainly easier, until the washer is to be parted off the bar, then it is quite difficult to create the required dishing. Figure 03.06 illustrates the machining sequence to carry out the complete job satisfactorily. The concave radius is polished using a fine grade of emery paper wrapped around a wooden rod. Wood is used so that if the emery paper tears or wears through, there will be no metal-to-metal contact to damage the polished surfaces. It is important to ensure that the parting tool is sharp for the final operation. Otherwise, it will push over and the surface will not be flat. The flat, upper surface is polished on an emery board, stroking the washer backwards and forwards across it.

The tool for cutting the radius is simply a modified turning tool with the radius ground onto the point. I usually leave the top surface without any clearance or rake.* This allows the radius ground onto the tool to form exactly the same radius on the work piece. If rake or clearance is ground onto the top of the tool, the tool does not produce a “negative” of the ground radius.

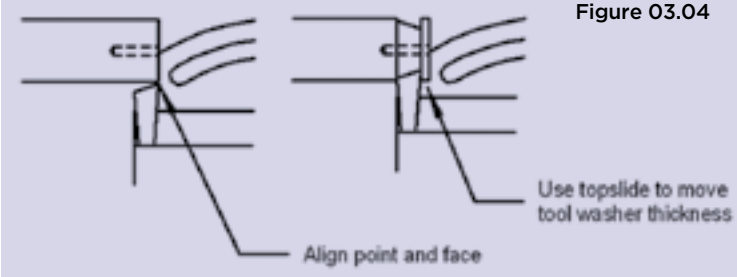


Figure 03.04

cutting edge that has no visible serrations in it. This tool, whether it is formed or intended to produce a cylinder, is often called a shaving tool. It needs to be absolutely firm in the tool post and there should be as little overhang of the slide as possible. If it begins to “chatter” leaving marks on the work surface, stop the machine and rotate the chuck by hand slowly until the marks disappear. If they do not disappear, the cutting edge has lost its keenness. You will need to use a stone to sharpen it. ♦

** There is considerable confusion amongst machinists and the literature, and you will find that “rake” and “clearance” are often used interchangeably.*

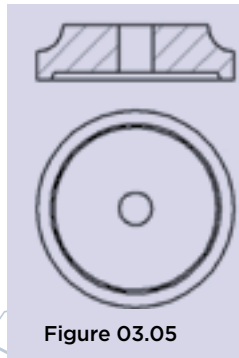


Figure 03.05

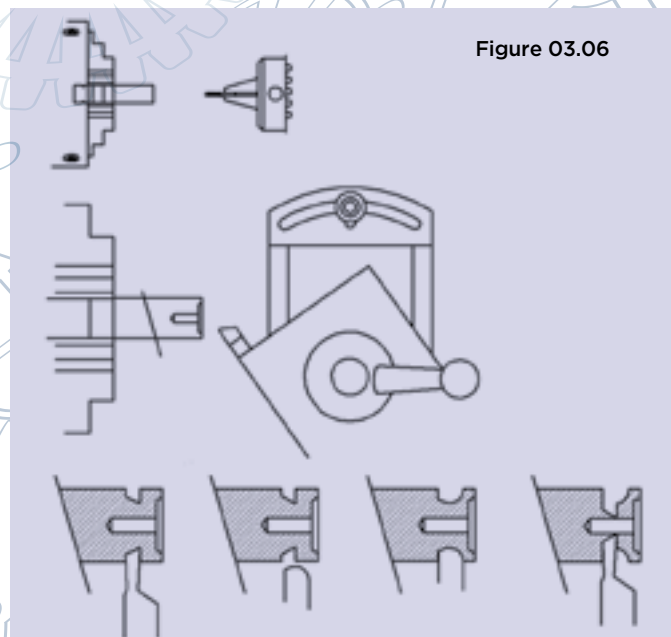


Figure 03.06



Special Watch Service Aids, *Part 3*

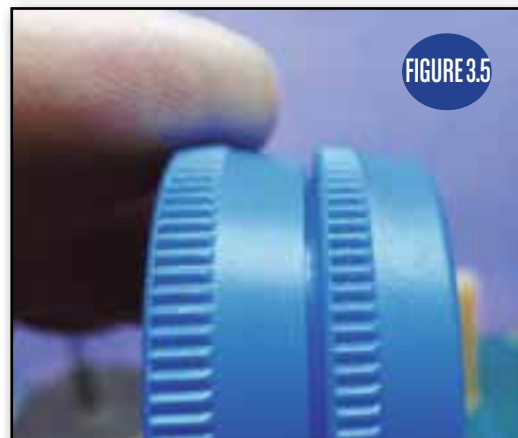
I will use an assortment of Bergeon oil cups that serve me well except for one annoying trait. Many times I pick up the base to move the cup and cover when the base separates and drops. The taper of the base and the knurled bottom edge do not provide an immediate and secure grip as shown in Figure 3.1. To solve this problem, I installed a rubber gasket which created light friction, holding the cover to the base. Now when I pick up and move the oil cup, it stays together.



BY DALE LADUE, CMW21

To create this service aid, I mounted the base of a cup in a six-jaw chuck and spun it in the lathe (always wear safety glasses when working at the lathe). A groove was cut in the section that fits under the cover. I used a cylindrical cutter sharpened on an angle, which created an oval face (Figure 3.2).

An o-ring watch case back gasket (Figure 3.3) was placed in the cut groove as shown in Figure 3.4. I then slid the cap in place and found that it did not seat completely shown in Figure 3.5. The base was returned to the lathe and the groove was cut slightly deeper as demonstrated in Figure 3.6. The cover resting on the gasket left a slight gap, and when pressed home, the cover became frictioned in place (see Figures 3.7 and 3.8). If the gasket ceases to hold, a damp alcohol wipe of the gasket and inside cover will restore the friction.



A simple tool to remove stems from ETA movements is shown in Figure 3.9. A brass rod was selected that matched the di-

Special Watch Service Aids, part 3

BY DALE LADUE, CMW21



FIGURE 3.7



FIGURE 3.8

ameter of the detent removal upper plate recess. The rod end was filed parallel to match the width of the slot inside the recess. To remove the stem, the tool is pressed into the slot which releases the detent lever from the detent slot of the stem. The purpose of this arrangement is to create a stop so that the detent only releases the stem and does not disengage the other setting parts. Typically, a flat-bladed steel screwdriver is used to release the stem. However, the brass will eliminate the chance of marking the sur-



FIGURE 3.10

face area around the recess (Figure 3.10 and 3.11).

In finalizing this series, I realize that any special tool will have a trade-off and these are no exceptions. Having to reach for that special tool, when you have a screwdriver with its steel tip or pointed tweezers in your hand, can interrupt workflow. Preventing marks seems to me to be tantamount, and I will accept the interruption and create a new workflow. ♦



FIGURE 3.11



FIGURE 3.9

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BY DAVID CHRISTIANSON, CMW21, FAWI

Gebruder Eppner: An Extraordinary German Industrial Watchmaker

The Story Begins with a Sinking Ship off the Coast of Norway

Throughout history, appreciative governments have rewarded exemplary service to the government with valuable gifts. In the 19th and 20th centuries, high-quality gold watches were often used as long-lasting tokens of grateful appreciation.

This was certainly the case in 1903 when the German schooner *Othello*, registered in Rendsburg, Germany, and captained by Capt. T.H. Thode, went aground on the southwest coast of Norway.

The *Othello* had left Husum, a port on the east coast of the northern German State of Schleswig-Holstein, with a load of scrap iron destined for the port of Goteborg, Sweden, and then on to the famed steel mills of Sweden. Her intended route was to sail into the North Sea, round the northern coast of Denmark and then head east to Goteborg.

Unfortunately, rough seas and a fierce southeasterly wind blew the *Othello* further north and west to the southwest coast of Norway near the town of Stavanger. At 3:00 in the morning the *Othello* went aground on a rocky shore, “a couple of cable lengths” from Kvalbein Beach. The *Othello*’s crew of four had to climb into the ship’s rigging to keep from being washed overboard by the breaking waves.

Norwegian Coast Guard crews noticed the stranded ship at 5:00 a.m. and initially tried to reach the ship with rocket-launched cables from the beach, but the rockets fell short. As soon as daylight broke they launched the rescue boat *Trygg* with Captain Om-mund Johansen Kvalbein at the helm. After many futile attempts to reach the *Othello*, the *Trygg*’s crew was finally able to get close enough to reach the stranded crew with ropes and drag them one at a time through the choppy waters to the rescue boat.

To understand and appreciate the significance of this award, we need to explore Gebruder Eppner, the maker of this gold watch, a story that attests to the exceptional watchmaking industry in the German states.



The Extraordinary Art of the German Watchmaker

“Gebruder Eppner” means “the Brothers Eppner” in English. From 1845 to near the end of the 19th century, Gebruder Eppner of No. 31 Behren Strasse and No. 34 Charlotten Strasse in Berlin was the distributor of watches made in Lahn and then in Silberberg, Silesia. But there is far more to this story than these basic facts. Gebruder Eppner was far more than a distributor of watches and the watches made in the factories were some of the finest in the world at the time, on a par with the A. Lange watches that came from Glashuette in the neighboring Kingdom of Saxony. Today, these watches are highly sought-after by serious collectors of fine watches.

There is very little known about the Eppner Brothers on this side of the Atlantic, but fortunately, the new and greatly expanded two-volume edition of *Lexikon der Deutschen Uhrenindustrie 1850-1980* (*Encyclopedia of the German Watch & Clock Industry from 1850-1980*) gives us a lot of information about this family of watchmakers.

We’ll begin our story of the Eppner Brothers with



Gebruder Eppner: An Extraordinary German Industrial Watchmaker



BY DAVID CHRISTIANSON, CMW21, FAWI

In 1835, the brothers, along with fellow workers, opened their own factory in Halle to assemble and finish pocket watches from Swiss-made watch components. They quickly moved into making their own components for the Swiss-made blank movements. In 1845, they opened a factory in Berlin to make and distribute finished watches (and apparently closed the Halle facility). They specialized in the making of fine cases, dials and hands for their own watch movements, and most notably, made chronometer-quality watches. Their facilities were located at No. 31 Behren Strasse and No. 34 Charlotten Strasse in Berlin.

Eduard Eppner. Eduard was born on July 14, 1812 in the town of Halle in the German state of Saxony, just 16 kilometers (10 miles) from Leipzig in the neighboring Kingdom of Saxony. He and his brother, Albert, completed an apprenticeship with their older brother, Wilhelm, in La Chaux-de-Fonds, Switzerland. Wilhelm made tower clock movements and timing control mechanisms under the name of Eppner & Co. Albert continued his studies of watch fabrication and the watch trade in England and America.

The quality of their watch work was so good that Fredrick Wilhelm IV, King of Prussia, honored them with appointment as watchmakers to the court of his majesty the King of Prussia. Keep in mind that Berlin was a city within the Kingdom of Prussia at the time. Through this appointment, Eduard petitioned the King to finance a watchmaking school with the aim of creating a new industry in the economically depressed area of Lahn in Silesia (a region also in the Kingdom of Prussia).

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The Eppner brothers wanted to train watch factory workers much as Adolph Lange did a mere seven years earlier in Glashuette in the neighboring Kingdom of Saxony. Like Lange, the Eppners wanted to train watchmakers to make the various components of the watch, each according to his own talents and abilities, and like Lange did with the King of Saxony, the Eppners convinced the King of Prussia to finance a watch industry in Lahn, thus bringing employment and a new industry to the area. It is not unlikely that the Eppners knew of Lange and his endeavors since they were in Halle, only 115 kilometers (70 miles) from Dresden, the center of science and artisanal watch and clock-making in the Kingdom of Saxony, as well as in the German Confederation as a whole. As a side benefit, the Eppners would have a source of quality watch movements made under their own supervision for their chronometer shop and watch case facilities in Berlin. The Berlin firm was under the management of Eduard, and the Lahn/Silberberg factory was under the management of Albert.

In 1869, the company moved to Silberberg, Silesia, a town northeast of Lahn, and expanded its business activities. In addition to the machine production of pocket watches in four qualities, the product range also included tower clocks, watchman's clocks, time stamp clocks and other time tracking timepieces (probably Brother Wilhelm's contribution to the family business). The watch factories at Lahn and then Silberberg operated under three names:

- 1852 - 1860 Uhrenfabrick A. Eppner & Co. GmbH
(approximately) (A. Eppner & Co. Watch Factory)
- 1860-1870 Preussische Uhrenfabrick Gebr. Eppner
(approximately) (Eppner Brothers Prussian Watch Factory)



1871-1945 Deutsche Uhrenfabrick Silberberg
(German Watch Factory in Silberberg)

The author of the *Lexikon* gives no dates of operation other than 1852-1945 in toto. The above dates given are presumptive, given the evidence found in an 1860s advertisement in the *Lexikon*.

The founding name of the firm was Uhrenfabrik A. Eppner & Co. in 1852. In 1871, Prussia became the largest state in the newly-formed German Empire and Wilhelm I, the King of Prussia, became its first emperor. When Silesia became a part of the German Empire in 1871, I suspect that the firm's name changed to Deutsche Uhrenfabrick Silberberg. The name Preussische Uhrenfabrick Gebr. Eppner is open to conjecture. In the advertisement of around 1860, the brothers state that they are court watchmakers to the King of Prussia and are watch factory owners in Lahn. So I'll conjecture that the firm was known as the Prussian watch factory at this time. The advertisement also shows a likeness of an older Frederick Wilhelm IV. His majesty, King Frederick Wilhelm IV, died of a stroke in 1860 and his brother took the name King Wilhelm I in 1861. (The caption under the advertisement in the



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B. Dugger

Gebrüder Eppner: An Extraordinary German Industrial Watchmaker

Lexikon incorrectly says it is from around 1870!) Perhaps the brothers felt that the firm's name should honor its Prussian heritage at a time when Prussia was at the height of its military and political power.

The *Lexikon* tells us that the Eppner brothers produced cases, hands and dials, as well as specialized watch movements on special order for the King. The King used these as awards and State presentations, just as the watch of this story evidences. There have been several examples of these fine presentation watches being offered for sale to collectors over the past several years.

Where the Factories Were Located

To put all of this into perspective geographically, we'll look at the area where much of the Eppner activities took place. Silesia is a mineral rich region in central Europe currently in southwestern Poland and the Czech Republic. It dates back to the middle ages under the Piast dynasty, but I don't think it was ever a state, although it has been a province under several different states since the 15th century. Over the years it was a part of Poland and then Austria, until it was seized by Prussia in 1742. It remained Prussian until after WWI when the southwestern part, where our story takes place, became a part of Poland, again.

The site of the Eppner's first factory was in Lahn, now called Wlen, in Poland. There are two possibilities for Silberberg (Silver Hill or Silver Mountain in German). They were both called Silberberg at the time and were within 75 kilometers of each other. The one site, a small village now called Srebrna Gora, was principally a fort that became a prison during the Napoleonic wars and never did develop economically. It still only has a population of 1,500 today.

The more likely site is now called Zlotoryja. During its long existence Zlotoryja was referred to by various names, Aurum (gold), Aureus Mons (Golden Mountain), Goldberg (Golden Mountain) and after the gold ran out, Silberberg (Silver Mountain). Because of its rich mineral assets (gold, copper, silver and basalt), it has always been an industrial town and far more likely the site of a new watch factory, built to revive a flagging economy. It was connected by telegraph with Berlin in 1862, by railroad in 1884 and telephone lines in 1900.

This Silberberg (Zlotoryja) is only 160 kilometers as the crow flies southeast of Berlin (200 km on



today's highways) and 150 km west northwest of the Dresden/ Glashuette area, both of which areas were producers of some of the finest watches in the world. Lahn (the first factory) was only 35 km via existing roads southwest of Silberberg. (Zlotoryja). ♦

References:

Newspaper accounts of the *Othello* rescue:
[Rendsburger Wochenblatt](#), 17 October 1903 & 13 Feb. 1904.
[Stavanger Aftenblad](#), 17 October 1903 and 15 March 1905.

Hans-Heinrich Schmid, [Lexikon der Deutschen Uhrenindustrie 1850-1980 \(Encyclopedia of the German Watch & Clock Industry from 1850-1980\)](#), Deutsche Gesellschaft für Chronometrie e. V., Nürnberg. 2012.

Wikipedia

World Book Encyclopedia

Geographical research on the internet coordinated with 1889 Rand McNally maps of the German States, The Kingdom of Saxony and Silesia; and with the [Michelin Tourist and Motoring Atlas of Europe](#), 2007 edition.



Greubel Forsey's *Invention Piece 2* Awarded Best Complicated Watch Prize

The 2012 Grand Prix d'Horlogerie de Genève prize in the "complicated" category was awarded to *Invention Piece 2*. Stephen Forsey, who received the award on behalf of Greubel Forsey, said: "We are very honored to be awarded this prize for *Invention Piece 2*. This timepiece pays homage to our second Fundamental Invention, the Quadruple Tourbillon. Its open heart architecture reveals the intricate beauty of its complex mechanism and refined hand-finishing..."

Invention Piece 2's fundamental innovation is the Quadruple Tourbillon, which features two double tourbillon systems, each incorporating an inclined tourbillon, linked by a spherical differential. This provides the escapement with the average timing rate of the two regulating systems, thus minimizing positional errors to improve timekeeping precision.

Visually it is the three curved protuberances that first attract the eye. These provide visual interest and allow a smaller case diameter (43.50 mm) than would otherwise be possible. A clockwise tour of the three-dimensional layout reveals the hours and minutes concealing the three mainspring barrels at 5 o'clock, with the hours indicated by a large red triangle and the minutes by a small blue triangle on a rotating disc. An open inverted double tourbillon at 8 o'clock offers panoramic views of the rotating double tourbillon 30° system from above, below and sideways through its curved window. The opening for the tourbillon system also allows visual access to the central spherical differential.

A small dial at 9 o'clock provides the seconds, while a blued hand at 11 o'clock indicates the 56-hour power reserve. A second (non-inverted) double tourbillon system at 1 o'clock allows appreciation of the top of the second double tourbillon system. A four-pointed, red-tipped sapphire star displays the four-minute rotation of the outer tourbillon. The inner tourbillons of both systems are inclined 30° and rotate in 60 seconds.

Turning over *Invention Piece 2* reveals an engraved, hand-finished personal message from Robert Greubel and

Stephen Forsey chronicling the history of the invention of the quadruple tourbillon. *Invention Piece 2* is a unique edition of 22 pieces: 11 in red gold and 11 in platinum. ♦



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New Style of Breguet's Type XXII Chronograph with 10 Hz Frequency

Rose Gold Version to be Introduced at BaselWorld 2013

The Breguet Type XXII is being enriched this year with a model in 18-carat rose gold. The finer material highlights the beauty of this unique timepiece, which houses a Breguet chronograph movement with silicon escapement and flat balance spring whose frequency has been raised to 10 Hertz (i.e. 72,000 vibrations per hour). This frequency gives the movement exceptional regulating power. Its chronograph seconds hand makes a complete rotation in 30 seconds. The timepiece's start function and readout are thus twice as precise.

At the heart of this technical innovation is the use of silicon, resulting in more lightweight mobile components and the avoidance of the lubrication problems generated by high frequencies. The minutes graduation in the form of dashes—one red and the other white—situated on the flange, combined with the numbered seconds graduation also appearing in red and white, serves to establish whether the chronograph counter is in its first (red sectors) or second (white sectors) 30-second revolution. The Breguet Type XXII chronograph features a flyback function, allowing the totalizer to be returned to zero and instantly restarted in one and the same operation.

The dial includes a second time-zone indicator along with an aperture for a date calendar. A two-position crown resets the second time-zone indicator by moving the hour hand at center without affecting the minute hand. With the crown in that position, the date calendar follows the time of the main time-zone displayed at center. A 24-hour night-and-day indicator at 3 o'clock tells the wearer whether it is daytime or nighttime in the area covered by the second time-zone. At nine o'clock, a subdial showing the running seconds makes full rotations in 30 seconds. The chronograph's brown dial contrasts with the flyback indications in red.

The model comes fitted with an integrated brown leather strap. The watch has a 44 mm diameter and is water-resistant to 10 bar. ♦



Capital Area Watch & Clockmaker Guild



DID YOU KNOW? CAWCG averages 35 attendees a month (even though they serve Central Texas, it's still a **HUGE** area!)

In February, the Capital Area Watchmaker and Clockmaker Guild (CAWCG) heard a fascinating speech by someone they were surprised to find in

their own backyard—the niece of Henry Fried. Nancy Berry, Mr. Fried's niece, is also the mayor of a nearby town, College Station, Texas. She had many stories to share, and you can bet the members had plenty of stories about Henry to tell, as well!

The next CAWCG Meeting: March 26, 2013 at 6:00 pm

Pok-e-Jo's Smokehouse

2121 W. Parmer Lane, Austin, Texas, 78727

Presenter: David Craft

As with most CAWCG meetings, dinner will be first with the presentation following immediately afterward. For more information contact Jay Holloway at jholloway@suddenlink.net or go to www.cawcg.org.

Dave Leinen shared two unique ships wheel clocks with rim winding, and the group asked questions about the disassembly steps.



Garth Antila shared a classic brass watch depthing tool for setting pinion locations in the plates during the MCG February meeting.



Minnesota Clockmakers Guild

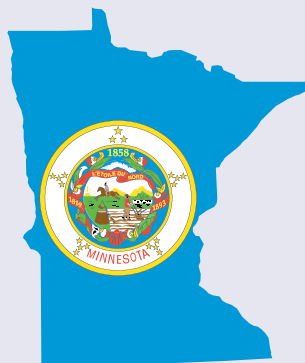
The Minnesota Clockmakers Guild (MCG) stays active with fun and educational monthly programs where many people participate. If you would like more information contact: Dean Ziegenbein - 952-322-4776, dpz72@hotmail.com

FEBRUARY

February meeting highlights included many "show and tell" events by members...from unique ship's wheel clocks, to the best methods for shipping tubular bell movements, to the results of a test of various lubricants.

MARCH

The group's March meeting program topic was "Hands-On Reaming and Bushing Installation." Everyone was invited to bring their tools and a plate and pinion to use for demonstration purposes.



APRIL

The next MCG meeting should be an exciting one on "Tower Clock Installation and Maintenance" given by Elroy Anderson.

DATE: April 4, 2013

TIME: 7:00 pm

LOCATION: Hopkins Pavilion,
11000 Excelsior Blvd.,
Hopkins, Minnesota, 55343

Horological Association of Virginia

2013 Annual Convention:

May 3rd-May 5th 2013

The Sheraton Roanoke Hotel & Conference Center
2801 Hershberger Rd., Roanoke, Virginia 24017

Saturday Speakers Program

Watchmaking Program Speaker: Tom Schomaker, CMW 21, Watchmaking Instructor, AWCI Program: *Tips and Techniques for Lowering your Delta*

Clockmaking Speaker: Mr. Bob Ockenden, CMC, Technical Director Chelsea Clocks Program: *Platform Escapements*

Sunday Speakers Program

Lecture and Discussion: Tom Schomaker, CMW21 Program: *The Correct Installation of Watch Power Cells; Recognizing Genuine Rolex Watches and Their Counterfeits*

Lecture and Discussion: Bob Ockenden, CMC Program: *Chelsea Clock, The Next 100 Years*

For information contact Billy Best, groovemaster2000@juno.com
540-979-2357msg



Presenter, Tom Schomaker, CMW21, AWCI Watchmaking Instructor



Presenter, Bob Ockenden, CMC, Technical Director, Chelsea Clocks

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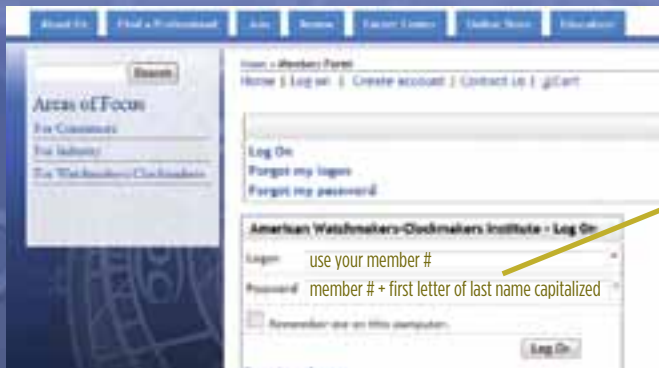
This series will give you hints and tips on the many services available on www.awci.com. We have recently updated some areas of the website to make managing your AWCI membership easier than ever.



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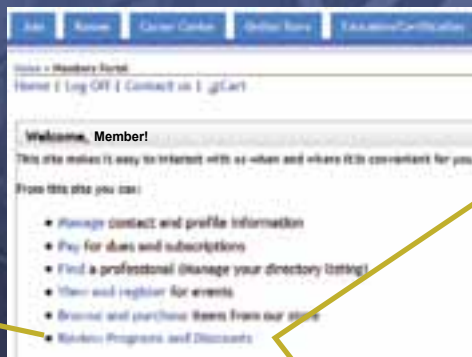
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Capitalized (change password at any time)



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Student attending a Balance Staffing and Timing Class



Advanced 21 Series classes are offered only to current CW21 and CMW21s.



April 8 - 12- Advanced 21 Series – Caliber 3035
May 13 - 17- Advanced 21 Series – TBA

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We are currently re-evaluating our examination schedule for the remainder of the year.

AWCI Academy of Watchmaking 2013

- Mar 18 - 22 Basic Watch Repair
- April 1 - 5 Modern Mechanical Chronograph (5 CEUs)
- May 6 - 10 Industry Class - (5 CEUs)
- June 10 - 14 Polishing & Refinishing (5 CEUs)
- July 15 - 19 Lever Escapement (5 CEUs)
- Aug 26 - 30 Modern Mechanical Chronograph 7750/7751 (5 CEUs)
- Sept 9 - 13 Modern Automatic Watches (5 CEUs)
- Sept 30 - Oct 4 Quartz Watch Repair & Testing (5 CEUs)
- Nov 11 - 15 Polishing & Refinishing (5 CEUs)

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Prerequisites:

- Membership with AWCI
- CW21 a plus
- Minimum 3 years full-time experience in watch repair (and/or) having attended the following AWCI Courses:
 - Basic Watch Repair and/or
 - Automatic Watch Repair
- Ownership of hand tools as per tool list provided by AWCI
- Reading pages 99-188 of *The Theory of Horology* is essential prior to attending the course

More specifically, the student will learn about:

1. Key nomenclature of escapement and regulator parts
2. Types of balance wheels and hairsprings
3. Verification and diagnosis of the Swiss lever escapement
4. Balance staffing
5. Adjustment and truing of the balance wheel and the hairspring
6. Adjustment of the ETACHRON regulator system
7. Definition of key functions of the Swiss lever escapement
8. Influences on timing
9. Epilame application and escapement lubrication
10. Overview of the official Swiss chronometer certification (COSC) procedure and its tolerances
11. Static and dynamic poising
12. Timing analysis and adjustments

In addition, the student will:

1. Learn the latest water-resistance testing procedure
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Richmont is seeking talented and qualified Watchmakers for opportunities in Los Angeles, San Francisco, Chicago, and Dallas-Fort Worth. Qualifications include: AWCI 21st Century Watchmaker or WOSTEP certification, 5-10 years experience working with luxury brands, and more. Please see page 26 for a complete description of these opportunities with Richmont North America, Inc.

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ANNOUNCING NEW 2013 CLASSIFIED POLICY

AWCI will hold our *HT* classified advertising fees to the same rates and minimum schedule as last year. The only element that is changing is the preferred form of payment. We request that you put all classified advertising on a credit card. We accept MasterCard, Visa, American Express and Discover. If you require a physical invoice and 30-day terms, your rates will be higher due to the additional costs incurred in labor, supplies and carrying charges.

HT Classified Rates for 2013:

For Credit Card Payments...

- \$1.10 per word and \$1.50 per bold word
- Classified "Display" ads with art/borders: \$47.50 per col. inch (2.25" wide)
- Color - additional \$15.00 per ad
- Blind ads - additional \$15.00 per ad

For Paper Invoicing...

- \$1.20 per word and \$1.65 per bold word
- Classified "Display" ads with art/borders: \$52.25 per col. inch (2.25" wide)
- Color - additional \$16.50 per ad
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Minimum Schedule: 3-Month Minimum

Advertising studies show it takes over 3 viewings for readers to recognize specifics in your ad.

Deadline: 50 days before first of month for month you plan to run

Example: If you want your ad to run in June, have your ad text or artwork to us by April 12th. Note: If you place a recruitment ad on the www.awci.com Career Center as a combo online/HT ad, there's no need to resend the ad to us. The website system is automatic.

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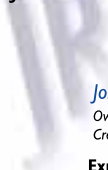
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- Each single blister can be torn away from the compact strip of 10 cells.
- Black arrow indicates easy-opening tab



- Easy-open flap located in one corner of the blister.
- Renata's type number, corresponding Japanese number and best before / use by date are printed on each individual blister.

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Renata silver oxide batteries have a "born on" date openly printed on the side of each battery. Before the transition to 0% Mercury, three-digits were used. With Renata's Mercury Free system, the date code became 2-digits. The first continues to indicate the year of production, while the second digit represents the month. For October, November and December, Renata uses 0, Y and Z. A cell marked 31 indicates a Mercury Free battery produced in January of 2013.



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